Attachment A

Staff Report to City Council dated April 13, 2015 and Associated Attachments

City of Falls Church

Meeting Date: 4-13-15	**Title:** RESOLUTION TO AMEND THE COMPREHENSIVE PLAN OF THE CITY OF FALLS CHURCH, VIRGINIA, TO CHANGE THE DESIGNATION OF APPROXIMATELY 4.3 ACRES OF LAND LOCATED AT THE NORTHEAST CORNER OF 110, 112, 112A, 212 & 212A NORTH WEST STREET, 916, 920, 922, 924, 926, 928, 930, 932 & 934, WEST BROAD STREET AND 919, 921 & 925 PARK AVENUE (REAL PROPERTY CODE NUMBERS 51-202-009 THROUGH 51-202-015, 51-202-003, 51-202-004, 51-202-005, 51-202-028 AND 51-202-028 OUTLOT) FROM "BUSINESS" AND "LOW DENSITY RESIDENTIAL (6.0)" TO "MIXED USE" ON THE CITY'S FUTURE LAND USE PLAN MAP, ON APPLICATION BY SPECTRUM DEVELOPMENT, LLC. **(TR14-29)**	Agenda No.: 10 (b) (1)
	Title: AN ORDINANCE TO AMEND THE OFFICIAL ZONING DISTRICT MAP OF THE CITY OF FALLS CHURCH, VIRGINIA, BY REZONING A TOTAL OF APPROXIMATELY 3.13 ACRES OF LAND A PORTION FROM B-3, GENERAL BUSINESS DISTRICT (APPROXIMATELY 2.11 ACRES) AND A PORTION FROM R-1B, MEDIUM DENSITY RESIDENTIAL DISTRICT (APPROXIMATELY 1.02 ACRES) TO B-1, LIMITED BUSINESS DISTRICT FOR THE COMMERCIAL PROPERTIES AT, 110, 112, 112A, 212 & 212A NORTH WEST STREET, 928, 930, 932 & 934 WEST BROAD STREET AND RESIDENTIAL PROPERTIES AT 919, 921 & 925 PARK AVENUE (REAL PROPERTY CODE NUMBERS 51-202-009 THROUGH 51-202-015, 51-202-028 AND 51-202-028 OUTLOT, KNOWN AS "MASON ROW" ON APPLICATION BY SPECTRUM DEVELOPMENT, LLC. **(TO14-28)**	10 (b) (2)
	Title: RESOLUTION TO GRANT A SPECIAL EXCEPTION FOR RESIDENTIAL USES WITHIN A MIXED USE DEVELOPMENT PROJECT AND TO INCREASE THE BUILDING HEIGHT WITH A BONUS OF THIRTY (30) FEET WITH A MAXIMIUM HEIGHT OF EIGHTY- FIVE (85) FEET FOR A MIXED-USE DEVELOPMENT PROJECT ON APPROXIMATELY 4.3 ACRES OF LAND LOCATED AT THE NORTHEAST CORNER OF 110, 112, 112A, 212 & 212A NORTH WEST STREET, 916, 920, 922, 924, 926, 928, 930, 932 & 934, WEST BROAD STREET AND 919, 921 & 925 PARK AVENUE (REAL PROPERTY CODE NUMBERS 51-202-009 THROUGH 51-202-015, 51-202-003, 51-202-004, 51-202-005, 51-202-028 AND 51-202-028 OUTLOT) KNOWN AS "MASON ROW" ON APPLICATION BY SPECTRUM DEVELOPMENT, LLC. **(TR14-28)**	10 (b) (3)

Proposed Motion: **MOVE to refer (TR14-29) and (TR14-28) and grant First Reading for (TO14-28) and refer to the Planning Commission, Architectural Advisory Board, Economic Development Authority, Housing Commission, Environmental Services Commission, Tree Commission, Citizens Advisory Committee on Transportation, Recreation & Parks Advisory Board, Greater Falls Church Chamber of Commerce and Village Preservation and Improvement Society (VPIS) to schedule a public hearing and second reading City Council action for July 13, 2015; and to advertise the same according to law.**		
Originating Dept. Head: James Snyder, Director of Development Services JBS 4-09-15 703-248-5128 Gary H. Fuller, AICP, Principal Planner 703-248-5039 GHF 4-9-15 Akida Rouzi, Planner 703-248-5104 AR 4-9-15		Disposition by City Council:
City Manager: Wyatt Shields 703-248-5004 FWS 4-9-15	City Attorney: Carol McCoskrie 703.248.5010 CWM 04-09-2015	CFO: Richard LaCondré 703-248-5092 RAL 4-09-15

REQUEST: The City Council is requested to refer the Comprehensive Plan Map amendment (TR14-29), (Rezoning) Official Zoning Map amendment (TO14-28) and Special Exception applications (TR14-28), to boards, commissions and community organizations and to schedule a public hearing on the applications for July 13, 2015. Also to grant first reading to the Official Zoning Map amendment (TO14-28) and schedule second reading for July 13, 2015.

RECOMMENDATION: Staff review and evaluation of the recently resubmitted (February, 2015) application is generally summarized in this report and detailed in the report attachments. (Attachments 20 thru 28) On April 8, 2015, the Applicant submitted another (5th resubmission) revised conceptual development plan, architectural plans and supporting materials, which staff did not have time to review. At this time, the staff recommendation is approval of the motion to allow a formal referral to city boards, commission and community organizations for review and comments, while staff reviews the latest April 8 resubmission (5th submission) and continues to work with the Applicant on pending issues.

BACKGROUND:

In March of 2014, the Applicant filed an initial application for the proposed mixed-use project followed by subsequent revisions in July and August 2014. In early February of 2015, the Applicant refiled their application package (4th submission) with a revised conceptual development plan, architectural plans and supporting documents in response to comments by the public, boards, commissions, community organizations and staff,

provided during the review process following the August submission through October 2014 and to date.

On March 2, 2015 City Council, Planning Commission and Economic Development Authority held a joint work session to offer the Applicant an opportunity to provide an initial presentation and briefing of their revised plans (4th submission) and latest design iterations. In the meeting, the City Council agreed to consider First Reading and official referral to boards and commission during their public meeting on March 23, 2015. However, at the March 23 meeting, the scheduled First Reading of the project was deferred to April 13 at the request of the Applicant who wanted an opportunity to revise and resubmit their plans and associated materials to further address pending and new issues. See council motion and recommendation on line 757 of this report.

On April 8, 2015, the Applicant resubmitted a revised Conceptual Development Plan, architectural plans and associated documents as their 5th submission and latest design iterations. Staff has not had sufficient time to review the application and plans, having just received them, and <u>no staff analysis of the new submission has been provided with this report</u>. As such, this report focuses primarily on the previous (February 2015) submission and changes that occurred with project since August 2015 and does not provide a review of the most recent April 8th submission, which was submitted only in time to be passed on with this report to Council. Attachments 1 thru 7 represent the April 8th (5th submission) and Attachments 9 thru 29 represent the (4th submission). Note: the traffic and parking studies, as well as, the *Voluntary Concessions, Community Benefits, Terms and Conditions* and fiscal impact calculation have not been updated and provided with the April 8th resubmission (5th submission), and since their updated submission is pending the February 2015 (4th submission) materials represent the latest iterations documents at this time.

General Changes between August 2014 and February 2015 Submissions

The following section provides a brief overview of the revisions proposed to the initial application and conceptual development plan (Attachment 13 – Overview of Changes).

<u>Programmatic Changes</u>

Generally, the programmatic changes entail:

- An increase in the number of apartments (from 253 rental units to 340 rental units) and removal of the condominium component (from 67 units to 0 units) a net increase of 20 residential multi-family units;
- Addition of a (partially underground) movie theater preferred use;
- Addition of a small (5,939 sq. ft.) office component, to accommodate a current business;

- Addition of a new above ground parking garage (8-levels including mezzanine garage level) on Park Avenue with the primary entrance proposed on West Broad Street.

Site Changes

A parcel at 916 West Broad Street (approximately 17,649 square feet), Zoned B-1, Limited Business, located on the northeast corner of the site was added to the proposed mixed-use development. The three (3) residential parcels zoned R-1B on Park Avenue will remain as part of the proposed development.

Residential/Commercial Ratio Changes

With the addition of a movie theater and other programmatic adjustments, the commercial square footage of the project has increased by 52,379 square feet (40%) from 128,910 to 181,289 square feet, based upon the February 2015 resubmission (4th submission).

There is an increase in residential density from 320 condominium and rental apartment units to 340 rental apartment only units, with the net result of slight decrease in residential square footage (389,238 to 383,054 sq. ft.), but an overall increase of 20 in the number of residential units.

The overall proposed mixed use development project's resulting ratio of commercial to residential has changed from the previous 25 / 75% (August 2014) to 32 % / 68% (February 2015) resubmissions. The Floor Area Ratio (FAR) is relatively unchanged from at 3.00 from 3.04 FAR. The April 8, 2015 resubmission (5th submission) was relatively unchanged at 33% / 67% ratio of commercial to residential.

Parking Changes

With the proposed parking garage, the provided parking has increased from 909 to 947 parking spaces, resulting in a decrease in the overall requested reduction in parking from 20% to 17.2%. Of the 947 parking space provided, 500 spaces are allocated to commercial uses and 447 spaces are allocated to residential uses. (Attachment 14 – Parking Tabulation)

Highlighted Changes between February 2015 and April 8th Submissions

See letter from Applicant dated April 7, 2015 (Attachment 5)

The following is a summary of the proposed mixed-use project based on the February 2015 submission:

Mason Row – Proposed Hotel, Retail, Theater, Multi-Family Rental Apartments and Office Mixed Use Development, Falls Church, Virginia.

- **Applicant:** *Spectrum Development Company LLC,* is the developer with the law firm of *Baskin Jackson & Lasso* serving as agent.
- **Site:** The above referenced multiple parcels, are approximately 4.32 acres in size, zoned B-1, Limited Business, B-3, General Business, and R-1B, Medium Density Residential, and designated for "Business and Low Density Residential" in the City's 2005 Comprehensive Plan - Future Land Use Plan Map.
- **Land Owners**: Nabilah Pajelah, Massorah Niazy, Esmatullah Niazy, Atalla Trust, Nick Atalla, Trustee, John E. Shreve, Tod W. Read, Julia S. Read, Nigel J. Yates, Raheja, LLC and Bernadette Reverie Adams.
- **Properties:** A major, mixed-use redevelopment project ***Mason Row*** is proposed in the northeast area at the intersection of West Broad Street and North West Street for the properties encompassing 919 Park Avenue, 921 Park Avenue, 925 Park Avenue, 212 and 212A North West Street, 110, 112 and 112A N. West Street, 916 W. Broad Street, 920 W. Broad Street, 922 W. Broad Street, 924 W. Broad Street, 926 W. Broad Street, 928 W. Broad Street, 930 W. Broad Street, 932 W. Broad Street, and 934 W. Broad Street. (Attachment 17 – Property Overview)
- **Existing Land Uses** – There are seven (7) existing one to two-story older commercial buildings and retail and service establishments fronting on West Broad Street and North West Street and three existing residential single family homes on Park Avenue located on the twelve parcels (includes one outlot) that comprise this application. The existing buildings total 48,839 square feet on approximately 4.32 acres for a current FAR (floor area ratio) of 0.26 and total assessed values of $12,105,100. See property overview maps and photos (Attachment 17). Currently the subject property uses include a Sunoco gas station, Seven Eleven, Lazy Sunday Ice Cream shop, Shreve Plumbing, Bike Kinetic, Panshir Restaurant, Brits on Broad, a small vacant shopping center and other existing businesses in the 900 block of W. Broad Street. On Park Avenue there are three existing single family detached homes that are part of this large land assemblage and parcel consolidation.
- **Comprehensive Plan, Existing Future Land Use Plan Map Designation** - The City's Adopted 2005 Comprehensive Plan – Future Land Use Plan Map shows a map designation of "Business" and "Low Density Residential (6.)" for the subject properties (Attachment 17).
- **Existing Zoning** – Three of the subject parcels, comprising approximately 1.17 acres and fronting on part of W. Broad Street are zoned B-1, *Limited Business*; another six parcels comprising 2.11 acres and fronting on W. Broad Street/N. West Street are zoned B-3, *General Business*, and three parcels comprising 1.02 acres fronting on Park Avenue are zoned R-1B, *Medium Density Residential* (Attachment 17).
- **Proposed Development/Mixed-Use Project** – A six (6) story, up to 85 feet in height, mixed-use building comprised of retail (52,677 square feet) on the first floor; a partially underground two (2) story movie theater (51,665 square feet);

residential rental apartments (340 units) on the second through sixth floors; a 150 room hotel on the second through sixth floors of the structure's north west quadrant; and a six (6) story above ground parking garage in addition to two levels of underground parking providing a total of 947 parking spaces are proposed, based upon the February 2015 resubmission (4th submission).

- **Comprehensive Plan Map Amendment** - The *Comprehensive Plan – Future Land Use Plan Map* amendment request seeks to change the existing map designation of "Business" and "Low Density Residential (6)" to "Mixed-Use" (Attachment 17). This proposed project/application seeks redevelopment of the existing business and residential properties as a comprehensive mixed-use project.
- **Zoning Map Amendment (Rezoning)** – The proposed project is predicated on a zoning map change or "Rezoning" from the existing R-1B, Medium Density Residential and B-3, General Business (*B-1, Limited Business already designated on a portion of the site)* zoning to an all B-1, Limited Business district map designation. The rezoning to change the R-district properties to B, district properties by an Official Zoning Map amendment is needed to meet the Special Exception application minimum requirements, which all properties must be in B zoning districts to qualify.
- **Special Exception Proposal (Residential Uses):** The Applicant is requesting two Special Exception(s), the first is to allow residential development within a commercially zoned B district. The Applicant is proposing a total of 920,145 square feet of mixed use development with 383,054 square feet of residential space for 340 units of apartments, and 181,289 square feet of commercial space including 150 hotel rooms, a movie theater, ground floor retail uses and 5,939 square feet of office space, based upon the February 2015 resubmission (4th submission). The mixed-use ratio is 32.1% commercial and 67.9% residential (Attachment 13 – Overview of Changes).
- **Special Exception Proposal (Height Bonus)** – The mixed-use project proposes a second Special Exception for a 30 foot (up to 85 feet) building height bonus from the 55 feet maximum height permitted by right in the B-1, Limited Business district. Under Section 48-455 and 48-523 *Special Exceptions* a height bonus of up to 30 feet may be granted for *exemplary projects* or certain *preferred uses* in the B-1, Limited Business district.
- **City Public Library [Option]** – At this time the current application does not include a "Library Option. While the option of a library location in this proposed project was conceptually discussed at the March 2, 2015 City Council, Planning Commission and Economic Development Authority joint work session, the guidance (by consensus) was to not include the library concept in this proposed project.
- **Staff Review Comments –** Pending a comprehensive staff review**,** the preliminary staff review has identified proposed parking reductions, traffic impacts, landscape

buffer waivers, loading access, special exception criteria justifications, zoning and comprehensive plan map amendments(s), with associated land use change and rezoning implications, building height/step-backs, and the overall community impacts, needs, and benefits for further discussion (Attachments 20 thru 28 – Staff Comments)

- **Public Review -** Public review and comments will be sought as part of the formal Comprehensive Plan map change, rezoning and special exception application referrals and public review process. Referral of the application to City boards and commissions, as well as, to community organizations is pending action by the City Council.
- **Fiscal Impact –** Preliminary fiscal impact modeling of the February 2015 application (4th submission) indicates that the proposed mixed-use project is projected to generate a positive fiscal impact within a range of $1,871,797 to $2,571,767 in net revenues annually (Attachment 15 & 16 – Fiscal Impact Analysis). The August, 2014 submission had a projected net fiscal impact of $1.4 to 1.7 million.

<u>Land Use/Zoning Actions Required</u>:

The land used actions required remain unchanged from the prior application. The new, revised application reflects the added property at 916 W. Broad Street and the revised Conceptual Development Plan (CDP) with the development program changes and uses as described above. The following applications have been filed in support of the proposed mixed-use project that requires legislative action by the City Council with mandatory recommendations by the Planning Commission: (Attachments 9 thru 12 – Application Package):

1. **Comprehensive Plan Amendment** - "*Business* & *Low Density Residential (6.0)"* change to "*Mixed –Use";*
2. **Rezoning** - Zoning Map Amendment, (B-3 and R-1B zoning districts all rezoned to B-1);
3. **Special Exception** - Residential development within a mixed-use development;
4. **Special Exception** - 30-foot Building Height Bonus for the proposed 85 foot high buildings.

In addition, formal action(s) that may be required based upon an initial staff review of the February application and conceptual development plans include:

5. **"Exception"** by City Council (Resolution) – Expressed permission to allow a commercial loading space to occupy a public street rights-of-way, where otherwise prohibited [*Ref. Section 48-939 (1) city code*];
6. **Variance** by the Board of Zoning Appeals – Allow commercial vehicles to back-out onto a public street, where otherwise prohibited [*Ref. Section 48-933*

(b), (1) city code]. [This trash entrance has been removed in the latest April 8th (5th submission) and a variance is no longer required]

Since the initial application was filed on March 2014, the Applicant has submitted four revisions including the latest April 8 resubmission (5th submission). Applicant's July 7, 2014 submission was reviewed by staff, and reviewed at several Economic Development Committee (EDC) meetings, and on July 21, 2014 by the City Council and Planning Commission at a joint work session. In response to guidance and comments from these meetings, as well as the public, boards, commissions, community organizations and staff, provided during the review process following their July and August submissions, the Applicant refiled their application package with a revised conceptual development plan and other supporting documents in February 2015. On April 8, the Applicant revised (5th submission) and resubmitted their latest conceptual development and architectural plans.

The revised application package submitted in February 2015, were distributed for a comprehensive staff review, and the resulting comments and recommendations were transmitted to the Applicant in a formal letter dated April 3, 2015 for their consideration. At this time, staff finds that the Applicant has provided sufficient application materials with their latest April submission to begin the boards and commissions review process. Should the Council refer the application at this time, staff will distribute the application to boards and commissions for their review, as well as, to city staff for a concurrent and comprehensive staff review.

The City Council may provide further input on the application at the scheduled April 13, 2015 public meeting while granting first reading (Ordinance) and referring the application (Resolutions and Ordinance) to boards and commissions, and allowing staff the opportunity to work with the Applicant to further refine the application and proposed development concept. Staff anticipates a schedule in which the application may be ready for consideration of Second Reading/Final Public Hearing by City Council on July 13, 2015. Staff will also schedule at least one or more work session(s) with the Council prior to July 13, 2015 public hearing to discuss the staff, public , boards and commission and community organizations comments and the progress of the application, and to seek further guidance on the proposed mixed-use project elements which will be communicated to the Applicant.

Following section provides an overview of staff analysis of the project based on the February 2015 resubmission (4th submission). The Applicant's recent April 8th resubmission (5th submission, plus pending updated documents > *traffic and parking studies, and Voluntary Concessions, Community Benefits, Terms and Conditions*) is subject to similar review, but is pending having just been received.

Comprehensive Plan Amendment Analysis

The City's adopted *Comprehensive Plan: Future Land Use Plan Map* (2005) designates the subject properties as "Business" and "Low Density Residential (6.0)." The majority of the site is located in Opportunity Area 3 (except the residential areas), West Street/West Broad Street designation of the Comprehensive Plan, which allows the possibility of redevelopment and higher density development. The map designation for the "Low Density Residential (6.0)" along Park Avenue is outside of Opportunity Area 3. In accordance with the Comprehensive Plan, redevelopment of this section of the Broad Street should focus on parcel consolidation and façade improvements to create a more uniform appearance of the retail and service commercial uses. Furthermore, development in the West Street/West Broad Street area should achieve the following goals consistent with both the Comprehensive Plan and the City's Design Guidelines:

- Consolidate parcels to allow larger scale and mixed-use development;
- Consolidate entrances;
- Develop retail uses or retail appearance on the first floor of buildings on West Broad Street;
- Upgrade the appearance of existing businesses until the time that redevelopment would occur;
- Locate buildings close to West Broad Street with parking in the rear whenever possible;
- Improve the appearance of façade of existing buildings;
- Effectively landscape parking areas on the interiors and such that they are screened from streets;
- Create complementary signage; and
- Achieve specific and consistent architectural goals (building materials, window types, roof overhangs, roof pitch, and porches).

The Comprehensive Plan amendment proposes changing the designation of the subject land area on the Future Land Use Plan Map from "Business" and "Low Density Residential (6.0)" to "Mixed-Use." Since the Comprehensive Plan is a guide, the existing "Business" designation does not preclude Council from approving a specific mixed use project on the subject properties under the Special Exception process, in the event that the applicant requested comprehensive plan map and zoning map amendments are granted. The proposed comprehensive plan map change from "Low Density Residential (6.0)" requires further justification from the applicant and review by staff. However, staff recommends City Council consideration of an amendment at this time.

A Comprehensive Plan amendment may be made when at least one of the following criteria is met:

- Significant change has occurred in the area of the subject site since the adoption of the Comprehensive Plan;
- Specific provisions of the comprehensive plan unreasonably limit the ability of the City to achieve more holistic objectives of the comprehensive plan; and/or
- There are oversights or inconsistencies within the comprehensive plan regarding the subject site.

The existing residential lots that are part of the subject properties, located on the south side of Park Avenue are currently designated "Low Density Residential (6.0)" in the City's Adopted 2005 Comprehensive Plan, *Future Land Use Plan Map*. These residential lots were reclassified from the "Private Institution" designation on the 1997 Comprehensive Plan *Future Land Use Plan Map* to "Low Density Residential (6.0)" in 2005 as a comprehensive plan map change to reflect the existing residential single family detached uses. The previous "Private Institution" map designation implied a future expansion of the St. James properties designated as "Private Institution". Currently under the proposed application for Mason Row, the location and height of the proposed parking garage on Park Avenue is not compatible with the existing residential neighborhood uses and scale.

Special Exception Analysis

Residential Development with Height Bonus

Per Sec. 48-455 of the Code, Council may, by special exception, allow residential development and a height bonus up to 30 feet for a mixed use development project in the B-1 District, if the Council finds that the project is exemplary in terms of conformance with the criteria in Sec. 48-90(d)(1) and (2) of the Code, and that the bonus height shall significantly assist in conformance with Sec. 48-90(d)(2) and (3) of the Code.

Sec. 48-90(d)(1) and (2) of the Code are the primary and secondary criteria by which special exception applications are evaluated. The Applicant's justification for how the application satisfies the Code criteria is part of the revised application/letter dated January 30, 2015 (Attachment 9 – Applications and Supporting Documents). An updated version is also provided in the April 8 application materials in Attachment 1.

Sec. 48-90(d)(3) is a Code provision that allows for the City to establish conditions, as deemed necessary to protect the public interest while allowing a Special Exception for a height bonus. The Applicant's latest, proposed *Draft Voluntary Concessions, Community Benefits, Terms and Conditions* for the Mason Row project, dated January

30, 2015, though still in draft form and being evaluated by the City Manager, outlines commitments by the Applicant that further the application's compliance with the Code's Special Exception evaluation criteria (Attachment 12 – Voluntary Concessions).

According to the applicant, the need for the height bonus is due, at least in part, to the proposed hotel use and the proposed multi-family residential density.

Initial staff comment on, and analysis of, the application per the Code criteria follows. Overall, the application specifically addresses the special exception evaluation criteria. Additional work between staff and the Applicant between first reading/referral to City boards and commissions and the recommended July 13, 2015, City Council Second Reading/public hearing will continue to occur on the requested land use/zoning changes and compatibility of the proposed mixed use project with the related Code criteria.

Special Exceptions

The intent of Section 48-90. *Special Exceptions* of the City Code is to allow for the consideration of all opportunities available to add new office, retail, hotel, and other commercial uses in the city. Residential uses will be considered if they contribute significant positive net revenue and community benefits to the City. This proposed mixed-use project includes both commercial and residential uses that include preferred commercial uses such as hotel, movie theater and storefront retail.

Applications for Special Exceptions are evaluated using the following *primary* and *secondary criteria.* The primary criteria are considered *essential*, whereas the secondary criteria are *discretionary* in nature. Based on a preliminary staff review of the February submission, the following is an evaluation of the proposed project using both the *primary* and *secondary criteria*.

Primary Criteria:

1. *The resulting development conforms to the City's adopted comprehensive plan and design guidelines (primary criteria).*

The City's adopted *Comprehensive Plan: Future Land Use Plan Map* (2005) designates the subject property as "Business" and "Low Density Residential (6.0). The majority of the site is located in Opportunity Area 3, West Street/West Broad Street designation of the Comprehensive Plan, which encourages redevelopment of this area and a mix of commercial uses. In accordance with the Comprehensive Plan, redevelopment of this section of the Broad Street should focus on parcel consolidation and façade improvement to create a more uniform appearance of the retail and service commercial uses. The proposed redevelopment is compatible with the Comprehensive Plan in the following aspects:

a. Higher density redevelopment replacing existing single story commercial uses; vacant commercial buildings and vacant commercial land in addition to eliminating automobile and light industrial use currently on part of the site;
b. Reduced the number of existing entrances on the site;
c. Assemblage and consolidation and of numerous properties to allow for larger scale redevelopment, including 13 properties and six owners.
d. Most of the proposed parking provided in underground parking facilities with some at-grade parking within an interior courtyard;
e. Ground floor retail uses on North West Street, West Broad Street and portion of Park Avenue frontages;
f. Building located close to the West Broad Street with parking in the rear;
g. Promotion of a pedestrian environment through streetscape improvements, first floor retail use along street frontages, and realignment of the North West Street and Park Avenue intersection to facilitate traffic flow and pedestrian movement; and
h. Outdoor dining areas and public plaza with improved streetscape elements generally in accordance with the City's Design Guidelines and West Broad Streetscape Plan.

With regards to the three residential parcels on Park Avenue, the proposed map amendment to City's Comprehensive Plan – Future Land Use Plan Map, from "Low Density Residential (6.0)" to Mixed-Use for the three residential parcels on Park Avenue requires further justification from the Applicant and is subject to further review and evaluation by staff regarding the Mason Row application and proposed parking garage location, height and scale.

Based on a preliminary review, the proposed development generally complies with the City's design guidelines for streetscapes, site elements, and commercial buildings, with the exception, of the proposed parking garage location on Park Avenue and related building massing, height and scale, particularly. The six (6) story parking garage proposed on Park Avenue is disproportionate in size and height to the existing single family detached homes along the residential street. Further height reductions, step backs and setbacks, and architectural treatments are needed. Retail uses in the existing residential neighborhood on Park Avenue are incompatible with the existing residential character and therefore discouraged.

The overall appearance of the scale and height of the entire project is generally incompatible with the surrounding residential neighborhoods. The Applicant should consider further reducing the height and scale, particularly on N. West Street and Park Avenue elevations, to address issues concerning aesthetic incompatibility and disproportionality. Architectural treatments that may offer visual reduction in scale can

only do so, to a limited extent, relative to actually reducing the mass by reducing density and thereby eliminating multiple floors. This topic is also discussed under the secondary criteria for neighborhood compatibility.

2. *The resulting development provides for significant net new commercial square footage and allows for a mix of commercial and residential uses (primary criteria)*

The proposed project would add over five times the commercial space compared to the existing commercial uses. Based upon the February 2015 (4th submission) The proposed 181,289 square feet of commercial space includes ground floor retail at 52,667 square feet, 51,665 square foot movie theater and 150 hotel rooms at 71,018 square feet. With the residential component of 383,054 square feet offering 340 units of rental apartments, the commercial-to-residential ratio is 32.1% (commercial) to 67.9% (residential).

The latest April 8th resubmission (5th submission) is relatively unchanged in total square feet of the proposed residential and commercial development program uses. The proposed Mason Row development program changed less than 1% with the commercial-to-residential ratio now 32.7% (commercial) and 67.3% (residential). See updated table in Attachment 8 for a summary of all uses and size changes.

The site is currently occupied by one to two-story older commercial buildings and uses fronting on West Broad Street and North West Street and three existing residential single family homes on Park Avenue located on a total of twelve parcels including one out-lot. The existing buildings total 48,839 square feet on approximately 4.32 acres with a current FAR (floor area ratio) of 0.26 and total assessed values of $12,105,100. See Property Overview maps and photos in (Attachment 17).

3. *The resulting development produces substantial positive net new commercial and residential revenue to the City (primary criteria)*

The preliminary fiscal impact modeling indicates for the February 2015 (4th submission) that the proposed mixed-use project is projected to generate within a range of $1,871,797 to $2,571,767 in net revenues annually (Attachment 16 – Fiscal Impact Projections). This is far in excess of revenues from the existing uses and is significantly higher than the $1.4 to $1.7 million preliminarily projected net revenue range for the Applicant's August 2014 submission.

Secondary Criteria:

1. *The resulting development is not disproportionate to surrounding land uses and planned land uses in size, bulk, or scale (secondary criteria)*

The subject properties are mostly zoned for commercial uses with up to a maximum height of 55 feet and up to a bonus height of 85 feet with a Special Exception. Currently, the subject site is planned for business use redevelopment and higher density

as part of the City's envisioned AREA 3 - West Street/West Broad Street Opportunity Area in the Comprehensive Plan. Three parcels facing Park Avenue are zoned for R-1B, medium density residential uses. The site abuts an existing R-1B, Medium Density Residential district to the east (Saint James Church owned residential structure) and across Park Avenue (single-family detached homes). Transition from and to residential districts need to be addressed carefully with appropriate transitional and buffer elements including adequate step backs and landscaping.

The mixed-use project seeks Special Exceptions for residential use and a 30 foot building height bonus from the 55 feet maximum height permitted by right in the B-1, Limited Business district. Under Section 48-455 *Special Exceptions* a height bonus of up to 30 feet may be granted for *exemplary projects* or certain *preferred uses* in the B-1, Limited Business districts. This proposed mixed-use project would provide both commercial and residential uses offering preferred uses such as a hotel and a movie theater as commercial anchors in addition to ground floor retail.

As part of the "exemplary" evaluation requirements, buildings adjacent to existing R, districts must be stepped-back at the maximum height (35 feet) of that zoning district. With the proposed building height bonus and the overall size, the project has not adequately explored options to reduce the perceived mass of the structure. Step backs at 35 feet and 55 feet along the Park Avenue and the east elevations of the building, abutting residential district (St. James Catholic Church properties) to the immediate east and north of the site, are required considerations by City Council pursuant to Section 48-455 of the City Code. This would encompass the parking structure's east elevation abutting R district to the east of the site; and a small portion of the north elevation in the far southeast half of the site (rear of 916 W. Broad Street) where it abuts the adjacent R district.

Additionally, the proposed parking garage on Park Avenue is directly across from existing residential homes on Park Avenue. The location and the scale of the proposed structure raise concerns in terms of aesthetic incompatibility and undermine the predominantly residential character of Park Avenue. At a human scale, the building elevation also assumes an inactive vertical space and will negatively impact the pedestrian experience. Further height reductions are needed as a transition to R districts as stated above under the primary special exceptions criteria. The originally proposed two new, single-family detached homes are preferred or town houses similar to ones built in the 400 block of Park Avenue could also be considered as a design and transition solution.

Overall, building design approaches for the entire subject site should avoid strongly vertical or solid façade expressions to break with two-dimensional linearity, and utilize surface interruptions such as deeper recesses along building facades, stronger mass

modulations and penetrations of varying depths, fenestration, articulation of details, and horizontal step backs.

Density and height are considerations with the proposed 5 to 6-story high buildings, site build-out and uses, in a B-1, limited business zoning, district and where the comprehensive plan envisions mixed uses more as between commercial uses. The proposed multi-family density is high, reductions should be considered.

2. *The resulting development does not overburden the existing community facilities, including schools, transportation, and water and sewer systems (secondary criteria)*

Schools

The Applicant is proposing, through voluntary concessions, a contribution of $7,511 for each market rate rental apartment and $3,756 for each residential condominium unit to the City of Falls Church to offset school capital costs. The Applicant has indicated, in their draft Voluntary Concessions that the multifamily component can be rental or condominium at the Developer's discretion.

The City's fiscal impact model estimates the number of pupils generated by this project to be in the range of 55 to 112 pupils. The annual net tax revenues to the City from the proposed project are estimated at $1,871,797 to $2,571,767 and already include (net) the estimated costs for the additional students in the City's public school system, including school capital costs.

Transportation

A revised Traffic Impact Analysis reflecting the latest February 2015 application has been received and a preliminary staff review completed and final revisions are pending. Final traffic and transportation recommendations regarding improvements or mitigation measures are subject to continued discussion with the Applicant.

Staff held a neighborhood meeting on March 30, 2015 to give the public an opportunity to voice their concerns and discuss potential traffic and transportation impacts of the proposed development. The survey results and the summary of comments received from the public in the meeting are in Attachment 29.

With the Applicant's revised application, several positive changes have been made. The Applicant is proposing two new traffic lights (W. Broad Street and N. West Street/Mason Lane/Park Avenue) in addition to realigning the Park Avenue and North West Street intersection to facilitate traffic flow and pedestrian movement. The proposed crosswalk and traffic light along W. Broad Street, additional crosswalks along Park Avenue and N. West Street connecting the site to the W&OD Regional Park are beneficial for pedestrian circulation and safety. City staff will continue to work with NOVA Parks and the Applicant in exploring various options for W&OD Trail crossing

improvements for N. West Street and Grove Avenue. A meeting with NOVA Parks, City staff and the applicant's team was held on April 1, 2015. At the meeting various W&OD options and ideas related to the proposed trail realignment, pedestrian/bicyclist connections and related street trail crossing improvements were discussed in detail and as a result, further refinements and alternatives are being developed.

With the addition of another entrance proposed at the intersection of Park Avenue and N. West Street and the proposed density, there will be a significant increase in the traffic movements at the intersection, which is already a problem area. Staff recommendations for traffic and transportation related issues are highlighted in staff reviews and comments in the (Attachments 20 & 21 – Staff Comments). Moving forward, staff will continue to work with the applicant to find solutions and improve the traffic movements around the project site.

Water, Sewer & Stormwater

Fairfax Water has indicated in their comments dated February 9, 2015 that existing domestic water service is adequate to service the proposed development and depending upon the configuration of any proposed on-site water mains, additional water main extensions may be necessary to satisfy fire flow requirements and accommodate water quality. (Attachment 22 – Fairfax Water Comments)

Public Works staff will continue to evaluate the impact of the development plan on sewer and Stormwater aspects of the project. Their preliminary comments are in (Attachment 21).

Other Existing Community Facilities

Under the latest *Voluntary Concessions, Community Benefits, Terms and Conditions*, dated January 30, 2015, a cash contribution of $150,000 to the City for improvements of the parks in the immediate vicinity of the proposed development is provided. Additionally, $25,000 is offered to the Little City C.A.T.C.H Foundation to fund grants to organizations that desire to stage art, history or cultural events and activities at the project site.

The Developer has also agreed to underground a portion of aerial utilities along the north side of N. West Street which abuts the W&OD Trail and is directly across the project site. The planned realignment of the W&OD Trail and the related improvements made by the applicant to the N. West Street crosswalk and the traffic light at the Park Avenue and N. West Street intersection are proposed as part of community improvements.

3. *The resulting development provides community benefits, such as affordable housing (secondary criteria)*

The Applicant has proposed various community benefits defined in the draft *Voluntary Concessions, Community Benefits, Terms and Conditions*, dated January 30, 2015 (Attachment 12 – Voluntary Concessions). This document outlines commitments offered by the applicant to date.

The draft document is currently under review, and upon completion, review comments will be provided to the Applicant with the understanding that additional refinement and discussions may be needed.

Pending input from boards and commissions and further City Council review and comments will assist in the refinement of the proposed community benefits in addition to identifying any additional items that may be considered for inclusion. The City's Housing and Human Services staff has also commented on the latest draft *Voluntary Concessions, Community Benefits, Terms and Conditions*, dated January 30, 2015 and indicated that the proposed ADU's do not meet the city's minimum policy objectives for targeted Average Median Income (AMI) and unit mix and further discussion is needed (Attachment 23 – Staff Comments).

4. *The resulting development contributes to a vibrant, pedestrian-oriented environment, both on-site and in relation to adjoining properties, with street-level activity throughout the day and evening (secondary criteria)*

The Applicant is providing full streetscape and associated streetscape amenities generally in accordance with the City's Adopted Streetscape Plan for West Broad Street and similar streetscape improvements for North West Street. With the Applicant's revised application, several positive changes have been made to the plan. The Applicant is proposing a traffic light in addition to realigning the Park Avenue and North West intersection to facilitate traffic flow and pedestrian movement. The proposed crosswalk and traffic light along W. Broad Street, additional crosswalks along Park Avenue and N. West Street connecting the site to the Washington and Old Dominion Railroad Regional Park, which includes W&OD Trail (W&OD Regional Park), are beneficial for pedestrian circulation and safety. The project, as proposed, would create an urban edge and as a result, increase pedestrian activity in the area. The Applicant is also proposing to facilitate pedestrian movement through the realignment of two crosswalks at the intersection of West Broad and North West Street.

Identification of specific retail types for the ground floor retail was requested by the City Council during the July 21, 2014 joint work session. In response the Applicant has developed a draft concept for the proposed mixed-use project's redesign and retail merchandising (Attachment 9 – Application and Supporting Documents). The Applicant is encouraged to continue dialogs with City staff to strengthen the retail plan as the project moves forward.

5. *The resulting development offers creative use of landscaping, open space, and/or public parks, plazas, and walkways connecting to adjoining properties (secondary criteria)*

As indicated above, the applicant is proposing to construct streetscape improvements along West Broad and North West Streets. These streetscape improvements would conform to the City's *Adopted Streetscape Plan for West Broad Street* that includes trees, landscaping, and streetlights.

Additionally, the Applicant has proposed, through their voluntary concessions to provide construction and delineation of a crosswalk on North West Street as an intended connection between the subject property and the W&OD Regional Park. Another connecting element proposed is the *Mason Row* interior promenade that extends across the site connecting West Broad Street with North West Street servicing an interior commercial market square.

6. *The resulting development provides a variety of commercial services and products that are attractive to and meet the needs of all City residents for entertainment, art, recreation, dining, retail, and an array of consumable goods (secondary criteria)*

A movie theater and a 150 room hotel are proposed as two primary retail anchors for the project. Staff will continue to discuss the details of the theater subsidy in addition to the retail merchandising plan to ensure that the development provides a variety of desired commercial services. In addition, the retail area features a "market common" which combined with the internal Mason Row Lane are useable for special events and small festival or entertainment venue uses.

7. *The resulting development encourages local and independent businesses (secondary criteria)*

No formal commitment has been offered by the Applicant to date that indicates the development would encourage local and independent businesses, however, the Retail Merchandising Plan includes categories that would include local and independent businesses. The applicant is encouraged to continue a dialog with the existing business owners on the subject properties to learn of options to retain and attract those businesses. Furthermore, lease affordability for some of the proposed ground level retail spaces could be explored as a mechanism to attract existing on-site and local independent businesses.

8. *The resulting development provides for a reduction of single-use parking requirements through the use of shared parking (secondary criteria)*

Transportation Demand Management (TDM) Plan resubmission and Parking Management Plan (PMP) submission are needed based upon the latest staff review comments and evaluation. The current proposed TDM plan is cursory and does not provide for measurable strategies that support the parking reduction requested. In

addition a PMP plan is needed to evaluate the Applicant's proposed parking reduction request.

9. ***The resulting development encourages multi-modal transportation through design and other techniques, to reduce reliance on single-occupancy vehicles (SOVs), and utilizes sheltered stops for mass transit whenever feasible (secondary criteria)***

As stated above, a Transportation Demand Management (TDM) and Parking Management Plans will need to be submitted and are subject to staff review and evaluation. A bus shelter, 20 bike parking spaces, and a charging station for electric vehicles were proposed and details are pending along with other SOV reduction strategies and techniques as part of the TDM plan. A sufficient designated future Bike Share location on-site is needed for future Capital Bike Share or similar planning purposes.

10. ***The resulting development utilizes Leadership in Energy and Environmental Design (LEED) criteria in the design of the project (secondary criteria)***

The Applicant proposes to have the multifamily residential and the hotel components of the project designed such that the necessary points will be achieved to obtain LEED Silver (residential) and LEED (hotel) status or third party equivalent.

<u>Public Comments</u>

Several public comments have been submitted to the Planning Division (Attachment 18 – Public Comments). Architectural Advisory Board (AAB) has also provided preliminary comments. (Attachment 19 – AAB Comments)

Additionally, public comments from the staff hosted Neighborhood meeting on March 30, 2015 on transportation, traffic and parking issues associated with the project are in Attachment 29.

NEXT STEPS:

<u>Preliminary Staff Review</u>

Staff has reviewed the applicant's proposed mixed-use project application package, submitted February 2015, that includes conceptual development plan, conceptual development packet and supporting materials. Several issues have been identified by staff to aid in the applicant's deliberations and future revisions to the proposed development, between first and second reading. The staff review comments are in (Attachments 20 through 28).

Additionally, the members of Planning Commission, Economic Development Authority, Economic Development Committee, and the City Council offered comments on the proposed application and development plan during the previous two meetings – February 26, 2015 EDC and March 2, 2015 Work Session. Those comments have also

been incorporated into staff review and recommendations, which offers the following short list of items/issues that highlights some of the primary concern areas requiring further attention, based upon review of the February 2015 resubmission (4th submission):

- **High residential density** at 340 units and 68% of the overall proposed uses.
- Proposed **parking garage on Park Avenue** is incompatible with the surrounding residential neighborhood in terms of scale and aesthetic;
- Overall all **scale and massing** continues to be incompatible with the adjacent residential neighborhood;
- A substantive **Transportation Demand Plan (TDM) and Parking Management Plan** will need to be submitted for staff review for accurate evaluation of the request in parking reduction and traffic impacts of the overall project;
- The overall **traffic impacts** and the need for mitigation measures to minimize such impacts continue to be subject of further discussion.
- Proposed **Affordable Dwelling Units** do not meet City's adopted affordable housing policy.
- **The Vehicular Trash pickup space proposed on N. West Street** raises concerns for traffic and safety; City Code also prohibits commercial vehicles from backing out onto public streets
- The **on-street loading space proposed along N. West Street** substantially narrows a section of that streetscape to less than 10 feet in width, and requires City Council "exception" for loading space on public street rather than on site as required;

Previous City Council Motion and Recommendation – August 11, 2014 First Reading

City Council at its August 11, 2014 meeting officially referred the project to Boards and Commissions, with the understanding that the applicant would undertake certain actions between First Reading and Second Reading on December 8, 2014. The scheduled Second Reading was cancelled at the request of the Applicant to accommodate their plans to refile a revised application package.

The Council's August 2014 motion to <u>previously</u> grant first reading and refer the proposed project to city boards, commissions and community organizations was accompanied with following required actions to be undertaken by the applicant during the public review process prior to final consideration:

1. That in addition to the commitment to the hotel in Voluntary Concessions, the applicant shall also have in place, prior to second reading, a written contract with an additional anchor acceptable to the City Council;
2. That the applicant commits to adjusting the residential density and massing of the proposed project to levels that are acceptable to City Council;
3. That the applicant will work in good faith and in a timely manner to satisfactorily address the comments it receives from City staff including, but not limited to, the 31 areas identified in the staff report.
4. That the applicant will work in good faith and in a timely manner with the Planning Commission, City boards and commissions and the City Council to satisfactorily address the comments it receives from the public and the City to improve the project including, but not limited to, those relating to traffic impacts, aesthetics and massing, location of residential density, compatibility with the surrounding area, walkability, quality of development, quality of retailers and any other legitimate issue that may arise during the public review process; and
5. That the applicant will continue to meet with the adjacent neighborhood.

Recent City Council Deferral and Recommendation – March 23, 2015

Most recent City Council comments on proposed Mason Row mixed-use project were provided at the March 23, 2015 meeting as part of the motion to defer the item and a to consider a new first reading. At that City Council meeting Councilmember Baroukh listed five issue areas that needed to be addressed by the applicant. The request was that the applicant addresses the first two issue areas by first reading and the other three during the public review process and by second reading. The following issue areas were listed:

1. A reduction in the residential density, either in square feet or units.
2. The proposed parking garage massing needs to be reduced. To re-design the garage with different massing, possibly wrap in residential units and other solutions.
3. The hotel related Voluntary Concessions, Community Benefits, Terms and Conditions Terms must provide for solid guarantees. That a hotel contract be in place and also that a substantial surety performance bond is provided to the city.
4. That the applicant continues to work on addressing the Planning Commission, public and city council issues for future resubmissions and during the review process. To address previous comments from the March 2, 2015 joint work session and issues still pending from the special exception review process to date.
5. That the applicant works with existing businesses on the site to provide for business retention and relocation opportunities.

TIMING: First reading and formal referral to boards and commissions is scheduled for formal consideration and City Council action on April 13, 2015. Second reading and final Public Hearing is recommended for July 13, 2015.

This action would allow for:

- Referral of, and comment on, the subject ordinance and resolutions by the Planning Commission, Architectural Advisory Board, Economic Development Authority, Housing Commission, Environmental Services Commission, Tree Commission, Citizens Advisory Committee on Transportation, and Recreation Parks Advisory Board; Greater Falls Church Chamber of Commerce and Village Preservation and Improvement Society (VPIS).
- Staff review and comment on the application materials submitted on and after April 8, 2015; and
- An application resubmission by the applicant that responds to the comments of the staff, boards and commissions, public and City Council in May/June, 2015.

The following is a possible, timeline and general process for the application. Ultimately, the public review process and applicant's willingness, ability and timing in considering and making changes to the application, conceptual plan, voluntary concessions and related supporting documents will determine the schedule.

Schedule:

Meetings	**Date**
City Council Meeting – 1st Reading/Refer to Boards & Commissions [Applicant requested deferral to April 13th]	**March 23**
Community/Neighborhood Traffic/Transportation Meeting Meeting/Workshop, Falls Church Community Center: [Meeting held]	**March 30**
City Council Meeting – 1st Reading/Refer to Boards & Commissions	**April 13**
Planning Commission - Worksession	**May 4**
Board/Commissions – Regular Scheduled Meetings (Various dates)	**May ~**
Architectural Advisory Board (AAB) - Meeting	**May 6**
Planning Commission – Meeting/Public Hearing	**May 18**
Board & Commission Comments Due	**May 29**

City Council Worksession, Joint w/Planning Commission [public, staff comments/summary](*If plans have changed date TBD)*]		**June 15**
City Council Worksession - (TBD)	(Tentative)	**June 29**
City Council – Second Reading/Final Public Hearing		**July 13**

The Attachments below are broken down by the most recent submissions – January through February, 2015 and April 8, 2015 submissions. The application materials and plans are also available on the City's website at following link: www.fallschurchva.gov/masonrow

ATTACHMENTS:

I. <u>Revised Application Package, dated April 8, 2015</u>

1. Applications and Supporting Documents, dated April 8, 2015
2. Conceptual Development Plan, dated April 8, 2015
3. Conceptual Development Packet - Architectural Plans, dated April 8, 2015
4. Fiscal Impact Data Input Worksheet, dated April 7, 2015
5. Applicant's Response to Major Issues Highlighted in a Previous Staff Report, received April 7, 2015
6. Traffic Impact Study, dated January 30, 2015
7. Parking Reduction Request Report, dated February 11, 2015
8. Updated Overview of Changes between Submissions, dated April 7, 2015

II. <u>February Application Package, dated January thru February 2015 and Staff Analysis</u>

9. Applications and Supporting Documents, dated January 30, 2015 [see March 2, 2015 work session package]
10. Conceptual Development Plan, dated January 29, 2015 [see March 2, 2015 work session package]
11. Conceptual Development Packet – Architectural Plans, dated January 30, 2015 [see March 2, 2015 work session package]
12. Voluntary Concessions, Community Benefits, Terms and Conditions, dated January 30, 2015
13. Chart - Overview of Changes between Submissions, dated February 9, 2015
14. Parking Tabulation, February 27, 2015
15. Fiscal Impact Data Input Worksheet, dated February 2015
16. Preliminary Mason Row Mixed Use Development Fiscal Impact Projections, dated March 2, 2015
17. Property Analysis Overview, dated March 13, 2015
18. Public Comments, dated December 17, 2014 thru April 6, 2015

19. Architectural Advisory Board (AAB) Comments, Minutes from the March 4, 2015 AAB Meeting
20. Memo from Paul Stoddard, Senior Planner (Transportation), dated February 19, 2015
21. Memo from Department of Public Works, dated March 13, 2015
22. Cover Sheet and Memo from Ross K. Stilling, Chief of Plan Review, Fairfax County Water Authority, dated February 9, 2015
23. Memo from Nancy Vincent, Director of the Department of Human Services, dated February 25, 2015
24. Memo from Captain Tom Polera, City Fire Official, dated March 5, 2015
25. Memo from John C. Boyle, Zoning Administrator, dated March 10, 2015
26. Memo from Daniel Iglhaut, Deputy Director of Planning and Grants, NOVA Parks
27. Memo from James Brooks, Community Services Officer, Police Department, dated February 26, 2015
28. Letter to Applicant, dated April 3, 2015
29. Summary of Public Comments from the March 30, 2015 Neighborhood Meeting on Transportation Workshop

(TR14-29)

RESOLUTION TO AMEND THE COMPREHENSIVE PLAN OF THE CITY OF FALLS CHURCH, VIRGINIA, TO CHANGE THE DESIGNATION OF APPROXIMATELY 4.3 ACRES OF LAND LOCATED AT THE NORTHEAST CORNER OF 110, 112, 112A, 212 & 212A NORTH WEST STREET, 916, 920, 922, 924, 926, 928, 930, 932 & 934, WEST BROAD STREET AND 919, 921 & 925 PARK AVENUE (REAL PROPERTY CODE NUMBERS 51-202-009 THROUGH 51-202-015, 51-202-003, 51-202-004, 51-202-005, 51-202-028 AND 51-202-028 OUTLOT) FROM "BUSINESS" AND "LOW DENSITY RESIDENTIAL (6.0)" TO "MIXED USE" ON THE CITY'S FUTURE LAND USE PLAN MAP, ON APPLICATION BY SPECTRUM DEVELOPMENT, LLC.

WHEREAS, the current Comprehensive Plan was adopted in 2005; and

WHEREAS, the subject property, approximately 4.3 acres of land located at 110, 112, 112A, 212 and 212A North West Street, 916, 920, 922, 924, 926, 928, 930, 932 and 934, West Broad Street and 919, 921 and 925 Park Avenue (Real Property Code Numbers 51-202-009 through 51-202-015, 51-202-003, 51-202-004, 51-202-005, 51-202-028 and 51-202-28 OUTLOT) was designated as "Business" and "Low Density Residential (6.0)" on the Future Land Use Map; and

WHEREAS, the applicant, Spectrum Development, LLC, has submitted an application for a Comprehensive Plan amendment to change the designation of the subject property from "Business" and "Low Density Residential (6.0)" to "Mixed Use" pursuant to the procedure set forth in Section 17.06 of the City Charter; and

WHEREAS, the request for the Comprehensive Plan amendment is accompanied by a request for a special exception to permit residential use and height bonus for a mixed use development on the subject property, which is being considered in Resolution TR14-28, but the Comprehensive Plan amendment will be in effect independent of Resolution TR14-28; and

WHEREAS, the application to amend the Comprehensive Plan meets two of the three criteria as established by the Planning Commission Rules of Procedure for Comprehensive Plan amendments, specifically that "the adopted plan contains provisions which unreasonably limit the ability of the City to achieve the objectives of the plan" and oversights or inconsistencies are contained in the adopted plan as they affect the area of concern; and.

WHEREAS, land use inconsistencies in the adopted Comprehensive Plan and Future land Use Plan Map designation directly affect and limit the opportunity to encourage land consolidation, new commercial construction in order to

allow larger scale and mixed use redevelopment envisioned in the Comprehensive Plan for this area; and

WHEREAS, the Comprehensive Plan recommends mixed use, and new larger scale, higher density redevelopment in Area 3 – West Street/West Broad Street, Planning Opportunity Area, parcel consolidation, vehicular entrance consolidation, retail uses on the first floor of buildings on W. Broad Street, retail consolidation of individual uses/lots, streetscape and pedestrian orientation,; and

WHEREAS, various City board and commissions reviewed the Comprehensive Plan map amendment at public meetings and provided advisory comments; and

WHEREAS, the Planning Commission held a [**DATE]** public hearing to discuss the Comprehensive Plan amendment; and

WHEREAS, the Planning Commission recommended **[insert]** of the Comprehensive Plan map amendment at its [**DATE]** public hearing; and

WHEREAS, the City Council held public hearings on August 11, 2014, April 13, 2015 and July 13, 2015; and

WHEREAS, the public has commented via e-mail, written statements, and oral statements at the Planning Commission and City Council public hearings; and

NOW, THEREFORE, it is hereby RESOLVED by the City Council of the City of Falls Church, Virginia, that the request to change the designation of approximately 4.3 acres of land located at 110, 112, 112A, 212 and 212A North West Street, 916, 920, 922, 924, 926, 928, 930, 932 and 934) West Broad Street and 919, 921 and 925 Park Avenue from “Business” and “Low Density Residential (6.0)” to “Mixed Use” on the City’s Comprehensive Plan’s Future Land Use Plan Map is granted.

Council referral: August 11, 2014; Re-referral April 13, 2015
Adoption: _____
(TR14-29)

ORDINANCE TO14-28

AN ORDINANCE TO AMEND THE OFFICIAL ZONING DISTRICT MAP OF THE CITY OF FALLS CHURCH, VIRGINIA, BY REZONING A TOTAL OF APPROXIMATELY 3.13 ACRES OF LAND A PORTION FROM B-3,

GENERAL BUSINESS DISTRICT (APPROXIMATELY 2.11 ACRES) AND A PORTION FROM R-1B, MEDIUM DENSITY RESIDENTIAL DISTRICT (APPROXIMATELY 1.02 ACRES) TO B-1, LIMITED BUSINESS DISTRICT FOR THE COMMERCIAL PROPERTIES AT, 110, 112, 112A, 212 & 212A NORTH WEST STREET, 928, 930, 932 & 934 WEST BROAD STREET AND RESIDENTIAL PROPERTIES AT 919, 921 & 925 PARK AVENUE (REAL PROPERTY CODE NUMBERS 51-202-009 THROUGH 51-202-015, 51-202-028 AND 51-202-028 OUTLOT, KNOWN AS "MASON ROW" ON APPLICATION BY SPECTRUM DEVELOPMENT, LLC.

THE CITY OF FALLS CHURCH HEREBY ORDAINS THAT the Official Zoning District Map of the City of Falls Church, Virginia, is amended upon application of Spectrum Development, LLC by rezoning of the following described property from B-2, General Business District and R-1B, Medium Density Residential District, to B-1 Limited Business District, to be developed only in accordance with the associated Special Exception under TR14-28, approved by the City Council on _____, 2015,

Description of the combined properties in the City of Falls Church to be rezoned from B-3 and R-1B to B-1 and incorporating the existing B-1 properties in the area and total:

Written Metes & Bounds Description of the Property

"Beginning at a point at the intersection of the east right-of-way line of North West Street, with the north right-of-way line of West Broad Street - route 7; thence with the east right-of-way line of North West Street, N 09° 13' 26" W, 29.01 feet to a point; thence N 38° 30' 51" E, 178.09 feet to a point; thence 60.44 feet with the arc of a curve bearing to the right and having a radius of 58.67 feet (tangent length 33.21 feet, chord length 57.80 feet, chord bearing N 68° 01' 31" E) to a point; thence N 07° 25' 53" E, 3.10 feet to a point; thence S 82° 35' 03" E, 246.68 feet to a point; thence N 39° 34' 57" E, 5.19 feet to a point in the south right-of-way line of Park Avenue; thence with the south right-of-way line of Park Avenue, S 51° 38' 12" E, 274.19 feet to a point, said point being the northwest corner of D.J. Brown's property - lot 2; thence with lot 2, S 38° 14' 37" W, 214.11 feet to a point; thence S 47' 30' 23" E, 28.01 feet to a point, said point being a corner of now-or-formerly most reverend Thomas E. Welsh; thence with now-or-formerly most Reverend Thomas E. Welsh, S 03' 19' 37" W, 47.55 feet to a point; thence S 39' 50' 37" W, 144.17 feet to a point in the north right-of-way line of West Broad Street - route 7; thence with the north right-of-way line of West Broad Street - route 7, N 51' 42' 23" W, 97.30 feet to a point; thence N 39' 09' 37" E, 14.80 feet to a point; thence N 51° 23' 30" W, 446.79 feet to the point of beginning and containing an area of 188,137 square feet, or 4.3190 acres, more or less."

1st Reading: 4-13-15

2nd Reading:
(TO14-28)

TR14-28

RESOLUTION TO GRANT A SPECIAL EXCEPTION FOR RESIDENTIAL USES WITHIN A MIXED USE DEVELOPMENT PROJECT AND TO INCREASE THE BUILDING HEIGHT WITH A BONUS OF THIRTY (30) FEET WITH A MAXIMIUM HEIGHT OF EIGHTY- FIVE (85) FEET FOR A MIXED-USE DEVELOPMENT PROJECT ON APPROXIMATELY 4.3 ACRES OF LAND LOCATED AT THE NORTHEAST CORNER OF 110, 112, 112A, 212 & 212A NORTH WEST STREET, 916, 920, 922, 924, 926, 928, 930, 932 & 934, WEST BROAD STREET AND 919, 921 & 925 PARK AVENUE (REAL PROPERTY CODE NUMBERS 51-202-009 THROUGH 51-202-015, 51-202-003, 51-202-004, 51-202-005, 51-202-028 AND 51-202-028 OUTLOT) KNOWN AS "MASON ROW" ON APPLICATION BY SPECTRUM DEVELOPMENT, LLC

WHEREAS, on May 12, 2003, City Council adopted Ordinance 1734, which amended Chapter 38, "Zoning", of the Code of the City of Falls Church to amend the special exception process within the business districts to allow for appropriate mixed-uses and additional height bonuses by special exception; and

WHEREAS, an application for a Special Exception to allow residential uses within a business district in a mixed-use development project and a Special Exception for a height bonus have been submitted by Spectrum Development, LLC ("the Applicant") pursuant to Section 48-455 (1), (2) in conformance with the procedure set forth in Section 48-90 of the City Code; and

WHEREAS, a concurrent application for a comprehensive plan map change, to the Future Land Use Plan Map as an amendment from "Business" and "Low-Density Residential (6.0)" to "Mixed Use" has been submitted by the Applicant pursuant to Section 17.06-07 of the City Charter and City Council approval is required as a prerequisite for the Special Exception; and

WHEREAS, a concurrent application for an Official Zoning Map change (Rezoning) to amend the map from B-3, general business district and R-1B, medium density residential district to all B-1, limited business district has been submitted by the Applicant pursuant to Section 48-85 in conformance with the procedure set forth in Section48-86 of the City Code and City

Council approval is required, as a prerequisite for the Special Exception; and

WHEREAS, the application proposes a development comprising a total building/floor area of approximately 573,421 gross square feet on approximately 4.3 acres of land and an increase in building height by up to thirty feet (30 feet to six (6) stories or maximum of 85 feet [instead of the B-1, business district fifty-five (55) foot height maximum]. The mixed-use development is proposing and a maximum of 340 multifamily residential rental apartment units, a hotel, "Home2 Suites by Hilton" with approximately 150 rooms, a multi-screen 776-seat theater of approximately 48,391 square feet and approximately 60,581 gross square feet of ground floor commercial retail/service/restaurant space facing internally along Mason Row (Mason Lane and Market Square) and externally along West Broad Street and North West Street; of which at least 30 percent of the commercial square feet shall be food and beverage uses; and

WHEREAS, in order to achieve the development as proposed, the application requests a special exception for a height bonus and for the residential uses also within a mixed-use development project in a business district as shown in the Special Exception application, including the Conceptual Development Plan, dated January 29, 2015; and

WHEREAS, the applications for the special exception and associated Comprehensive Plan and Official Zoning Map changes, have also been referred to various citizen boards and commissions for public review and comment; and

WHEREAS, the application for the special exception and associated Comprehensive Plan and Official Zoning Map changes, has been referred to the Planning Commission, which conducted a public hearing and recommended to the City Council, and this recommendation has been received and considered; and

WHEREAS, City Council has duly advertised and conducted a public hearing to receive public comment on the application for this special exception with a public hearing held on July 13, 2015; and

WHEREAS, City Council has considered the application, the requirements of Section 48-90 and Section 48-455 (1), (2) of the City Code, the recommendation of the Planning Commission, comments from boards and commissions, and public comments; and

WHEREAS, City Council considered the subject properties' unique characteristics and the community benefits derived as a result of the proposed development, and determined that this particular project is acceptable for

these parcels at this time, with the understanding that a similar project might not be appropriate on other parcels; and

WHEREAS, City Council considered state law regarding special exceptions, specifically, that special exceptions may be granted by the local governing body subject to conditions pursuant to Code of Virginia Sec. 15.2-2286(A)(3) that allows their issuance "under suitable regulations and safeguards" and that each special exception case shall rest on its own merits and the uniqueness of each piece of land; and in particular, that the ratio of commercial and residential uses approved herein are unique to this site; and

WHEREAS, City Council also considered the public interest in improving the subject property as part of overall economic development efforts to stimulate commercial redevelopment and enhance the commercial tax base to support City services; and

WHEREAS, the Developer has submitted the "Voluntary Concessions, Community Benefits, Terms and Conditions" dated ___{TBD}, 2015 to the City in order to further ensure consistency with the City of Falls Church's adopted Comprehensive Plan and policies and in support of the special exception; and

WHEREAS, City Council finds that the proposed project has met the primary criteria as listed in Section 48-90, (d), (1) a, b and c of the Falls Church City Code as follows: 1) the resulting development conforms with the City's adopted Comprehensive Plan and Design Guidelines; 2) the resulting development provides for significant net new commercial square footage and allows a mix of commercial and residential uses; and 3) the resulting development provides substantial positive net new commercial and residential revenue to the City; and

WHEREAS, City Council finds that the proposed project provides significant community benefits**,** including, but not limited to the following:

- important, large assemblage and consolidation of numerous individually-owned properties;
- Structured garage parking, below-grade, at-grade and above grade;
- preferred hotel and theater uses and ground level storefront commercial space including Mason Row - Market Square and Mason Lane festival space;
- various community benefits including affordable housing, school capital cost contributions and vicinity street and transportation facility improvements;
- planned streetscape improvements on West Broad and North West Streets;

- financial contributions and in-kind improvements to benefit vicinity off-site recreational park and W&OD Trail improvements;
- undergrounding of overhead utilities off-site on N. West Street;
- transportation related public street and pedestrian facility crossing improvements;
- sustainable LEED Silver buildings for the residential portions of the project and LEED or equivalent for hotel; and

WHEREAS, the commercial height bonus of up to 30 feet for the mixed-use development as generally shown in the Special Exception application, which includes the Conceptual Development Plan, dated April 8, 2015, shall be permitted as City Council finds that the bonus shall significantly assist in the conformance with Section 48-90 (d) (1) a, b and c of the City Code, and

NOW, THEREFORE it is hereby RESOLVED by the City Council of the City of Falls Church, Virginia, that in conjunction with the associated comprehensive plan map amendment and associated rezoning action and in consideration whereof, pursuant to Sections 48-90 and 48-455 of the Falls Church City Code, that the Special Exception for residential use within the proposed mixed-use development project and height bonus within the mixed-use development project is hereby granted and approved, subject to the following conditions:

1. The Developer's Voluntary Concessions, Community Benefits, Terms and Conditions Mason Row ("Broad and West") Development, dated ____{TBD}, 2015 ("voluntary concessions"), for Special Exception for Residential Development and Height Bonus for a Mixed Use Development at the subject site, and all the terms and conditions thereof, shall be a condition for the issuance and approval of the Special Exception; and the City Manager is hereby authorized and directed to execute the voluntary concessions on behalf of the City; and

2. The development of the site shall generally be in accordance with the Special Exception Application dated April 8, 2015 and Conceptual Development Plans, dated April 8, 2015 and revised through {Date TBD}, 2015; and

3. Construction of this project shall commence within three (3) years from date of adoption of this resolution; and

4. Violation of any of the conditions of this Special Exception, including any of the voluntary concessions, shall be grounds for revocation of the Special Exception by City Council.

Council referral: August 11, 2014; Re-referral April 13, 2015
Reading:
Adoption:
(TR14-28)

* Voluntary Concessions TO BE ATTACHED

Attachment 1
Applications and Supporting Documents
Dated April 8, 2015

LAW OFFICES
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(1921-2008)
WILLIAM H. HANSBARGER
(1922-2009)
ROBERT J. DUFFETT
(1966-2013)

April 8, 2015

VIA HAND DELIVERY
James Snyder
Director of Planning and Zoning City of Falls Church
City Hall
300 Park Avenue
Falls Church, VA 22046

Re: April 8, 2015, Resubmission Development Site Mason Row ("Broad and West") ; Letter of Transmittal and Justification of Application for (1) for Rezoning certain areas of the site to B-1 (2) Special Exceptions to allow Mixed Use, Building Height Bonus, and On Street Loading Space.

Dear Jim:

Baskin, Jackson & Lasso represents Spectrum Development Company LLC ("Spectrum") which has contracts to purchase the parcels comprising 4.3152 acres (more specifically identified in the accompanying partial list) including at 919 Park Avenue, 921 Park Avenue, 925 Park Avenue, 212 N. West Street, 110 N. West Street, 934 W. Broad Street, 932 W. Broad Street 922 W. Broad Street, 920 W. Broad Street and 916 W. Broad Street (collectively the "Site").

Substantial changes to the design have been made and are discussed further below. Please note that the Traffic Study is still being revised so as to take these changes into account and so, a revised Traffic Study does not accompany this resubmission of April 8. Further, the Voluntary Concessions of January are being reworked so as to "fit" the City's new framework and are being reviewed in the context of new City requests and the ability of the project to pay for all the concessions now in play. Thus, a revised "VC" document does not accompany this resubmission.

Please note that the Special Exception Application now includes a request for an on street loading space. This is needed because the "market square" design, vehicular circulation, and the location of uses does not allow the loading space to be in place in any other location.

After the initial application (January, 2014) was accepted, the City's representatives asked for a number of modifications to the proposal. Modifications were made and a resubmission was made July 7, 2014. Among other things, the pharmacy was dropped as was its drive through; additional modifications were made to the resubmission and this concept was called "Mason Row". Mason Row was characterized by a "market square" within the development that provided a community gathering

place; the square was surrounded by quality retail with a "spine road" through the development that allowed for a four way intersection at West and Park connecting to West Broad Street. A condominium component was added and it was located on Park Avenue. There was also an access on Park Ave. that led to the underground parking garage.

The Mason Row concept was presented to the community, the City staff, boards and commissions and to the City Council. The Mason Row Concept was well received. However, additional requests were made to further modify the massing and design, to enlarge the market square, to include a movie/dinner theater (or another comparable anchor), to drop the condominium component as a separate building, to reduce the massing and height of the hotel on West Street, to make the sidewalk on West 20' wide, and to remove the vehicular access on Park Ave. In terms of process, the applicant was asked to continue its outreach to the community and to work with neighbors on Park, Grove, Steeples Court and St. James Church.

The January 30, 2015, resubmission included responses to all of these requests. The movie/ dinner theater has been added, the 916 W. Broad St. parcel has been added to the site plan of the project, the market square has been substantially enlarged, the six parking spaces off West have been relocated to the interior of the development, the spine road has been widened and straightened out, the hotel on West Street is now "set back" 3' above the retail level so as to diminish its massing and appearance of height, the West Street sidewalk is now a full 20' wide, the condo component has been dropped, an above grade parking structure has replaced the condo building on Park Ave., the parking structure that was added has no vehicular access on Park, while the number of apartment units has increased to reflect the loss of the condo component the overall floor area devoted to residential is nearly the same, and finally, an office component has been added.

The April 8, 2015, resubmission makes additional changes. There is now an "opening" of the market square facing Grove Ave.; the parking garage now has ground level retail designed to attract local businesses, the garage has been lowered and set back and other changes have been made to the massing, parking, and design. Please refer to the text of the Justification letter for the change in the Comprehensive Plan, as well as the Exhibit attached to that letter, for a more detailed discussion of the April 8 changes to the garage on Park Avenue.

The rezoning request remains the same. This is possible as 916 W. Broad is already zoned B-1 and it will remain so. The special exception for mixed use and for increased height to 85 feet is amended to include the 916 W. Broad St. parcel. Please accept this Transmittal of and Justification for Applications to rezone the residential (R-1B) properties on Park Avenue and the Commercial properties in the site now zoned B-3, to B-1. Also please accept this revised Justification for the special exception and height bonus.

As discussed below, the B-1 Zone allows the requested uses. Moreover by rezoning to B-1, automotive uses cannot be located on the site in the future. The City has requested this assurance be provided and so Spectrum requests those portions of the site now zoned B-3 be "downzoned" to B-1.

Spectrum proposes to redevelop the site for a mixed use project.

- A six story mixed use (apartment) building with retail and service uses in the ground floor and with 340 units.
- A hotel of five floors with retail and service uses in the ground level of the hotel (150 rooms) in floors 2 through 6.
- An above grade parking structure with ground level retail in place of the former 65 unit residential condominium facing Park Avenue with no vehicular access on Park.
- The ground floor of the apartment building and hotel would have retail uses; such uses will include restaurants, retail shops and service businesses with a mix of local, regional and national brands. A commitment to 25% food and beverage uses is provided in a Proffer.
- A movie/dinner theater is provided.
- An office component of about 6,500 sq. ft. is provided.
- Such improvements to the existing parkland along the W& OD trail that will provide a connection to the transit and recreational opportunities of the Trail; subject to the approval of the Northern Virginia Regional Park Authority.

The site is located in planning opportunity area three and the site is discussed in the Comprehensive Plan at pages 58 and 59. The redevelopment area calls for mixed uses diagonally across from the site but in fact that area is committed in the long term to retail uses.

By consolidating the parcels in this site, Spectrum has achieved a number of the Goals in the City's Comprehensive Plan. Specifically, the proposed mixed use development provides for sustainable development as it will allow for improvements to storm water management, to energy efficiency, to parks and open space, to locating residents nearer to employment, transit and shopping areas, enhances the integrity of the low density residential area by establishing for the long term a "terminus" to the residential area of Park Avenue. The internal and external improvements to traffic movement will greatly improve the current difficult intersection of West Street and Park Avenue (See pages 75Rv through 76Rv of the Comprehensive Plan).

Demographic and market trends demonstrate that the future development in this area should be an innovative and integrated approach to a mixture of uses including retail, office, hospitality, residential and service uses.

Spectrum expects that given the increasing mass of retail, and newer, smaller multi- family units, the surrounding area will become more attractive to office users and other retailers as well.

Additionally, Spectrum requests the approval of special exceptions to allow for a mixed use development to include multi-family rental units and for a bonus of 30 feet in height.

The Staff will provide the fiscal impact analysis; we expect the net impact to be about $2m.

These requests for specific parcels are summarized in the attached document entitled: The Spectrum Development / Parcel Ownership. Concurrently, Spectrum is requesting a change in the Comprehensive Plan Future Land Use Map for certain areas of the site to be shown as mixed use rather than business and for the area of the site now noted as low residential to be noted mixed use as well. While the resubmission replaces the current single family dwelling with the parking structure (a portion of the apartment building at the very western end of Park Ave, the use would make a very good transition from the remaining single family detached (low residential) area to the more active portions of the mixed use Mason Row.

Spectrum and its development team have had extensive discussions with The City Council and Planning Commissions in public work-sessions and with stakeholders in the community, elected and appointed official and staff members. The central concerns have been the following:

1. There should be a substantial commercial component for this large site, and a considerable positive fiscal impact for the City of Falls Church is a primary goal.
2. Density should be increased and a quality hotel should be brought to the project to assist in achieving the desired positive fiscal impact.
3. Traffic is a great concern given, among other things, the unusual configuration of West and Park Ave and the need to control access on West Broad Street and West Street.
4. The buildings should have superior architecture and layout with tapering toward Park Ave and the greatest height and massing along West Broad with a superior focal point at West and West Broad.
5. Some local retailers should be encouraged to stay in the project.
6. Parks and open space needs should be addressed in part by linking the site to the W& OD Trail.
7. The apartment should be LEED Certified Silver.
8. Storm water management for the site and the immediate area should be improved.
9. Streetscape should be tailored to the site and also consistent with (but not necessarily the same) the City's existing streetscape standards.
10. There should be two commercial anchor tenants.

11. The frontage along Park Avenue should take the opportunity to make an appropriate transition to the development and solidify for the long term the low residential density of that terminus of Park Avenue.
12. Aerial utilities on the site will be placed underground.
13. This redevelopment opportunity involves a large consolidation of eleven separate parcels in the West Broad Street Area, and if redevelopment fails to go forward for any cause, then the existing auto and light industrial uses on some of the parcels will remain for a long indefinite period of time before another redevelopment opportunity may arise.

THE PROPOSED DEVELOPMENT AND ITS COMMUNITY BENEFITS

Spectrum proposes to redevelop the site as a mixed use project.

- This mixed use project will contribute more than $2m annual in net new tax revenues to the City.
- Undergrounding of aerial utilities along West Street and the W & OD trail will be made.
- The hotel of 150 rooms will bring visitor to the City who will spend substantially in the City.
- There will be substantial retail with a mix of local, regional and national brands, 6,500 sq. ft. of offices and a movie/dinner concept.
- A gathering place for the residents that is sufficiently large enough to accommodate a "band shell", skating ring, or farmers' market.
- Such improvements to the existing parkland along the W& OD trail that will provide a connection to the transit and recreational opportunities of The Trail; subject to the approval of the Northern Virginia Regional Park Authority.
- The expected contributions to the Schools Capital program are substantial.
- A cash payment for Affordable Housing is planned in lieu of onsite units.
- The traffic in and around the area will be better managed with traffic calming added and improvements added to the larger street grid around the project.

The site is located in planning opportunity area three and the site is discussed in the Comprehensive Plan at pages 58 and 59. The redevelopment area calls for mixed uses diagonally across from the site but in fact that area is committed in the long term to retail uses.

By consolidating the parcels in this site, Spectrum has achieved a number of the Goals in the City's Comprehensive Plan. Specifically, the proposed mixed use development provides for sustainable development as it will allow for improvements to storm water management, to energy

efficiency, to parks and open space, to locating residents nearer to employment, transit and shopping areas, enhances the integrity of the low density residential area by establishing for the long term a "terminus" to the residential area of Park Avenue. The internal and external improvements to traffic movement will greatly improve the current difficult intersection of West Street and Park Avenue (See pages 75Rv through 76Rv of the Comprehensive Plan). The number of access points on Broad, West and Park are being reduced from thirteen to four.

Demographic and market trends demonstrate that the future development in this area should be an innovative and integrated approach to a mixture of uses including retail, hospitality, residential and service uses.

Spectrum expects that given the increasing mass of retail, and newer, smaller multi- family units, the surrounding area will become more attractive to additional pedestrian oriented shopping and office users as well. The once in a generation parcel consolidation achieved by Spectrum provides the City with the opportunity to address all of the issues outlined above. Without the approvals requested, the properties will continue with their current uses for the indefinite future.

TRAFFIC IMPACT

Wells & Associates has reviewed the revisions to the uses. A letter from Wells is provided in the package of materials.

SPECIAL EXCEPTION CRITERIA FOR MIXED-USE AND HEIGHT BONUS

1. Primary Criteria (Section 48-90(1)):

a. The resulting development conforms to the City's adopted Comprehensive Plan and Design Guidelines (Section 48-90(1) (a)).

The Comprehensive Plan shows that the property is located in Planning Opportunity Area 3, and the proposed development meets or exceeds the strategies called for in that area:

1. Consolidation of lots to accommodate higher density.
2. Promotion of redevelopment that eliminates stand-alone automobile and light industrial facilities.
3. Improve pedestrian accessibility with controlled cross walks at various locations.

4. Create a consistent design, in terms of building height and design, streetscape improvements, and other aspects of the built environment in the City.

5. Preserve recreational resources in the area.

6. Create development to promote a positive image of the City in an area that has not seen any significant new development in decades.

7. Locate buildings as close to West Broad and West Streets as possible with parking located in the rear or in shared buildings or in structured facilities (in this case covered, surface and underground).

8. Achieve consistent architectural goals.

9. Traffic turn lanes will be added to Broad and West Streets.

Additionally, the Comprehensive Plan's Future Land Use Map designates the property as "business". The text of the comprehensive plan currently points out that while this means the area should be "primarily" recognized as retail or office districts rather than residential, "special exceptions for residential use and height bonuses have also been granted to create mixed use projects in 'business' areas since 2002".

The Comprehensive Plan should be changed to reflect current practice, the City's goals and the changing environment. To do this, an application to change the Comprehensive Olan's designation from Business to "Mixed Use" has been submitted to the City. The Design Guidelines show that the property is located in the West Broad Street Area. As called for in the Guidelines, the proposed development will reflect an urban street front, will provide a consistent identity for the area, increase pedestrian activity, and indicate the high standards of the City. In addition, the proposed development will widen paving at crosswalks, improve the area around the W& OD trail, all of which will work to increase pedestrian and bicycle activity in the area. The site's proximity offers a unique opportunity to finally provide superior connection to the W&OD Trail. The best use to optimize that linkage is mixed use and not office or light industrial uses.

b. The resulting development provides for significant net new commercial square footage and allows for a mix of commercial and residential uses (Section 48-90(1) (b)).

Currently, the properties in the site contribute only minimally in tax revenue. All existing properties are served by significant surface parking. The proposed development will remove these largely automobile-oriented and light industrial uses, providing significant net new commercial square footage and allowing for a mix of commercial and residential uses. The

proposed development as noted provides substantial new commercial space (more specifically described in the Table in the Concept plan), and uses language desired by the City.

c. The resulting development produces substantial positive net new commercial and residential revenue to the City (Section 48-90(1) (c)).

In conjunction with this application, information has been submitted to the City to be inputted into the City's cost/revenue impact model to predict the project's net new revenue, and a report has been received, which is attached separately. As recognized by the Comprehensive Plan, the parcels that make up the property are underutilized currently in terms of their density and use. The proposed development will significantly increase the assessed value of and resultant property tax revenue generated by the property. In addition, by creating a vibrant, attractive western gateway into the City, the development will encourage additional consumers to enter the area and patronize commercial uses throughout the City.

2. Secondary Criteria (Section 48-90(2)):

a. The development is not disproportionate to surrounding land uses and planned land uses in size, bulk or scale (Section 48-90(2) (a)).

The proposed development is a concrete podium of commercial uses with five floors of office, multi-family and hotel above, with a total height of about 85 feet. The development has the unique aspect of substantial at grade parking for the retail uses hidden behind the retail/service (including a movie theater) under the residences. The exterior is masonry, and the building is fully consistent with high standards established by the City for prior mixed use projects. The area of the footprint of this project is "low" and the height of the new building will blend well with its environment and set the stage for future development. Given the high-quality design and construction of the building and its prominent place in the City, a building of this scale is appropriate. The proposed development works in conjunction with existing buildings to further create a dramatic, defined statement of quality for this area of the City. The development is consistent with the discussion in the Comprehensive Plan for this Redevelopment Opportunity Area which calls for significant mixed (multifamily) uses-the area called for this Plan however is committed long term to other uses that conflict with the Plan.

The prior design along Park Avenue has been modified to include retail to be marketed to local and existing businesses. There will be a level of parking above the retail such that the height will be about 35'. There will be additional decks of parking above this, but these additional decks will be set back 9'. The total height has been reduced from prior designs and will be about 55'.

b. The resulting development does not overburden the existing community facilities, including the school, transportation and water and sewer systems (Section 48-90(2) (b)).

Transportation

A traffic study has been conducted by Wells and Associates that evaluates the anticipated traffic impacts of the application and provides specific recommendations to mitigate those impacts. That Study has been provided to the Staff. Some revisions to counts will be made to reflect the changes in the retail plan for the site. The application envisions a vibrant mixed-use development that will be sensitive to the transportation concerns of the City. By providing a variety of complementary uses on the same site, the proposed development will encourage self-contained, pedestrian trips. Additionally, due to its location proximate to several bus routes including a future intermodal transportation center and with implementation of Transportation Demand Management ("TDM") measures, a percentage of the trips generated by the residential and commercial components of the proposed development are anticipated to utilize non-auto modes of transportation. TDM measures will include convenient bicycle storage facilities, transit incentives, and resources conducive to teleworking. Furthermore, the developer proposes to reconfigure of the intersection at West Street and Park Avenue and add lane changes and traffic calming. A traffic light will be placed at West and Park and one at W. Broad Street.

Water & Sewer

The City's utility engineer has confirmed that water and sewer service is adequate. The project will greatly improve storm water management with BMPs as the existing development has virtually no storm water management measures.

c. **The resulting development provides community benefits such as affordable housing, as it is described in Section 38-43 (Section 48-90(2) (c)).**

The developer is proposing a cash payment in lieu of Affordable Dwelling Units.

A commitment to LEED Silver for the Apartment building is provided, and the developer will underground all aerial utilities contiguous to the site depending on costs and availability of easements. The developer proposes to review this in detail with the City to determine what poles can be undergrounded in the immediate area.

d. **The resulting development contributes to a vibrant, pedestrian-oriented environment both on site and in relation to adjoining properties, with street level activity throughout the day and evening (Section 48-90(2) (d)).**

The current uses at the site are distinctly automobile-oriented, with the majority of the property occupied by their own surface parking lots. The proposed development will move almost all

parking within enclosed structures, which will contribute further to the walkable nature of the area.

The provision of streetscape along the entire development's three sides facing streets will contribute to the vibrant, pedestrian-oriented environment with connectivity to adjacent commercial and park areas. The mix of uses, including restaurants, retail, and other commercial opportunities will provide a balanced commercial center that will generate pedestrian traffic throughout the day and evening. The street level retail uses will be very visible and will encourage customers to enter the area to shop and visit not only this development, but the additional retail located nearby.

e. **The resulting development offers creative use of landscaping, open space and/or parks, public plazas or and walkways connecting to adjoining properties (Section 48-90(2) (e)).**

Three sides of the proposed building will have the attractive "streetscape" design and fixtures, and there will be enhanced connections around the site to nearby businesses, parks, and residences. The area near the W&OD trail will invite pedestrians to ride bikes, rest, talk, sit, eat and simply enjoy the area which includes the soon to be completed West End Park.

A cash contribution is provided. Further, a cash contribution is possible to facilitate the completion of the West End Park.

f. **The resulting development provides a variety of commercial services and uses that are attractive to and meet the needs of all city residents for entertainment, art, recreation, dining retail and array of consumable goods (Section 48-90(2)(f)).**

As stated above, the proposed development envisions a hotel as well as a mix of commercial uses. This includes a movie/dinner theater, and retail opportunities in an area that is lacking sufficient quality retail currently. These commercial entities will serve the residential uses within the proposed development, as well as the neighborhood as a whole.

g. **The resulting development encourages local or independent businesses (Section 48-90(2) (g)).**

The retail and restaurant spaces, especially the space along Park Avenue, provide a unique opportunity for local, regional and independent businesses, and the high-quality development will help the area as a whole attract and cultivate local and independent businesses. The smaller retail spaces in the development provides excellent opportunities for local "mom and pop" and incubator businesses.

h. **The resulting development provides for a reduction of single use parking requirements through shared parking Section 48-90(2) (h)).**

As shown in the submitted conceptual plan, the developer is recommending shared parking. The developer will explore with the final parking provided with the City to determine any additional parking reductions are justified based on the characteristics of the property and its proximity to bike ways, as well as several bus lines, will lead to fewer automobile trips. Additionally, metro to the nearest metro rail station is easily available and it is expected that some residents will bike to work (or to a multi-modal transit location for switching to bus or rail), and that the commercial uses will be patronized at least in part by pedestrians and cyclists.

i. **The resulting development encourages multi-modal transportation through design and other techniques to reduce the reliance on single occupancy vehicles, and utilizes sheltered stops for mass transit whenever feasible Section 48-90(2) (i)).**

As discussed, the property is in close proximity to existing bike ways, as well as the Metro Rail station and several bus lines. It is expected that some residents will walk to the Metro Rail station and others will bike to work, and that the commercial uses will be patronized at least in part by pedestrians and cyclists. The design includes attractive and user friendly places for bikes to be parked and stored.

j. **The resulting development utilizes LEED criteria in the design of the project Section 48-90(2) (j)).**

The proposed apartment development is planned to be LEED Silver certified, and will otherwise be designed using green design principles and elements.

By removing the existing imperious parking lots and implementing a new storm water management plan, the development will greatly reduce storm water runoff in the area. Additionally, the non-residential part of the project will incorporate eco-conscious sustainable elements in the design of the hotel and other commercial spaces.

Special Exception for Height Bonus.

The area of the site to be used for the mixed use project is currently zoned B-3 and B-1, which permit a by-right height of up to 55 feet. The developer proposes the requested development to be a maximum height of 85 feet.

Up to 30 feet of bonus height may be granted if the project is exemplary in terms of conformance to the Primary Criteria 1 and 2 set out above and assists in conformance with Primary Criteria 2 and 3. The amount of new commercial area is more than three times the area of the existing commercial activity. More importantly, the new commercial activity replaces commercial uses which are discouraged by the City's Comprehensive Plan. The net new commercial and retail income is far greater than that of the existing uses and far superior in terms of making the area a desirable play to live, work, and play. Many of the difficult to

achieve goals of the Comprehensive Plan will be met by the proposed development. For these reasons, this plan is exemplary in its achievement of the primary criteria set out above.

Bonus height may able be awarded for certain preferred uses when located on primary street frontage. These uses include outdoor dining, hotel and other uses specifically requested by the City. This development proposes improvements to the W&OD Park, a hotel, offices, a new movie/dinner theater, multiple retail opportunities and outdoor dining and some restaurants possibly with entertainment; all of which are considered preferred uses, justifying a bonus height of 30 feet.

It is important to note here that the first floor retail uses require a ceiling heights ranging from 15 to 24 feet, and that this required ceiling height is a major reason why the bonus is needed. As discussed, the design of this project, and in particular its height, is an exceptional new addition to this part of the City. The project sets a high bar for quality in terms of design, use, and materials, and if the proposed project were to be lowered by 30 feet, the integrity of the design would be greatly compromised, likely making the development infeasible.

The location and unique physical characteristics of the site make the requested building height appropriate. The property is located in an area that is expected to attract similar developments which will likely reach heights of 85', so that the requested height of 85' in certain locations is not out of the character of the surrounding neighborhood and the expected area as it evolves.

CONCLUSION

The Spectrum redevelopment at Broad and West fully reflects the City's vision for that area of Falls Church. The project meets or exceeds the primary and secondary criteria used to evaluate the merits of the special exceptions. Therefore, the requested special exceptions for residential use and height bonus at the City's gateway should be granted.

Thank you and the City Staff for its guidance and attentiveness to this project.

Sincerely,

David R. Lasso

David R. Lasso

DRL/saj
Enclosures

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April 8, 2015

VIA HAND DELIVERY
James Snyder
Director of Planning and Zoning City of Falls Church
City Hall
300 Park Avenue
Falls Church, VA 22046

Re: Spectrum Development Company LLC Letter of Transmittal and Justification for Application for Amendment to Comprehensive Plan at Broad and West Streets (April 8 RESUBMISSION).

Dear Jim:

Baskin, Jackson & Lasso represents Spectrum Development Company LLC ("Spectrum") which has contracts to purchase the parcels at 919 Park Avenue, 921 Park Avenue, 925 Park Avenue, 212 N. West Street, 110 N. West Street, 934 W. Broad Street, 932 W. Broad Street 922 W. Broad Street, 920 W. Broad Street and 916 West Broad Street (the "Site"). Please accept this Transmittal of and Justification for, an application to amend the City's Comprehensive Plan (and Land Use Map) designation for the site. This letter relates to the April 8, 2015 RESUBMISSION of this Project).

The current use of the site is currently shown on the Map for the parcels at 919, 921, and 925 Park Avenue is "Low Residential" and the remainder of the parcels of the development site are shown as "Business".

Spectrum proposes to change the Future Land Use Map so that the entire site would be "Mixed Use". The April 8 RESUBMISSION responds to the requests of the Community City Staff, Boards and Commissions and City Council to, among other things, provide an improved transitional use and design along Park Avenue. The plans have been revised so that there are retail uses along Park Avenue on the ground level. These retail uses will be designed and marketed to existing tenants in the area of the site and will permit lower rents. There will not be any vehicular access along Park Avenue. One level of parking will be located above this retail such that the height will be about 35' with a setback from Park Avenue of more than 20'. There will be added parking levels above but they will be set back about 9' so as to minimize their appearance. The total height will be about 55', which is lower than the January submission. There were eight levels of parking previously and there was no "step back." Please refer to attached Exhibit; note the "Bulk Plane Angle" exceeds that required in the ordinance for Mixed Use Development ("MUR").

This RESUBMISSION takes its cue from the by right use in the City's T-1 and T-2 Zoning Districts wherein parking structures are a "by right" use in those transitional districts. This planning principle of using well designed parking structures for commercial/multi-family uses allowed in the "B" districts along West Broad Street can reduce activity along Park Ave and make a pleasing transition to the nearby commercial/multifamily uses. The proposed parking above grade parking structure will be screened in a way as to prevent undue intrusions into the established single family neighborhood along Park Ave.

The structure proposed for Mason Row will is designed to be of high quality materials and to NOT have any vehicular access on Park Ave.

The remainder of the site would be developed as follows:

- A six story mixed use (apartment) building with retail, office and service uses in the ground floor, with 340 rental apartments; the previously proposed 69-unit residential condominium on Park Ave. has been removed.

- A hotel of five floors with retail and service uses in the ground floor and hotel rooms in floors 2 through 6.

- The ground floor of the apartment building (and a portion of the office uses) would have retail uses; such uses would include a movie theater, restaurants, retail shops and service businesses with a mix of local, regional and national brands.

- Cash to support improvements to the existing parkland along the W& OD trail that will provide a connection to the transit and recreational opportunities of the Trail; subject to the approval of the Northern Virginia Regional Park Authority. Cash to the West End Park will be provided.

- Improvements will be provided for bikes, pedestrians and autos will be made that should improve the existing dangers.

The site is located in planning opportunity area three and the site is discussed in the Comprehensive plan at pages 58 and 59. The redevelopment area calls for mixed uses diagonally across from the site but in fact that area is committed in the long term to retail uses.

By consolidating the parcels in this site and by recently adding 916 to the site plan of the project, Spectrum has achieved a number of the Goals in the City's Comprehensive Plan. Specifically, the proposed mixed use development provides for sustainable development as it will allow for

improvements to storm water management, to energy efficiency, to parks and open space, to locating residents nearer to employment, transit and shopping area, enhances the integrity of the low density residential area by establishing for the long term a "terminus" to the residential area of Park Avenue. The internal and external improvements to traffic movement will greatly improve the current difficult intersection of West Street and Park Avenue. (See pages 75Rv through 76Rv of the Comprehensive Plan).

The site's proximity to the W&OD trail provides a unique opportunity to the City to maximize the benefits of that park and transportation amenity. A mixed use development provides the best opportunity to take advantage of this opportunity. The current general "business" uses called for in the Comprehensive Plan would squander the opportunity.

Demographic and market trends demonstrate that the future development in this area should be an innovative and integrated approach to a mixture of uses including retail, residential and service uses.

Spectrum expects that given the increasing amount of retail, and newer/smaller multi- family units, the surrounding area will become more attractive to office users as well. In fact, about 6600 square feet of office use is now provided in the RESUBMISSION. The change in designation from business to mixed use on this site facilitates this dynamic.

While the current designation does accommodate multi-family uses and the City has approved similar mixed use developments in areas designated "Business", Spectrum suggests the more appropriate designation is "Mixed Use" and consequently has applied for such an amendment to the Comprehensive Plan. The City will retain the ability through the special exception process to control the height, massing, uses and overall character of any proposed mixed use project.

The appropriate Application accompanies this letter.

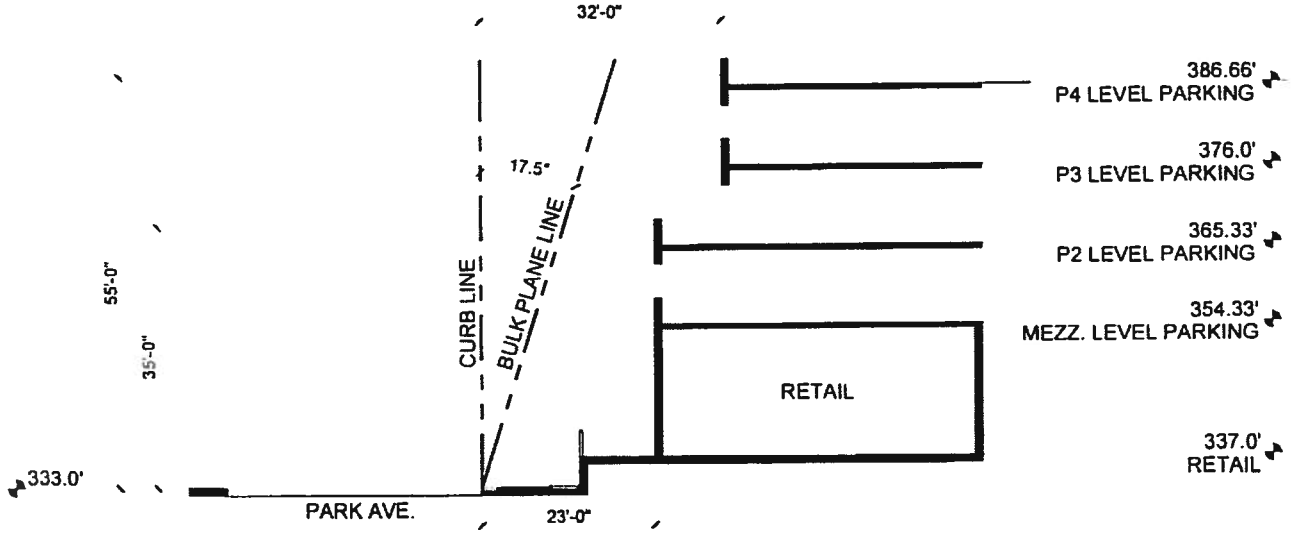
Thank you and the City Staff for its guidance and attentiveness to this project.

Sincerely,

David R. Lasso

David R. Lasso

DRL/saj
Enclosures

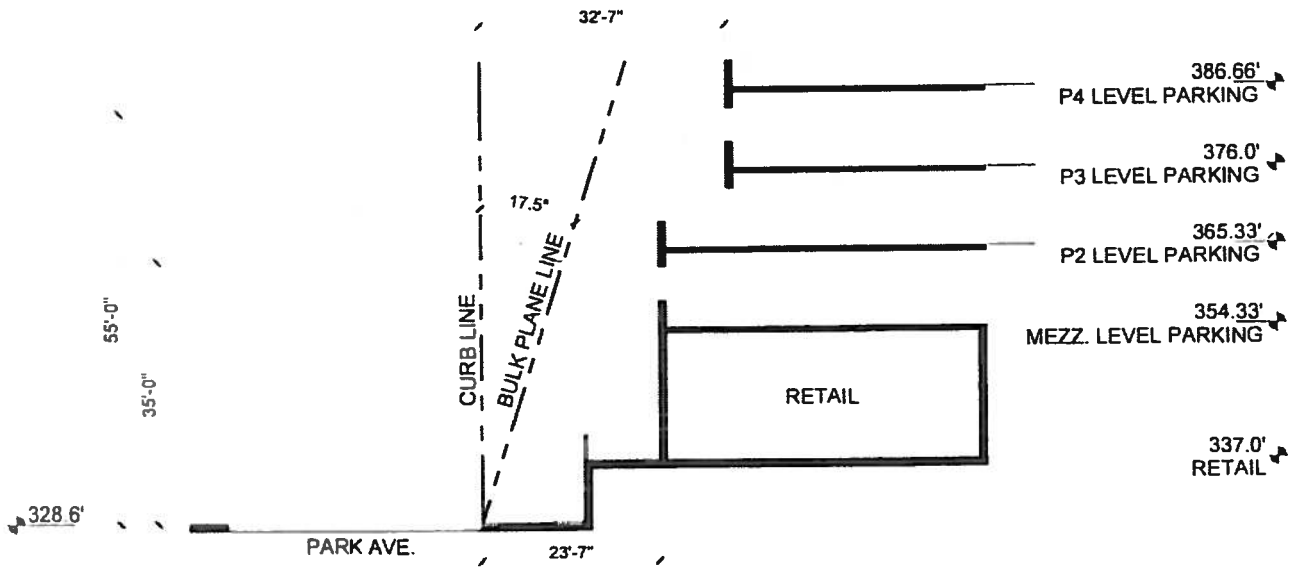


HIGHER GRADE SECTION

FALLS CHURCH MIXED USE PROJECT

GTM ARCHITECTS

COPYRIGHT 2013, GTM ARCHITECTS, INC.
7735 OLD GEORGETOWN ROAD, SUITE 700, BETHESDA, MD 20814 - TEL: (240) 333-2000 - FAX: (240) 333-2001



LOWEST GRADE SECTION

GTM

GTMARCHITECTS

FALLS CHURCH MIXED USE PROJECT

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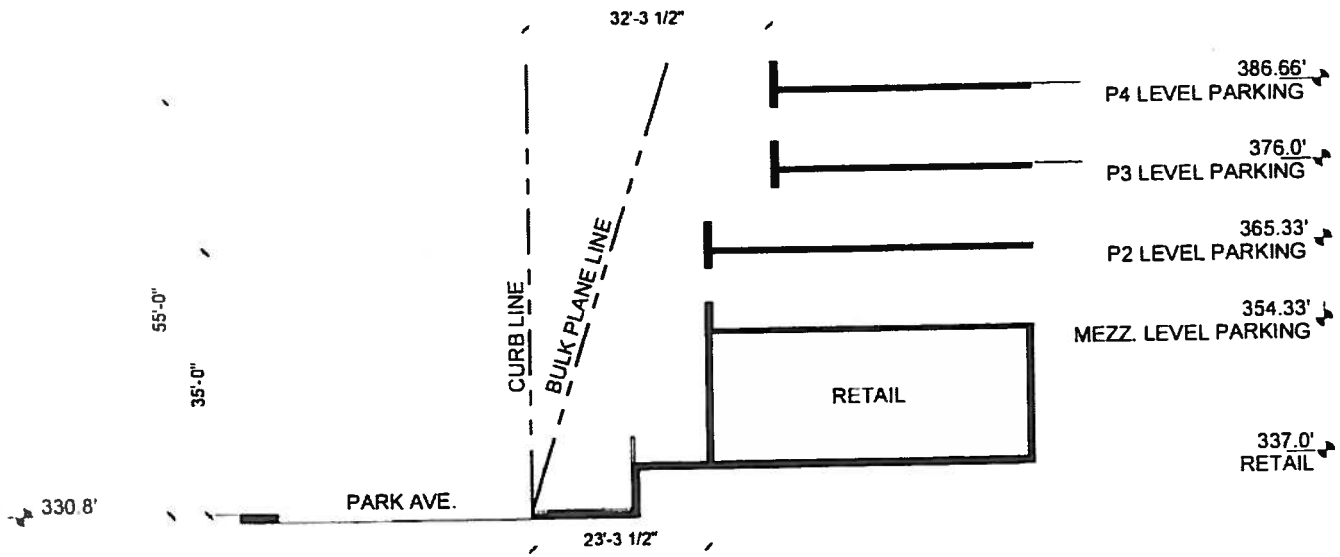

AVERAGE GRADE SECTION

GTM

GTMARCHITECTS

FALLS CHURCH MIXED USE PROJECT

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7735 OLD GEORGETOWN ROAD, SUITE 700, BETHESDA, MD 20814 - TEL: (240) 333-2000 - FAX: (240) 333-2001

CITY OF FALLS CHURCH

Department of Development Services
Planning Division
Room 300 West
300 Park Avenue
Falls Church, VA 22046-3332
Phone: 703.248.5040
Fax: 703.248.5225

PLANNING DIVISION
APPLICATION FORM

PROJECT NAME:

Submit one form for each type:

- [ ] Site Plan
- [ ] Site Plan Amendment-Major
- [ ] Site Plan Amendment-Minor
- [ ] Special Exception
- [x] Comp Plan Amendment
- [ ] Subdivision, Consolidation or Lot Line Adjustment
- [ ] Rezoning
- [ ] Interpretation / Planning Director
- [ ] Zoning Ordinance Text Amendment

PROJECT DESCRIPTION:	
Street Address: Broad and West	
RPC #: See Attached	Owner of Record: See Attached

APPLICANT INFORMATION:	
Applicant: [ ] Owner [ ] Contract Owner [x] Agent	
Name: David R. Lasso	
Address: Baskin, Jackson & Lasso, PC	Business Phone: 703-534-3610
301 Park Ave., Falls Church, VA 22046	Cell Phone: 703-801-1608
E-mail: David.Lasso@baskinjackson.com	Fax: 703-536-7315

PROJECT AND PROPERTY INFORMATION:

SITE PLAN	SUBDIVISION, CONSOLIDATION OR LOT LINE ADJUSTMENT	COMP PLAN/REZONING OR SPECIAL EXCEPTION
Current Zoning: [ ] Present Development [ ] Proposed Development # of New Dwelling Units: _____ Commercial: _____ SF [ ] Mixed Use Development [ ] # Site Plan Waiver(s): [ ] Site Plan Resubmission [ ] Site Plan Amendment	Current Zoning: [ ] Present Development [ ] Proposed Development [ ] Subdivision: [ ] SFH [ ] Commercial [ ] Consolidation [ ] Lot Line Adjustment [ ] Preliminary Plat [ ] Final Plat	Current Zoning: R1B, B-1, B-3 Proposed Zoning: B-1 Present Future Land Map Designation: Low Density Residential and General Business [ ] Present Development [x] Proposed Development On Street Loading Space Mixed Use/Bonus Height [ ] Conditional Rezoning [ ] Other Rezoning

TOTAL SITE AREA: 188,137 SF 4.3152 ACRES

APPLICANT SIGNATURE: David R. Lisko
For Spectrum Development Company, LLC

Applications must be accompanied by corresponding checklists and materials as required.

FEES: Fees will be determined by Planning staff after an initial evaluation of the submission. Fees are due at that time, prior to a full review beginning. Fees are paid at the Development Services Counter and may be paid by cash, check, credit card or debit card. Checks should be made out the "The City of Falls Church". Returned checks are subject to fee of up to $50.00.

Status of real estate and personal property taxes, liens, business license and fees:				
TREASURER:	☐ Current	☐ Outstanding (please describe):	_____	Initials: _____
COMM. REV:	☐ Current	☐ Outstanding (please describe):		Initials:

TOTAL FEE for this application: $_____

Accepted by: _____ MUNIS # _____
Staff

The City of Fall Church is committed to the letter and spirit of the Americans with Disabilities Act. This document will be made available in alternate format upon request.
Call 703-248-5080 (TTY 711).

CITY OF FALLS CHURCH

Department of Development Services
Planning Division
Room 300 West
300 Park Avenue
Falls Church, VA 22046-3332
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APPLICATION FORM

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APPLICANT INFORMATION:	
Applicant: [ ] Owner [ ] Contract Owner [x] Agent	
Name: David R. Lasso	
Address: Baskin, Jackson & Lasso, PC	Business Phone: 703-534-3610
301 Park Ave., Falls Church, VA 22046	Cell Phone: 703-801-1608
E-mail: David.Lasso@baskinjackson.com	Fax: 703-536-7315

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COMM. REV:	☐ Current	☐ Outstanding (please describe):		Initials:

TOTAL FEE for this application: $_____

Accepted by: _____ MUNIS # _____
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TOTAL SITE AREA: 188,137 SF 4.3152 ACRES

On Street Loading Space
Mixed Use/Bonus Height

APPLICANT SIGNATURE: David R. Lasso
For Spectrum Development Company, LLC

Applications must be accompanied by corresponding checklists and materials as required.

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COMM. REV:	☐ Current	☐ Outstanding (please describe):		Initials:

TOTAL FEE for this application: $_____

Accepted by: _____ MUNIS # _____
Staff

The City of Fall Church is committed to the letter and spirit of the Americans with Disabilities Act. This document will be made available in alternate format upon request.
Call 703-248-5080 (TTY 711).

Application Number _____

CITY OF FALLS CHURCH, VIRGINIA
DEVELOPMENT SERVICES DEPARTMENT
PLANNING DIVISION
Disclosure Statement

Type or Print in Ink. Complete the following:

1. Description of the real estate affected. List the addresses of all property that is affected by the application. Provide the lot, block, section, and subdivision of all parcels only if the properties have not been subdivided.

   Address(es) See Broad and West Parcel Ownership Statement Attached

   Lot(s)_____ Block(s)_____

   Section(s)_____ Subdivision_____

2. Is the owner of said real estate, a corporation whose stock is traded on a national or local stock exchange and having more than five hundred (500) shareholders?

   No ☑ Yes ☐ If "Yes", give the name of the corporation and skip to Item 4.

3. List the names, addresses, and nature of interest of **ALL** persons having equitable ownership of the real estate to be affected, including, in the case of corporate ownership, the names of stockholders, officers, and directors; and of **ALL** real parties of interest.

PARCEL ADDRESS	NAME	ADDRESS	NATURE OF INTEREST
See Attached			

4. I hereby certify that this is a true and accurate disclosure of all persons having equitable ownership real estate to be affected and of all the parties in interest.

CHARLES RYAN EU
Notary Public
Commonwealth of Virginia
7502219
My Commission Expires Sep 30, 2015

Applicant's Signature
Richard P. Buskell
Managing Partner
P.O. Box 937
Vienna, Virginia 22183
Applicant's Address

State of Virginia
County of Fairfax

Subscribed and sworn before me this 11 day of December, 2014.

Notary Public_____ My Commission Expires 9/30/14

Mason Row As of January 23, 2015 Parcel Ownership

PARCEL #	ADDRESS	SQUARE FOOTAGE	ACRES	EXISTING ZONE	PROPOSED ZONE	EXISTING LAND USE DESIGNATION	PROPOSED LAND USE DESIGNATION	OWNERS
51-202-015	919 PARK AVENUE Lot 3, D.J. BROWN	15,072	0.35	R-1B	B-1	LOW DENSITY RESIDENTIAL	REAR HALF TO MIXED USE	NIGEL YATES AND BERNADETTE YATES 919 PARK AVENUE, FALLS CHURCH, VA 22046
51-202-014	921 PARK AVENUE Lot , D.J. BROWN	15,064	0.35	R-1B	B-1	LOW DENSITY RESIDENTIAL	REAR HALF TO MIXED USE	TOD W. READ AND JULIA S. READ 921 PARK AVENUE, FALLS CHURCH, VA 22046
51-202-013	925 PARK AVENUE Lot 1, D.J. BROWN	14,570	0.33	R-1B	B-1	LOW DENSITY RESIDENTIAL	REAR HALF TO MIXED USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. TRUSTEES 921 PARK AVENUE, FALLS CHURCH, VA 22046[1]
51-202-012	212, 212A NORTH WEST STREET Lot 11, ACREAGE PARCEL	9,572	0.22	B3	B-1	BUSINESS	MIXED USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. TRUSTEES 212 WEST ST., FALLS CHURCH, VA 22046[1]
51-202-011	212, 212A NORTH WEST STREET Lot 3, MINNIE ELLISON	21,000	0.48	B3	B-1	BUSINESS	MIXED USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. TRUSTEES 212 WEST ST., FALLS CHURCH, VA 22046[1]
51-202-010	110, 112, 112A NORTH WEST STREET Lot 2, MINNIE ELLISON	15,488	0.36	B3	B-1	BUSINESS	MIXED USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. RICHARD PETER[1] 212 WEST ST., FALLS CHURCH, VA 22046[2]
51-202-009	934 WEST BROAD STREET Lot 1, MINNIE ELLISON	19, 868	0.46	B3	B-1	BUSINESS	MIXED USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. TRUSTEES 212 WEST ST., FALLS

								CHURCH, VA 22046[1]
51-202-028 OUTLOT	928, 930, 932 WEST BROAD STREET Lots 1, 2, and 1A ACREAGE PARCEL	3,843	0.09	B3	B-1	BUSINESS	MIXED USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. TRUSTEES 212 WEST ST., FALLS CHURCH, VA 22046[1]
51-202-028	928, 930, 932 WEST BROAD STREET Lots 1, 2, and 1A ACREAGE PARCEL	22,260	.51	B3	B-1	BUSINESS	MIXD USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. TRUSTEES 212 WEST ST., FALLS CHURCH, VA 22046[1]
51-202-005	922, 924, 926 WEST BROAD STREET Lot 3, ACREAGE PARCEL	16,962	0.39	B1	B-1	BUSINESS	MIXED USE	ATALLA TRUST MIKE N. ATELLA AND SUSIE K. ATALLA, TRUSTEES OF 6926 CONFEDERATE RIDGE LANE, CENTREVILLE, VA 20121[3]
51-202-004	920 WEST BROAD STREET Lot 4, ACREAGE PARCEL	16,789	0.38	B1	B-1	BUSINESS	MIXED USE	PAJELA NABLAH, ET AL. 5429 MIDDLEBOURNE LANE CENTREVILLE, VA 20120[4]
52-202-003	916 West Broad Street Lot 5	17,649	.40520	B1	B1	BUSINESS	MIXED USE	RAHEJA, LLC 916 W. BROAD STREET FALLS CHURCH, VA 22046[5]
	TOTAL	188, 137	4.31520					

1 and 2 The beneficiary of the Trust is Shreve Associates, a Limited Partnership. This partnership is comprised of John E. Shreve, Richard S. Shreve, Thomas G. Shreve, Debra Shreve King; Dee Ann Walton, Darlene Penae Shreve, Shane Christopher Shreve and the Estate of William C. Shreve, Jr.

3 Beneficiaries are Mike Atalla, Jimmy Atalla, Louie Atalla, Suzie Atalla, and Nick Atalla

4 Remaining Owners are Massorah Niazy and Esmatullah Niazy

5 Members are Himoni Raheja and Surinder Singh Raheja

Contract Purchaser for all parcels is Spectrum Development LLC, located at P.O. Box 937, Vienna, Virginia 22183. The members are Peter A. Batten (Principal), Richard P. Buskell (President and CEO), and Bobby G. Batten (Principal).

CONSENT LETTERS

November 4th 2013

Richard Buskell
President
Spectrum Development, L.L.C.
1780 Dawson Street
Vienna, VA 22182

Re: 919 Park avenue, Falls Church, VA

Dear Mr. Buskell:

Title to 919 Park Avenue, Falls Church, VA is vested in "Nigel J. Yates and Bernadette Reverie Adams, formerly known as Bernadette Adams Yates, formerly known as Suzanne Bernadette Adams Yates".

The undersigned herby consent to the filing by Spectrum Development, L.L.C. of the following applications to the City of Falls Church, Virginia:

1. Special Exception to allow Mixed Use Development and construction of building with a maximum height of 85' on the property at 919 Park Avenue, falls Church, Virginia.
2. Change the Comprehensive Plan Future Map to show the property at 919 Park Avenue, Falls Church, Virginia as mixed use rather than residential.
3. Rezone a portion of the property at 919 Park Avenue to B-1.
4. Any other zoning entitlement application or permit necessary to authorize the development of the mixed use project known as the "Broad and West".

Respectfully submitted,

Nigel J. Yates

Bernadette R. Adams

November 4, 2013

Richard Buskell
President
Spectrum Development, L.L.C.
1780 Dawson Street
Vienna, VA 22182

Re: 921 Park avenue, Falls Church, VA

Dear Mr. Buskell:

Title to 921 Park Avenue, Falls Church, VA is vested in "Tod W. and Julia S. Read".

The undersigned herby consent to the filing by Spectrum Development, L.L.C. of the following applications to the City of Falls Church, Virginia:

1. Special Exception to allow Mixed Use Development and construction of building with a maximum height of 85' on the property at 921 Park Avenue, falls Church, Virginia.
2. Change the Comprehensive Plan Future Map to show the property at 921 Park Avenue, Falls Church, Virginia as mixed use rather than residential.
3. Rezone the property at 921 Park Avenue to B-1.
4. Any other zoning entitlement application or permit necessary to authorize the development of the mixed use project known as the "Broad and West".

Respectfully submitted,

Tod W. Read

Tod S. Read
W.

Julia S. Read

Julia S. Read

November 14, 2013

Richard Buskell
President
Spectrum Development, L.L.C
1780 Dawson Street
Vienna, VA 22182

Re: 932 & 934 West Broad Street, Falls Church, VA
- 110 & 212 North West Street, Falls Church, VA
9,000 square feet lot on Park Avenue, Falls Church, Virginia
925 Park Avenue, Falls Church, Virginia
928 West Broad, Falls Church, VA

Dear Mr. Buskell:

Titles to the above captioned real properties are vested in "John E. Shreve, Richard S, Shreve, Thomas G. Shreve and Peter A. Arntson, as Trustees". The Trust address is: 212 North West Street, Falls Church, Virginia 22046.

The sole beneficiary of the Shreve Trust is Shreve Associates, A Limited Partnership.

The Trust herby consents to the filing by Spectrum Development, L.L.C. of the following applications to the City of Falls Church, Virginia:

1. Special Exception to allow Mixed Use Development and construction of building with a maximum height of 85' on the above captioned real properties.
2. Change the Comprehensive Plan Future Map to show the above captioned real properties as mixed use rather than low density residential and business.
3. Rezone the property at 925 Park Avenue to B-1
4. Rezone the property at 934 West Broad to B-1.
5. Special Use Permit for a drive through pharmacy.
6. Any other zoning entitlement application or permit necessary to authorize the development of the mixed use project known as the "Broad and West".

Respectfully submitted,

TRUSTEES (any three of the below Trustees may act):

(SEAL)
John E. Shreve, Trustee

N/A (SEAL)
Richard S. Shreve, Trustee

(SEAL)
Thomas G. Shreve, Trustee

(SEAL)
Peter A. Arntson, Trustee

January 15, 2014

Richard Buskell
President
Spectrum Development, L.L.C.
1780 Dawson Street
Vienna, VA 22182

Re: 922 West Broad Street, Falls Church, VA

Dear Mr. Buskell:

Title to 922 West Broad Street, Falls Church, VA is vested in "Atalla Trust, Nick Atalla, Trustee". The mailing address used by the title owner for communications regarding the property is 11228 NE 67th Street, Kirkland, WA 98033.

The beneficiaries of the Atalla Trust are:

Mike Atalla	Suzie Atalla
Jimmy Atalla	Nick Atalla
Louie Atalla	

The Undersigned hereby consents to the filing by Spectrum Development, L.L.C. of the following applications to the City of Falls Church, Virginia:

1. Special Exception to allow Mixed Use Development and construction of building with a maximum height of 85' on the property at 922 West Broad Street, Falls Church, Virginia.
2. Change the Comprehensive Plan Future Map to show the property at 922 West Broad Street Falls Church, Virginia as mixed use rather than commercial.
3. Any other zoning entitlement application or permit necessary to authorize the development of the mixed use project known as the "Broad and West".

Respectfully submitted,

, Trustee

NICK ATALLA

October_____. 2013

Richard Buskell
President
Spectrum Development, L.L.C.
1780 Dawson Street
Vienna, VA 22182

Re: 920 West Broad Street, Falls Church, VA

Dear Mr. Buskell:

Title to 920 West Broad Street, Falls Church, VA is vested in "Nabilah Pajelah, also known of record as Nabilah Pajela, Massorah Niazy, also known of record as Mastoorah Niazy, and Esmatullah Niazy". The mailing address used by the title owners for communications regarding the property is: 8302 Judy Will Lane Vienna, VA 22182.

The Undersigned hereby consent to the filing by Spectrum Development, L.L.C. of the following applications to the City of Falls Church, Virginia:

1. Special Exception to allow Mixed Use Development and construction of building with a maximum height of 85' on the property at 920 West Broad Street, Falls Church, Virginia.
2. Change the Comprehensive Plan Future Map to show the property at 920 West Broad Street Falls Church, Virginia as mixed use rather than residential.
3. Any other zoning entitlement application or permit necessary to authorize the development of the mixed use project known as the "Broad and West".

Respectfully submitted,

NABILAH PAJELAH

MASSORAH NIAZY

ESMATULLAH NIAZY

12

NEW

October 15, 2014

Richard Buskell
President
Spectrum Development, LLC
1866 Amberwood Manor Court
Vienna, VA 22182

Re: 916 West Broad Street, Falls Church VA (the "Property")

Dear Mr. Buskell:

Title to 916 West Broad Street, Falls Church, VA is vested in "Raheja, LLC," a Virginia limited liability company. The mailing address used by the title owner for communications regarding the property is 916 W. Broad Street, Falls Church, VA 22046.

The members of Raheja, LLC are:

Surinder Singh Raheja

Himani Raheja

The undersigned hereby consents to the filing by Spectrum Development, LLC of the following applications to the City of Falls Church, Virginia:

1. Special exception to allow Mixed Use Development and construction of buildings in the 900 block of W Broad Street up to a maximum height of 110'.
2. Rezone the property at 916 W. Broad Street, Falls Church, VA to B-2.
3. Change the Comprehensive Plan Future Map to show the property at 916 W. Broad, Falls Church, VA as mixed use rather than commercial.
4. Any other zoning entitlement application or permit necessary to authorize the development of the mixed use project known as 'Mason Row".

This consent is subject to Raheja, LLC and Spectrum Development, LLC entering into a purchase and sale agreement for the Property and this consent and the above referenced applications may be withdrawn by Raheja, LLC in the event the parties do not enter into such a purchase and sale agreement.

Respectfully Submitted,

Surinder Singh Raheja
Member

Statement Regarding Broad and West Development's Conformance with City's Adopted Comprehensive Plan and Design Guidelines

A change in the Comprehensive Plan is requested. Please refer to the Transmittal and Justification Letter for the Comprehensive Plan change.

Compliance with the Design Guidelines is also discussed in the Transmittal and Justification Letter for the Special Exceptions.

STATEMENT THAT MASON ROW (PROPOSED BROAD AND WEST) DEVELOPMENT MEETS SPECIAL EXCEPTION CRITERIA FOR MIXED-USE AND HEIGHT BONUS

The proposed development meets the primary and secondary criteria listed in Falls Church City Code ("Code"), Sections 48-90(d) (1) and (d) (2), and the following is a brief summary of the criteria listed in these Code Sections. Please refer to the justification materials and community benefits list for a more complete explanation of the proposed development and how it will benefit both the South Washington Street area and the City of Falls Church as a whole.

1. **Primary Criteria (Section 48-90(1)):**
   a. **The resulting development conforms to the City's adopted Comprehensive Plan and Design Guidelines (Section 48-90(1) (a)).**

The Comprehensive Plan shows that the property is located in Planning Opportunity Area 3, and the proposed development meets or exceeds the strategies called for in that area:

1. Consolidation of lots to accommodate higher density.
2. Promotion of redevelopment that eliminates stand-alone automobile and light industrial facilities.
3. Improve pedestrian accessibility with controlled cross walks at various locations.
4. Create a consistent design, in terms of building height and design, streetscape improvements, and other aspects of the built environment in the City.
5. Preserve recreational resources in the area.
6. Create development to promote a positive image of the City in an area that has not seen any significant new development in decades.
7. Locate buildings as close to West Broad and West Streets as possible with parking located in the rear or in shared buildings or in structured facilities (in this case covered, surface and underground).
8. Achieve consistent architectural goals.
9. Traffic turn lanes will be added to Broad and West Streets.

Additionally, the Comprehensive Plan's Future Land Use Map designates the property as "business". The text of the comprehensive plan currently points out that while this means the area should be "primarily" recognized as retail or office districts rather than residential, "special exceptions for residential use and height bonuses have also been granted to create mixed use projects in 'business' areas since 2002".

The Comprehensive Plan should be changed to reflect current practice, the City's goals and the changing environment. To do this, an application to change the Comprehensive Olan's designation from Business to "Mixed Use" has been submitted to the City. The Design Guidelines show that the property is located in the West Broad Street Area. As called for in the Guidelines, the proposed development will reflect an urban street front, will provide a consistent identity for the area, increase pedestrian activity, and indicate the high standards of the City. In addition, the proposed development will widen paving at crosswalks, provide a mini- park at the W& OD trail, all of which will work to increase pedestrian and bicycle activity in the area. The site's proximity offers a unique opportunity to finally provide superior connection to the W&OD Trail. The best use to optimize that linkage is mixed use and not office or light industrial uses.

b. **The resulting development provides for significant net new commercial square footage and allows for a mix of commercial and residential uses (Section 48-90(1) (b)).**

Currently, the properties in the site contribute only minimally in tax revenue. All existing properties are served by significant surface parking. The proposed development will remove these largely automobile-oriented and light industrial uses, providing significant net new commercial square footage and allowing for a mix of commercial and residential uses. The proposed development as noted provides substantial new commercial space (more specifically described in the Table in the Concept plan), and uses language desired by the City.

c. **The resulting development produces substantial positive net new commercial and residential revenue to the City (Section 48-90(1) (c)).**

In conjunction with this application, information has been submitted to the City to be inputted into the City's cost/revenue impact model to predict the project's net new revenue, and a report has been received, which is attached separately. As recognized by the Comprehensive Plan, the parcels that make up the property are underutilized currently in terms of their density and use. The proposed development will significantly increase the assessed value of and resultant property tax revenue generated by the property. In addition, by creating a vibrant, attractive western gateway into the City, the development will encourage additional consumers to enter the area and patronize commercial uses throughout the City.

2. Secondary Criteria (Section 48-90(2))

a. The development is not disproportionate to surrounding land uses and planned land uses in size, bulk or scale (Section 48-90(2) (a)).

The proposed development is a concrete podium of commercial uses with five floors of office, multi-family and hotel above, with a total height of about 85 feet. The development has the unique aspect of substantial at grade parking for the retail uses hidden behind the retail/service (including a movie theater) and under the residences. The exterior is masonry, and the building is fully consistent with high standards established by the City for prior mixed use projects. The area of the footprint of this project is "low" and the height of the new building will blend well with its environment and set the stage

for future development. Given the high-quality design and construction of the building and its prominent place in the City, a building of this scale is appropriate. The proposed development works in conjunction with existing buildings to further create a dramatic, defined statement of quality for this area of the City. The development is consistent with the discussion in the Comprehensive Plan for this Redevelopment Opportunity Area which calls for significant mixed (multifamily) uses-the area called for this Plan however is committed long term to other uses that conflict with the Plan.

The prior design along Park Avenue has been modified to include retail to be marketed to local and existing businesses. There will be no vehicular access. There is one level of parking above the retails such that the height will be about 35'. There will be additional parking above in decks further set back about 9'. The total height has been reduced from prior designs and will be about 55'.

b. The resulting development does not overburden the existing community facilities, including the school, transportation and water and sewer systems (Section 48-90(2) (b)).

Transportation

A traffic study has been conducted by Wells and Associates that evaluates the anticipated traffic impacts of the application and provides specific recommendations to mitigate those impacts. That Study has been provided to the Staff. Some revisions to counts will be made to reflect the changes in the retail plan for the site. The application envisions a vibrant mixed-use development that will be sensitive to the transportation concerns of the City. By providing a variety of complementary uses on the same site, the proposed development will encourage self-contained, pedestrian trips. Additionally, due to its location proximate to several bus routes including a future intermodal transportation center and with implementation of Transportation Demand Management ("TDM") measures, a percentage of the trips generated by the residential and commercial components of the proposed development are anticipated to utilize non-auto modes of transportation. TDM measures will include convenient bicycle storage facilities, transit incentives, and resources conducive to teleworking. Furthermore, the developer proposes to reconfigure of the intersection at West Street and Park Avenue and add lane changes and traffic calming. A traffic light will be placed at West and Park and one at W. Broad Street.

Water & Sewer

The City's utility engineer has confirmed that water and sewer service is adequate. The project will greatly improve storm water management with BMPs as the existing development has virtually no storm water management measures.

c. The resulting development provides community benefits such as affordable housing, as it is described in Section 38-43 (Section 48-90(2) (c)).

The developer is proposing a cash payment in lieu of Affordable Dwelling Units.

A commitment to LEED Silver for the Apartment building is provided, and the developer will underground all aerial utilities contiguous to the site depending on costs and availability of easements. The developer proposes to review this in detail with the City to determine what poles can be undergrounded in the immediate area.

d. **The resulting development contributes to a vibrant, pedestrian-oriented environment both on site and in relation to adjoining properties, with street level activity throughout the day and evening (Section 48-90(2) (d)).**

The current uses at the site are distinctly automobile-oriented, with the majority of the property occupied by their own surface parking lots. The proposed development will move almost all parking within enclosed structures, which will contribute further to the walkable nature of the area.

The provision of streetscape along the entire development's three sides facing streets will contribute to the vibrant, pedestrian-oriented environment with connectivity to adjacent commercial and park areas. The mix of uses, including restaurants, retail, movies, and other commercial opportunities will provide a balanced commercial center that will generate pedestrian traffic throughout the day and evening. The street level retail uses will be very visible and will encourage customers to enter the area to shop and visit not only this development, but the additional retail located nearby.

e. **The resulting development offers creative use of landscaping, open space and/or parks, public plazas or and walkways connecting to adjoining properties (Section 48-90(2) (e)).**

Three sides of the proposed building will have the attractive "streetscape" design and fixtures, and there will be enhanced connections around the site to nearby businesses, parks, and residences. The design of the area near the W&OD trail will invite pedestrians to ride bikes, rest, talk, sit, eat and simply enjoy the area which includes the soon to be completed West End Park.

A cash contribution is provided. Further, a cash contribution is possible to facilitate the completion of the West End Park.

f. **The resulting development provides a variety of commercial services and uses that are attractive to and meet the needs of all city residents for entertainment, art, recreation, dining retail and array of consumable goods (Section 48-90(2)(f)).**

As stated above, the proposed development envisions a hotel as well as a mix of commercial uses. This includes a movie/dinner theater, and retail opportunities in an area that is lacking sufficient quality retail currently. These commercial entities will serve the residential uses within the proposed development, as well as the neighborhood as a whole.

g. **The resulting development encourages local or independent businesses (Section 48-90(2) (g)).**

The retail and restaurant space provide a unique opportunity for local, regional and independent businesses, and the high-quality development will help the area as a whole attract and cultivate local and independent businesses. The smaller retail spaces in the development and the spaces along Park Avenue provide excellent opportunities for local "mom and pop" and incubator businesses.

h. **The resulting development provides for a reduction of single use parking requirements through shared parking Section 48-90(2) (h)).**

As shown in the submitted conceptual plan, the developer is recommending shared parking. The developer will explore with the final parking provided with the City to determine any additional parking reductions are justified based on the characteristics of the property and its proximity to bike ways, as well as several bus lines, will lead to fewer automobile trips. Additionally, some residents will bike to work (or to a multi-modal transit location for switching to bus or rail), and the commercial uses will be patronized at least in part by pedestrians and cyclists.

i. **The resulting development encourages multi-modal transportation through design and other techniques to reduce the reliance on single occupancy vehicles, and utilizes sheltered stops for mass transit whenever feasible Section 48-90(2) (i)).**

As discussed, the property is in close proximity to existing bike ways, as well as the Metro Rail station and several bus lines. It is expected that some residents will walk to the Metro Rail station and others will bike to work, and that the commercial uses will be patronized at least in part by pedestrians and cyclists. The design includes attractive and user friendly places for bikes to be parked and stored.

j. **The resulting development utilizes LEED criteria in the design of the project Section 48-90(2) (j)).**

The proposed apartment is planned to be LEED Silver certified, and will otherwise be designed using green design principles and elements. By removing the existing imperious parking lots and implementing a new storm water management plan, the development will greatly reduce storm water runoff in the area. Additionally, the non-residential part of the project will incorporate eco-conscious sustainable elements in the design of the hotel and other commercial spaces.

Special Exception for Height Bonus.

The area of the site to be used for the mixed use project is currently zoned B-3 and B-1, which permit a by-right height of up to 55 feet. The developer proposes the requested development to be a maximum height of 85 feet.

Up to 30 feet of bonus height may be granted if the project is exemplary in terms of conformance to the Primary Criteria 1 and 2 set out above and assists in conformance with Primary Criteria 2 and 3. The amount of new commercial area is many times greater than the area of the existing commercial activity. More importantly, the new commercial activity replaces commercial uses which are discouraged by the City's Comprehensive Plan. The net new commercial and retail income is far greater than that of the existing uses and far superior in terms of making the area a desirable play to live, work, and play. Many of the difficult to achieve goals of the Comprehensive Plan will be met by the proposed development. For these reasons, this plan is exemplary in its achievement of the primary criteria set out above.

Bonus height may able be awarded for certain preferred uses when located on primary street frontage. These uses include outdoor dining, hotel and other uses specifically requested by the City. This development proposes improvements to the W&OD park, a hotel, offices, a new movie/dinner theater, multiple retail opportunities and outdoor dining and some restaurants possibly with entertainment; all of which are considered preferred uses, justifying a bonus height of 30 feet.

It is important to note here that the first floor retail uses require a ceiling heights ranging from 15 to 24 feet, and that this required ceiling height is a major reason why the bonus is needed. As discussed, the design of this project, and in particular its height, is an exceptional new addition to this part of the City. The project sets a high bar for quality in terms of design, use, and materials, and if the proposed project were to be lowered by 30 feet, the integrity of the design would be greatly compromised, likely making the development infeasible.

The location and unique physical characteristics of the site make the requested building height appropriate. The property is located in an area that is expected to attract similar developments which will likely reach heights of 85', so that the requested height of 85' in certain locations is not out of the character of the surrounding neighborhood and the expected area as it evolves.

Statement Regarding West and Broad Streets Development's Impact on Community Facilities, Including Transportation, Schools, and Water and Sewer Systems

The proposed development will marginally impact all community facilities and it does add students to the school system. Please refer to the Justification letter provided and the concept plan itself, as well as the Fiscal and Analysis provided by the City staff.

However, the development proposed is designed to not only mitigate these impacts, but improve the current situation.

- Improvements to the W&OD Trail are proposed, by way of a cash contributor. The development will include recreational amenities for its residents (pool, exercise and media rooms.

- The intersections at West and Park and West and Grove will be improved significantly with turn lanes and new controls. Please refer to the TIA by Wells and Associates. The number of curb cuts will be reduced substantially and a new "spine road" through the project should improve the current conditions in that immediate area.

- The current users have no storm water management but the proposed development will have BMP's for storm water management and will improve community SWM facilities dramatically. It is also expected the sanitary sewer will improve by eliminating storm water from entering the system, although clearly the overall load to the sewage treatment plan will increase.

- The new development will dramatically improve the streetscape along West Broad, West and Park Avenue.

- The existing users are not energy efficient but the new apartment building will meet LEED Silver standards.

- While some new students will be added, the development will contribute toward capital costs of the school system.

- A cash contribution will be made for Parks.

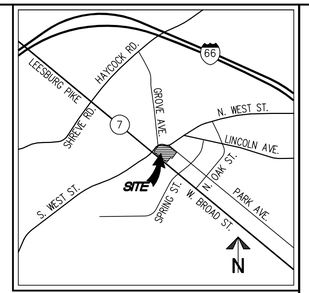
Attachment 2
Conceptual Development Plan
Dated April 8, 2015

MASON ROW

AT THE INTERSECTION OF WEST BROAD STREET AND NORTH WEST STREET

CITY OF FALLS CHURCH, VIRGINIA

CONCEPTUAL DEVELOPMENT PLAN



VICINITY MAP SCALE: 1"=2000'

NOTES

1. THE PROPERTIES SHOWN HEREON ARE DESIGNATED BY THE CITY OF FALLS CHURCH, VIRGINIA, AS REAL PROPERTY CODE (RPC) NUMBERS:
   a) 51-202-009, 51-202-010, 51-202-011, 51-202-012, AND 51-202-028, ZONED B-3 "GENERAL BUSINESS"
   b) 51-202-003, 51-202-004, AND 51-202-005, ZONED B-1 "LIMITED BUSINESS"
   c) 51-202-0013, 51-202-014, AND 51-202-015, ZONED R-1B "MEDIUM DENSITY RESIDENTIAL"
   (PER THE CITY OF FALLS CHURCH ZONING)

2. THE PROPERTY IS AS FOLLOWS:
   a) PARCEL 51-202-003, BEING LOT 3, AS RECORDED IN DEED BOOK F-8 AT PAGE 521, IS NOW IN THE NAME OF RAHEJA, LLC, AS RECORDED IN DEED BOOK 3240 AT PAGE 363 AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   b) PARCEL 51-202-004, BEING PART OF LOT 2, AS RECORDED IN DEED BOOK F-8 AT PAGE 521, IS NOW IN THE NAME OF NABILAH PAJELAH, MASSORAH NIAZY, AND ESMATULLAH NIAZY, AS RECORDED IN DEED BOOK 3225 AT PAGE 1656 AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   c) PARCEL 51-202-005, BEING PART OF LOT 1, AS RECORDED IN DEED BOOK F-8 AT PAGE 521, IS NOW IN THE NAME OF ATALLA TRUST, NICK ATALLA, TRUSTEE, AS RECORDED IN DEED BOOK 2420 AT PAGE 847 AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   d) PARCELS 51-202-009, 51-202-010 AND 51-202-011, BEING LOT 1 - 3, MINNIE D. ELLISON SUBDIVISION, AS RECORDED IN DEED BOOK 1257 AT PAGE 78, AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA, IS NOW IN THE NAME OF JOHN E. SHREVE, ET AL, AS SURVIVING TRUSTEES, AS RECORDED IN DEED BOOK 6204 AT PAGE 627, AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA, AND IN DEED BOOK 2741 AT PAGE 2090, AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   e) PARCEL 51-202-012, BEING COMPRISED OF THE METES AND BOUNDS DESCRIPTION, AS RECORDED IN DEED BOOK 4090 AT PAGE 92, IS IN THE NAME OF JOHN E. SHREVE, ET AL, AS SURVIVING TRUSTEES, AS RECORDED IN DEED BOOK 6204 AT PAGE 622, AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA AND IN DEED BOOK 2741 AT PAGE 2090, AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   f) PARCEL 51-202-013, BEING PART OF LOT 1, D.J. BROWN'S PROPERTY, AS RECORDED IN DEED BOOK Y-9 AT PAGE 347, IS NOW IN THE NAME OF JOHN E. SHREVE, ET AL, AS SURVIVING TRUSTEES, AS RECORDED IN DEED BOOK 9504 AT PAGE 269, AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA AND IN DEED BOOK 2741 AT PAGE 2126, AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   g) PARCEL 51-202-014, BEING LOT 4, D.J. BROWN'S PROPERTY, AS RECORDED IN DEED BOOK Y-9 AT PAGE 347, IS NOW IN THE NAME OF TOD W. READ AND JULIA S. READ, AS RECORDED IN DEED BOOK 2561 AT PAGE 369 AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   h) PARCEL 51-202-015, BEING LOT 3, D.J. BROWN'S PROPERTY, AS RECORDED IN DEED BOOK Y-9 AT PAGE 347, IS NOW IN THE NAME OF NIGEL J. YATES AND BERNADETTE REVERIE ADAMS, AS RECORDED IN DEED BOOK 3102 AT PAGE 1093 AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   i) PARCEL 51-202-028, BEING COMPRISED OF PARCELS 1 THROUGH 6, AS RECORDED IN DEED BOOK 1220 AT PAGE 535, AND OUTLOT, MINNIE D. ELLISON SUBDIVISION, AS RECORDED IN DEED BOOK 1257 AT PAGE 78, AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA, IS NOW IN THE NAME OF JOHN E. SHREVE, ET AL, AS SURVIVING TRUSTEES, AS RECORDED IN DEED BOOK 9504 AT PAGE 252, AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA AND IN DEED BOOK 2741 AT PAGE 2107, AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.

3. THIS PLAT AND THE SURVEY UPON WHICH IT IS BASED SHOWS ONLY THOSE IMPROVEMENTS THAT ARE OBSERVABLE AND CAN BE LOCATED USING NORMAL SURVEY METHODS. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, MISS UTILITY MARKINGS AND EXISTING RECORDS. THERE ARE NO GUARANTEES, EITHER EXPRESS OR IMPLIED, THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED, OR THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE UNDERGROUND UTILITIES HAVE NOT BEEN PHYSICALLY LOCATED.

4. TOTAL AREA OF THE PROPERTY IS 188,137 SQUARE FEET OR 4.3190 ACRES.

5. THIS PLAT IS BASED ON A CURRENT FIELD SURVEY BY THIS FIRM.

6. THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP FOR THE CITY OF FALLS CHURCH, VIRGINIA, MAP NUMBER 5100540001C, REVISED DATE JULY 16, 2004, DESIGNATES THE PROPERTY AS BEING IN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

7. EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS, SHOWN AND/OR NOTED, TAKEN FROM THE TITLE COMMITMENT PREPARED BY OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY, COMMITMENT NUMBERS:
   a. 192001694, 192001695, AND 192001696, EFFECTIVE DATE APRIL 5, 2013, REVISION DATE APRIL 17, 2013
   b. 192001697, 192001698, 192001699, AND 192001700, EFFECTIVE DATE APRIL 8, 2013, REVISION DATE APRIL 22, 2013

8. EASEMENT GRANTED TO VIRGINIA ELECTRIC POWER COMPANY, RECORDED IN DEED BOOK 617 AT PAGE 182 CANNOT BE LOCATED. NO EVIDENCE REMAINS THE UTILITY.

9. THE SITE SHOWN HEREON IS REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 AS COMPUTED FROM A FIELD RUN VERTICAL CONTROL SURVEY AND IS REFERENCED TO THE VIRGINIA COORDINATE SYSTEM OF 1983, [NAD 83(2011) (EPOCH:2010.0000)] AS COMPUTED FROM A FIELD RUN BOUNDARY AND HORIZONTAL CONTROL SURVEY THAT TIES THIS SUBDIVISION BOUNDARY AND THE BENCHMARK(S) SHOWN TO NOAA/NGS MONUMENT PID NUMBER DH4144; LWX1 STERLING CORS ARP. THE COMBINED SCALE FACTOR THAT HAS BEEN APPLIED TO THE FIELD DISTANCES TO DERIVE THE REFERENCED COORDINATES IS 0.99994857. THE FOOT DEFINITION USED FOR CONVERSION OF THE MONUMENT COORDINATES AND IN THE PERFORMANCE OF THIS SURVEY IS THE U.S. SURVEY FOOT. CONTOUR INTERVAL IS TWO FEET.

10. THIS SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF, JAMES A. MADISON, JR., L.S., FROM AN ACTUAL ☒ GROUND OR ☐ AIRBORNE SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON MAY 2, 2013 AND NOVMEBER 6, 2014; AND THAT THIS PLAT, MAP, OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

11. THIS SURVEY WAS PERFORMED AT THE REQUEST OF SPECTRUM DEVELOPMENT.

ZONING TABULATION

EXISTING ZONES: B-1, B-3 & R-1B
PROPOSED ZONE: B-1
EXISTING SITE AREA: 188,137 SF OR 4.32 AC

EXISTING R-1B ZONE	44,706	SF	1.03	AC
EXISTING B-3 ZONE	92,031	SF	2.11	AC
EXISTING B-1 ZONE	51,400	SF	1.18	AC
TOTAL	188,137	SF	4.32	AC

PROPOSED B-1 ZONE	188,137	SF	4.32	AC
TOTAL	188,137	SF	4.32	AC

PROPOSED B-1:

	REQUIRED	PROVIDED
MAX. BUILDING HT.	55 FT.	±85 FT.*
MIN. YARD REQUIREMENTS:		
FRONT		
WEST BROAD STREET	20 FT. (FROM FACE OF CURB)	±20 FT. (FROM FACE OF CURB)
NORTH WEST STREET	14 FT. (FROM FACE OF CURB)	±19.5 FT. (FROM FACE OF CURB)
PARK AVENUE	14 FT. (FROM FACE OF CURB)	±18.8 FT. (FROM FACE OF CURB)
SIDE		
ADJACENT TO 51-202-016 (R-1B)	20 FT.	±20 FT.
ADJACENT TO 51-202-003 (B-1)	NONE	NONE
REAR	N/A	N/A

* SPECIAL EXCEPTION REQUESTED FOR BUILDING HEIGHT PER ZONING CODE DEFINITION. SEE BUILDING HEIGHT CALCULATION ON SHEET P-0401.

PARKING TABULATION

USE	TOTAL PROPOSED	REQUIRED PARKING RATIO [SEC. 48-1004]		PARKING REQUIRED
RESIDENTIAL (APARTMENTS)		SPACE/		SPACES
EFFICIENCY	19 UNITS	1.0	UNIT	19
1 BEDROOM	106 UNITS	1.5	UNIT	159
1 BEDROOM W. DEN	98 UNITS	1.5	UNIT	147
2 BEDROOM	117 UNITS	2	UNIT	234
TOTAL	340 UNITS			
TOTAL				**559**
HOTEL		SPACE/		SPACES
PER GUESTROOM	150 ROOMS	1	ROOM	150
EMPLOYEE SPACE PER 10 ROOMS	150 ROOMS	1	10 ROOMS	15
TOTAL				**165**
OFFICE		SPACE/	SF	SPACES
PER OFFICE FLOOR AREA	6108 SF	1	300	21
TOTAL				**21**
THEATER		SPACE/	SEAT	SPACES
FIXED SEATS	776 SEATS	1	4	194
TOTAL				**194**
RETAIL/RESTAURANT		SPACE/	SF	SPACES
RETAIL/RESTAURANT SPACE	60581 SF	1	250	243
TOTAL				**243**
OVERALL TOTAL				**1,182**

NOTES:
1. RETAIL/RESTAURANT PARKED AT THE SHOPPING CENTER RATE OF 1 SPACE/250 SF.

MAP AMENDMENT

1. RE-ZONING REQUEST FROM B-1, B-3, & R-1 TO B-1.
2. COMPREHENSIVE PLAN – FUTURE LAND USE PLAN MAP AMENDMENT FROM "BUSINESS & "LOW DENSITY RESIDENTIAL" TO "MIXED-USE".

SPECIAL EXCEPTION

1. SPECIAL EXCEPTION REQUESTED FOR AN 85' BUILDING HEIGHT PER SECTION 48-455(2).
2. SPECIAL EXCEPTION REQUESTED FOR MIXED USE REDEVELOPMENT IN B-1 DISTRICT.
3. SPECIAL EXCEPTION BY FORMAL RESOLUTION REQUESTED FOR AN ON-STREET LOADING SPACE.

WAIVERS REQUEST

1. A WAIVER OF THE 100' DISTANCE FROM A COMMERCIAL ENTRANCE OR EXIT TO AN "R" DISTRICT [SECT. 48-938 (d)]

   • PROPOSED SITE ENTRANCE OFF OF PARK AVENUE WITH A DISTANCE OF 50' TO RESIDENTIAL DISTRICT ACROSS PARK AVENUE.

2. A WAIVER REQUESTED TO REDUCE THE BUFFER DENSITY TO THAT SHOWN ON THE PLAN. [SECT. 48-1183]

   • ALONG THE EASTERN PROPERTY LINE ADJACENT TO RPC #51-202-016. SEE DETAIL SHEET P-0402.

LANDSCAPE NOTES

1. THE PROPOSED LANDSCAPING AREAS WILL BE DESIGNED UTILIZING APPROPRIATE SPECIES, SOILS, AND IRRIGATION MEASURES TO MAXIMIZE THE OPPORTUNITY FOR HEALTHY PLANTINGS.
2. THE APPLICANT WILL WORK WITH THE CITY ARBORIST TO DESIGN A LANDSCAPE PLAN THAT UTILIZES NATIVE TREES, SHRUBS, PERENNIALS AND GRASSES.
3. THE STREETSCAPE DESIGN WILL BE COORDINATED WITH THE CITY'S ARBORIST AT TIME OF SITE PLAN.

LOADING TABULATION

USE	TOTAL REQUIRED
RESIDENTIAL	0
OFFICE	1
THEATER	1
HOTEL	1
SHOPPING CENTER	2
TOTAL REQUIRED	*5*
TOTAL PROVIDED	**5**

PARKING PROVIDED

GARAGE LEVEL	SPACES PER LEVEL
P2	224
P1	220
P0	133
GROUND FLOOR	94
MEZZANINE	93
2ND FLOOR	66
3RD FLOOR	64
4TH FLOOR	64
5TH FLOOR	38
TOTAL	**996**

INCLUDES 20 ACCESSIBLE SPACES (4 VAN ACCESSIBLE)

NOTES:

1. ALL PARKING PROVIDED WITHIN BUILDING LIMITS. SEE ARCHITECTURAL PLANS FOR LOCATIONS, DIMENSIONS, ETC.
2. ONE LOADING SPACE TO BE PROVIDED ON N. WEST STREET.
3. 20% PARKING REDUCTION REQUESTED. (IT IS ANTICIPATED THAT PARKING SPACES WILL BE LOST DURING FINAL STRUCTURAL AND ENGINEERING DESIGN OF PARKING STRUCTURE AND SITE)

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P-0302 TREE SURVEY
P-0303 TREE INVENTORY
P-0304 TREE INVENTORY
P-0305 CERTIFIED SURVEY PLAT
P-0401 CONCEPTUAL DEVELOPMENT PLAN
P-0402 CONCEPTUAL STREETSCAPE PLAN

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DRAWN: A.A. BS
CHECKED: VSM

DATE: 01/09/2014 REV. 07/07/2014 REV. 08/28/2014, 12/15/2014
SCALE: NONE

COMMONWEALTH OF VIRGINIA
KAREN L.S. WHITE
Lic. No.041850
4/8/15
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

COVER SHEET

MASON ROW
CITY OF FALLS CHURCH, VIRGINIA

SANITARY AS-BUILT DATA

SMH 70		
MANHOLE TOP =		340.45
8"INV IN	(NORTH)=	331.86
8"INV OUT	(SMH 69)=	331.76
SMH 69		
MANHOLE TOP =		337.00 **
8"INV IN	(SMH 70)=	327.30 **
8"INV IN	(NORTH)=	326.25 **
8"INV OUT	(SMH 86)=	326.25 **
10"INV OUT	(WEST)=	326.11 **
SMH 719		
MANHOLE TOP =		335.14
4"INV IN	(NORTH)=	331.96
4"INV IN (X2)	(NORTH)=	331.98
4"INV OUT	(WEST)=	331.94

SMH 86		
MANHOLE TOP =		333.90
8"INV IN	(WEST)=	325.20
8"INV IN	(SMH 69)=	324.92
8"INV OUT	(SMH 1101)=	324.86
SMH 198		
MANHOLE TOP =		337.17
8"INV OUT	(SMH 197)=	329.99 **
SMH 197		
MANHOLE TOP =		330.79
8"INV IN	(SMH 198)=	324.65
8"INV OUT	(SMH 196)=	324.65

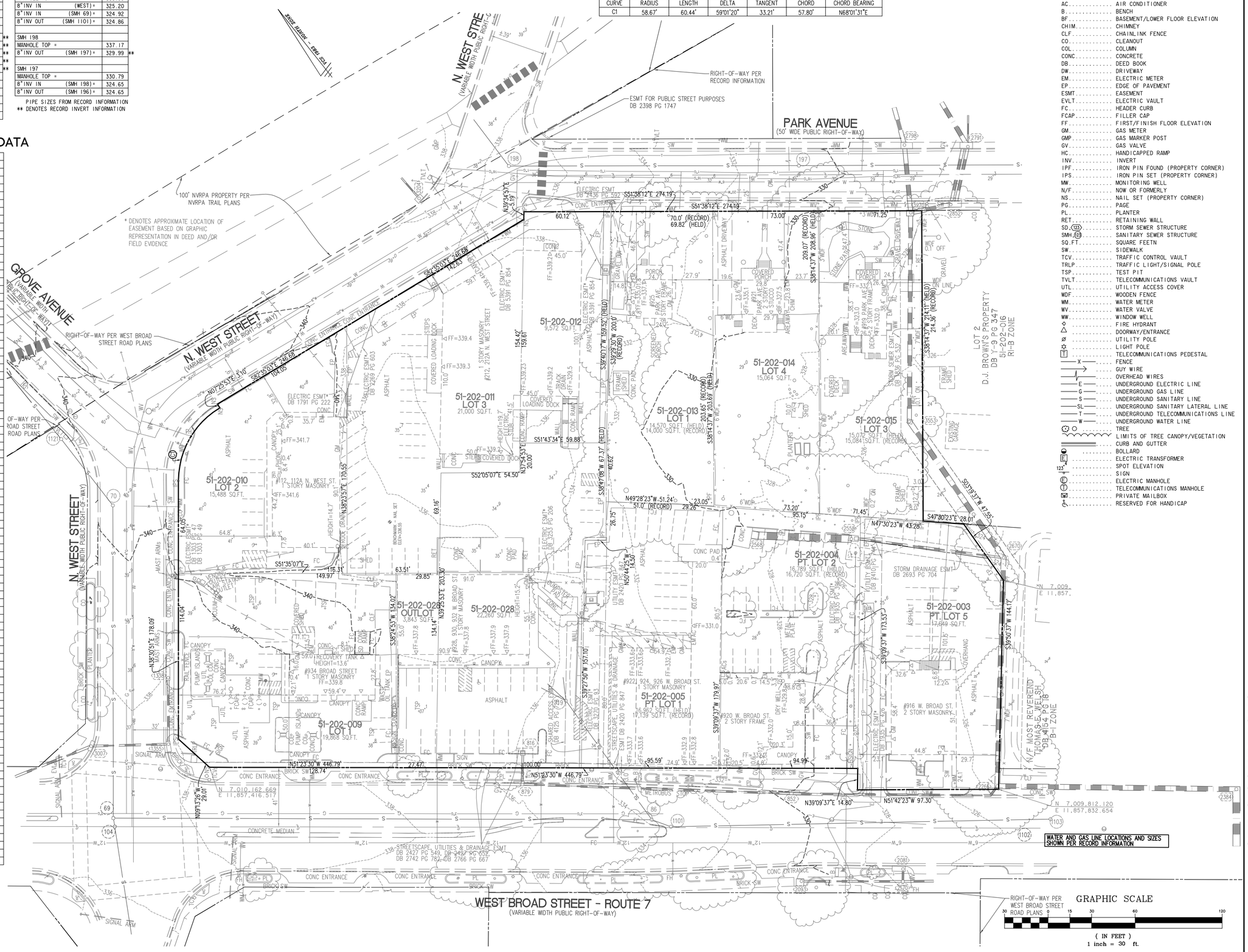
PIPE SIZES FROM RECORD INFORMATION
** DENOTES RECORD INVERT INFORMATION

STORM AS-BUILT DATA

SD 1338		
CURB INLET TOP =		338.40
15"RCP OUT	(SD 1355)=	334.60
SD 1355		
CURB INLET TOP =		337.14
15"RCP IN	(SD 1338)=	333.02
15"RCP OUT	(SD 1476)=	332.44
SD 1476		
CURB INLET TOP =		337.37
15"RCP IN	(SD 1355)=	331.87
18"RCP OUT	(SD 3007)=	331.67
SD 3007		
CURB INLET TOP =		337.37
15"RCP IN	(SD 1476)=	332.05
18"RCP OUT	(WEST)=	331.85
SD 816		
CURB INLET GRATE TOP =		335.75
15"RCP OUT	(SD 879)=	333.45
SD 879		
CURB INLET TOP =		335.61
15"RCP IN	(SD 816)=	332.31
15"RCP OUT	(SD 852)=	330.94
SD 852		
CURB INLET TOP =		329.85
15"RCP IN	(SD 879)=	325.45
15"RCP OUT	(SD 2384)=	325.30
SD 2798		
CURB INLET TOP =		329.26
35"x24"CMP IN	(NORTH)=	324.81
35"x24"CMP OUT	(SD 3970)=	324.66
SD 2791		
CURB INLET TOP		328.83
10"CMP IN	(NORTH)=	326.63
36"RCP IN	(N.WEST)=	324.75
24"RCP OUT	(SD 2852)=	324.63
24"RCP OUT	(SD 2852)=	324.65
SD 2852		
CURB INLET TOP =		328.37
24"RCP IN	(SD 2791)=	324.42
24"RCP IN	(SD 2791)=	324.52
36"RCP OUT	(SD 3970)=	324.27
SD 3970		
MANHOLE TOP =		328.57
35"x24"CMP IN	(SD 2798)=	324.32
36"RCP IN	(SD 2852)=	324.07
42"RCP OUT	(SD 3553)=	323.42
SD 3553		
GRATE INLET TOP =		324.58
APPROXIMATELY 5' DEEP		
INVERTS INACCESSIBLE		
SD 2670		
GRATE INLET TOP =		323.74
15"RCP IN	(SD 2558)=	320.20
42"CMP IN	(SD 3553)=	318.96
42"RCP OUT	(SD 2266)=	318.78
SD 2266		
MANHOLE TOP =		325.52
15"RCP IN	(SD 852)=	317.99
42"RCP IN	(SD 2670)=	318.24
42"RCP OUT	(SD 2384)=	318.04
STANDING WATER IN STRUCTURE		
SD 2384		
MANHOLE TOP =		323.27
42"RCP IN	(SD 2266)=	317.53
60"x36"CMP OUT	(S.WEST)=	316.88
SD 2568		
STORM VAULT TOP =		328.97
CENTERLINE 60"CMP =		321.25
SD 2558		
STORM VAULT TOP =		325.53
INVERTS INACCESSIBLE		
SD 3204		
CURB INLET TOP =		338.02
10"RCP OUT	(NORTH)=	336.52

CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	58.67'	60.44'	59°01'20"	33.21'	57.80'	N68°01'31"E



LEGEND

- AC ..... AIR CONDITIONER
- B ..... BENCH
- BF ..... BASEMENT/LOWER FLOOR ELEVATION
- CHIM ..... CHIMNEY
- CLF ..... CHAINLINK FENCE
- CO ..... CLEANOUT
- COL ..... COLUMN
- CONC ..... CONCRETE
- DB ..... DEED BOOK
- DW ..... DRIVEWAY
- EM ..... ELECTRIC METER
- EP ..... EDGE OF PAVEMENT
- ESMT ..... EASEMENT
- EVLT ..... ELECTRIC VAULT
- FC ..... HEADER CURB
- FCAP ..... FILLER CAP
- FF ..... FIRST/FINISH FLOOR ELEVATION
- GM ..... GAS METER
- GMP ..... GAS MARKER POST
- GV ..... GAS VALVE
- HC ..... HANDICAPPED RAMP
- INV ..... INVERT
- IPF ..... IRON PIN FOUND (PROPERTY CORNER)
- IPS ..... IRON PIN SET (PROPERTY CORNER)
- MW ..... MONITORING WELL
- N/F ..... NOW OR FORMERLY
- NS ..... NAIL SET (PROPERTY CORNER)
- PG ..... PAGE
- PL ..... PLANTER
- RET ..... RETAINING WALL
- SD ..... STORM SEWER STRUCTURE
- SMH ..... SANITARY SEWER STRUCTURE
- SQ.FT ..... SQUARE FEETN
- SW ..... SIDEWALK
- TCV ..... TRAFFIC CONTROL VAULT
- TRLP ..... TRAFFIC LIGHT/SIGNAL POLE
- TSP ..... TEST PIT
- TVLT ..... TELECOMMUNICATIONS VAULT
- UTL ..... UTILITY ACCESS COVER
- WDF ..... WOODEN FENCE
- WM ..... WATER METER
- WV ..... WATER VALVE
- WW ..... WINDOW WELL
- ◇ ..... FIRE HYDRANT
- △ ..... DOORWAY/ENTRANCE
- ⌀ ..... UTILITY POLE
- ☼ ..... LIGHT POLE
- T ..... TELECOMMUNICATIONS PEDESTAL
- —X— ..... FENCE
- —/— ..... GUY WIRE
- — ..... OVERHEAD WIRES
- —E— ..... UNDERGROUND ELECTRIC LINE
- —G— ..... UNDERGROUND GAS LINE
- —S— ..... UNDERGROUND SANITARY LINE
- —SL— ..... UNDERGROUND SANITARY LATERAL LINE
- —T— ..... UNDERGROUND TELECOMMUNICATIONS LINE
- —W— ..... UNDERGROUND WATER LINE
- ⊙ ○ ..... TREE
- ..... LIMITS OF TREE CANOPY/VEGETATION
- ..... CURB AND GUTTER
- ..... BOLLARD
- E ..... ELECTRIC TRANSFORMER
- 123 ..... SPOT ELEVATION
- ..... SIGN
- E ..... ELECTRIC MANHOLE
- T ..... TELECOMMUNICATIONS MANHOLE
- ..... PRIVATE MAILBOX
- ..... RESERVED FOR HANDICAP

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED

REVISION APPROVED BY

DATE: 01/09/2014 REV. 07/07/2014 REV. 08/28/2014, 12/15/2014
01/29/2015 SUB 02, 4/8/2015 SUB 04
SCALE: 1" = 30'
DRAWN: AA, BS
CHECKED: KW

EXISTING CONDITIONS

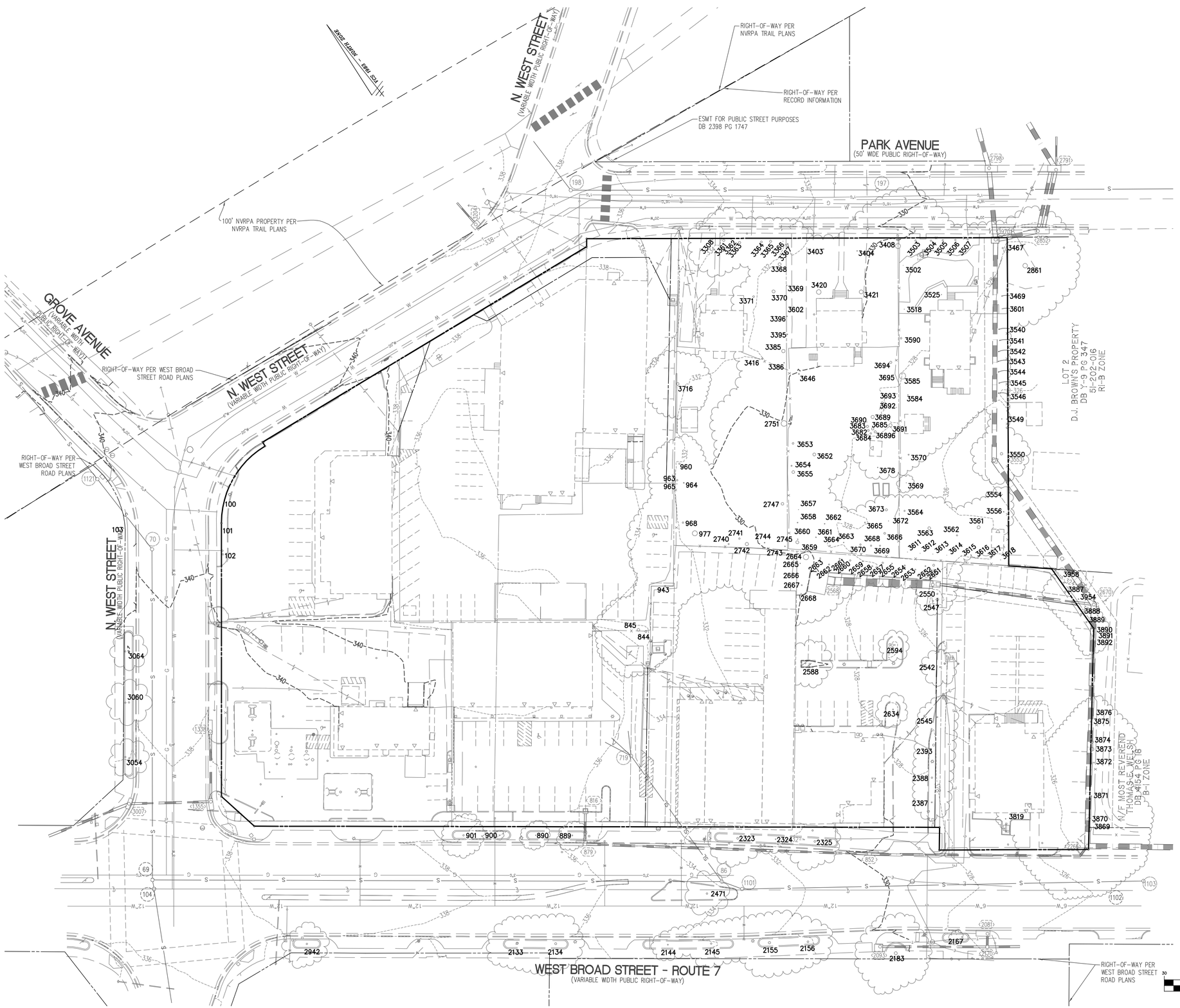
MASON ROW

CITY OF FALLS CHURCH, VIRGINIA

File No. CC-8 Tax Map No. 40-4 Job No. 07-023 Cadd Dwg. File: Q:\sdskproj\07023\dwg\Planning\Special Exception\07023P-0301.dwg

Xref: DIR\ Q:\sdskproj\07023\dwg\Planning\Special Exception\07023B-0000

SHEET: P-0301



LEGEND

AC	AIR CONDITIONER
B	BENCH
BF	BASEMENT/LOWER FLOOR ELEVATION
CHIM	CHIMNEY
CLF	CHAINLINK FENCE
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
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ESMT	EASEMENT
EVLT	ELECTRIC VAULT
FC	HEADER CURB
FCAP	FILLER CAP
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GM	GAS METER
GMP	GAS MARKER POST
GV	GAS VALVE
HC	HANDICAPPED RAMP
INV	INVERT
IPF	IRON PIN FOUND (PROPERTY CORNER)
IPS	IRON PIN SET (PROPERTY CORNER)
MW	MONITORING WELL
N/F	NOW OR FORMERLY
NS	NAIL SET (PROPERTY CORNER)
PG	PAGE
PL	PLANTER
RET	RETAINING WALL
SD	STORM SEWER STRUCTURE
SMH	SANITARY SEWER STRUCTURE
SQ.FT	SQUARE FEETN
SW	SIDEWALK
TCV	TRAFFIC CONTROL VAULT
TRLP	TRAFFIC LIGHT/SIGNAL POLE
TSP	TEST PIT
TVLT	TELECOMMUNICATIONS VAULT
UTL	UTILITY ACCESS COVER
WDF	WOODEN FENCE
WM	WATER METER
WV	WATER VALVE
WW	WINDOW WELL
	FIRE HYDRANT
	DOORWAY/ENTRANCE
	UTILITY POLE
	LIGHT POLE
	TELECOMMUNICATIONS PEDESTAL
—X—	FENCE
	GUY WIRE
	OVERHEAD WIRES
—E—	UNDERGROUND ELECTRIC LINE
—G—	UNDERGROUND GAS LINE
—S—	UNDERGROUND SANITARY LINE
—SL—	UNDERGROUND SANITARY LATERAL LINE
—T—	UNDERGROUND TELECOMMUNICATIONS LINE
—W—	UNDERGROUND WATER LINE
	TREE
	LIMITS OF TREE CANOPY/VEGETATION
	CURB AND GUTTER
	BOLLARD
	ELECTRIC TRANSFORMER
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	SIGN
	ELECTRIC MANHOLE
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PROFESSIONAL ENGINEER REGISTERED

DATE: 01/09/2014 REV. 07/07/2014 REV. 08/28/2014, 12/15/2014
01/29/2015 SUB 02, 4/8/2015 SUB 04

SCALE: 1" = 30'

DRAWN: AA, BS

CHECKED: KW

REVISION APPROVED BY			
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

TREE SURVEY

MASON ROW

CITY OF FALLS CHURCH, VIRGINIA

File No. CC-8 Tax Map No. 40-4 Job No. 07-023 Cadd Dwg. File: Q:\sdskproj\07023\dwg\Planning\Special Exception\07023P-0302.dwg Xref: DIR\Q:\sdskproj\07023\dwg\Planning\Special Exception\07023B-0000

SHEET: P-0302

Tree Inventory - West and Broad St. - Falls Church, VA

Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A #07-023 30 July 2013, 18 December 2014

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %	Removal	Activities: Tree Protection Fence/ Super Silt Fence	Root Prune	Remove Vines	Hand Removal/ Selective Removal	Notes
100	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X					Multi-stem
101	Lagerstroemia indica	Crape Myrtle	11	11'	80%	56%	X					Multi-stem
102	Lagerstroemia indica	Crape Myrtle	13	13'	80%	56%	X					Multi-stem
103	Platanus hybrida x acerifolia	London plane tree	19	19'	80%	56%						Offsite street tree, Multi-stem
844	Acer Rubrum	Red maple	16	16'	80%	50%	X					
845	Morus rubra	Red mulberry	21	21'	40%	47%	X					
889	Quercus rubra	Northern red oak	8	8'	85%	44%	X					
890	Quercus rubra	Northern red oak	10	10'	85%	53%	X					
900	Quercus rubra	Northern red oak	9	9'	85%	53%	X					Girdled roots
901	Quercus rubra	Northern red oak	12	12'	85%	53%	X					Girdled roots; deadwood
943	Acer Rubrum	Red maple	12	12'	80%	44%	X					grown into fence; girdled roots
960	Prunus serotina	Black cherry	12	12'	65%	47%	X					
963	Morus rubra	Red mulberry	12	12'	40%	44%	X					grown into fence
964	Prunus serotina	Black cherry	8	8'	65%	47%	X					Vines
965	Morus rubra	Red mulberry	4	8'	40%	44%	X					grown into fence
2133	Quercus rubra	Northern red oak	17	17'	85%	50%						Offsite street tree, Girdled roots
2134	Quercus rubra	Northern red oak	18	18'	85%	53%						Offsite street tree, Girdled roots
2144	Quercus rubra	Northern red oak	8	8'	85%	44%						Offsite street tree, Girdled rts; deadwood
2145	Quercus rubra	Northern red oak	13	13'	85%	53%						Offsite street tree, Girdled roots
2155	Quercus rubra	Northern red oak	19	19'	85%	47%						Offsite street tree, Girdled rts; deadwood
2156	Quercus rubra	Northern red oak	13	13'	85%	50%						Offsite street tree, Girdled roots
2167	Platanus hybrida x acerifolia	London plane tree	2	8'	80%	56%						Offsite street tree
2183	Quercus phellos	Willow oak	26	26'	80%	53%						Offsite street tree
2323	Quercus rubra	Northern red oak	15	15'	85%	53%	X					Girdled roots
2324	Quercus rubra	Northern red oak	9	9'	85%	53%	X					Girdled roots
2325	Quercus rubra	Northern red oak	17	17'	85%	53%	X					Girdled roots
2387	Quercus rubra	Northern red oak	9	9'	85%	53%	X					
2388	Gleditsia triacanthos	Honeylocust	13	13'	70%	50%	X					deadwood
2393	x Cupressocyparis leylandii	Leyland cypress	18	18'	40%	50%	X					vines
2471	Quercus rubra	Northern red oak	13	13'	85%	53%		X	X			Offsite street tree, Girdled roots
2542	Gleditsia triacanthos	Honeylocust	9	9'	70%	47%	X					Girdled roots; deadwood
2545	Gleditsia triacanthos	Honeylocust	10	10'	70%	50%	X					Girdled roots; deadwood
2547	Albizia julibrissin	Mimosa	5	8'	30%	41%	X					Split trunk; grirdled roots
2550	Gleditsia triacanthos	Honeylocust	10	10'	70%	50%	X					Girdled roots; deadwood
2588	Gleditsia triacanthos	Honeylocust	13	13'	70%	50%	X					Girdled roots
2594	Gleditsia triacanthos	Honeylocust	7	8'	70%	50%	X					Girdled roots
2634	Gleditsia triacanthos	Honeylocust	8	8'	70%	50%	X					Girdled roots
2651	Malus spp.	Crabapple	16	16'	70%	47%	X					Vines
2652	Ilex x Nellie Stevens	Nellie Stevens holly	8	8'	80%	50%	X					Multi-stem
2653	Ilex x Nellie Stevens	Nellie Stevens holly	9	9'	80%	50%	X					Multi-stem
2654	Ilex x Nellie Stevens	Nellie Stevens holly	11	11'	80%	50%	X					Multi-stem
2655	Quercus rubra	Northern red oak	7	8'	85%	53%	X					deadwood
2657	Ilex x Nellie Stevens	Nellie Stevens holly	12	12'	80%	50%	X					Multi-stem
2658	Ilex x Nellie Stevens	Nellie Stevens holly	8	8'	80%	50%	X					Multi-stem
2659	Ilex x Nellie Stevens	Nellie Stevens holly	8	8'	80%	50%	X					Multi-stem
2660	Quercus rubra	Northern red oak	12	12'	85%	53%	X					Deadwood
2661	Ilex x Nellie Stevens	Nellie Stevens holly	10	10'	80%	50%	X					Multi-stem
2662	Ilex x Nellie Stevens	Nellie Stevens holly	10	10'	80%	50%	X					Multi-stem
2663	Ilex x Nellie Stevens	Nellie Stevens holly	8	8'	80%	50%	X					Multi-stem
2664	Quercus palustris	Pin oak	42	63'	80%	53%	X					Vines; deadwood
2665	x Cupressocyparis leylandii	Leyland cypress	5	8'	40%	47%	X					
2666	x Cupressocyparis leylandii	Leyland cypress	7	8'	40%	47%	X					
2667	x Cupressocyparis leylandii	Leyland cypress	8	8'	40%	47%	X					
2668	x Cupressocyparis leylandii	Leyland cypress	4	8'	40%	47%	X					
2739	Juglans nigra	Black walnut	40	60'	80%	50%	X					Vines
2740	Juglans nigra	Black walnut	10	10'	80%	47%	X					Vines
2741	Juglans nigra	Black walnut	12	12'	80%	53%	X					Vines
2742	Juglans nigra	Black walnut	26	26'	80%	47%	X					Vines
2743	Acer negundo	Boxelder	14	14'	50%	44%	X					Vines; deadwood

Tree Inventory - West and Broad St. - Falls Church, VA

Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A #07-023 30 July 2013, 18 December 2014

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %	Removal	Activities: Tree Protection Fence/ Super Silt Fence	Root Prune	Remove Vines	Hand Removal/ Selective Removal	Notes
2744	Acer negundo	Boxelder	7	8'	50%	44%	X					Vines
2745	Prunus serotina	Black cherry	7	8'	65%	50%	X					Vines
2747	Morus rubra	Red mulberry	21	21'	40%	53%	X					Twin; deadwood; vines
2751	Morus rubra	Red mulberry	45	68'	40%	44%	X					Twin; deadwood; vines
2861	Quercus palustris	Pin oak	36	54'	80%	47%		X	X			offsite
2942	Quercus rubra	Northern red oak	12	12'	85%	53%						Offsite street tree, girdled roots
3054	Quercus rubra	Northern red oak	10	10'	85%	56%						Offsite street tree, girdled roots
3060	Quercus rubra	Northern red oak	12	12'	85%	56%						Offsite street tree
3064	Quercus rubra	Northern red oak	10	10'	85%	56%						Offsite street tree
3308	Juniperus virginiana	Eastern redcedar	14	14'	85%	47%	X					deadwood
3361	Juniperus virginiana	Eastern redcedar	18	18'	85%	50%	X					deadwood; vines
3362	Juniperus virginiana	Eastern redcedar	15	15'	85%	50%	X					deadwood; vines
3363	Juniperus virginiana	Eastern redcedar	19	19'	85%	50%	X					deadwood; vines
3364	Juniperus virginiana	Eastern redcedar	15	15'	85%	50%	X					deadwood; vines
3365	Juniperus virginiana	Eastern redcedar	18	18'	85%	50%	X					deadwood; vines
3366	Quercus rubra	Northern red oak	3	8'	85%	47%	X					lean
3367	Acer platanoides	Norway maple	17	17'	30%	50%	X					triple trunk
3368	Acer platanoides	Norway maple	23	23'	30%	50%	X					multi-stem (4)
3369	Acer platanoides	Norway maple	6	8'	30%	50%	X					deadwood
3370	Prunus serotina	Black cherry	24	24'	65%	47%	X					deadwood
3371	Ilex opaca	American holly	14	14'	85%	56%	X					vines
3385	Catalpa speciosa	Northern catalpa	27	27'	60%	53%	X					Multi-stem (6); vines
3386	Acer platanoides	Norway maple	6	8'	30%	53%	X					
3395	Acer platanoides	Norway maple	7	8'	30%	50%	X					deadwood
3396	Acer platanoides	Norway maple	9	9'	30%	53%	X					deadwood
3403	Pinus nigra	Austrian pine	8	8'	70%	56%	X					
3404	Pinus nigra	Austrian pine	6	8'	70%	56%	X					
3408	Quercus palustris	Pin oak	40	60'	80%	50%	X					vines
3416	Malus spp.	Crabapple	12	12'	70%	47%	X					vines
3420	Juniperus virginiana	Eastern redcedar	37	56'	85%	50%	X					twin; deadwood
3421	Juniperus virginiana	Eastern redcedar	31	47'	85%	44%	X					deadwood
3467	Lagerstroemia indica	Crape Myrtle	10	10'	80%	56%	X					multi-stem (4)
3469	Prunus caroliniana	Carolina laurelcherry	5	8'	0%	50%	X					
3502	Prunus spp.	Ornamental Cherry	2	8'	70%	53%	X					
3503	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X					multi-stem (4)
3504	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X					multi-stem (4)
3505	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X					multi-stem (4)
3506	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X					multi-stem (4)
3507	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X					multi-stem (4)
3518	Juniperus virginiana	Eastern redcedar	3	8'	85%	47%	X					lean
3525	Acer palmatum	Japanese maple	4	8'	80%	50%	X					twin
3540	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%		X	X			
3541	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%		X	X			
3542	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%		X	X			
3543	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X					
3544	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X					
3545	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X					
3546	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X					
3549	Magnolia Spp.	Magnolia	5	8'	NONE	56%	X					
3550	Diospyros virginiana	Common persimmon	20	20'	85%	56%	X					
3554	Cornus Spp.	Dogwood	3	8'	NONE	59%	X					
3556	Lagerstroemia indica	Crape Myrtle	6	8'	80%	59%	X					twin
3561	Betula nigra	River birch	26	26'	80%	59%	X					Triple trunk
3562	Lagerstroemia indica	Crape Myrtle	10	10'	80%	53%	X					Multi-Stem
3563	Betula nigra	River birch	22	22'	80%	59%	X					Triple trunk
3564	Lagerstroemia indica	Crape Myrtle	10	10'	80%	56%	X					Multi-Stem
3569	Prunus spp.	Ornamental Cherry	3	8'	70%	59%	X					
3570	Betula nigra	River birch	9	9'	80%	56%	X					
3584	Cornus florida	Flowering dogwood	6	8'	80%	56%	X					

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www.WLPINC.com

DATE: 01/09/2014 REV. 07/07/14 REV. 08/28/2014, 12/15/2014 01/29/2015 SUB 02, 4/8/2015 SUB 04
SCALE: NONE
DRAWN: AA, BS
CHECKED: KW

COMMONWEALTH OF VIRGINIA
KAREN L. S. WHITE
Lic. No.041850
4/8/15
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

TREE INVENTORY

MASON ROW

CITY OF FALLS CHURCH, VIRGINIA

Tree Inventory - West and Broad St. - Falls Church, VA

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %	Removal	Activities: Tree Protection Fence/ Super Silt Fence	Activities: Root Prune	Activities: Remove Vines	Activities: Hand Removal/ Selective Removal	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A #07-023 30 July 2013, 18 December 2014												
3585	Acer saccharinum	Silver maple	50	75'	60%	47%	X					signs of decay, twin, deadwood
3590	Acer negundo	Boxelder	13	13'	50%	47%	X					lean
3600	Prunus spp.	Ornamental Cherry	3	8'	70%	56%	X					
3601	Juniperus virginiana	Eastern redcedar	6	8'	85%	47%	X					
3602	Acer platanoides	Norway maple	4	8'	30%	53%	X					lean
3646	dead	Dead	10	0'	0%	0%	X					
3652	Juglans nigra	Black walnut	23	23'	80%	53%	X					
3653	dead	Dead	14	0'	0%	0%	X					
3654	Morus rubra	Red mulberry	9	9'	40%	47%	X					
3655	Morus rubra	Red mulberry	22	22'	40%	47%	X					
3657	Pinus strobus	Eastern white pine	3	8'	75%	56%	X					
3658	Ligustrum amurense	Amur privet	7	8'	0%	50%	X					
3659	Morus rubra	Red mulberry	24	24'	40%	47%	X					Vines
3660	Morus rubra	Red mulberry	6	8'	40%	47%	X					Vines
3661	Ilex opaca	American holly	7	8'	85%	50%	X					Multi-stem
3662	Malus spp.	Crabapple	6	8'	70%	53%	X					deadwood
3663	Chamaecyparis obtusa	Hinoki falsecypress	6	8'	80%	56%	X					deadwood
3664	x Cupressocyparis leylandii	Leyland cypress	10	10'	40%	50%	X					deadwood
3665	Malus spp.	Crabapple	8	8'	70%	53%	X					deadwood
3666	Catalpa speciosa	Northern catalpa	15	15'	60%	50%	X					lean
3668	x Cupressocyparis leylandii	Leyland cypress	11	11'	40%	50%	X					deadwood
3669	x Cupressocyparis leylandii	Leyland cypress	10	10'	40%	50%	X					deadwood
3670	x Cupressocyparis leylandii	Leyland cypress	12	12'	40%	50%	X					deadwood
3672	Juniperus spp.	Juniper	3	8'	0%	44%	X					
3673	Ilex opaca	American holly	18	18'	85%	53%	X					
3678	Cercis canadensis	Eastern redbud	5	8'	85%	56%	X					deadwood
3682	Juglans nigra	Black walnut	16	16'	80%	50%	X					vines
3683	Juglans nigra	Black walnut	18	18'	80%	50%	X					vines
3684	Juglans nigra	Black walnut	13	13'	80%	47%	X					vines
3685	Juglans nigra	Black walnut	19	19'	80%	47%	X					vines
3686	Morus rubra	Red mulberry	18	18'	40%	44%	X					vines
3689	Juglans nigra	Black walnut	25	25'	80%	47%	X					twin; vines
3690	Ilex opaca	American holly	3	8'	85%	50%	X					
3691	Morus rubra	Red mulberry	26	26'	40%	50%	X					
3692	Cercis canadensis	Eastern redbud	3	8'	85%	53%	X					
3693	Cercis canadensis	Eastern redbud	3	8'	85%	53%	X					
3694	Prunus serotina	Black cherry	18	18'	65%	50%	X					
3695	Ilex cornuta	Chinese holly	2	8'	0%	50%	X					
3716	Morus rubra	Red mulberry	22	22'	40%	44%	X					twin; deadwood
3819	Cornus florida	Flowering dogwood	6	8'	80%	56%	X					
3869	Ulmus americana	American elm	34	51'	65%	53%	X					Co-Dominant, Girdled Roots
3870	Ulmus americana	American elm	30	45'	65%	53%	X					Co-Dominant, Girdled Roots
3871	Morus rubra	Red mulberry	8	8'	40%	53%	X					lean

TREE INVENTORY

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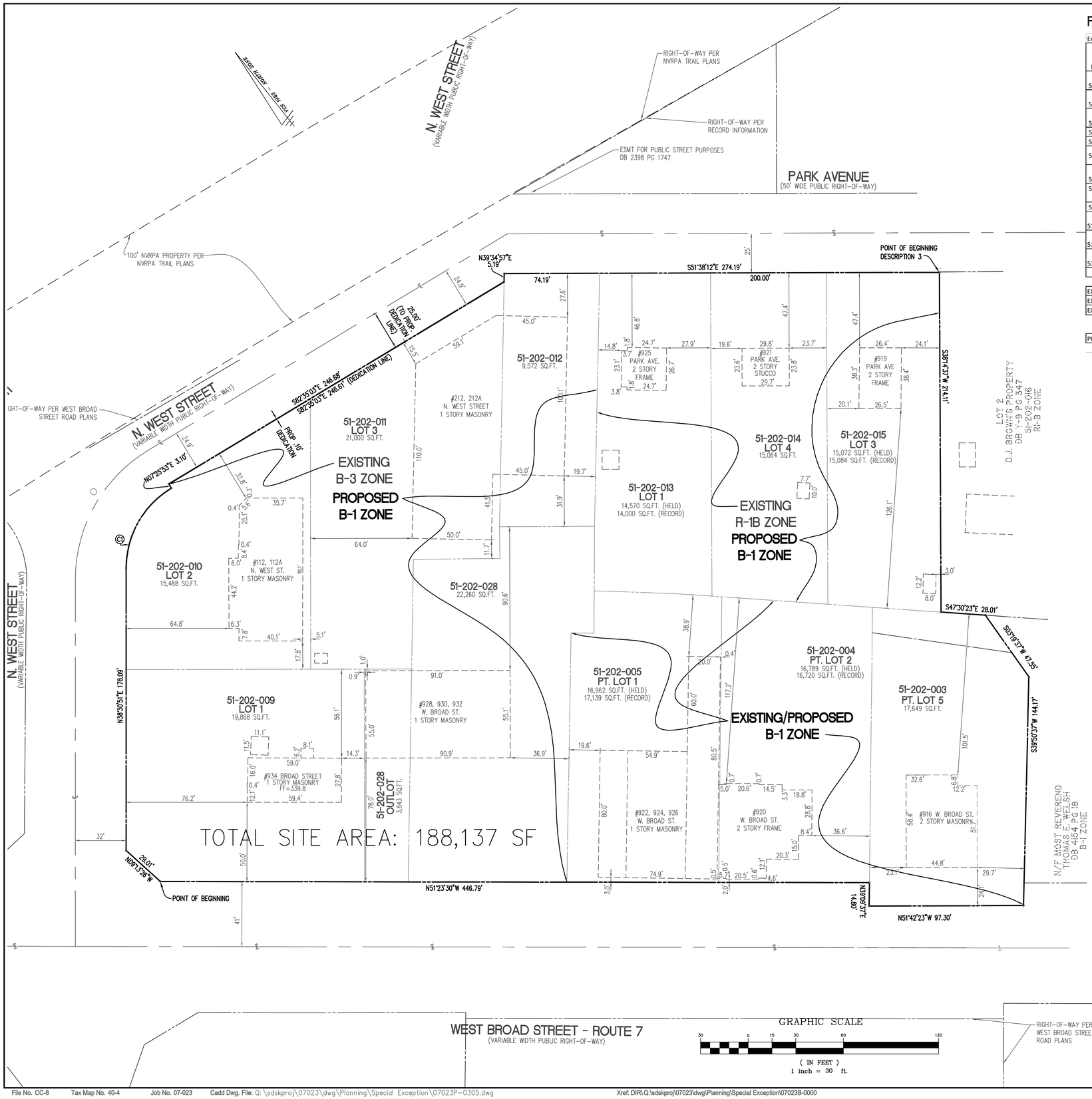
SCALE: NONE
DRAWN: AA, BS
CHECKED: KW

COMMONWEALTH OF VIRGINIA KAREN L. S. WHITE Lic. No.041850 4/8/15 REGISTERED PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

MASON ROW
CITY OF FALLS CHURCH, VIRGINIA



PARCEL SUMMARY

Existing Lots

PARCEL #	ADDRESS	RPC #	SQUARE FOOTAGE	ACRES	EXISTING ZONE	PROPOSED ZONE	EXISTING LAND USE DESIGNATION	PROPOSED LAND USE DESIGNATION
51-202-015	919 PARK AVENUE	51-202-015	15,072	0.35	R-1B	B-1	LOW DENSITY RESIDENTIAL	
51-202-014	921 PARK AVENUE	51-202-014	15,064	0.35	R-1B	B-1	LOW DENSITY RESIDENTIAL	
51-202-013	925 PARK AVENUE	51-202-013	14,570	0.33	R-1B	B-1	LOW DENSITY RESIDENTIAL	
51-202-012	212, 212A NORTH	51-202-012	9,572	0.22	B-3	B-1	BUSINESS	
51-202-011	WEST STREET	51-202-011	21,000	0.48	B-3	B-1	BUSINESS	
51-202-010	112,112A NORTH WEST STREET	51-202-010	15,488	0.36	B-3	B-1	BUSINESS	
51-202-009	934 WEST BROAD STREET	51-202-009	19,868	0.46	B-3	B-1	BUSINESS	
51-202-028 OUTLOT	928, 930, 932 WEST BROAD STREET,	51-202-028	3,843	0.09	B-3	B-1	BUSINESS	
51-202-028	OUTLOT	51-202-028	22,260	0.51	B-3	B-1	BUSINESS	
51-202-005	922, 924, 926 WEST BROAD STREET	51-202-005	16,962	0.39	B-1	B-1	BUSINESS	
51-202-004	920 WEST BROAD STREET	51-202-004	16,789	0.39	B-1	B-1	BUSINESS	
51-202-003	916 WEST BROAD STREET	51-202-003	17,649	0.41	B-1	B-1	BUSINESS	
TOTAL			188,137	4.32				

EXISTING R-1B ZONE	44,706	SF	1.03	AC
EXISTING B-3 ZONE	92,031	SF	2.11	AC
EXISTING B-1 ZONE	51,400	SF	1.18	AC
TOTAL	188,137	SF	4.32	AC

PROPOSED B-1 ZONE	188,137	SF	4.32	AC
TOTAL	188,137	SF	4.32	AC

DESCRIPTION

DESCRIPTION OF THE COMBINED AREA OF PROPERTIES IN THE CITY OF FALLS CHURCH, VIRGINIA, PROPOSED TO BE REZONED TO B-1:

"BEGINNING AT A POINT AT THE INTERSECTION OF THE EAST RIGHT-OF-WAY LINE OF NORTH WEST STREET, WITH THE NORTH RIGHT-OF-WAY LINE OF WEST BROAD STREET – ROUTE 7; THENCE WITH THE EAST RIGHT-OR-WAY LINE OF NORTH WEST STREET, N 09° 13' 26" W, 29.01 FEET TO A POINT; THENCE N 38° 30' 51" E, 178.09 FEET TO A POINT; THENCE 60.44 FEET WITH THE ARC OF A CURVE BEARING TO THE RIGHT AND HAVING A RADIUS OF 58.67 FEET (TANGENT LENGTH 33.21 FEET, CHORD LENGTH 57.80 FEET, CHORD BEARING N 68° 01' 31" E) TO A POINT; THENCE N 07° 25' 53" E, 3.10 FEET TO A POINT; THENCE S 82° 35' 03" E, 246.68 FEET TO A POINT; THENCE N 39° 34' 57" E, 5.19 FEET TO A POINT IN THE SOUTH RIGHT-OF-WAY LINE OF PARK STREET; THENCE WITH THE SOUTH RIGHT-OF-WAY LINE OF PARK STREET, S 51° 38' 12" E, 274.19 FEET TO A POINT, SAID POINT BEING THE NORTHWEST CORNER OF D.J. BROWN'S PROPERTY – LOT 2; THENCE WITH LOT 2, S 38° 14' 37" W, 214.11 FEET TO A POINT; THENCE S 47° 30' 23" E, 28.01 FEET TO A POINT, SAID POINT BEING A CORNER OF NOW-OR-FORMERLY MOST REVEREND THOMAS E. WELSH; THENCE WITH NOW-OR-FORMERLY MOST REVEREND THOMAS E. WELSH, S 03° 19' 37" W, 47.55 FEET TO A POINT; THENCE S 39° 50' 37" W, 144.17 FEET TO A POINT IN THE NORTH RIGHT-OF-WAY LINE OF WEST BROAD STREET – ROUTE 7; THENCE WITH THE NORTH RIGHT-OF-WAY LINE OF WEST BROAD STREET – ROUTE 7, N 51° 42' 23" W, 97.30 FEET TO A POINT; THENCE N 39° 09' 37" E, 14.80 FEET TO A POINT; THENCE N 51° 23' 30" W, 446.79 FEET TO THE POINT OF BEGINNING AND CONTAINING AN AREA OF 188,137 SQUARE FEET, OR 4.3190 ACRES, MORE OR LESS."

WALTER L. PHILLIPS INCORPORATED
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COMMONWEALTH OF VIRGINIA
KAREN L. S. WHITE
Lic. No.041850
4/8/15
PROFESSIONAL ENGINEER

DATE: 01/09/2014 REV. 07/07/2014 REV. 08/28/2014, 12/15/2014
01/29/2015 SUB 02, 4/8/2015 SUB 04

DRAWN: AA, BS
CHECKED: KW
SCALE: 1" = 30'

REVISION APPROVED BY			
NO.	DESCRIPTION	DATE	APPROVED BY	DATE

CERTIFIED SURVEY PLAT

MASON ROW

CITY OF FALLS CHURCH, VIRGINIA

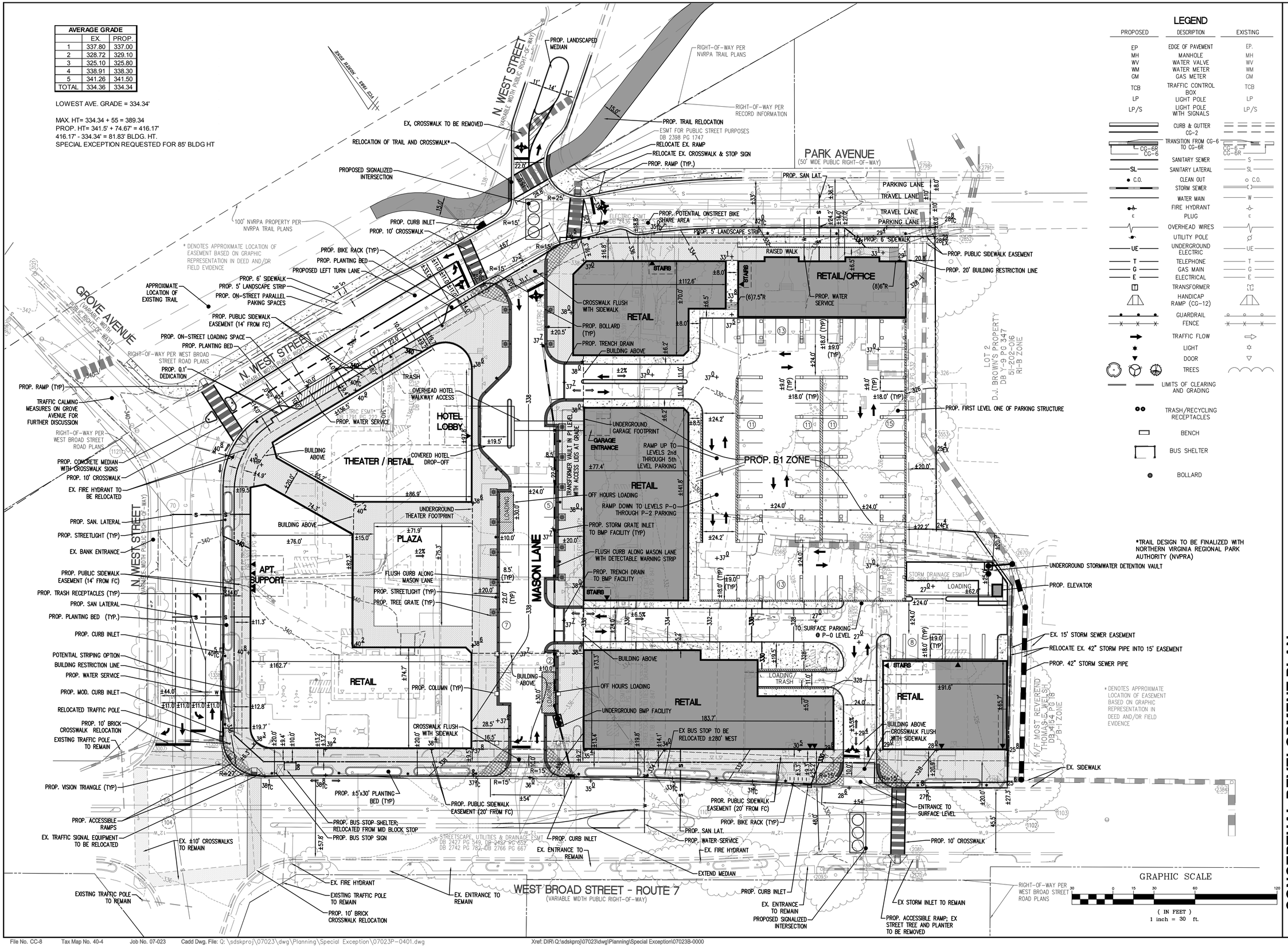
SHEET: P-0305

File No. CC-8 Tax Map No. 40-4 Job No. 07-023 Cadd Dwg. File: Q:\sdskproj\07023\dwg\Planning\Special Exception\07023P-0305.dwg Xref: DIR\Q:\sdskproj\07023\dwg\Planning\Special Exception\07023B-0000

AVERAGE GRADE		
	EX.	PROP.
1	337.80	337.00
2	328.72	329.10
3	325.10	325.80
4	338.91	338.30
5	341.26	341.50
TOTAL	334.36	334.34

LOWEST AVE. GRADE = 334.34'

MAX. HT= 334.34 + 55 = 389.34
PROP. HT= 341.5' + 74.67' = 416.17'
416.17' - 334.34' = 81.83' BLDG. HT.
SPECIAL EXCEPTION REQUESTED FOR 85' BLDG HT



LEGEND

PROPOSED	DESCRIPTION	EXISTING
EP	EDGE OF PAVEMENT	EP.
MH	MANHOLE	MH
WV	WATER VALVE	WV
WM	WATER METER	WM
GM	GAS METER	GM
TCB	TRAFFIC CONTROL BOX	TCB
LP	LIGHT POLE	LP
LP/S	LIGHT POLE WITH SIGNALS	LP/S
	CURB & GUTTER CG-2	
CG-6R CG-6	TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
C.O.	CLEAN OUT	C.O.
	STORM SEWER	
	WATER MAIN	W
	FIRE HYDRANT	
	PLUG	
	OVERHEAD WIRES	
	UTILITY POLE	
UE	UNDERGROUND ELECTRIC	UE
T	TELEPHONE	T
G	GAS MAIN	G
E	ELECTRICAL	E
	TRANSFORMER	
	HANDICAP RAMP (CG-12)	
	GUARDRAIL	
	FENCE	
	TRAFFIC FLOW	
	LIGHT	
	DOOR	
	TREES	
	LIMITS OF CLEARING AND GRADING	
	TRASH/RECYCLING RECEPTACLES	
	BENCH	
	BUS SHELTER	
	BOLLARD	

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DRAWN: AA, BS
DATE: 01/09/2014 REV. 07/07/14 REV. 08/28/2014, 12/15/2014 01/29/2015 SUB 02, 4/8/2015 SUB 04
SCALE: 1" = 30'

COMMONWEALTH OF VIRGINIA
KAREN L. S. WHITE
Lic. No.041850
4/8/15
PROFESSIONAL ENGINEER

REVISION APPROVED BY				
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CONCEPTUAL DEVELOPMENT PLAN

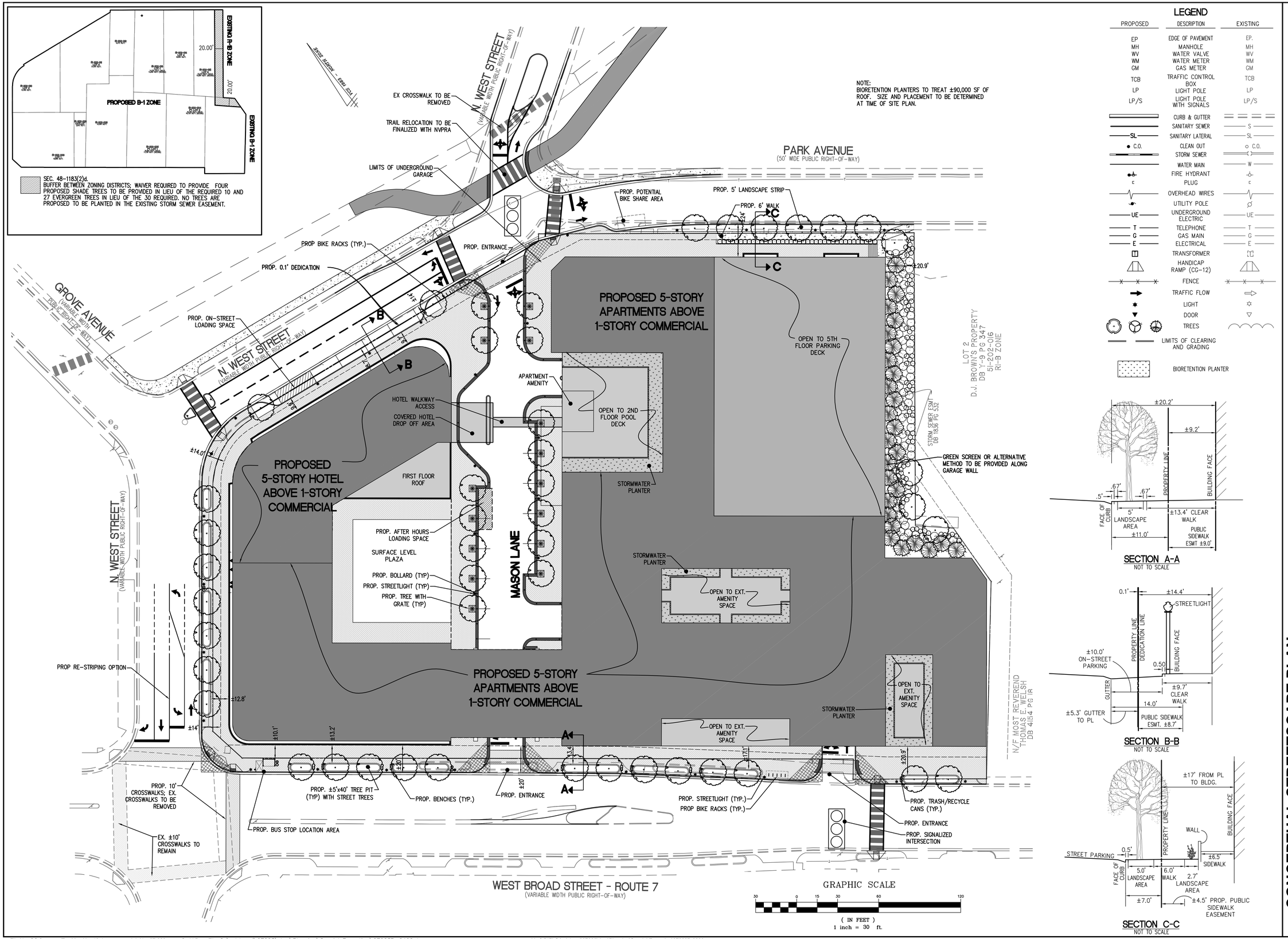
MASON ROW

CITY OF FALLS CHURCH, VIRGINIA

File No. CC-8 Tax Map No. 40-4 Job No. 07-023 Cadd Dwg. File: Q:\sdskproj\07023\dwg\Planning\Special Exception\07023P-0401.dwg

Xref: DIR\Q:\sdskproj\07023\dwg\Planning\Special Exception\07023B-0000

SHEET: P-0401



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WALTER L. PHILLIPS INCORPORATED
ESTABLISHED 1945
CORPORATE ENG. CO. VIRGINIA

DATE: 01/09/2014, REV. 07/07/14, 08/28/2014, 12/15/2014
SCALE: 1" = 50'
DRAWN: A.K. BS
CHECKED: LMC

COMMONWEALTH OF VIRGINIA
KAREN L. S. WHITE
Lic. No.041850
4/8/15
PROFESSIONAL ENGINEER

REVISION APPROVED BY			
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CONCEPTUAL STREETSCAPE PLAN

MASON ROW

CITY OF FALLS CHURCH, VIRGINIA

SHEET: P-0402

File No. CC-8 Tax Map No. 40-4 Job No. 07-023 Cadd Dwg. File: Q:\sdskproj\07023\dwg\Planning\Special Exception\07023P-0402.dwg Xref: DIR\Q:\sdskproj\07023\dwg\Planning\Special Exception\07023B-0000

Attachment 3
Conceptual Development Packet
Architectural Plans
Dated April 8, 2015

MASON ROW
MIXED USED PROJECT

NEC OF W. BROAD ST. & N. WEST ST.
FALLS CHURCH CITY, VA

SPECIAL EXCEPTION
APPLICATION SUB 04
APRIL 8, 2015

OWNER:
SPECTRUM DEVELOPMENT, LLC.

LAND USE ATTORNEY:
BASKIN, JACKSON & LASSO, PC.

ARCHITECT:
GTM ARCHITECTS, INC.

CIVIL ENGINEER:
WALTER L. PHILLIPS, INC.

TRAFFIC:
WELLS & ASSOCIATES

RETAIL PLANNER:
STREETSENSE

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7735 OLD GEORGETOWN ROAD, SUITE 700, BETHESDA, MD 20814 - TEL: (240) 333-2000 - FAX: (240) 333-2001

EXISTING CONTEXT
N.T.S.

A0.1

Spectrum MASON ROW Special Exception Application Sub 04

GTM PROJECT: 14.0041 NEC of W. Broad St & N. West St, Falls Church City, VA 04/08/15

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EXISTING SITE PHOTOS
N.T.S.

A0.2

SPECTRUM development LLC

GTM

GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 04

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EXISTING SITE PHOTOS
N.T.S.

A0.3

SPECTRUM development LLC
GTM
GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 04

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SITE CONTEXT PLAN
1" = 100'-0"

A1.0

N

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100' 200'

SPECTRUM development LLC

GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 04

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Massing Yields				Parking Totals			
Level	Use	Floor Area (SF)	# of Units	Parking Required	Parking Reduction %	Reduced Req'd Parking	Parking Provided
P2	Parking	94791	0	0.0	0%	0.0	224
P2	Theater	42572	0	170.3	10.0%	153.3	0
P1	Parking	94791	0	0.0	0%	0.0	220
P0	Parking	62517	0	0.0	0%	0.0	133
1	Retail #1	4813	0	19.3	10.0%	17.3	0
	Retail #2	0	0	0.0	10.0%	0.0	0
	Retail #3	19187	0	76.7	10.0%	69.1	0
	Retail #4	11299	0	45.2	10.0%	40.7	0
	Retail #5	2313	0	9.3	10.0%	8.3	0
	Retail #6	2427	0	9.7	10.0%	8.7	0
	Retail #7	8507	0	34.0	10.0%	30.6	0
	Retail #8	6705	0	26.8	10.0%	24.1	0
	Retail #9	5330	0	21.3	10.0%	19.2	0
	Theater	5819	0	23.3	10.0%	20.9	0
	Apt. Lobby 1	1847	0	0.0	0.0%	0.0	0
	Apt. Lobby 2	476	0	0.0	0.0%	0.0	0
	Apt. Lobby 3	0	0	0.0	0.0%	0.0	0
	Office Lobby	762	0	0.0	0.0%	0.0	0
	Hotel Lobby	558	0	0.0	0.0%	0.0	0
	Parking Lobby	516	0	0.0	0.0%	0.0	0
	Parking	29623	0	0.0	0.0%	0.0	94
Mezz	Apt Lobby 1	0	0	0.0	0.0%	0.0	0
	Office	6018	0	20.1	20.0%	16.0	0
	Parking	39095	0	0.0	0.0%	0.0	93
2	Apartment	70719	64	105.2	20.9%	83.2	0
	Apt Amenity	5908	0	0.0	0.0%	0.0	0
	Apt Amenity #2	398	0	0.0	0.0%	0.0	0
	Hotel	14092	14	15.4	18.0%	12.6	0
	Hotel Bridge	795	0	0.0	0.0%	0.0	0
	Parking	23249	0	0.0	0.0%	0.0	66
3	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22136	0	0.0	0.0%	0.0	64
4	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22136	0	0.0	0.0%	0.0	64
5	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	13128	0	0.0	0.0%	0.0	38
6	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
Totals	Apartment	385856	340	559.1	20.9%	442.2	0
	Theater	48391	0	193.6	10.0%	174.2	0
	Office	6780	0	20.1	20.0%	16.0	0
	Hotel	71813	150	165.0	18.0%	135.3	0
	Retail	60581	0	242.3	10.0%	218.1	0
	Parking	401982	0	0.0	0.0%	0.0	996
		975403		*1180.0*	*16.5%*	*985.8*	*996*

P2 PARKING LEVEL PLAN

1" = 50'-0"

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

A1.1

Spectrum MASON ROW Special Exception Application Sub 04

GTM PROJECT: 14.0041 NEC of W. Broad St & N. West St, Falls Church City, VA 04/08/15

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7735 OLD GEORGETOWN ROAD, SUITE 700, BETHESDA, MD 20814 - TEL: (240) 333-2000 - FAX: (240) 333-2001

Massing Yields				Parking Totals			
Level	Use	Floor Area (SF)	# of Units	Parking Required	Parking Reduction %	Reduced Req'd Parking	Parking Provided
P2	Parking	94791	0	0.0	0%	0.0	224
P2	Theater	42572	0	170.3	10.0%	153.3	0
P1	Parking	94791	0	0.0	0%	0.0	220
P0	Parking	62517	0	0.0	0%	0.0	133
1	Retail #1	4813	0	19.3	10.0%	17.3	0
	Retail #2	0	0	0.0	10.0%	0.0	0
	Retail #3	19187	0	76.7	10.0%	69.1	0
	Retail #4	11299	0	45.2	10.0%	40.7	0
	Retail #5	2313	0	9.3	10.0%	8.3	0
	Retail #6	2427	0	9.7	10.0%	8.7	0
	Retail #7	8507	0	34.0	10.0%	30.6	0
	Retail #8	6705	0	26.8	10.0%	24.1	0
	Retail #9	5330	0	21.3	10.0%	19.2	0
	Theater	5819	0	23.3	10.0%	20.9	0
	Apt. Lobby 1	1847	0	0.0	0.0%	0.0	0
	Apt. Lobby 2	476	0	0.0	0.0%	0.0	0
	Apt. Lobby 3	0	0	0.0	0.0%	0.0	0
	Office Lobby	762	0	0.0	0.0%	0.0	0
	Hotel Lobby	558	0	0.0	0.0%	0.0	0
	Parking Lobby	516	0	0.0	0.0%	0.0	0
	Parking	29623	0	0.0	0.0%	0.0	94
Mezz	Apt Lobby 1	0	0	0.0	0.0%	0.0	0
	Office	6018	0	20.1	20.0%	16.0	0
	Parking	39095	0	0.0	0.0%	0.0	93
2	Apartment	70719	64	105.2	20.9%	83.2	0
	Apt Amenity	5908	0	0.0	0.0%	0.0	0
	Apt Amenity #2	398	0	0.0	0.0%	0.0	0
	Hotel	14092	14	15.4	18.0%	12.6	0
	Hotel Bridge	795	0	0.0	0.0%	0.0	0
	Parking	23249	0	0.0	0.0%	0.0	66
3	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22136	0	0.0	0.0%	0.0	64
4	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22136	0	0.0	0.0%	0.0	64
5	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	13128	0	0.0	0.0%	0.0	38
6	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
Totals	Apartment	385856	340	559.1	20.9%	442.2	0
	Theater	48391	0	193.6	10.0%	174.2	0
	Office	6780	0	20.1	20.0%	16.0	0
	Hotel	71813	150	165.0	18.0%	135.3	0
	Retail	60581	0	242.3	10.0%	218.1	0
	Parking	401982	0	0.0	0.0%	0.0	996
		975403		*1180.0*	*16.5%*	*985.8*	*996*

P1 PARKING LEVEL PLAN

1" = 50'-0"

N

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

A1.2

SPECTRUM development LLC

GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 04

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7735 OLD GEORGETOWN ROAD, SUITE 700, BETHESDA, MD 20814 - TEL: (240) 333-2000 - FAX: (240) 333-2001

Massing Yields				Parking Totals			
Level	Use	Floor Area (SF)	# of Units	Parking Required	Parking Reduction %	Reduced Req'd Parking	Parking Provided
P2	Parking	94791	0	0.0	0%	0.0	224
P2	Theater	42572	0	170.3	10.0%	153.3	0
P1	Parking	94791	0	0.0	0%	0.0	220
P0	Parking	62517	0	0.0	0%	0.0	133
1	Retail #1	4813	0	19.3	10.0%	17.3	0
	Retail #2	0	0	0.0	10.0%	0.0	0
	Retail #3	19187	0	76.7	10.0%	69.1	0
	Retail #4	11299	0	45.2	10.0%	40.7	0
	Retail #5	2313	0	9.3	10.0%	8.3	0
	Retail #6	2427	0	9.7	10.0%	8.7	0
	Retail #7	8507	0	34.0	10.0%	30.6	0
	Retail #8	6705	0	26.8	10.0%	24.1	0
	Retail #9	5330	0	21.3	10.0%	19.2	0
	Theater	5819	0	23.3	10.0%	20.9	0
	Apt. Lobby 1	1847	0	0.0	0.0%	0.0	0
	Apt. Lobby 2	476	0	0.0	0.0%	0.0	0
	Apt. Lobby 3	0	0	0.0	0.0%	0.0	0
	Office Lobby	762	0	0.0	0.0%	0.0	0
	Hotel Lobby	558	0	0.0	0.0%	0.0	0
	Parking Lobby	516	0	0.0	0.0%	0.0	0
	Parking	29623	0	0.0	0.0%	0.0	94
Mezz	Apt Lobby 1	0	0	0.0	0.0%	0.0	0
	Office	6018	0	20.1	20.0%	16.0	0
	Parking	39095	0	0.0	0.0%	0.0	93
2	Apartment	70719	64	105.2	20.9%	83.2	0
	Apt Amenity	5908	0	0.0	0.0%	0.0	0
	Apt Amenity #2	398	0	0.0	0.0%	0.0	0
	Hotel	14092	14	15.4	18.0%	12.6	0
	Hotel Bridge	795	0	0.0	0.0%	0.0	0
	Parking	23249	0	0.0	0.0%	0.0	66
3	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22136	0	0.0	0.0%	0.0	64
4	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22136	0	0.0	0.0%	0.0	64
5	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	13128	0	0.0	0.0%	0.0	38
6	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
Totals	Apartment	385856	340	559.1	20.9%	442.2	0
	Theater	48391	0	193.6	10.0%	174.2	0
	Office	6780	0	20.1	20.0%	16.0	0
	Hotel	71813	150	165.0	18.0%	135.3	0
	Retail	60581	0	242.3	10.0%	218.1	0
	Parking	401982	0	0.0	0.0%	0.0	996
		975403		*1180.0*	*16.5%*	*985.8*	*996*

P0 PARKING LEVEL PLAN

1" = 50'-0"

N

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

A1.3

SPECTRUM development LLC

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	Retail #2	0	0	0.0	10.0%	0.0	0
	Retail #3	19187	0	76.7	10.0%	69.1	0
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	Retail #5	2313	0	9.3	10.0%	8.3	0
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	Parking	29623	0	0.0	0.0%	0.0	94
Mezz	Apt Lobby 1	0	0	0.0	0.0%	0.0	0
	Office	6018	0	20.1	20.0%	16.0	0
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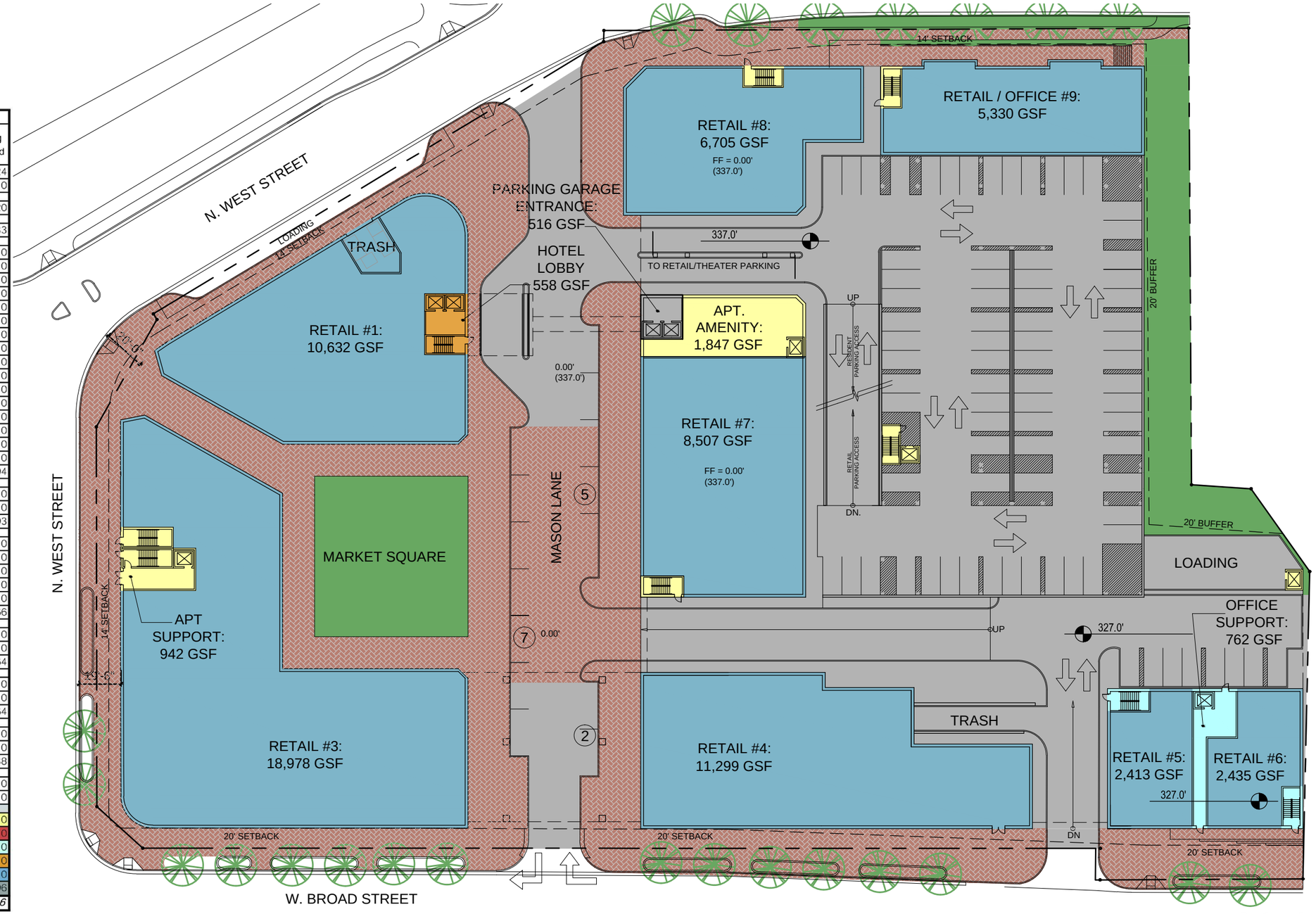

FIRST FLOOR PLAN
1" = 50'-0"

A1.4

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

SPECTRUM development LLC
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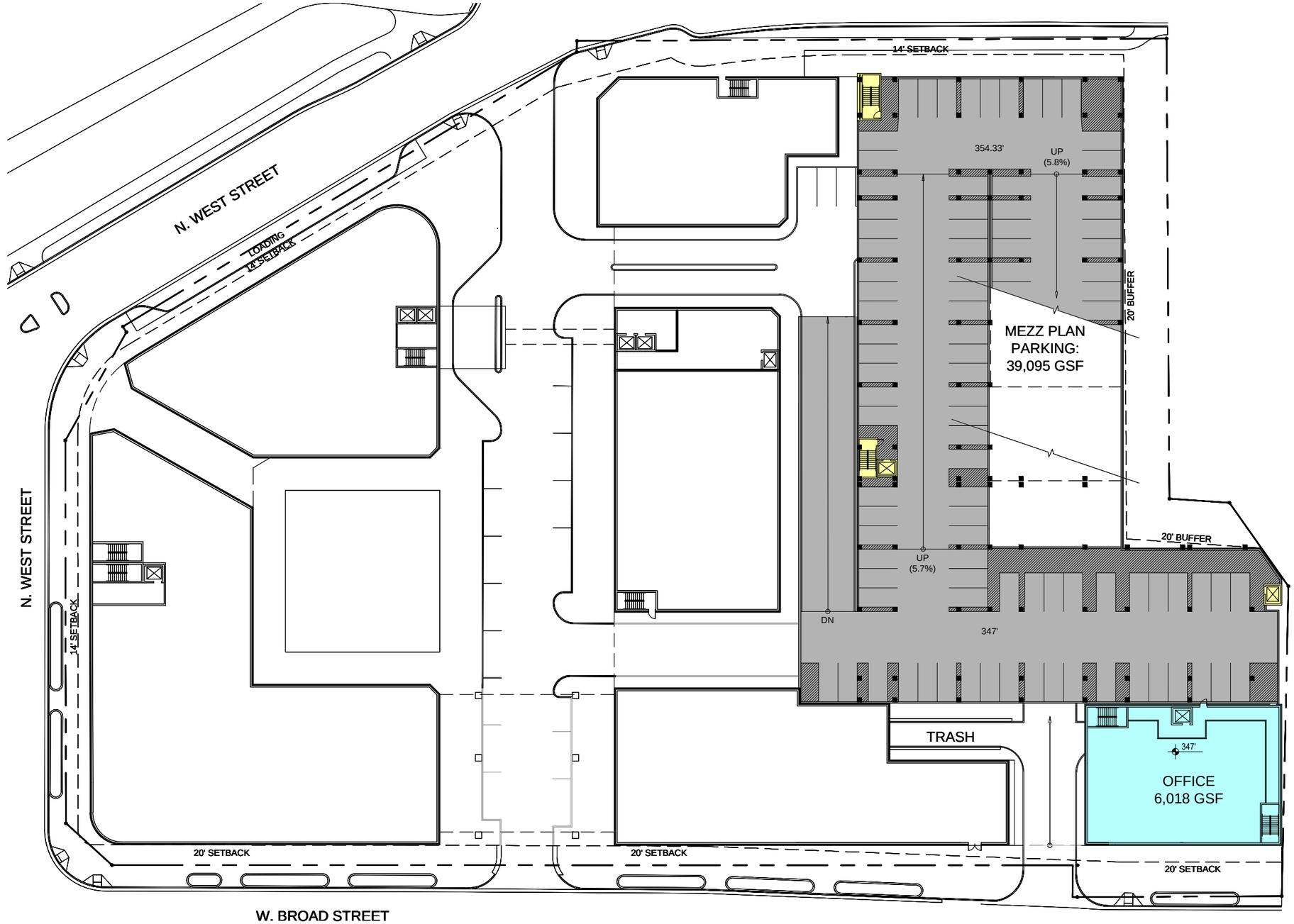
		975403		*1180.0*	*16.5%*	*985.8*	*996*



MEZZANINE FLOOR PLAN
1" = 50'-0"

A1.5

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

SPECTRUM development LLC
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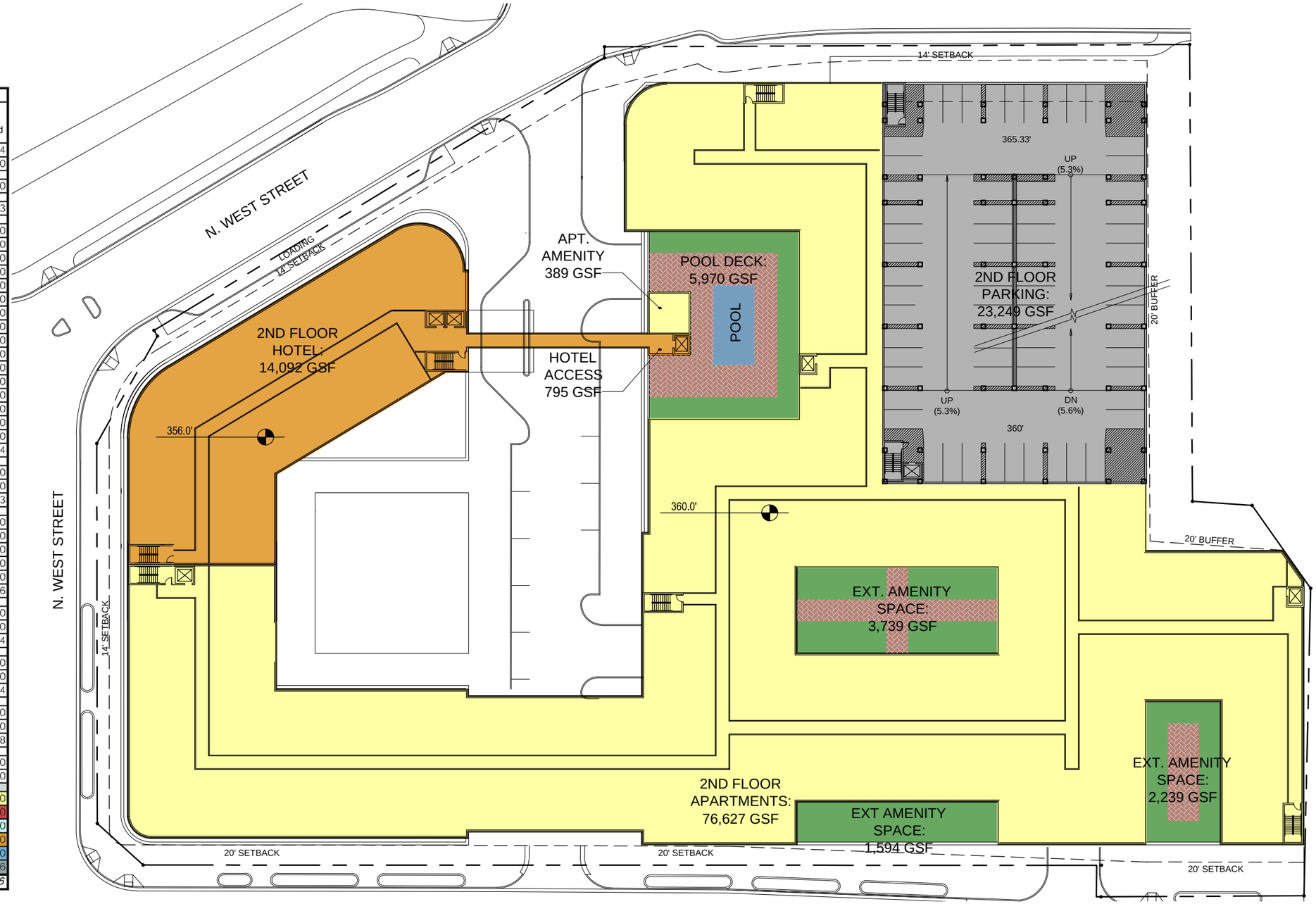

A1.6

N

SECOND FLOOR PLAN
1" = 50'-0"

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

SPECTRUM development LLC

GTM ARCHITECTS

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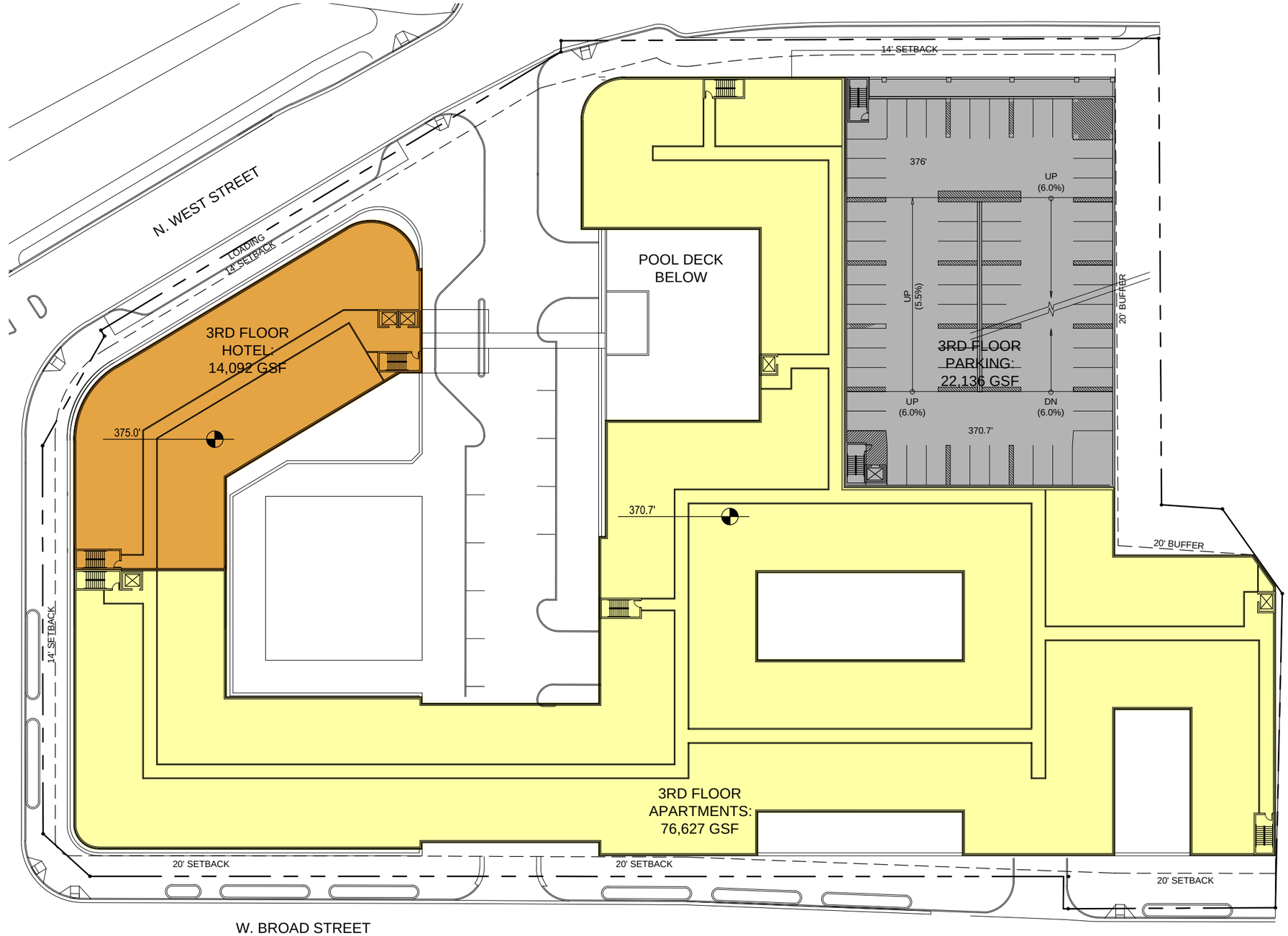
	Retail #3	19187	0	76.7	10.0%	69.1	0
	Retail #4	11299	0	45.2	10.0%	40.7	0
	Retail #5	2313	0	9.3	10.0%	8.3	0
	Retail #6	2427	0	9.7	10.0%	8.7	0
	Retail #7	8507	0	34.0	10.0%	30.6	0
	Retail #8	6705	0	26.8	10.0%	24.1	0
	Retail #9	5330	0	21.3	10.0%	19.2	0
	Theater	5819	0	23.3	10.0%	20.9	0
	Apt. Lobby 1	1847	0	0.0	0.0%	0.0	0
	Apt. Lobby 2	476	0	0.0	0.0%	0.0	0
	Apt. Lobby 3	0	0	0.0	0.0%	0.0	0
	Office Lobby	762	0	0.0	0.0%	0.0	0
	Hotel Lobby	558	0	0.0	0.0%	0.0	0
	Parking Lobby	516	0	0.0	0.0%	0.0	0
	Parking	29623	0	0.0	0.0%	0.0	94
Mezz	Apt Lobby 1	0	0	0.0	0.0%	0.0	0
	Office	6018	0	20.1	20.0%	16.0	0
	Parking	39095	0	0.0	0.0%	0.0	93
2	Apartment	70719	64	105.2	20.9%	83.2	0
	Apt Amenity	5908	0	0.0	0.0%	0.0	0
	Apt Amenity #2	398	0	0.0	0.0%	0.0	0
	Hotel	14092	14	15.4	18.0%	12.6	0
	Hotel Bridge	795	0	0.0	0.0%	0.0	0
	Parking	23249	0	0.0	0.0%	0.0	66
3	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22136	0	0.0	0.0%	0.0	64
4	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22136	0	0.0	0.0%	0.0	64
5	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	13128	0	0.0	0.0%	0.0	38
6	Apartment	76627	69	113.5	20.9%	89.7	0
	Hotel	14092	34	37.4	18.0%	30.7	0
Totals	Apartment	385856	340	559.1	20.9%	442.2	0
	Theater	48391	0	193.6	10.0%	174.2	0
	Office	6780	0	20.1	20.0%	16.0	0
	Hotel	71813	150	165.0	18.0%	135.3	0
	Retail	60581	0	242.3	10.0%	218.1	0
	Parking	401982	0	0.0	0.0%	0.0	996
		975403		*1180.0*	*16.5%*	*985.8*	*996*



THIRD FLOOR PLAN
1" = 50'-0"

A1.7

N

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

SPECTRUM development LLC
GTM ARCHITECTS

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Massing Yields				Parking Totals			
Level	Use	Floor Area (SF)	# of Units	Parking Required	Parking Reduction %	Reduced Req'd Parking	Parking Provided
P2	Parking	94791	0	0.0	0%	0.0	224
P2	Theater	42572	0	170.3	10.0%	153.3	0
P1	Parking	94791	0	0.0	0%	0.0	220
P0	Parking	62517	0	0.0	0%	0.0	133
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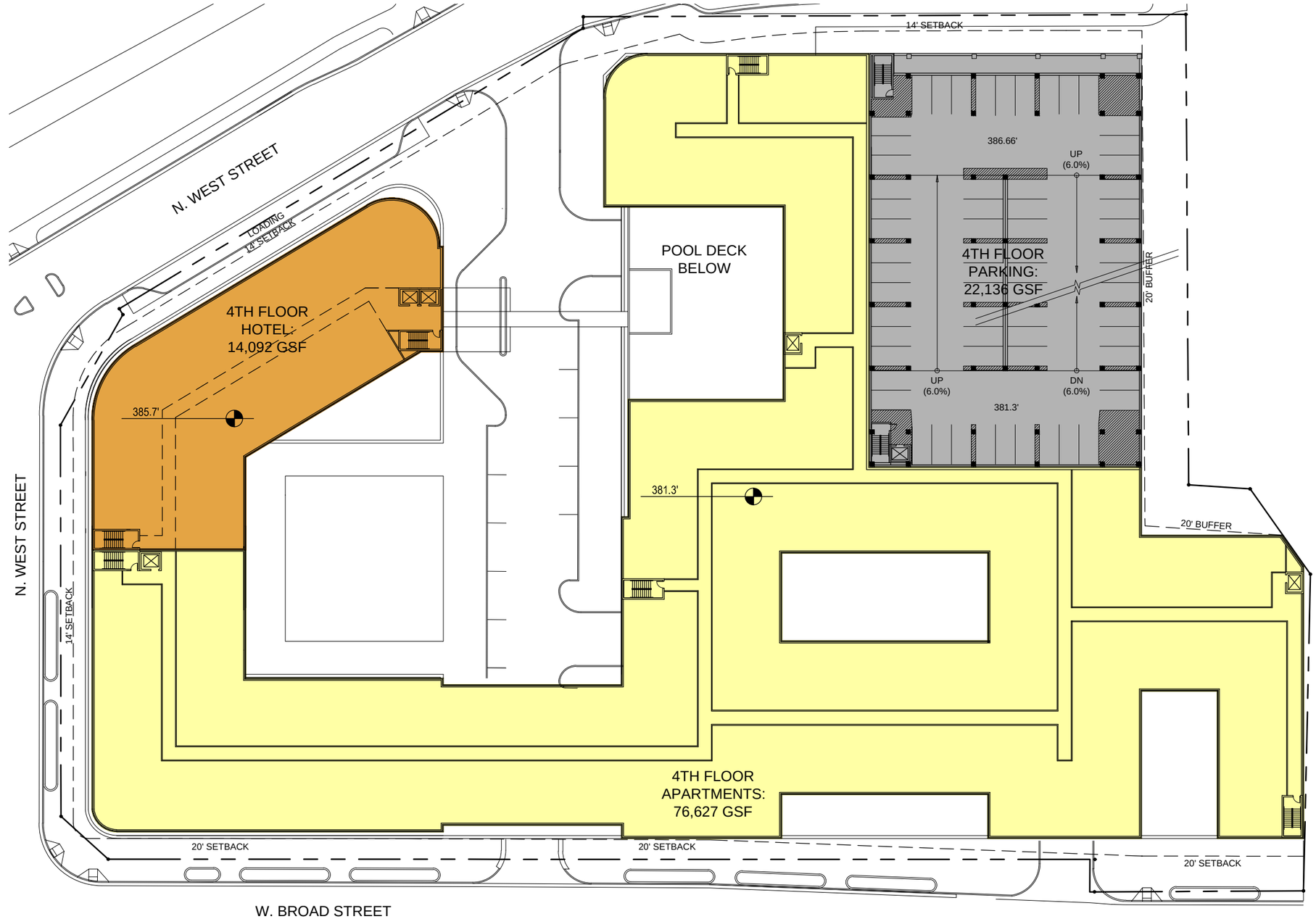

FOURTH FLOOR PLAN
1" = 50'-0"

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

A1.8

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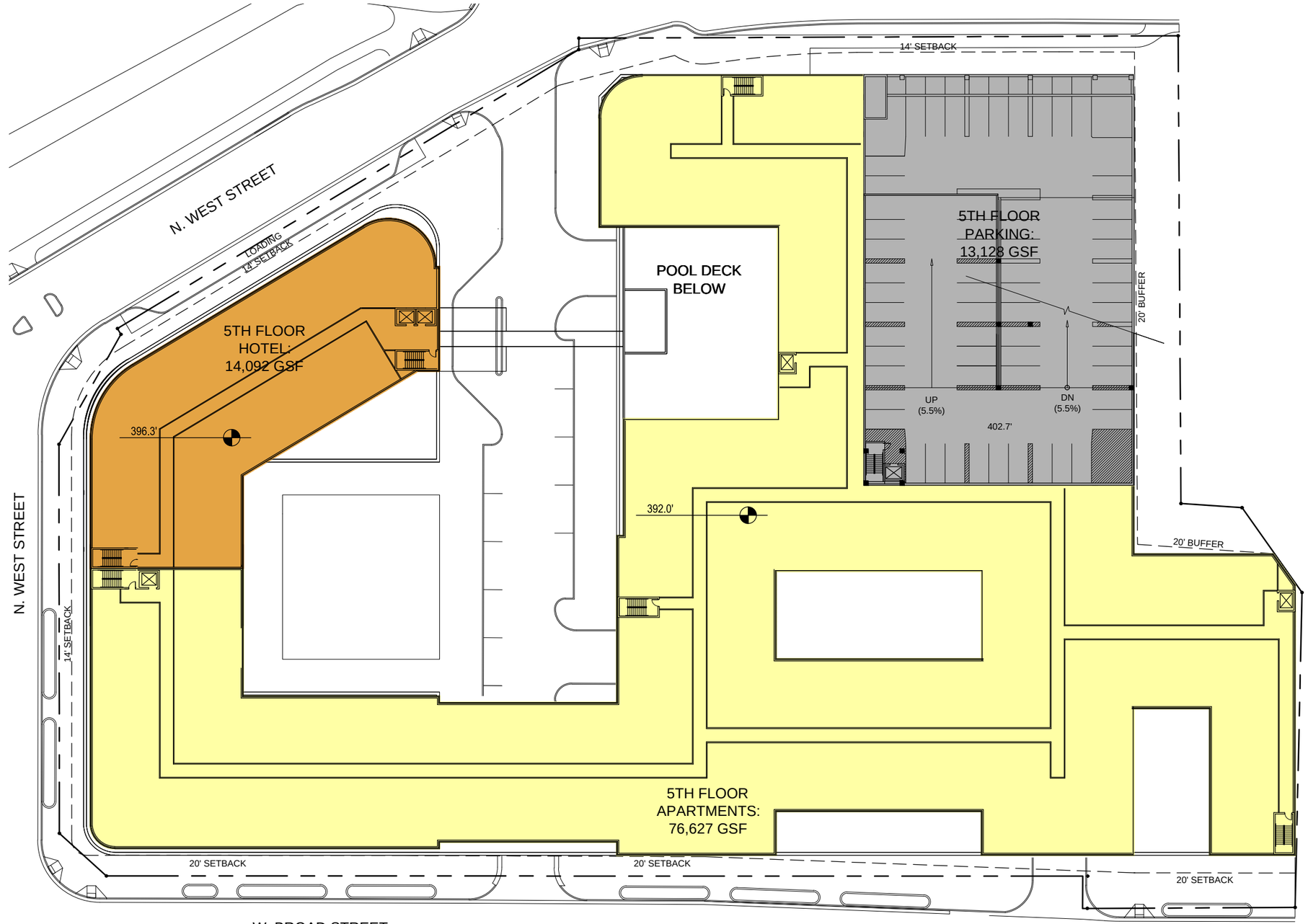

FIFTH FLOOR PLAN
1" = 50'-0"

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

A1.9

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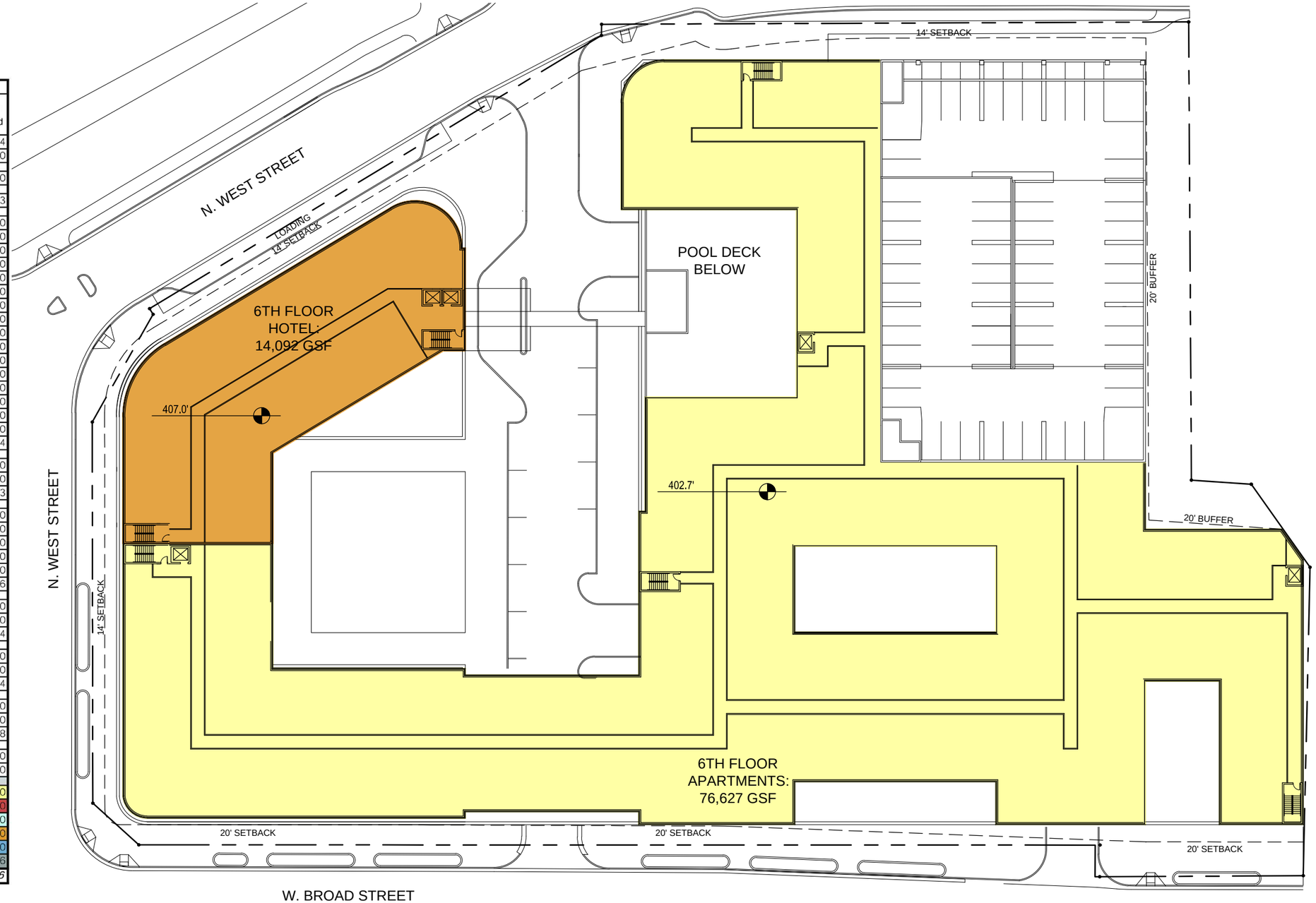

SIXTH FLOOR PLAN
1" = 50'-0"

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

A1.10

N

0 25' 50' 100'

SPECTRUM development LLC

GTM ARCHITECTS

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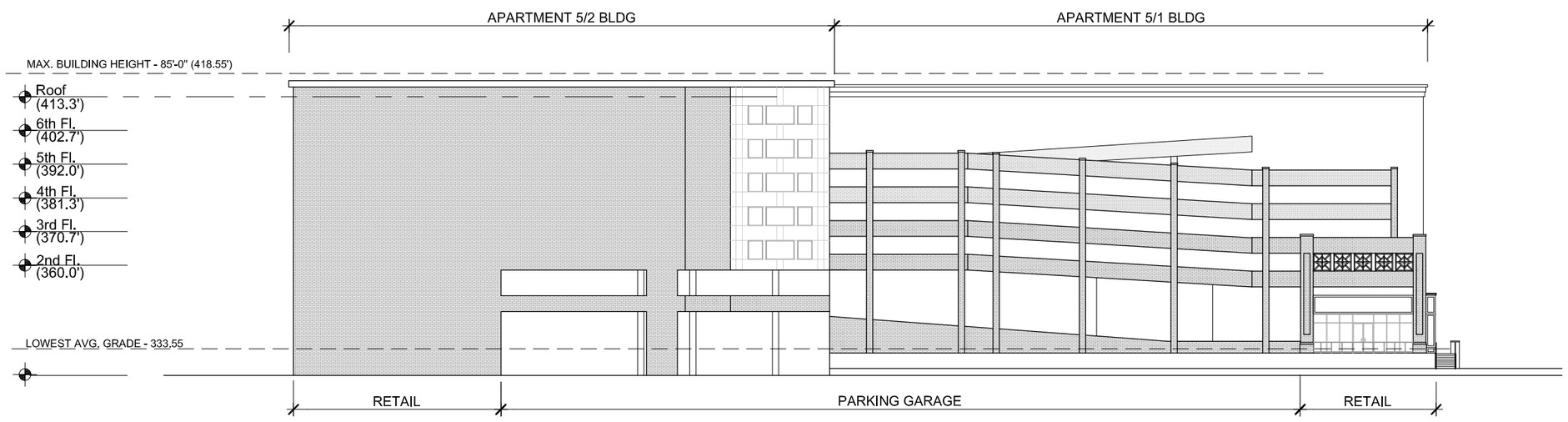
SOUTH ELEVATION
N.T.S.



EAST ELEVATION
N.T.S.

A2.0

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GTM ARCHITECTS

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NORTH-WEST ELEVATION
N.T.S.

NORTH ELEVATION
N.T.S.

A2.1

SPECTRUM development LLC
GTM
GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 04

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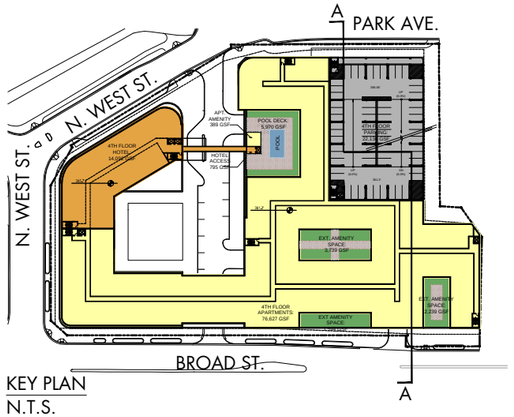
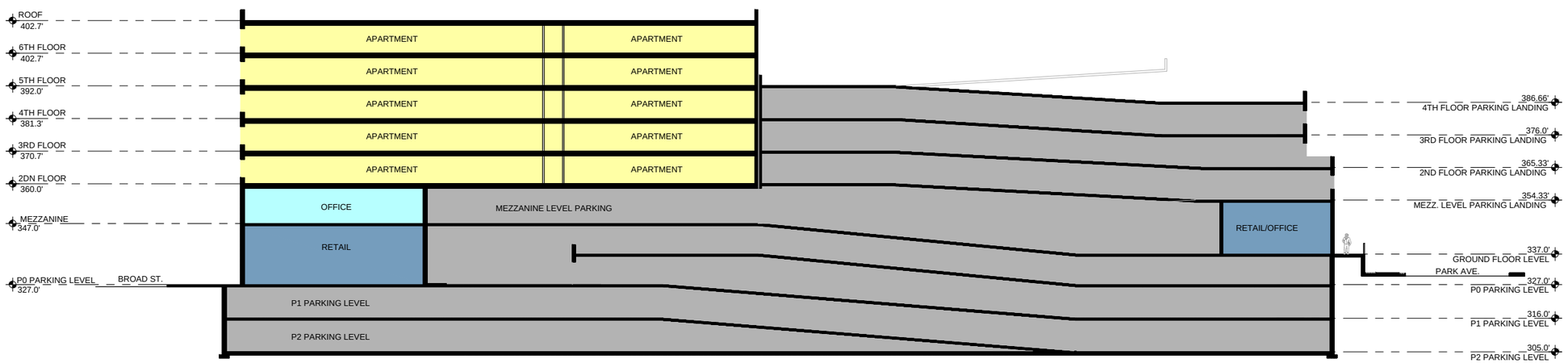


KEY PLAN
N.T.S.



SITE SECTION A-A
1" = 40'-0"

A3.0

OFFICE
HOTEL
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THEATER
PARKING

SPECTRUM development LLC

GTM

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Attachment 4

City of Falls Church Fiscal Impact Model Input Data

(please fill in yellow cells that apply and attach any other requested information)

RESIDENTIAL TYPE:	Assessable Value of residential unit type	% of residential use	# of units	# of SF
Single Family Detached				
Townhouse - Owner Occupied				
Townhouse - Rental				
Garden Apartments				
Mid-Rise Apartments - studios		5.6%	19	15,595
Mid-Rise Apartments - 1 bedrooms		60.0%	204	214,039
Mid-Rise Apartments - 2 bedrooms		34.4%	117	153,577
Mid-Rise Apartments - 3 bedrooms				
Condominiums - Studio unit				
Condominiums - 1 bedroom unit				
Condominiums - 2 bedroom unit				
Condominiums - 3 bedroom unit				
High-Rise Condominiums				
Age-Restricted Housing				
Affordable Housing Units				
All Other Housing Types (fill in)				
Total GROSS SF of Residential Use				385,856
Total Project % of Residential Use	67.3%			

NON-RESIDENTIAL TYPE:	# of SF	% of commercial use	Assessable Value per SF	Sales per SF
Com / Shop Ctr 50,000 SF or less	26,546	14.2%		$500
Com / Shop Ctr 50,001 SF or more				
Office / Inst 50,000 SF or less	6,780	3.6%		
Office / Inst 50,001 SF or more				
Bank with Drive Thru				
Medical-Dental Office				
Theater	44,572	23.8%		$225
Supermarket				
Drug Store				
Big Box Retail				
Quality Restaurant	19,212	10.2%		$700
High-Turnover (Sit-down) Restaurant	18,642	9.9%		$650
Gym/Health Club				
Hotel (# of rooms)			Average Daily Rate here	Number of rooms here
Extended Stay Hotel (# of Rms.)	71,813	38.3%	$172	150
Gasoline/Service Station				
Other use (fill in)				
Total GROSS SF of Commercial Use	187,565			
Total Project % Commercial Use	32.7%			

Project Name:
MASON ROW BROAD & WEST

Total Project SF = 573,421

Efficiency % for Residential	5.6%
Avg. gross SF of residential units	1,135
Avg. net SF of residential units	907

City Staff Use Only:
Net Fiscal Impact Result:
$

Please also attach info on:
Unit type per bedroom/bathroom/den count
Square ft. of each unit type
Projected rent for each unit type

	# of Beds
Assisted Living	

ATTACHMENT

UNIIT TYPE	NUMBER	EST. SQ. FT	EST. MO RENT
Efficiency	19	650	$1,750
One Bedroom	106	825	$2,100
One Bedroom + Den	98	875	$2,230
Two Bedroom	117	1,050	$2,625

5. "Exception" by City Council (Resolution) – Expressed perm1ss1on to allow a commercial loading space to occupy a public street rights-of-way, where otherwise prohibited *[Ref Section 48-939 (1) city code];*
6. Variance by the Board of Zoning Appeals – Allow commercial vehicles to back-out onto a public street, where otherwise prohibited *[Ref Section 48-933 (b), (1) city code]*.**No longer required because of plan redesign.**

General Summary - Major Issues and Objectives:

The following list highlights some of the major issues evident in the proposed concept and needs further evaluation and continued discussion with the applicant. Details of these issues and other city staff review comments are discussed in the subsequent section of this letter and enclosures.

- Density, scale and massing continue to be an issue related to building heights, locations and design. Specifically, the proposed parking garage location and height is incompatible with the existing adjacent residential neighborhood – comprehensive plan and zoning map amendment requests; **TO MEET AND BALANCE THE COMMENTS FROM THE COMMUNITY AND THE CITY COUNCIL FOR CONSOLIDATION OF ALL COMMERCIAL PROPERTY IN THE BLOCK INCLUDING 916 W BROAD, FOR THE HOTEL (*SUBSIDIZED*), FOR THE THEATER (*SUBSIDIZED*), FOR RETENTION OF LOCAL RETAILERS, FOR 32.1% COMMERICAL USE, FOR AN EXPANDED OPEN AIR MASON LANE AND MARKET SQUARE, FOR VOLUNTARY CONCESSION PAYMENTS, AND FOR OFF SITE INFRASTRUCTURE IMPROVEMENTS, THE DEVELOPMENT MUST HAVE A MINIMUM LEVEL OF INCOME FROM RESIDENTIAL APARTMENTS AND FROM RETAIL OTHER THAN THE THEATER TO PROVIDE ALL OF THE REQUIRED INCOME TO PROVIDE A YIELD % ON PROJECT COSTS THAT WILL ALLOW THE PROJECT TO BE FINANCED BY THE NECESSARY FINANCIAL INSTITUTIONS. TO ACCOMODATE THE SPACE REQUIREMENTS AND PROVIDE THE MINIMUM PARKING FOR THESE USES IN A COORDINATED EFFICIENT FASHION, THE HEIGHTS, LOCATIONS AND DESIGN OF THE BUILDINGS AND PARKING GARAGE HAVE BEEN FINALIZED AND WILL BE SUBMITTED ON APRIL 8, 2015.**
- Overall residential density has increased from 320 units to 340 units, while residential density reductions were sought; **THE REAL ESTATE INDUSTRY STANDARD FOR MEASURING DENSITY IS FLOOR AREA RATO, OTHERISE KNOWN AS "FAR". THE RESIDENTIAL FAR HAS IN FACT DECREASED SINCE THE LAST SUBMISSION ON AUGUST 27, 2014 BECAUSE OF THE ADDITION OD 916 W. BROAD. RESIDENTIAL FAR ON AUGUST 27, 2014 WAS 2.28. RESIDENTIAL FAR ON JANUARY 30, 2015 IS 2.03. THE INCREASE FROM 320 UNITS TO 340 UNITS RESULTED FROM DOWNSIZING UNITS AND NOT FROM AN INCREASE IN DENSITY. FURTHER RESIDENTIAL DENSITY CAN ONLY BE DECREASED IF OVERALL PROJECT INCOME YIELD ON COSTS IS NOT DECREASED. ACCORDINGLY, TO FURTHER REDUCE RESIDENTIAL DENSITY, SUBSTANTIAL CUTS MUST BE MADE IN VOLUNTARY CONCESSIONS AND CONTRIBUTIONS TO OFF SITE INFRASTRUCTURE**

COSTS

- Proposed parking garage on Park Avenue is incompatible with the surrounding neighborhood in terms of massing, scale and aesthetics; **GARAGE MASSING AND SCALE HAVE BEEN REVISED AND IS FINAL. AESTHETICS FOR THE GARAGE AND PARK AVE RETAIL IS A WORK IN PROGRESS.**
- A TDM plan and Parking Management Plan will need to be submitted for staff review for accurate evaluation of the request in parking reduction and traffic impacts of the overall project; **APPLICANT HAS MET WITH WELLS THIS WEEK AND ARE ADDING JUSTIN SCHOR (TDM EXPERT) AND MIKE WORKOSKY (PARKING MANAGEMNT PLAN EXPERT) TO THE TEAM TO DEVELOP AND FINALIZE PLANS. IN THESE TWO AREAS. THESE TWO PLANS NEED MUCH ATTENTION OVER THE NEXT SEVERAL WEEKS AND NEED TO RESPOND TO THE FINAL DESIGN OF USES AND PARKING.**
- The on-street loading space proposed along N. West Street substantially narrows a section of that streetscape to less than 10 feet in width; **APPLICANT'S ENTIRE TEAM HAS STUDIED AND CONSIDERED OTHER ALTERNATIVES. THERE IS NO FEASIBLE ALTERNATIVE TO LOADING FOR THE HOTEL, THEATER AND OTHER RETAILERS WEST OF MASON LANE.**
- Trash pickup space proposed on N. West Street raises concerns from traffic and safety perspectives; **THIS SPACE HAS BEEN RELOCATED AND IS NOW DESIGNED TO REQUIRE TRASH TRUCKS TO PARK IN THE LOADING ZONE. DUMPSTERS ARE MANUALLY REMOVED FROM THIS SPACE AND MECHANICALLY UNLOADED IN THE LOADING ZONE AND MANUALLY RETURNED TO THE TRASH SPACE.**
- Proposed ADUs do not meet the City standards of the targeted households at 60% AMI. **A CASH CONTRIBUTION TO THE HOUSING COMMISSION IN LIEU OF PROVIDING 60%/ 80%/100% AMI (Rushmark Standard) WILL BE PROPOSED. THE PROPOSAL WILL BE PART OF THE BUNDLE OF ECONOMIC VC'S OFFERED TO THE CITY.**

Development Program and Uses

I . Residential Density – Although the 67 unit condominium component has been eliminated, the overall residential density has increased with the new proposal of 340 apartment units. The proposed increase in the residential density and the requested bonus building height of 30 feet is one of the contributing factors in the perceived massing and scale of the project. A reduction in the overall residential density should be considered.

2. Retail - In response to previous comments and guidance from the City Council, the applicant is proposing a dine-in theater as a second retail anchor. The submitted Retail Merchandising Plan offers a list of preferred uses and minimum of 30 percent food and beverage uses. A stronger commitment to high quality retail is needed to avoid only mediocre retail or mostly service type of commercial users. At this time the refined list of retailers and services uses would apparently allow all the same uses and tenants in recently built mixed use projects in the city. The proposed market square concept is

APPLICANT'S REVISONS TO DEVELOPMENT PLAN FROM FIRST SUBMISSION JANUARY 30, 2015 TO CURRENT SUBMISSION OF APRIL 8 TO ADDRESS COMMUNITY, BOARDS AND COMMISSIONS AND COUNCIL COMMENTS AND CONCERNS

1. ELIMINATE CORNER DRUGSTORE AND DRIVE THROUGH

2. SECURE HOTEL (150 Keys)

3. CONSOLIDATE ALL PROPERTIES IN BLOCK EXCEPT SAINT JAMES PROPERTIES ADDING 916 W. BROAD (17,649 SF)

4. SUBSEQUENT TO AUGUST 11, 2015 FIRST READING, REDUCED RESIDENTIAL DENSITY FAR FROM 2.21 TO 2.04

5. SECURE 2ND ANCHOR-THEATER (42,572 SF below grade concrete building)

6. REDESIGN DEVELOPMENT TO BREAKUP MASSING AND CREATE MASON LANE AND MARKET SQUARE

7. INCREASE GROUND LEVEL RETAIL TO 61,670 SF FROM 39,272 SF (58% increase)

8. INCREASE COMMERCIAL COMPONENT IN PROJECT FROM 26.4% TO 32.1%

9. ADD 5,939 SF IN OFFICE SPACE

10. INCREASE NET FISCAL IMPACT RANGE FROM $1.4M-$1.8M TO $1.9M TO 2.6M

11. MOVED AND REALINGED MASON LANE TO REDUCE OFF SETS AND PROVIDE A TRADITIONAL INTERSECTION WITH PERPERDICULAR STREETS

12. REDUCED INGRESS/EGRESS ACCESS POINTS FROM 4 TO 3 WITH NO ACCESS ON PARK AVENUE

13. ADDED TRAFFIC SIGNAL AT INTERSECTION OF PARK, WEST AND MASON LANE

14. ENGINEERED DESIGN OF NEW TRAFFIC SIGNAL AT INTERSECTION ON W BROAD AT THE EAST MASON ROW ACCESSTO PARKING

SUMMARY OF COMMENTS FROM COUNCIL MEMBERS
AT MARCH 2, 2015 JOINT WORK SESSION, AS FOLLOWS:

1. Concern with residential density.

2. Concern with Park Avenue garage distance from Park Ave, height, massing, and architectural aesthetics.

3. Traffic.

4. Appropriate number of parking spaces.

5. Harsh architecture.

6. Environmental sustainability.

7. Theater & hotel commitments.

8. Accommodate some local tenants in project.

9. More outside orientation to trail.

10. Delineate outdoor dining in the project.

11. Location of loading & trash on West Street.

12. Support for bike share.

13. Continue discussions with neighbors.

AFTER MARCH 2, 2015 JOINT WORK SESSION
SOUTIONS PROVIDED BY APPLICANT ON CERTAIN MATTERS, AS FOLLOWS:

1. Redesign the parking garage reducing height and number of levels, stepping back garage above 35' and adding ground level retail storefront in front of garage on Park Avenue. See Exhibit showing Angle of Bulk Plane (from "MUR" ordinance.)

2. Large and substantial pedestrian Promenade Opening in building to connect the west end neighborhood and W&OD trail with Market Square. See Exhibit showing Rendering.
.

3. VC commitment identical to 301 West Broad (Harris Teeter) and Reserve at Tinner Hill (Fresh Market) requiring binding agreements with the hotel and the theater.

4. Best efforts to keep local tenants in the development subject to approval of the intended retail locations on Park Avenue and financial assistance from EDA.

5. Relocation of the enclosed trash dumpster space on N West Street, and elimination of the need for trash trucks to back in or back out of trash space.

6. Engineered redesign of W&OD trail crossing and N West Street approach to traffic signal.

7. Cash contribution to Housing Commission in place of providing ADU's.

ONGOING DISCUSSION OF RESIDENTIAL MASSING & UNIT SIZE AND MIX

1. Desire to further reduce residential densisty.

2. Design of apartments and mix of units to promote a residential experience that targets millennials and empty nesters resulting in less fiscal impact to the City.

3. A further reduction in residential density would require a corresponding decrease in project costs other than apartment building construction costs associated with density reduction.

VOLUNTARY CONCESSIONS MATTERS

1. The current (April 8) massing and uses can support the cost of the Concessions made in the January VC Document.

2. The Developer is placing the Concessions into the format requested by the City and is considering revisions to the VC's that would retain the level of commitment but would be reallocated to reflect goals of the City presented during the last several months. This includes, by way of example, the Library Capital fund, bike share, Schools Capital needs, Parks and nonprofit entities that will further the cultural and economic well-being of the community.

3. To fully fund the requirements of the Developer to provide movie theater, the Developer request the enactment of an Admissions Tax in the City and a sharing of those Tax receipts. The Developer proposes an agreement among the City, the City's Economic Development Authority and the Developer. The City's existing admissions tax would be revised to be more consistent with other similar ordinances in the Commonwealth and the amount of the revenue sharing would be consistent with prior discussions with the City.

UNRESOLVED ARCHITECTURAL TREATMENT OF EXTERIOR SKIN

1. Pending collaboration between GTM and AAB.

2. Special emphasis on Parking Garage facade.

UNRESOLVED TDM PLAN AND PARKING MANGEMENT PLAN

1 Work in Progress. Applicant believes and is committed to the development of a TDM Plan and Parking Management Plan that ensures that the parking provided in the project is the appropriate amount to adequately serve the demand created by the mix of residential and commercial uses. The applicant has just engaged experts in these two diciplines.

Attachment 6

MASON ROW
TRAFFIC IMPACT STUDY
CITY OF FALLS CHURCH, VIRGINIA

Prepared For:
Spectrum Development LLC

Prepared By:

Robin L. Antonucci
William F. Johnson, P.E.
Andrew C. Buntua

January 22, 2014
Revised January 30, 2015

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MASON ROW
TRAFFIC IMPACT STUDY
CITY OF FALLS CHURCH, VIRGINIA

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MASON ROW
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Section 1
INTRODUCTION

This report presents the results of a traffic impact study conducted in support of a proposed new mixed-use project to be developed in the City of Falls Church, Virginia. The subject site is located in the northeast quadrant of the West Broad Street/North West Street intersection, and south of Park Avenue, as shown on Figure 1-1.

The properties that comprise the subject application are currently zoned B-3 ("General Business District"), B-1 ("Limited Business"), and R-1B ("Medium Density Residential"). The properties are currently developed with a variety of commercial, office, and residential uses.

The applicant, Spectrum Development LLC, proposes to raze the existing uses and subsequently redevelop the property with the following mix of uses:

- 53,043 gross square feet (GSF) of retail uses.
- A 51,329 GSF movie theater.
- 5,939 GSF of office uses.
- A 150-room hotel.
- 340 apartment dwelling units.

In furtherance of the above proposed redevelopment project, rezoning and special exception (SE) applications have been filed by the applicant in order to achieve the envisioned mix of uses for the properties. The applicant's development Statement is provided for reference as Appendix A.

The redevelopment plan, as proposed, is consistent with the City's vision for mixed-use development within the West Street/West Broad Street Area as outlined in the City's Comprehensive Plan. The development plan includes an enhanced pedestrian network designed in a manner to be both visually appealing and functionally superior to meet the needs of existing and future residents/patrons.

The entire redevelopment, from its mix of uses on one site to its transit connectivity, trip mitigation measures, and pedestrian friendly environment achieves this future vision as outlined in the Falls Church Comprehensive Plan. By providing complementary uses on the same site, the proposed development will encourage self-contained pedestrian trips. Additionally, due to its location along transit routes and with the implementation of Transportation Demand Management (TDM) strategies, many of the trips generated by the proposed development are anticipated to utilize non-auto modes of transportation, also consistent with the City's framework established in the Comprehensive Plan. The redevelopment plan, as submitted, is shown on Figure 1-2.

According to the *24VAC30-155* ("Chapter 870") regulations, all development proposals which meet certain specific trip generation thresholds are subject to the regulations as outlined in VDOT's Traffic Impact Analysis Regulations Administrative Guidelines ("Administrative Guidelines"). In January 2012, an amendment to the Administrative Guidelines took effect that determined a development proposal is considered to substantially impact the transportation network if it generates 5,000 or more net new daily vehicle trips located on, or within 3,000 feet of a VDOT maintained roadway. Based on the trips anticipated to be generated by the subject development, the subject development would not require a Chapter 870 compliant traffic study.

Although a traffic impact analysis is not required per *24VAC30-155*, the City of Falls Church requires the submission of a traffic study in conjunction with any development application. The basis of this traffic impact assessment then includes a field reconnaissance of the area to determine access opportunities and constraints, traffic counts conducted at key intersections in the site vicinity, a review of the City's Comprehensive Plan, as well as conversations with City staff to ascertain planned transportation improvements/enhancements, and information from Spectrum Development LLC including preliminary site concepts.

This traffic assessment was completed in accordance with the City of Falls Church policies and guidelines and is intended to address the following issues:

1. Estimation of the total vehicle trip ends generated by the planned land uses during the weekday peak hours.

2. Determination of the effects of the development proposal on the surrounding local roadway network.

3. Identification of potential road and/or operational improvements necessary to mitigate the impacts of the developer's proposal.

A scoping meeting was held with City staff to determine specific study parameters. The resulting traffic study scoping form is provided in Appendix B. Tasks undertaken in the course of this study included the following:

1. A review of the Spectrum Development LLC's conceptual plans for the subject site.

2. A field reconnaissance of the subject site in order to determine existing roadway and intersection geometrics and traffic controls, access opportunities and/or constraints, and general traffic conditions.

3. Peak hour turning movement and pedestrian counts were obtained at the following study intersections:

   a. West Broad Street/West Street
   b. North West Street/Grove Avenue
   c. North West Street/Park Avenue
   d. West Broad Street/Spring Street
   e. Park Avenue/North Spring Street
   f. North West Street/Lincoln Avenue
   g. Grove Avenue/W&OD Trail
   h. North West Street/W&OD Trail
   i. West Broad Street/Birch Street
   j. West Broad Street/Oak Street*
   k. Park Avenue/North Oak Street*

   Generally, counts were conducted at the key study intersections listed above on Thursday, September 12, 2013. The intersections denoted above by an asterisk (*) were added to the scope at the request of staff and advised that the baseline counts associated with the *706 West Broad Street Traffic Impact Study* should be used for those intersections.

   Additionally, all existing entrances serving the current site uses were counted on Thursday, September 12, 2013 in order to determine the existing trip generation characteristics of the subject site.

4. Calculation of existing weekday AM and PM peak hour intersection levels of service at the study intersections.

5. Identification of the number of peak hour trips that would be generated by the proposed mixed-use development based on standard Institute of Transportation Engineers (ITE) 9th edition Trip Generation rates/equations.

6. Determination of future background traffic forecasts based on estimates of traffic that would be generated by other approved/planned developments in the site vicinity.

7. Calculation of future levels of service both with and without the proposed development at the key study intersections and all proposed site entrances for a proposed build-out year of 2019.

Sources of data for this analysis included traffic counts conducted by Wells + Associates Inc, information obtained from the City of Falls Church, the Institute of Transportation Engineers (ITE), the Highway Capacity Manual 2000 (Synchro software, version 7), Spectrum Development LLC, and the files and library of Wells + Associates.

Conclusions

Based on the results of this traffic impact study, the following may be concluded:

1. The redevelopment plan proposed by Spectrum Development LLC is consistent with the City and community's long term vision for the West Broad Street corridor as reflected in the adopted Comprehensive Plan.

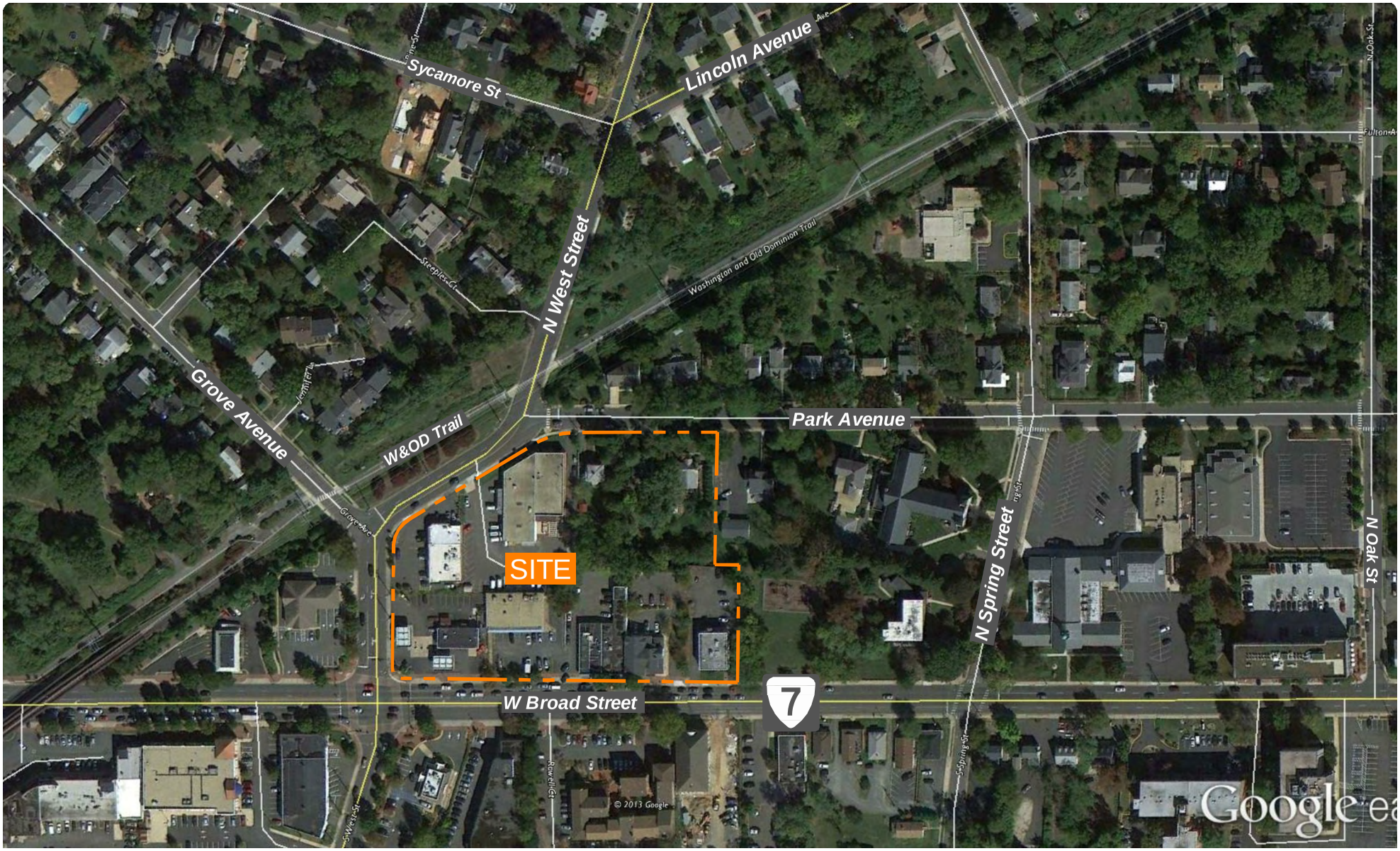

Figure 1–1
Site Location

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

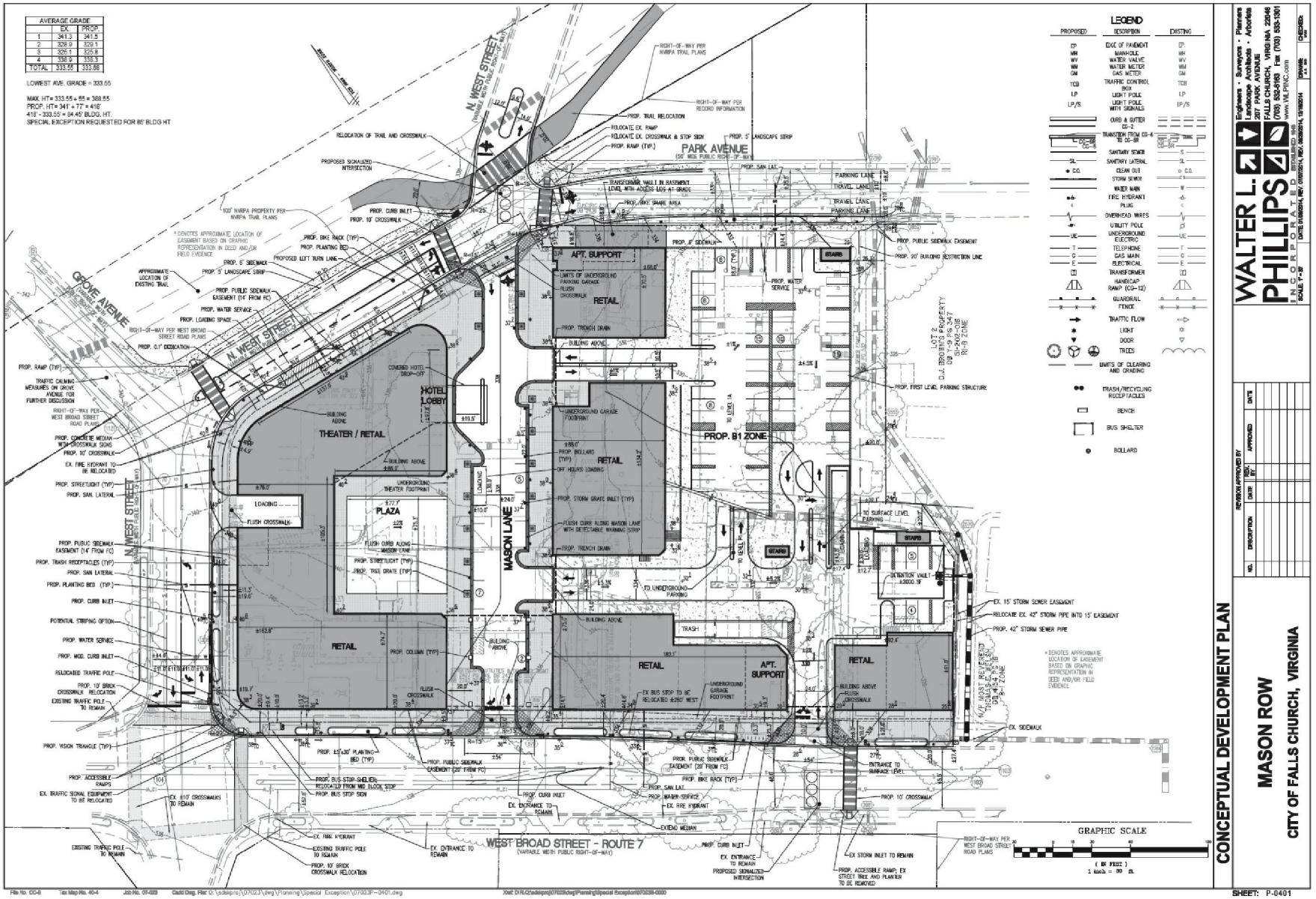

Figure 1–2
Site Redevelopment Plan Reduction

North

2. ***All signalized intersections within the study area currently operate at overall adequate levels of service (LOS "D" or better), except for the West Broad Street/West Street intersection which operates at LOS "E" during the PM peak hour.***

3. ***Side street approaches along West Broad Street that operate under STOP sign control generally experience significant delays during commuter peak hours due to heavy mainline volumes.***

4. ***Under future 2019 traffic conditions, without the development of the subject site, delays would increase at study intersections due to regional traffic growth and trips generated by other approved/pending development within the City. However, overall levels of service would remain generally consistent with existing conditions, except for the West Broad Street/West Street intersection which would operate at LOS "E" during the AM peak hour.***

5. ***The Mason Row redevelopment project is anticipated to experience vehicle trip reductions due to internal trip capture, pass-by trip activity, and non-auto mode choice. The development, as a whole, is forecasted to generate 396 weekday AM peak hour and 584 weekday PM peak hour trips upon completion and full occupancy by 2019.***

6. ***Under future 2019 traffic conditions, with the development of the subject site, intersection levels of service would remain generally consistent with background conditions, except the West Broad Street/West Street intersection which would operate at overall LOS "F" during the PM peak hour. Additional mitigation measures, as outlined below, would improve intersection performance to LOS "E" and serve to further improve the overall transportation network.***

Recommendations

Based on the above conclusions and in order to mitigate the impacts of the subject development and improve the overall transportation network, the following recommendations should be considered:

1. ***As part of the redevelopment plan and to encourage walking trips, the applicant should provide and enhance the pedestrian facilities within the site's block. The applicant should further ensure connections between the site's internal network and the surrounding pedestrian/bicycle system, including the W&OD Trail, as envisioned in the Comprehensive Plan.***

2. ***The applicant should encourage bicycling as a mode of travel. Bicycle racks for site customers/visitors as well as bicycle storage lockers for residents should be provided.***

3. ***The western site access point along West Broad Street should operate as right-in/right-out only.***

4. ***The intersection of North West Street and Park Avenue should be reconfigured to accommodate a fourth leg accessing the subject site. The reconfiguration should properly align the four approaches and a signal should be installed in order to improve intersection operations and safety. The W&OD trail crossing of North West Street should be integrated within the new signalized intersection. With these improvements, this intersection is forecasted to operate at LOS "C".***

5. ***To improve levels of service, restriping of North West Street at the approach to West Broad Street should be considered in order to provide for three approach lanes.***

6. ***A signal should be installed at the eastern site access point along West Broad Street in order to facilitate site access and to provide a controlled pedestrian crossing. With this improvement, the intersection is forecasted to operate at LOS "C" or better.***

7. ***The applicant should implement Transportation Demand Management (TDM) strategies to encourage the use of alternate modes of transportation. A peak hour trip reduction target of 15% should be established for the site's residential and hotel components.***

Section 2
BACKGROUND INFORMATION

Location and Surrounding Uses

The site is located within the western limits of the City of Falls Church and is currently developed with a mix of commercial buildings, including a gas station, strip retail, and a warehouse building. Additionally, the site includes three single family detached homes along Park Avenue. Low-scale commercial uses generally surround the property to the west, south, and east. Residential uses are found east along Park Avenue and north along North West Street. Notably, the Washington and Old Dominion (W&OD) trail runs proximate to the site along the north side of North West Street. The W&OD trail is a major recreational trail for foot traffic and bicyclists. Also, Saint James Catholic Church and School is located east of the site along North Spring Street.

Comprehensive Plan Land Use Recommendations

The subject site is located within AREA 3-West Street/West Broad Street Area of the City's Comprehensive Land Use Plan (cf. Chapter 4). Redevelopment of the corridor with primarily retail and commercial uses is encouraged in the Plan in a manner that would be harmonious with the City's Design Guidelines. The Plan further states that when redevelopment is considered along the corridor, the following recommendations (among others) should be adhered to:

- Consolidate parcels to allow larger scale and mixed-use development,
- Consolidate entrances,
- Develop retail uses or retail appearance on the first floor of buildings on West Broad Street,
- Locate buildings close to West Broad Street with parking in the rear whenever possible,
- Effectively landscape parking areas on the interiors and such that they are screened from streets,
- Achieve specific and consistent architectural goals (building materials, window types, roof overhangs, roof pitch, and porches.

In furtherance of these recommendations and as elaborated in the applicant's Statement, an amendment to the City's Comprehensive Plan has been requested in order to change the site's designation on the land use map to "Mixed Use". The redevelopment plan achieves these objectives and further promotes a sustainable multi-modal transportation environment as elaborated in the following sections.

Existing Transportation Network

Existing Road Network. The following is a description of the roadways surrounding the proposed mixed-use development. For purposes of this report, West Broad Street (Route 7) is assumed east/west. All cross streets are referenced north/south, as appropriate. Figure 2-1 depicts existing lane use and traffic controls in the vicinity of the subject site:

West Broad Street (Route 7). West Broad Street fronts the southern boundary of the subject site and is currently constructed as a four-lane, median divided highway which transitions to an undivided highway immediately east of the site. West Broad Street carries a posted speed limit of 25 miles per hour (mph). According to the Falls Church Comprehensive Plan, West Broad Street is classified as a principal arterial. As stated in the Plan, "principal arterials are high traffic volume corridors that serve the major centers of activity of metropolitan areas and carry the longest trips over relatively straight courses." Accordingly, it is one of the major thoroughfares for travelers within the City of Falls Church.

West Street. West Street is constructed as a two-lane, undivided, street with a posted speed limit of 25 mph. According to the Plan, West Street is classified as a minor arterial. As stated in the Plan, a minor arterial roadway "connects to and augments the principal arterial system. Minor arterials provide access to property abutting the street and carry lower traffic volumes and less through traffic than principal arterials." The intersection of West Broad Street and West Street operates under signal

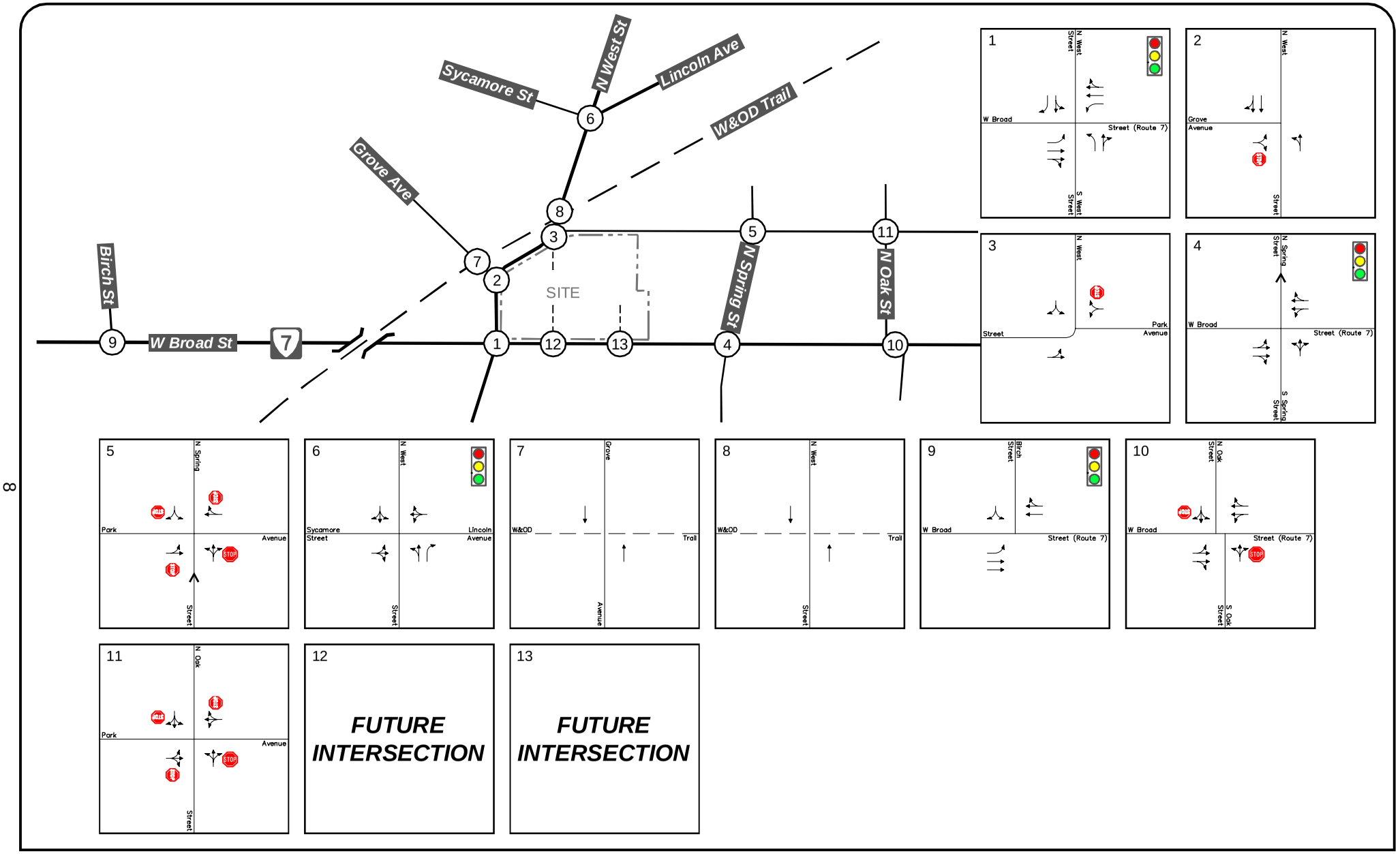

Figure 2–1
Existing Lane Use and Intersection Control

← Represents One Travel Lane
Signalized Intersection
Stop Sign

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

control.

Park Avenue. Park Avenue is a two-lane, undivided, local street with a posted speed limit of 25 mph that runs from North West Street east along the northern property boundary. On-street parking is permitted along Park Avenue.

Grove Avenue. Grove Avenue is a two-lane, undivided, local street with a posted speed limit of 25 mph that runs from North West Street northwest to Haycock Road proximate to the West Falls Church metrorail station. On-street parking is permitted along Grove Avenue.

Washington and Old Dominion (W&OD) Trail. The W&OD Trail is a major multi-use recreational trail that generally follows the former alignment of the Washington and Old Dominion railroad. In the vicinity of the subject site, the trail has at-grade crossings at both Grove Avenue and North West Street.

Public Transit Service. The subject site is served by the following WMATA Metrobus Routes:

- 28A – "Leesburg Pike Line"
- 28X – "Leesburg Pike Limited Line"
- 3T – "Pimmit Hills Line"

These bus routes all run along West Broad Street within the City of Falls Church and provide service to the West Falls Church metrorail station. Directly adjacent to the site, marked bus stops are provided along West Broad Street as shown on Figure 2-2.

Pedestrian Facilities. Sidewalks are generally provided along the roadways in the immediate area of the subject site. As shown on Figure 2-3, sidewalks are located on both sides of West Broad Street and Park Avenue, and along the south and east sides of West Street. The W&OD trail also provides regional pedestrian access. As shown, there is a current lack of marked crosswalks at certain intersections proximate to the subject site.

Future Transportation Network

Planned Roadway Improvements. The City of Falls Church Comprehensive Plan includes recommendations for the future design and functionality of City streets. A summary of the right-of-way and curb-to-curb section widths as recommended in the Plan is provided as follows:

Street	Right-of-Way Width	Curb-to-Curb Width
West Broad Street	90 feet	62 feet
West Street	40-50 feet	37-39 feet

West Broad Street is currently constructed to the ultimate planned section within 90 feet of public right-of-way. Similarly, West Street is constructed within its Comprehensive Plan recommended section. However, as part of this analysis, the City has requested the Applicant investigate ways to improve the performance and functionality of the North West Street/Park Avenue intersection. As part of this evaluation, past proposals and concepts for the reconfiguration of this intersection were considered. Details of the intersection analysis are provided later in this report.

Bicycle and Pedestrian Facilities. The Comprehensive Plan addresses the future bike/pedestrian facilities in and around the City. The Plan considers walking as a viable option that is "facilitated by a reasonable quality sidewalk network. Strengthening this network and other non-automotive transportation networks will be key to making the City more self-sustaining." One of the strategies outlined in the Plan include "improving pedestrian and bicycle safety throughout the city." The required actions include "pursuing the addition of sidewalks and bicycle trails in all areas where they are needed and where they are possible to build."

Figure 2–2
Existing Transit Service

WMATA Bus Routes 2B, 28A, and 28X

B Bus Stop

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

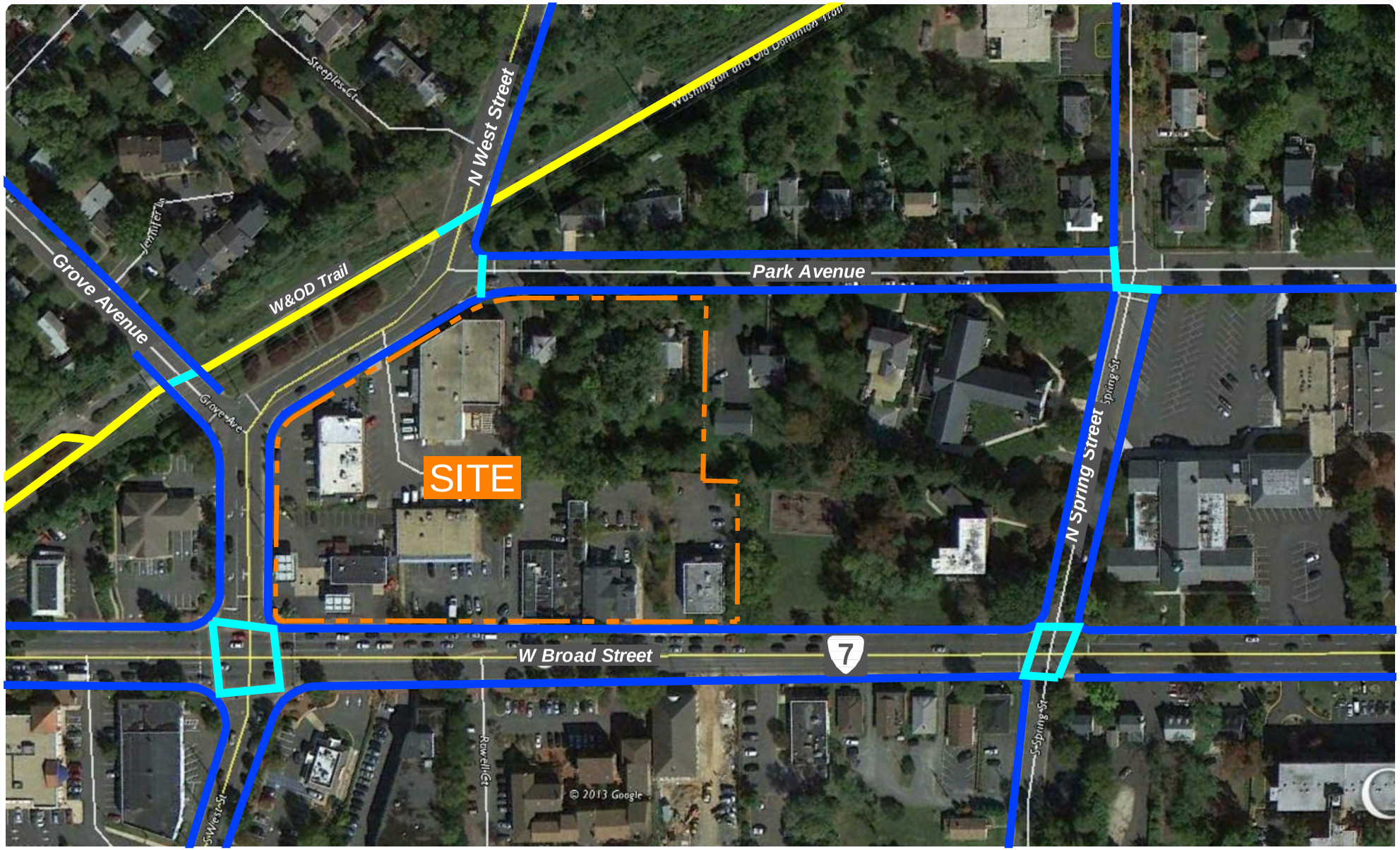

Figure 2–3
Existing Pedestrian Facilities

Sidewalk
Marked Crosswalk
W&OD Trail

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

The proposed mixed-use development will take advantage of the pedestrian/bicycle opportunities related to trip reduction and transportation demand management (described in greater detail later) and provide for amenities to encourage non-auto modes of travel. The applicant's development plan will enhance the pedestrian facilities by providing a complete sidewalk around its entire street frontage. The plan also shows the provision of crosswalks that will serve to connect the development with the surrounding pedestrian network.

To further enhance the pedestrian experience, the plan provides special paving and site furnishings. The enhanced streetscape is intended to encourage pedestrian and bicycle use, and strengthen connections to the W&OD Trail as well as adjacent commercial uses. Furthermore, the applicant has indicated a commitment to provide for bicycle storage facilities on-site for both residents and patrons.

Section 3
STUDY SCOPE AND ANALYSIS PARAMETERS

Overview

The Mason Row project is envisioned as a diverse mixed-use community of residential and retail/commercial uses. The primary advantages and assets associated with the community are its physical relationship and location adjacent to existing transit service and multi-modal network. The primary objective of this study is to assess the impacts associated with the proposed development plan on the surrounding street system.

This traffic study was conducted in general accordance with the City of Falls Church's "Guidelines for Development and Submittal of Traffic Impact Analysis (TIA)" and meetings/discussions with Wells + Associates, City staff, and the applicant. The traffic study scoping meeting between the applicant, City staff, and the City's traffic consultant (Sabra Wang) was held on August 15, 2013. Subsequent discussions further refined the desired study parameters and the City issued a letter, dated September 18, 2013, which finalized the scope. The scoping document and the City's letter are both provided in Appendix B.

Study Area

The study area was determined based on the intersections and roadways that potentially would be affected by implementation of the proposed development plan. The following intersections were selected for analysis and evaluation:

- West Broad Street/West Street
- North West Street/Grove Avenue
- North West Street/Park Avenue
- West Broad Street/Spring Street
- Park Avenue/North Spring Street
- North West Street/Lincoln Avenue
- Grove Avenue/W&OD Trail
- North West Street/W&OD Trail
- West Broad Street/Birch Street
- West Broad Street/Oak Street*
- Park Avenue/North Oak Street*
- All proposed site entrances

The intersections denoted with an asterisk (*) above were not initially proposed for analysis. City staff and the City's traffic consultant deemed that these intersections were critical to the analysis and requested these be added to the scope.

Study Methodology

Traffic (or site) impact studies are generally required by jurisdictions to assess the level of impact proposed changes in land use or development could have on a community's transportation system. Traffic impact studies focus on access to/from a property and those off-site local intersections that would potentially be impacted by traffic from the proposed development or land use change. Utilizing a four-step process, intersections are evaluated in terms of levels of service and then appropriate mitigation measures are identified to remediate sub-standard levels of service. The four-step planning process consists of trip generation, trip distribution, a determination of mode split, and traffic assignment.

As recommended by the City, trip generation estimates were developed based on standard Institute of Transportation Engineers (ITE), 9th edition, Trip Generation rates/equations for all land uses. As directed by staff, a transit/mode-split reduction of 5% was utilized. Furthermore, appropriate internal trip reductions were accounted for due to the mixed-use nature of the redevelopment and that certain trips would travel internal to the site. Appropriate pass-by reductions were applied for the retail components of the site in recognition that these uses would likely attract existing vehicles currently present along City roadways. Directional distributions and traffic assignments were developed based on a review of existing travel patterns, data from other traffic studies, local knowledge and experience, and engineering judgment and agreed to among the parties.

Levels of service and vehicle queues were estimated using established Highway Capacity Manual 2000 methodologies as reported by Synchro software, version 7. Synchro is a macroscopic analysis tool

and has the advantage of analyzing not only individual intersection performance but also how the performance measures of the intersection relate to other intersections in the same network. Important roadway network parameters, such as signal coordination/offsets and vehicle progression, are included in the Synchro analysis.

Assumed Site Development Program

For purposes of this analysis, the following types and levels of development were analyzed:

- 53,043 gross square feet (GSF) of retail uses.
- A 51,329 GSF movie theater.
- 5,939 GSF of office uses.
- A 150-room hotel.
- 340 apartment dwelling units.

For purposes of this assessment, buildout of the project is anticipated to occur in a single phase by the year 2019.

Analysis Study Periods

As requested by City staff, the intersections within the study area were analyzed under weekday AM and PM peak hour conditions.

Regional Growth

Through conversations/discussions with City staff, a 1% per year compounded growth rate was applied to existing traffic to account for background traffic growth.

Other Approved/Planned Developments

Background developments to be included in this analysis include the following planned (i.e. "pipeline") developments:

- 706 West Broad Street/707 Park Avenue
- 301 West Broad Street

Both of these proposed pipeline developments are mixed-use projects currently consisting of both residential and retail components.

Existing Traffic Volumes

Existing weekday AM and PM peak hour turning movement and pedestrian counts were conducted on Thursday, September 12, 2013 at the following intersections from 6:00 AM to 9:00 AM and from 4:00 PM to 7:00 PM:

- West Broad Street/West Street
- North West Street/Grove Avenue
- North West Street/Park Avenue
- West Broad Street/Spring Street
- Park Avenue/North Spring Street
- North West Street/Lincoln Avenue
- Grove Avenue/W&OD Trail
- North West Street/W&OD Trail

In addition, all existing site driveways were counted on September 12, 2013 in order to understand the existing trip generation characteristics of the site. On Saturday, September 14, 2013, additional Saturday midday peak hour turning movement and pedestrian counts were performed by Wells + Associates at the two W&OD Trail crossings at the request of the Northern Virginia Regional Park Authority (NVRPA).

Peak hour volumes for the following two intersections were taken from the *706 West Broad Street Traffic Impact Study*, prepared by Patton Harris Rust & Associates (PHR&A):

- West Broad Street/Oak Street
- Park Avenue/North Oak Street

The mainline volumes from the traffic counts were then balanced between intersections in order to provide a more representative picture of traffic conditions for analysis purposes.

The existing vehicle traffic volumes used in the analysis are provided on Figure 3-1. Existing pedestrian counts are provided on Figure 3-2. All counts data are included in Appendix C.

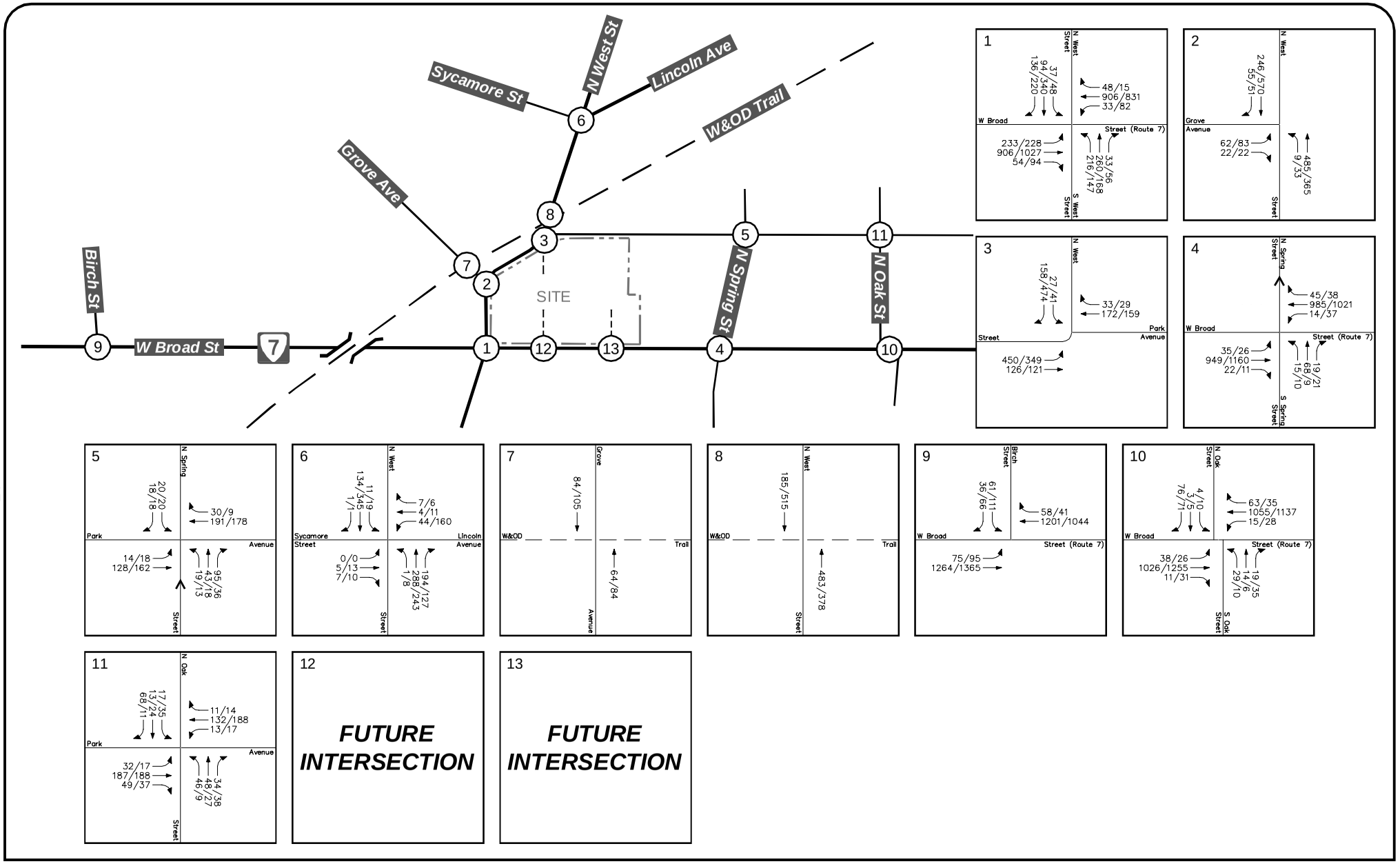

Figure 3–1
Existing Traffic Volumes

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

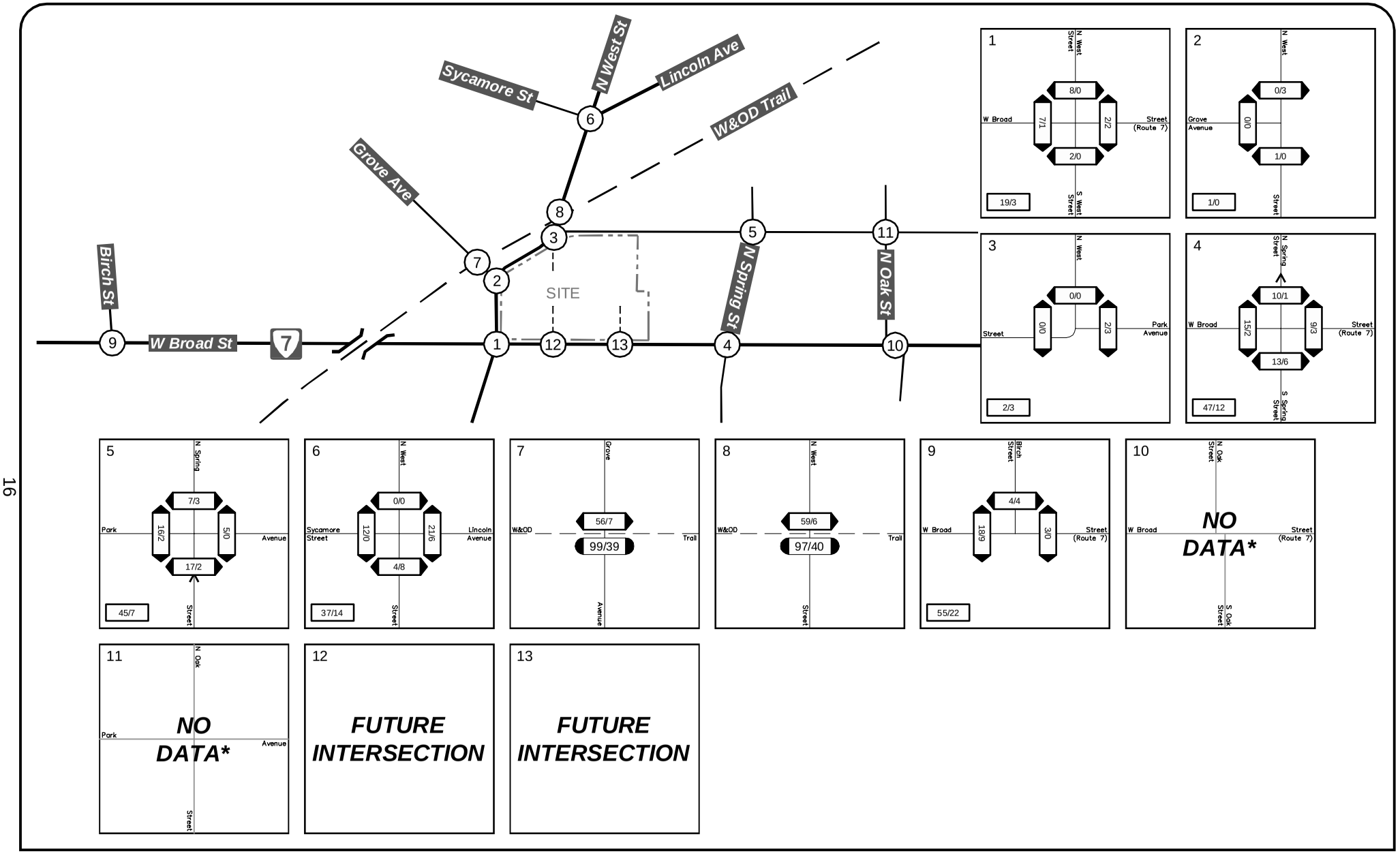

Figure 3–2
Existing Pedestrian Volumes

* Intersection Data gathered from 706 W. Broad Street and 707 Park Avenue TIA

000/000 Pedestrian Volumes

000/000 Bicycle Volumes

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

Section 4
EXISTING CONDITIONS ANALYSIS

Existing Intersection Levels of Service

Peak hour levels of service were calculated for the study intersections based on the existing lane use and traffic controls shown on Figure 2-1, the existing traffic volumes shown on Figures 3-1 and 3-2, signal timings/phasings obtained from the City of Falls Church and the Virginia Department of Transportation (VDOT) as included in the base Synchro files, and the 2000 Highway Capacity Manual (HCM) analysis procedures for signalized and unsignalized intersections. The results are presented in Appendix D and summarized on Table 4-1 and Figure 4-1. Descriptions of levels of service are provided as Appendix E.

As reflected in Table 4-1, certain critical movements at the unsignalized intersection of West Broad Street and Oak Street are operating at or near theoretical capacity (LOS "F") during peak hours. These minor street approaches experience significant delays waiting for adequate gaps in the West Broad Street traffic stream before drivers attempt their turning maneuvers. It should be noted that the side-street delays reported by the analysis software may not reflect actual delays. Based on field data collection conducted by Wells + Associates on other projects within the City, actual STOP controlled delays may be less than HCM estimates as drivers may accept smaller gaps in traffic or may choose alternate routes if their desired turn is hindered. Mainline movements are not impacted at these intersections.

The signalized intersections currently operate at overall adequate levels of service (LOS "D" or better) based on the analysis results. The only exception is the West Broad Street/West Street intersection, which operates at LOS "E" during the PM peak hour.

Existing Intersection Queuing

As requested by staff, an analysis of intersection 95th-percentile queues was performed at key locations. The results of the queuing analysis, as reported by Synchro, are summarized in Table 4-2.

As shown in the table, 95th-percentile queues at the West Broad Street/West Street intersection currently extend beyond the available turn bay distance at times. Specifically, the eastbound left turn queue from West Broad Street on to northbound West Street exceeds the available storage. The presence of adjacent turn lanes and the W&OD Trail aerial crossing make extending this turn bay problematic. In addition, the northbound and southbound queues on West Street at West Broad Street extend beyond upstream intersections and driveway entrances during peak hours. All other queues can be accommodated within the storage provided.

Table 4-1
Mason Row
Existing Intersection Levels of Service Summary [(1)(2)(3)(4)]

Intersection	Control	Lane Group	Existing AM	Existing PM
1. **N West Street**/W Broad Street	Signal	EBL	F (100.6)	F (82.8)
		EBTR	C (24.1)	C (32.7)
		WBL	C (26.0)	D (36.5)
		WBTR	D (41.0)	C (33.3)
		NBL	E (56.0)	D (52.5)
		NBTR	F (98.8)	E (72.9)
		SBLT	D (49.0)	F (199.8)
		SBR	C (34.0)	D (45.4)
		Overall	**D (47.3)**	**E (60.3)**
2. **N West Street**/Grove Street	STOP	EBLR	C [19.2]	E [43.8]
		NBLT	A [0.2]	A [1.2]
3. **N West Street**/Park Avenue	STOP	WBLR	D [33.7]	D [29.9]
		SBLT	A [1.6]	A [1.2]
4. W Broad Street/**N Spring Street**	Signal	EBLTR	B (15.6)	A (2.4)
		WBTR	A (7.6)	A (4.5)
		NBLTR	C (23.3)	E (56.0)
		Overall	**B (12.0)**	**A (4.4)**
5. Park Avenue/**N Spring Street**	All-way STOP	EBLT	A [9.3]	A [9.1]
		WBTR	A [10.0]	A [9.1]
		NBLTR	A [9.2]	A [8.2]
		SBLR	A [8.4]	A [8.2]
		Overall	**A [9.4]**	**A [8.9]**
6. **N West Street**/Lincoln Avenue	Signal	EBLTR	D (54.3)	C (34.7)
		WBLTR	D (46.2)	C (29.1)
		NBLT	A (4.8)	C (26.5)
		NBR	A (4.4)	C (21.8)
		SBLTR	A (4.2)	C (31.0)
		Overall	**A (9.0)**	**C (28.3)**
9. W Broad Street/**Birch Street**	Signal	EBL	A (8.8)	A (6.9)
		EBT	A (6.6)	A (7.8)
		WBTR	A (9.7)	C (22.7)
		SBLR	D (48.7)	E (63.8)
		Overall	**A (9.6)**	**B (17.6)**
10. W Broad Street/**N Oak Street**	STOP	EBLTR	A [2.3]	A [1.6]
		WBLTR	A [0.7]	A [1.7]
		NBLTR	F [639.1]	F [418.4]
		SBLTR	F [63.9]	F [293.8]
11. Park Avenue/**N Oak Street**	All-way STOP	EBLTR	B [11.3]	B [10.3]
		WBLTR	A [9.8]	B [10.1]
		NBLTR	A [9.7]	A [8.8]
		SBLTR	A [9.0]	A [9.1]
		Overall	**B [10.3]**	**A [9.9]**

Notes:
(1) Numbers in parentheses ( ) represent delay at signalized intersections in seconds per vehicle.
(2) Numbers in square brackets [ ] represent delay at unsignalized intersections in seconds per vehicle.
(3) Roadways in **BOLD** are considered North/South for purposes of this analysis
(4) Asterisks * represent delays in excess of 999.9 seconds.

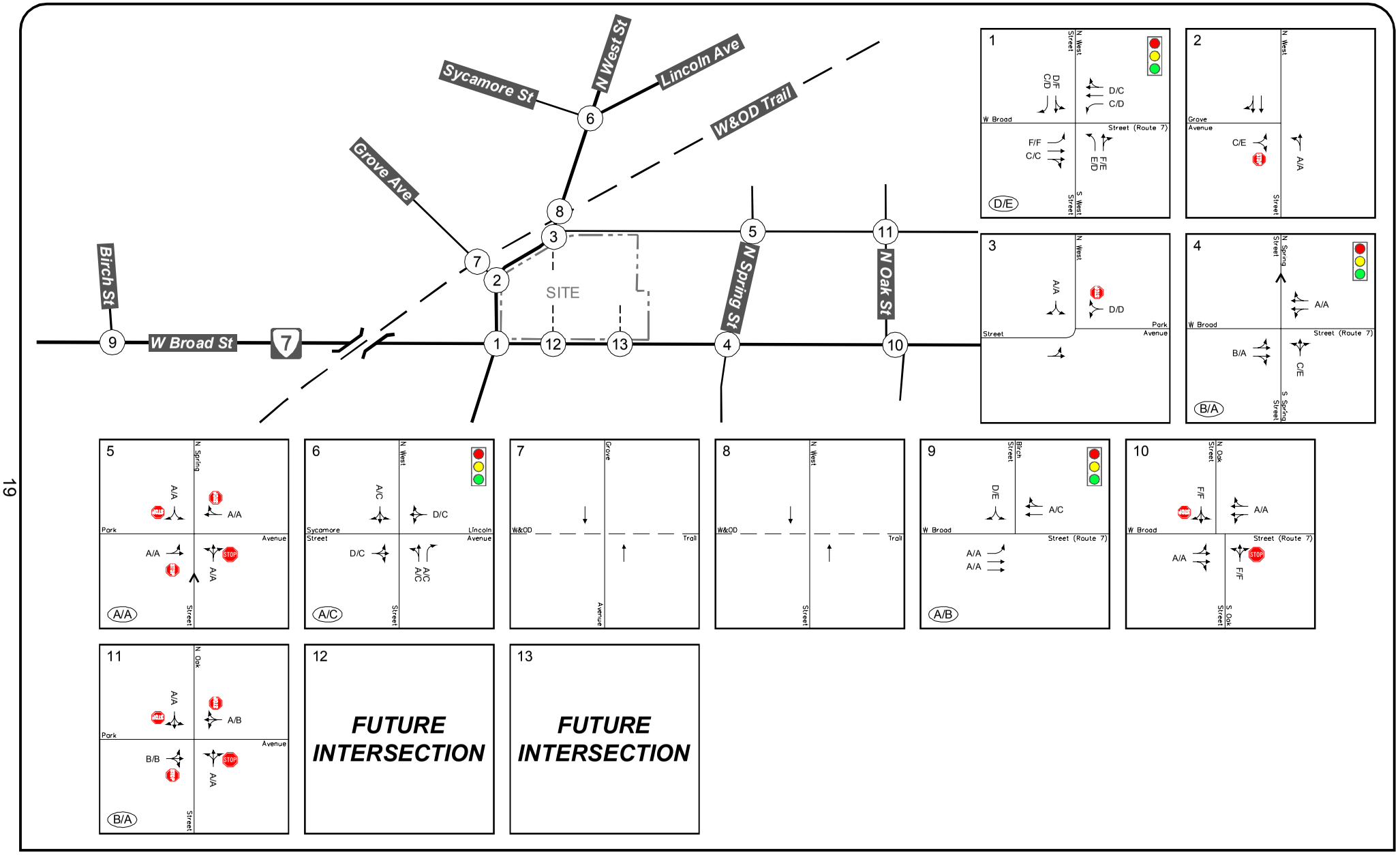

Figure 4–1
Existing Levels of Service

X/X Lane Group Level of Service
(X/X) Overall Level of Service

Represents One Travel Lane
Signalized Intersection
Stop Sign

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

Table 4-2
Mason Row
Existing Intersection Queues [(1)(2)(3)(4)(5)]

Intersection	Control	Lane Group	Available Storage	Existing AM	Existing PM
1. **N West Street**/W Broad Street	Signal	EBL	175	#321	#305
		EBTR	N/A	474	#674
		WBL	140	m26	93
		WBTR	N/A	#534	328
		NBL	250	#281	196
		NBTR	N/A	#424	#303
		SBLT	N/A	165	#656
		SBR	N/A	91	99
2. **N West Street**/Grove Street	STOP	EBLR	N/A	28	76
		NBLT	N/A	1	3
3. **N West Street**/Park Avenue	STOP	WBLR	N/A	118	98
		SBLT	N/A	3	3
4. W Broad Street/**N Spring Street**	Signal	EBLTR	N/A	m508	m55
		WBTR	N/A	203	211
		NBLTR	N/A	61	53
5. Park Avenue/**N Spring Street** [(6)]	All-way STOP	EBLT	N/A	74	64
		WBTR	N/A	53	49
		NBLTR	N/A	64	39
		SBLR	N/A	41	46
6. **N West Street**/Lincoln Avenue	Signal	EBLTR	N/A	22	30
		WBLTR	N/A	71	159
		NBLT	N/A	127	205
		NBR	150	26	39
		SBLTR	N/A	65	308
9. W Broad Street/**Birch Street**	Signal	EBL	300	30	43
		EBT	N/A	288	380
		WBTR	N/A	517	507
		SBLR	N/A	113	213
10. W Broad Street/**N Oak Street**	STOP	EBLTR	N/A	6	4
		WBLTR	N/A	2	5
		NBLTR	N/A	183	139
		SBLTR	N/A	89	193
11. Park Avenue/**N Oak Street** [(6)]	All-way STOP	EBLTR	N/A	77	72
		WBLTR	N/A	66	71
		NBLTR	N/A	61	55
		SBLTR	N/A	56	55

Notes:
(1) Queue length is based on the 95th percentile queue in feet as reported by Synchro, Version 7.
(2) "#" indicates that the 95th percentile volume exceeds capacity, queue may be longer.
(3) "m" indicates that the volume for 95th percentile queue is metered by upstream signal.
(4) Roadways in **BOLD** are considered North/South for purposes of this analysis
(5) "*" indicates that the volume exceeds capacity, queue is theoretically infinite.
(6) Queue length analyzed with SimTraffic 7.

Section 5

ANALYSIS OF FUTURE CONDITIONS WITHOUT SITE DEVELOPMENT

Overview

Forecasts for traffic conditions without the development of the Mason Row project were estimated at key study intersections based on a composite of existing traffic, regional traffic growth, and pipeline development trips as described in Section 3 of this report. Future levels of service and queues under these forecasted conditions were evaluated at the key study intersections.

Regional Traffic Growth

For purposes of this traffic assessment, a study horizon year of 2019 was assumed for the anticipated build-out of the subject development. In order to develop future traffic forecasts, the existing traffic volumes shown on Figure 3-1 were adjusted to account for increases associated with regional traffic growth.

In order to account for a continued pattern of growth, a rate of one (1) percent per year compounded was applied to all existing mainline volumes within the study area. This rate is compatible with other area studies. The resulting increases in traffic volumes due to regional growth are depicted on Figure 5-1.

Traffic from Other Approved/Pending Developments

At the request of staff, the following approved or pending (i.e., "pipeline") developments were included in the forecasting of future traffic conditions:

- 706 West Broad Street
- 301 West Broad Street

The land use assumptions for each of these pipeline developments is summarized as follows and, as much as possible, are based on the most current development plans for each respective site and/or application.

706 West Broad Street
- 110-Room Hotel
- 5,439 gross square feet of office uses

301 West Broad Street
- 294 multifamily residential dwelling units
- 60,883 gross square foot supermarket
- 4,011 gross square feet of retail uses

Trips generated by these pipeline developments were estimated using ITE Trip Generation rates/equations consistent with their respective traffic studies. The trips are summarized in Table 5-1. Internal trip reductions and pass-by trip rates, as applicable, were applied to this analysis consistent with the background traffic studies. It should be noted that the trip generation estimates associated with these pipeline developments are not based on economic prediction models.

The pipeline development trips summarized in Table 5-1 were assigned to the public street network consistent with the directional distributions used in the background traffic studies. Trip assignments related to each individual pipeline development are provided in Appendix F. The sum total of all pipeline development related trips through each study intersection is summarized on Figure 5-2.

Background Traffic Forecasts

The existing traffic forecasts depicted on Figure 3-1, the regional growth shown on Figure 5-1, and the pipeline trip assignments shown on Figure 5-2 were added together to yield the background future traffic forecasts shown on Figure 5-3 for the study intersections.

Background Future Levels of Service

Capacity analyses of 2019 future traffic conditions without the proposed redevelopment are provided in Appendix G and summarized in Table 5-2. The forecasted levels of service are also depicted graphically on Figure 5-4.

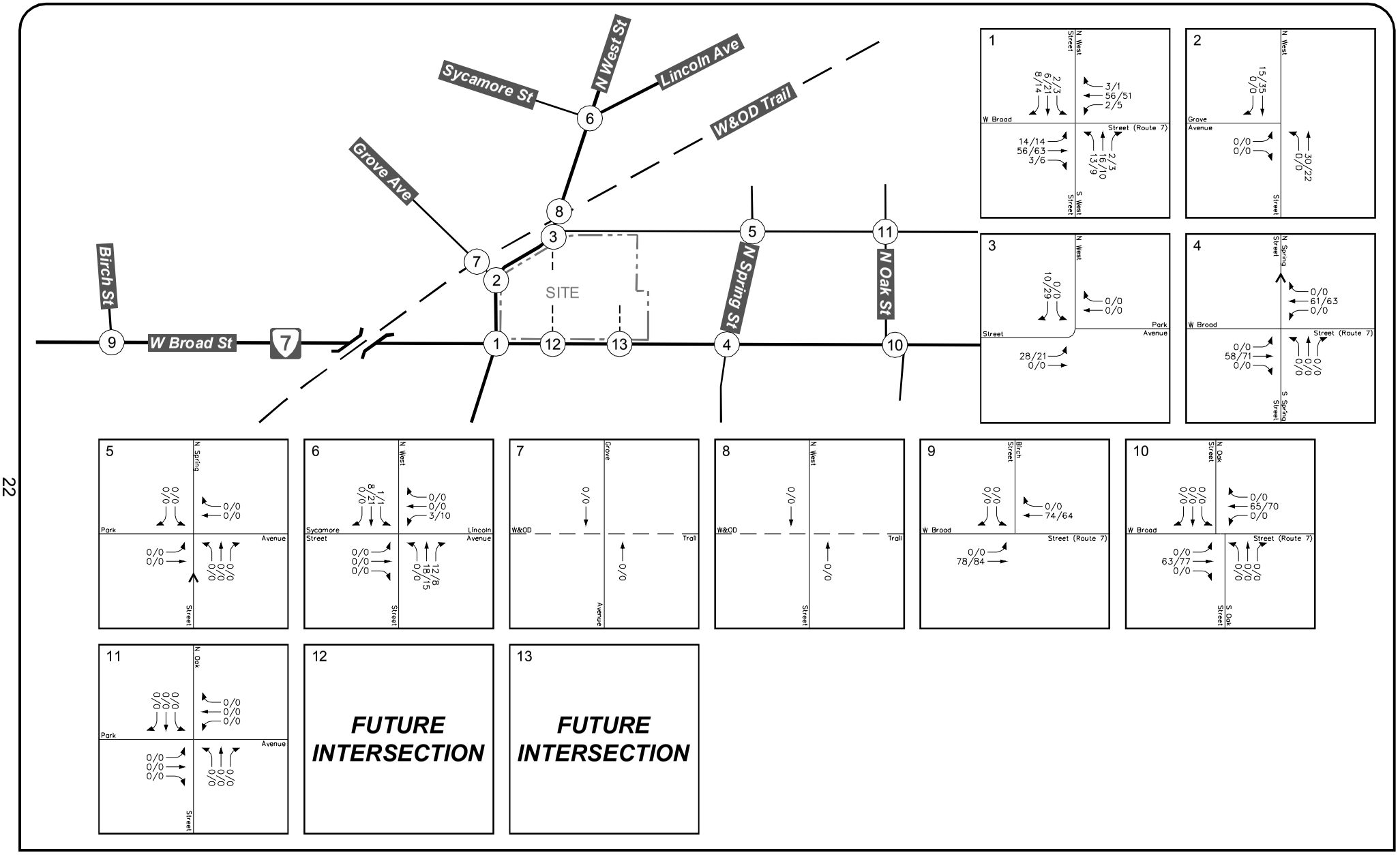

Figure 5–1
Regional Traffic Growth

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

Table 5-1
Mason Row
Pipeline Development Trip Generation Analysis [1]

Pipeline Development	Land Use Code	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	ADT
301 W Broad Street (2)										
Apartment	220	294	DU	30	118	148	116	63	179	2,052
Internal Trips Reduction				(2)	(6)	(8)	(12)	(6)	(18)	205
Total Residential External Trips				28	112	140	104	57	161	1847
Supermarket	850	60,883	GSF	134	85	219	325	312	637	10,812
Specialty Retail Center	814	4,011	GSF	2	2	4	14	17	31	169
Subtotal Retail Trips				136	87	223	339	329	668	10,981
Internal Trips Reduction				(6)	(2)	(8)	(6)	(12)	(18)	205
Subtotal Retail Trips				130	85	215	333	317	650	10,776
Pass by Trips Reduction				(47)	(31)	(78)	(120)	(114)	(234)	3,879
Total Retail External Trips				83	54	137	213	203	416	6,897
Existing Counts				19	20	39	48	36	84	1,196
Total Net New External Trips (Less Existing Trips)				**92**	**146**	**238**	**269**	**224**	**493**	**7,548**
706 W Broad Street/707 Park Avenue										
Hotel	310	110	rooms	38	24	62	34	31	65	899
Medical Office	710	5,439	GSF	10	3	13	5	14	19	197
			Total Trips	**48**	**27**	**74**	**39**	**44**	**84**	**1,095**
Total Pipeline Development Trip Generation				**140**	**173**	**312**	**308**	**268**	**577**	**8,643**

Note(s):
(1) Trip generation based on the Institute of Transportation Engineers' Trip Generation, 8th Edition.
(2) Trip generation taken from the "301 W. Broad Street - Traffic Impact Study" prepared by Gorove/Slade Associates, dated January 23, 2013

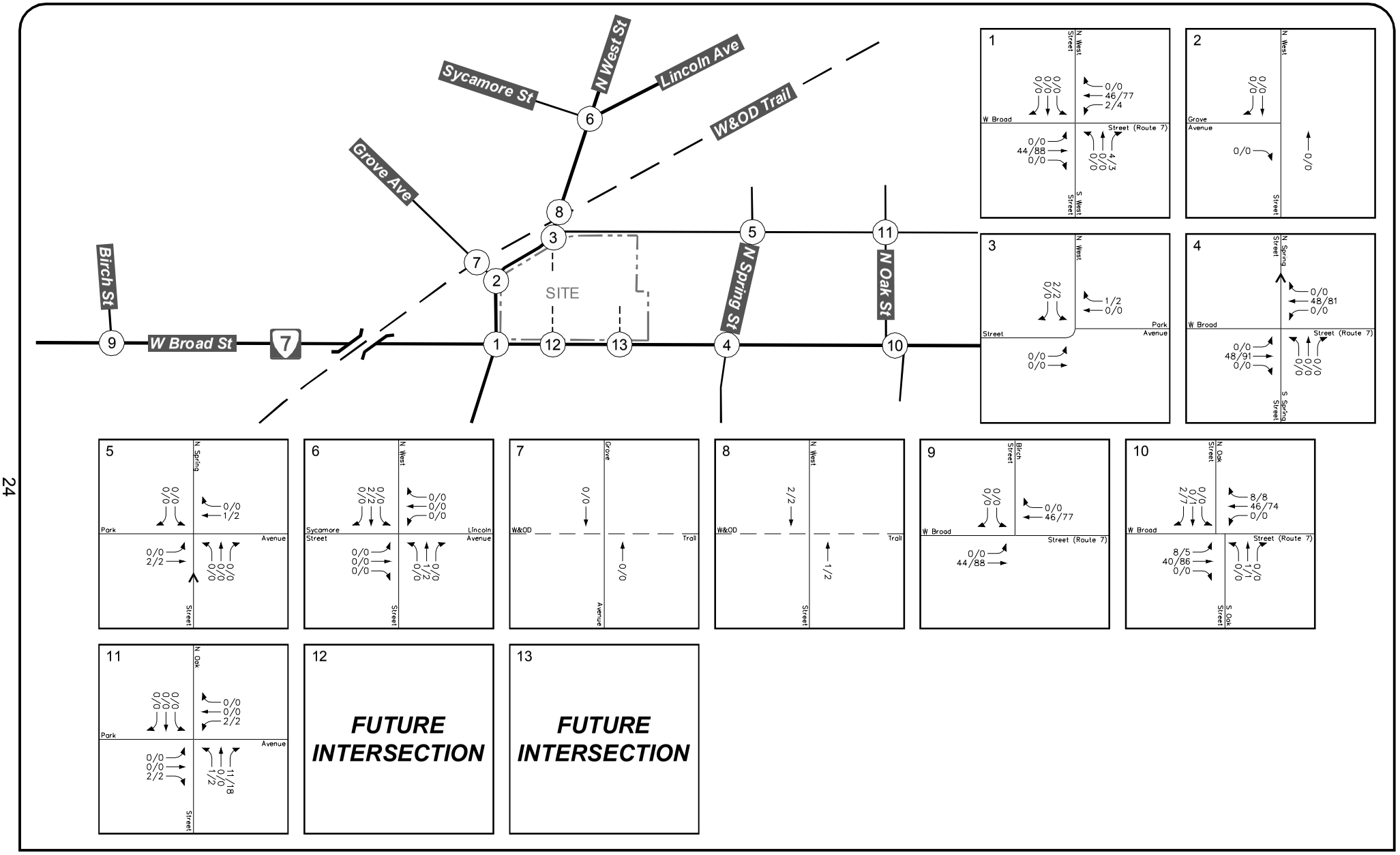

Figure 5-2
Pipeline Trip Assignments

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

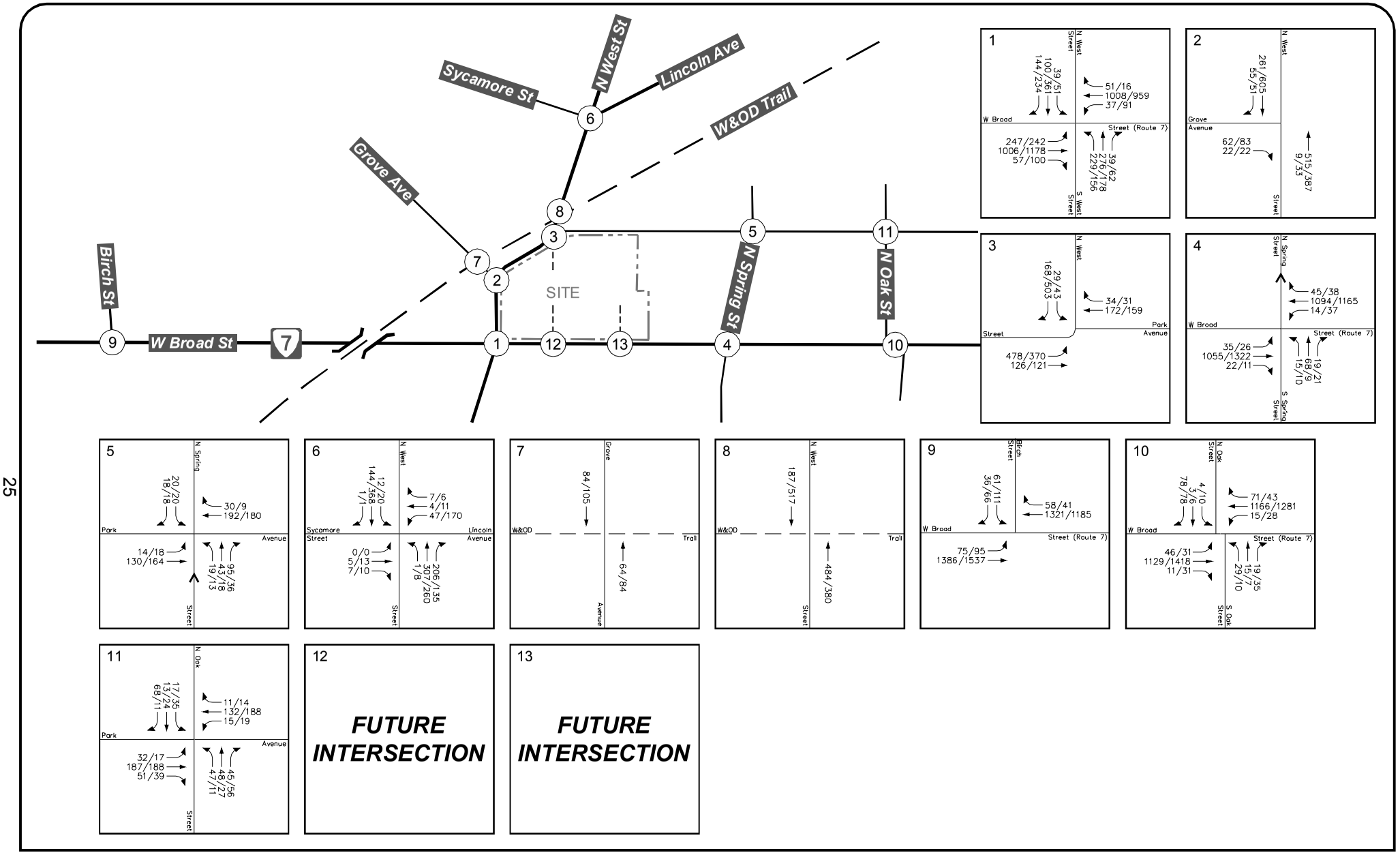

Figure 5–3
Background Future Traffic Forecasts

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

Table 5-2
Mason Row
Background Intersection Levels of Service Summary [1][2][3][4]

Intersection	Control	Lane Group	Existing AM	Existing PM	Background AM	Background PM
1. **N West Street**/W Broad Street	Signal	EBL	F (100.6)	F (82.8)	F (188.3)	F (136.7)
		EBTR	C (24.1)	C (32.7)	C (27.8)	D (51.1)
		WBL	C (26.0)	D (36.5)	C (26.9)	D (41.2)
		WBTR	D (41.0)	C (33.3)	D (45.3)	D (37.4)
		NBL	E (56.0)	D (52.5)	D (54.5)	D (52.4)
		NBTR	F (98.8)	E (72.9)	F (97.0)	E (76.5)
		SBLT	D (49.0)	F (199.8)	D (48.8)	F (231.2)
		SBR	C (34.0)	D (45.4)	C (34.1)	D (45.9)
		Overall	**D (47.3)**	**E (60.3)**	**E (55.6)**	**E (74.7)**
2. **N West Street**/Grove Street	STOP	EBLR	C [19.2]	E [43.8]	C [19.3]	F [50.8]
		NBLT	A [0.2]	A [1.2]	A [0.2]	A [1.2]
3. **N West Street**/Park Avenue	STOP	WBLR	D [33.7]	D [29.9]	D [31.9]	D [28.9]
		SBLT	A [1.6]	A [1.2]	A [1.7]	A [1.2]
4. W Broad Street/**N Spring Street**	Signal	EBLTR	B (15.6)	A (2.4)	B (18.1)	A (4.1)
		WBTR	A (7.6)	A (4.5)	A (7.7)	A (5.1)
		NBLTR	C (23.3)	E (56.0)	C (23.2)	E (55.9)
		Overall	**B (12.0)**	**A (4.4)**	**B (13.2)**	**A (5.3)**
5. Park Avenue/**N Spring Street**	All-way STOP	EBLT	A [9.3]	A [9.1]	A [9.0]	A [8.9]
		WBTR	A [10.0]	A [9.1]	A [9.6]	A [8.9]
		NBLTR	A [9.2]	A [8.2]	A [8.9]	A [8.1]
		SBLR	A [8.4]	A [8.2]	A [8.2]	A [8.1]
		Overall	**A [9.4]**	**A [8.9]**	**A [9.1]**	**A [8.7]**
6. **N West Street**/Lincoln Avenue	Signal	EBLTR	D (54.3)	C (34.7)	D (53.5)	C (34.7)
		WBLTR	D (46.2)	C (29.1)	D (46.2)	C (29.2)
		NBLT	A (4.8)	C (26.5)	A (4.9)	C (27.0)
		NBR	A (4.4)	C (21.8)	A (4.4)	C (21.9)
		SBLTR	A (4.2)	C (31.0)	A (4.3)	C (32.3)
		Overall	**A (9.0)**	**C (28.3)**	**A (8.6)**	**C (29.0)**
9. W Broad Street/**Birch Street**	Signal	EBL	A (8.8)	A (6.9)	A (8.6)	A (8.0)
		EBT	A (6.6)	A (7.8)	A (6.6)	A (8.4)
		WBTR	A (9.7)	C (22.7)	A (8.4)	C (24.4)
		SBLR	D (48.7)	E (63.8)	D (48.6)	E (62.4)
		Overall	**A (9.6)**	**B (17.6)**	**A (8.9)**	**B (18.0)**
10. W Broad Street/**N Oak Street**	STOP	EBLTR	A [2.3]	A [1.6]	A [2.8]	A [2.2]
		WBLTR	A [0.7]	A [1.7]	A [0.7]	A [2.1]
		NBLTR	F [639.1]	F [418.4]	F [976.3]	F [*]
		SBLTR	F [63.9]	F [293.8]	F [804.7]	F [*]
11. Park Avenue/**N Oak Street**	All-way STOP	EBLTR	B [11.3]	B [10.3]	B [10.7]	A [10.0]
		WBLTR	A [9.8]	B [10.1]	A [9.5]	A [9.8]
		NBLTR	A [9.7]	A [8.8]	A [9.5]	A [8.7]
		SBLTR	A [9.0]	A [9.1]	A [8.8]	A [9.0]
		Overall	**B [10.3]**	**A [9.9]**	**A [9.9]**	**A [9.6]**

Notes:
(1) Numbers in parentheses ( ) represent delay at signalized intersections in seconds per vehicle.
(2) Numbers in square brackets [ ] represent delay at unsignalized intersections in seconds per vehicle.
(3) Roadways in **BOLD** are considered North/South for purposes of this analysis
(4) Asterisks * represent delays in excess of 999.9 seconds.

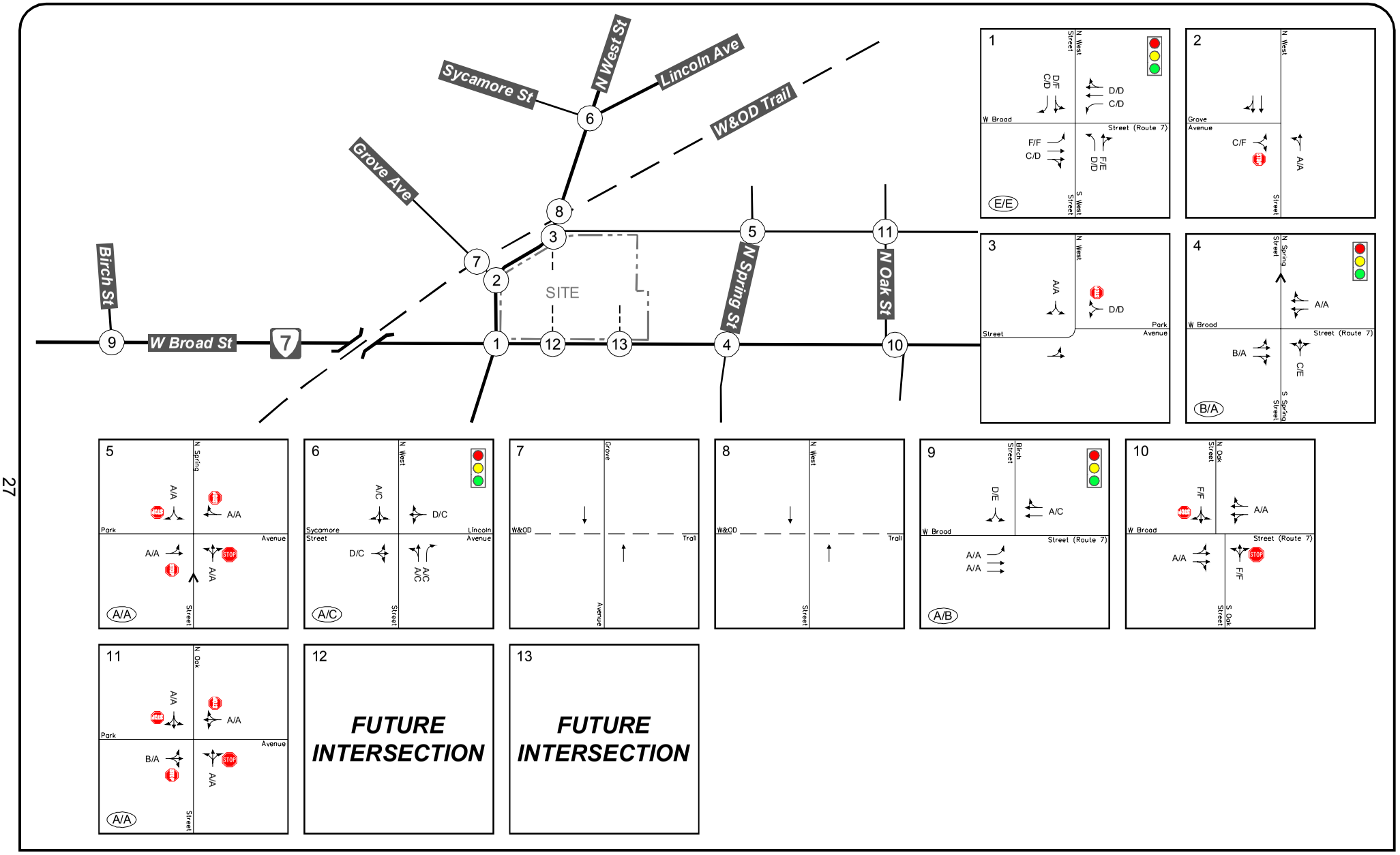

Figure 5–4
Background Future Levels of Service

X/X Lane Group Level of Service
(X/X) Overall Level of Service

Represents One Travel Lane
Signalized Intersection
Stop Sign

North

Mason Row
City of Falls Church, Virginia

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As shown on Table 5-2, delays and levels of service do not change significantly from existing (2013) to background future (2019) conditions. Critical movements at the unsignalized intersections on West Broad Street will continue to operate at or near capacity during one or more peak periods (LOS "F") due to heavy mainline through movements which are further exacerbated by increases in traffic resulting from regional growth and pipeline development.

The signalized intersections continue to operate at levels of service consistent with existing LOS. The exception is that the West Broad Street/West Street intersection would worsen from LOS "D" to LOS "E" under future background conditions.

Background Future Queuing

As requested by staff, an analysis of intersection queues was performed at key locations under background future traffic conditions. The results of the queuing analysis, with and without the recommended background improvement, are summarized in Table 5-3.

As shown in the table, under background future conditions, 95th-percentile queues would increase over existing conditions as a result of regional growth and future pipeline development. Consistent with existing conditions, certain turning movement queues would exceed the available storage length at the West Broad Street/West Street intersection during weekday peak hours.

Table 5-3
Mason Row
Background Intersection Queues [1][2][3][4][5]

Intersection	Control	Lane Group	Available Storage	Existing AM	Existing PM	Background AM	Background PM
1. **N West Street**/W Broad Street	Signal	EBL	175	#321	#305	#390	#370
		EBTR	N/A	474	#674	#588	#821
		WBL	140	m26	93	m28	113
		WBTR	N/A	#534	328	#626	406
		NBL	250	#281	196	#303	208
		NBTR	N/A	#424	#303	#462	#335
		SBLT	N/A	165	#656	172	#703
		SBR	N/A	91	99	100	116
2. **N West Street**/Grove Street	STOP	EBLR	N/A	28	76	26	86
		NBLT	N/A	1	3	1	3
3. **N West Street**/Park Avenue	STOP	WBLR	N/A	118	98	105	89
		SBLT	N/A	3	3	3	4
4. W Broad Street/**N Spring Street**	Signal	EBLTR	N/A	m508	m55	m561	m82
		WBTR	N/A	203	211	236	259
		NBLTR	N/A	61	53	61	53
5. Park Avenue/**N Spring Street** [6]	All-way STOP	EBLT	N/A	71	80	90	75
		WBTR	N/A	72	64	69	57
		NBLTR	N/A	69	47	63	38
		SBLR	N/A	46	48	48	48
6. **N West Street**/Lincoln Avenue	Signal	EBLTR	N/A	22	30	22	31
		WBLTR	N/A	71	159	73	165
		NBLT	N/A	127	205	135	218
		NBR	150	26	39	26	40
		SBLTR	N/A	65	308	69	332
9. W Broad Street/**Birch Street**	Signal	EBL	300	30	43	30	41
		EBT	N/A	288	380	330	452
		WBTR	N/A	517	507	596	577
		SBLR	N/A	113	213	111	214
10. W Broad Street/**N Oak Street**	STOP	EBLTR	N/A	6	4	8	6
		WBLTR	N/A	2	5	2	6
		NBLTR	N/A	183	139	206	*
		SBLTR	N/A	89	193	249	*
11. Park Avenue/**N Oak Street** [6]	All-way STOP	EBLTR	N/A	88	74	85	65
		WBLTR	N/A	63	97	69	81
		NBLTR	N/A	65	49	63	66
		SBLTR	N/A	54	49	57	51

Notes:
(1) Queue length is based on the 95th percentile queue in feet as reported by Synchro, Version 7.
(2) "#" indicates that the 95th percentile volume exceeds capacity, queue may be longer.
(3) "m" indicates that the volume for 95th percentile queue is metered by upstream signal.
(4) Roadways in **BOLD** are considered North/South for purposes of this analysis
(5) "*" indicates that the volume exceeds capacity, queue is theoretically infinite.
(6) Queue length analyzed with SimTraffic 7.

Section 6
SITE ANALYSIS

Overview

As part of the four-step process described previously, trips anticipated to be generated by the proposed redevelopment plan were forecasted and then assigned to the surrounding roadway network based on a trip distribution. The generation, distribution, and assignment of site trips were based on the proposed development plan and program as well as the locations of future site entrances in relation to the surrounding roadway network.

Existing Site Trips

As stated previously, the site is currently developed with a number of existing commercial uses as well as three residential lots. The redevelopment plan proposes razing these existing uses in order to develop the site. As a result, trips currently generated by these uses would no longer be experienced on the surrounding roadway network. Driveway counts were conducted at each of the existing site driveways in order to determine the number of existing trips that should be removed from the network. These driveway count data are provided in Appendix H and summarized in Table 6-1. As shown in Table 6-1, the current site uses generate 216 weekday AM and 120 weekday PM peak hour trips. For purposes of forecasting future traffic conditions with the proposed redevelopment plan, these trips were removed at key study intersections based on these driveway counts as shown on Figure 6-1.

Proposed Site Access

A reduction of the proposed redevelopment plan is provided on Figure 1-2. As shown, the plan depicts two points of site access along West Broad Street. The westernmost access would operate as a right-in/right-out partial movement intersection. The easternmost would operate as a full-movement intersection. Full-movement access would be provided at the intersection of North West Street and Park Avenue pending a reconfiguration of the intersection. The analysis of these site access points are detailed in Section 7 of this report. The future lane use and intersection controls (with the proposed site entrances) are provided on Figure 6-2.

Trip Generation

Overview. Trip generation estimates for the AM, and PM peak hours, as well as the weekday average daily traffic (ADT), were derived from the standard Institute of Transportation Engineers (ITE) trip generation rates, as published in the 9th edition. The rates used for the analysis were for land uses "apartments" (Land Use Code 220) for the residential component, "specialty retail" (826) for the retail portion, "general office" (LUC 710) for the office uses, "movie theater with matinee" (LUC 444) for the proposed theater, and "hotel" (LUC 310) for the proposed hotel portion. The trip generation analysis is presented in Table 6-1.

Internal Trips. The redevelopment plan, as proposed by Spectrum Development LLC reflects a mix of retail, hotel, and residential uses. It is not unreasonable to assume that due to the nature of the mix of uses, a portion of trips generated by the site would be "captured" trips; that are trips internal to the development, and not new trips to the roadway network.

By its nature and character of uses, the land uses within the new development would experience a naturally occurring synergy. That is, a proportion of individual residential trips may then utilize the retail uses or retail customers that would take advantage of trip combining to conduct a multitude of trips. As a result of this naturally occurring synergy, some reduction in future volumes is likely. Given the variety of retail uses proposed and through conversation with City of Falls Church staff, an internal allowance of 5%/10% for the AM/PM peak hours, respectively, was applied between the residential/hotel and retail components of the generated trips. This internal trip reduction is shown in Table 6-1.

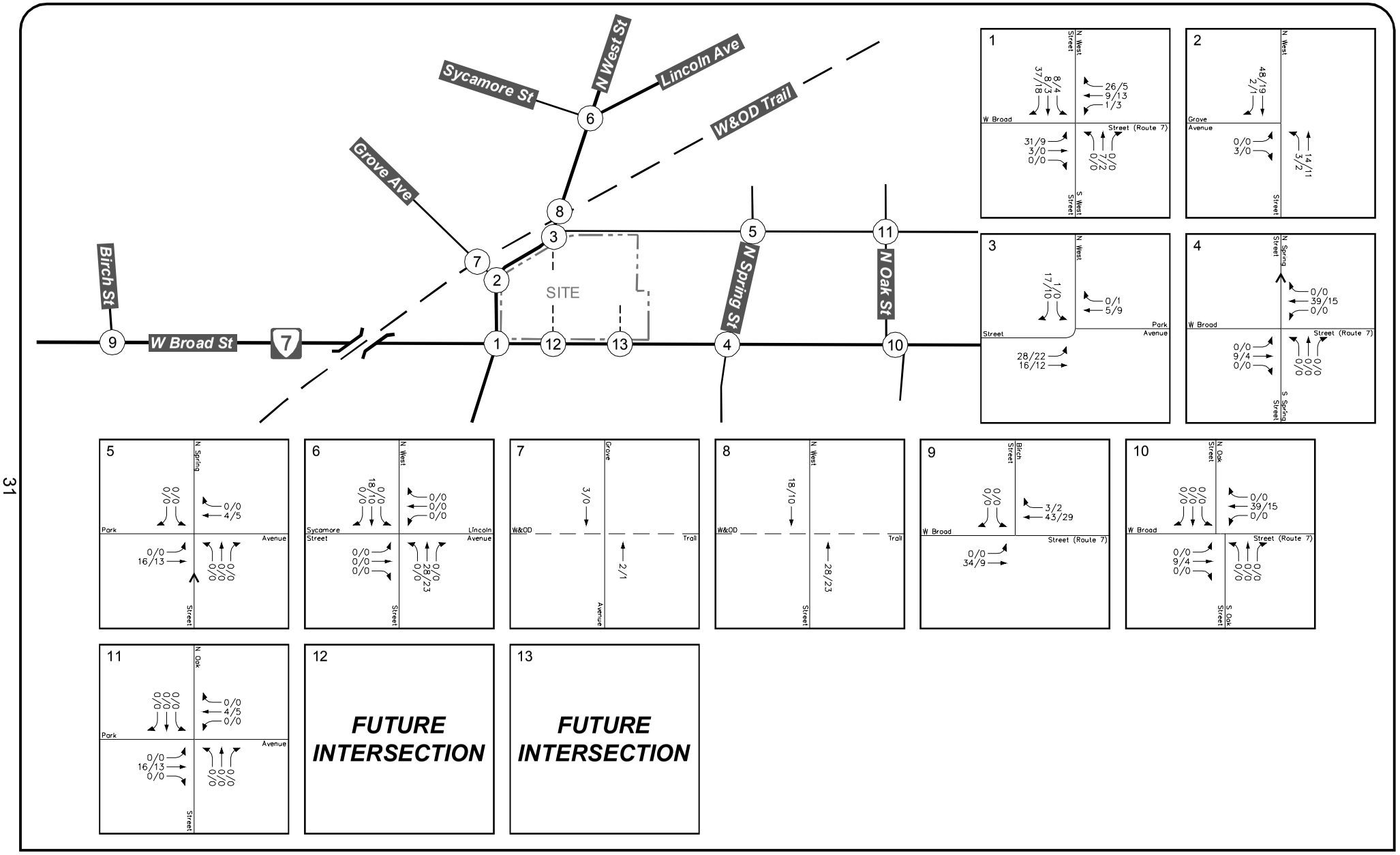

Figure 6–1
Existing Site Trips Removed

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

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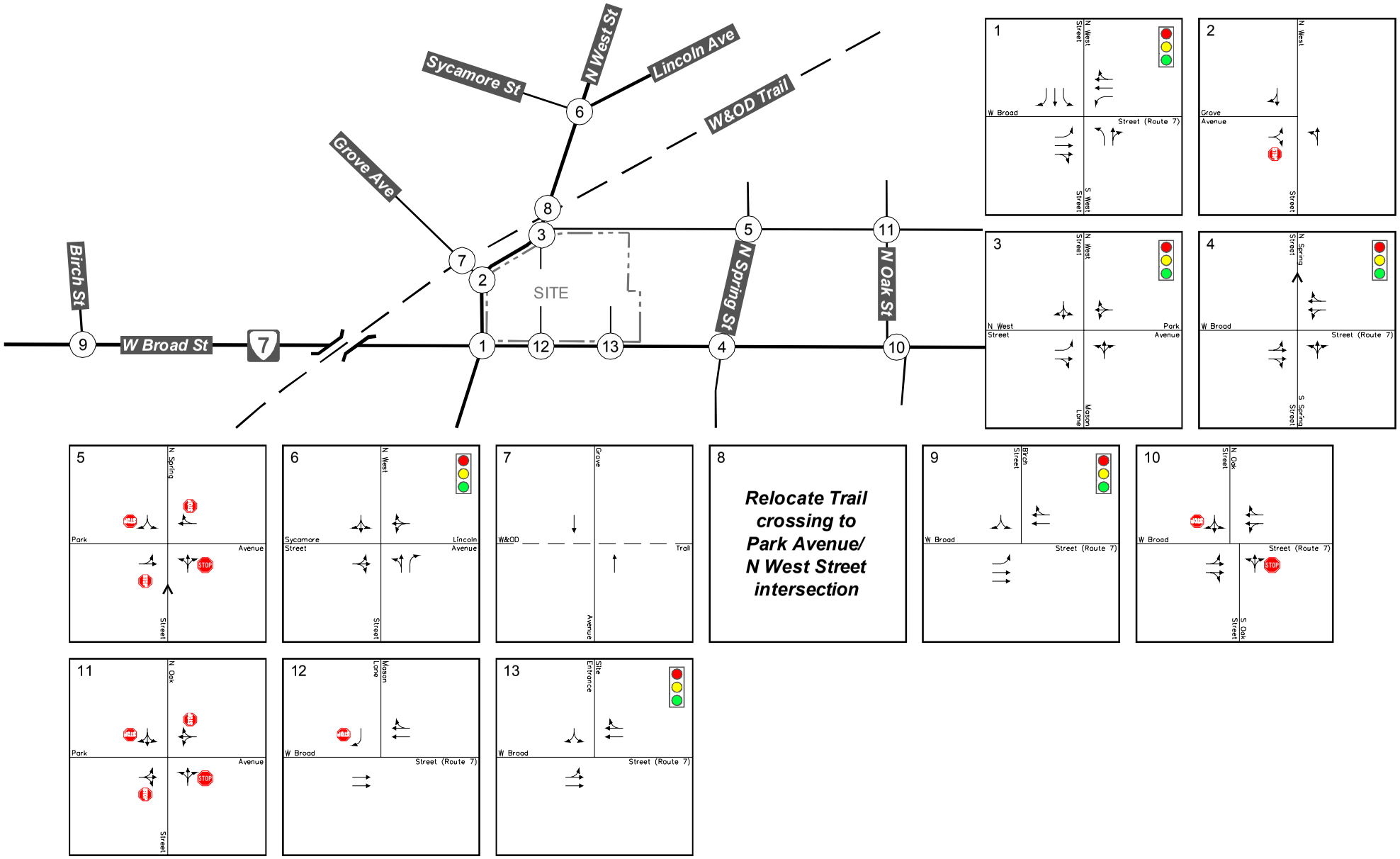

Figure 6–2
Future Lane Use and Intersection Control

← Represents One Travel Lane
Signalized Intersection
Stop Sign

North

Mason Row
City of Falls Church, Virginia

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Table 6-1
Mason Row
Site Trip Generation Analysis [1]

Scenario	Land Use Code	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total		PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total		Average Daily Trips	
Existing Driveway Counts				106	110	216		42	78	120		1200	
Proposed Uses													
Residential/Hotel Uses													
Hotel	310	150	occupied rooms	59	42	101		51	54	105		1,338	
Apartment	220	340	dwelling units	34	136	170		133	72	205		2,184	
Residential/Hotel Subtotal				93	178	271		184	126	310		3522	
Retail/Residential Internal Allowance (5% AM/10% PM)				(5)	(5)	(10)		(8)	(7)	(15)		(353)	
Residential/Hotel External Trips				88	173	261		176	119	295		3,169	
5% Residential/Hotel Mode Split				(4)	(9)	(13)		(9)	(6)	(15)		(158)	
Total Residential/Hotel Vehicle Trips				**84**	**164**	**248**		**167**	**113**	**280**		**3,011**	
Office Uses	710	5,939	GSF	8	1	9	(2)	2	7	9	(2)	154	
Theater Uses	444	51,329	GSF	0	0	0		125	70	195		1,045	(3)
Specialty Retail Center	826	53,043	GSF	94	102	196	(4)	66	83	149		2,351	
Retail Subtotal				94	102	196		66	83	149		2351	
Retail/Residential Internal Allowance (5% AM/10% PM)				(5)	(5)	(10)		(7)	(8)	(15)		(353)	
Retail External Trips				89	97	186		59	75	134		1,998	
Pass-by Trips (25%)				(22)	(25)	(47)		(15)	(19)	(34)		(500)	
Total Non-Residential Vehicle Trips				**75**	**73**	**148**		**171**	**133**	**304**		**2,697**	
Total Site Trips				159	237	396		338	246	584		5,708	
Total Net New Trips				53	127	180		296	168	464		4,508	

Note(s):

(1) Trip generation based on the Institute of Transportation Engineers' Trip Generation, 9th Edition.

(2) It is noted in Trip Generation that "some of the regression curves plotted for this land use may produce illogical trip-end estimates for small office buildings". Thus, for this analysis, the rates have been used for the peak hour office trip generation.

(3) Average Daily Trips based on number of screens.

(4) AM peak hour of adjacent street rate based on (AM peak hour of generator rate X (PM peak hour of adjacent street rate / PM peak hour of generator rate))

Pass-by Trips. According to ITE, in some cases the driveway volumes at a particular land use are different from the amount of traffic added to the adjacent street system. Uses such as retail establishments attract a portion of their trips from traffic that is already present on the road network.

Pass-by trips are those trips which are made as intermediate stops on the way to a primary destination. An example of a pass-by trip would be one in which a driver stops at a retail store on his/her way home from work.

In recognition of this phenomenon and as agreed to with City staff, it was assumed that 25% of site generated retail trips would be classified as pass-by as shown in Table 6-1. As shown in the table, the site is anticipated to generate 47 weekday AM and 34 weekday PM pass-by trips. Therefore, these trips would be drawn from the existing road network and assigned to the future site entrances accordingly. Pass-by trip assignments at key study intersections are shown on Figure 6-3.

Transit Mode Split. A trip reduction was applied to account for the ready availability of transit given the location of the development proximate to a number of bus routes. As agreed to with staff, a trip reduction of 5% was only applied to the residential/hotel portion of the site. However, it should be noted that with the implementation of transportation demand management (TDM) strategies as proposed in Section 8, actual vehicle trip reductions may be higher than those forecasted herein. Therefore, this reduction should be considered conservative.

Net Site Trips. The net vehicle trips that would be generated by the proposed redevelopment plan (after discounting internal, pass-by, and transit/mode-split trips) are summarized in Table 6-1. As shown, the site would generate, upon completion and full occupancy, 396 weekday AM and 584 weekday PM, net peak hour vehicle trips.

Site Trip Distribution

The distribution of the anticipated trips generated by the completion of the proposed redevelopment was based on an examination of existing traffic counts and local knowledge. As agreed to with City staff, existing travel patterns indicate the following distribution is appropriate in the forecasting of future site traffic:

- To/from the west on West Broad Street: 35%
- To/from the east on West Broad Street: 35%
- To/from the north on North West Street: 10%
- To/from the south on South West Street: 8%
- To/from the east on Park Avenue: 10%
- To/from the west on Grove Avenue: 2%

Site Trip Assignments

The assignment of the net vehicle trips generated upon the future build-out of the Mason Row redevelopment project was based on the above distribution. These trip assignments are depicted on Figure 6-4.

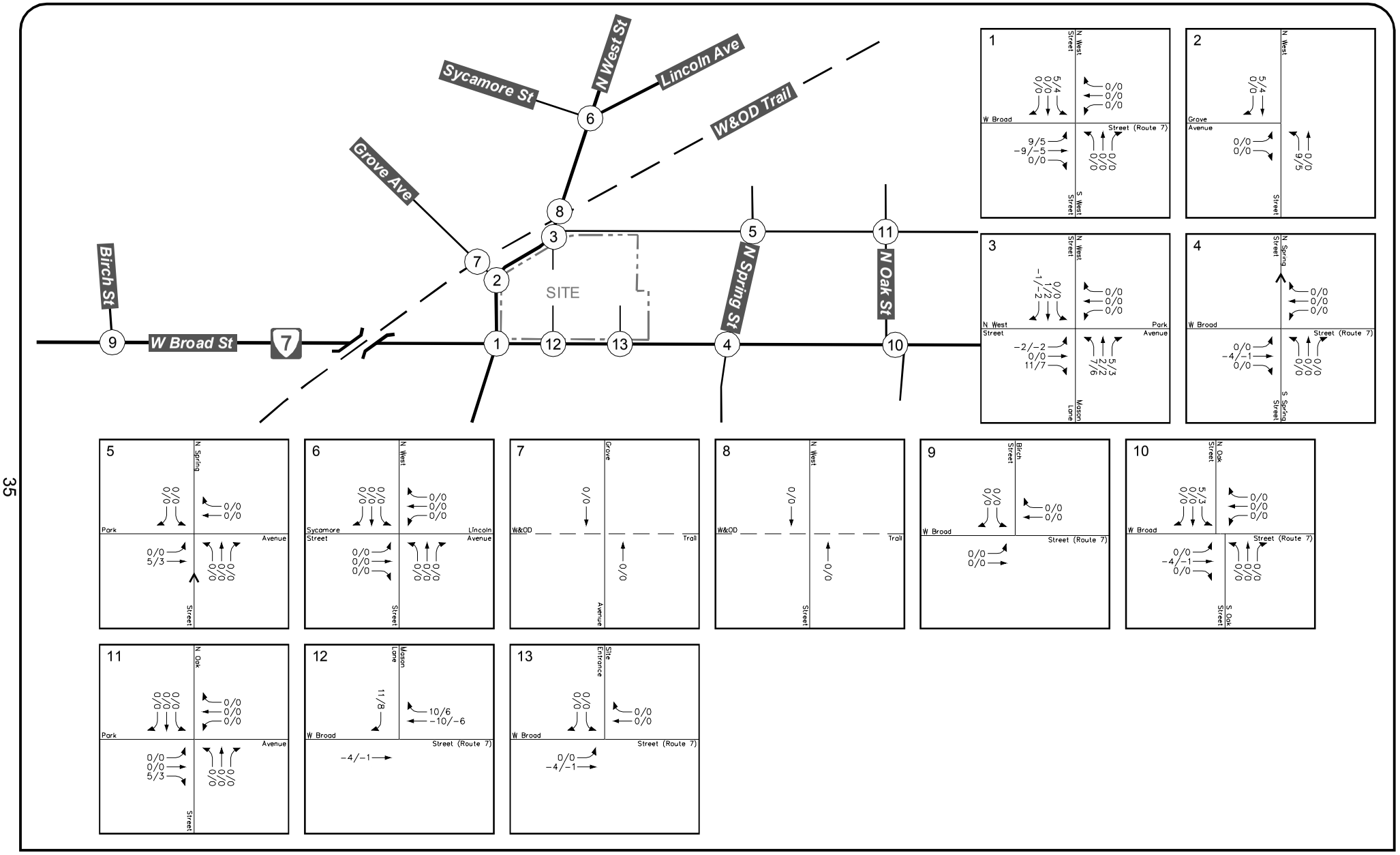

Figure 6–3
Pass–by Trip Assignments

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

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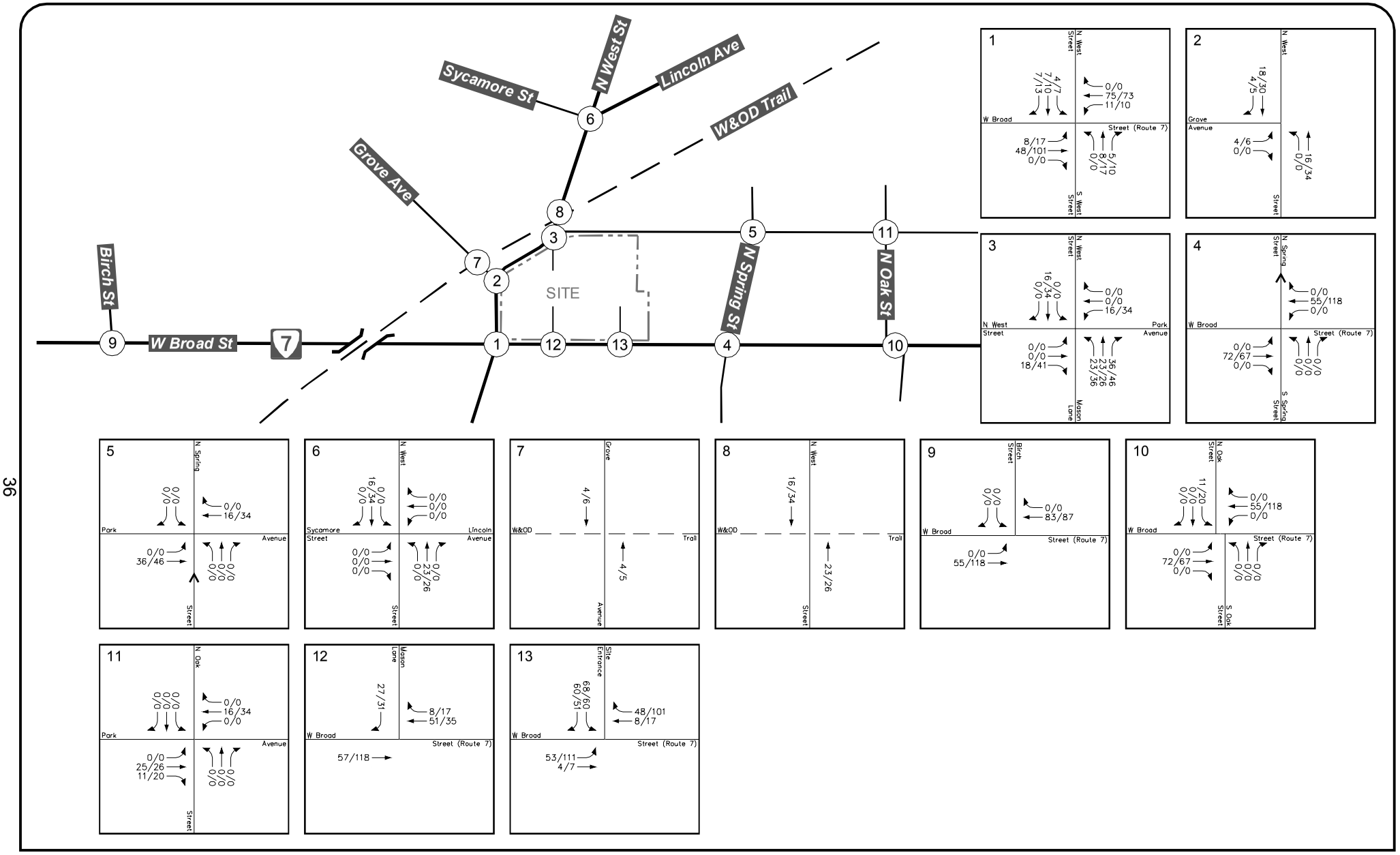

Figure 6–4
Site Trip Assignments

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

Section 7

ANALYSIS OF FUTURE CONDITIONS WITH SITE DEVELOPMENT

Total Future Traffic Forecasts

The 2019 total future traffic forecasts shown on Figure 7-1 were estimated by adding the site trip assignments (Figure 6-4) and pass-by trip assignments (Figure 6-3) to the background future traffic forecasts (Figure 5-3) after discounting those trips generated by the existing site uses (Figure 6-1).

Total Future Levels of Service with Proposed Development Plan

Future levels of service with the proposed redevelopment plan were estimated at key study intersections based on the future traffic volumes shown on Figure 7-1, the future lane use on Figure 6-2, the signal timings for the signalized intersections provided by the City of Falls Church and VDOT and the 2000 HCM methodologies for signalized and unsignalized intersections. The results of these analyses are provided in Appendix I and presented in Table 7-1. Total future levels of service are also presented graphically on Figure 7-2.

As shown in Table 7-1, levels of service under future site development conditions would remain generally consistent with future background conditions (i.e., without site development). Critical movements at the unsignalized intersections on West Broad Street would continue to operate at or near capacity during one or more peak periods as a result of heavy and increased mainline traffic volumes. Notably, however the overall LOS at the West Broad Street/West Street intersection would be "F" during the PM peak hour. Improvements to the intersection, as detailed below, would improve levels of service.

The recommended improvements outlined in the following section would serve to mitigate site impacts evidenced in the total future conditions analysis.

Recommended Improvements

North West Street/Park Avenue Intersection. As shown on the Applicant's plan (see Figure 1-2), the development would add a fourth leg to the North West Street/Park Avenue intersection in order to accommodate site access. City officials, NVRPA staff, and local citizens have long recognized the inherent challenges associated with the current configuration of the intersection. As stated earlier, the intersection is currently constructed with awkward angles and an operating condition that favors North West Street mainline traffic which often conflicts with the foot and bicycle traffic associated with the adjacent W&OD Trail crossing.

In order to improve the safety and performance of this intersection, the Applicant proposes to reconfigure the approaches in order for it to function more as a typical four-legged intersection. This would be achieved by having the western approach of North West Street align with Park Avenue while having the northern approach align with the new site entrance. An eastbound left turn lane would be provided while the southbound right turn lane would be narrowed in order to calm traffic. A traffic signal is proposed for this intersection to improve operations. The benefits of a traffic signal include:

- Reduce vehicle speeds
- Improve safety of the W&OD trail crossing as a result of lower travel speeds and a dedicated signal phase for trail crossing traffic.
- Improve the performance of the intersection by providing controlled signal phases for all movements.
- Allow pedestrians (trail and non-trail) to cross the intersection safely.

In order to determine the potential ability to signalize this intersection, a signal warrant analysis was conducted in accordance with Warrant 3 – "Peak Hour Volume" of the Manual of Uniform Traffic Control Devices (2009). The analysis is provided in Appendix J and shows that a signal is warranted under peak hour traffic conditions.

Based on the preliminary concepts to date, the proposed intersection improvements would not require the acquisition of off-site right-of-way, thus

negating any encroachment of roadways on to existing park land or other neighboring properties.

West Broad Street/West Street Intersection. As shown in Table 7-1, the overall level of service at the West Broad Street/West Street intersection would be "F" during the PM peak hour. As discussed with staff, a potential restriping of the North West Street approach would serve to increase capacity at the intersection. The restriping would add an exclusive left-turn lane to the approach (totaling three approach lanes). As shown in Table 7-1, this restriping improvement would result in LOS "E" for the overall intersection during the PM peak hour, which is consistent with forecasted conditions without the subject development.

West Broad Street/West Entrance. During the scoping of this traffic study, City staff indicated a strong desire to closely examine the future operations of the proposed site entrances. In particular, staff was concerned about the interaction of new site generated trips accessing via West Broad Street at the intersection closest to West Street in relation to the overall through traffic present on the highly traveled principal arterial. Because of the proximity of the proposed entrance to the nearby signalized intersection of West Broad Street/West Street, the Applicant proposes to operate this entrance as right-in/right-out only. The results of the site entrance analysis are shown in Table 7-1 (levels of service). As shown, the West Broad Street/West Entrance intersection would operate with adequate levels of service under this proposed operational condition.

West Broad Street/East Entrance. As stated previously, the West Broad Street/East Entrance would provide direct access to the site's retail parking and is proposed to operate as a full-movement intersection. As shown in Table 7-1, the southbound approach (exiting the site) is forecasted to operate at LOS "F" under STOP sign control. In order to improve the level of service, the installation of a traffic signal is recommended. As shown, the presence of a signal improves intersection operations to overall LOS "C" or better. A signal at this location would have the benefit of providing a controlled pedestrian crossing of West Broad Street, thus improving safety and enhancing connectivity between the site and the surrounding area.

In order to determine the potential ability to signalize this intersection, a signal warrant analysis was conducted in accordance with Warrant 3 – "Peak Hour Volume" of the Manual of Uniform Traffic Control Devices (2009). The analysis is provided in Appendix J and shows that a signal is warranted under peak hour traffic conditions.

Pedestrian/Multi-modal Enhancements. The proposed development should provide an enhanced pedestrian network and promote connectivity to existing pedestrian/multi-modal facilities in order to reduce vehicular trips and create a vibrant, accessible environment in keeping with the vision of the City's Comprehensive Plan. The Applicant has committed to providing wider sidewalks and an enhanced streetscape along the entire site's roadway frontages. Furthermore, the Applicant has shown open public space within the interior of the site, which would offer a place for site visitors and passers-by the opportunity to recreate. In conjunction with a crosswalk across Park Avenue, this space would offer connectivity to the W&OD trail, thus integrating the proposed development with the regional trail network.

Total Future Queuing

Total future queues were forecasted using Synchro software. The results of the queuing analysis are summarized in Table 7-2. As shown, forecasted queues with the proposed development would remain generally consistent with queues forecasted under background future conditions.

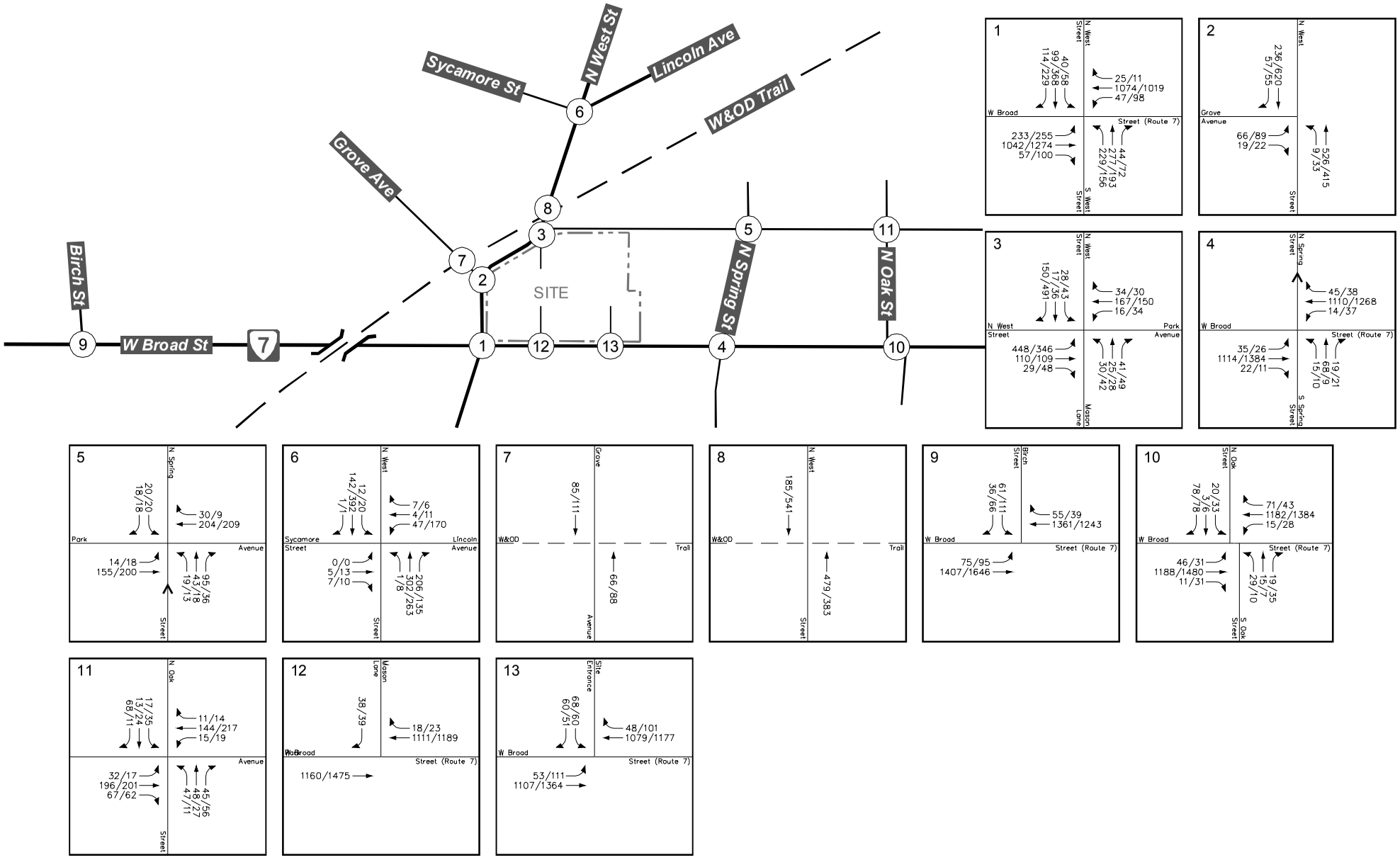

Figure 7–1
Total Future Traffic Forecasts

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

Table 7-1
Mason Row
Total Future Intersection Levels of Service Summary [1][2][3][4]

Intersection	Control	Lane Group	Existing AM	Existing PM	Background AM	Background PM	Total Future AM	Total Future PM
1. **N West Street**/W Broad Street	Signal	EBL	F (100.6)	F (82.8)	F (188.3)	F (136.7)	F (187.7)	F (212.6)
		EBTR	C (24.1)	C (32.7)	C (27.8)	D (51.1)	C (29.5)	F (86.9)
		WBL	C (26.0)	D (36.5)	C (26.9)	D (41.2)	C (28.0)	D (42.8)
		WBTR	D (41.0)	C (33.3)	D (45.3)	D (37.4)	D (47.5)	D (43.0)
		NBL	E (56.0)	D (52.5)	D (54.5)	D (52.4)	D (54.5)	D (50.5)
		NBTR	F (98.8)	E (72.9)	F (97.0)	E (76.5)	F (103.0)	F (83.3)
		SBLT	D (49.0)	F (199.8)	D (48.8)	F (231.2)	D (48.8)	F (251.7)
		SBR	C (34.0)	D (45.4)	C (34.1)	D (45.9)	C (33.3)	D (35.2)
		Overall	**D (47.3)**	**E (60.3)**	**E (55.6)**	**E (74.7)**	**E (56.6)**	**F (95.8)**
Add SBL turning lane	*Signal*	*EBL*	*N/A*	*N/A*	*N/A*	*N/A*	F (184.7)	F (116.8)
Signal Timing Adjustments		*EBTR*	*N/A*	*N/A*	*N/A*	*N/A*	C (28.9)	E (68.4)
		WBL	*N/A*	*N/A*	*N/A*	*N/A*	B (14.6)	E (64.9)
		WBTR	*N/A*	*N/A*	*N/A*	*N/A*	C (32.2)	E (71.8)
		NBL	*N/A*	*N/A*	*N/A*	*N/A*	D (54.5)	D (50.3)
		NBTR	*N/A*	*N/A*	*N/A*	*N/A*	F (103.0)	F (82.0)
		SBL	*N/A*	*N/A*	*N/A*	*N/A*	D (44.8)	D (45.0)
		SBT	*N/A*	*N/A*	*N/A*	*N/A*	D (46.7)	F (170.2)
		SBR	*N/A*	*N/A*	*N/A*	*N/A*	C (33.6)	C (31.3)
		Overall	***N/A***	***N/A***	***N/A***	***N/A***	**D (50.8)**	**E (79.8)**
2. **N West Street**/Grove Street	STOP	EBLR	C [19.2]	E [43.8]	C [19.3]	F [50.8]	C [18.4]	F [55.6]
		NBLT	A [0.2]	A [1.2]	A [0.2]	A [1.2]	A [0.2]	A [1.2]
3. **N West Street**/Park Avenue	STOP	WBLR	D [33.7]	D [29.9]	D [31.9]	D [28.9]	N/A	N/A
		SBLT	A [1.6]	A [1.2]	A [1.7]	A [1.2]	N/A	N/A
Re-alignment with site entrance	*All-way STOP*	*EBL*	*N/A*	*N/A*	*N/A*	*N/A*	*D [36.5]*	*E [38.3]*
		EBTR	*N/A*	*N/A*	*N/A*	*N/A*	*A [9.4]*	*B [12.8]*
		WBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*B [12.7]*	*C [17.6]*
		NBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*B [11.1]*	*B [13.8]*
		SBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*B [12.3]*	*F [86.3]*
		Overall	***N/A***	***N/A***	***N/A***	***N/A***	***C [21.8]***	***E [49.7]***
Re-alignment with site entrance	*Signal*	*EBL*	*N/A*	*N/A*	*N/A*	*N/A*	*D (38.6)*	*D (41.1)*
Add Signal		*EBTR*	*N/A*	*N/A*	*N/A*	*N/A*	*B (10.1)*	*B (13.4)*
		WBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*D (54.0)*	*E (55.3)*
		NBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*C (26.0)*	*C (23.4)*
		SBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*B (13.2)*	*C (23.4)*
		Overall	***N/A***	***N/A***	***N/A***	***N/A***	***C (32.4)***	***C (31.5)***
4. W Broad Street/**N Spring Street**	Signal	EBLTR	B (15.6)	A (2.4)	B (18.1)	A (4.1)	B (18.1)	A (4.1)
		WBTR	A (7.6)	A (4.5)	A (7.7)	A (5.1)	A (7.8)	A (5.8)
		NBLTR	C (23.3)	E (56.0)	C (23.2)	E (55.9)	C (23.2)	E (55.9)
		Overall	**B (12.0)**	**A (4.4)**	**B (13.2)**	**A (5.3)**	**B (13.4)**	**A (5.6)**
5. Park Avenue/**N Spring Street**	All-way STOP	EBLT	A [9.3]	A [9.1]	A [9.0]	A [8.9]	A [9.3]	A [9.4]
		WBTR	A [10.0]	A [9.1]	A [9.6]	A [8.9]	A [9.8]	A [9.3]
		NBLTR	A [9.2]	A [8.2]	A [8.9]	A [8.1]	A [9.0]	A [8.3]
		SBLR	A [8.4]	A [8.2]	A [8.2]	A [8.1]	A [8.4]	A [8.2]
		Overall	**A [9.4]**	**A [8.9]**	**A [9.1]**	**A [8.7]**	**A [9.4]**	**A [9.1]**
6. **N West Street**/Lincoln Avenue	Signal	EBLTR	D (54.3)	C (34.7)	D (53.5)	C (34.7)	D (53.5)	C (34.7)
		WBLTR	D (46.2)	C (29.1)	D (46.2)	C (29.2)	D (46.2)	C (29.2)
		NBLT	A (4.8)	C (26.5)	A (4.9)	C (27.0)	A (4.9)	C (27.1)
		NBR	A (4.4)	C (21.8)	A (4.4)	C (21.9)	A (4.4)	C (21.9)
		SBLTR	A (4.2)	C (31.0)	A (4.3)	C (32.3)	A (4.3)	C (33.8)
		Overall	**A (9.0)**	**C (28.3)**	**A (8.6)**	**C (29.0)**	**A (8.7)**	**C (29.7)**
9. W Broad Street/**Birch Street**	Signal	EBL	A (8.8)	A (6.9)	A (8.6)	A (8.0)	A (9.2)	A (8.8)
		EBT	A (6.6)	A (7.8)	A (6.6)	A (8.4)	A (6.7)	A (9.2)
		WBTR	A (9.7)	C (22.7)	A (8.4)	C (24.4)	A (8.8)	C (25.6)
		SBLR	D (48.7)	E (63.8)	D (48.6)	E (62.4)	D (48.6)	E (62.4)
		Overall	**A (9.6)**	**B (17.6)**	**A (8.9)**	**B (18.0)**	**A (9.1)**	**B (18.7)**
10. W Broad Street/**N Oak Street**	STOP	EBLTR	A [2.3]	A [1.6]	A [2.8]	A [2.2]	A [2.9]	A [2.6]
		WBLTR	A [0.7]	A [1.7]	A [0.7]	A [2.1]	A [0.7]	A [2.4]
		NBLTR	F [639.1]	F [418.4]	F [976.3]	F [*]	F [*]	F [*]
		SBLTR	F [63.9]	F [293.8]	F [804.7]	F [*]	F [*]	F [*]
11. Park Avenue/**N Oak Street**	All-way STOP	EBLTR	B [11.3]	B [10.3]	B [10.7]	A [10.0]	B [11.2]	B [10.6]
		WBLTR	A [9.8]	B [10.1]	A [9.5]	A [9.8]	A [9.8]	B [10.4]
		NBLTR	A [9.7]	A [8.8]	A [9.5]	A [8.7]	A [9.7]	A [9.0]
		SBLTR	A [9.0]	A [9.1]	A [8.8]	A [9.0]	A [8.9]	A [9.2]
		Overall	**B [10.3]**	**A [9.9]**	**A [9.9]**	**A [9.6]**	**B [10.2]**	**B [10.2]**
12. W Broad Street/**Mason Lane**	STOP	SBR	N/A	N/A	N/A	N/A	A [10.0]	B [11.8]
13. W Broad Street/**Driveway**	STOP	EBLT	N/A	N/A	N/A	N/A	A [2.4]	A [6.3]
		SBLR	N/A	N/A	N/A	N/A	B [14.1]	F [55.9]
Add Signal	*Signal*	*EBLT*	N/A	N/A	N/A	N/A	B (18.6)	D (44.3)
		WBTR	N/A	N/A	N/A	N/A	C (20.1)	B (10.6)
		SBLR	N/A	N/A	N/A	N/A	B (17.4)	D (53.4)
		Overall	**N/A**	**N/A**	**N/A**	**N/A**	**B (19.2)**	**C (29.6)**

Notes:
(1) Numbers in parentheses ( ) represent delay at signalized intersections in seconds per vehicle.
(2) Numbers in square brackets [ ] represent delay at unsignalized intersections in seconds per vehicle.
(3) Roadways in **BOLD** are considered North/South for purposes of this analysis
(4) Asterisks * represent delays in excess of 999.9 seconds.

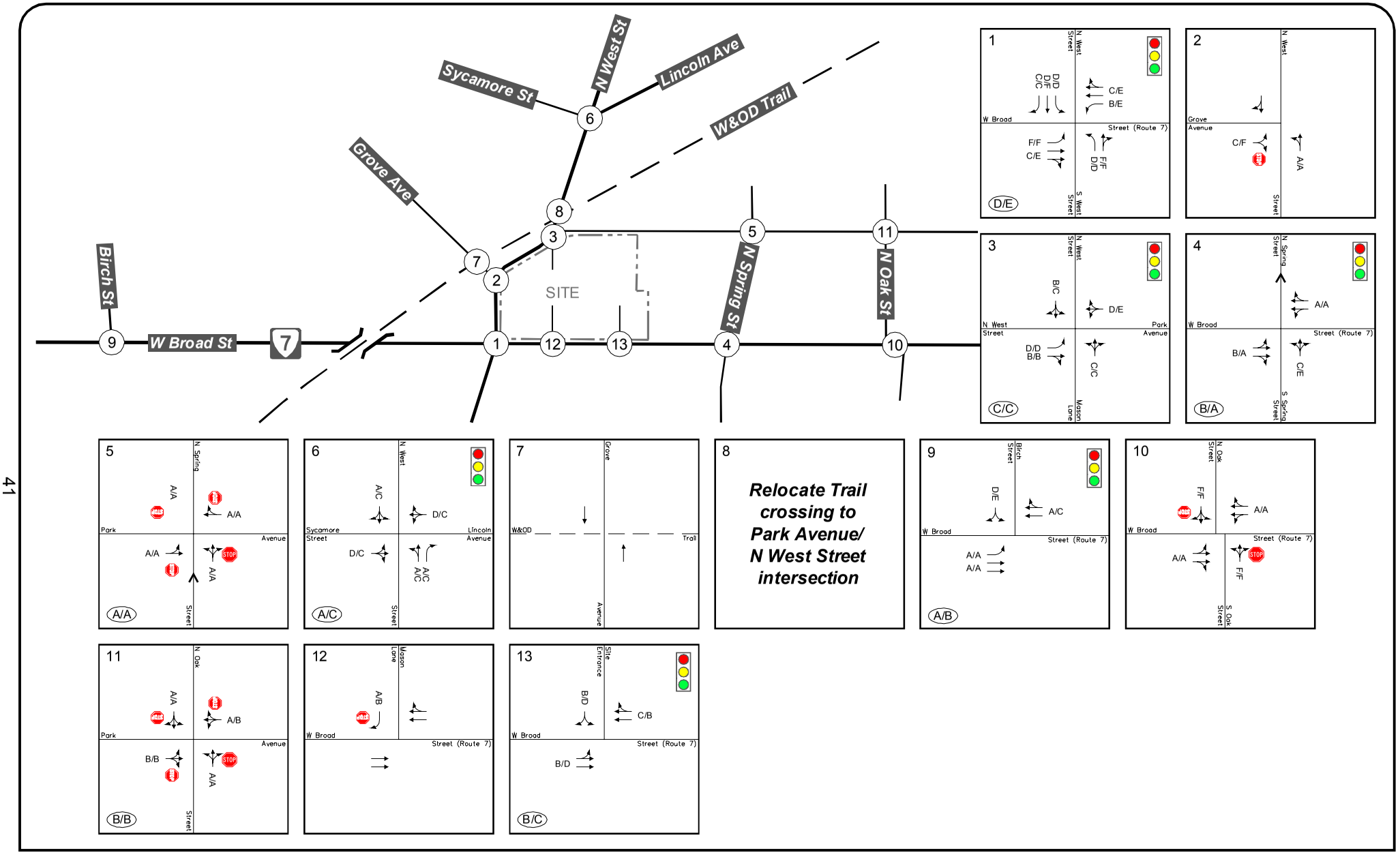
Birch St
W Broad St
7
Grove Ave
Sycamore St
N West St
Lincoln Ave
W&OD Trail
N Spring St
N Oak St
SITE
1
2
3
4
5
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Table 7-2
Mason Row
Total Future Intersection Queues [(1)(2)(3)(4)(5)]

Intersection	Control	Lane Group	Available Storage	Existing AM	Existing PM	Background AM	Background PM	Total Future AM	Total Future PM
1. **N West Street**/W Broad Street	Signal	EBL	175	#321	#305	#390	#370	#374	#434
		EBTR	N/A	474	#674	#588	#821	#631	#921
		WBL	140	m26	93	m28	113	m36	m111
		WBTR	N/A	#534	328	#626	406	#661	497
		NBL	250	#281	196	#303	208	#303	208
		NBTR	N/A	#424	#303	#462	#335	#473	#391
		SBLT	N/A	165	#656	172	#703	172	#734
		SBR	N/A	91	99	100	116	73	165
Add SBL turning lane	*Signal*	*EBL*	*175*	*N/A*	*N/A*	*N/A*	*N/A*	*#374*	*#395*
Signal Timing Adjustments		*EBTR*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*#631*	*#873*
		WBL	*140*	*N/A*	*N/A*	*N/A*	*N/A*	*m30*	*#145*
		WBTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*#622*	*#662*
		NBL	*250*	*N/A*	*N/A*	*N/A*	*N/A*	*#303*	*207*
		NBTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*#473*	*#385*
		SBL	*70*	*N/A*	*N/A*	*N/A*	*N/A*	*62*	*89*
		SBT	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*128*	*#612*
		SBR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*73*	*150*
2. **N West Street**/Grove Street	STOP	EBLR	N/A	28	76	26	86	25	96
		NBLT	N/A	1	3	1	3	1	3
3. **N West Street**/Park Avenue	STOP	WBLR	N/A	118	98	105	89	N/A	N/A
		SBLT	N/A	3	3	3	4	N/A	N/A
Re-alignment with site entrance [(6)]	*All-way STOP*	*EBL*	*100*	*N/A*	*N/A*	*N/A*	*N/A*	*141*	*108*
		EBTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*214*	*126*
		WBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*112*	*88*
		NBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*82*	*62*
		SBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*79*	*181*
Re-alignment with site entrance	*Signal*	*EBL*	*100*	*N/A*	*N/A*	*N/A*	*N/A*	*350*	*288*
Add Signal		*EBTR*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*46*	*59*
		WBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*#252*	*#256*
		NBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*87*	*105*
		SBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*30*	*#487*
4. W Broad Street/**N Spring Street**	Signal	EBLTR	N/A	m508	m55	m561	m82	m577	m44
		WBTR	N/A	203	211	236	259	242	308
		NBLTR	N/A	61	53	61	53	61	53
5. Park Avenue/**N Spring Street** [(6)]	All-way STOP	EBLT	N/A	71	80	90	75	59	61
		WBTR	N/A	72	64	69	57	59	64
		NBLTR	N/A	69	47	63	38	63	44
		SBLR	N/A	46	48	48	48	44	46
6. **N West Street**/Lincoln Avenue	Signal	EBLTR	N/A	22	30	22	31	22	31
		WBLTR	N/A	71	159	73	165	73	165
		NBLT	N/A	127	205	135	218	132	221
		NBR	150	26	39	26	40	26	40
		SBLTR	N/A	65	308	69	332	68	357
9. W Broad Street/**Birch Street**	Signal	EBL	300	30	43	30	41	30	41
		EBT	N/A	288	380	330	452	338	521
		WBTR	N/A	517	507	596	577	631	600
		SBLR	N/A	113	213	111	214	111	214
10. W Broad Street/**N Oak Street**	STOP	EBLTR	N/A	6	4	8	6	8	6
		WBLTR	N/A	2	5	2	6	2	6
		NBLTR	N/A	183	139	206	*	215	*
		SBLTR	N/A	89	193	249	*	*	*
11. Park Avenue/**N Oak Street** [(6)]	All-way STOP	EBLTR	N/A	88	74	85	65	68	64
		WBLTR	N/A	63	97	69	81	65	81
		NBLTR	N/A	65	49	63	66	60	59
		SBLTR	N/A	54	49	57	51	50	44
12. W Broad Street/**Mason Lane**	STOP	SBR	N/A	N/A	N/A	N/A	N/A	4	6
13. W Broad Street/**Driveway**	STOP	EBLT	N/A	N/A	N/A	N/A	N/A	7	22
		SBLR	N/A	N/A	N/A	N/A	N/A	26	97
Add Signal	*Signal*	*EBLT*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*m571*	*m559*
		WBTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*327*	*426*
		SBLR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*61*	*139*

Notes:
(1) Queue length is based on the 95th percentile queue in feet as reported by Synchro, Version 7.
(2) "#" indicates that the 95th percentile volume exceeds capacity, queue may be longer.
(3) "m" indicates that the volume for 95th percentile queue is metered by upstream signal.
(4) Roadways in **BOLD** are considered North/South for purposes of this analysis
(5) "*" indicates that the volume exceeds capacity, queue is theoretically infinite.
(6) Queue length analyzed with SimTraffic 7.

Section 8
TRANSPORTATION DEMAND MANAGEMENT

In order to mitigate the potential impacts of the development and take full advantage of the site's proximity to various transit facilities/services, a key component of the project would be the implementation of comprehensive transportation demand management (TDM) strategies.

In an effort to decrease reliance on the personal automobile and encourage the use of transit, ridesharing, bicycling, and walking, the applicant should implement a Transportation Demand Management (TDM) Program. "TDM is a general term for strategies that result in more efficient use of transportation resources. There are many different TDM strategies with a variety of impacts. Some improve the transportation options available to consumers, while others provide an incentive to choose more efficient travel patterns. Some reduce the need for physical travel through mobility substitutes or more efficient land use. TDM strategies can change travel timing, route, destination, or mode."

Based on the site's proximity to transit opportunities and by its proposed mixed-use nature, the TDM program employed by the Applicant should target a goal of a 15 percent reduction in generated peak hour vehicle trips from established Institute of Transportation Engineers (ITE) trip rates for its residential and hotel components.

In developing the TDM program, the following strategies should be considered:

A. Designate a Transportation Management Coordinator (TMC) to implement the TDM program and advise residents, tenants, and employees of the availability and location of the TDM coordinator and program at least once a year. The position may be part of other duties assigned to the individual. Duties of the Transportation Management Coordinator would include the following:

   1. Assist residents and employees in making effective and efficient commuting choices.
   2. Disseminate Metrorail, Metrobus, ridesharing, and other relevant transit options to new residents, tenants and employees.
   3. Solicit support from the Metropolitan Washington Council of Governments (MWCOG) Commuter Connections program, the Washington Metropolitan Area Transit Authority (WMATA), the City of Falls Church government, and others.
   4. Provide on-site assistance to residents and employees in forming and maintaining carpools and vanpools.
   5. Disseminate park-and-ride lot information to prospective carpoolers and vanpoolers.
   6. Register carpool/vanpool participants, transit users, bicyclists, and walkers in the Guaranteed Ride Home (GRH) program.
   7. Encourage residents and employees to ride bikes or walk to work.
   8. Provide on-site facilities for bicycle parking and/or storage, including bike racks for visitors and bike storage lockers for residents.
   9. Market and promote the TDM Program among residents and employees through printed materials and web sites (if available).

B. Commuter Center.

   1. Designate a centralized space on-site as a "Commuter Center". The TMC functions would take place in this space, as appropriate.
   2. Install display racks that would provide information on local transit options.
   3. Sell transit fare media, such as SmarTrip cards, Metro fare cards, and Metrobus passes.
   4. Promote transit and multi-modal options provided by the City.

C. Incentives to use transit, including:

   1. Provide information on Metrorail, Metrobus, and other public transportation facilities, services, routes, schedules, and

fares.

2. Encourage retail tenants to subsidize part of employees' transit fare.
3. Disseminate information to transit users regarding free guaranteed rides home in cases of emergency.
4. At the time of initial lease/sales, provide SmarTrip cards to residents.
5. Provide safe, convenient, and attractive pedestrian connections on and off-site.

D. Carpool programs, including:

1. Disseminate information to carpoolers regarding free guaranteed rides home in cases of emergency.
2. Reserve a number of conveniently-located, first-level, free parking spaces for carpools only.

E. Parking management, including:

1. Reserve a number of conveniently-located, first-level, free parking spaces for carpools, vanpools and hybrid vehicles.
2. Reserve a conveniently-located, first-level, free parking space for Flex and/or Zip cars.
3. Provide a parking space on site for a car sharing service (i.e., Zip or Flex Car).

Section 9
CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the results of this traffic impact study, the following may be concluded:

1. The redevelopment plan proposed by Spectrum Development LLC is consistent with the City and community's long term vision for the West Broad Street corridor as reflected in the adopted Comprehensive Plan.

2. All signalized intersections within the study area currently operate at overall adequate levels of service (LOS "D" or better), except for the West Broad Street/West Street intersection which operates at LOS "E" during the PM peak hour.

3. Side street approaches along West Broad Street that operate under STOP sign control generally experience significant delays during commuter peak hours due to heavy mainline volumes.

4. Under future 2019 traffic conditions, without the development of the subject site, delays would increase at study intersections due to regional traffic growth and trips generated by other approved/pending development within the City. However, overall levels of service would remain generally consistent with existing conditions, except for the West Broad Street/West Street intersection which would operate at LOS "E" during the AM peak hour.

5. The Mason Row redevelopment project is anticipated to experience vehicle trip reductions due to internal trip capture, pass-by trip activity, and non-auto mode choice. The development, as a whole, is forecasted to generate 396 weekday AM peak hour and 584 weekday PM peak hour trips upon completion and full occupancy by 2019.

6. Under future 2019 traffic conditions, with the development of the subject site, intersection levels of service would remain generally consistent with background conditions, except the West Broad Street/West Street intersection which would operate at overall LOS "F" during the PM peak hour. Additional mitigation measures, as outlined below, would improve intersection performance to LOS "E" and serve to further improve the overall transportation network.

Recommendations

Based on the above conclusions and in order to mitigate the impacts of the subject development and improve the overall transportation network, the following recommendations should be considered:

1. As part of the redevelopment plan and to encourage walking trips, the applicant should provide and enhance the pedestrian facilities within the site's block. The applicant should further ensure connections between the site's internal network and the surrounding pedestrian/bicycle system, including the W&OD Trail, as envisioned in the Comprehensive Plan.

2. The applicant should encourage bicycling as a mode of travel. Bicycle racks for site customers/visitors as well as bicycle storage lockers for residents should be provided.

3. The western site access point along West Broad Street should operate as right-in/right-out only.

4. The intersection of North West Street and Park Avenue should be reconfigured to accommodate a fourth leg accessing the subject site. The reconfiguration should properly align the four approaches and a signal should be installed in order to improve intersection operations and safety. The W&OD trail crossing of North West Street should be integrated within the new

signalized intersection. With these improvements, this intersection is forecasted to operate at LOS "C".

5. To improve levels of service, restriping of North West Street at the approach to West Broad Street should be considered in order to provide for three approach lanes.

6. A signal should be installed at the eastern site access point along West Broad Street in order to facilitate site access and to provide a controlled pedestrian crossing. With this improvement, the intersection is forecasted to operate at LOS "C" or better.

7. The applicant should implement Transportation Demand Management (TDM) strategies to encourage the use of alternate modes of transportation. A peak hour trip reduction target of 15% should be established for the site's residential and hotel components..

WELLS + ASSOCIATES

MEMORANDUM

TO:	Gary Fuller City of Falls Church Development Services
FROM:	William F. Johnson, P.E. Andrew C. Buntua
RE:	Mason Row City of Falls Church, Virginia
SUBJECT:	Parking Reduction Request
DATE:	April 18, 2014 Revised February 11, 2015

Introduction

This memorandum provides an analysis to support a parking reduction in conjunction with a redevelopment of certain parcels in the City of Falls Church. The 4.32-acre site is generally located on the north side of West Broad Street (Route 7), east of North West Street and south of Park Avenue, as shown on Figure 1.

The subject site is currently zoned Residential (R-1B) and Business (B-3) and is developed with an existing mix of retail/commercial uses as well as three (3) single family dwelling units. The Applicant is proposing to rezone the property to the B-1 District and redevelop the property with the following mix of uses:

- 53,043 gross square feet (GSF) of commercial (retail) uses
- 150 room hotel
- 340 apartment dwelling units
- 5,635 GSF of office uses
- 752-seat theater

The current development plan is provided on Figure 2. Based on information from the Applicant, approximately 916 parking spaces are proposed to support the redevelopment. As described in this document, the Applicant is seeking an overall 20 percent parking reduction from the City's Zoning Code requirements. The purpose of this memorandum, therefore, is to present the results of a parking study in support of the parking reduction request.

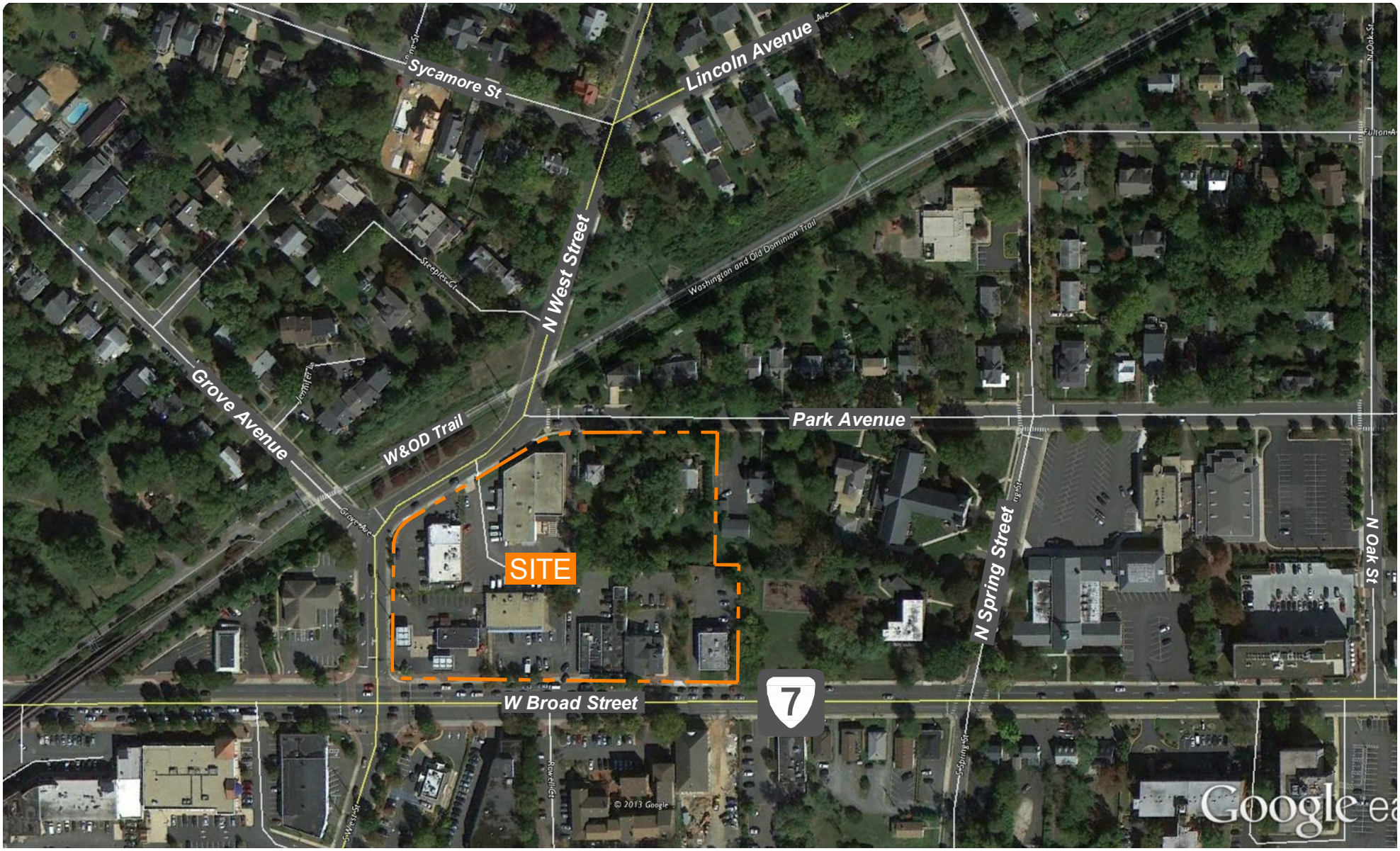

Figure 1
Site Location

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

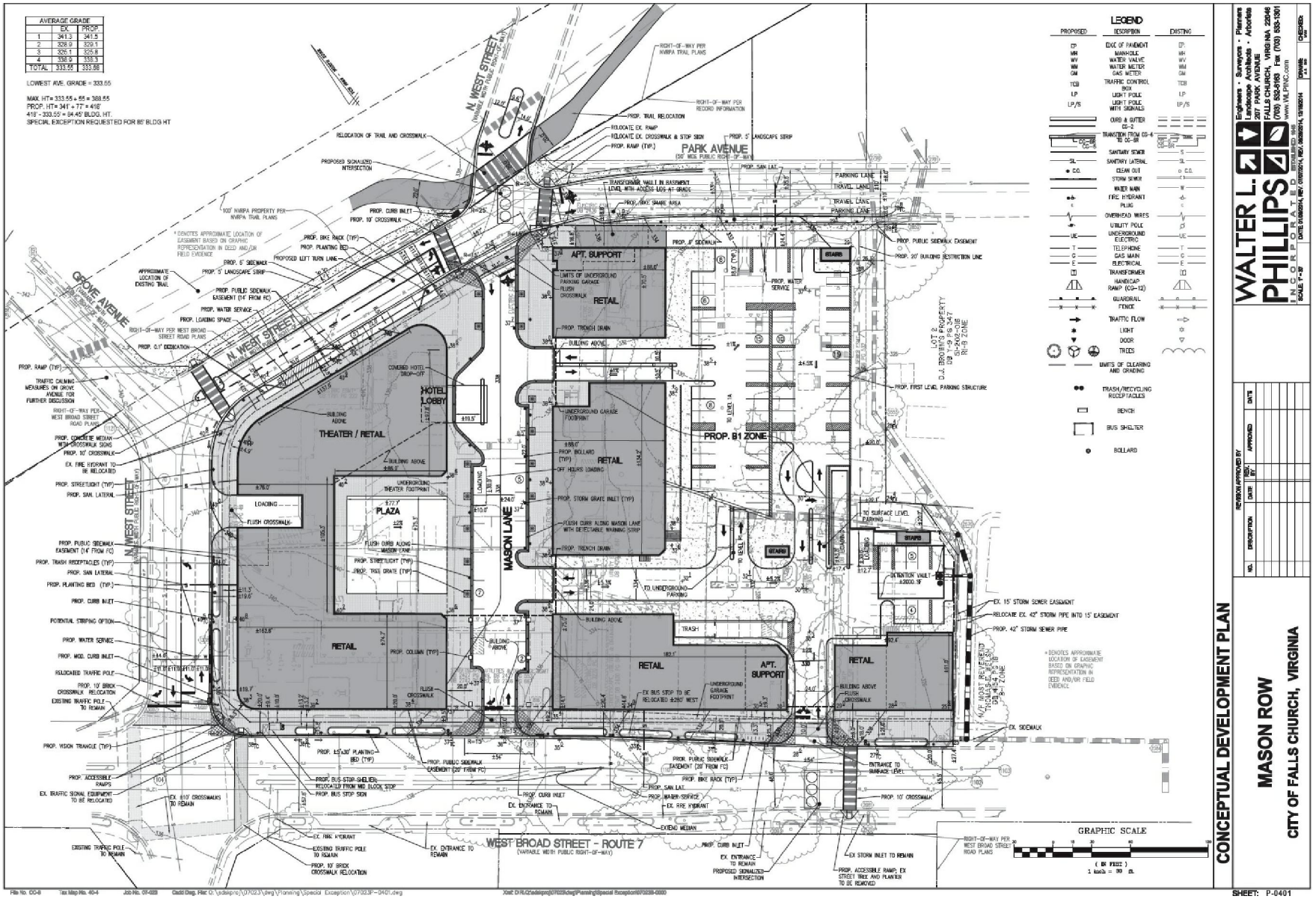

Figure 2
Site Redevelopment Plan Reduction

North

Sources of data for this analysis include, but are not limited to, a review of parking requirements both locally and nationally; plans prepared by Walter L. Phillips, Inc., the files and library of Wells + Associates, Inc., Transforming Tysons Plan Amendment Text dated June 22, 2010, and Spectrum Development LLC.

Background

The subject site is currently zoned Residential (R-1B) and Business (B-3) and is developed with primarily commercial/retail uses as well as three single family dwelling units. The applicant is proposing to rezone and redevelop the site with a cohesive mix of uses containing both residential and non-residential components. Based on the most recent plan concepts provided to date, the proposed development mix is described as follows:

<u>Residential</u>

- 19 – Studio Units
- 204 – 1 Bedroom Units
- 117 – 2 Bedroom Units

<u>Non-Residential</u>

- 150-room Hotel
- 53,043 GSF Retail/Restaurant space
- 752-seat Theater
- 5,635 GSF Office

As reflected on the plan, parking for this redevelopment would be provided in both surface lots (85 spaces) and a parking structure (831 spaces) totaling approximately 916 parking spaces proposed to serve the site. The parking total includes those spaces necessary for use by commercial patrons, residents, visitors, and staff. Access to the parking structure will be provided by ramps located within the site.

City of Falls Church Zoning Requirements

Chapter 48, Article V, Division 2 of the City of Falls Church Code of Ordinance establishes off-street parking requirements for various land uses by providing parking rates per unit of land use (i.e., per residential dwelling unit, per 1,000 GSF of retail uses, etc.). A copy of the relevant Ordinance text applicable to the Mason Row redevelopment is provided as Attachment I.

Section 48-1004 of the Ordinance outlines the parking requirements for the proposed/planned on-site use as follows:

Dwelling, Multifamily – 1.0 per efficiency unit, no bedroom
1.50 per one bedroom unit
2 per two bedroom unit
2 per three or more bedroom unit

Motion Picture Theatres – 1 per 4 seats based on maximum seating capacity in main assembly

Hotel and Motel – 1 per guestroom, plus one employee space per ten guestrooms

Shopping Center – 1 per 250 sf of floor area

Office – 1 per 300 sf of floor area

As reflected on Table 1, based on a strict application of the Zoning Ordinance, the residential dwelling units would require 559 parking spaces and the non-residential uses would require 585 parking spaces for a total of 1,144 spaces required per the Ordinance.

Requested Parking Reduction

Section 48-1080 of the Zoning Ordinance allows the Applicant to request the Planning Commission to permit the modification of the off-street parking and loading requirements contained in Section 48-1004. As stated in 48-1080 (d) (2):

> *Parking reductions for use of alternative modes of transportation.* Applicants may request from the planning commission, during the site plan process, a consideration for a reduction in the parking requirements of division 2 of this article of up to 20 percent for reduced parking demands due to the use of or incentives for the use of modes of transportation other than single-occupancy vehicles, such as carpooling, metro shuttle buses, proximity to metro, or contribution to city transit services. Verifiable data must be produced that supports a reduction in parking for these purposes.

A copy of the specific ordinance text is also included in Attachment I. In accordance with the above citation, the Applicant is requesting a parking reduction of 20% from the number of parking spaces that would be required by a strict application of the City of Falls Church Zoning Ordinance. The proposed 916 parking spaces would be allocated to the site uses as per the following:

Table 1
Mason Row
Falls Church Ordinance Parking Requirements

Land Use		Amount	Units	Falls Church, Virginia [1] Code Requirement	Spaces
Residential (Combined Apartment and Condominium)					
	Studio	*19*	*Dwelling Units*	1 space per unit	19
	One Bedroom	*204*	*Dwelling Units*	1.5 spaces per unit	306
	Two Bedroom	*117*	*Dwelling Units*	2 spaces per unit	234
				Residential Spaces Code Requirement	**559**
Hotel	*Guestrooms*	*150*	*Guestrooms*	1 space per guestroom	150
				1 space per 10 guestrooms	15
				Hotel Spaces Code Requirement	**165**
Office		*5,635*	*Square Feet*	1 space per 300 sf of floor area	19
				Commercial Spaces Code Requirement	**19**
Theater		*752*	*Fixed Seats*	1 space per 4 seats	188
				Commercial Spaces Code Requirement	**188**
Retail/Restaurant		*53,043*	*Square Feet*	1 space per 250 sf of floor area	213
				Commercial Spaces Code Requirement	**213**
				Total Spaces Required	**1,144**
				Parking Provided	**916**
				Parking Reduction Requested	**20%**

Note(s) (1) Calculations based on the Falls Church Zoning Ordinance

- Residential – 447 spaces (average rate of 1.31 spaces per unit)
- Non-residential (hotel and commercial) – 469 spaces
- TOTAL – 916 spaces

Due to the inherent separation of the on-site parking supply described above, this report is divided into two sections: 1) residential parking and 2) non-residential parking. The following sections provide the justification for the requested parking reduction per the City's Ordinance provisions.

SECTION I: RESIDENTIAL PARKING

Overview

As stated above, the Applicant proposes to dedicate 447 parking spaces for the proposed 340 multifamily residential uses. This supply represents an average parking rate of 1.31 spaces per unit. Based on the City Code requirement (see Table 1), the average parking rate to meet Code is calculated at 1.64 spaces per unit. Therefore, the proposed residential parking supply represents a 20% reduction from the Code requirement.

Experience at Existing Residential Developments

Parking Occupancy Counts. Wells + Associates has conducted a number of parking occupancy counts at existing multifamily properties within the City of Alexandria, Arlington County and Fairfax County, which have characteristics consistent with the proposed Mason Row project and provide between 1.0 and 1.61 parking spaces per unit. The demographics associated with each site and a summary of the count data are included in Tables 2 and 3, respectively. The count summaries from each are included in Attachment II. The Circle Towers site is an exception as it provides 1.75 spaces per unit; however, those spaces are partly shared between the existing 606 residential dwelling units, as well as 66,700 SF of commercial uses.

As shown on Table 3, the ratio of occupied parking to occupied units ranged between 0.93 and 1.45 spaces per unit which represent the actual parking demand associated with those properties. The proposed parking rate of 1.31 spaces per unit lies within this range of actual parking demand rates.

Local Residential Parking Requirements

Imposing controls and gaining parking efficiencies can work to encourage the use of alternate modes of transportation (a City planning objective) and foster smart growth. Tightening parking supplies at concentrated residential and/or commercial sites, in conjunction with certain Transportation Demand Management (TDM) strategies have resulted in conditions shown to

Table 2
Mason Row
Parking Count Demographic Summary

Characteristic	Meridian At Carlyle	Warwick I	Courtland Park	Springfield Station	Ravensworth Towers	Fairfax Towers	Circle Towers [1]
				Sites			
Jurisdiction	City of Alexandria	Arlington County	Arlington County	Fairfax County	Fairfax County	Fairfax County	Fairfax County
Unit Count	403	321	264	631	219	396	606
- efficiency	33	32	8	not available	34	0	not available
- one bedroom	247	202	211	not available	110	144	not available
- two bedroom	123	87	44	not available	75	216	not available
- three or more bedroom	0	0	1	not available		36	not available
Occupied Units	339	310	264	623	214	380	579
- efficiency	not available	31	8	not available	34	not available	not available
- one bedroom	not available	195	211	not available	109	not available	not available
- two bedroom	not available	84	44	not available	71	not available	not available
- three or more bedroom	not available	0	1	not available		not available	not available
Percent Occupancy	84%	96%	100%	99%	98%	96%	96%

Notes:
[1] The parking provided serves 66,700 SF of commercial uses in addition to the 606 residential dwelling units.

Table 3
Mason Row
Parking Count Summary

Characteristic	Sites: Meridian At Carlyle	Warwick I	Courtland Park	Springfield Station	Ravensworth Towers	Fairfax Towers	Circle Towers [1]
Jurisdiction	City of Alexandria	Arlington County	Arlington County	Fairfax County	Fairfax County	Fairfax County	Fairfax County
Unit Count	403	321	264	631	219	396	606
Parking Provided	496	342	265	933	353	551	1,059
Ratio of Parking Provided	1.23	1.07	1.00	1.48	1.61	1.39	1.75
Occupied Units	339	310	264	623	214	380	579
Max. Parking Occupancy	316	292	258	805	273	506	840
Ratio of Occupied Parking	0.93	0.94	0.98	1.29	1.28	1.33	1.45

Notes:
[1] The parking provided serves 66,700 SF of commercial uses in addition to the 606 residential dwelling units.

increase mode splits. As a result, communities throughout the nation, like the City of Falls Church, have begun to incorporate flexibility into their parking requirements as evidenced by the great number of internet sites relating to parking. The following sections summarize the parking requirements for residential projects in Fairfax County, The City of Alexandria, and Arlington County. These parking requirements are also summarized on Table 4. The relevant excerpts from each of the documents described below are included in Attachment III.

Fairfax County. The City of Falls Church is surrounded by Fairfax County. The land uses and zoning associated with the surrounding areas of the County are comparable to those of the City. Based on the Fairfax County Zoning Ordinance, a multifamily residential dwelling unit requires 1.6 parking spaces per unit. Based on the application of Fairfax County parking rates to the Mason Row project, the subject site would require 544 parking spaces (15 fewer than the City of Falls Church Code requirement). This would correspond to a parking reduction of approximately 3% from City of Falls Church residential code requirements. Furthermore, Fairfax County has its own provisions for reducing Ordinance required parking which has resulted in a number of parking reduction approved throughout the County. Notably, the Circle Towers property located along Lee Highway (Route 29) in Fairfax County was approved in 2011 with a 26.5% parking reduction.

Transforming Tysons –Plan Amendment June 22, 2010. As a result of the 2004 Area Plan Review (APR) process, the Fairfax County Board of Supervisors established the Tysons Land Use Task Force to "update the 1994 [Comprehensive] Plan." In conjunction with this update to the Tysons Corner Plan, parking recommendations for residential and commercial uses were provided in the plan text. These recommendations included proposed minimum and maximum parking ratios for residential developments based on proximity to rail stations and modified parking rates in consideration of the number of bedrooms per unit. For multifamily residential uses located more than ½ mile from a rail station, considered to be a non-TOD (Transit Oriented Development) area, minimum parking ratios of 1.1 spaces per unit is recommended for studio/one bedroom units, 1.35 spaces per unit for two bedroom units, and 1.6 spaces per unit for three bedroom units. Based on the application of the non-TOD minimum parking ratios, the residential parking demand for the proposed site would be 404 parking spaces (or 155 fewer than the City of Falls Church code requirement). This would correspond to a parking reduction of approximately 28% from City of Falls Church residential code requirements.

City of Alexandria. Multi-family dwelling units in the City of Alexandria are parked in accordance with the bedroom count based on the following schedule:

Unit Type	Spaces Required
Efficiency and 1 bedroom	1.3 spaces/unit
2 bedroom unit	1.75 spaces/unit

Table 4
Mason Row
Jurisdictional Residential Parking Requirement Comparison

Land Use	Amount	Units	City of Falls Church (1) Code Requirement	Spaces	Fairfax County (2) Code Requirement	Spaces	Tysons Comprehensive Plan Amendment (3,4) Code Requirement	Spaces	City of Alexandria (5) Code Requirement	Spaces	Arlington County (6) Code Requirement	Spaces
Multifamily (Apartments and Condominiun	340	DU										
Studio	*19*	*DU*	1 spaces/DU	19	1.6 spaces/DU	544	1.1 spaces/DU	21	1.3 spaces/DU	25	1.125 spaces/DU for first 200 units	225
1 Bedroom	*204*	*DU*	1.5 spaces/DU	306			1.1 spaces/DU	225	1.3 spaces/DU	266	1.0 space/DU for each additional unit	140
2 Bedroom	*117*	*DU*	2 spaces/DU	234			1.35 spaces/DU	158	1.75 spaces/DU	205		
Residential Spaces Required				***559***		***544***		***404***		***496***		***365***
Percent Residential Reduction						*3%*		*28%*		*11%*		*35%*

Note(s): (1) Calculations based on the City of Falls Church Zoning Ordinance
(2) Calculations based on the Fairfax County Zoning Ordinance.
(3) Calculations based on the Fairfax County Comprehensive Plan's *Plan Amendment*, dated June 22, 2010
(4) Calculations based on the minimum number of parking spaces allowed in a non-TOD area.
(5) Calculations based on the City of Alexandria Zoning Ordinance.
(6) Calculations based on the Arlington County Zoning Ordinance.

Within the certain metro parking districts (such as King Street), multi-family developments are parked at the rate of 1.0 space/unit, regardless of the bedroom count. Based on Alexandria's baseline requirements, a total of 496 spaces would be required to accommodate the multifamily residential units proposed for the Mason Row development. This represents an 11% reduction from the City of Falls Church Code requirements.

Arlington County. Based on the 2014 Arlington County Zoning Ordinance, multifamily residential uses are parked per the following:

Dwellings, other than one- and two-family: "1 & 1/8 for each of the first 200 dwelling units in any structure…Plus 1 for each additional dwelling unit constructed and maintained in accordance with Section 14.3.3."

Based on these requirements, the Mason Row development would need 365 parking spaces to accommodate the proposed residential uses. This represents a 35% reduction from the City of Falls Church Code requirements.

Unit Type

As part of the Mason Row redevelopment project, the Applicant proposes a mix of unit types that would minimize the number of two and three bedroom units. The following summary outlines the proposed unit mix for the combined apartment and condominium uses:

Unit Type	Proposed	
	Number	*Percentage*
Studio	19	6%
One Bedroom	204	60%
Two Bedroom	117	34%
TOTAL	340	100%

As shown above, the proposed redevelopment will include studio apartment units in the community while minimizing the percentage of two-bedroom units. By providing a unit mix in this manner, the overall parking ratio necessary to adequately supply the development will be reduced. This unit mix will encourage, on average, fewer occupants per dwelling unit which, in turn, results in diminished auto ownership per unit. Many jurisdictions including and outside of the City of Falls Church recognize that studio and single bedroom multifamily units generate less parking demand and therefore have variable parking ratios in their ordinances that reflect different unit types as summarized in Table 4. Therefore, the mix of unit types proposed by the Applicant would, in of itself, serve to reduce residential parking demand. By introducing measures and strategies

that would take advantage of other transportation mode choices as elaborated later in this document, the full residential parking reduction is justified.

Alternate Modes

In addition to the unique unit type mix, the site is located completely within one mile of the West Falls Church metrorail station (as measured from the site's farthest point from the station). Furthermore, the site is served by metrorail destined bus routes located along West Broad Street adjacent to the property. The metrobus (WMATA) 28A, 28X, and 3T bus routes operate on 20 to 30 minute headways during the weekday peak hours and serve the West Falls Church station as well as locations within Tysons Corner. The bus stop(s) for these lines are located along West Broad Street directly adjacent to the subject site.

Based on U.S. 2010 Census Journey to Work data for the City of Falls Church, drivers within the City utilize the following modes of transportation:

- Drive Alone: 61.8%
- Carpool: 8.0%
- Mass Transit: 16.9%
- Walk/Bike: 4.3%
- Other: 9.0%

As indicated above, non-single occupant vehicle (non-SOV) travelers account for approximately 38.2% of vehicle trips in the area. Although in the interest of conservatism, only a nominal mode split of 5% was applied in the traffic impact study, the effect of alternative modes would further reduce the residential parking demand associated with the property. It should be noted that the proximity of the Washington & Old Dominion (W&OD) regional trail makes this site ideally situated to take advantage of walking and bicycling as viable modes of transportation.

In addition to the transit services currently available, the applicant intends to implement various transportation demand management (i.e., "TDM") strategies to further reduce vehicle trips and auto dependency for future residents. Examples of these strategies that would serve to reduce parking demand include the following potential measures:

- Offering/augmenting shuttle service to the West Falls Church metrorail station (hotel only).
- Providing dedicated parking on-site or in the vicinity for Zip Cars and/or supplying dedicated rental vehicles for use.
- Encouraging/incentivizing Ridesharing opportunities.
- Supplying new residents with pre-loaded SmarTrip cards.
- Provision of on-site bicycle storage.

It is widely recognized that reducing available on-site parking is, in itself, a TDM measure. Regular parking management, including the requirement of parking decals/passes and/or the limiting of guaranteed parking spaces per unit has been shown to both reduce average auto occupancy and lessen the number of vehicle trips generated by a residential development. In concert with the above TDM strategies, the actual parking demand that will be experienced upon completion of the redevelopment will justify the reduced parking supply as requested.

Alternate Vehicle Parking

The proposed residential parking supply of 447 spaces represents those spaces that will meet the City's Ordinance definition of legal off-street parking. As stated previously, these spaces will be provided in a parking garage within the property. As the design of the buildings and the parking facilities become more engineered throughout the zoning and site plan processes, there may be opportunities for the parking and/or storage of alternate vehicles that require less area than a legal parking space and can be accommodated within geometrically irregular garage area. The Applicant intends to maximize the use of available garage space for potential parking and on-site vehicle storage for residents. Examples of these alternate vehicles include the following:

- Charging stations for electric cars
- Tandem parking spaces
- Bicycles (storage provided in racks and/or storage lockers)

The potential ability to offer parking for these alternate vehicles, in concert with incentivizing their use, would serve to further reduce the demand for conventional parking, which may serve to further justify this parking reduction request. The applicant has already committed to provide/install bicycle racks for site patrons and visitors as indicated on the CDP.

SECTION II: NON-RESIDENTIAL PARKING

Overview

As stated previously, a total of 469 parking spaces are proposed to serve Mason Row's non-residential uses, which include the hotel and office/retail uses. Based on a strict application of the Falls Church City Code, a total of 585 spaces would be required to serve these uses. Therefore, a reduction of 116 spaces (or 20 percent) is requested for the non-residential uses.

Based on information provided by the Applicant, the following allocation of these 469 parking spaces is proposed between the office, theater, retail and hotel uses:

Use	Spaces
Office	14
Retail	168
Hotel	127
Theatre	160
Total	469

Shared Parking

Because of the synergistic mix of uses that will be present on the same site, the site will benefit from being able to share parking between the non-residential uses (i.e., a single parking space can potentially serve both the retail use and the hotel). This phenomenon is common in mixed-use developments and is possible since the different on-site land uses experience peak parking demands at different times of day. The Falls Church Ordinance recognizes that this pattern occurs and includes a provision to calculate shared parking in mixed-use developments (Section 48-1080 (d) (3)). A copy of the Ordinance text is included as Attachment I.

The methodology included in Section 48-1080 was applied to the mix of non-residential uses proposed for the Mason Row development as shown in Table 5 in order to calculate the number of shared parking spaces per the Ordinance. As shown in the table, and according to the Ordinance, a reduction of 59 spaces is calculated which represents the number of non-residential parking spaces which may, in theory, be shared between the hotel and commercial uses.

Urban Land Institute. As an alternative to the methodology described in the City Ordinance, the Urban Land Institute (ULI) publication Shared Parking, 2nd edition has established a model and methodology for determining parking demand for various types of

Table 5
Mason Row
Falls Church Shared Parking Methodology

	Weekday		Weekend			
Use	Day	Evening	Day	Evening	Night	Total
Business and professional offices	100%	**10%**	10%	5%	5%	
Retail business and service establishments	60%	**90%**	100%	70%	5%	
Hotels/motels	75%	**100%**	75%	100%	75%	
Business and professional offices	19	**2**	2	1	1	19
Retail business and service establishments	241	**361**	401	281	21	401
Hotels/motels	124	**165**	124	165	124	165
Total Shared Parking Required (Commercial/Hote	365	**526**	525	446	145	585

Note(s): (1) Calculations based on the Falls Church Zoning Ordinance

development. This methodology is especially useful in cases such as Mason Row, where a single parking space may be used for parking associated with either the proposed retail or hotel use. Because each land use within a development may experience a peak parking demand at different times of day, or different months of the year, relative to the other land uses on-site, the actual peak parking demand of the entire development may be less than if the peak parking demand of each land use was considered separately.

The ULI model applies various hourly, monthly and weekday/weekend adjustment factors to the parking demands of each land use. For informational purposes, these adjustment factor tables are provided in Attachment IV. Please note that no synergy adjustment factors were applied to the model for purposes of this analysis. Based on the monthly and weekday adjustment calculations, the model establishes a peak demand hour and month during which the proposed new development's parking requirements would be at their highest. The ULI model calculation summary of the subject site (only considering the shared parking hours) is provided in Table 6. When the project's parking demands (based on the Falls Church Ordinance minimum parking rates) are adjusted to reflect hourly, monthly, and weekday/weekend variations, a peak parking demand of 399 parking spaces results for the hotel, retail, theatre, and office uses on the weekday. The weekday shared parking figure represents a 32% (or 186 fewer parking spaces) reduction from the Falls Church Zoning Ordinance. As stated previously, the Applicant is requesting a 20% reduction from the required parking for the non-residential uses, which is less a reduction than the ULI shared parking model would support.

Conclusions

Based on the documentation provided herein, the following can be concluded:

1. Under a strict application of the City of Falls Church Zoning Ordinance, 1,144 parking spaces would be required to accommodate the proposed site uses.

2. The applicant is requesting an overall parking reduction of up to 20% (a reduction of 228 parking spaces) in order to provide 916 parking spaces to serve the site uses.
    a. Parking associated with the site's residential component would be reduced by 20% (a reduction of 112 parking spaces).
    b. Parking associated with the site's non-residential component (hotel, office, theater and retail uses) would be reduced by 20% (a reduction of 116 parking spaces).

3. With the application of various local code requirements, the proposed unit mix (studio vs. one-bedroom, two-bedroom, and three-bedroom units) would result in a residential parking demand between 11 percent and 37 percent less than a strict application of the City of Falls Church Zoning Ordinance requirements.

4. Due to the proximity of metrorail and ready access to multiple bus routes adjacent to the site, in concert with proposed transportation demand management (TDM) strategies, the peak residential parking demands associated with the Mason Row project would be further reduced.

5. The proximity of the W&OD regional trail makes this site ideally situated for walking a bicycling as viable modes of travel.

6. The applicant intends to maximize any excess available garage space for the potential parking and/or storage of additional types of vehicles, including charging stations for electric cars and bicycles.

7. Shared parking between the site's non-residential uses (hotel and retail uses) will reduce the overall site parking demands.

8. The Urban Land Institute shared parking model supports a shared parking reduction of up to 32% for the site's non-residential uses. The Applicant is only requesting a 20% parking reduction for the site's non-residential uses.

9. Based on the preceding background research and analysis, the proposed parking reduction requested by the Applicant should be supported.

Table 6
Mason Row
ULI Shared Parking Model

2/6/2015

SHARED PARKING DEMAND SUMMARY

PEAK MONTH: LATE DECEMBER -- PEAK PERIOD: 3 PM, WEEKDAY

			Weekday							Weekend					Weekday			Weekend		
	Project Data							Peak Hr	Peak Mo						Peak Hr	Peak Mo	Estimated	Peak Hr	Peak Mo	Estimated
			Base	Mode	Non-Captive	Project		Presence	Adj	Base	Mode	Non-Captive	Project		Adj	Adj	Parking	Adj	Adj	Parking
Land Use	**Quantity**	**Unit**	**Rate**	**Adj**	**Ratio**	**Rate**	**Unit**	**7:00 PM**	**October**	**Rate**	**Adj**	**Ratio**	**Rate**	**Unit**	**3 PM**	**ate Decembe**	**Demand**	**3 PM**	**ate Decembe**	**Demand**
Community Shopping Center (<400 ksf)	53,043	sf GLA	3.20	1.00	1.00	3.20	/ksf GLA	0.89	0.70	3.20	1.00	1.00	3.20	/ksf GLA	1.00	0.80	136	1.00	0.80	136
Employee			0.80	1.00	1.00	0.80	/ksf GLA	0.90	0.70	0.80	1.00	1.00	0.80	/ksf GLA	1.00	0.90	38	1.00	0.90	38
Cineplex	752	seats	0.24	1.00	1.00	0.24	/seat	0.78	0.46	0.24	1.00	1.00	0.24	/seat	0.80	1.00	144	0.80	1.00	144
Employee			0.01	1.00	1.00	0.01	/seat	1.00	0.46	0.01	1.00	1.00	0.01	/seat	0.75	1.00	6	0.75	1.00	6
Hotel-Business	150	rooms	1.00	1.00	1.00	1.00	/rooms	1.00	0.95	1.00	1.00	1.00	1.00	/rooms	0.60	0.50	45	0.60	0.50	45
Employee			0.10	1.00	1.00	0.10	/rooms	1.00	0.90	0.10	1.00	1.00	0.10	/rooms	1.00	1.00	15	1.00	1.00	15
Office <25 ksf	5,939	sf GLA	0.30	1.00	1.00	0.30	/unit	0.94	1.00	0.03	1.00	1.00	0.03	/unit	0.45	0.80	1	0.40	0.80	0
Employee			3.03	1.00	1.00	3.03	/unit	0.97	1.00	3.30	1.00	1.00	3.30	/unit	1.00	0.80	14	0.40	0.80	6

ULI base data have been modified from default values.

Customer	326	Customer	325
Employee	73	Employee	65
Reserved	0	Reserved	0
Total	399	Total	390

Shared Parking Reduction 32% 34%

Attachment I

City of Falls Church Zoning Ordinance

Falls Church, Virginia, Code of Ordinances

Sec. 48-1004. Table of use types.

In all districts off-street parking areas, off-street loading areas and standing spaces shall be provided in connection with, accessory to, and on the same premises as, each and every use, including municipal facilities, in the amount specified within this subsection. Certain modifications are permitted for mixed-use redevelopments as shown in division 5 of this article, as deemed appropriate by the planning commission and as regulated in section 48-971(2).

Use Types	Loading	Required Off-Street Parking and Standing Spaces
Cultural, Entertainment and Recreational Uses		
Amusements		
Billiards		1 per 200 sf of floor area
Miniature gold and outdoor installations		1 per 400 sf of the designated site area
Amusement arcades		1 per two amusement machines
Cultural Activities		
Art galleries, libraries, museums		1 per 400 sf of floor area
Botanical gardens/arboretums and zoos		1 per 500 sf of designated site area
Historical and monumental sites		Planning commission determination upon recommendation of historical commission
Parks		Planning commission determination based upon such criteria as the number of persons expected to use the facility at any one time, their means of transportation and the availability of on- or off-street parking spaces nearby.
Public Assembly		
Amphitheaters, band shells, coliseums, stadiums	2	1 per 3 seats or six-foot benches
Auditoriums, assembly halls, community centers, dance halls, legitimate and motion picture theatres		
Fixed seats	1	1 per 4 seats based on maximum seating capacity in main assembly
Without fixed seats	1	1 per 60 sf of floor area
Recreational Activity		
Day camp, outdoors		1 per 10 pupils, plus 1 per staff member
Gymnasiums	1	1 per 4 seats
Sports activities		
Bowling		
Indoor		5 per alley
Outdoor		1 per 400 sf of designated site area
Riding stables		1 per every 2 stalls
Skating, ice and roller		
Indoor		1 per 60 sf of floor area or 1 per 4 seats, whichever is greater
Outdoor		1 per 200 sf of designated site area
Swimming pools		1 per 54 sf of water surface area
Tennis courts		2 per court
Manufacturing		
Assembly, distribution, fabrication, packaging, processing; bottling, canning, chemical, chipping, curing, cutting, electrical, extruding, milling, punching, stamping, thermal	2	1 per 500 sf of floor area
Industrial research, development and testing	1	1 per 300 sf of floor area
Office		
Business, general and governmental buildings	1	1 per 300 sf of floor area

Professional office buildings, mixed professional uses composing 50 percent or more of the total floor area		1	1 per 250 sf of floor area
Residence			
Dwellings			
One-family detached and two-family semidetached			1 per dwelling unit
Multifamily			1.0 per efficiency unit, no bedroom 1.50 per one bedroom unit 2 per two bedroom unit 2 per three or more bedroom unit
Townhouse			2.5 per dwelling unit
Group quarters			
Boardinghouse, lodginghouse, or roominghouse			1 per residence unit, plus two spaces for employees
Convalescent, human care, nursing or rest home, sanitarium		1	1 per 4 beds of maximum capacity, plus 1 for every fulltime staff member on the maximum shift, and 1 per attending physician
Dormitory, fraternity or sorority			1 per 2 beds, plus one per 200 sf of floor area
Foster home			1 per full or parttime staff member
Religious accommodations			1 per 10 beds with a minimum of 4 spaces
Home occupations			According to specific use type
Transient lodgings			
Hotel and motel		1	1 per guestroom, plus one employee space per ten guestrooms
Tourist home			1 per guestroom, plus two spaces for employees
Prenatal and infant care counseling center in an R-1A or R-1B district			As required by special use permit conditions
Service			
Business services			
Advertising, adjustments and collections, bonding, consulting, consumer and mercantile credit, data processing, detective and protective, employment, stenographic, public relations			1 per 300 sf of floor area
Blueprinting, delivery, duplicating, hand tool rental, mailing, office equipment leasing and sales, photocopying and finishing, printing, trading stamps		1	1 per 200 sf of floor area
Warehousing and storage			
	Indoor	4	1 per 1,000 sf of floor area
	Outdoor	2	1 per 2,000 sf of total site area
	Self storage warehouse	*	1 per 400 sf of office floor area, plus 2 spaces for employees
Vehicle and wheeled equipment		1	1 per 1,000 sf of total site area
Contract construction services		2	1 per 500 sf of floor area
Educational services			
Day care and kindergarten			1 per 125 sf of floor area, plus 2 for employees
Nursery			1 per 175 sf of floor area, plus two per employee
Schools			
	Instructional		
	Arts, commercial, drafts, driving, physical culture, physically and mentally handicapped, professional		1 per 4 students of maximum capacity, plus 1 per classroom and 1 per fulltime staff member on maximum shift
	Parochial, private or public		
	Elementary, intermediate or junior high	1	1 per teacher, employee or administrator whether full or parttime, if activities of personnel are conducted between 8:00 a.m. and 4:00 p.m.
	High school or college or preparatory	1	1 per teacher, employee or administrator whether full or parttime, plus one for every 10 students of maximum enrollment or capacity

Finance, insurance and real estate services		
Banks, savings and loan associations		1 per 300 sf of floor area
Drive-in		5 standing spaces, per teller window
Insurance		1 per 300 sf of floor area
Real estate		1 per 200 sf of floor area
Governmental services		
Postal		
Window service	4	2 per employee, clerk or carrier on maximum shift
Mail handling station with no window service	4	1 per employee, clerk or carrier on maximum shift
Protection functions, fire, police		2 per fulltime employee on maximum shift
Armed forces recruitment		1 per employee on maximum shift
Personal services		
Apparel and accessory repair		1 per 200 sf of floor area
Barbershop, beauty salon		3 per 100 sf of floor area
Cemeteries		1 per 2,500 sf of total site area
Funeral home, crematory, mortuary	2	1 per four seats in chapels or parlors with fixed seats or one per 100 sf of floor area of assembly rooms without fixed seats for services, plus five for employees
Laundering, dry cleaning		
Automatic, self-service	1	1 per two cleaning or laundry machines
Depot	1	1 per 50 sf of floor area
On-premises finishing	1	1 per 200 sf of floor area
Other		1 per 200 sf of floor area
Professional services		
Architect, artist, attorney, engineer		1 per 300 sf of floor area
Medical		
Clinic, outpatient	1	1 per 200 sf of floor area
Dental office		1 per 300 sf of floor area
Life science laboratory and research	1	1 per 200 sf of floor area
Physician and surgeon		1 per 200 sf of floor area
Musician		1 per 300 sf of floor area
Other		1 per 300 sf of floor area
Veterinary		
Indoor	1	1 per 300 sf of floor area
Outdoor	1	1 per 500 sf of designated site area
Repair services		
Motor vehicle		
Maintenance and mechanical repair		2 per service bay for employee parking, 5 per bay for vehicle storage
Drive-through maintenance and mechanical repair		1 per service bay, plus 4 per bay for employee parking, 5 per bay for vehicle standing
Painting and bodywork		2 per service bay for employee parking, 10 per of first 3 bays for vehicle storage
Wash, full service		2 for employees, 10 spaces per service bay for vehicle standing
Wash, self service		5 per bay for vehicle standing
Note—Establishments offering a variety of motor vehicle repair and maintenance services shall be required to meet the requirements of this section per use type that will be present on site.		
General maintenance		
Indoor	1	1 per 400 sf of floor area
Outdoor	1	1 per 1,000 sf of total site area
Miscellaneous services		
Business and labor associations		1 per 100 sf of floor area
Churches, synagogues, temples and places of worship		1 per 4 seats in sanctuary

Civic, fraternal, political, private, religious and social, nonprofit associations			1 per 60 sf of floor area with a minimum of 10
Open air business and temporary stands not otherwise categorized by use type		1	1 per 200 sf of designated site area
Sign painters, cabinet, carpentry and refinishing		1	1 per 500 sf of floor area
Welfare and charitable centers			1 per 200 sf of floor area
Trade			
Retail			
Apparel and accessories			1 per 200 sf of floor area
Automotive			
	Accessory sales		
		Indoor	1	1 per 200 sf of floor area
		Outdoor	1	1 per 1,000 sf of total site area with a minimum of 10 spaces
	Dealership, New and Used		
		Indoor	2	1 per 400 sf of floor area devoted to display
		Outdoor	2	1 per 1,000 sf of total site area with a minimum of 10 spaces
	Inspection stations			5 standing spaces
	Gasoline service stations		1	2 standing spaces per fueling service bay, 3 vehicle storage spaces per service bay, 2 for employees, plus 1 employee space per service bay.
	Note—Gasoline stations shall provide 1 per 100 sf of floor area dedicated to sale of food and non-auto oriented goods in addition to other requirements.			
	Motorcycle and accessory sales		1	1 per 200 sf of floor area
	Marine		2	1 per 400 sf of floor area or site area devoted to display
Building materials, contractor supplies, hardware				
	Air conditioning, brick, concrete aggregates, electric, glass, heating, metals, plumbing, tile, wood			
		Indoor	2	1 per 400 sf of floor area
		Outdoor	2	1 per 1,000 sf of total site area
	Hardware		1	1 per 400 sf of floor area
	Storage of gravel, sand, etc., outdoors		2	1 per 1,000 sf of total site area
Food				
	Automobile oriented convenience food store		1	1 per 100 sf of floor area
	Baker, confectionery, dairy, delicatessen, groceries, meats, poultry, produce, seafood		1	1 per 200 sf of floor area
Furniture, home furnishings, household appliances, radio and television, rental, sales and service			1	1 per 400 sf of floor area
Garden supplies, greenhouses and nursery stock				
	Indoor		1	1 per 200 sf of floor area
	Outdoor		1	1 per 600 sf of designated site area
General merchandise, antiques, bicycles, books, department stores, drugs, dry goods, florist, jewelry, magazine, novelty, optical, pet, photographic, secondhand merchandise, sporting goods, stationery, tobacco, variety store and vending machine operation			1	1 per 200 sf of floor area
Machinery sales				
	Indoor		1	1 per 500 sf of floor area minimum 5 spaces
	Outdoor		1	1 per 1,000 sf of total site area
Restaurant, liquor outlet, tavern			1	1 per 100 sf of floor area
	Restaurant Drive-through			12 standing spaces, or as determined by use permit
Shopping center			2	1 per 250 sf of floor area
Wholesale, inventory, sales, storage not otherwise classified			2	1 per 1,000 sf of floor area devoted to enclosed storage
Transportation, Communication and Utility				

Automobile parking, attendant, shelter		1 per employee on the maximum shift
Communications facilities, broadcasting studios, message centers, telephone exchange, transmitting stations and towers		1 per 300 sf of floor area
Motor vehicle transportation		
Bus equipment maintenance and garaging	2	2 per service bay or stall, plus 1 per vehicle storage space
Motor freight equipment maintenance and garaging	2	2 per service bay or stall, plus 1 per vehicle storage space
Taxicab		
Equipment maintenance and garaging	1	2 per service bay or stall, plus 1 per vehicle storage space
Convenience stands		2 standing spaces
Utility-Generation plants, refuse disposal, regulating substations, sanitary landfills, storage, solid waste disposal	1	1 per 1,000 sf of total site area
*Loading spaces for self storage warehouse-1 space per 20,000 sf of floor area. sf = square feet.		

(Code 1973, § 81-60; Code 1982, § 38-31(d)(2); Ord. No. 619; Ord. No. 790; Ord. No. 804; Ord. No. 811; Ord. No. 924; Ord. No. 960, 2-23-1981; Ord. No. 999, 2-22-1982; Ord. No. 1021, 8-9-1982; Ord. No. 1039, 2-28-1983; Ord. No. 1051, 6-13-1983; Ord. No. 1081, 9-10-1984; Ord. No. 1083, 9-24-1984; Ord. No. 1139, 5-27-1986; Ord. No. 1188, 5-26-1987; Ord. No. 1203, 10-13-1987; Ord. No. 1227, 6-13-1988; Ord. No. 1263, 5-22-1989; Ord. No. 1277, § 6, 10-10-1989; Ord. No. 1382, 11-25-1991; Ord. No. 1477, 5-9-1994; Ord. No. 1590, 10-14-1997; Ord. No. 1636, 3-8-1999; Ord. No. 1766, 9-13-2004)

Sec. 48-1080. General requirements.

(a) *Evidence of control and future development potential.* All property to be developed within a MUR shall be a single parcel of land and shall not be subdivided, except in accordance with chapter 38, pertaining to subdivisions. Upon approval of a MUR site plan, any building permit, subdivision plat, subsequent site plans or amendment, or any other application for development shall be in substantial conformance with the approved site plan. Any such subsequent application will be reviewed on the basis that it will not:

(1) Impair the ability of the project to be developed, as approved;

(2) Jeopardize approved pedestrian, vehicular, or utility connections on the property;

(3) Adversely affect the practicality or cost of maintaining common or shared facilities on the property;

(4) Change the ability of reduced parking spacing under shared parking to meet needs; or

(5) Fragment the property in a manner to negate the intent of consolidation of parcels, as stated in section 48-1079

(b) *Minimum project area.* The site area for all MUR applications must be at least 2½ contiguous acres.

(c) *Affordable dwelling units.* All residential units are subject to the provisions of article VII of this chapter.

(d) *Parking requirements.* Parking requirements shall be met in accordance with individual use requirements, as described in division 2 of this article, or may take advantage of a shared parking or reduced parking approach described in the text and table of this subsection (d). Landscaping requirements for parking areas in section 48-940 do not apply to MUR applications. For MUR application landscaping requirements, see subsections (f) through (h) of this section. Applicants may choose one of the following shared parking or reduced parking options:

(1) *Specific use parking reductions.* Applicants may request from the planning commission, during the site plan process, a consideration for a reduction in the parking requirements of division 2 of this article for a specific use, if verifiable data is produced that supports a reduction in parking and loading spaces.

(2) *Parking reductions for use of alternative modes of transportation.* Applicants may request from the planning commission, during the site plan process, a consideration for a reduction in the parking requirements of division 2 of this article of up to 20 percent for reduced parking demands due to the use of or incentives for the use of modes of transportation other than single-occupancy vehicles, such as carpooling, metro shuttle buses, proximity to metro, or contribution to city transit services. Verifiable data must be produced that supports a reduction in parking for these purposes.

(3) *Shared parking.* Shared parking for developments containing a mix of uses.

a. When any land and/or buildings are contiguous to one another, and are used for two or more purposes, the number of parking spaces shall be computed by multiplying the minimum requirements in division 2 of this article by the appropriate percentage as shown in the following parking credit schedule for each of the five time periods. The number of parking spaces required for the mixed-use development is then determined by adding the results in each column. The column total that generates the highest number of parking spaces becomes the parking requirement.

Shared Parking Requirements by Time Period

Use	Weekday		Weekend		
	Day	Evening	Day	Evening	Night
Industrial/warehouses/business and professional offices, including medical and dental	100%	10%	10%	5%	5%

Retail business and service establishments	60%	90%	100%	70%	5%
Hotels/motels	75%	100%	75%	100%	75%
Restaurants	50%	100%	100%	100%	10%
Indoor commercial recreation establishments and nonadult theaters	40%	100%	80%	100%	10%
All other uses	100%	100%	100%	100%	100%
Note—Time periods:	Day: 6:00 a.m. to 6:00 p.m.				
	Evening: 6:00 p.m. to 12:00 midnight				
	Night: 12:00 midnight to 6:00 a.m.				

b. The following conditions shall apply to any parking facility for a development containing a mix of uses:

1. The mixed-use property and mixed-use shared parking facility must be owned by the same developer/owner or must be the subject of a recorded shared parking agreement made between current and future owners of the properties involved and shall convey with the land. Any such agreements must also contain a provision for parking facility maintenance. Any changes to the agreement must be approved by the planning commission. There cannot be greater than 500 linear feet, measured along the most appropriate walking route between the shared parking facility and the entrance to the establishments being served. Shared parking facilities located on a separate lot from the establishments being served must meet the requirements of division 2 of this article.
2. Parking for the handicapped spaces may not be shared or included in any shared parking calculation.
3. All shared parking spaces must be available for common use by all participants in the shared parking agreement. No reserved spaces may be part of the shared parking agreement.
4. The planning staff shall determine at the time of site plan approval that shared parking is possible and appropriate at the location proposed. Particular attention is needed to ensure that sufficient and convenient shortterm parking will be available to commercial establishments during the weekday daytime period. The shared parking spaces must be located in the most convenient and visible area of the parking facility nearest the establishment being served.
5. All subsequent changes in use require a new occupancy permit and proof that sufficient parking will be available. The table in subsection (d)(3)a of this section determines a minimum number of spaces required to receive occupancy permits.
6. The requirements described in the table in subsection (d)(3)a of this section apply to all proposed uses for any one phase of development in addition to the ultimate buildout for the development.
7. A parking facility, for the purposes of this section, is defined as a surface parking lot or group of lots, a parking structure, or a garage.

(4) *Surface parking.* Surface parking shall not occupy more than 25 percent of the gross site area. Parking at grade that is covered as the first level of a parking structure does not count within this 25 percent requirement. If development of a project will be phased, in accordance with section 48-1139, such that structured parking will not be built within the first phase and surface parking will occupy more than 25 percent of the gross site area, the applicant must show the ultimate plan for buildout of the site with a maximum of 25 percent of the gross site area dedicated to surface parking. A conditional use permit is required for any surface parking

facilities that occupy greater than 25 percent of the gross site area, during any phase of the development project. This conditional use permit shall place a time limit on the temporary allowance for greater than 25 percent surface parking. In addition, the applicant must comply with the general design standards in subsection (f) of this section and parking design and landscaping standards in subsections (f) through (h) of this section.

(e) *Setback requirements.* Development shall comply with a minimum project area perimeter-building setback of 14 feet from the face of the curb or if there is no curb, from the property line, and a maximum project area perimeter-building setback of 20 feet. In addition, in MUR 1 areas, residential townhouses shall be set back no less than 20 feet from the face of the curb. The 14-foot minimum setback requirement does not apply when the perimeter of a MUR project adjoins an R district, in which case the setback shall be no less than 20 feet. No setback regulations between the interior uses apply to MUR applications. Two exceptions apply to the 20-foot maximum setback condition. When either of the following conditions exist, there will be no maximum setback requirements:

(1) Public open spaces are created on the perimeter that serves the uses adjoining it.

(2) Ancillary parking facilities are created on the perimeter that is bounded on three sides by retail space.

(f) *General design requirements.* Pursuant to the city Charter, section 17.10, all development in MUR areas must be in accordance with the design and appearance standards as set forth in the city's community appearance plan. These community appearance plan standards are designed to promote developments of excellent design and architecture that create a main street-type appearance on Broad and Washington Streets, and that are compatible with the surrounding area. In addition, the following design standards must be met:

(1) Buildings that front on Broad Street and Washington Street shall contain the following pedestrian-friendly features:

a. Direct access to pedestrian ways serving the use and to adjacent public streets.

b. Provision of seating, landscaping, lighting, and artistic or architectural embellishments on building facades and in public open spaces.

c. Architectural details in building facades that break up large blank walls.

d. Large first floor display windows that provide visual access into buildings for pedestrians and drivers.

(2) Wherever possible, parking and loading spaces shall be located to the rear of structures and shall be screened, in accordance with the requirements of this division.

(3) When parking areas are permitted to front on Broad Street, Washington Street, or Maple Avenue, decorative pavement materials, such as brick pavers or cobblestones, or textured pavement, shall be integrated with standard asphalt or concrete pavement treatments.

(4) Structures shall be designed and constructed to include features, such as: facade setbacks and recesses for purposes of plazas, arcades, open space, and streetscape features or furniture; different architectural treatment of ground-level areas; canopies and awnings for functional purposes and visual interest, balconies, terraces, and yards for use and visual interest; wall materials that reflect materials in the nearby street frontage; facade offsets, pitched and varied rooflines, textured materials, and like devices to visually lessen the bulk of buildings that are greater in bulk than generally permitted in the zoning district.

(5) The visual impact of structured parking facilities should be reduced through design and topography.

(6) If residential townhouses or apartments are permitted and constructed within MUR application areas, they shall be physically and functionally integrated within the overall development, such that there are pedestrian connections to the remainder of the development and such that any buffers do not physically impede these connections.

(g) *Streetscape improvement requirements.* Streetscape improvements, that are consistent with the design shown in the city's adopted streetscape plan, shall be provided along all frontages on public

streets for which streetscape plans have been adopted. Landscaping within setback areas should be compatible with, if not an extension of, the streetscape treatments in the public right-of-way. Landscaped areas within the streetscape shall not count towards the landscaping and open space requirements of subsection (h) of this section.

(h) *Landscaping and open space requirements.* Section 48-940 does not apply to MUR applications. The remainder of division 2 of this article is applicable.

(1) All MUR site plan applications must contain a landscaping plan. A minimum of 15 percent of the gross site area must be landscaped open space. The term "landscaped open space" is defined in section 48-2. This 15 percent may include up to five feet of landscaped perimeter setback areas. A five-foot landscaped open space area, as defined in section 48-2, must be included on all MUR application area perimeter streets as part of the 14- to 20-foot required perimeter setback. MUR application area perimeters that are not bounded by street frontage and abut properties outside of the MUR application area must comply with the site screening requirements of this section. Five percent of the interior of all surface parking facilities must be landscaped. The internal area of a parking facility is defined by the perimeter of the curbs or edge of paving. This five percent of interior surface parking areas may also be included within the 15 percent gross site area requirement. Structured parking facilities must include a minimum of two percent of landscaped area on the top decks, with the remaining three percent to be planted adjacent to the ground level of the parking structure. Rear townhouse yards cannot be applied to the 15 percent landscaped open space requirement. The following standards also apply to the 15 percent gross site area landscaped open space requirements:

a. The five percent landscaping requirement for the interior of surface parking areas must be in the form of islands which must include a mixture of shade trees, shrubs, groundcover, and perennials to maximize shade potential and visual buffers. Each island must contain a minimum of one canopy tree and 150 square feet.

b. Best management practices shall be employed in establishing stormwater management techniques, as described in the Falls Church Watershed Management Plan, section 4.0.

c. The two percent landscaping requirement for the top decks of structured parking facilities should include three-foot perimeter planters at certain locations and corner planters with shade trees. The majority of the remaining three percent of landscaping adjacent to the ground level of the structure should be comprised of evergreen screening with the capacity to grow to a minimum of eight feet in height.

d. Landscaping within the required perimeter setback area shall include street-type shade trees, measuring from two to 2½ inches in caliper, planted at intervals of 30 to 40 feet. In addition, a combination of large shrubs, small shrubs, and groundcover (not to include turf grass) arranged formally or informally, that will cover the entire area at maturity, shall be required. Groundcover shall not comprise more than 15 percent of the site screen area. Large shrubs shall measure at least 30 inches in height at the time of planting and reach a minimum mature height of 3½ feet. Small shrubs shall measure at least 18 inches in height at the time of planting and reach a maximum of 3½ feet at maturity. Enough large shrubs must be planted to maintain a visual buffer the length of the setback area, if a MUR area perimeter is adjacent to an adjoining property and is not separated by a street, subsection (h)(2) of this section will govern the requirements for that section of the perimeter.

e. All plant materials must be inspected by the city arborist prior to planting and shall meet the city's approved plant list and commercial site planting requirements. Installation may be spot checked by the city arborist.

f. Landscaped open space shall be consolidated into useable areas when possible.

(2) Site screening is required between adjoining uses and development not separated by a street at a MUR application area perimeter. All MUR site plan applications must adhere to the

following site screening requirements to provide a visual buffer between adjoining uses. These requirements apply only to perimeter boundaries of any MUR application and not to district separations that are interior to a MUR application area. Site screening requirements vary depending on the intensity of both the district in which a use is proposed and its neighboring district.

a. *Site screening requirement A.* A ten-foot wide landscaped planting strip shall include street-type shade trees, measuring from two to 2½ inches in caliper, planted at intervals of 30 to 40 feet. In addition, a combination of large shrubs, small shrubs, and groundcover (not to include turf grass), arranged formally or informally, that will cover the entire area at maturity shall be required. Groundcover shall not comprise more than 15 percent of the site screen area. Large shrubs shall measure at least 30 inches in height at the time of planting and reach a minimum mature height of 3½ feet. Small shrubs shall measure at least 18 inches in height at the time of planting and reach a maximum of 3½ feet at maturity. Enough large shrubs must be planted to maintain a visual buffer the length of the site screen area. All species must be approved by the city arborist.

b. *Site screening requirement B.* A ten-foot wide landscaped planting strip shall include street-type shade trees, measuring from two to 2½ inches in caliper, planted at intervals of 30 to 40 feet. In addition, a combination of large shrubs, small shrubs, and groundcover (not to include turf grass), arranged formally or informally, that will cover the entire area at maturity shall be required. Groundcover shall not comprise more than 15 percent of the site screen area. Large shrubs shall measure at least 30 inches in height at the time of planting and reach a minimum mature height of 3½ feet. Small shrubs shall measure at least 18 inches in height at the time of planting and reach a maximum of 3½ feet at maturity. Enough large shrubs must be planted to maintain a visual buffer the length of the site screen area. In addition to this vegetation, a screening element of at least six feet in height must be created to consist of either a masonry wall, a combined three foot high earthen berm with the required landscaping located atop the berm, or a solid wood fence. All species must be approved by the city arborist.

c. *Site screening requirement C.*

   1. A seven-foot-wide landscaped planting strip shall include evergreen trees planted at intervals of six to ten feet, measuring a minimum of six feet in height at the time of planting and reaching a minimum height of 12 feet at maturity. In addition to this vegetation, a screening element of at least six feet in height must be created to consist of either a masonry wall or a solid wood fence. All species must be approved by the city arborist.

2. Requirements A, B, and C are standards for the size and site screening area and the density and type of landscaping/planting. The developer may substitute a higher site screening requirement, requirement C being higher than B, and B being higher than A. In certain situations, as designated in the table in this subsection, either site screening requirement B or C may be used. Existing trees and other vegetation may be used for site screening, if they are healthy and are approved as part of the landscaping plan by the city arborist. All site screening required by this section must be installed prior to the occupancy of the use. Where compliance with this regulation is not possible because of seasonal planting limitations, the city arborist shall grant an appropriate delay.

Zoning district in which the	Zoning district in which each adjacent use is located

proposed use or development is located	Lower	District intensity								Higher		
	R-1A	R-1B	R-C	R-TH	R-M	O-D	T-1	T-2	B-1	B-2	B-3	M-1
R-M	B or C	B or C	B or C	B or C	A	B or C	A	A	A	A	A	B or C
T-1	B or C	B or C	B or C	B or C	A	A	A	A	A	A	A	B or C
T-2	B or C	B or C	B or C	B or C	A	A	A	A	A	A	A	B or C
B-1	B or C	B or C	B or C	B or C	A	A	A	A	A	A	A	B or C
B-2	B or C	B or C	B or C	B or C	A	A	A	A	A	A	A	B or C
B-3	B or C	B or C	B or C	B or C	B or C	A	A	A	A	A	A	B or C
M-1	B or C	B or C	B or C	B or C	B or C	B or C	B or C	B or C	B or C	B or C	B or C	A

(i) MUR application requirements and procedures in addition to division 7 of this article, pertaining to site plan requirement, are as follows:

(1) *Requirements.* In addition to the site plan application requirements in division 7 of this article, a complete MUR application shall include the following:

a. A statement of how the proposed development will be consistent with the city comprehensive plan and its future land use plan map.

b. A statement of how the proposed development will be consistent with article VII of this chapter pertaining to affordable dwelling units.

c. A statement of how the proposed development will be consistent with the design and appearance standards as set forth in the city's community appearance plan.

d. A table including the total number of square feet of floor area that will be dedicated to specific permitted uses as required by section 48-1081

e. A statement of the floor area ratio of the project as a whole, and number of townhouse units per acre, if applicable.

f. A statement of number of parking spaces, and if utilized, an explanation of how shared parking reduction formulas in subsections (d)(1) through (3) of this section are being applied.

g. Location of and gross number of square feet of each area to be counted as landscaped open space in meeting the 15 percent requirement of subsection (h) of this section.

h. Location of public uses such as schools, parks, playgrounds, and other useable open space, if any are proposed.

i. A statement of the expected schedule of development.

j. A fiscal impact assessment of the proposed project, including the number of projected school age children. All projected costs and revenues associated with the proposed development must be stated in both average and marginal terms.

k. An analysis of traffic impacts associated with the development proposal.

l. A three-dimensional massing model of the proposed development. This may be submitted as a hand drawing or computer-aided drawing.

m. A statement of all anticipated off-site improvements, such as roads, sewer and drainage facilities, or other public improvements, necessary to construct the proposed development, as well as other amenities.

(2) *Procedure.*

a. All MUR applications will be processed as described in division 7 of this article. The planning director will initially review the conceptual plan and application based on the established MUR criteria. Following this review, there shall be a pre-site plan filing concept meeting with the planning commission, staff and applicant to provide

comments prior to significant site plan engineering and formal site plan filing under division 7 of this article;

b. MUR applicants may apply for phased site plan review per section 48-1139. It is preferred that the commercial components of approved MUR site plans be constructed prior to or simultaneous with the residential components; however, any one of the following options is allowed for the phasing of the residential component of MUR projects:

1. *Option 1.* No more than 50 percent of the building permits for residential units displayed on an approved MUR site plan may be granted prior to an approved footer inspection for all new commercial construction displayed on that approved site plan;

2. *Option 2.* One hundred percent of building permits for residential units displayed on an approved MUR site plan may be granted prior to an approved footer inspection for all new commercial construction displayed on that approved site plan, if a letter of credit or bond is posted in the amount of 25 percent of the cost constructing all new commercial structures and parking facilities displayed on the approved site plan;

c. *Option 3.* One hundred percent of building permits for residential units displayed on an approved MUR site plan may be granted following the completion and satisfactory inspection of all site preparation requirements including site preparation; earthwork; utility services; drainage/containment; foundation/load bearing elements; tunneling, boring and jacking; and bases, ballasts, pavements, and appurtenances, for the entire MUR application site as displayed on the approved site plan and subdivision. In addition, the posting of a letter of credit or bond in the amount of the cost of constructing all of the parking facilities displayed on the approved site plan is required for the use of this option; or

d. *Option 4.* Application for any phasing options other than those listed above may be made to the city council, which may, in its discretion, and following consideration by council of the recommendation of the planning commission, grant a construction phasing permit that shall meet the public purposes expressed in this division, pertaining to MUR. For purposes of this option, the planning commission shall report its recommendation to the city council within 45 days of the date of referral of the applicant's complete application the planning commission. Notwithstanding any other provision, this option 4, shall not become effective until such time as the council adopts appropriate standards for the implementation and administration of this option.

The preexisting commercial structures within a MUR application area shall not be basis for receiving residential building permits prior to the footer inspections for all commercial structures shown on the approved site plan.

(Code 1982, § 38-34(a)(2); Ord. No. 1636, 3-8-1999; Ord. No. 1670, 3-13-2000; Ord. No. 1671, 4-10-2000)

Attachment II

Parking Count Summaries

Table 3
Circle Towers Parking Study
Site Parking Occupancy Count Summary

Hour	Tuesday April 20, 2010	Total Occupied Spaces Thursday April 22, 2010	Saturday April 24, 2010
6:00 AM	778	840	830
7:00 AM	726	830	818
8:00 AM	653	643	769
9:00 AM	569	540	716
10:00 AM	494	520	672
11:00 AM	465	471	587
12:00 PM	477	491	561
1:00 PM	462	469	584
2:00 PM	452	436	559
3:00 PM	462	454	535
4:00 PM	474	456	520
5:00 PM	493	447	546
6:00 PM	493	466	552
7:00 PM	570	550	570
8:00 PM	604	626	590
9:00 PM	675	685	597
10:00 PM	728	738	628
11:00 PM	753	784	698
12:00 AM	752	818	718
Max. Occupancy	778	840	830

Meridian At Carlyle
Summary of Parking Occupancy/Demand

Date	Time	Occupied Spaces	Percent Occupied	Spaces per Occupied Unit
Weekday				
5/24/2001	10:00 PM	265	53%	0.78
5/25/2001	2:00 AM	296	60%	0.87
5/30/2001	10:00 PM	285	57%	0.84
5/31/2001	2:00 AM	306	62%	0.90
5/31/2001	10:00 PM	276	56%	0.82
6/1/2001	2:00 AM	316	64%	0.93
6/1/2001	10:00 PM	272	55%	0.80
6/2/2001	2:00 AM	288	58%	0.85
Average		288	58%	0.85
Saturday				
6/2/2001	10:00 PM	238	48%	0.70
6/3/2001	2:00 AM	281	57%	0.83
Average		260	52%	0.77
Parking Supply		496		
Occupied Units		339		

Warwick I
Summary of Parking Occupancy/Demand

Date	Time	Occupied Spaces	Percent Occupied	Spaces per Occupied Unit
Weekday				
5/15/2001	10:00 PM	251	73%	0.81
5/16/2001	10:00 PM	250	73%	0.81
5/17/2001	2:00 AM	285	83%	0.92
5/17/2001	10:00 PM	253	74%	0.82
5/18/2001	2:00 AM	279	82%	0.90
5/18/2001	10:00 PM	223	65%	0.72
5/19/2001	2:00 AM	253	74%	0.82
5/22/2001	10:00 PM	262	77%	0.85
5/23/2001	2:00 AM	292	85%	0.94
5/23/2001	10:00 PM	258	75%	0.83
5/24/2001	2:00 AM	278	81%	0.90
5/24/2001	10:00 PM	248	73%	0.80
5/25/2001	2:00 AM	281	82%	0.91
Average		263	77%	0.85
Saturday				
5/12/2001	10:00 PM	231	68%	0.75
5/13/2001	2:00 AM	268	78%	0.86
5/19/2001	10:00 PM	231	68%	0.75
5/20/2001	2:00 AM	250	73%	0.81
Average		245	72%	0.79
Parking Supply		342		
Occupied Units		310		

Courtland Park
Summary of Parking Occupancy/Demand

Date	Time	Occupied Spaces	Percent Occupied	Spaces per Occupied Unit
Weekday				
5/30/2001	10:00 PM	230	87%	0.87
5/31/2001	2:00 AM	258	97%	0.98
5/31/2001	10:00 PM	206	78%	0.78
6/1/2001	2:00 AM	255	96%	0.97
6/1/2001	10:00 PM	193	73%	0.73
6/2/2001	2:00 AM	239	90%	0.91
Average		230	87%	0.87
Saturday				
6/2/2001	10:00 PM	197	74%	0.75
6/3/2001	2:00 AM	231	87%	0.88
Average		214	81%	0.81
Parking Supply (1)		404		
Resident Parking Allocation		265		
Occupied Units		264		

Note: (1) Approved site plan references 265 spaces reserved for resident use. Percent occupancy calculated based on percent of resident allocation.

Fairfax Towers
Summary of Parking Occupancy/Demand

Date	Time	Occupied Spaces	Percent Occupied	Spaces per Occupied Unit
Weekday				
5/23/2001	10:00 PM	437	79%	1.15
5/24/2001	2:00 AM	487	88%	1.28
5/24/2001	10:00 PM	410	74%	1.08
5/25/2001	2:00 AM	483	88%	1.27
5/30/2001	10:00 PM	441	80%	1.16
5/31/2001	2:00 AM	506	92%	1.33
5/31/2001	10:00 PM	484	88%	1.27
6/1/2001	2:00 AM	506	92%	1.33
6/1/2001	10:00 PM	402	73%	1.06
6/2/2001	2:00 AM	485	88%	1.28
Average		464	84%	1.22
Saturday				
6/2/2001	10:00 PM	422	77%	1.11
6/3/2001	2:00 AM	489	89%	1.29
Average		456	83%	1.20
Parking Supply		551		
Occupied Units		380		

Ravensworth Towers
Summary of Parking Occupancy/Demand

Date	Time	Occupied Spaces	Percent Occupied	Spaces per Occupied Unit
Weekday				
5/16/2001	10:00 PM	253	72%	1.18
5/17/2001	2:00 AM	269	76%	1.26
5/17/2001	10:00 PM	234	66%	1.09
5/18/2001	2:00 AM	257	73%	1.20
5/18/2001	10:00 PM	227	64%	1.06
5/19/2001	2:00 AM	257	73%	1.20
5/22/2001	10:00 PM	246	70%	1.15
5/23/2001	2:00 AM	271	77%	1.27
5/23/2001	10:00 PM	250	71%	1.17
5/24/2001	2:00 AM	273	77%	1.28
Average		254	72%	1.19
Saturday				
5/19/2001	10:00 PM	221	63%	1.03
5/20/2001	2:00 AM	246	70%	1.15
Average		234	66%	1.09
Parking Supply		353		
Occupied Units		214		

Springfield Station
Summary of Parking Occupancy/Demand

Date	Time	Occupied Spaces	Percent Occupied	Spaces per Occupied Unit
Weekday				
12/13/1999	12:00 AM	786	84%	1.26
12/14/1999	12:00 AM	805	86%	1.29
12/15/1999	12:00 AM	795	85%	1.28
12/16/1999	12:00 AM	773	83%	1.24
12/17/1999	12:00 AM	781	84%	1.25
Average		788	84%	1.26
Saturday				
12/11/1999	12:00 AM	764	82%	1.23
Average		764	82%	1.23
Parking Supply		933		
Occupied Units		623		

Attachment III

Other Locality Parking Requirements

ARTICLE 11

OFF-STREET PARKING AND LOADING, PRIVATE STREETS

PART 1 11-100 OFF-STREET PARKING

11-101 Applicability

1. Except as provided for in a Commercial Revitalization District, in any R, C or I district, all structures built and all uses established hereafter shall provide accessory off-street parking in accordance with the following regulations, and in a P district, the provisions of this Part shall have general application as determined by the Director.

2. The provision of off-street parking for a change in use and/or an expansion or enlargement of an existing structure and/or use shall be in accordance with the following:

   A. When there is a change in use to a use which has the same or lesser parking requirement than the previous use, no additional parking shall be required. When there is a change to a use which has a greater parking requirement than the previous use, the minimum off-street parking requirement in accordance with the provisions of this Article shall be provided for the new use.

   B. When an existing structure and/or use is expanded or enlarged, the minimum off-street parking requirements in accordance with the provisions of this Article shall be provided for the area or capacity of such expansion or enlargement. However, compliance with the minimum off-street parking requirements shall not be required for the expansion or enlargement when such expansion or enlargement is to provide an accessibility improvement.

   Notwithstanding the above, for special permit and special exception uses, the respective approving body may require the provision of off-street parking in accordance with this Article for the entire structure or use as expanded or enlarged.

3. The provisions of this Part shall not be deemed to apply to motor vehicle storage or display parking areas associated with a vehicle sale, rental and ancillary service establishment, except as may be qualified elsewhere in this Ordinance.

11-102 General Provisions

1. All required off-street parking spaces shall be located on the same lot as the structure or use to which they are accessory or on a lot contiguous thereto which has the same zoning classification, and is either under the same ownership, or is subject to agreements or arrangements satisfactory to the Director that will ensure the permanent availability of such spaces.

   Provided, however, where there are practical difficulties or if the public safety and/or public convenience would be better served by the location other than on the same lot or on a contiguous lot with the use to which it is accessory, the Board, acting upon a specific request, may authorize such alternative location subject to conditions it deems appropriate and the following:

A. Such required space shall be subject to agreements or arrangements satisfactory to the Board that will ensure the permanent availability of such spaces, and

B. The applicant shall demonstrate to the Board's satisfaction that such required space shall be generally located within 500 feet walking distance of a building entrance to the use that such space serves or such space will be provided off-site with access via a valet or shuttle service subject to agreements or arrangements approved by the Board which will ensure the operation of such service and that there will not be any adverse impacts on the site of the parking spaces or the adjacent area, or

C. Such required space shall be accommodated in accordance with the provisions of Par. 6 below.

In a Commercial Revitalization District, the Director may approve an alternative location in accordance with the above and the provisions of the Commercial Revitalization District.

2. When provided as an accessibility improvement, accessible off-street parking spaces and related access aisles and accessible routes shall be in accordance with the provisions of the VUSBC and the Public Facilities Manual. The number of accessible parking spaces shall be included in the required number of parking spaces. Each such accessible parking space shall be designated as reserved for persons with disabilities by an above grade sign in conformance with the design and content specifications of the Public Facilities Manual.

3. No off-street parking facilities for a structure or use permitted only in a C or I district shall be located in an R district except upon approval as a special exception by the Board as provided in Part 6 of Article 9.

4. Off-street parking spaces may serve two (2) or more uses; however, in such case, the total number of such spaces must equal the sum of the spaces required for each separate use except:

A. As may be permitted under Paragraphs 5, 22, 26 and 27 below and Par. 3 of Sect. 106 below; or

B. That the Board may, subject to conditions it deems appropriate, reduce the total number of parking spaces required by the strict application of this Part when the applicant has demonstrated to the Board's satisfaction that fewer spaces than those required by this Part will adequately serve two (2) or more uses by reason of the hourly parking accumulation characteristics of such uses and such reduction will not adversely affect the site or the adjacent area.

Notwithstanding the above, required off-street parking spaces and their appurtenant aisles and driveways which are not fully utilized during the weekday may be used for a public commuter park-and-ride lot when such lot is established and operated in accordance with a public commuter park-and-ride lot agreement approved by the Board.

In addition, for a use where the minimum number of required parking spaces is provided on site in accordance with this Part, but additional off-site parking may be

desired, the Director may, subject to conditions the Director deems appropriate, approve the use of a portion of an adjacent site's required parking spaces, when the applicant has demonstrated to the Director's satisfaction that the use of such spaces on the adjacent site will not adversely affect such site or the adjacent area by reason of the hourly parking accumulation characteristics of such uses.

5. Within the area in proximity to a mass transit station, which station either exists or is programmed for completion within the same time frame as the completion of the subject development, or along a corridor served by a mass transit facility, which facility is conveniently accessible to the proposed use and offers a regular scheduled service, the Board may, subject to conditions it deems appropriate, reduce the number of off-street parking spaces otherwise required by the strict application of the provisions of this Part. Such reduction may be approved when the applicant has demonstrated to the Board's satisfaction that the spaces proposed to be eliminated are unnecessary based on the projected reduction in the parking demand resulting from the proximity of the transit station or mass transit facility and such reduction in parking spaces will not adversely affect the site or the adjacent area.

6. Within areas designated as Community Business Centers on the adopted comprehensive plan, the Board may waive the requirement that all required off-street parking spaces be located on the same lot or on a contiguous lot as set forth in Par. 1 above, provided the following conditions are met:

   A. The developer shall apply to the Director stating the circumstances which make it impracticable to meet the requirements of this Part, and

   B. The developer shall agree to pay to the County a sum for each space so eliminated, such sum to be set by the Board in an annually adopted schedule, and

   C. The County has plans for the erection of a public parking facility in the immediate area of the request, and

   D. The County has provided for the development of such parking, at a time and in a quantity sufficient to meet the needs of the applicant's proposed use.

7. All required off-street parking spaces and their appurtenant aisles and driveways shall be deemed to be required space on the lot on which the same are situated and shall not be encroached upon or reduced in any manner except upon approval by the Board in accordance with the provisions of this Ordinance, or except upon approval by the Director in any of the following circumstances. This provision shall not be deemed to negate pipestem lots otherwise allowed under the provisions of Sect. 2-406.

   A. Such space may be reduced by the amount to which other space, conforming to the provisions of this Ordinance, is provided for the use that is involved, or

   B. Such space may be reduced by an amount which is justified by a reduction in the need for such space by reason of a reduction in the size or change in the nature of the use to which such is appurtenant, or

C. Such space may be reduced by reason of the provision of conveniently available parking space in a parking lot established by a public authority for which the developer has made payment in accordance with the provisions of Par. 6 above, or

D. Such space may be reduced for an existing structure or use to provide an accessibility improvement.

8. Except as may be qualified elsewhere in this Ordinance, off-street parking spaces that are located on the ground and are open to the sky may be located in any required yard but not closer than ten (10) feet to any front lot line, unless modified by the Board or BZA pursuant to Part 2 of Article 13; except that this ten (10) foot minimum distance shall not be required between parking spaces provided for single family attached dwellings in parking bays and the front lot lines of single family detached dwelling unit lots and shall not apply to parking spaces provided for and on the same lot with single family detached or attached dwellings, provided such space shall not encroach into any sidewalk or trail.

For single family detached dwellings on lots containing 36,000 square feet or less in the R-1, R-2, R-3 and R-4 Districts, all parking for vehicles or trailers in a front yard shall be on a surfaced area, provided, however, that this shall not be deemed to preclude temporary parking on an unsurfaced area in a front yard for a period not to exceed forty-eight (48) hours for loading, unloading, cleaning or repair of vehicles or trailers. In addition, in the R-1 and R-2 Districts, no more than twenty-five (25) percent of any front yard and in the R-3 and R-4 Districts, no more than thirty (30) percent of any front yard shall be surfaced area for a driveway or vehicle/trailer parking area; provided, however, that these limitations may be exceeded for a surfaced area that is:

A. Directly contiguous with, and providing primary access to, two (2) side-by-side parking spaces as long as the surfaced area is not more than twenty-five (25) feet long and eighteen (18) feet wide;

B. On a lot which has its primary access from a major thoroughfare and consists of two (2) side-by-side parking spaces and a vehicular turn-around area as long as the surfaced area is not more than twenty-five (25) feet long and eighteen (18) feet wide and the turn-around area does not exceed 150 square feet; or

C. Provided as an accessibility improvement as approved by the Zoning Administrator.

Surfaced area shall include asphalt, poured or precast concrete, brick, stone, gravel, or any other impervious surface, or grasscrete or other similar pervious surface. On a pipestem lot, the surfaced area within the pipestem driveway shall not be included in this limitation.

Except as may be qualified elsewhere in this Ordinance, parking structures and carports shall be subject to the minimum yard requirements applicable in the zoning district in which located; except parking structures that are completely underground may be located in any required yard, but not closer than one (1) foot to any lot line.

9. All off-street parking facilities shall be used solely for the parking of vehicles in operating condition by patrons, occupants or employees of the use to which such parking is accessory.

No motor vehicle repair work except emergency service shall be permitted in association with any required off-street parking facilities.

10. All off-street parking space shall be provided with safe and convenient access to a street. If any such space is located contiguous to a street, the street side thereof shall be curbed, and ingress and egress shall be provided only through driveway openings through the curb of such dimension, location and construction as may be approved by the Director in accordance with the provisions of the Public Facilities Manual.

11. All off-street parking areas, including aisles and driveways, except those required for single family detached dwellings, shall be constructed and maintained with a dustless surface in accordance with construction standards presented in the Public Facilities Manual; however, the Director may approve a modification or waiver of the dustless surface requirement in accordance with the Public Facilities Manual.

12. All off-street parking spaces and areas shall comply with the geometric design standards presented in the Public Facilities Manual. All parking spaces, except those provided for and on the same lot with single family detached and attached dwellings, shall be clearly marked in accordance with the design guidelines set forth in the Public Facilities Manual and shall be subject to the approval of the Director.

    Except for public commuter park-and-ride lots which utilize existing off-street parking spaces accessory to another use, any proposal to redesignate parking space delineations which changes the existing space size, configuration or number shall require the submission to and approval by the Director of a plan certified by an engineer or land surveyor authorized by the State to practice as such. Such plan shall show all off-street parking spaces, related driveways, loading spaces and walkways, indicating type of surfacing, size, angle of stalls, width of aisles and a specific schedule showing the number of parking spaces provided and the number required by the provisions of this Article. No plan shall be approved which reduces the number of parking spaces below the minimum number required by this Article.

    Notwithstanding the above, a redesignation plan to provide an accessibility improvement need not be certified by an engineer or land surveyor and any such plan which reduces the number of parking spaces below the minimum requirements of this Article may be approved.

13. All required stacking spaces shall be a minimum of eighteen (18) feet in length. In addition, the geometric design of the stacking aisle(s), including but not limited to the radius and width of the travel aisle, shall be subject to the approval of the Director.

14. All lighting fixtures used to illuminate off-street parking areas shall be in conformance with the performance standards for outdoor lighting set forth in Part 9 of Article 14.

15. All off-street parking areas shall comply with the provisions for landscaping and screening presented in Article 13.

16. Parking spaces required on an employee/person basis in the Sections that follow shall be based on the maximum number of employees/persons on duty or residing, or both, on the premises at any one time, or the occupancy load of the building, whichever is greater.

17. Where a given use or building contains a combination of uses as set forth in the following Sections, parking shall be provided on the basis of the sum of the required spaces for each use, except as may be permitted by Par. 22 below.

18. If there is uncertainty with respect to the amount of parking spaces required by the provisions of this Ordinance as a result of an indefiniteness as to the proposed use of a building or of land, the maximum requirement for the general type of use that is involved shall govern.

19. Where the required number of parking spaces is not set forth for a particular use in the following Sections, and where there is no similar general type of use listed, the Zoning Administrator shall determine the basis of the number of spaces to be provided.

20. The Board may reduce the total number of stacking spaces required by the strict application of the provisions of this Part when it has been conclusively demonstrated that circumstances, site design or location do not warrant the number of spaces required and that such reduction will not adversely affect pedestrian or vehicular circulation on the site or on any abutting street.

21. When the number of spaces calculated in accordance with the provisions of this Article results in a number containing a fraction, the required number of spaces shall be the next higher whole number.

22. Accessory service uses, as permitted by Paragraphs 2 and 3 of Sect. 10-202, which are located within the building of a principal use, and which serve the occupants, their patients, clients or customers, may be parked in accordance with the parking requirement for the principal use; provided, however, that the total gross floor area for all such uses shall not exceed fifteen (15) percent of the total gross floor area of the building; that no signs for the accessory service uses shall be visible from the outside of the building; and that the hours of operation for such uses shall be limited to between 6:00 AM and 6:00 PM, Monday through Friday.

23. The same or fewer number of compact car parking spaces existing as of or grandfathered by the Board of Supervisors on September 19, 1988 may be retained in accordance with the conditions of the compact car approval, provided that the total number of parking spaces on-site is not reduced, except if:

    A. Such reduction is to provide an accessibility improvement, or

    B. Such reduction is a result of a reduction in land area by condemnation or by acquisition for public purposes by any governmental agency.

24. Additional off-street parking may be added to an existing development which met the parking requirement in effect at the time of its development, but which does not comply with the current requirements, in order to minimize the degree of current noncompliance.

25. Except as qualified below, for purposes of determining off-street parking requirements, gross floor area shall be determined in accordance with the gross floor area definition except that:

A. Outdoor display/sales area and that area within a cellar that is not used exclusively for storage or for mechanical equipment shall be included as gross floor area; and

B. Mall areas in shopping centers of less than 1,000,000 square feet of gross floor area, which shall be calculated as consisting of the sum of all floors in the mall, measured from the interior faces of the walls of the mall, shall be excluded from gross floor area.

26. In conjunction with the approval of a proffer to establish a transportation demand management (TDM) program, or if a development is subject to an approved proffer for the establishment of a TDM program, the Board may, subject to conditions it deems appropriate, reduce the number of off-street parking spaces otherwise required by the strict application of the provisions of this Part when the applicant has demonstrated to the Board's satisfaction that, due to the proffered TDM program, the spaces proposed to be eliminated for a site are unnecessary and such reduction in parking spaces will not adversely affect the site or the adjacent area. In no event shall the reduction in the number of required spaces exceed the projected reduction in parking demand specified by the proffered TDM program.

For the purposes of this provision, a proffered TDM program shall include: a projected reduction in parking demand expressed as a percentage of overall parking demand and the basis for such projection; the TDM program actions to be taken by the applicant to reduce the parking demand; a requirement by the applicant to periodically monitor and report to the County as to whether the projected reductions are being achieved; and a commitment and plan whereby the applicant shall provide additional parking spaces in an amount equivalent to the reduction should the TDM program not result in the projected reduction in parking demand.

27. For a hotel and/or conference/convention center in proximity to an airport, the Board may, subject to conditions it deems appropriate, reduce the total number of off-street parking spaces otherwise required by the strict application of the provisions of this Part, when it is warranted by a parking study, submitted by the applicant, which demonstrates that a reduction is justified based on actual parking usages at existing developments which are comparable in use and location.

28. The minimum off-street parking requirements for any non-residential use within the Lake Anne Commercial Revitalization Area as designated by the Board of Supervisors may be reduced by twenty (20) percent by the Board when it is demonstrated by the applicant and determined by the Board that such reduction is in furtherance of the goals of the Area as set forth in the adopted comprehensive plan. Such request may also be considered in conjunction with a rezoning and/or special exception application. The fee for a parking reduction set forth in Sect. 17-109 shall not be applicable.

11-103 Minimum Required Spaces for Residential and Lodging Uses

Minimum off-street parking spaces accessory to the uses hereinafter designated shall be provided as follows:

1. Bed and Breakfast:

Two (2) spaces per single family dwelling, provided that only one (1) such space must have convenient access to a street, plus one (1) space per guest room in the bed and breakfast

2. Dormitory, Fraternity or Sorority House, or Other Residence Hall Located Off Campus:

   One (1) space per two (2) sleeping accommodations based on the occupancy load of the building, plus one (1) additional space for each housemother, manager or employee

3. Dwelling, Single Family Detached:

   Two (2) spaces per unit for lots with frontage on a public street and three (3) spaces per unit for lots with frontage on a private street, provided that only one (1) such space must have convenient access to a street

4. Dwelling, Single Family Attached:

   Two and seven-tenths (2.7) spaces per unit, provided, however, that only one (1) such space must have convenient access to the street

5. Dwelling, Multiple Family:

   One and six-tenths (1.6) spaces per unit

6. Hotel, Motel:

   One (1) space per rental unit, plus four (4) spaces per fifty (50) rental units, plus such spaces as are required for eating establishments, assembly rooms and affiliated facilities as determined by the Director

7. Independent Living Facility

   One (1) space per four (4) dwelling units, plus one (1) space per one (1) employee or staff member on the major shift, or such greater number as the Board may require

8. Mobile Home:

   One and one-half (1.5) spaces per unit

9. Nursing, Convalescent, Assisted Living or Congregate Living Facility:

   One (1) space per three (3) residents, plus one (1) additional space for each employee

10. Tourist House, Boarding House, Rooming House:

    One (1) space per guest accommodation

11-104 Minimum Required Spaces for Commercial and Related Uses

Minimum off-street parking spaces accessory to the uses hereinafter designated shall be provided as follows:

1. Bowling Alley:

   Four (4) spaces per alley, plus one (1) space per employee, plus such additional spaces as may be required herein for affiliated uses such as eating establishments

2. Business Service and Supply Service Establishment:

   One (1) space per 300 square feet of gross floor area

3. Car Wash:

   Four (4) spaces per bay/stall plus one (1) space per employee for a self-service establishment, or one (1) space per employee, plus sufficient area for ten (10) stacking spaces per bay/stall for an automated establishment

4. Convenience Center:

   One (1) space per 500 square feet of net floor area plus one (1) space per employee, but never to exceed a total number of six (6) spaces

5. Drive-In Financial Institution:

   Four (4) spaces per 1000 square feet of gross floor area for customer service, lobby and teller area, plus additional space as required herein for any associated offices. In addition, there shall be eight (8) stacking spaces in front of the first window and two (2) stacking spaces in front of each additional window; except that five (5) stacking spaces may be permitted in front of each of the first two (2) windows, provided that both windows shall always remain open when the drive-in facility is operational

6. Drive-Through Pharmacy:

   As required in Par. 20 below, plus five (5) stacking spaces in front of each drive-through window

7. Eating Establishment or Commercial Recreation Restaurant:

   One (1) space per four (4) seats plus one (1) space per two (2) employees where seating is at tables,

   and/or

   One (1) space per two (2) seats plus one (1) space per two (2) employees where seating is at a counter

8. Fast Food Restaurant:

One (1) space per two (2) seats for table and/or counter seating, whether such seating facilities are inside or outside. For fast food restaurant with no seating facilities, one (1) space per sixty (60) square feet of net floor area with a minimum of ten (10) spaces

9. Fast Food Restaurant With Drive-In Facilities:

As required in Par. 8 above, plus eleven (11) stacking spaces for the drive-in window, with a minimum of five (5) such spaces designated for the ordering station. Such spaces shall be designed so as not to impede pedestrians or vehicular circulation on the site or on any abutting street

10. Financial Institution:

Four (4) spaces per 1000 square feet of gross floor area for customer service, lobby and teller area; plus additional spaces as required herein for any associated offices

11. Furniture or Carpet Store:

One (1) space per 500 square feet of net floor area, plus one (1) space for each employee

12. Garment Cleaning Establishment:

One (1) space per 200 square feet of gross floor area

13. Home Professional Office:

As determined by the BZA, a sufficient number of spaces to accommodate all employees plus the largest number of persons that may be expected at any one time

14. Office (unless otherwise provided for in this Section):

A. 50,000 square feet of gross floor area or less: Three and six-tenths (3.6) spaces per 1000 square feet of gross floor area

B. Greater than 50,000 but less than 125,000 square feet of gross floor area: Three (3.0) spaces per 1000 square feet of gross floor area

C. 125,000 square feet of gross floor area or more: Two and six-tenths (2.6) spaces per 1000 square feet of gross floor area

For purposes of determining whether Par. A, B or C is applicable, the size of the office building shall be based on the definition of gross floor area as set forth in Article 20 and where more than one (1) office building is located on a lot, such gross floor area shall be based on each individual building and not on the total gross floor area of all buildings on

the lot. However, once the applicable paragraph is determined, gross floor area as qualified in Sect. 102 above shall be used to determine the required number of parking spaces.

For purposes of this provision, buildings connected by structures such as atriums, awnings, breezeways, carports, garages, party walls, or plazas shall not be deemed to be one (1) building.

15. Outdoor Sales/Display Area other than Vehicle Sale, Rental and Ancillary Service Establishment:

    One (1) space per 500 square feet of open sales/display area plus one (1) space per employee

16. Personal Service Establishment:

    One (1) space per 200 square feet of gross floor area

17. Quick-Service Food Store:

    Six and one half (6.5) spaces per 1000 square feet of gross floor area

18. Recreational Facility other than Theatre, Auditorium, Stadium, Bowling Alley or Swimming Pool:

    One (1) space per three (3) persons based on the occupancy load plus one (1) space per employee

19. Repair Service Establishment:

    One (1) space per 200 square feet of gross floor area

20. Retail Sales Establishment and Retail Sales Establishment-Large, except Furniture or Carpet Store:

    One (1) space per 200 square feet of net floor area for the first 1000 square feet, plus six (6) spaces per each additional 1000 square feet

21. Service Station:

    Two (2) spaces per service bay, plus one (1) space per employee, but never less than five (5) spaces

22. Service Station/Mini-Mart, Combination Service Station and Quick-Service Food Store:

    Two (2) spaces per service bay, plus six and one half (6.5) spaces per 1000 square feet of gross floor area devoted to the retail use

23. Shopping Center:

A. 100,000 square feet of gross floor area or less: Four and three-tenths (4.3) spaces per 1000 square feet of gross floor area

B. Greater than 100,000 but equal to or less than 400,000 square feet of gross floor area: Four (4) spaces per 1000 square feet of gross floor area

C. Greater than 400,000 but less than 1,000,000 square feet of gross floor area: Four and eight tenths (4.8) spaces per 1000 square feet of gross floor area

D. 1,000,000 square feet of gross floor area or more: Four (4) spaces per 1000 square feet of gross floor area

For purposes of determining whether Par. A, B, C or D above is applicable, the size of the shopping center shall be based on the definition of gross floor area as set forth in Article 20, and shall be inclusive of any gross floor area devoted to offices, eating establishments and hotels. The gross floor area calculation as qualified in Sect. 102 above shall then be used to determine the required number of parking spaces.

The off-street parking requirement set forth above shall be applicable to all uses in a shopping center, except that the area occupied by offices, eating establishments and hotels shall be parked in accordance with the applicable standards for such uses as set forth in this Section. For shopping centers subject to Par. A, B or C above, the area occupied by theaters shall be parked in accordance with the applicable shopping center requirement, provided that for theaters with more than 2000 seats, an additional three-tenths (0.3) space shall be provided for each seat above 2000 seats. For shopping centers subject to Par. D above, the area occupied by theaters shall be parked in accordance with the applicable shopping center requirement, provided that for theaters with more than 750 seats, an additional six (6) spaces shall be provided for each 100 seats above 750 seats.

In addition, for all shopping centers, stacking spaces as required by this Part shall be provided for those uses which have drive-in facilities.

24. Swimming Pool, Commercial:

One (1) space per four (4) persons lawfully permitted in the pool at one time, plus one (1) space per employee

25. Theatre, Auditorium or Stadium:

Three-tenths (0.3) space per seat or similar vantage accommodation

26. Vehicle Light Service Establishment:

One (1) space per 200 square feet of net floor area, plus two (2) spaces per service bay, plus one (1) space per employee

27. Vehicle Major Service Establishment:

Two (2) spaces per service bay, plus one (1) space per employee

28. Vehicle Sale, Rental and Ancillary Service Establishment:

One (1) space per 500 square feet of enclosed sales/rental floor area, plus one (1) space per 2500 square feet of open sales/rental display lot area, plus two (2) spaces per service bay, plus one (1) space per employee, but never less than five (5) spaces

29. Vehicle Transportation Service Establishment:

Based on the size and maximum number of company vehicles stored on site with a minimum of one (1) space per (1) employee on major shift, plus one (1) space per company vehicle stored on site.

30. Veterinary Hospital, Kennel:

A. 5000 square feet of gross floor area or less: Ten (10) spaces

B. Greater than 5000 square feet of gross floor area: Ten (10) spaces plus additional spaces as determined by the Director, based on a review of each proposal to include such factors as the number of spaces required to accommodate both employees and visitors expected at the site

For the purpose of this requirement, gross floor area shall not include any outdoor exercise/dog run area, which is enclosed by a roof and/or fencing material.

31. Wholesale Trade Establishment:

One (1) space per 1.5 employees, plus one (1) space per company vehicle, but with a minimum of one (1) space per 1000 square feet of gross floor area

11-105 Minimum Required Spaces for Industrial and Related Uses

Minimum off-street parking spaces accessory to the uses hereinafter designated shall be provided as follows:

1. Manufacturing establishment or establishment for production, processing, assembly, compounding, preparation, cleaning, servicing, testing, repair or storage of materials, goods or products, and business offices accessory thereto:

One (1) space per one (1) employee on major shift, plus one (1) space per company vehicle and piece of mobile equipment

2. Heavy Equipment and Specialized Vehicle Sale, Rental and Service Establishment:

One (1) space per 500 square feet of enclosed sales/rental floor area, plus one (1) space per 2500 square feet of open sales/rental display lot area, plus two (2) spaces per service bay, plus one (1) space per employee, but never less than five (5) spaces

3. Mini-Warehousing Establishment:

Three and two-tenths (3.2) spaces per 1000 square feet of gross floor area of office space associated with the use plus one (1) space per employee, and two (2) spaces for a resident manager. The width of travel aisles for vehicular access and loading and unloading shall be subject to the approval of the Director

4. Scientific Research and Development Establishment:

   One (1) space per 1.5 employees based on the occupancy load, plus one (1) space per company vehicle

5. Warehousing, Storage Yard, Lumber and Building Material Yard, Motor Freight Terminal or Junk Yard:

   One (1) space per 1.5 employees on major shift, plus one (1) space per company vehicle, plus sufficient space to accommodate the largest number of visitors that may be expected at any one time, but with a minimum of one (1) space per 1000 square feet of gross floor area

6. Mixed Waste Reclamation Facilities and Recycling Centers:

   One (1) space per one (1) employee on major shift, plus one (1) space per company vehicle

7. Truck Rental Establishment:

   One (1) space per 500 square feet of enclosed sales/rental floor area, plus one (1) space per 2500 square feet of open sales/rental display lot area, plus one (1) space per employee, but never less than five (5) spaces. Provided however, when the enclosed office/sales/rental area or employees are shared with another use for which parking has been provided, only the open sales/rental display area shall be separately parked.

11-106 Minimum Required Spaces for Other Uses

Minimum off-street spaces accessory to the uses hereinafter designated shall be provided as follows:

1. Airport, Airpark or Airfield:

   One (1) space per employee, plus (1) space for each vehicle used in connection with the facility, plus sufficient space to accommodate the largest number of vehicles that may be expected at any one time

2. Child Care Center or Nursery School:

   A. 0.19 space per child for a center or school which has a maximum daily enrollment of 99 children or less

   B. 0.16 space per child for a center or school which has a maximum daily enrollment of 100 or more children

3. Church, Chapel, Temple, Synagogue or Other Such Place of Worship:

One (1) space per four (4) seats in the principal place of worship; provided that the number of spaces thus required may be reduced by the Director, subject to conditions the Director deems appropriate, by not more than fifty (50) percent if the place of worship is generally located within 500 feet of any public parking lot or any commercial parking lot where sufficient spaces are available by permission of the owner(s) without charge, during the time of services to make up the additional spaces required.

For places of worship with child care centers, nursery schools and/or schools of general or special education, the Director may, subject to conditions the Director deems appropriate, reduce the total number of parking spaces required by the strict application of this Part for such child care centers, nursery schools and/or schools of general or special education when the Director has determined that fewer spaces than those required will adequately serve all the uses on-site due to their respective hourly parking accumulation characteristics.

4. College or University:

Based on a review by the Director of each proposal including such factors as the occupancy load of all classroom facilities, auditoriums and stadiums, the availability of mass transportation, and the availability of areas on site that can be used for auxiliary parking in times of peak demand; but in no instance less than one (1) space per faculty and staff member and other full-time employee, plus a sufficient number of spaces to accommodate the anticipated number of students and visitors who will drive to the institution at any one time

5. Cultural Center, Museum or Similar Facility:

One (1) space per 300 square feet of gross floor area

6. Country Club:

One (1) space per four (4) members based on maximum anticipated membership

7. School of Special Education:

Two (2) spaces per each three (3) employees, plus a sufficient number of spaces to accommodate all persons who may be at the establishment at any one time under normal operating conditions

8. Funeral Chapel, Funeral Home:

One (1) space per four (4) seats in the main chapel or parlor, plus one (1) space per two (2) employees, plus one (1) space for each vehicle used in connection with the business

9. Heliport:

One (1) space per employee, plus one (1) space for each vehicle used in connection with the facility, plus sufficient space to accommodate the largest number of visitors that may be expected at any one time

10. Helistop:

A minimum of five (5) spaces for commercial helistops and a minimum of two (2) spaces for non-commercial helistops

11. Hospital:

Two and nine-tenths (2.9) spaces per bed licensed by the Commonwealth of Virginia, plus additional or fewer spaces as deemed necessary based on specific analysis for each site

12. Institution providing Intensive Special Medical/Mental Care or Welfare Institution:

One (1) space per two (2) patients, based on the occupancy load, plus one (1) space per employee or staff member on a major shift

13. Library:

Seven (7) spaces per 1000 square feet of gross floor area

14. Parks:

A. Neighborhood Parks:

(1) The Director shall determine the parking for residential neighborhood parks, which parks are designed to serve surrounding residential developments, where access is primarily by foot or bicycle, and which may contain facilities such as tot lots, playgrounds, picnic tables, multi-use courts, tennis courts, gardens, open play areas and trails. The review shall consider factors such as whether access to the park is provided solely from a local street, collector street, minor or principal arterial street; the extent to which pedestrian access is afforded to the park and the reasonableness of the walking distance to the park from the surrounding development; the location of the park in relation to the surrounding development and the density of the surrounding development the park is predominately intended to serve; and the extent of the proposed recreation uses or facilities. However, if tennis courts are provided, a minimum of two (2) spaces per tennis court shall be required.

(2) For urban parks no parking shall be required, provided such parks consist of urban style plazas, miniparks, and greenways, including trails, located within, contiguous to, or immediately across the street from urban, suburban and community business centers as defined in the adopted comprehensive plan, are oriented to pedestrian and/or bicycle use by the resident work force and adjacent residents, and provide open space and pedestrian oriented amenities.

B. Community, District, Countywide and Regional Parks:

As determined by the Director, based on the parking requirements for the most similar type of use or facility set forth herein.

15. Private, Civic, Fraternal Club or Lodge:

One (1) space per three (3) members based on maximum anticipated membership

16. Public Utility Establishment:

One (1) space per 1.5 employees on the major shift, plus one (1) space per company vehicle

17. School, Elementary or Intermediate, Public or Private School of General Education:

Based on a review by the Director of each proposal including such factors as the occupancy load of all classroom facilities, auditoriums and stadiums, proposed special education programs, and student-teacher ratios, and the availability of areas on site that can be used for auxiliary parking in times of peak demand; but in no instance less than one (1) space per faculty and staff member and other full-time employee, plus four (4) spaces for visitors

18. School, High School, Public or Private School of General Education:

Based on a review by the Director of each proposal including such factors as the occupancy load of all classroom facilities, auditoriums and stadiums, proposed special education programs, and student-teacher ratios, and the availability of areas on site that can be used for auxiliary parking in times of peak demand; but in no instance less than three-tenths (0.3) space per student, based on the maximum number of students attending classes at any one time

19. Swimming Pool, Community:

One (1) space for every seven (7) persons lawfully permitted in the pool at one time, plus one (1) space per employee, subject to a lesser number determined by the Director which is in accordance with that number of members who are within a reasonable walking distance of the pool

20. Tennis Club:

Four (4) spaces per court, plus such additional spaces as may be required herein for affiliated uses such as eating establishments

21. Public Uses not set forth above:

As determined by the Director, based on a review of each proposal to include such factors as the number of spaces required to accommodate employees, public use

vehicles anticipated to be on site at any one time, visitor parking and the availability of areas on site that can be used for auxiliary parking in times of peak demand. In no instance, however, shall the number of spaces required for government office use be less than that required herein for general office use

- If sufficient off-site parking is not available, additional on-site parking may be provided on condition that TDM goals are not jeopardized and that once all phases are constructed, parking ratios for the total development will not exceed the maximum values in Table 6.
- Parking in excess of the parking ratios in Table 6 should be available to the public at appropriate parking fees where possible.

In Non-TOD Districts and for residential development within TOD Districts, a parking plan can be submitted along with a development application that justifies parking levels below the minimums indicated in Table 6. The parking plan should indicate the techniques to be applied to justify a lower level of parking.

Table 6
Parking Ratios for Tysons Corner

Parking Spaces Per Unit or Spaces Per 1,000 sq. ft.									
Use	**Previous (2009)**	**< 1/8 mile Metro Station**		**1/8 - 1/4 mile Metro Station**		**1/4 - 1/2 mile Metro Station**		**Non-TOD**	
	Min.	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
Townhouse	2.7	1.75	2.2	1.75	2.2	2.0	2.5	2.0	2.7
Multifamily									
0-1 bedroom	1.6	1.0	1.3	1.0	1.3	1.1	1.4	1.1	1.4
2 bedroom	1.6	1.0	1.6	1.0	1.6	1.35	1.7	1.35	1.7
3+ bedroom	1.6	1.0	1.9	1.0	1.9	1.6	2.0	1.6	2.0
Hotel/Motel	1.08	none	1.0	none	1.0	none	1.05	0.85	1.08
Office	2.6	none	1.6	none	2.0	none	2.2	2.0	2.4

Notes:

1. For retail and service uses located in TOD areas not listed in Table 6, minimum parking requirements enumerated in Sections 11-103, 11-104, 11-105, and 11-106 of the Zoning Ordinance should be used as maximum parking requirements; in non-TOD Districts, the minimum required parking should be 75% of the minimum parking requirement in the Zoning Ordinance and the maximum should be 110% of the referenced minimum.

2. To encourage convenient retail and service uses within walking distance of office and residential development, the first 5,000 square feet of accessory retail and service uses in any such building should have no parking spaces allocated in the parking plan, nor should it be counted toward the maximum parking requirement.

As the Tysons Corner area is developed, and the land use and transportation infrastructure matures, parking requirements should be examined to determine if they are adequate for the changing conditions. Rather than supplying parking for each individual use, parking should be treated as a common resource for multiple uses. Implementing this practice will reap many advantages in creating a more walkable environment. Providing transit service, an effective mix of uses, and an appropriate network of sidewalks will reduce automobile use and, consequently, the need to provide parking.

Additional methods listed below should be pursued to ensure the appropriate amount of parking is provided.

- Encouraging shared parking arrangements across parcel lines.

City of Alexandria Parking Requirements

ARTICLE VIII. OFF-STREET PARKING AND LOADING

Sec. 8-100 Off-street parking required.
Sec. 8-200 General parking regulations.
Sec. 8-300 Central business district.
Sec. 8-400 King Street Transit Parking District.
Sec. 8-500 Waterfront parking exemption.
Sec. 8-600 Motor vehicle parking or storage in the RM zone.

Sec. 8-100 Off-street parking required.

(A) (1)*General requirement.* No land shall be used or changed in use, no structure or building shall be constructed, and no existing structure or building shall be changed in use, significantly enlarged or significantly altered as those terms are defined in section 8-200(F)(4), unless the off-street parking required by this Article VIII is provided for the entire land, structure or building.

(2) *Special requirement.* No existing building or structure shall be enlarged as that term is defined in section 8-200(F)(4) unless the off-street parking required by this Article VIII is provided for such enlargement.

(3) *Statutory exception.* Land, buildings or structures actually in use or constructed as of January 27, 1987, and prior thereto are exempted from the requirements of this Article VIII to the extent provided in section 8-200(F).

(4) *Reduction of requirement by special use permit.* A special use permit may be obtained pursuant to section 11-500, which authorizes the provision of less off-street parking than is otherwise required by this Article VIII, subject to the following:

(a) The special use permit applicant shall demonstrate that providing the required parking would be infeasible.

(b) If the requested reduction exceeds five parking spaces, the special use permit applicant shall propose and have approved as a condition of the permit a parking management plan which shall include reasonable and effective measures, appropriate to the size, scale and location of the use, building or structure, which will mitigate the impacts of the proposed reduction in parking.

(c) City council, upon consideration of the special use permit application, finds that the proposed reduction in parking will not have an adverse impact on the nearby neighborhood, and that the application otherwise complies with the standards for approval set forth in section 11-504.

(d) A special use permit may not reduce the number of off-street parking spaces otherwise required below the number of spaces which are provided at the time of the permit application, unless allowed by another provision of this ordinance or required by extraordinary circumstances.

(5) *Alternative reduction of requirement.* Required parking may be reduced in conjunction with the provision of low and moderate income housing as provided in section 7-700, and required parking may be reduced or waived where alley or interior court access is infeasible, in the RM zone pursuant to section 3-1107 and in the Old and Historic Alexandria District, Parker-Gray District, Town of Potomac Historic District, Rosemont Historic District and for designated buildings over 100 years old, pursuant to section 8-200(C)(5).

(B) It shall be unlawful to diminish the off-street parking facility required for any structure or premises by this Article VIII, unless another such facility, meeting all the requirements, is substituted.

(C) Notwithstanding the requirements of this Article VIII, those projects subject to approval under section 11-700 regarding Transportation Management Special Use Permits shall be required to provide for parking and loading in compliance with that section and the approved special use permit.

(Ord. No. 3620, § 1, 3-20-93; Ord. No. 3713, § 3, 3-19-94)

Sec. 8-200 General parking regulations.

(A) *Schedule of requirements.* The following number of parking spaces shall be provided for each use listed. In the case of any use not listed in this section 8-200(A), the requirements of the most similar listed use shall apply. The requirements of this section 8-200(A) may be reduced when special zoning allows parking reductions and the required approvals of the director and the director of transportation and environmental services have been obtained and the conditions of said approval are complied with.

(1) *Single-family detached, two-family and row or townhouse dwellings:* two (2.0) spaces per dwelling unit for single-family detached, two-family, and townhouse dwellings.

(2) *Multifamily dwellings.*

(a) One and three-tenths (1.30) spaces for each unit up to and including one bedroom unit.

(b) One and three quarters (1.75) spaces for each two bedroom unit;

(c) Two and two-tenths (2.20) spaces for each three bedroom unit or larger.

(3) *Boardinghouses and rooming houses:* one space for each four guest rooms; provided, that the number of off-street parking spaces for any rooming house or boarding house authorized by a special use permit granted by city council after December 12, 1987, shall be determined by council when granting, and shall be as set forth in, the special use permit.

(4) *Tourist homes:* one space for each two guest rooms.

(5) *Hotels or motels:* one space for each guest room or dwelling unit except that for buildings over three stories in height, one space for each two guest rooms or dwelling units; provided, that on sites for which preliminary site plans have been approved after July 6, 1966, one space for each guest room or dwelling unit plus one employee parking space for each 15 guest rooms or dwelling units or major fraction thereof. See also section 8-200(B)(21).

(6) *Hospitals, nursing homes, sanitariums and convalescent homes:* one space for each two patient beds.

(7) *Community buildings, fraternal organizations, civic clubs, lodges, museums, libraries and similar uses:* one space for each 200 square feet of floor area.

(8) *Theaters, auditoriums, assembly halls and restaurants:* one space for each four seats except that for restaurants used to serve employees, but not the general public, of a multi-story office building of four stories or more in height and located entirely within such building with no direct ingress or egress to the

restaurant from the exterior of the building except those required for service and emergency purposes and without any sign identifying such restaurant from the exterior of the restaurant or building: one space for each eight seats. Provided that this exception shall be permitted only with a special use permit.

(9) *Clinics, medical or dental:* one space for each 200 square feet of floor area.

(10) *Churches:* one space for each five seats in the principal auditorium or one space for each ten classroom seats, whichever is greater.

(11) *Schools, elementary:* one space for each 25 classroom seats. Schools, high: one space for each ten classroom seats. Schools, day nursery or nursery: two spaces for each classroom. Schools, commercial, including, but not limited to, secretarial, conservatories, art and craft and the like: one space for each two seats.

(12) *Automobile service stations:* one space for each gasoline pump.

(13) *Amusement enterprises (indoor):* one space for each 200 square feet of floor area on all floors.

(14) *Amusement enterprises (outdoor):* one space for each 400 square feet of lot area.

(15) *Homes for the elderly:* one space per each two units plus one space for each two guest rooms, except for homes for the low income elderly, one space per each four units plus one space for each four guest rooms only with a special use permit.

(16) *Retail uses:* the required number of parking spaces shall be determined by Table A.

(17) *Nonretail uses, including, but not limited to, personal service shops, equipment and repair businesses and the like:* one space for each 400 square feet of floor area.

Retail uses: the required number of parking spaces shall be determined by the following table:

TABLE INSET:

Total Floor Area in Square Feet per Floor		Required Number of Parking Spaces per Given Square Feet of Floor Area												
Not Less Than	Not More Than	Ground floor Parking Districts						Other Floors Parking Districts						
			1	2	3	4	5	6	1	2	3	4	5	6
--	1,500	1 per 200	1.1 per 200	1.2 per 200	1.2 per 200	1.2 per 200	1 per 200	1 per 300	1.1 per 300	1.2 per 300	1.2 per 300	1.2 per 300	1 per 300	
1,500	5,000	1 per 210	1.1 per 210	1.2 per 210	1.2 per 210	1.2 per 210	1 per 210	1 per 310	1.1 per 310	1.2 per 310	1.2 per 310	1.2 per 310	1 per 310	
5,000	20,000	1 per 220	1.1 per 220	1.2 per 220	1.2 per 220	1.2 per 220	1 per 220	1 per 320	1.1 per 320	1.2 per 320	1.2 per 320	1.2 per 320	1 per 320	

20,000	--	1 per 230	1.1 per 230	1.2 per 230	1.2 per 230	1.2 per 230	1 per 230	1 per 330	1.1 per 330	1.2 per 330	1.2 per 330	1.2 per 330	1 per 330

(18) *Office buildings, including commercial, governmental and professional:*

(a) The required number and type of parking spaces shall be determined by the following table:

In Parking Districts

(spaces required/square feet of floor area)

TABLE INSET:

	1	2	3	4	5	6
Minimum	1/500	1/450	1/475	1/475	1/475	1/600
Minimum car pool space set aside	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%

Parking district 6 shall encompass the area located within a radius of 2,000 feet from any entrance to any Washington/Metropolitan Transit Authority rail station. The boundaries of this and parking districts 1 through 5 shall be shown on the map designated "City of Alexandria Parking District Boundaries," dated May 26, 1987, signed by the mayor, the clerk of the council, the chairman of the planning commission, which map is on file in the office of the planning commission and which is hereby made a part of this Article VIII.

(b) The car pool parking spaces required by section 8-200(A)(18)(a) above to be provided in conjunction with an office building shall be reserved for car pool vehicles until 10:30 a.m. on work days. Each space so reserved and provided without charge for car pool vehicles may be counted as three spaces toward the minimum number of parking spaces required for an office building. For purposes of this section 8-200(A)(18), a car pool shall mean three or more people traveling together on a continuing and prearranged basis in a private motor vehicle. Each space similarly reserved and provided without charge for van pool vehicles may be counted as eight spaces toward the minimum number of parking spaces required for an office building. For purposes of this section 8-200 (A)(18), a van pool shall mean eight or more people traveling together on a continuing and prearranged basis in a motor vehicle designed for the transportation of persons. The provision of transit fare media (flash passes, tickets and tokens) at 100 percent subsidy to occupants of an office building may be used to reduce the required number of parking spaces on the basis of one space for each two persons for whom such transit fare media are provided on an annual basis. The total reduction attributable to the provision of car pool vehicle parking spaces, van pool vehicle parking spaces, and transit fare media shall not exceed 30 percent of the total number of parking spaces required by section 8-200 (A)(a) above. Compliance with these provisions allowing reductions in the number of required parking spaces where car pool and van pool spaces are provided without charge and where subsidized transit fare media are provided to building occupants shall be established in an annual report

prepared by the office building owner or occupant and submitted to the director. Failure to adhere to these provisions shall result in disallowance of the credit allowed hereunder to the extent of the failure to adhere.

(19) *Industrial warehouse building:*

(a) Where 75 percent or more of the floor area of the building is used for long-term storage the following provisions shall apply: one space for each 400 square feet of office area of all floors, in addition to the following requirements:

TABLE INSET:

Total Floor Area in Square Feet Per Floor (Excluding Office Floor Area)		Required Parking Space Per Given Square Feet of Floor Area
Not Less Than	Not More Than	
--	5,000	1 space per 2,500 square feet (or one per floor whichever is greater)
5,000	10,000	1 space per 3,000 square feet (or one space per floor whichever is greater)
50,000	--	1 space per 7,000 square feet (or one space per floor whichever is greater)

(b) For the purpose of this section 8-200(A)(19), long-term storage shall mean the storage of items for more than 30 days.

(20) *Industrial buildings used for other than long-term storage purposes:*

(a) One space for each 400 square feet of office area of all floors, in addition to the requirements of the following table:

(b) The parking requirements for industrial uses in this section 8-200(A)(20) shall be considered sufficient for industrial users having a maximum of 20 employees.

(c) Additional parking shall be required at a rate of one parking space for each three employees in excess of 20.

(d) Parking requirements shall at no time be considered sufficient for any other use of the premises, and additional spaces shall be provided to meet requirements when there is any change to a different industrial use or to a commercial use.

TABLE INSET:

Total Floor Area in Square Feet per Floor (excluding office floor area)		Required Number of Parking Spaces per Given Square Feet of Floor Area Parking Districts												
Not More Than	Not Less Than								1	2	3	4	5	6
--	5,000	1 sp. per 400 sq.	1.1 sp. per 400 sq.	1.2 sp. per 400 sq.	1.2 sp. per 400 sq.	1.2 sp. per 400 sq.	1.1 sp. per 400 sq.							

		ft.	ft.	ft.	ft.	ft.	ft.	
5,000	10,000	1 sp. per 500 sq. ft.	1.1 sp. per 500 sq. ft.	1.2 sp. per 500 sq. ft.	1.2 sp. per 500 sq. ft.	1.2 sp. per 500 sq. ft.	1.1 sp. per 500 sq. ft.	
10,000	--	1 sp. per 600 sq. ft.	1.1 sp. per 600 sq. ft.	1.2 sp. per 600 sq. ft.	1.2 sp. per 600 sq. ft.	1.2 sp. per 600 sq. ft.	1.1 sp. per 600 sq. ft.	

(21) Hotels within parking district 1 shall provide a minimum of .7 parking space per room and one parking space per each eight restaurant and meeting room seats. For purposes of this section 8-200(A)(21), a room shall be defined as an enclosed, private and secure area designed to provide overnight accommodation to not more than four persons.

(B) *Loading and unloading areas required.*

(1) Separate from the required off-street parking requirements of section 8-200 (A) and on the same premises with every building or structure erected and occupied for manufacturing, storage, warehouse, goods display, retail store, whole sale business, hotel, hospital, laundry, dry cleaning or other uses similarly involving the receipt or distribution by vehicles of materials or merchandise, there shall be provided and maintained adequate off-street space for standing, loading and unloading purposes.

(2) At least one off-street space shall be provided for each 20,000 square feet of floor area or fraction thereof used or intended to be used for any of the above purposes; provided, that this provision shall not apply to buildings or structures containing less than 2,500 square feet of floor area.

(3) Such off-street loading space shall be a minimum of 12 feet in width, 14 1/2 feet in clearance height and a depth sufficient to accommodate the largest delivery trucks serving the establishment, but in no case shall such length be less than 25 feet.

(4) All loading and unloading berths shall be surfaced with a bituminous or other dust-free surface, and if the loading berths front on a public street, the trucks shall at no time project onto the sidewalk or street.

(5) This section 8-200(B) shall not apply to buildings erected or occupied prior to June 25, 1963, unless there is an increase in floor area of more than 33 percent.

(C) *Location of parking facilities.*

(1) For all single-family detached and two-family residential dwellings, required off-street parking facilities shall be located on the same lot as the main building.

(2) For all multifamily dwellings, required off-street parking facilities shall be located on the same lot as the main building lot, on a lot separated from the main building lot by an alley or directly across the street from the main building when separated by a minor local street only.

(3) For all commercial or industrial uses, the distance from the off-street parking

facility to the commercial or industrial use which it serves shall not exceed 500 feet from the nearest corner of the lot containing the structure to the nearest usable portion of the lot used for parking, provided that such off-street parking facility shall be permitted on land in a commercial or industrial zone only.

(4) For all other uses, including, but not limited to churches, private and fraternal clubs, private and public schools and social service buildings, such required off-street parking shall be located on the same lot as the main building or on a lot immediately contiguous to the main building lot; except, that off-street parking may be permitted within 300 feet with a special use permit.

(5) *Access to parking, required or otherwise,* shall be limited as follows:

(a) Within the Old and Historic Alexandria District, access to all parking shall be provided from an alley or interior court. Upon a finding by the planning commission or director that it is clearly not feasible to provide such access, a waiver as to part or all of any parking requirement may be granted by the planning commission as part of its site plan review or, if no site plan is required, by the director.

(b) Within the Parker-Gray District, access to all parking shall be from an alley or interior court. Upon a finding by the director that such access is clearly not feasible, an application for a curb cut to provide access may be filed with the director of transportation and environmental services who shall, after review by the director and the director of transportation and environmental services, and provided the application meets the criteria of section 5-2-14(c) of the city code, docket the matter for hearing before the Parker-Gray District board of architectural review. The board of architectural review shall approve or deny the application based on whether the location and nature of the proposed curb cut and associated parking facility is compatible with the character and architectural style of the developed blockface. The decision of the board of architectural review may be appealed to city council pursuant to section 10-207. If approval of a curb cut as specified in this subparagraph is not granted, then a waiver as to part or all of any parking requirement may be granted by the planning commission as part of its site plan review, or, if no site plan is required, by the director.

(c) For buildings or structures over 100 years old designated for preservation pursuant to section 10-300, access to all parking shall be provided from an alley or interior court. Upon a finding by the director that such access is clearly not feasible, an application for a curb cut to provide access may be filed with the director of transportation and environmental services who shall, after review by the director and the director of transportation and environmental services, and provided the application meets the criteria of section 5-2-14(c) of the city code, docket the matter for hearing before the Old and Historic Alexandria District board of architectural review. The board of architectural shall approve or deny the application based on whether the location and nature of the proposed curb cut and associated parking facility is compatible with the character and architectural style of the designated building or structure. The decision of the board of architectural review may be appealed to city council pursuant to section 10-309. If approval of a curb cut as specified in this subparagraph is not granted, then a wavier as to part or all of any parking requirement may be granted by the planning commission as part of its site plan review or, if no site plan is required, by the director. The requirements of this subparagraph shall apply to all the land appurtenant

to such designated building or structure, whether comprised of a single lot or multiple lots of record, on the date of designation.

(d) Within the Town of Potomac and Rosemont Historic Districts, access to all parking shall be from an alley or interior court. Upon a finding by the director that such access is clearly not feasible, an application for a curb cut to provide access may be filed with the director of transportation and environmental services for review by the director and the director of transportation and environmental services. The approval of both directors constitutes approval of the application. The directors shall review the application for compliance with the criteria of section 5-2-14(c) of the city code, and for the compatibility of the location and nature of the proposed curb cut and associated parking facility with the character and architectural style of the developed blockface. The rejection by either director constitutes a denial of the application. The administrative determination on the application may be appealed to city council. The procedures of section 10-207 shall apply to the extent appropriate to any such appeal.

(e) For land not covered by paragraph (a) through (d) above, approval for a curb cut may be obtained either as part of a site plan approved by the planning commission pursuant to section 11-400 or by administrative approval pursuant to section 5-2-14 of the city code.

(f) It is the express intent of the city that no curb cut be permitted anywhere in the city which does not, at a minimum, meet the criteria of section 5-2-14(c) of the city code.

(6) *Parking, required or otherwise, limited on residential lots.* For all lots containing single-family, two-family or townhouse dwelling uses, there shall be a limit of one vehicle per 1,000 square feet of lot area, not to exceed a maximum of four (4) vehicles per lot parked or stored outside on the lot in question.

(D) *Design of parking spaces and facilities.*

(1) Each required parking space shall be no less than 18.5 feet in length and nine feet in width, except that each required compact car parking space shall be no less than 16 feet in length and eight feet in width for compact car parking spaces, exclusive of driveways and aisles; provided, however, that parking spaces parallel to driveways and aisles shall be not less than 22 feet in length and eight feet in width for standard cars and 18 feet in length and seven feet in width for compact cars.

(2) Aisles with two-way traffic movement shall be no less than 22 feet in width, unless 45- and 60-degree parking is provided or where parking on both sides of the aisle is for compact cars, in which case said aisles shall be no less than 20 feet in width, or as much additional width as may be required for access of emergency vehicles. Aisles with one-way traffic movement shall be as follows:

(a) Aisles serving 90-degree parking shall be no less than 22 feet in width, except that where parking on both sides of the aisle is for compact cars, the aisle shall be no less than 20 feet in width unless in special circumstances the director of transportation and environmental services and the fire marshall shall approve in writing a reduction in the 20-foot width by not more than two feet for an aisle serving not more than 30 parking spaces.

(b) Aisles serving 45-degree or 60-degree parking shall be no less than 16 feet in width or as much additional width as may be required for

access of emergency vehicles.

(c) Aisles serving parallel parking and located immediately adjacent to buildings shall be no less than 16 feet in width. All other aisles serving parallel parking shall be 12 feet in width or as much additional width as may be required for access of emergency vehicles on curvilinear streets.

(3) Each parking space shall be separated with proper striping, or other designation, approved by the department of planning and zoning.

(4) The requirements of section 8-200(D)(2) shall not apply to valet parking facilities when city-approved valet parking is provided.

(5) The driveways and parking spaces required by this section 8-200 shall be smoothly graded, adequately drained and constructed with suitable subgrade, base and surfacing to be durable under the use and maintenance contemplated and so that they can be reasonably used for off-street parking facilities. Any grade transition shall be designed and constructed to prevent undercarriage and bumper guards from dragging. Such parking facilities shall be properly maintained and aisles shall remain open and free for traffic flow.

(6) Means of ingress and egress for the off-street parking facility shall be constructed in accordance with prevailing city standards and remain adequate and unobstructed at all times. The off-street parking facility shall be constructed so that no part of parked vehicles will extend beyond the parking space so as to obstruct walkways, sidewalks, streets or alleys.

(E) *Provision of compact car spaces.*

(1) Parking facilities providing for ten or more required off-street parking spaces for a non-retail use may provide up to 75 percent of the required spaces as compact car parking spaces. Parking facilities providing ten or more required off-street parking spaces for a retail use may provide up to 30 percent of the required spaces as compact car parking spaces. Each compact car parking space shall be adequately signed to indicate the intended use and shall be provided as close as possible to the entrance of the building or structure to which such space is accessory; provided, however, that any parking facility for which a preliminary site plan has been submitted to the director on or before June 24, 1975, shall be treated as an existing parking facility subject to section 8-200(E)(2).

(2) Nonstructured surface parking facilities in existence on June 24, 1975, may be restriped for compact car parking spaces in conformance with these regulations; provided that compliance with section 11-410(CC)(5) of the site plan regulations, except for the setback requirement for a parking facility abutting a public road or sidewalk, is demonstrated to the director. If the director determines that the facility does not so comply, said nonstructured surface parking facilities may be restriped for compact car parking spaces only if a site plan has been submitted and approved in accordance with section 11-400 of this ordinance.

(3) Structured parking facilities in existence on June 24, 1975, may be restriped for compact car parking spaces in conformance with these regulations without the necessity of complying with section 11-410(CC)(5) of the site plan regulations.

(4) For purposes of this section, a compact car shall mean an automotive vehicle having a width of less than six feet and a length of less than 16 feet.

(5) The parking of vehicles other than compact cars, as defined above, in compact car parking spaces provided by this section 8-200(E) is hereby

prohibited. It shall be unlawful for any owner or operator of parking facilities with compact car parking spaces striped in conformance with these regulations to permit any person to park any vehicle other than a compact car in a compact car parking space.

(F) *Prior existing buildings and structures.*

(1) Notwithstanding the provisions of section 8-100 and except as provided in section 8-200(F)(3) below, no off-street parking need be provided for land actually in use on June 25, 1963, for structures or buildings partially or fully constructed as of that date, or for structures or buildings for which a final site plan had been approved or a building permit had been applied for on that date, except as follows:

(a) If any such land has been changed in use or any such structure or building has been changed in use, enlarged, significantly enlarged or significantly altered between June 23, 1963, and January 27, 1987, the parking requirements of this Article XIII shall apply only to such change in use, enlargement or alteration; and

(b) If any such land has been changed in use or any such structure or building has been changed in use, enlarged, significantly enlarged or significantly altered after January 27, 1987, the parking requirements of this Article XIII shall apply to all the land and to the entire structure or building upon completion of the change in use, significant enlargement or significant alteration, and such requirements shall apply only to the enlargement of the structure or building upon its completion, unless, as of January 27, 1987, a construction or alteration permit has been applied for and reasonably soon thereafter construction activity has commenced and continues to be diligently pursued, or unless a special use permit is obtained under section 7-700 or section 11-500 which authorizes the change in use, enlargement, significant enlargement or significant alteration with the provision of less off-street parking than is required.

(2) Notwithstanding the provisions of section 8-100 above and except as provided in section 8-200(F)(3) below, any change in use in land which had been placed in use between June 23, 1963, and January 27, 1987, and any change in use, enlargement, significant enlargement or significant alteration of a structure or building which had been constructed between those dates shall be governed by the provisions of sections 8-200(F)(1)(a) and (b).

(3) The provisions of this section 8-200(F) shall not apply to the enlargement, significant enlargement or significant alteration of single-family, two-family or row or townhouse dwellings.

(4) For purposes of this section 8-200(F), the following definitions shall apply:

(a) "Significantly altered" and "significant alteration" shall mean the reconstruction, remodeling or rehabilitation of, or other physical changes to, a structure or building, or a portion thereof, over any two-year period, whether or not involving any supporting members of the structure or building and whether altering interior or exterior components of the structure or building, which involves expenditures amounting to 33 1/3 percent or more of the market value of the structure or building, or portion thereof, at the time of the application for an alteration permit.

(b) "Enlarged" and "enlargement" shall mean an addition to a structure or building which increases its floor area by less than 20 percent. In the case of uses whose parking requirements are determined by a factor

other than floor area (e.g., dwelling units, seats, patient beds), these terms shall mean any action which increases this factor by less than 20 percent, whether or not accompanied by an increase in floor area.

(c) "Significantly enlarged" and "significant enlargement" shall mean an addition, or additions over any two-year period, to a structure or building which increases its floor area by 20 percent or more. In the case of uses whose parking requirements are determined by a factor other than floor area, these terms shall mean any action, or actions over the two-year period, which increases this factor by 20 percent or more, whether or not accompanied by an increase in floor area.

(5) No single-family, two-family or townhouse dwelling shall be deemed a noncomplying use or structure because it failed to provide two required parking spaces on June 24, 1992, if the dwelling did provide one required parking space on that date.

(G) *Removal of Parking Space in Old and Historic Alexandria District.* Within the Old and Historic Alexandria District, a non-required parking space on the same lot as a residential building, or on a contiguous lot under common ownership with a residential building, may not be removed if the removal is for the purpose of gaining open space to support a building addition. For the purpose of this subsection, a parking space is an area of land which is at least eight feet by 16 feet and which is either (a) improved as a parking space with brick, concrete, asphalt, gravel, or other covering designed to support a vehicle's weight, or (b) not improved for parking but actually used for parking on at least 90 calendar days within the previous 12-month period.

(Ord. No. 3620, § 2, 3-20-93; Ord. No. 3650, § 2, 6-22-93; Ord. No. 3713, §§ 4, 5, 3-19-94; Ord. No. 3774, § 2, 1-21-95; Ord. No. 3937, § 1, 6-17-97)

Sec. 8-300 Central business district.

(A) *Boundaries of district.* The boundaries of the central business district shall be as follows: Beginning at a point created by the eastward extension of the centerline of Duke Street to the present established pierhead line in the Potomac River; thence westward along the centerline of Duke Street to the centerline of South Peyton Street; thence northward along the centerline of South Peyton Street to the centerline of King Street; thence westward along the centerline of King Street to the centerline of Harvard Street; thence northward along the centerline of Harvard Street to a point created by the intersection of the westward extension of a line located 109.3 feet north of and parallel to the northern right-of-way line of King Street; thence eastward along said line extended to the eastern property line of the property located at 1601 King Street; thence south and perpendicular to the northern right-of-way line of King Street at a distance of nine and three-tenths (9.3) feet to a point 100 feet north of the northern right-of-way of King Street; thence eastward along a line 100 feet north of and parallel to the northern right-of-way of King Street to a point created by its intersection with the centerline of West Street; thence northward along the centerline of West Street to the centerline of Queen Street to a point created by the eastward extension of the centerline of Queen Street to the present established pierhead line in the Potomac River; thence southward along said pierhead line to the point of beginning.

(B) *Application of certain requirements.* Within the central business district any lot or group of contiguous lots of record as of June 28, 1983, containing less than 10,000 square feet shall not be subject to the requirements of the following: sections 8-200(A)(9), (11), (12), (16), (17), (18), (19) and (20) and section 8-200(B); provided, however, that any lots subdivided after June 28, 1983, into lots of 10,000 square feet or less and

developed or redeveloped individually or as a single entity shall comply with all provisions of sections 8-200(A) and (B). In addition, whenever a parcel or contiguous parcels of land within this area containing over 10,000 square feet or more are redeveloped, or whenever a parcel or contiguous parcels of undeveloped land within this area containing 10,000 square feet or more are developed, the requirements of section 8-200(A) shall apply. In addition, the provisions of section 8-200(A) shall not apply to restaurants. Furthermore, the provisions of sections 8-200(A) and (B) shall not apply within the boundaries of any urban renewal (redevelopment) project located within the central business district and for which project a cooperation agreement between the city and the Alexandria Redevelopment and Housing authority has been entered into nor to city hall nor to public uses (including the art center) which are located in torpedo plant building number two.

(C) *Valet parking.*

(1) Within the central business district, no valet parking operation which involves the pick up, delivery, stacking, storing, parking or unparking of motor vehicles by a valet or parking attendant from, to or on any public right-of-way shall be permitted after July 1, 1987, as, or in connection with, any principal or accessory use of lands, buildings or structures.

(2) The provisions of section 8-300(C)(1) to the contrary notwithstanding, such valet parking operation may be permitted provided that:

(a) The motor vehicles so served are parked, stored and unparked exclusively in an off-street parking facility; and

(b) A special use permit separately authorizing and governing such valet parking operation is applied for and granted pursuant to the provisions of section 11-500 of this ordinance.

Sec. 8-400 King Street Transit Parking District.

(A) *Boundaries of district.* The King Street parking district is hereby defined as being that area described as follows: Beginning at the intersection of the centerline of King Street and the centerline of Peyton Street; thence southwesterly with the centerline of Peyton Street to the centerline of Duke Street; thence easterly with the centerline of Duke Street, 140 feet to a point opposite the northeast corner of the land of Haridge properties and the northwest corner of the DIP commercial site; thence southerly 33 feet to the corner of Haridge and DIP; thence with Haridge and DIP, 352 feet to the northerly side of the land of Southern Railway System; thence westerly with the northern side of Southern Railway System, 1,040 feet to the land of RF&P Railway System, then with the northern side of RF&P, 1,550 feet to the land of Guiffre and WMATA; thence northeasterly with Guiffre and WMATA through several courses totaling 816 feet to the northeast corner of Guiffre and the south side of Duke Street; thence northerly and perpendicular to the Duke Street centerline, 96.4 feet to the centerline of Duke Street; thence westerly with the centerline of Duke Street, 530 feet to the centerline of Callahan Drive, thence northeasterly with the centerline of Callahan Drive to the centerline of King Street; thence easterly with the centerline of King Street; to the centerline of Commonwealth Avenue; thence northerly with the centerline of Commonwealth Avenue to the centerline of Cameron Street; thence northeasterly with the centerline of Cameron Street, 750 feet to a point opposite the northeast corner of Alexandria Management Corp. and the westerly side of a 12-foot public alley; thence southerly 33 feet to the northeast corner of Alexandria Management Corp., and the alley, thence (parallel to Harvard Street) with the alley and the properties of Alexandria Management Corp., Cassedy and Chapin and Scott, 105.7 feet (passing the end of the alley at 52.85 feet) to

the northeast corner of Edwards and the north side of a 10-foot public alley; thence southerly with Edwards and the west side of the 10-foot alley, 124 feet to the northwest corner of Kane and the south side of the ten-foot alley; thence easterly and parallel with King Street alley; thence easterly and parallel with King Street with the south side of the alley and the properties of Kane and Mendleson, 137.2 feet (passing Kane's corner at 91.2 feet) to the west side of Harvard Street and the northeasterly corner of the land of Mendleson, then with the same line 30 feet to the centerline of Harvard Street, 270.16 feet to the centerline of King Street; thence easterly with the centerline of King Street to the point of beginning.

(B) *Requirements.* Within the King Street transit parking district, the following regulations shall apply to off-street parking:

(1) Office buildings, including commercial, government and professional, shall have one parking space for each 530 square feet of floor area; provided, however, that the required parking may be reduced to not less than one parking space for each 665 square feet of floor area when the applicant, at the time of site plan approval, demonstrates through a parking study to the planning commission, or to the city council on appeal, which appeal may be filed within the time and in the manner prescribed by section 11-409(C), except that any aggrieved party may appeal, that the off-street parking provided is adequate for the site, and that there will be no unreasonable adverse effect on the surrounding residential neighborhoods.

(2) Single-family, two-family, row or townhouse and multifamily dwellings shall have one parking space per dwelling unit.

(3) Freestanding retail and service operations shall have one parking space for each 500 square feet of floor area.

(4) Freestanding restaurants shall have one parking space for each ten seats; except that for carry-out restaurants there shall be no requirement.

(5) Automobile service stations shall have one parking space for each service bay; except that for self-service operations, there shall be provided one parking space for each employee.

(6) Hotels shall have 0.7 of a parking space for each guest room.

(7) Amusement enterprise shall have one parking space for each 200 square feet of floor area.

(8) Hotel or office building projects with retail, restaurant or amusement enterprises as ancillary uses. No parking shall be required for the first 10,000 square feet of floor area for restaurants, for the first 10,000 square feet of floor area for retail uses and for the first 1,000 square feet of floor area for amusement enterprises; provided, that such uses occupy not more than 25 percent of the total floor area of the mixed use building project. Parking for the excess floor area for such ancillary uses above 25 percent shall be provided at one space for each 1,000 square feet of floor area.

(C) *Valet parking.* By utilizing valet parking as defined in section 2-201, the area of space in any parking facility as measured in square feet may be reduced by no more than 40 percent, subject to review of the director and the director of transportation and environmental services to ensure compliance with the following regulations:

(1) The number of parking spaces required by section 8-400(B) above shall not be reduced; however, the requirements of section 8-200(D)(2) relating to aisles and striping shall not apply.

(2) All required parking shall be located only in a structured parking facility.

(3) Kiosks, fare gates, walkways, customer waiting areas and all other facilities necessary to accommodate valet parking shall be shown on the site plan.

(4) Attendant parking service shall be available for the days and hours required by the director and the director of transportation and environmental services as specified in site plan approval.

(5) No vehicle shall be parked or temporarily stored by an attendant on streets or alleys, including sidewalks, abutting the structured parking facility.

(6) Failure to institute valet parking upon the occupancy of the building for which valet parking is provided or cessation of valet parking after occupancy has commenced as required by section 8-400(C)(4) above shall constitute a violation of this ordinance.

(7) No site plan for a structured parking facility designated for valet parking shall become effective unless and until the owner covenants and agrees, on behalf of itself and its successors in interest, to provide valet parking in accordance with the requirements of section 8-400(C)(4) above in an executed contract to be attached to the approved site plan and kept in city records.

(D) *Design standards.* Within the King Street transit parking district, all off-street parking shall conform to the following parking design standards to the satisfaction of the director:

(1) No less than 75 percent of the parking provided shall be in a structure, unless a special use permit is obtained.

(2) That part of a building fronting directly on a public street, sidewalk, plaza or other public area shall not be used for off-street parking except entrance/exit to the parking facility, except in those cases where the planning commission finds it to be physically impossible to do otherwise.

(3) Any surface parking area shall be landscaped.

(4) Open space shall contain such improvements as benches, walkways and other natural and manmade amenities for the use and enjoyment of residents, visitors and workers.

(E) *Conflict with other requirements.* The provisions of this section 8-400 are to be read in conjunction with section 8-200(A)(18) and, in the case of an inconsistency as to the required number of spaces, to apply the least restrictive minimum number.

Sec. 8-500 Waterfront parking exemption.

The off-street parking requirements of section 8-200(A) shall not apply to those properties located immediately abutting the Potomac River, south of Third Street to and including Jones Point Park, and that area immediately west of North Union Street at Pendleton and Oronoco Streets as shown in the map incorporated in this ordinance entitled "Federal Waterfront Settlement Restricted Parking Area -- September, 1984" and on file in the department of planning and zoning showing properties involved in land title settlements with the United States Department of Justice where such settlement prohibited parking. Properties whose title has not yet been settled shall not be considered part of the waterfront parking exemption.(Ord. No. 3774, § 2, 1-21-95)

Sec. 8-600 Motor vehicle parking or storage in the RM zone.

8-601 Motor vehicle parking or storage. Motor vehicle parking or storage for use by the general public shall be permitted in the RM residential zone; provided, that the requirements and standards set forth in this section 8-600 are met.

8-602 Requirements and standards. Any motor vehicle or storage use in the RM residence zone shall comply with the following requirements and standards:

(A) Such use shall be entirely located within the central business district, as defined in section 8-300.

(B) Such use shall be of sufficient size to accommodate at least 30 passenger vehicles.

(C) If unattended, such use shall contain at least 300 square feet of parking space per vehicle, including driveways and aisles, and all parking spaces shall be clearly marked or defined in accordance with the following:

TABLE INSET:

Angle of Parking At Curb	Width of Area Used when Parked	Width of Aisle and Parking Area	Length of Curb Per Car
Parallel	7 ft.	19 ft.	22.0 ft.
45°	17 ft.	29 ft.	11.3 ft.
60°	18 ft.	36 ft.	9.2 ft.
90°	17 ft.	40 ft.	8.0 ft.

(D) Such use shall be paved with bituminous or Portland cement binder so as to provide a permanent, durable and dustless surface and shall be so graded and drained as to dispose of all surface water within the area. Such paving and draining of surface waters shall be done in accordance with the specifications of the department of transportation and environmental services.

(E) Pedestrian walks shall be located in a manner to prevent the pedestrian use of vehicular ways and parking spaces and arranged so that pedestrians are not unnecessarily exposed to vehicular traffic.

(F) No signs shall be located on any such use, except behind the established building setback line and at entrances and exits. Any such signs may state no more than the use of the premises, the name of the operator, the hours of operation, the price and the means of egress and ingress, but shall state the price and the name of the operator or owner of the lot.

(G) Any such use located within or facing residential zones shall be properly enclosed with an ornamental fence, masonry wall or a compact evergreen hedge having a height of not more than six feet. Such fence or wall shall be maintained in good condition and shall not project beyond the established building setback line of the block on which the facility is located.

(H) Where established setbacks have created front and side yards, such required front and side yards of the parking facility shall be landscaped with evergreen ground cover and properly maintained.

(I) Barrier-type curbs or appropriate guards in accordance with specifications of the

department of transportation and environmental services shall be placed in, on or around the use where specified by the director of transportation and environmental services for the protection of the public welfare.

(J) No multi-storied structure shall be erected in conjunction with any such use in a residential zone.

(K) Any lighting used to illuminate any parking lot or area shall be so arranged as to reflect the light away from the adjoining or nearby premises and shall be focused in a manner so as not to offer a hazard to the traveling public.

(L) No such use shall be used for the parking of commercial vehicles, trucks, taxicabs or buses.

(M) No activity other than the parking of motor vehicles shall be allowed on any such use.

(N) All structures used in the operation of any such use, except walls, fences, barricades, light poles and signs shall be set back at least ten feet from the established building setback line.

(O) Such uses shall not be operated before 7:00 a.m., nor after 10:00 p.m.

(P) No such use shall allow, permit or have an open accumulation of garbage, trash or miscellaneous refuse on the premises, and suitable receptacles for the depositing of trash and miscellaneous refuse shall be kept on the premises at easily accessible places.

(Q) The vision clearance required by section 7-800 of this ordinance shall be maintained at all times.

(R) The location of all entrances and exits shall be designated by the director of transportation and environmental services.

(S) Where the interior of any block containing residence zones is used for such use, it shall not diminish the required land area of the required open and usable space for the residence zone.

(T) All structures on such uses located within the Old and Historic Alexandria District or the Parker-Gray District shall be subject to the approval of the board of architectural review of the applicable district.

(U) The city council shall find that such use would lessen congestion and facilitate the safe and expeditious movement of traffic along the streets of the city.

(V) The city council shall find that such a facility cannot be reasonably provided for on nearby land zoned commercial or industrial.

(W) Any such use shall be considered by the traffic and parking board prior to the time it is presented to the planning commission and city council for a hearing on the special use permit hereinafter required.

(X) A special use permit shall be obtained pursuant to section 11-500; provided, that any such use permit shall expire and become null and void if any such use ceases to be used as an off-street parking facility for a period of 30 consecutive days.

(Y) In the case of any permit issued after June 30, 1958, such use shall be found to be consistent as to general location and size with an approved parking plan for the business district in which it is located.

7. Acceptance by the zoning administrator of any agreement for the use of parking spaces shall in no way obligate the county to enforce the provisions of said agreement, nor shall it render the county liable for any damages, injury, or loss resulting from the implementation of the provisions of the agreement.

8. The applicant shall negotiate the renewal of any agreement for the use of said parking spaces prior to its expiration and provide copies of such supplemental agreement to the zoning administrator in the form and manner specified by this subsection.

C. Modification of parking requirements for restaurants by use permit

1. To encourage and promote pedestrian-related commercial activity in Metro station areas and to promote efficient use of parking spaces, the parking requirements for restaurants, the major portions of which are located within 1,000 feet of a Metro station entrance, may be modified by use permit. Such modification may include, but shall not be limited to, modification of the number of on site or off-site parking spaces required for the number of seats in the restaurant, and the distance between the restaurant and the proposed off-site parking spaces. In granting such use permit, the County Board may consider, among other things, the following factors:

(a) Hours of operation of the restaurant.

(b) The modes of transportation which are conveniently available to patrons of the restaurant.

(c) Management practices of the restaurant to reduce parking needs by patrons and employees.

(d) Whether parking spaces which are available for a restaurant are, as determined by the County Board, conveniently usable by patrons of the restaurant without causing unreasonable:

(1) Hazard to pedestrians.

(2) Hazard to vehicular traffic.

(3) Traffic congestion.

(4) Interference with safe and convenient access to other parking areas in the vicinity.

(5) Detriment to the appropriate use of business property in the vicinity.

(6) Detriment to any residential neighborhood.

D. Modification of parking requirements for office and commercial uses

The parking requirement for office and commercial uses may be reduced by 10 percent if a direct connection which is not greater than 500 feet in length and which provides shelter from the elements is provided from the structure housing the use to which the parking is appurtenant to a Metro Transit Station.

§14.3.7. Required parking and standing space

A. Parking shall be provided for all uses in accordance with the following standards unless specified otherwise in this or other sections of this zoning ordinance:

USE TYPES		PARKING REQUIREMENT, MINIMUM (SPACES)	ADDITIONAL REQUIREMENTS
Residential and housing uses			
One- and two-family dwellings	Not fronting on cul-de-sac	1 per dwelling unit	Constructed and maintained in accordance with §14.3.3.
	Fronting on cul-de-sac	2 per dwelling unit	Improved in accordance with §14.3.4.A. Constructed and maintained in accordance with §14.3.3.
Townhouses and stacked one-family dwellings		2 per dwelling unit, and 1/5 additional parking spaces per dwelling unit for visitors	Additional parking spaces for visitors shall be located in a clearly marked and designated common area available to all visitors. Provided, however, that visitor parking spaces may be included within the required two parking spaces per dwelling unit when at least 50 percent of parking spaces needed to meet the requirement are located in a common area and are available for either residents or visitors. -Constructed and maintained in accordance with §14.3.3.
Dwellings, other than one- and two-family		1 & 1/8 for each of the first 200 dwelling units in any structure	Plus1 for each additional dwelling unit Constructed and maintained in accordance with §14.3.3.
Establishments with sleeping accommodations other than dwellings, including tourist courts, tourist homes, lodging or rooming houses, motels and motor hotels		1 per dwelling unit or guest room	--
Conditional and community service uses			
Church sanctuaries		1 per each 5 sanctuary seats	Notwithstanding other sections of this zoning ordinance, required parking for churches may be located on a parking lot which is accessory to another principal use which is not open or operating on the days of the week on which the church sanctuaries are regularly used if said lot is either located within 600 feet by the shortest route of effective pedestrian access, or within 3/4 of one mile by the shortest route of effective vehicular access, and regular and frequent shuttle bus service is provided between the lot and the church during any hours when the use for which the lot is provided is not open and operating and the lot is open to persons attending meetings at the church.
Community swimming pools		1 per each 40 sq. ft. of pool area	--
Golf courses		40 per each standard 9 holes	--
Hospitals, rest homes, nursing homes, sanitariums, convalescent homes & institutions		1 per 4 beds	Plus 1 space for each 2 employees (other than staff doctors), plus 1 space for each doctor assigned to the staff.
Intermediate care facilities		1 per each 3 dwelling units	Plus 1per 3 employees, plus 1 per doctor
Libraries, art galleries, and museums, private and public		1 per each 500 sq. ft. of floor area	--
Public assembly establishments & club buildings	Excluding church sanctuaries, golf clubs and community buildings	1 per each 3 seats or other accommodations or other accommodations for attendants or participants	Computed on the basis of one accommodation for each attendant or participant

USE TYPES		PARKING REQUIREMENT, MINIMUM (SPACES)	ADDITIONAL REQUIREMENTS
Schools	Nursery	1 per each staff member or employee	Plus 1 space for each 10 fixed seats, or other vantage accommodation for spectators, for public assembly; plus 1 per 50 sq. ft. of floor area for auditoriums, multipurpose rooms, gymnasium or other facilities used for public assembly but having no fixed seating arrangement specified
	High	1 per each 10 students of design capacity	
	Higher education	As determined by the County Board	
Schools	Elementary and middle	1 per each 7.5 students of design capacity for employee parking	Plus 1 space for each 40 students of design capacity for visitor parking
Retail and service uses			
Retail and service uses other than those specified below		1 per each 250 sq. ft. of floor area on the first floor of a building	Plus 1 per each 300 sq. ft. of floor area located elsewhere in the building
Bowling alley		4 per each alley	--
Car wash		20 standing spaces for waiting vehicles for each wash rack	Plus 1 per each two employees.
Drive-in banking & similar "drive-in service establishments		5 standing spaces for each teller or customer window	--
Furniture & appliance stores, furniture repair shops		1 per each 400 sq. ft. of floor area	--
Greenhouses and nurseries		One space for each 400 sq. ft. of floor area, plus such space as may be determined to be necessary as set forth above	--
Health clubs and other fitness facilities		1 per 50 sq. ft. of gross floor area	--
Indoor or outdoor amusement facility		1 per 300 sq. ft. of indoor floor area or outdoor area used for amusement purposes	--
Motor vehicle sales		1 customer and 1 employee parking space for each 1,200 sq. ft. of area, whether or not said area is enclosed.	--
Offices of physicians, surgeons and dentists		1 per each 150 sq. ft. for first 5,000 sq. ft. in each building	Plus 1 per each 200 sq. ft. for next 10,000 sq. ft.; Plus 1 per each 250 sq. feet for area in excess of 15,000 sq. ft.
Other office buildings		1 per each 250 sq. ft. of floor area on the first floor	Plus 1 per 300 sq. ft. of floor area located in the basement or on the 2nd through 5th floors, plus 1 per 400 sq. ft. of floor area located above the fifth floor
Restaurants		1 per each 6 seats (in addition to all parking space provided for service to patrons while seated in automobiles).	--
Tennis, racquet and handball courts		3 per court	--
Theaters, auditoriums and other commercial places of public assembly		1 per each 3 seats or other accommodations, for attendants, employees or participants	--
Undertaking establishments, funeral parlors, mortuary or funeral homes		1 per 50 sq. ft. of chapel or parlor floor area, provided that there shall be no less than 20 spaces	--
Vehicle service establishment and vehicle body shop		3 standing spaces for each wash rack, lubrication rack, repair bay or similar facility for the servicing or repair of vehicles, not including said rack or bay as a space	Plus 1 per each employee.
Warehouse, wholesale and manufacturing uses			
Uses consisting of manufacture,	Excluding wholesale associated with retail	1 per 1,000 sq. ft. of floor area, or 1one space for each 2 employees,	--

USE TYPES		PARKING REQUIREMENT, MINIMUM (SPACES)	ADDITIONAL REQUIREMENTS
processing assembly, storage, warehousing, wholesale	uses, and distribution of products.	whichever is the greater	
Uses where at least 90 percent of the total floor area is available to the general public for the storage of items none of which is used for its intended purpose during the period that it is on the premises and is not associated with any office, retail, industrial or other business activity conducted on the premises		1 per each 3,000 sq. ft. of gross floor area excluding residential floor area	Plus1 for the resident manager; Plus 1 per each 2 employees

B. For uses not listed heretofore in this schedule of parking requirements, by the interpretation of the zoning administrator, spaces shall be provided on the same basis as required for the most similar listed use.

C. The County Board may, through Use Permit approval pursuant to Section §15.5, modify the conditional and community service uses and retail and service uses regulations set forth in §14.3.7 or modify regulations to permit off-site parking to be used for public and private elementary, middle and high schools and for uses associated with public and private noncommercial recreational and community center buildings and grounds, where the County Board finds that:

1. Such modifications will preserve or create recreational facilities such as playing fields, open space, playgrounds, and the like, that will reduce impervious surfaces, minimize grading and preserve existing trees, and

2. A transportation demand management plan submitted by the applicant demonstrates that the potential adverse impacts of parking demand and any potential disruption of parking patterns within affected neighborhoods that could result from the modification will be mitigated by utilizing available on-street parking contiguous to the site, and through the implementation of measures such as, but not limited to:

(a) Utilizing, by written agreement with another party in terms acceptable to the County, off-street parking spaces at a site owned or controlled by that same party; and/or

(b) Utilizing a managed or shared parking program at times when parking demand is highest; and/or

(c) Implementing Transportation Demand Management (TDM) strategies for the use, and/or demonstrating that transit or other transportation options exist that may offset parking demand.

§14.3.8. Off-street loading

Off-street loading spaces shall be provided for each use, as permitted in its respective classification, in not less than the amounts set forth below for every building, or addition thereto, and for all uses of land established or expanded:

A. All conditional uses

Sufficient space to provide on the lot for the use, as determined by the County Board, as set forth above.

Attachment IV

Urban Land Institute Shared Parking 2nd Edition Adjustment Factors

Time-of-Day Factors for Weekday Demand																					
		6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	
Shopping Center-Typical	Customer	1%	5%	15%	35%	65%	85%	95%	100%	95%	90%	90%	95%	95%	95%	80%	50%	30%	10%	0%	
December	Customer	1%	5%	15%	30%	55%	75%	90%	100%	100%	100%	95%	85%	80%	75%	65%	50%	30%	10%	0%	
Late December	Customer	1%	5%	10%	20%	40%	65%	90%	100%	100%	100%	95%	85%	70%	55%	40%	25%	15%	5%	0%	
	Employee	10%	15%	40%	75%	85%	95%	100%	100%	100%	100%	100%	95%	95%	95%	90%	75%	40%	15%	0%	
Residential	Resident	100%	90%	85%	80%	75%	70%	65%	70%	70%	70%	75%	85%	90%	97%	98%	99%	100%	100%	100%	
	Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	Guest	0%	10%	20%	20%	20%	20%	20%	20%	20%	20%	20%	40%	60%	100%	100%	100%	100%	80%	50%	
Office	Visitor	0%	1%	20%	60%	100%	45%	15%	45%	100%	45%	15%	10%	5%	2%	1%	0%	0%	0%	0%	
	Employee	3%	30%	75%	95%	100%	100%	90%	90%	100%	100%	90%	50%	25%	10%	7%	3%	1%			

Time-of-Day Factors for Weekend Demand																					
		6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	
Shopping Center-Typical	Customer	1%	5%	10%	30%	50%	65%	80%	90%	100%	100%	95%	90%	80%	75%	65%	50%	35%	15%	0%	
December	Customer	1%	5%	10%	35%	60%	70%	85%	95%	100%	100%	95%	90%	80%	75%	65%	50%	35%	15%	0%	
Late December	Customer	1%	5%	10%	20%	40%	60%	80%	95%	100%	100%	95%	85%	70%	60%	50%	30%	20%	10%	0%	
	Employee	10%	15%	40%	75%	85%	95%	100%	100%	100%	100%	100%	95%	85%	80%	75%	65%	45%	15%	0%	
Residential	Resident	100%	90%	85%	80%	75%	70%	65%	70%	70%	70%	75%	85%	90%	97%	98%	99%	100%	100%	100%	
	Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	Guest		20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	40%	60%	100%	100%	100%	100%	80%	50%	
Office	Visitor	0%	20%	60%	80%	90%	100%	90%	80%	60%	40%	20%	10%	5%	0%	0%	0%	0%	0%	0%	
	Employee	0%	20%	60%	80%	90%	100%	90%	80%	60%	40%	20%	10%	5%	0%	0%	0%	0%	0%	0%	

Monthly Adjustments for Customer/Visitor Parking													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Late Dec
Shopping Center	56%	57%	64%	63%	66%	67%	64%	69%	64%	66%	72%	100%	80%
Residential	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Office, Bank	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%

Monthly Adjustments for Employee/Resident Parking													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Late Dec
Shopping Center	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	90%	100%	90%
Residential	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Office, Bank	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%

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Department of Development Services
Planning Division
Room 300 West
300 Park Avenue
Falls Church, VA 22046-3332
Phone: 703.248.5040
Fax: 703.248.5225

PLANNING DIVISION
APPLICATION FORM

PROJECT NAME: Broad and West Development

Submit one form for each type:

- ☐ Site Plan
- ☐ Site Plan Amendment-Major
- ☐ Site Plan Amendment-Minor
- ☐ Special Exception
- ☐ Comp Plan Amendment
- ☐ Subdivision, Consolidation or Lot Line Adjustment
- ☒ Rezoning
- ☐ Interpretation / Planning Director
- ☐ Zoning Ordinance Text Amendment

PROJECT DESCRIPTION:

Street Address: Broad and West	
RPC #: See Attached	Owner of Record: See Attached

APPLICANT INFORMATION:

Applicant: ☐ Owner ☐ Contract Owner ☒ Agent	
Name: David R. Lasso	
Address: Baskin, Jackson & Lasso, PC	Business Phone: 703-534-3610
301 Park Ave., Falls Church, VA 22046	Cell Phone: 703-801-1608
E-mail: David.Lasso@baskinjackson.com	Fax: 703-536-7315

PROJECT AND PROPERTY INFORMATION:

SITE PLAN	SUBDIVISION, CONSOLIDATION OR LOT LINE ADJUSTMENT	COMP PLAN/REZONING OR SPECIAL EXCEPTION
Current Zoning: N/A	Current Zoning: N/A	Current Zoning: R1B, B-1, B-3
☐ Present Development	☐ Present Development	Proposed Zoning: B-1
☐ Proposed Development	☐ Proposed Development	Present Future Land Map Designation: Low Density Residential and General Business
# of New Dwelling Units: _____	☐ Subdivision: ☐ SFH ☐ Commercial	☐ Present Development
Commercial: _____ SF	☐ Consolidation	☒ Proposed Development Mixed Use/Bonus Height
☐ Mixed Use Development	☐ Lot Line Adjustment	☐ Conditional Rezoning
☐ # Site Plan Waiver(s):	☐ Preliminary Plat ☐ Final Plat	☐ Other Rezoning
☐ Site Plan Resubmission		
☐ Site Plan Amendment		

TOTAL SITE AREA: 188,137 SF 4.3152 ACRES

APPLICANT SIGNATURE: David R. Lasso
For Spectrum Development Company, LLC

Applications must be accompanied by corresponding checklists and materials as required.

FEES: Fees will be determined by Planning staff after an initial evaluation of the submission. Fees are due at that time, prior to a full review beginning. Fees are paid at the Development Services Counter and may be paid by cash, check, credit card or debit card. Checks should be made out the "The City of Falls Church". Returned checks are subject to fee of up to $50.00.

Status of real estate and personal property taxes, liens, business license and fees:			
TREASURER:	☐ Current	☐ Outstanding (please describe): _____	Initials: _____
COMM. REV:	☐ Current	☐ Outstanding (please describe):	Initials:

TOTAL FEE for this application: $_____

Accepted by: _____ MUNIS # _____
Staff

The City of Fall Church is committed to the letter and spirit of the Americans with Disabilities Act. This document will be made available in alternate format upon request.
Call 703-248-5080 (TTY 711).

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301 Park Ave., Falls Church, VA 22046	Cell Phone: 703-801-1608
E-mail: David.Lasso@baskinjackson.com	Fax: 703-536-7315

PROJECT AND PROPERTY INFORMATION:

SITE PLAN	SUBDIVISION, CONSOLIDATION OR LOT LINE ADJUSTMENT	COMP PLAN/REZONING OR SPECIAL EXCEPTION
Current Zoning: N/A ☐ Present Development ☐ Proposed Development # of New Dwelling Units: _____ Commercial: _____ SF ☐ Mixed Use Development ☐ # Site Plan Waiver(s): ☐ Site Plan Resubmission ☐ Site Plan Amendment	Current Zoning: N/A ☐ Present Development ☐ Proposed Development ☐ Subdivision: ☐ SFH ☐ Commercial ☐ Consolidation ☐ Lot Line Adjustment ☐ Preliminary Plat ☐ Final Plat	Current Zoning: R1B, B-1, B-3 Proposed Zoning: B-1 Present Future Land Map Designation: Low Density Residential and General Business ☐ Present Development ☒ Proposed Development Mixed Use/Bonus Height ☐ Conditional Rezoning ☐ Other Rezoning

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APPLICANT SIGNATURE: David R. Lisso
For Spectrum Development Company, LLC

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TOTAL FEE for this application: $_____

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DAVID R. LASSO
MARTHA F. MOTHERSHEAD
JILL P. BASKIN

WILLIAM M. BASKIN
(1921-2008)
WILLIAM H. HANSBARGER
(1922-2009)
ROBERT J. DUFFETT
(1966-2013)

January 30, 2015

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DEVELOPMENT SERVICES

VIA HAND DELIVERY
James Snyder
Director of Planning and Zoning City of Falls Church
City Hall
300 Park Avenue
Falls Church, VA 22046

Re: Spectrum Development Company LLC Letter of Transmittal and Justification for Application for Amendment to Comprehensive Plan at Broad and West Streets (January 29 RESUBMISSION).

Dear Jim:

Baskin, Jackson & Lasso represents Spectrum Development Company LLC ("Spectrum") which has contracts to purchase the parcels at 919 Park Avenue, 921 Park Avenue, 925 Park Avenue, 212 N. West Street, 110 N. West Street, 934 W. Broad Street, 932 W. Broad Street 922 W. Broad Street, 920 W. Broad Street and 916 West Broad Street (the "Site"). Please accept this Transmittal of and Justification for, an application to amend the City's Comprehensive Plan (and Land Use Map) designation for the site. This letter relates to the January 30, 2015 RESUBMISSION of this Project).

The current use of the site is currently shown on the Map for the parcels at 919, 921, and 925 Park Avenue is "Low Residential" and the remainder of the parcels of the development site are shown as "Business".

Spectrum proposes to change the Future Land Use Map so that the entire site would be "Mixed Use". The January 29 RESUBMISSION responds to the requests of the Community City Staff, Boards and Commissions and City Council to, among other things, provide an improved transitional use and design along Park Ave. This RESUBMISSION takes its cue from the by right use in the City's T-1 and T-2 Zoning Districts wherein parking structures are a "by right" use in those transitional districts. This planning principle of using well designed parking structures for commercial/multi-family uses allowed in the "B" districts along West Broad Street can reduce activity along Park Ave and make a pleasing transition to the nearby commercial/multifamily uses. The proposed parking above grade parking structure will be screened in a way as to prevent undue intrusions into the established single family neighborhood along Park Ave.

The structure proposed for Mason Row will is designed to be of high quality materials, and to NOT have any vehicular access on Park Ave. The applicant will present its preferred design option but is open to suggestions during the review process.

The remainder of the site would be developed as follows:

- A six story mixed use (apartment) building with retail, office and service uses in the ground floor, with 340 rental apartments; the previously proposed 69-unit residential condominium on Park Ave. has been removed and is largely replaced by the four level parking structure.

- A hotel of five floors with retail and service uses in the ground floor and hotel rooms in floors 2 through 6.

- The ground floor of the apartment building (and a portion of the office uses) would have retail uses comprising about 104,600 square feet; such uses would include a move theater, restaurants, retail shops and service businesses with a mix of local, regional and national brands.

- Cash to support improvements to the existing parkland along the W& OD trail that will provide a connection to the transit and recreational opportunities of the Trail; subject to the approval of the Northern Virginia Regional Park Authority. Cash to the West End Park will be provided.

- Improvements will be provided for bikes, pedestrians and autos will be made that should improve the existing dangers.

The site is located in planning opportunity area three and the site is discussed in the Comprehensive plan at pages 58 and 59. The redevelopment area calls for mixed uses diagonally across from the site but in fact that area is committed in the long term to retail uses.

By consolidating the parcels in this site and by recently adding 916 to the site plan of the project, Spectrum has achieved a number of the Goals in the City's Comprehensive Plan. Specifically, the proposed mixed use development provides for sustainable development as it will allow for improvements to storm water management, to energy efficiency, to parks and open space, to locating residents nearer to employment, transit and shopping area, enhances the integrity of the low density residential area by establishing for the long term a "terminus" to the residential area of Park Avenue. The internal and external improvements to traffic movement

will greatly improve the current difficult intersection of West Street and Park Avenue. (See pages 75Rv through 76Rv of the Comprehensive Plan).

The site's proximity to the W&OD trail provides a unique opportunity to the City to maximize the benefits of that park and transportation amenity. A mixed use development provides the best opportunity to take advantage of this opportunity. The current general "business" uses called for in the Comprehensive Plan would squander the opportunity.

Demographic and market trends demonstrate that the future development in this area should be an innovative and integrated approach to a mixture of uses including retail, residential and service uses.

Spectrum expects that given the increasing amount of retail, and newer/smaller multi-family units, the surrounding area will become more attractive to office users as well. In fact, about 6600 square feet of office use is now provided in the RESUBMISSION. The change in designation from business to mixed use on this site facilitates this dynamic.

While the current designation does accommodate multi-family uses and the City has approved similar mixed use developments in areas designated "Business", Spectrum suggests the more appropriate designation is "Mixed Use" and consequently has applied for such an amendment to the Comprehensive Plan. The City will retain the ability through the special exception process to control the height, massing, uses and overall character of any proposed mixed use project.

The appropriate filing fee and Application accompanies this letter.

Thank you and the City Staff for its guidance and attentiveness to this project.

Sincerely,

David R. Lasso

David R. Lasso

DRL/saj
Enclosures

LAW OFFICES
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January 30, 2015

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CITY OF FALLS CHURCH
DEVELOPMENT SERVICES

VIA HAND DELIVERY
James Snyder
Director of Planning and Zoning City of Falls Church
City Hall
300 Park Avenue
Falls Church, VA 22046

Re: January 30, 2015 Resubmission Development Site Mason Row ("Broad and West") ; Letter of Transmittal and Justification of Application for (1) for Rezoning certain areas of the site to B-1 (2) Special Exceptions to allow Mixed Use and for a Building Height Bonus.

Dear Jim:

Baskin, Jackson & Lasso represents Spectrum Development Company LLC ("Spectrum") which has contracts to purchase the parcels comprising 4.3152 acres (more specifically identified in the accompanying partial list) including at 919 Park Avenue, 921 Park Avenue, 925 Park Avenue, 212 N. West Street, 110 N. West Street, 934 W. Broad Street, 932 W. Broad Street 922 W. Broad Street, 920 W. Broad Street and 916 W. Broad Street (collectively the "Site").

After the initial application (January, 2014) was accepted, the City's representatives asked for a number of modifications to the proposal. Modifications were made and a resubmission was made July 7, 2014. Among other things, the pharmacy was dropped as was its drive through; additional modifications were made to the resubmission and this concept was called "Mason Row". Mason Row was characterized by a "market square" within the development that provided a community gathering place; the square was surrounded by quality retail with a "spine road" through the development that allowed for a four way intersection at West and Park connecting to West Broad Street. A condominium component was added and it was located on Park Avenue. There was also an access on Park Ave. that led to the underground parking garage.

The Mason Row concept was presented to the community, the City staff, boards and commissions and to the City Council. The Mason Row Concept was well received. However, additional requests were made to further modify the massing and design, to enlarge the market square, to include a movie/dinner theater (or another comparable anchor), to drop the condominium component as a separate building, to reduce the massing and height of the hotel on

West Street, to make the sidewalk on West 20' wide, and to remove the vehicular access on Park Ave. In terms of process, the applicant was asked to continue it outreach to the community and to work with neighbors on Park, Grove, Steeples Court and St. James Church.

The January 30, 2015 resubmission includes responses to all of these requests. The move/dinner theater has been added, the 916 W. Broad St. parcel has been added to the site plan of the project, the market square has been substantially enlarged, the six parking spaces off West have been relocated to the interior of the development, the spine road has been widened and straightened out, the hotel on West Street is now "set back" 3' above the retail level so as to diminish it massing and appearance of height, the West Street sidewalk is not a full 20' wide, the condo component has been dropped, an above grade parking structure has replaced the condo building on Park Ave, the parking structure is less tall and there is no vehicular access on Park, while the number of apartment units has increased to reflect the loss of the condo component the overall floor area devoted to residential is nearly the same, and finally, an office component has been added.

Please note in the table in the plans that the parking reduction needed has been modified from the prior plan. Even with the movie theater being added, the overall reduction request is limited to 15.8%. Given the small size of the apartments and TDM being provided, the reductions will function well.

The rezoning request remains the same. This is possible as 916 W. Broad is already zoned B-1 and it will remain so. The special exception for mixed use and for increased height to 85 feet is amended to include the 916 W. Broad St. parcel. Please accept this Transmittal of and Justification for Applications to rezone the residential (R-1B) properties on Park Avenue and the Commercial properties in the site now zoned B-3, to B-1. Also please accept this revised Justification for the special exception and height bonus.

As discussed below, the B-1 Zone allows the requested uses. Moreover by rezoning to B-1, automotive uses cannot be located on the site in the future. The City has requested this assurance be provided and so Spectrum requests those portions of the site now zoned B-3 be "downzoned" to B-1.

Spectrum proposes to redevelop the site for a mixed use project.

- A six story mixed use (apartment) building with retail and service uses in the ground floor and with 340 units.
- A hotel of five floors with retail and service uses in the ground level of 73,000 sq. ft. and 150 rooms in floors 2 through 6.

- An above grade parking structure in place of the former 65 unit residential condominium facing Park Ave. with no vehicular access on Park.
- The ground floor of the apartment building and hotel would have retail uses comprising about 53,000 square feet; such uses will include restaurants, retail shops and service businesses with a mix of local, regional and national brands. A commitment to 25% food and beverage uses is provided in a Proffer.
- A movie/dinner theater is provided.
- An office component of about 6,600 sq. ft. is provided.
- Such improvements to the existing parkland along the W& OD trail that will provide a connection to the transit and recreational opportunities of the Trail; subject to the approval of the Northern Virginia Regional Park Authority.

The site is located in planning opportunity area three and the site is discussed in the Comprehensive Plan at pages 58 and 59. The redevelopment area calls for mixed uses diagonally across from the site but in fact that area is committed in the long term to retail uses.

By consolidating the parcels in this site, Spectrum has achieved a number of the Goals in the City's Comprehensive Plan. Specifically, the proposed mixed use development provides for sustainable development as it will allow for improvements to storm water management, to energy efficiency, to parks and open space, to locating residents nearer to employment, transit and shopping areas, enhances the integrity of the low density residential area by establishing for the long term a "terminus" to the residential area of Park Avenue. The internal and external improvements to traffic movement will greatly improve the current difficult intersection of West Street and Park Avenue (See pages 75Rv through 76Rv of the Comprehensive Plan).

Demographic and market trends demonstrate that the future development in this area should be an innovative and integrated approach to a mixture of uses including retail, office, hospitality, residential and service uses.

Spectrum expects that given the increasing mass of retail, and newer, smaller multi-family units, the surrounding area will become more attractive to office users and other retailers as well.

Additionally, Spectrum requests the approval of special exceptions to allow for a mixed use development to include multi-family rental units and for a bonus of 30 feet in height.

The Staff will provide the fiscal impact analysis; we expect the net impact to be about $2m.

These requests for specific parcels are summarized in the attached document entitled: The Spectrum Development / Parcel Ownership. Concurrently, Spectrum is requesting a change in the Comprehensive Plan Future Land Use Map for certain areas of the site to be shown as mixed use rather than business and for the area of the site now noted as low residential to be noted mixed use as well. While the resubmission replaces the current single family dwelling with the parking structure (a portion of the apartment building at the very western end of Park Ave, the use would make a very good transition from the remaining single family detached (low residential) area to the more active portions of the mixed use Mason Row.

Spectrum and its development team have had extensive discussions with The City Council and Planning Commissions in public work-sessions and with stakeholders in the community, elected and appointed official and staff members. The central concerns have been the following:

1. There should be a substantial commercial component for this large site, and a considerable positive fiscal impact for the City of Falls Church is a primary goal.
2. Density should be increased and a quality hotel should be brought to the project to assist in achieving the desired positive fiscal impact.
3. Traffic is a great concern given, among other things, the unusual configuration of West and Park Ave and the need to control access on West Broad Street and West Street.
4. The buildings should have superior architecture and layout with tapering toward Park Ave. and the greatest height and massing along West Broad with a superior focal point at West and West Broad.
5. Some local retailers should be encouraged to stay in the project.
6. Parks and open space needs should be addressed in part by linking the site to the W& OD Trail.
7. The apartment should be LEED Certified Silver.
8. Storm water management for the site and the immediate area should be improved.
9. Streetscape should be tailored to the site and also consistent with (but not necessarily the same) the City's existing streetscape standards.
10. There should be two commercial anchor tenants.
11. The frontage along Park Avenue should take the opportunity to make an appropriate transition to the development and solidify for the long term the low residential density of that terminus of Park Avenue.
12. Aerial utilities on the site will be placed underground.
13. This redevelopment opportunity involves a large consolidation of eleven separate parcels in the West Broad Street Area, and if redevelopment fails to go forward for any cause, then the existing auto and light industrial uses on some of the

parcels will remain for a long indefinite period of time before another redevelopment opportunity may arise.

THE PROPOSED DEVELOPMENT AND ITS COMMUNITY BENEFITS

Spectrum proposes to redevelop the site as a mixed use project.

- This mixed use project will contribute about $2m annual in net new tax revenues to the City.
- A contribution of $175,000 to City Parks is to be made.
- Undergrounding of aerial utilities along West Street and the W & OD trail will be made.
- Bike Share facilities will be provided (in additional to provisions for residents and customers who will use bikes).
- The hotel of 150 rooms will bring visitor to the City who will spend substantially in the City.
- There will be about 53,000 sq. ft. of retail with a mix of local, regional and national brands, 6,600 sq. ft. of offices and a movie/dinner concept of 41,100 sq. ft.
- A gathering place for the residents that is sufficiently large enough to accommodate a "band shell", skating ring, or farmers' market.
- Such improvements to the existing parkland along the W& OD trail that will provide a connection to the transit and recreational opportunities of The Trail; subject to the approval of the Northern Virginia Regional Park Authority.
- The expected contributions to the Schools Capital program of about $7500 per market rate rental units will be met (about $2.5m total).
- A commitment of about six percent of the total of the rental units (70% one bedroom and 30% two bedroom) being set aside as Affordable Housing Units in the Rental component and allocated among several income levels. (Please see the Voluntary Concessions).
- Net tax revenue increases of approximately $2m annually are expected based on the City's economic projections.
- The traffic in and around the area will be better managed with traffic calming added and improvements added to the larger street grid around the project.

The site is located in planning opportunity area three and the site is discussed in the Comprehensive Plan at pages 58 and 59. The redevelopment area calls for mixed uses diagonally across from the site but in fact that area is committed in the long term to retail uses.

By consolidating the parcels in this site, Spectrum has achieved a number of the Goals in the City's Comprehensive Plan. Specifically, the proposed mixed use development provides for sustainable development as it will allow for improvements to storm water management, to energy efficiency, to parks and open space, to locating residents nearer to employment, transit and shopping areas, enhances the integrity of the low density residential area by establishing for the long term a "terminus" to the residential area of Park Avenue. The internal and external improvements to traffic movement will greatly improve the current difficult intersection of West Street and Park Avenue (See pages 75Rv through 76Rv of the Comprehensive Plan). The number of access points on Broad, West and Park are being reduced from thirteen to four.

Demographic and market trends demonstrate that the future development in this area should be an innovative and integrated approach to a mixture of uses including retail, hospitality, residential and service uses.

Spectrum expects that given the increasing mass of retail, and newer, smaller multi-family units, the surrounding area will become more attractive to additional pedestrian oriented shopping and office users as well. The once in a generation parcel consolidation achieved by Spectrum provides the City with the opportunity to address all of the issues outlined above. Without the approvals requested, the properties will continue with their current uses for the indefinite future.

TRAFFIC IMPACT

Wells & Associates has reviewed the revisions to the uses. A letter from Wells is provided in the package of materials.

SPECIAL EXCEPTION CRITERIA FOR MIXED-USE AND HEIGHT BONUS

1. Primary Criteria (Section 48-90(1)):

a. The resulting development conforms to the City's adopted Comprehensive Plan and Design Guidelines (Section 48-90(1) (a)).

The Comprehensive Plan shows that the property is located in Planning Opportunity Area 3, and the proposed development meets or exceeds the strategies called for in that area:

1. Consolidation of lots to accommodate higher density.

2. Promotion of redevelopment that eliminates stand-alone automobile and light industrial facilities.

3. Improve pedestrian accessibility with controlled cross walks at various locations.

4. Create a consistent design, in terms of building height and design, streetscape improvements, and other aspects of the built environment in the City.

5. Preserve recreational resources in the area.

6. Create development to promote a positive image of the City in an area that has not seen any significant new development in decades.

7. Locate buildings as close to West Broad and West Streets as possible with parking located in the rear or in shared buildings or in structured facilities (in this case covered, surface and underground).

8. Achieve consistent architectural goals.

9. Traffic turn lanes will be added to Broad and West Streets.

Additionally, the Comprehensive Plan's Future Land Use Map designates the property as "business". The text of the comprehensive plan currently points out that while this means the area should be "primarily" recognized as retail or office districts rather than residential, "special exceptions for residential use and height bonuses have also been granted to create mixed use projects in 'business' areas since 2002".

The Comprehensive Plan should be changed to reflect current practice, the City's goals and the changing environment. To do this, an application to change the Comprehensive Olan's designation from Business to "Mixed Use" has been submitted to the City. The Design Guidelines show that the property is located in the West Broad Street Area. As called for in the Guidelines, the proposed development will reflect an urban street front, will provide a consistent identity for the area, increase pedestrian activity, and indicate the high standards of the City. In addition, the proposed development will widen paving at crosswalks, improve the area around the W& OD trail, all of which will work to increase pedestrian and bicycle activity in the area. The site's proximity offers a unique opportunity to finally provide superior connection to the W&OD Trail. The best use to optimize that linkage is mixed use and not office or light industrial uses.

b. The resulting development provides for significant net new commercial square footage and allows for a mix of commercial and residential uses (Section 48-90(1) (b)).

Currently, the properties in the site contribute only minimally in tax revenue. All existing properties are served by significant surface parking. The proposed development will remove these largely automobile-oriented and light industrial uses, providing significant net new commercial square footage and allowing for a mix of commercial and residential uses. The proposed development as noted provides substantial new commercial space (more specifically described in the Table in the Concept plan), and uses language desired by the City.

c. The resulting development produces substantial positive net new commercial and residential revenue to the City (Section 48-90(1) (c)).

In conjunction with this application, information has been submitted to the City to be inputted into the City's cost/revenue impact model to predict the project's net new revenue, and a report has been received, which is attached separately. As recognized by the Comprehensive Plan, the parcels that make up the property are underutilized currently in terms of their density and use. The proposed development will significantly increase the assessed value of and resultant property tax revenue generated by the property. In addition, by creating a vibrant, attractive western gateway into the City, the development will encourage additional consumers to enter the area and patronize commercial uses throughout the City.

2. Secondary Criteria (Section 48-90(2)):

a. The development is not disproportionate to surrounding land uses and planned land uses in size, bulk or scale (Section 48-90(2) (a)).

The proposed development is a concrete podium of commercial uses with five floors of multi-family and hotel above, with a total height of about 85 feet. The development has the unique aspect of substantial at grade parking for the retail uses hidden behind the retail and under the residences. The exterior is masonry, and the building is fully consistent with high standards established by the City for prior mixed use projects. The area of the footprint of this project is "low" and the height of the new building will blend well with its environment and set the stage for future development. Given the high-quality design and construction of the building and its prominent place in the City, a building of this scale is appropriate. The proposed development works in conjunction with existing buildings to further create a dramatic, defined statement of quality for this area of the City. The development is consistent with the discussion in the Comprehensive Plan for this Redevelopment Opportunity Area which calls for significant mixed

(multifamily) uses-the area called for this Plan however is committed long term to other uses that conflict with the Plan.

b. **The resulting development does not overburden the existing community facilities, including the school, transportation and water and sewer systems (Section 48-90(2)(b)).**

Transportation

A traffic study has been conducted by Wells and Associates that evaluates the anticipated traffic impacts of the application and provides specific recommendations to mitigate those impacts. That Study has been provided to the Staff. Some revisions to counts will be made to reflect the changes in the retail plan for the site. The application envisions a vibrant mixed-use development that will be sensitive to the transportation concerns of the City. By providing a variety of complementary uses on the same site, the proposed development will encourage self-contained, pedestrian trips. Additionally, due to its location proximate to several bus routes including a future intermodal transportation center and with implementation of Transportation Demand Management ("TDM") measures, a percentage of the trips generated by the residential and commercial components of the proposed development are anticipated to utilize non-auto modes of transportation. TDM measures will include convenient bicycle storage facilities, transit incentives, and resources conducive to teleworking. Furthermore, the developer proposes to reconfigure of the intersection at West Street and Park Avenue and add lane changes and traffic calming.

Water & Sewer

The City's utility engineer has confirmed that water and sewer service is adequate. The project will greatly improve storm water management with BMPs as the existing development has virtually no storm water management measures.

c. **The resulting development provides community benefits such as affordable housing, as it is described in Section 38-43 (Section 48-90(2)(c)).**

The developer is proposing an Affordable Dwelling Unit contribution in keeping with similar mixed use developments contributions, with about 6% of the total units being contributed as Affordable Housing Units and equally allocated among households at 60%, 80% and 100% of the median household income.

A commitment to LEED Silver for the Apartment building is provided, and the developer will underground all aerial utilities contiguous to the site depending on costs and

availability of easements. The developer proposes to review this in detail with the City to determine what poles can be undergrounded in the immediate area.

d. **The resulting development contributes to a vibrant, pedestrian-oriented environment both on site and in relation to adjoining properties, with street level activity throughout the day and evening (Section 48-90(2) (d)).**

The current uses at the site are distinctly automobile-oriented, with the majority of the property occupied by their own surface parking lots. The proposed development will move almost all parking within enclosed structures, which will contribute further to the walkable nature of the area.

The provision of streetscape along the entire development's three sides facing streets will contribute to the vibrant, pedestrian-oriented environment with connectivity to adjacent commercial and park areas. The mix of uses, including restaurants, retail, and other commercial opportunities will provide a balanced commercial center that will generate pedestrian traffic throughout the day and evening. The street level retail uses will be very visible and will encourage customers to enter the area to shop and visit not only this development, but the additional retail located nearby.

e. **The resulting development offers creative use of landscaping, open space and/or parks, public plazas or and walkways connecting to adjoining properties (Section 48-90(2) (e)).**

Three sides of the proposed building will have the attractive "streetscape" design and fixtures, and there will be enhanced connections around the site to nearby businesses, parks, and residences. The area near the W&OD trail will invite pedestrians to ride bikes, rest, talk, sit, eat and simply enjoy the area which includes the soon to be completed West End Park.

A cash contribution is provided. Further, a cash contribution is possible to facilitate the completion of the West End Park.

f. **The resulting development provides a variety of commercial services and uses that are attractive to and meet the needs of all city residents for entertainment, art, recreation, dining retail and array of consumable goods (Section 48-90(2)(f)).**

As stated above, the proposed development envisions a hotel as well as a mix of commercial uses. This includes a movie/dinner theater, and retail opportunities in an area that is lacking sufficient quality retail currently. These commercial entities will serve the

residential uses within the proposed development, as well as the neighborhood as a whole.

g. **The resulting development encourages local or independent businesses (Section 48-90(2) (g)).**

The retail and restaurant space provide a unique opportunity for local, regional and independent businesses, and the high-quality development will help the area as a whole attract and cultivate local and independent businesses. The smaller retail spaces in the development provides excellent opportunities for local "mom and pop" and incubator businesses.

h. **The resulting development provides for a reduction of single use parking requirements through shared parking Section 48-90(2) (h)).**

As shown in the submitted conceptual plan, the developer is recommending shared parking. The developer will explore with the final parking provided with the City to determine any additional parking reductions are justified based on the characteristics of the property and its proximity to bike ways, as well as several bus lines, will lead to fewer automobile trips. Additionally, metro to the nearest metro rail station is easily available and it is expected that some residents will bike to work (or to a multi-modal transit location for switching to bus or rail), and that the commercial uses will be patronized at least in part by pedestrians and cyclists.

i. **The resulting development encourages multi-modal transportation through design and other techniques to reduce the reliance on single occupancy vehicles, and utilizes sheltered stops for mass transit whenever feasible Section 48-90(2) (i)).**

As discussed, the property is in close proximity to existing bike ways, as well as the Metro Rail station and several bus lines. It is expected that some residents will walk to the Metro Rail station and others will bike to work, and that the commercial uses will be patronized at least in part by pedestrians and cyclists. The design includes attractive and user friendly places for bikes to be parked and stored.

j. **The resulting development utilizes LEED criteria in the design of the project Section 48-90(2) (j)).**

The proposed apartment development is planned to be LEED Silver certified, and will otherwise be designed using green design principles and elements.

By removing the existing imperious parking lots and implementing a new storm water management plan, the development will greatly reduce storm water runoff in the area.

Additionally, the non-residential part of the project will incorporate eco-conscious sustainable elements in the design of the hotel and other commercial spaces.

Special Exception for Height Bonus.

The area of the site to be used for the mixed use project is currently zoned B-3 and B-1, which permit a by-right height of up to 55 feet. The developer proposes the requested development to be a maximum height of 85 feet.

Up to 30 feet of bonus height may be granted if the project is exemplary in terms of conformance to the Primary Criteria 1 and 2 set out above and assists in conformance with Primary Criteria 2 and 3. The amount of new commercial area is more than three times the area of the existing commercial activity. More importantly, the new commercial activity replaces commercial uses which are discouraged by the City's Comprehensive Plan. The net new commercial and retail income is far greater than that of the existing uses and far superior in terms of making the area a desirable play to live, work, and play. Many of the difficult to achieve goals of the Comprehensive Plan will be met by the proposed development. For these reasons, this plan is exemplary in its achievement of the primary criteria set out above.

Bonus height may able be awarded for certain preferred uses when located on primary street frontage. These uses include outdoor dining, hotel and other uses specifically requested by the City. This development proposes improvements to the W&OD Park, a hotel, offices, a new movie/dinner theater, multiple retail opportunities and outdoor dining and some restaurants possibly with entertainment; all of which are considered preferred uses, justifying a bonus height of 30 feet.

It is important to note here that the first floor retail uses require a ceiling heights ranging from 15 to 24 feet, and that this required ceiling height is a major reason why the bonus is needed. As discussed, the design of this project, and in particular its height, is an exceptional new addition to this part of the City. The project sets a high bar for quality in terms of design, use, and materials, and if the proposed project were to be lowered by 30 feet, the integrity of the design would be greatly compromised, likely making the development infeasible.

The location and unique physical characteristics of the site make the requested building height appropriate. The property is located in an area that is expected to attract similar developments which will likely reach heights of 85', so that the requested height of 85' in certain locations is not out of the character of the surrounding neighborhood and the expected area as it evolves.

CONCLUSION

The Spectrum redevelopment at Broad and West fully reflects the City's vision for that area of Falls Church. The project meets or exceeds the primary and secondary criteria used to evaluate the merits of the special exceptions. Therefore, the requested special exceptions for residential use and height bonus at the City's gateway should be granted.

Thank you and the City Staff for its guidance and attentiveness to this project.

Sincerely,

David R. Lasso

David R. Lasso

DRL/saj
Enclosures

RECEIVED
FEB 03 2015
CITY OF FALLS CHURCH
DEVELOPMENT SERVICES

EXHIBIT A

MASON ROW

Retail Merchandising Plans

FOOD

(1) Fast Casual Restaurants with or without Patio Seating – Pizza/Sandwiches/Burgers/Sushi/Pasta, etc.

(2) Full Service Dining with or without Patio Seating

(3) Food Markets – Gourmet Butcher/Fresh Seafood Market/Cheese Shop/fresh vegetables & fruits

(4) Coffee Shop

(5) Ice Cream and Yogurt

(6) Chocolate Shop

(7) Wine Shop

(8) Tavern/Bar Restaurant

(9) Specialty Tea Store

(10) Candy store

(11) Baked goods store

(12) Food Catering

BOUTIQUES – Specialized Shops

(1) Personal Beauty Products

(2) Candle & Soap Shop

(3) Fashionable Clothing

(4) Lifestyle Clothes - Vacation Wear

(5) Jewelry

(6) Home Accessories & Gifts

(7) Children's Apparel – Baby Accessories for the home & travel

(8) Kitchen Accessories & Cookware

(9) Premier Paperie – Card Shop

(10) Artisan Olive Oil & Vinegar

(11) Art Gallery/Art Studios/Art Framing

(12) Flower Shop

(13) Small Pet Shop/Dog Training

(14) Hair Styling

(15) Toy store

(16) Music store

(17) Antiques

(18) Shoe store

(19) Leather Goods

SPORTS

(1) Bike Shop with Bike Service/Repair

(2) Running Store

(3) Athletic Wear Store

(4) Sporting Goods

(5) Ski shop

(6) Boating store

HOME FURNISHINGS/ACCESSORIES/GIFTS

(1) Home Furnishing & Interior Design

(2) Lamp/Lighting shop

(3) Carpet store

(4) Windows/Window Treatments

ELECTRONICS

(1) Computer Store

(2) Wireless Telephone

(3) Electronics store

(4) Computerized Games

WELLNESS

(1) Yoga & Pilates Studio

(2) Spa Treatments and Acupuncture

(3) Dentist/Doctor's Office, Urgent Care

(4) Fitness Center

(5) Health Supplements

(6) Chiropractor

(7) Pharmacy

FINANCIAL SERVICES

(1) Bank Branch Office – with no drive thru

(2) Private Wealth Management Office

(3) Insurance Office

(4) Accounting and Tax services

THEATER

(1) Movie Cinema or Cinema Draft house/Dine-In Theaters

(2) Live Stage Theater/Performing Arts

GROCERIES

(1) Grocery store

(2) Convenience store

(3) ABC Liquor store

NEIGHBORHOOD SERVICES

(1) Packaging and Shipping store

(2) Copy shop

(3) Cleaners

(4) Office Supplies

(5) Child Learning Center

(6) Child Fitness Center/Gym

(7) Book store

(8) Hardware

(9) Shoe repair

(10) Travel Services

Application Number

CITY OF FALLS CHURCH, VIRGINIA
DEVELOPMENT SERVICES DEPARTMENT
PLANNING DIVISION
Disclosure Statement

RECEIVED
FEB 03 2015
CITY OF FALLS CHURCH
DEVELOPMENT SERVICES

Type or Print in Ink. Complete the following:

1. Description of the real estate affected. List the addresses of all property that is affected by the application. Provide the lot, block, section, and subdivision of all parcels only if the properties have not been subdivided.

   Address(es) See Broad and West Parcel Ownership Statement Attached

   Lot(s)_____ Block(s)_____

   Section(s)_____ Subdivision_____

2. Is the owner of said real estate, a corporation whose stock is traded on a national or local stock exchange and having more than five hundred (500) shareholders?

   No ☑ Yes ☐ If "Yes", give the name of the corporation and skip to Item 4.

3. List the names, addresses, and nature of interest of **ALL** persons having equitable ownership of the real estate to be affected, including, in the case of corporate ownership, the names of stockholders, officers, and directors; and of **ALL** real parties of interest.

PARCEL ADDRESS	NAME	ADDRESS	NATURE OF INTEREST
See Attached			

4. I hereby certify that this is a true and accurate disclosure of all persons having equitable ownership real estate to be affected and of all the parties in interest.

CHARLES RYAN EU
Notary Public
Commonwealth of Virginia
7502219
My Commission Expires Sep 30, 2015

Applicant's Signature
Richard P. Buskell
Managing Partner
P.O. Box 937
Vienna, Virginia 22183
Applicant's Address

State of Virginia
County of Fairfax

Subscribed and sworn before me this 11 day of December, 2014.

Notary Public_____ My Commission Expires 9/30/14

Mason Row As of January 23, 2015 Parcel Ownership

PARCEL #	ADDRESS	SQUARE FOOTAGE	ACRES	EXISTING ZONE	PROPOSED ZONE	EXISTING LAND USE DESIGNATION	PROPOSED LAND USE DESIGNATION	OWNERS
51-202-015	919 PARK AVENUE Lot 3, D.J. BROWN	15,072	0.35	R-1B	B-1	LOW DENSITY RESIDENTIAL	REAR HALF TO MIXED USE	NIGEL YATES AND BERNADETTE YATES 919 PARK AVENUE, FALLS CHURCH, VA 22046
51-202-014	921 PARK AVENUE Lot , D.J. BROWN	15,064	0.35	R-1B	B-1	LOW DENSITY RESIDENTIAL	REAR HALF TO MIXED USE	TOD W. READ AND JULIA S. READ 921 PARK AVENUE, FALLS CHURCH, VA 22046
51-202-013	925 PARK AVENUE Lot 1, D.J. BROWN	14,570	0.33	R-1B	B-1	LOW DENSITY RESIDENTIAL	REAR HALF TO MIXED USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. TRUSTEES 921 PARK AVENUE, FALLS CHURCH, VA 22046[1]
51-202-012	212, 212A NORTH WEST STREET Lot 11, ACREAGE PARCEL	9,572	0.22	B3	B-1	BUSINESS	MIXED USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. TRUSTEES 212 WEST ST., FALLS CHURCH, VA 22046[1]
51-202-011	212, 212A NORTH WEST STREET Lot 3, MINNIE ELLISON	21,000	0.48	B3	B-1	BUSINESS	MIXED USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. TRUSTEES 212 WEST ST., FALLS CHURCH, VA 22046[1]
51-202-010	110, 112, 112A NORTH WEST STREET Lot 2, MINNIE ELLISON	15,488	0.36	B3	B-1	BUSINESS	MIXED USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. RICHARD PETER[1] 212 WEST ST., FALLS CHURCH, VA 22046[2]
51-202-009	934 WEST BROAD STREET Lot 1, MINNIE ELLISON	19, 868	0.46	B3	B-1	BUSINESS	MIXED USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. TRUSTEES 212 WEST ST., FALLS

7031160-v5

								CHURCH, VA 22046[1]
51-202-028 OUTLOT	928, 930, 932 WEST BROAD STREET Lots 1, 2, and 1A ACREAGE PARCEL	3,843	0.09	B3	B-1	BUSINESS	MIXED USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. TRUSTEES 212 WEST ST., FALLS CHURCH, VA 22046[1]
51-202-028	928, 930, 932 WEST BROAD STREET Lots 1, 2, and 1A ACREAGE PARCEL	22,260	.51	B3	B-1	BUSINESS	MIXD USE	WILLIAM C. SHREVE, SR. AND JR., JOHN E. SHREVE, JR. TRUSTEES 212 WEST ST., FALLS CHURCH, VA 22046[1]
51-202-005	922, 924, 926 WEST BROAD STREET Lot 3, ACREAGE PARCEL	16,962	0.39	B1	B-1	BUSINESS	MIXED USE	ATALLA TRUST MIKE N. ATELLA AND SUSIE K. ATALLA, TRUSTEES OF 6926 CONFEDERATE RIDGE LANE, CENTREVILLE, VA 20121[3]
51-202-004	920 WEST BROAD STREET Lot 4, ACREAGE PARCEL	16,789	0.38	B1	B-1	BUSINESS	MIXED USE	PAJELA NABLAH, ET AL. 5429 MIDDLEBOURNE LANE CENTREVILLE, VA 20120[4]
52-202-003	916 West Broad Street Lot 5	17,649	.40520	B1	B1	BUSINESS	MIXED USE	RAHEJA, LLC 916 W. BROAD STREET FALLS CHURCH, VA 22046[5]
	TOTAL	188, 137	4.31S20					

1 and 2 The beneficiary of the Trust is Shreve Associates, a Limited Partnership. This partnership is comprised of John E. Shreve, Richard S. Shreve, Thomas G. Shreve, Debra Shreve King; Dee Ann Walton, Darlene Penae Shreve, Shane Christopher Shreve and the Estate of William C. Shreve, Jr.

3 Beneficiaries are Mike Atalla, Jimmy Atalla, Louie Atalla, Suzie Atalla, and Nick Atalla

4 Remaining Owners are Massorah Niazy and Esmatullah Niazy

5 Members are Himoni Raheja and Surinder Singh Raheja

Contract Purchaser for all parcels is Spectrum Development LLC, located at P.O. Box 937, Vienna, Virginia 22183. The members are Peter A. Batten (Principal), Richard P. Buskell (President and CEO), and Bobby G. Batten (Principal).

Statement Regarding Broad and West Development's Conformance with City's Adopted Comprehensive Plan and Design Guidelines

A change in the Comprehensive Plan is requested. Please refer to the Transmittal and Justification Letter for the Comprehensive Plan change.

Compliance with the Design Guidelines is also discussed in the Transmittal and Justification Letter for the Special Exceptions.

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CITY OF FALLS CHURCH
DEVELOPMENT SERVICES

STATEMENT THAT MASON ROW (PROPOSED BROAD AND WEST) DEVELOPMENT MEETS SPECIAL EXCEPTION CRITERIA FOR MIXED-USE AND HEIGHT BONUS

The proposed development meets the primary and secondary criteria listed in Falls Church City Code ("Code"), Sections 48-90(d) (1) and (d) (2), and the following is a brief summary of the criteria listed in these Code Sections. Please refer to the justification materials and community benefits list for a more complete explanation of the proposed development and how it will benefit both the South Washington Street area and the City of Falls Church as a whole.

1. **Primary Criteria (Section 48-90(1)):**
   a. **The resulting development conforms to the City's adopted Comprehensive Plan and Design Guidelines (Section 48-90(1) (a)).**

   The Comprehensive Plan shows that the property is located in Planning Opportunity Area 3, and the proposed development meets or exceeds the strategies called for in that area:

   1. Consolidation of lots to accommodate higher density.
   2. Promotion of redevelopment that eliminates stand-alone automobile and light industrial facilities.
   3. Improve pedestrian accessibility with controlled cross walks at various locations.
   4. Create a consistent design, in terms of building height and design, streetscape improvements, and other aspects of the built environment in the City.
   5. Preserve recreational resources in the area.
   6. Create development to promote a positive image of the City in an area that has not seen any significant new development in decades.
   7. Locate buildings as close to West Broad and West Streets as possible with parking located in the rear or in shared buildings or in structured facilities (in this case covered, surface and underground).
   8. Achieve consistent architectural goals.
   9. Traffic turn lanes will be added to Broad and West Streets.

   Additionally, the Comprehensive Plan's Future Land Use Map designates the property as "business". The text of the comprehensive plan currently points out that while this means the area should be "primarily" recognized as retail or office districts rather than residential, "special exceptions for residential use and height bonuses have also been granted to create mixed use projects in 'business' areas since 2002".

The Comprehensive Plan should be changed to reflect current practice, the City's goals and the changing environment. To do this, an application to change the Comprehensive Olan's designation from Business to "Mixed Use" has been submitted to the City. The Design Guidelines show that the property is located in the West Broad Street Area. As called for in the Guidelines, the proposed development will reflect an urban street front, will provide a consistent identity for the area, increase pedestrian activity, and indicate the high standards of the City. In addition, the proposed development will widen paving at crosswalks, provide a mini- park at the W& OD trail, all of which will work to increase pedestrian and bicycle activity in the area. The site's proximity offers a unique opportunity to finally provide superior connection to the W&OD Trail. The best use to optimize that linkage is mixed use and not office or light industrial uses.

b. **The resulting development provides for significant net new commercial square footage and allows for a mix of commercial and residential uses (Section 48-90(1) (b)).**

Currently, the properties in the site contribute only minimally in tax revenue. All existing properties are served by significant surface parking. The proposed development will remove these largely automobile-oriented and light industrial uses, providing significant net new commercial square footage and allowing for a mix of commercial and residential uses. The proposed development as noted provides substantial new commercial space (more specifically described in the Table in the Concept plan), and uses language desired by the City.

c. **The resulting development produces substantial positive net new commercial and residential revenue to the City (Section 48-90(1) (c)).**

In conjunction with this application, information has been submitted to the City to be inputted into the City's cost/revenue impact model to predict the project's net new revenue, and a report has been received, which is attached separately. As recognized by the Comprehensive Plan, the parcels that make up the property are underutilized currently in terms of their density and use. The proposed development will significantly increase the assessed value of and resultant property tax revenue generated by the property. In addition, by creating a vibrant, attractive western gateway into the City, the development will encourage additional consumers to enter the area and patronize commercial uses throughout the City.

2. **Secondary Criteria (Section 48-90(2))**

a. **The development is not disproportionate to surrounding land uses and planned land uses in size, bulk or scale (Section 48-90(2) (a)).**

The proposed development is a concrete podium of commercial uses with five floors of multi-family and hotel above, with a total height of about 85 feet. The development has the unique aspect of substantial at grade parking for the retail uses hidden behind the retail and under the residences. The exterior is masonry, and the building is fully consistent with high standards established by the City for prior mixed use projects. The area of the footprint of this project is "low" and the height of the new building will blend well with its environment and set the stage for future development. Given the high-

quality design and construction of the building and its prominent place in the City, a building of this scale is appropriate. The proposed development works in conjunction with existing buildings to further create a dramatic, defined statement of quality for this area of the City. The development is consistent with the discussion in the Comprehensive Plan for this Redevelopment Opportunity Area which calls for significant mixed (multifamily) uses-the area called for this Plan however is committed long term to other uses that conflict with the Plan.

b. **The resulting development does not overburden the existing community facilities, including the school, transportation and water and sewer systems (Section 48-90(2) (b)).**

Transportation

A traffic study has been conducted by Wells and Associates that evaluates the anticipated traffic impacts of the application and provides specific recommendations to mitigate those impacts. That Study has been provided to the Staff. Some revisions to counts will be made to reflect the changes in the retail plan for the site. The application envisions a vibrant mixed-use development that will be sensitive to the transportation concerns of the City. By providing a variety of complementary uses on the same site, the proposed development will encourage self-contained, pedestrian trips. Additionally, due to its location proximate to several bus routes including a future intermodal transportation center and with implementation of Transportation Demand Management ("TDM") measures, a percentage of the trips generated by the residential and commercial components of the proposed development are anticipated to utilize non-auto modes of transportation. TDM measures will include convenient bicycle storage facilities, transit incentives, and resources conducive to teleworking. Furthermore, the developer proposes to reconfigure of the intersection at West Street and Park Avenue and add lane changes and traffic calming.

Water & Sewer

The City's utility engineer has confirmed that water and sewer service is adequate. The project will greatly improve storm water management with BMPs as the existing development has virtually no storm water management measures.

c. **The resulting development provides community benefits such as affordable housing, as it is described in Section 38-43 (Section 48-90(2) (c)).**

The developer is proposing an Affordable Dwelling Unit contribution in keeping with similar mixed use developments contributions, with about 6% (a total of 21 units all of which will be in the rental residential component of the project) of the total units (rental and condominium) being contributed as Affordable Housing Units and equally allocated among households at 60%, 80% and 100% of the median household income.

A commitment to LEED Silver for the Apartment building is provided, and the developer will underground all aerial utilities contiguous to the site depending on costs and

availability of easements. The developer proposes to review this in detail with the City to determine what poles can be undergrounded in the immediate area.

d. **The resulting development contributes to a vibrant, pedestrian-oriented environment both on site and in relation to adjoining properties, with street level activity throughout the day and evening (Section 48-90(2) (d)).**

The current uses at the site are distinctly automobile-oriented, with the majority of the property occupied by their own surface parking lots. The proposed development will move almost all parking within enclosed structures, which will contribute further to the walkable nature of the area.

The provision of streetscape along the entire development's three sides facing streets will contribute to the vibrant, pedestrian-oriented environment with connectivity to adjacent commercial and park areas. The mix of uses, including restaurants, retail, movies, and other commercial opportunities will provide a balanced commercial center that will generate pedestrian traffic throughout the day and evening. The street level retail uses will be very visible and will encourage customers to enter the area to shop and visit not only this development, but the additional retail located nearby.

e. **The resulting development offers creative use of landscaping, open space and/or parks, public plazas or and walkways connecting to adjoining properties (Section 48-90(2) (e)).**

Three sides of the proposed building will have the attractive "streetscape" design and fixtures, and there will be enhanced connections around the site to nearby businesses, parks, and residences. The design of the area near the W&OD trail will invite pedestrians to ride bikes, rest, talk, sit, eat and simply enjoy the area which includes the soon to be completed West End Park.

A cash contribution is provided. Further, a cash contribution is possible to facilitate the completion of the West End Park.

f. **The resulting development provides a variety of commercial services and uses that are attractive to and meet the needs of all city residents for entertainment, art, recreation, dining retail and array of consumable goods (Section 48-90(2)(f)).**

As stated above, the proposed development envisions a hotel as well as a mix of commercial uses. This includes a movie/dinner theater, and retail opportunities in an area that is lacking sufficient quality retail currently. These commercial entities will serve the residential uses within the proposed development, as well as the neighborhood as a whole.

g. **The resulting development encourages local or independent businesses (Section 48-90(2) (g)).**

The retail and restaurant space provide a unique opportunity for local, regional and independent businesses, and the high-quality development will help the area as a whole

attract and cultivate local and independent businesses. The smaller retail spaces in the development provides excellent opportunities for local "mom and pop" and incubator businesses.

h. **The resulting development provides for a reduction of single use parking requirements through shared parking Section 48-90(2) (h)).**

As shown in the submitted conceptual plan, the developer is recommending shared parking. The developer will explore with the final parking provided with the City to determine any additional parking reductions are justified based on the characteristics of the property and its proximity to bike ways, as well as several bus lines, will lead to fewer automobile trips. Additionally, some residents will bike to work (or to a multi-modal transit location for switching to bus or rail), and the commercial uses will be patronized at least in part by pedestrians and cyclists.

i. **The resulting development encourages multi-modal transportation through design and other techniques to reduce the reliance on single occupancy vehicles, and utilizes sheltered stops for mass transit whenever feasible Section 48-90(2) (i)).**

As discussed, the property is in close proximity to existing bike ways, as well as the Metro Rail station and several bus lines. It is expected that some residents will walk to the Metro Rail station and others will bike to work, and that the commercial uses will be patronized at least in part by pedestrians and cyclists. The design includes attractive and user friendly places for bikes to be parked and stored.

j. **The resulting development utilizes LEED criteria in the design of the project Section 48-90(2) (j)).**

The proposed apartment is planned to be LEED Silver certified, and will otherwise be designed using green design principles and elements. By removing the existing imperious parking lots and implementing a new storm water management plan, the development will greatly reduce storm water runoff in the area. Additionally, the non-residential part of the project will incorporate eco-conscious sustainable elements in the design of the hotel and other commercial spaces.

Special Exception for Height Bonus.

The area of the site to be used for the mixed use project is currently zoned B-3 and B-1, which permit a by-right height of up to 55 feet. The developer proposes the requested development to be a maximum height of 85 feet.

Up to 30 feet of bonus height may be granted if the project is exemplary in terms of conformance to the Primary Criteria 1 and 2 set out above and assists in conformance with Primary Criteria 2 and 3. The amount of new commercial area is many times greater than the area of the existing commercial activity. More importantly, the new commercial activity replaces commercial uses which are discouraged by the City's Comprehensive Plan. The net new commercial and retail income is far greater than that of the existing uses and far superior in terms of making the area a desirable play to live, work, and play. Many of the difficult to achieve goals of the Comprehensive Plan will be met by the proposed development. For these reasons, this plan is exemplary in its achievement of the primary criteria set out above.

Bonus height may able be awarded for certain preferred uses when located on primary street frontage. These uses include outdoor dining, hotel and other uses specifically requested by the City. This development proposes improvements to the W&OD park, a hotel, offices, a new movie/dinner theater, multiple retail opportunities and outdoor dining and some restaurants possibly with entertainment; all of which are considered preferred uses, justifying a bonus height of 30 feet.

It is important to note here that the first floor retail uses require a ceiling heights ranging from 15 to 24 feet, and that this required ceiling height is a major reason why the bonus is needed. As discussed, the design of this project, and in particular its height, is an exceptional new addition to this part of the City. The project sets a high bar for quality in terms of design, use, and materials, and if the proposed project were to be lowered by 30 feet, the integrity of the design would be greatly compromised, likely making the development infeasible.

The location and unique physical characteristics of the site make the requested building height appropriate. The property is located in an area that is expected to attract similar developments which will likely reach heights of 85', so that the requested height of 85' in certain locations is not out of the character of the surrounding neighborhood and the expected area as it evolves.

Statement Regarding West and Broad Streets Development's Impact on Community Facilities, Including Transportation, Schools, and Water and Sewer Systems

The proposed development will marginally impact all community facilities and it does add students to the school system. Please refer to the Justification letter provided and the concept plan itself as well as the Fiscal and Analysis provided by the City staff.

However, the development proposed is to not only mitigate these impacts, but improve the current situation.

- Improvements to the W&OD Trail is proposed, by way of a cash contributor with improved bike and pedestrian connections and information. "Bike Share' is proposed. The development will include recreational amenities for its residents (pool, exercise and media rooms). A cash contribution to the West End Park is provided.

- The intersections at West and Park and West and Grove will be improved significantly with turn lanes and new controls. Please refer to the TIA by Wells and Associates. The number of curb cuts will be reduced substantially and a new "spine road" through the project should improve the current conditions in that immediate area.

- The current users have no storm water management but the proposed development will have BMP's for storm water management and will improve community SWM facilities dramatically. It is also expected the sanitary sewer will improve by eliminating storm water from entering the system, although clearly the overall load to the sewage treatment plan will increase.

- The new development will dramatically improve the streetscape along West Broad, West and Park Avenue.

- The existing users are not energy efficient but the new apartment building will meet LEED Silver standards.

- While some new students will be added, the development will contribute $7511 per unit toward capital costs for rental units and <u>net</u> tax increase is about $2 Million if the hotel is built.

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DEVELOPMENT SERVICES

CONSENT LETTERS

November 4th 2013

Richard Buskell
President
Spectrum Development, L.L.C.
1780 Dawson Street
Vienna, VA 22182

Re: 919 Park avenue, Falls Church, VA

Dear Mr. Buskell:

Title to 919 Park Avenue, Falls Church, VA is vested in "Nigel J. Yates and Bernadette Reverie Adams, formerly known as Bernadette Adams Yates, formerly known as Suzanne Bernadette Adams Yates".

The undersigned herby consent to the filing by Spectrum Development, L.L.C. of the following applications to the City of Falls Church, Virginia:

1. Special Exception to allow Mixed Use Development and construction of building with a maximum height of 85' on the property at 919 Park Avenue, falls Church, Virginia.
2. Change the Comprehensive Plan Future Map to show the property at 919 Park Avenue, Falls Church, Virginia as mixed use rather than residential.
3. Rezone a portion of the property at 919 Park Avenue to B-1.
4. Any other zoning entitlement application or permit necessary to authorize the development of the mixed use project known as the "Broad and West".

Respectfully submitted,

Nigel J. Yates

Bernadette B. Adams

November 4. 2013

Richard Buskell
President
Spectrum Development, L.L.C.
1780 Dawson Street
Vienna, VA 22182

Re: 921 Park avenue, Falls Church, VA

Dear Mr. Buskell:

Title to 921 Park Avenue, Falls Church, VA is vested in "Tod W. and Julia S. Read".

The undersigned herby consent to the filing by Spectrum Development, L.L.C. of the following applications to the City of Falls Church, Virginia:

1. Special Exception to allow Mixed Use Development and construction of building with a maximum height of 85' on the property at 921 Park Avenue, falls Church, Virginia.
2. Change the Comprehensive Plan Future Map to show the property at 921 Park Avenue, Falls Church, Virginia as mixed use rather than residential.
3. Rezone the property at 921 Park Avenue to B-1.
4. Any other zoning entitlement application or permit necessary to authorize the development of the mixed use project known as the "Broad and West".

Respectfully submitted,

Tod W. Read

Tod W. Read

Julia S. Read

Julia S. Read

November 14, 2013

Richard Buskell
President
Spectrum Development, LLC
1780 Dawson Street
Vienna, VA 22182

Re: 932 & 934 West Broad Street, Falls Church, VA
- 110 & 212 North West Street, Falls Church, VA
9,000 square feet lot on Park Avenue, Falls Church, Virginia
925 Park Avenue, Falls Church, Virginia
928 West Broad, Falls Church, VA

Dear Mr. Buskell:

Titles to the above captioned real properties are vested in "John E. Shreve, Richard S. Shreve, Thomas G. Shreve and Peter A. Amtson, as Trustees". The Trust address is: 212 North West Street, Falls Church, Virginia 22046.

The sole beneficiary of the Shreve Trust is Shreve Associates, A Limited Partnership.

The Trust herby consents to the filing by Spectrum Development, L.L.C. of the following applications to the City of Falls Church, Virginia:

1. Special Exception to allow Mixed Use Development and construction of building with a maximum height of 85' on the above captioned real properties.
2. Change the Comprehensive Plan Future Map to show the above captioned real properties as mixed use rather than low density residential and business.
3. Rezone the property at 925 Park Avenue to B-1
4. Rezone the property at 934 West Broad to B-1.
5. Special Use Permit for a drive through pharmacy.
6. Any other zoning entitlement application or permit necessary to authorize the development of the mixed use project known as the "Broad and West".

Respectfully submitted,

TRUSTEES (any three of the below Trustees may act):

(SEAL)
John E. Shreve, Trustee

(SEAL)
Richard S. Shreve, Trustee

(SEAL)
Thomas G. Shreve, Trustee

(SEAL)
Peter A. Amtson, Trustee

January 15, 2014

Richard Buskell
President
Spectrum Development, L.L.C.
1780 Dawson Street
Vienna, VA 22182

Re: 922 West Broad Street, Falls Church, VA

Dear Mr. Buskell:

Title to 922 West Broad Street, Falls Church, VA is vested in "Atalla Trust, Nick Atalla, Trustee". The mailing address used by the title owner for communications regarding the property is 11228 NE 67th Street, Kirkland, WA 98033.

The beneficiaries of the Atalla Trust are:

Mike Atalla	Suzie Atalla
Jimmy Atalla	Nick Atalla
Louie Atalla	

The Undersigned hereby consents to the filing by Spectrum Development, L.L.C. of the following applications to the City of Falls Church, Virginia:

1. Special Exception to allow Mixed Use Development and construction of building with a maximum height of 85' on the property at 922 West Broad Street, Falls Church, Virginia.
2. Change the Comprehensive Plan Future Map to show the property at 922 West Broad Street Falls Church, Virginia as mixed use rather than commercial.
3. Any other zoning entitlement application or permit necessary to authorize the development of the mixed use project known as the "Broad and West".

Respectfully submitted,

, Trustee

NICK ATALLA

October_____. 2013

Richard Buskell
President
Spectrum Development, L.L.C.
1780 Dawson Street
Vienna, VA 22182

Re; 920 West Broad Street, Falls Church, VA

Dear Mr. Buskell:

Title to 920 West Broad Street, Falls Church, VA is vested in "Nabilah Pajelah, also known of record as Nabilah Pajela, Massorah Niazy, also known of record as Mastoorah Niazy, and Esmatullah Niazy". The mailing address used by the title owners for communications regarding the property is: 8302 Judy Hill Lane Vienna, VA 22182.

The Undersigned hereby consent to the filing by Spectrum Development, L.L.C. of the following applications to the City of Falls Church, Virginia:

1. Special Exception to allow Mixed Use Development and construction of building with a maximum height of 85' on the property at 920 West Broad Street, Falls Church, Virginia.
2. Change the Comprehensive Plan Future Map to show the property at 920 West Broad Street Falls Church, Virginia as mixed use rather than residential.
3. Any other zoning entitlement application or permit necessary to authorize the development of the mixed use project known as the "Broad and West".

Respectfully submitted,

NABILAH PAJELAH

MASSORAH NIAZY

ESMATULLAH NIAZY

NEW

October 15, 2014

Richard Buskell
President
Spectrum Development, LLC
1866 Amberwood Manor Court
Vienna, VA 22182

Re: 916 West Broad Street, Falls Church VA (the "Property")

Dear Mr. Buskell:

Title to 916 West Broad Street, Falls Church, VA is vested in "Raheja, LLC," a Virginia limited liability company. The mailing address used by the title owner for communications regarding the property is 916 W. Broad Street, Falls Church, VA 22046.

The members of Raheja, LLC are:

Surinder Singh Raheja

Himani Raheja

The undersigned hereby consents to the filing by Spectrum Development, LLC of the following applications to the City of Falls Church, Virginia:

1. Special exception to allow Mixed Use Development and construction of buildings in the 900 block of W Broad Street up to a maximum height of 110'.
2. Rezone the property at 916 W. Broad Street, Falls Church, VA to B-2.
3. Change the Comprehensive Plan Future Map to show the property at 916 W. Broad, Falls Church, VA as mixed use rather than commercial.
4. Any other zoning entitlement application or permit necessary to authorize the development of the mixed use project known as 'Mason Row".

This consent is subject to Raheja, LLC and Spectrum Development, LLC entering into a purchase and sale agreement for the Property and this consent and the above referenced applications may be withdrawn by Raheja, LLC in the event the parties do not enter into such a purchase and sale agreement.

Respectfully Submitted,

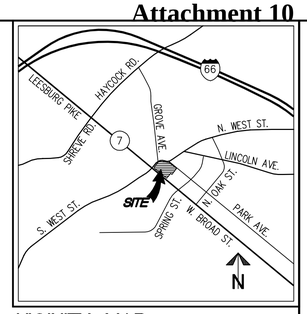
Surinder Singh Raheja
Member

MASON ROW

AT THE INTERSECTION OF WEST BROAD STREET AND NORTH WEST STREET

CITY OF FALLS CHURCH, VIRGINIA

CONCEPTUAL DEVELOPMENT PLAN



VICINITY MAP SCALE: 1"=2000'

NOTES

1. THE PROPERTIES SHOWN HEREON ARE DESIGNATED BY THE CITY OF FALLS CHURCH, VIRGINIA, AS REAL PROPERTY CODE (RPC) NUMBERS:
   a) 51-202-009, 51-202-010, 51-202-011, 51-202-012, AND 51-202-028, ZONED B-3 "GENERAL BUSINESS"
   b) 51-202-003, 51-202-004, AND 51-202-005, ZONED B-1 "LIMITED BUSINESS"
   c) 51-202-0013, 51-202-014, AND 51-202-015, ZONED R-1B "MEDIUM DENSITY RESIDENTIAL"
   (PER THE CITY OF FALLS CHURCH ZONING)

2. THE PROPERTY IS AS FOLLOWS:
   a) PARCEL 51-202-003, BEING LOT 3, AS RECORDED IN DEED BOOK F-8 AT PAGE 521, IS NOW IN THE NAME OF RAHEJA, LLC, AS RECORDED IN DEED BOOK 3240 AT PAGE 363 AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   b) PARCEL 51-202-004, BEING PART OF LOT 2, AS RECORDED IN DEED BOOK F-8 AT PAGE 521, IS NOW IN THE NAME OF NABILAH PAJELAH, MASSORAH NIAZY, AND ESMATULLAH NIAZY, AS RECORDED IN DEED BOOK 3225 AT PAGE 1656 AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   c) PARCEL 51-202-005, BEING PART OF LOT 1, AS RECORDED IN DEED BOOK F-8 AT PAGE 521, IS NOW IN THE NAME OF ATALLA TRUST, NICK ATALLA, TRUSTEE, AS RECORDED IN DEED BOOK 2420 AT PAGE 847 AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   d) PARCELS 51-202-009, 51-202-010 AND 51-202-011, BEING LOT 1 - 3, MINNIE D. ELLISON SUBDIVISION, AS RECORDED IN DEED BOOK 1257 AT PAGE 78, AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA, IS NOW IN THE NAME OF JOHN E. SHREVE, ET AL, AS SURVIVING TRUSTEES, AS RECORDED IN DEED BOOK 6204 AT PAGE 627, AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA, AND IN DEED BOOK 2741 AT PAGE 2090, AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   e) PARCEL 51-202-012, BEING COMPRISED OF THE METES AND BOUNDS DESCRIPTION, AS RECORDED IN DEED BOOK 4090 AT PAGE 92, IS IN THE NAME OF JOHN E. SHREVE, ET AL, AS SURVIVING TRUSTEES, AS RECORDED IN DEED BOOK 6204 AT PAGE 622, AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA AND IN DEED BOOK 2741 AT PAGE 2090, AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   f) PARCEL 51-202-013, BEING PART OF LOT 1, D.J. BROWN'S PROPERTY, AS RECORDED IN DEED BOOK Y-9 AT PAGE 347, IS NOW IN THE NAME OF JOHN E. SHREVE, ET AL, AS SURVIVING TRUSTEES, AS RECORDED IN DEED BOOK 9504 AT PAGE 269, AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA AND IN DEED BOOK 2741 AT PAGE 2126, AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   g) PARCEL 51-202-014, BEING LOT 4, D.J. BROWN'S PROPERTY, AS RECORDED IN DEED BOOK Y-9 AT PAGE 347, IS NOW IN THE NAME OF TOD W. READ AND JULIA S. READ, AS RECORDED IN DEED BOOK 2561 AT PAGE 369 AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   h) PARCEL 51-202-015, BEING LOT 3, D.J. BROWN'S PROPERTY, AS RECORDED IN DEED BOOK Y-9 AT PAGE 347, IS NOW IN THE NAME OF NIGEL J. YATES AND BERNADETTE REVERIE ADAMS, AS RECORDED IN DEED BOOK 3102 AT PAGE 1093 AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.
   i) PARCEL 51-202-028, BEING COMPRISED OF PARCELS 1 THROUGH 6, AS RECORDED IN DEED BOOK 1220 AT PAGE 535, AND OUTLOT, MINNIE D. ELLISON SUBDIVISION, AS RECORDED IN DEED BOOK 1257 AT PAGE 78, AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA, IS NOW IN THE NAME OF JOHN E. SHREVE, ET AL, AS SURVIVING TRUSTEES, AS RECORDED IN DEED BOOK 9504 AT PAGE 252, AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA AND IN DEED BOOK 2741 AT PAGE 2107, AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA.

3. THIS PLAT AND THE SURVEY UPON WHICH IT IS BASED SHOWS ONLY THOSE IMPROVEMENTS THAT ARE OBSERVABLE AND CAN BE LOCATED USING NORMAL SURVEY METHODS. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, MISS UTILITY MARKINGS AND EXISTING RECORDS. THERE ARE NO GUARANTEES, EITHER EXPRESS OR IMPLIED, THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED, OR THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE UNDERGROUND UTILITIES HAVE NOT BEEN PHYSICALLY LOCATED.

4. TOTAL AREA OF THE PROPERTY IS 188,137 SQUARE FEET OR 4.3190 ACRES.

5. THIS PLAT IS BASED ON A CURRENT FIELD SURVEY BY THIS FIRM.

6. THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP FOR THE CITY OF FALLS CHURCH, VIRGINIA, MAP NUMBER 5100540001C, REVISED DATE JULY 16, 2004, DESIGNATES THE PROPERTY AS BEING IN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

7. EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS, SHOWN AND/OR NOTED, TAKEN FROM THE TITLE COMMITMENT PREPARED BY OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY, COMMITMENT NUMBERS:
   a. 192001694, 192001695, AND 192001696, EFFECTIVE DATE APRIL 5, 2013, REVISION DATE APRIL 17, 2013
   b. 192001697, 192001698, 192001699, AND 192001700, EFFECTIVE DATE APRIL 8, 2013, REVISION DATE APRIL 22, 2013

8. EASEMENT GRANTED TO VIRGINIA ELECTRIC POWER COMPANY, RECORDED IN DEED BOOK 617 AT PAGE 182 CANNOT BE LOCATED. NO EVIDENCE REMAINS THE UTILITY.

9. THE SITE SHOWN HEREON IS REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 AS COMPUTED FROM A FIELD RUN VERTICAL CONTROL SURVEY AND IS REFERENCED TO THE VIRGINIA COORDINATE SYSTEM OF 1983, [NAD 83(2011) (EPOCH:2010.0000)] AS COMPUTED FROM A FIELD RUN BOUNDARY AND HORIZONTAL CONTROL SURVEY THAT TIES THIS SUBDIVISION BOUNDARY AND THE BENCHMARK(S) SHOWN TO NOAA/NGS MONUMENT PID NUMBER DH4144; LWX1 STERLING CORS ARP. THE COMBINED SCALE FACTOR THAT HAS BEEN APPLIED TO THE FIELD DISTANCES TO DERIVE THE REFERENCED COORDINATES IS 0.99994857. THE FOOT DEFINITION USED FOR CONVERSION OF THE MONUMENT COORDINATES AND IN THE PERFORMANCE OF THIS SURVEY IS THE U.S. SURVEY FOOT. CONTOUR INTERVAL IS TWO FEET.

10. THIS SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF, JAMES A. MADISON, JR., L.S., FROM AN ACTUAL [X] GROUND OR [ ] AIRBORNE SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON MAY 2, 2013 AND NOVMEBER 6, 2014; AND THAT THIS PLAT, MAP, OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

11. THIS SURVEY WAS PERFORMED AT THE REQUEST OF SPECTRUM DEVELOPMENT.

ZONING TABULATION

EXISTING ZONES: B-1, B-3 & R-1B
PROPOSED ZONE: B-1
EXISTING SITE AREA: 188,137 SF OR 4.32 AC

EXISTING R-1B ZONE	44,706	SF	1.03	AC
EXISTING B-3 ZONE	92,031	SF	2.11	AC
EXISTING B-1 ZONE	51,400	SF	1.18	AC
TOTAL	188,137	SF	4.32	AC

PROPOSED B-1 ZONE	188,137	SF	4.32	AC
TOTAL	188,137	SF	4.32	AC

PROPOSED B-1:

	REQUIRED	PROVIDED
MAX. BUILDING HT.	55 FT.	±85 FT.*
MIN. YARD REQUIREMENTS:		
FRONT		
WEST BROAD STREET	20 FT. (FROM FACE OF CURB)	±20 FT. (FROM FACE OF CURB)
NORTH WEST STREET	14 FT. (FROM FACE OF CURB)	±19.5 FT. (FROM FACE OF CURB)
PARK AVENUE	14 FT. (FROM FACE OF CURB)	±18.8 FT. (FROM FACE OF CURB)
SIDE		
ADJACENT TO 51-202-016 (R-1B)	20 FT.	±20 FT.
ADJACENT TO 51-202-003 (B-1)	NONE	NONE
REAR	N/A	N/A

* SPECIAL EXCEPTION REQUESTED FOR BUILDING HEIGHT PER ZONING CODE DEFINITION. SEE BUILDING HEIGHT CALCULATION ON SHEET P-0401.

PARKING TABULATION

USE	TOTAL PROPOSED	REQUIRED PARKING RATIO [SEC. 48-1004]		PARKING REQUIRED
RESIDENTIAL (APARTMENTS)		SPACE/		SPACES
EFFICIENCY	19 UNITS	1.0	UNIT	19
1 BEDROOM	106 UNITS	1.5	UNIT	159
1 BEDROOM W. DEN	98 UNITS	1.5	UNIT	147
2 BEDROOM	117 UNITS	2	UNIT	234
TOTAL	340 UNITS			
TOTAL				**559**
HOTEL		SPACE/		SPACES
PER GUESTROOM	150 ROOMS	1	ROOM	150
EMPLOYEE SPACE PER 10 ROOMS	150 ROOMS	1	10 ROOMS	15
TOTAL				**165**
OFFICE		SPACE/	SF	SPACES
PER OFFICE FLOOR AREA	5635 SF	1	300	19
TOTAL				**19**
THEATER		SPACE/	SEAT	SPACES
FIXED SEATS	752 SEATS	1	4	188
TOTAL				**188**
RETAIL/RESTAURANT		SPACE/	SF	SPACES
RETAIL/RESTAURANT SPACE	53043 SF	1	250	213
TOTAL				**213**
OVERALL TOTAL				**1,144**

NOTES:
1. RETAIL/RESTAURANT PARKED AT THE SHOPPING CENTER RATE OF 1 SPACE/250 SF.

MAP AMENDMENT

1. RE-ZONING REQUEST FROM B-1, B-3, & R-1 TO B-1.
2. COMPREHENSIVE PLAN – FUTURE LAND USE PLAN MAP AMENDMENT FROM "BUSINESS & "LOW DENSITY RESIDENTIAL" TO "MIXED-USE".

SPECIAL EXCEPTION

1. SPECIAL EXCEPTION REQUESTED FOR AN 85' BUILDING HEIGHT PER SECTION 48-455(2).
2. SPECIAL EXCEPTION REQUESTED FOR MIXED USE REDEVELOPMENT IN B-1 DISTRICT.

WAIVERS REQUEST

1. A WAIVER OF THE 100' DISTANCE FROM A COMMERCIAL ENTRANCE OR EXIT TO AN "R" DISTRICT [SECT. 48-938 (d)]

   • PROPOSED SITE ENTRANCE OFF OF PARK AVENUE WITH A DISTANCE OF 50' TO RESIDENTIAL DISTRICT ACROSS PARK AVENUE.

2. A WAIVER REQUESTED TO REDUCE THE BUFFER DENSITY TO THAT SHOWN ON THE PLAN. [SECT. 48-1183]

   • ALONG THE EASTERN PROPERTY LINE ADJACENT TO RPC #51-202-016. SEE DETAIL SHEET P-0402.

LANDSCAPE NOTES

1. THE PROPOSED LANDSCAPING AREAS WILL BE DESIGNED UTILIZING APPROPRIATE SPECIES, SOILS, AND IRRIGATION MEASURES TO MAXIMIZE THE OPPORTUNITY FOR HEALTHY PLANTINGS.
2. THE APPLICANT WILL WORK WITH THE CITY ARBORIST TO DESIGN A LANDSCAPE PLAN THAT UTILIZES NATIVE TREES, SHRUBS, PERENNIALS AND GRASSES.
3. THE STREETSCAPE DESIGN WILL BE COORDINATED WITH THE CITY'S ARBORIST AT TIME OF SITE PLAN.

LOADING TABULATION

USE	TOTAL REQUIRED
RESIDENTIAL	0
OFFICE	1
THEATER	1
HOTEL	1
SHOPPING CENTER	2
TOTAL REQUIRED	*5*
TOTAL PROVIDED	**5**

PARKING PROVIDED

GARAGE LEVEL	SPACES PER LEVEL
P2	248
P1	242
LEVEL 1	85
LEVEL 1A	111
LEVEL 2	66
LEVEL 3	66
LEVEL 4	66
LEVEL 5	63
TOTAL	**947**

INCLUDES 19 ACCESSIBLE SPACES (4 VAN ACCESSIBLE)

NOTES:
1. ALL PARKING PROVIDED WITHIN BUILDING LIMITS. SEE ARCHITECTURAL PLANS FOR LOCATIONS, DIMENSIONS, ETC.
2. ONE LOADING SPACE TO BE PROVIDED ON N. WEST STREET.
3. 18% PARKING REDUCTION REQUESTED.

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P-0302 TREE SURVEY
P-0303 TREE INVENTORY
P-0304 TREE INVENTORY
P-0305 CERTIFIED SURVEY PLAT
P-0401 CONCEPTUAL DEVELOPMENT PLAN
P-0402 CONCEPTUAL STREETSCAPE PLAN

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DRAWN: A.A. BR. CHECKED: V.M.

DATE: 01/09/2014, REV. 07/07/2014, REV. 08/28/2014, 12/15/2014 SCALE: NONE

COMMONWEALTH OF VIRGINIA KAREN L. S. WHITE Lic. No.041850 1/29/15 PROFESSIONAL ENGINEER

REVISION APPROVED BY				
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

COVER SHEET

MASON ROW
CITY OF FALLS CHURCH, VIRGINIA

SANITARY AS-BUILT DATA

SMH 70		
MANHOLE TOP =		340.45
8"INV IN	(NORTH)=	331.86
8"INV OUT	(SMH 69)=	331.76
SMH 69		
MANHOLE TOP =		337.00 **
8"INV IN	(SMH 70)=	327.30 **
8"INV IN	(NORTH)=	326.25 **
8"INV OUT	(SMH 86)=	326.25 **
10"INV OUT	(WEST)=	326.11 **
SMH 719		
MANHOLE TOP =		335.14
4"INV IN	(NORTH)=	331.96
4"INV IN (X2)	(NORTH)=	331.98
4"INV OUT	(WEST)=	331.94

SMH 86		
MANHOLE TOP =		333.90
8"INV IN	(WEST)=	325.20
8"INV IN	(SMH 69)=	324.92
8"INV OUT	(SMH 110I)=	324.86
SMH 198		
MANHOLE TOP =		337.17
8"INV OUT	(SMH 197)=	329.99 **
SMH 197		
MANHOLE TOP =		330.79
8"INV IN	(SMH 198)=	324.65
8"INV OUT	(SMH 196)=	324.65

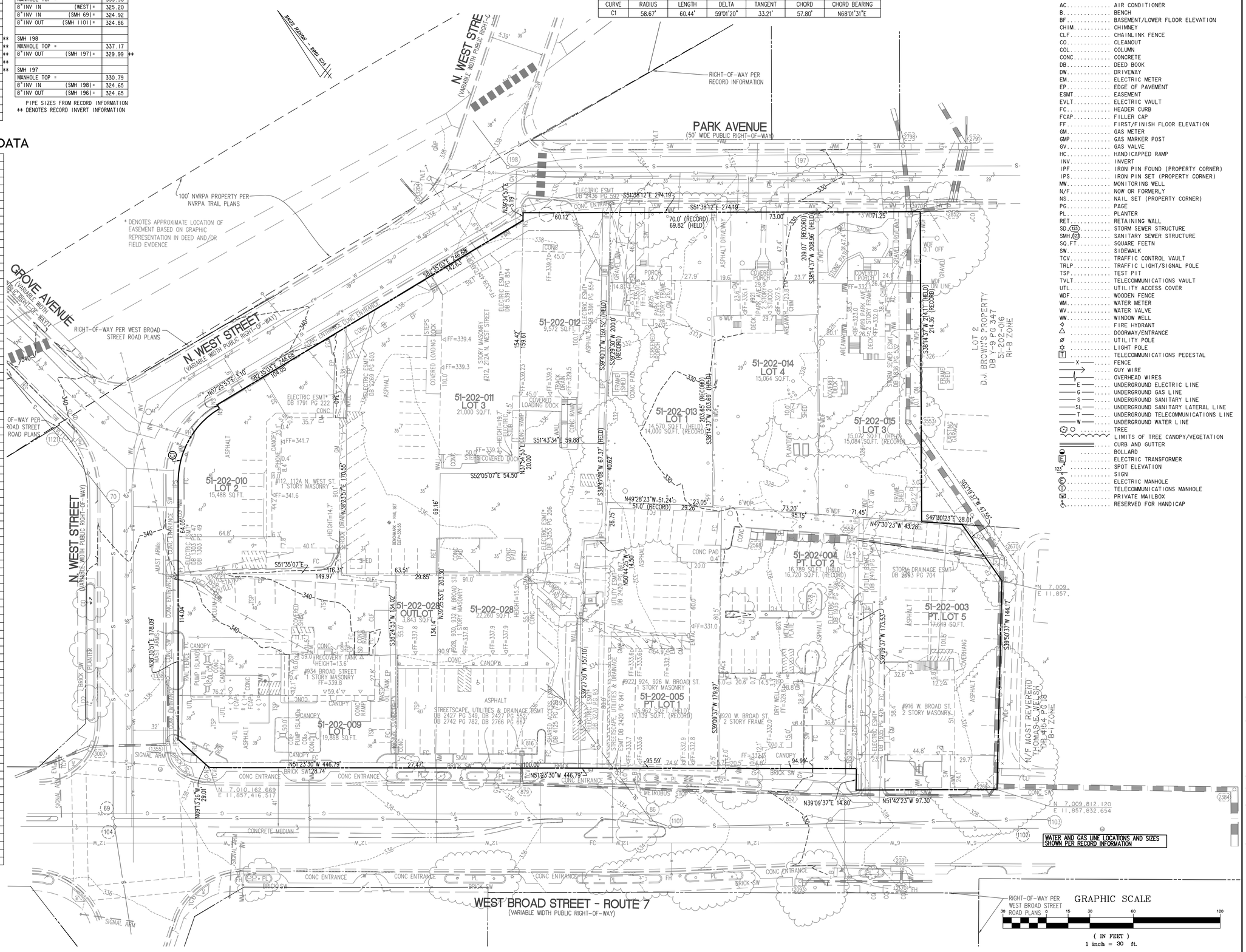
PIPE SIZES FROM RECORD INFORMATION
** DENOTES RECORD INVERT INFORMATION

STORM AS-BUILT DATA

SD 1338		
CURB INLET TOP =		338.40
15"RCP OUT	(SD 1355)=	334.60
SD 1355		
CURB INLET TOP =		337.14
15"RCP IN	(SD 1338)=	333.02
15"RCP OUT	(SD 1476)=	332.44
SD 1476		
CURB INLET TOP =		337.37
15"RCP IN	(SD 1355)=	331.87
18"RCP OUT	(SD 3007)=	331.67
SD 3007		
CURB INLET TOP =		337.37
15"RCP IN	(SD 1476)=	332.05
18"RCP OUT	(WEST)=	331.85
SD 816		
CURB INLET GRATE TOP =		335.75
15"RCP OUT	(SD 879)=	333.45
SD 879		
CURB INLET TOP =		335.61
15"RCP IN	(SD 816)=	332.31
15"RCP OUT	(SD 852)=	330.94
SD 852		
CURB INLET TOP =		329.85
15"RCP IN	(SD 879)=	325.45
15"RCP OUT	(SD 2384)=	325.30
SD 2798		
CURB INLET TOP =		329.26
35"x24"CMP IN	(NORTH)=	324.81
35"x24"CMP OUT	(SD 3970)=	324.66
SD 2791		
CURB INLET TOP		328.83
10"CMP IN	(NORTH)=	326.63
36"RCP IN	(N.WEST)=	324.75
24"RCP OUT	(SD 2852)=	324.63
24"RCP OUT	(SD 2852)=	324.65
SD 2852		
CURB INLET TOP =		328.37
24"RCP IN	(SD 2791)=	324.42
24"RCP IN	(SD 2791)=	324.52
36"RCP OUT	(SD 3970)=	324.27
SD 3970		
MANHOLE TOP =		328.57
35"x24"CMP IN	(SD 2798)=	324.32
36"RCP IN	(SD 2852)=	324.07
42"RCP OUT	(SD 3553)=	323.42
SD 3553		
GRATE INLET TOP =		324.58
APPROXIMATELY 5' DEEP		
INVERTS INACCESSIBLE		
SD 2670		
GRATE INLET TOP =		323.74
15"RCP IN	(SD 2558)=	320.20
42"CMP IN	(SD 3553)=	318.96
42"RCP OUT	(SD 2266)=	318.78
SD 2266		
MANHOLE TOP =		325.52
15"RCP IN	(SD 852)=	317.99
42"RCP IN	(SD 2670)=	318.24
42"RCP OUT	(SD 2384)=	318.04
STANDING WATER IN STRUCTURE		
SD 2384		
MANHOLE TOP =		323.27
42"RCP IN	(SD 2266)=	317.53
60"x36"CMP OUT	(S.WEST)=	316.88
SD 2568		
STORM VAULT TOP =		328.97
CENTERLINE 60"CMP =		321.25
SD 2558		
STORM VAULT TOP =		325.53
INVERTS INACCESSIBLE		
SD 3204		
CURB INLET TOP =		338.02
10"RCP OUT	(NORTH)=	336.52

CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	58.67'	60.44'	59°01'20"	33.21'	57.80'	N68°01'31"E



LEGEND

- AC ..... AIR CONDITIONER
- B ..... BENCH
- BF ..... BASEMENT/LOWER FLOOR ELEVATION
- CHIM ..... CHIMNEY
- CLF ..... CHAINLINK FENCE
- CO ..... CLEANOUT
- COL ..... COLUMN
- CONC ..... CONCRETE
- DB ..... DEED BOOK
- DW ..... DRIVEWAY
- EM ..... ELECTRIC METER
- EP ..... EDGE OF PAVEMENT
- ESMT ..... EASEMENT
- EVLT ..... ELECTRIC VAULT
- FC ..... HEADER CURB
- FCAP ..... FILLER CAP
- FF ..... FIRST/FINISH FLOOR ELEVATION
- GM ..... GAS METER
- GMP ..... GAS MARKER POST
- GV ..... GAS VALVE
- HC ..... HANDICAPPED RAMP
- INV ..... INVERT
- IPF ..... IRON PIN FOUND (PROPERTY CORNER)
- IPS ..... IRON PIN SET (PROPERTY CORNER)
- MW ..... MONITORING WELL
- N/F ..... NOW OR FORMERLY
- NS ..... NAIL SET (PROPERTY CORNER)
- PG ..... PAGE
- PL ..... PLANTER
- RET ..... RETAINING WALL
- SD ..... STORM SEWER STRUCTURE
- SMH ..... SANITARY SEWER STRUCTURE
- SQ.FT ..... SQUARE FEETN
- SW ..... SIDEWALK
- TCV ..... TRAFFIC CONTROL VAULT
- TRLP ..... TRAFFIC LIGHT/SIGNAL POLE
- TSP ..... TEST PIT
- TVLT ..... TELECOMMUNICATIONS VAULT
- UTL ..... UTILITY ACCESS COVER
- WDF ..... WOODEN FENCE
- WM ..... WATER METER
- WV ..... WATER VALVE
- WW ..... WINDOW WELL
- ◇ ..... FIRE HYDRANT
- △ ..... DOORWAY/ENTRANCE
- ø ..... UTILITY POLE
- ☼ ..... LIGHT POLE
- T ..... TELECOMMUNICATIONS PEDESTAL
- —X— ..... FENCE
- —/— ..... GUY WIRE
- —E— ..... OVERHEAD WIRES
- —E— ..... UNDERGROUND ELECTRIC LINE
- —G— ..... UNDERGROUND GAS LINE
- —S— ..... UNDERGROUND SANITARY LINE
- —SL— ..... UNDERGROUND SANITARY LATERAL LINE
- —T— ..... UNDERGROUND TELECOMMUNICATIONS LINE
- —W— ..... UNDERGROUND WATER LINE
- ✿ ..... TREE
- ..... LIMITS OF TREE CANOPY/VEGETATION
- ..... CURB AND GUTTER
- ..... BOLLARD
- E ..... ELECTRIC TRANSFORMER
- 123 ..... SPOT ELEVATION
- ..... SIGN
- E ..... ELECTRIC MANHOLE
- T ..... TELECOMMUNICATIONS MANHOLE
- ..... PRIVATE MAILBOX
- ..... RESERVED FOR HANDICAP

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KAREN L.S. WHITE
Lic. No.041850
1/29/15
PROFESSIONAL ENGINEER

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SCALE: 1" = 30'
DRAWN: AA, BS
CHECKED: KW

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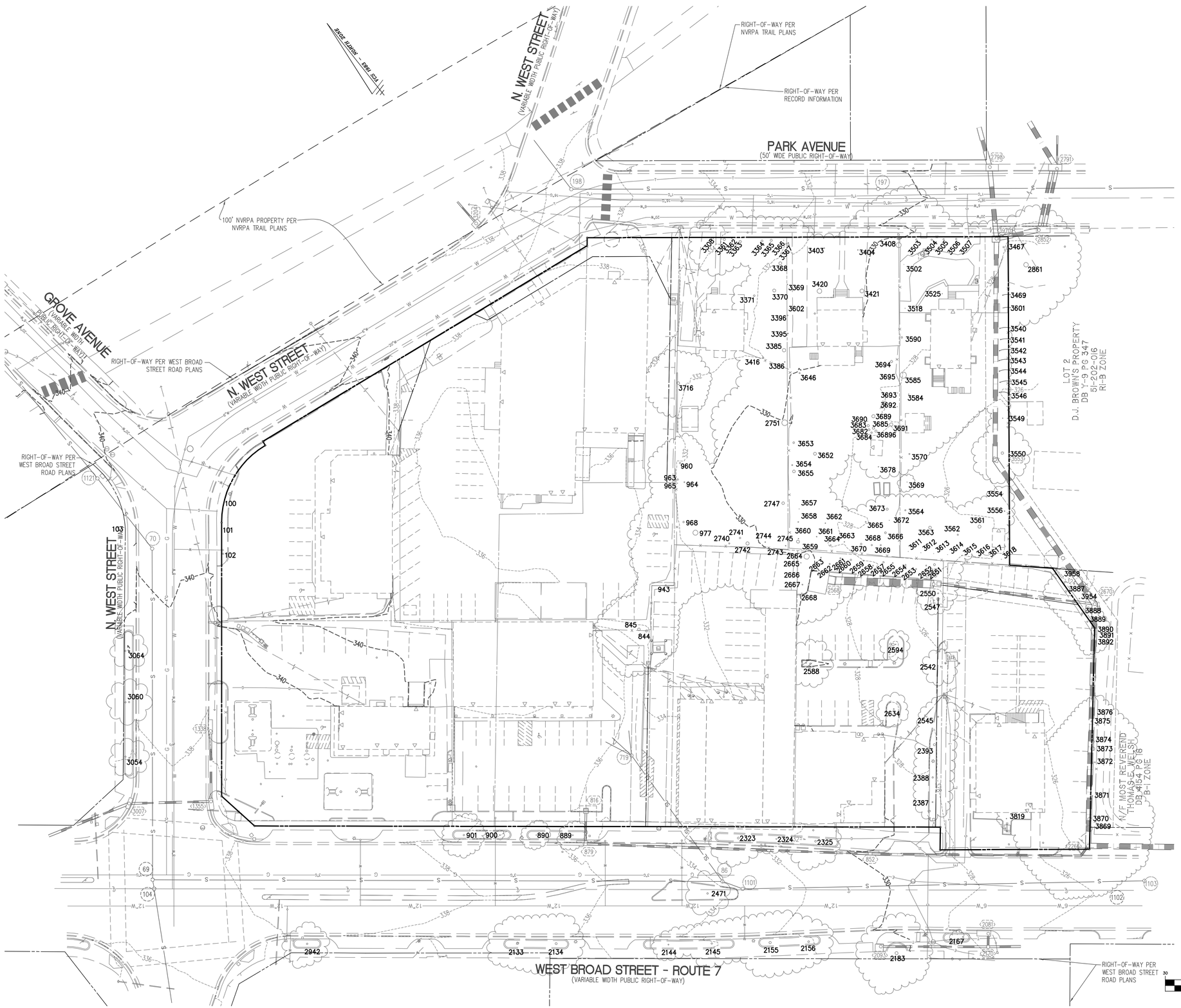
EXISTING CONDITIONS

MASON ROW

CITY OF FALLS CHURCH, VIRGINIA

File No. CC-8 Tax Map No. 40-4 Job No. 07-023 Cadd Dwg. File: Q:\sdskproj\07023\dwg\Planning\Special Exception\07023P-0301.dwg Xref: DIR\Q:\sdskproj\07023\dwg\Planning\Special Exception\07023B-0000

SHEET: P-0301



LEGEND

AC	AIR CONDITIONER
B	BENCH
BF	BASEMENT/LOWER FLOOR ELEVATION
CHIM	CHIMNEY
CLF	CHAINLINK FENCE
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
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FC	HEADER CURB
FCAP	FILLER CAP
FF	FIRST/FINISH FLOOR ELEVATION
GM	GAS METER
GMP	GAS MARKER POST
GV	GAS VALVE
HC	HANDICAPPED RAMP
INV	INVERT
IPF	IRON PIN FOUND (PROPERTY CORNER)
IPS	IRON PIN SET (PROPERTY CORNER)
MW	MONITORING WELL
N/F	NOW OR FORMERLY
NS	NAIL SET (PROPERTY CORNER)
PG	PAGE
PL	PLANTER
RET	RETAINING WALL
SD	STORM SEWER STRUCTURE
SMH	SANITARY SEWER STRUCTURE
SQ.FT	SQUARE FEETN
SW	SIDEWALK
TCV	TRAFFIC CONTROL VAULT
TRLP	TRAFFIC LIGHT/SIGNAL POLE
TSP	TEST PIT
TVLT	TELECOMMUNICATIONS VAULT
UTL	UTILITY ACCESS COVER
WDF	WOODEN FENCE
WM	WATER METER
WV	WATER VALVE
WW	WINDOW WELL
	FIRE HYDRANT
	DOORWAY/ENTRANCE
	UTILITY POLE
	LIGHT POLE
	TELECOMMUNICATIONS PEDESTAL
—X—	FENCE
	GUY WIRE
	OVERHEAD WIRES
—E—	UNDERGROUND ELECTRIC LINE
—G—	UNDERGROUND GAS LINE
—S—	UNDERGROUND SANITARY LINE
—SL—	UNDERGROUND SANITARY LATERAL LINE
—T—	UNDERGROUND TELECOMMUNICATIONS LINE
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SCALE: 1" = 30'
01/29/2015 SUB 02

REVISION APPROVED BY				
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

TREE SURVEY

MASON ROW

CITY OF FALLS CHURCH, VIRGINIA

Tree Inventory - West and Broad St. - Falls Church, VA

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %	Removal	Activities: Tree Protection Fence/ Super Silt Fence	Mulch	Crown Prune	Root Prune	Remove Vines	Treat Pests	Hand Removal/ Selective Removal	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A #07-023 30 July 2013															
100	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X								Multi-stem
101	Lagerstroemia indica	Crape Myrtle	11	11'	80%	56%	X								Multi-stem
102	Lagerstroemia indica	Crape Myrtle	13	13'	80%	56%	X								Multi-stem
103	Platanus hybrida x acerifolia	London plane tree	19	19'	80%	56%									Offsite street tree, Multi-stem
844	Acer Rubrum	Red maple	16	16'	80%	50%	X								
845	Morus rubra	Red mulberry	21	21'	40%	47%	X								
889	Quercus rubra	Northern red oak	8	8'	85%	44%	X								
890	Quercus rubra	Northern red oak	10	10'	85%	53%	X								
900	Quercus rubra	Northern red oak	9	9'	85%	53%	X								Girdled roots
901	Quercus rubra	Northern red oak	12	12'	85%	53%	X								Girdled roots; deadwood
943	Acer Rubrum	Red maple	12	12'	80%	44%	X								grown into fence; girdled roots
960	Prunus serotina	Black cherry	12	12'	65%	47%	X								
963	Morus rubra	Red mulberry	12	12'	40%	44%	X								grown into fence
964	Prunus serotina	Black cherry	8	8'	65%	47%	X								Vines
965	Morus rubra	Red mulberry	4	8'	40%	44%	X								grown into fence
2133	Quercus rubra	Northern red oak	17	17'	85%	50%									Offsite street tree, Girdled roots
2134	Quercus rubra	Northern red oak	18	18'	85%	53%									Offsite street tree, Girdled roots
2144	Quercus rubra	Northern red oak	8	8'	85%	44%									Offsite street tree, Girdled rts; deadwood
2145	Quercus rubra	Northern red oak	13	13'	85%	53%									Offsite street tree, Girdled roots
2155	Quercus rubra	Northern red oak	19	19'	85%	47%									Offsite street tree, Girdled rts; deadwood
2156	Quercus rubra	Northern red oak	13	13'	85%	50%									Offsite street tree, Girdled roots
2167	Platanus hybrida x acerifolia	London plane tree	2	8'	80%	56%									Offsite street tree
2183	Quercus phellos	Willow oak	26	26'	80%	53%									Offsite street tree
2323	Quercus rubra	Northern red oak	15	15'	85%	53%	X								Girdled roots
2324	Quercus rubra	Northern red oak	9	9'	85%	53%	X								Girdled roots
2325	Quercus rubra	Northern red oak	17	17'	85%	53%	X								Girdled roots
2387	Quercus rubra	Northern red oak	9	9'	85%	53%	X								
2388	Gleditsia triacanthos	Honeylocust	13	13'	70%	50%	X								deadwood
2393	x Cupressocyparis leylandii	Leyland cypress	18	18'	40%	50%	X								vines
2471	Quercus rubra	Northern red oak	13	13'	85%	53%		X			X				Offsite street tree, Girdled roots
2542	Gleditsia triacanthos	Honeylocust	9	9'	70%	47%	X								Girdled roots; deadwood
2545	Gleditsia triacanthos	Honeylocust	10	10'	70%	50%	X								Girdled roots; deadwood
2547	Albizia julibrissin	Mimosa	5	8'	30%	41%	X								Split trunk; grirdled roots
2550	Gleditsia triacanthos	Honeylocust	10	10'	70%	50%	X								Girdled roots; deadwood
2588	Gleditsia triacanthos	Honeylocust	13	13'	70%	50%	X								Girdled roots
2594	Gleditsia triacanthos	Honeylocust	7	8'	70%	50%	X								Girdled roots
2634	Gleditsia triacanthos	Honeylocust	8	8'	70%	50%	X								Girdled roots
2651	Malus spp.	Crabapple	16	16'	70%	47%	X								Vines
2652	Ilex x Nellie Stevens	Nellie Stevens holly	8	8'	80%	50%	X								Multi-stem
2653	Ilex x Nellie Stevens	Nellie Stevens holly	9	9'	80%	50%	X								Multi-stem
2654	Ilex x Nellie Stevens	Nellie Stevens holly	11	11'	80%	50%	X								Multi-stem
2655	Quercus rubra	Northern red oak	7	8'	85%	53%	X								deadwood
2657	Ilex x Nellie Stevens	Nellie Stevens holly	12	12'	80%	50%	X								Multi-stem
2658	Ilex x Nellie Stevens	Nellie Stevens holly	8	8'	80%	50%	X								Multi-stem
2659	Ilex x Nellie Stevens	Nellie Stevens holly	8	8'	80%	50%	X								Multi-stem
2660	Quercus rubra	Northern red oak	12	12'	85%	53%	X								Deadwood
2661	Ilex x Nellie Stevens	Nellie Stevens holly	10	10'	80%	50%	X								Multi-stem
2662	Ilex x Nellie Stevens	Nellie Stevens holly	10	10'	80%	50%	X								Multi-stem
2663	Ilex x Nellie Stevens	Nellie Stevens holly	8	8'	80%	50%	X								Multi-stem
2664	Quercus palustris	Pin oak	42	63'	80%	53%	X								Vines; deadwood
2665	x Cupressocyparis leylandii	Leyland cypress	5	8'	40%	47%	X								
2666	x Cupressocyparis leylandii	Leyland cypress	7	8'	40%	47%	X								
2667	x Cupressocyparis leylandii	Leyland cypress	8	8'	40%	47%	X								
2668	x Cupressocyparis leylandii	Leyland cypress	4	8'	40%	47%	X								
2739	Juglans nigra	Black walnut	40	60'	80%	50%	X								Vines
2740	Juglans nigra	Black walnut	10	10'	80%	47%	X								Vines
2741	Juglans nigra	Black walnut	12	12'	80%	53%	X								Vines
2742	Juglans nigra	Black walnut	26	26'	80%	47%	X								Vines
2743	Acer negundo	Boxelder	14	14'	50%	44%	X								Vines; deadwood

Tree Inventory - West and Broad St. - Falls Church, VA

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %	Removal	Activities: Tree Protection Fence/ Super Silt Fence	Mulch	Crown Prune	Root Prune	Remove Vines	Treat Pests	Hand Removal/ Selective Removal	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A #07-023 30 July 2013															
2744	Acer negundo	Boxelder	7	8'	50%	44%	X								Vines
2745	Prunus serotina	Black cherry	7	8'	65%	50%	X								Vines
2747	Morus rubra	Red mulberry	21	21'	40%	53%	X								Twin; deadwood; vines
2751	Morus rubra	Red mulberry	45	68'	40%	44%	X								Twin; deadwood; vines
2861	Quercus palustris	Pin oak	36	54'	80%	47%		X			X				offsite
2942	Quercus rubra	Northern red oak	12	12'	85%	53%									Offsite street tree, girdled roots
3054	Quercus rubra	Northern red oak	10	10'	85%	56%									Offsite street tree, girdled roots
3060	Quercus rubra	Northern red oak	12	12'	85%	56%									Offsite street tree
3064	Quercus rubra	Northern red oak	10	10'	85%	56%									Offsite street tree
3308	Juniperus virginiana	Eastern redcedar	14	14'	85%	47%	X								deadwood
3361	Juniperus virginiana	Eastern redcedar	18	18'	85%	50%	X								deadwood; vines
3362	Juniperus virginiana	Eastern redcedar	15	15'	85%	50%	X								deadwood; vines
3363	Juniperus virginiana	Eastern redcedar	19	19'	85%	50%	X								deadwood; vines
3364	Juniperus virginiana	Eastern redcedar	15	15'	85%	50%	X								deadwood; vines
3365	Juniperus virginiana	Eastern redcedar	18	18'	85%	50%	X								deadwood; vines
3366	Quercus rubra	Northern red oak	3	8'	85%	47%	X								lean
3367	Acer platanoides	Norway maple	17	17'	30%	50%	X								triple trunk
3368	Acer platanoides	Norway maple	23	23'	30%	50%	X								multi-stem (4)
3369	Acer platanoides	Norway maple	6	8'	30%	50%	X								deadwood
3370	Prunus serotina	Black cherry	24	24'	65%	47%	X								deadwood
3371	Ilex opaca	American holly	14	14'	85%	56%	X								vines
3385	Catalpa speciosa	Northern catalpa	27	27'	60%	53%	X								Multi-stem (6); vines
3386	Acer platanoides	Norway maple	6	8'	30%	53%	X								
3395	Acer platanoides	Norway maple	7	8'	30%	50%	X								deadwood
3396	Acer platanoides	Norway maple	9	9'	30%	53%	X								deadwood
3403	Pinus nigra	Austrian pine	8	8'	70%	56%	X								
3404	Pinus nigra	Austrian pine	6	8'	70%	56%	X								
3408	Quercus palustris	Pin oak	40	60'	80%	50%	X								vines
3416	Malus spp.	Crabapple	12	12'	70%	47%	X								vines
3420	Juniperus virginiana	Eastern redcedar	37	56'	85%	50%	X								twin; deadwood
3421	Juniperus virginiana	Eastern redcedar	31	47'	85%	44%	X								deadwood
3467	Lagerstroemia indica	Crape Myrtle	10	10'	80%	56%	X								multi-stem (4)
3469	Prunus caroliniana	Carolina laurelcherry	5	8'	0%	50%	X								
3502	Prunus spp.	Ornamental Cherry	2	8'	70%	53%	X								
3503	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X								multi-stem (4)
3504	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X								multi-stem (4)
3505	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X								multi-stem (4)
3506	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X								multi-stem (4)
3507	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X								multi-stem (4)
3518	Juniperus virginiana	Eastern redcedar	3	8'	85%	47%	X								lean
3525	Acer palmatum	Japanese maple	4	8'	80%	50%	X								twin
3540	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%		X			X				
3541	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%		X			X				
3542	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%		X			X				
3543	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X								
3544	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X								
3545	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X								
3546	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X								
3549	Magnolia Spp.	Magnolia	5	8'	NONE	56%	X								
3550	Diospyros virginiana	Common persimmon	20	20'	85%	56%	X								
3554	Cornus Spp.	Dogwood	3	8'	NONE	59%	X								
3556	Lagerstroemia indica	Crape Myrtle	6	8'	80%	59%	X								twin
3561	Betula nigra	River birch	26	26'	80%	59%	X								Triple trunk
3562	Lagerstroemia indica	Crape Myrtle	10	10'	80%	53%	X								Multi-Stem
3563	Betula nigra	River birch	22	22'	80%	59%	X								Triple trunk
3564	Lagerstroemia indica	Crape Myrtle	10	10'	80%	56%	X								Multi-Stem
3569	Prunus spp.	Ornamental Cherry	3	8'	70%	59%	X								
3570	Betula nigra	River birch	9	9'	80%	56%	X								
3584	Cornus florida	Flowering dogwood	6	8'	80%	56%	X								

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ESTABLISHED 1945

DATE: 01/09/2014, REV. 07/07/2014, REV. 08/28/2014, 12/15/2014
SCALE: NONE
DRAWN: AA, BS
CHECKED: KW

COMMONWEALTH OF VIRGINIA
KAREN L. S. WHITE
Lic. No.041850
12/19/15
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

TREE INVENTORY

MASON ROW

CITY OF FALLS CHURCH, VIRGINIA

Tree Inventory - West and Broad St. - Falls Church, VA

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %	Removal	Activities: Tree Protection Fence/ Super Silt Fence	Mulch	Crown Prune	Root Prune	Remove Vines	Treat Pests	Hand Removal/ Selective Removal	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A #07-023 30 July 2013															
3585	Acer saccharinum	Silver maple	50	75'	60%	47%	X								signs of decay, twin, deadwood
3590	Acer negundo	Boxelder	13	13'	50%	47%	X								lean
3600	Prunus spp.	Ornamental Cherry	3	8'	70%	56%	X								
3601	Juniperus virginiana	Eastern redcedar	6	8'	85%	47%	X								
3602	Acer platanoides	Norway maple	4	8'	30%	53%	X								lean
3646	dead	Dead	10	0'	0%	0%	X								
3652	Juglans nigra	Black walnut	23	23'	80%	53%	X								
3653	dead	Dead	14	0'	0%	0%	X								
3654	Morus rubra	Red mulberry	9	9'	40%	47%	X								
3655	Morus rubra	Red mulberry	22	22'	40%	47%	X								
3657	Pinus strobus	Eastern white pine	3	8'	75%	56%	X								
3658	Ligustrum amurense	Amur privet	7	8'	0%	50%	X								
3659	Morus rubra	Red mulberry	24	24'	40%	47%	X								Vines
3660	Morus rubra	Red mulberry	6	8'	40%	47%	X								Vines
3661	Ilex opaca	American holly	7	8'	85%	50%	X								Multi-stem
3662	Malus spp.	Crabapple	6	8'	70%	53%	X								deadwood
3663	Chamaecyparis obtusa	Hinoki falsecypress	6	8'	80%	56%	X								deadwood
3664	x Cupressocyparis leylandii	Leyland cypress	10	10'	40%	50%	X								deadwood
3665	Malus spp.	Crabapple	8	8'	70%	53%	X								deadwood
3666	Catalpa speciosa	Northern catalpa	15	15'	60%	50%	X								lean
3668	x Cupressocyparis leylandii	Leyland cypress	11	11'	40%	50%	X								deadwood
3669	x Cupressocyparis leylandii	Leyland cypress	10	10'	40%	50%	X								deadwood
3670	x Cupressocyparis leylandii	Leyland cypress	12	12'	40%	50%	X								deadwood
3672	Juniperus spp.	Juniper	3	8'	0%	44%	X								
3673	Ilex opaca	American holly	18	18'	85%	53%	X								
3678	Cercis canadensis	Eastern redbud	5	8'	85%	56%	X								deadwood
3682	Juglans nigra	Black walnut	16	16'	80%	50%	X								vines
3683	Juglans nigra	Black walnut	18	18'	80%	50%	X								vines
3684	Juglans nigra	Black walnut	13	13'	80%	47%	X								vines
3685	Juglans nigra	Black walnut	19	19'	80%	47%	X								vines
3686	Morus rubra	Red mulberry	18	18'	40%	44%	X								vines
3689	Juglans nigra	Black walnut	25	25'	80%	47%	X								twin; vines
3690	Ilex opaca	American holly	3	8'	85%	50%	X								
3691	Morus rubra	Red mulberry	26	26'	40%	50%	X								
3692	Cercis canadensis	Eastern redbud	3	8'	85%	53%	X								
3693	Cercis canadensis	Eastern redbud	3	8'	85%	53%	X								
3694	Prunus serotina	Black cherry	18	18'	65%	50%	X								
3695	Ilex cornuta	Chinese holly	2	8'	0%	50%	X								
3716	Morus rubra	Red mulberry	22	22'	40%	44%	X								twin; deadwood

DBH = Diameter at Breast Height (measured 4.5 feet above ground)

CRZ = Critical Root Zone = 1 foot radius per inch of tree diameter, trees over 30" DBH= 1.5 foot radius per inch of tree diameter

CRZ values for trees with multiple stems were calculated using the diameter of a tree with the basal area equivalent to the sum of the basal areas for all stems.

Condition Ratings provided as percentages based on methods outlined in the 9th edition of the Guide for Plant Appraisal, published by the I.S.A.

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DATE: 01/09/2014, REV. 07/07/2014, REV. 08/28/2014, 12/15/2014
01/29/2015 SJB 02

SCALE: NONE

DRAWN: AA, BS

CHECKED: KW

COMMONWEALTH OF VIRGINIA
KAREN L. S. WHITE
Lic. No.041850
PROFESSIONAL ENGINEER
1/29/15

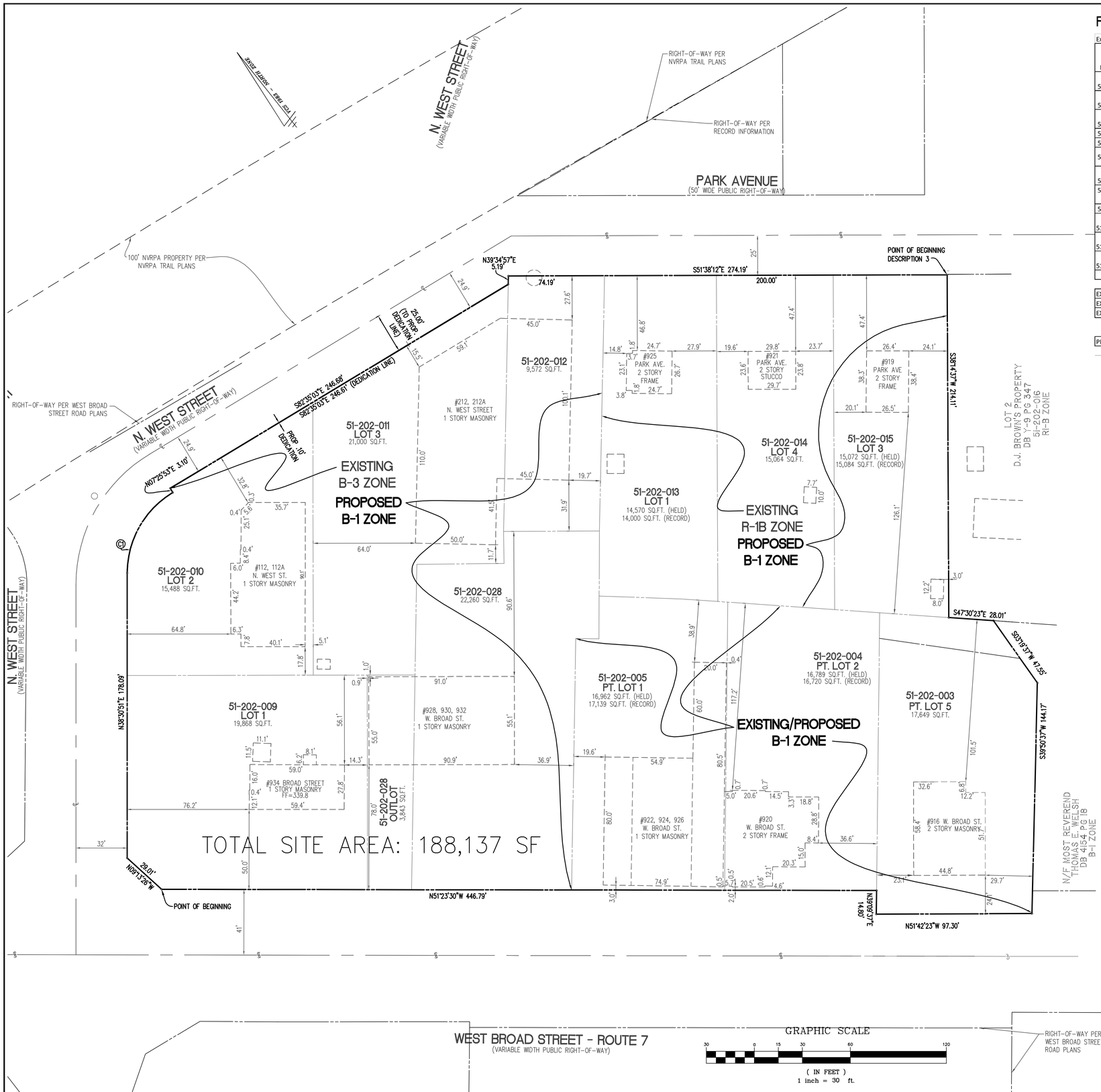
REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

TREE INVENTORY

MASON ROW

CITY OF FALLS CHURCH, VIRGINIA



PARCEL SUMMARY

Existing Lots

PARCEL #	ADDRESS	RPC #	SQUARE FOOTAGE	ACRES	EXISTING ZONE	PROPOSED ZONE	EXISTING LAND USE DESIGNATION	PROPOSED LAND USE DESIGNATION
51-202-015	919 PARK AVENUE	51-202-015	15,072	0.35	R-1B	B-1	LOW DENSITY RESIDENTIAL	
51-202-014	921 PARK AVENUE	51-202-014	15,064	0.35	R-1B	B-1	LOW DENSITY RESIDENTIAL	
51-202-013	925 PARK AVENUE	51-202-013	14,570	0.33	R-1B	B-1	LOW DENSITY RESIDENTIAL	
51-202-012	212, 212A NORTH	51-202-012	9,572	0.22	B-3	B-1	BUSINESS	
51-202-011	WEST STREET	51-202-011	21,000	0.48	B-3	B-1	BUSINESS	
51-202-010	112,112A NORTH WEST STREET	51-202-010	15,488	0.36	B-3	B-1	BUSINESS	
51-202-009	934 WEST BROAD STREET	51-202-009	19,868	0.46	B-3	B-1	BUSINESS	
51-202-028 OUTLOT	928, 930, 932 WEST BROAD STREET, OUTLOT	51-202-028	3,843	0.09	B-3	B-1	BUSINESS	
51-202-028		51-202-028	22,260	0.51	B-3	B-1	BUSINESS	
51-202-005	922, 924, 926 WEST BROAD STREET	51-202-005	16,962	0.39	B-1	B-1	BUSINESS	
51-202-004	920 WEST BROAD STREET	51-202-004	16,789	0.39	B-1	B-1	BUSINESS	
51-202-003	916 WEST BROAD STREET	51-202-003	17,649	0.41	B-1	B-1	BUSINESS	
TOTAL			188,137	4.32				

EXISTING R-1B ZONE	44,706	SF	1.03	AC
EXISTING B-3 ZONE	92,031	SF	2.11	AC
EXISTING B-1 ZONE	51,400	SF	1.18	AC
TOTAL	188,137	SF	4.32	AC

PROPOSED B-1 ZONE	188,137	SF	4.32	AC
TOTAL	188,137	SF	4.32	AC

DESCRIPTION

DESCRIPTION OF THE COMBINED AREA OF PROPERTIES IN THE CITY OF FALLS CHURCH, VIRGINIA, PROPOSED TO BE REZONED TO B-1:

"BEGINNING AT A POINT AT THE INTERSECTION OF THE EAST RIGHT-OF-WAY LINE OF NORTH WEST STREET, WITH THE NORTH RIGHT-OF-WAY LINE OF WEST BROAD STREET – ROUTE 7; THENCE WITH THE EAST RIGHT-OR-WAY LINE OF NORTH WEST STREET, N 09° 13' 26" W, 29.01 FEET TO A POINT; THENCE N 38° 30' 51" E, 178.09 FEET TO A POINT; THENCE 60.44 FEET WITH THE ARC OF A CURVE BEARING TO THE RIGHT AND HAVING A RADIUS OF 58.67 FEET (TANGENT LENGTH 33.21 FEET, CHORD LENGTH 57.80 FEET, CHORD BEARING N 68° 01' 31" E) TO A POINT; THENCE N 07° 25' 53" E, 3.10 FEET TO A POINT; THENCE S 82° 35' 03" E, 246.68 FEET TO A POINT; THENCE N 39° 34' 57" E, 5.19 FEET TO A POINT IN THE SOUTH RIGHT-OF-WAY LINE OF PARK STREET; THENCE WITH THE SOUTH RIGHT-OF-WAY LINE OF PARK STREET, S 51° 38' 12" E, 274.19 FEET TO A POINT, SAID POINT BEING THE NORTHWEST CORNER OF D.J. BROWN'S PROPERTY – LOT 2; THENCE WITH LOT 2, S 38° 14' 37" W, 214.11 FEET TO A POINT; THENCE S 47° 30' 23" E, 28.01 FEET TO A POINT, SAID POINT BEING A CORNER OF NOW-OR-FORMERLY MOST REVEREND THOMAS E. WELSH; THENCE WITH NOW-OR-FORMERLY MOST REVEREND THOMAS E. WELSH, S 03° 19' 37" W, 47.55 FEET TO A POINT; THENCE S 39° 50' 37" W, 144.17 FEET TO A POINT IN THE NORTH RIGHT-OF-WAY LINE OF WEST BROAD STREET – ROUTE 7; THENCE WITH THE NORTH RIGHT-OF-WAY LINE OF WEST BROAD STREET – ROUTE 7, N 51° 42' 23" W, 97.30 FEET TO A POINT; THENCE N 39° 09' 37" E, 14.80 FEET TO A POINT; THENCE N 51° 23' 30" W, 446.79 FEET TO THE POINT OF BEGINNING AND CONTAINING AN AREA OF 188,137 SQUARE FEET, OR 4.3190 ACRES, MORE OR LESS."

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DATE: 01/09/2014 REV. 07/07/2014, REV. 08/28/2014, 12/15/2014 01/29/2015 SUB 02
SCALE: 1" = 30'
DRAWN: AA, BS
CHECKED: KW

COMMONWEALTH OF VIRGINIA
KAREN L. S. WHITE
Lic. No.041850
1/29/15
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CERTIFIED SURVEY PLAT

MASON ROW

CITY OF FALLS CHURCH, VIRGINIA

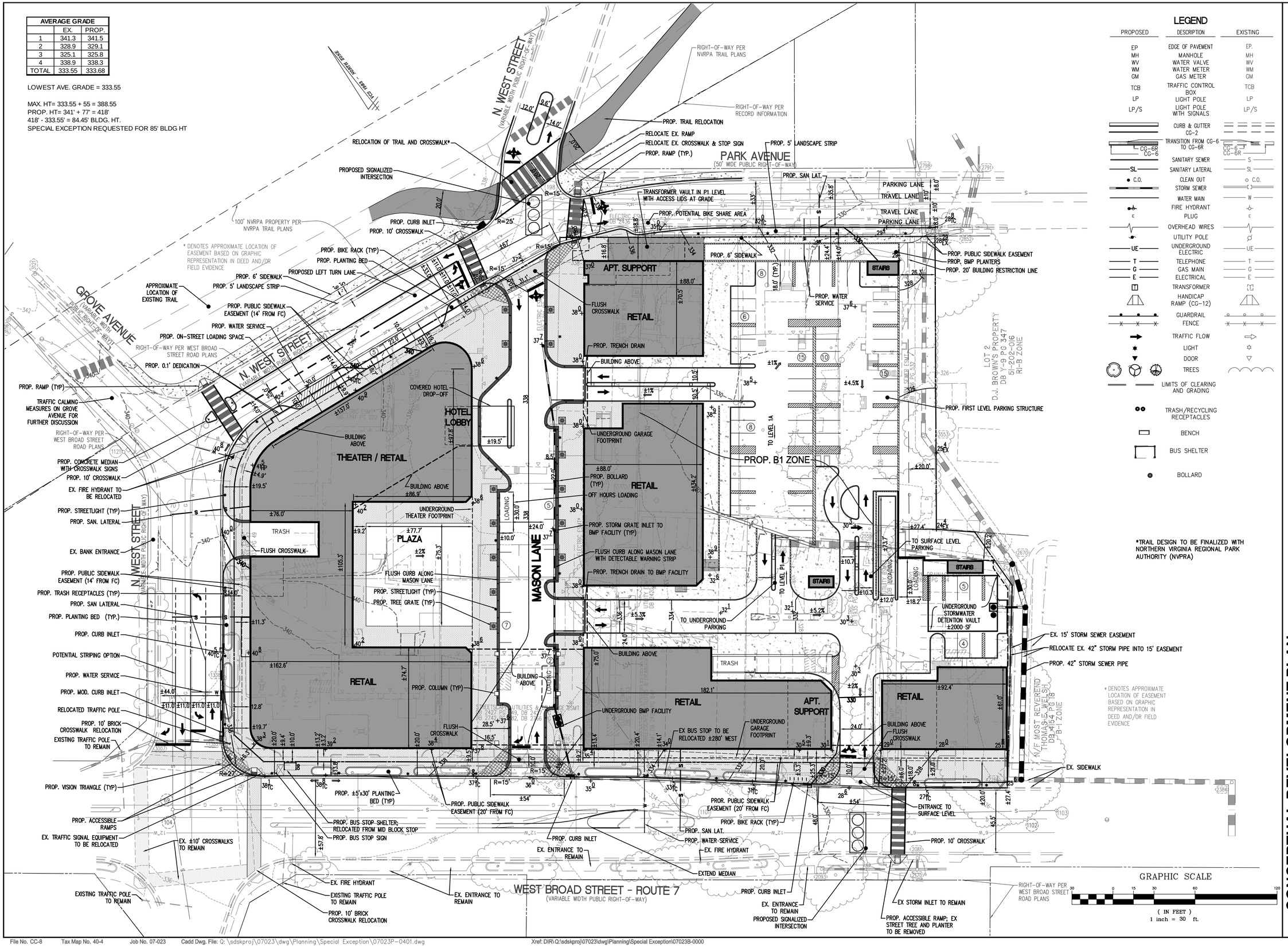
File No. CC-8 Tax Map No. 40-4 Job No. 07-023 Cadd Dwg. File: Q:\sdskproj\07023\dwg\Planning\Special Exception\07023P-0305.dwg Xref: DIR\Q:\sdskproj\07023\dwg\Planning\Special Exception\07023B-0000

SHEET: P-0305

AVERAGE GRADE		
	EX.	PROP.
1	341.3	341.5
2	328.9	329.1
3	325.1	325.8
4	338.9	338.3
TOTAL	333.55	333.68

LOWEST AVE. GRADE = 333.55

MAX. HT= 333.55 + 55 = 388.55
PROP. HT= 341' + 77' = 418'
418' - 333.55' = 84.45' BLDG. HT.
SPECIAL EXCEPTION REQUESTED FOR 85' BLDG HT



LEGEND

PROPOSED	DESCRIPTION	EXISTING
EP	EDGE OF PAVEMENT	EP.
MH	MANHOLE	MH
WV	WATER VALVE	WV
WM	WATER METER	WM
GM	GAS METER	GM
TCB	TRAFFIC CONTROL BOX	TCB
LP	LIGHT POLE	LP
LP/S	LIGHT POLE WITH SIGNALS	LP/S
	CURB & GUTTER CG-2	
CG-6R CG-6	TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
C.O.	CLEAN OUT	C.O.
	STORM SEWER	
	WATER MAIN	W
	FIRE HYDRANT	
C	PLUG	C
	OVERHEAD WIRES	
	UTILITY POLE	
UE	UNDERGROUND ELECTRIC	UE
T	TELEPHONE	T
G	GAS MAIN	G
E	ELECTRICAL	E
	TRANSFORMER	
	HANDICAP RAMP (CG-12)	
	GUARDRAIL	
	FENCE	
	TRAFFIC FLOW	
	LIGHT	
	DOOR	
	TREES	
	LIMITS OF CLEARING AND GRADING	
	TRASH/RECYCLING RECEPTACLES	
	BENCH	
	BUS SHELTER	
	BOLLARD	

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SCALE: 1" = 30'

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CONCEPTUAL DEVELOPMENT PLAN

MASON ROW

CITY OF FALLS CHURCH, VIRGINIA

File No. CC-8 Tax Map No. 40-4 Job No. 07-023 Cadd Dwg. File: Q:\sdskproj\07023\dwg\Planning\Special Exception\07023P-0401.dwg Xref: DIR\Q:\sdskproj\07023\dwg\Planning\Special Exception\07023B-0000

SHEET: P-0401

Attachment 11

MASON ROW
MIXED USED PROJECT

NEC OF WEST BROAD STREET & NORTH WEST STREET
FALLS CHURCH CITY, VA

SPECIAL EXCEPTION APPLICATION SUB 03

JANUARY 30, 2015

OWNER:
SPECTRUM DEVELOPMENT, LLC.

LAND USE ATTORNEY:
BASKIN, JACKSON & LASSO, PC.

ARCHITECT:
GTM ARCHITECTS, INC.

CIVIL ENGINEER:
WALTER L. PHILLIPS, INC.

TRAFFIC:
WELLS & ASSOCIATES

RETAIL PLANNER:
STREETSENSE

GTM ARCHITECTS

EXISTING CONTEXT
N.T.S.

A0.1

Spectrum MASON ROW Special Exception Application Sub 03

GTM PROJECT: 14.0041 NEC of W. Broad St & N. West St, Falls Church City, VA 01/30/15

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7735 OLD GEORGETOWN ROAD, SUITE 700, BETHESDA, MD 20814 - TEL: (240) 333-2000 - FAX: (240) 333-2001

EXISTING SITE PHOTOS

N.T.S.

A0.2

SPECTRUM development LLC

GTM

GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 03

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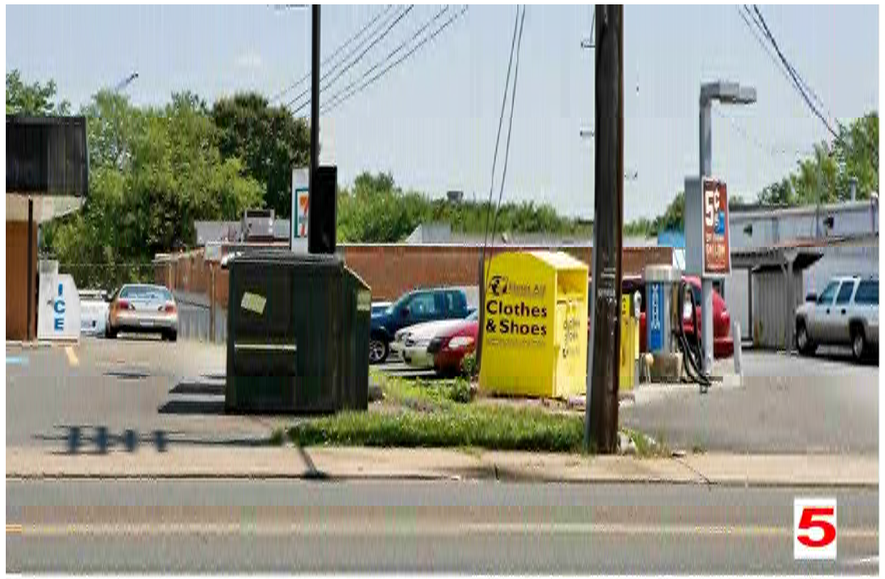

EXISTING SITE PHOTOS

N.T.S.

A0.3

SPECTRUM development LLC

GTM

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Spectrum MASON ROW Special Exception Application Sub 03

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SITE CONTEXT PLAN

1" = 100'-0"

A1.0

N

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100' 200'

SPECTRUM development LLC

GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 03

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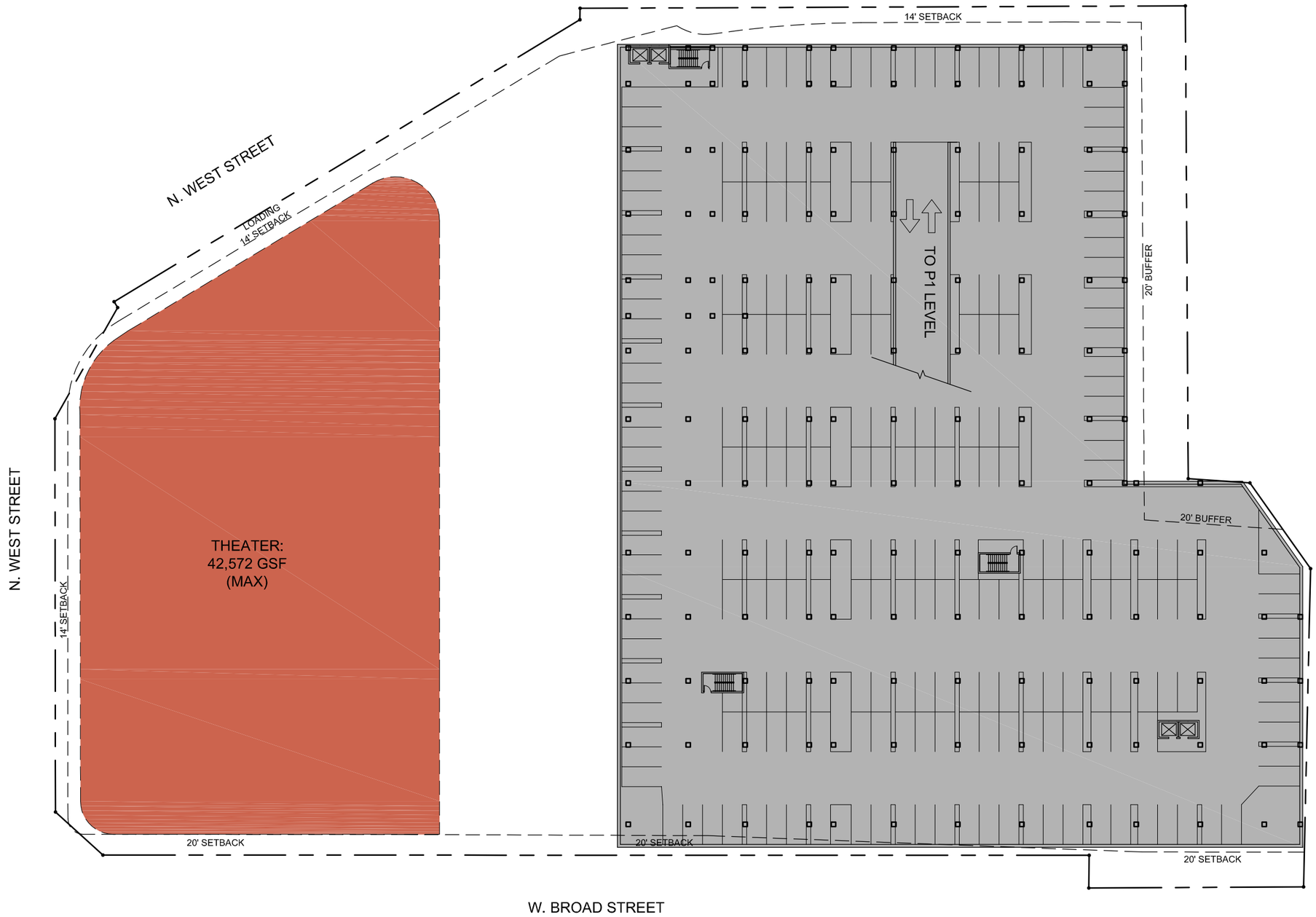
7735 OLD GEORGETOWN ROAD, SUITE 700, BETHESDA, MD 20814 - TEL: (240) 333-2000 - FAX: (240) 333-2001

Massing Yields				Parking Totals			
Level	Use	Floor Area (SF)	# of Units	Parking Required	Parking Reduction %	Reduced Req'd Parking	Parking Provided
P2	Parking	96624	0	0.0	0%	0.0	248
P2	Theater	42572	0	170.3	17.0%	141.3	0
P1	Parking	96603	0	0.0	0%	0.0	242
1	Retail #1	4664	0	18.7	16.0%	15.7	0
	Retail #2	17076	0	68.3	16.0%	57.4	0
	Retail #4	9913	0	39.7	16.0%	33.3	0
	Retail #5	1825	0	7.3	16.0%	6.1	0
	Retail #6	3099	0	12.4	16.0%	10.4	0
	Retail #7	10822	0	43.3	16.0%	36.4	0
	Retail #8	5268	0	21.1	16.0%	17.7	0
	Theater	9093	0	36.4	17.0%	30.2	0
	Apt. Lobby 1	1623	0	0.0	0.0%	0.0	0
	Apt. Lobby 2	516	0	0.0	0.0%	0.0	0
	Apt. Lobby 3	476	0	0.0	0.0%	0.0	0
	Office Lobby	304	0	0.0	0.0%	0.0	0
	Hotel Lobby	558	0	0.0	0.0%	0.0	0
	Parking Lobby	460	0	0.0	0.0%	0.0	0
	Parking	29623	0	0.0	0.0%	0.0	85
Mezz	Apt Lobby 1	889	0	0.0	0.0%	0.0	0
	Office	5635	0	18.8	20.0%	15.0	0
	Parking	40833	0	0.0	0.0%	0.0	111
2	Apartment	70035	64	105.2	20.0%	84.2	0
	Apt Amenity	5875	0	0.0	0.0%	0.0	0
	Hotel	14092	14	15.4	18.0%	12.6	0
	Parking	23249	0	0.0	0.0%	0.0	66
3	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	23249	0	0.0	0.0%	0.0	66
4	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	23249	0	0.0	0.0%	0.0	66
5	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22012	0	0.0	0.0%	0.0	63
6	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
Totals	Apartment	383054	340	559.1	20.0%	447.2	0
	Theater	51665	0	206.7	17.0%	171.5	0
	Office	5939	0	18.8	20.0%	15.0	0
	Hotel	71018	150	165.0	18.0%	135.3	0
	Retail	52667	0	210.7	16.0%	177.0	0
	Parking	355902	0	0.0	0.0%	0.0	947
		920245		*1160.2*	*18.5%*	*946.1*	*947*



P2 PARKING LEVEL PLAN

1" = 50'-0"

A1.1

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

SPECTRUM development LLC

GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 03

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P2	Parking	96624	0	0.0	0%	0.0	248
P2	Theater	42572	0	170.3	17.0%	141.3	0
P1	Parking	96603	0	0.0	0%	0.0	242
1	Retail #1	4664	0	18.7	16.0%	15.7	0
	Retail #2	17076	0	68.3	16.0%	57.4	0
	Retail #4	9913	0	39.7	16.0%	33.3	0
	Retail #5	1825	0	7.3	16.0%	6.1	0
	Retail #6	3099	0	12.4	16.0%	10.4	0
	Retail #7	10822	0	43.3	16.0%	36.4	0
	Retail #8	5268	0	21.1	16.0%	17.7	0
	Theater	9093	0	36.4	17.0%	30.2	0
	Apt. Lobby 1	1623	0	0.0	0.0%	0.0	0
	Apt. Lobby 2	516	0	0.0	0.0%	0.0	0
	Apt. Lobby 3	476	0	0.0	0.0%	0.0	0
	Office Lobby	304	0	0.0	0.0%	0.0	0
	Hotel Lobby	558	0	0.0	0.0%	0.0	0
	Parking Lobby	460	0	0.0	0.0%	0.0	0
	Parking	29623	0	0.0	0.0%	0.0	85
Mezz	Apt Lobby 1	889	0	0.0	0.0%	0.0	0
	Office	5635	0	18.8	20.0%	15.0	0
	Parking	40833	0	0.0	0.0%	0.0	111
2	Apartment	70035	64	105.2	20.0%	84.2	0
	Apt Amenity	5875	0	0.0	0.0%	0.0	0
	Hotel	14092	14	15.4	18.0%	12.6	0
	Parking	23249	0	0.0	0.0%	0.0	66
3	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	23249	0	0.0	0.0%	0.0	66
4	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	23249	0	0.0	0.0%	0.0	66
5	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22012	0	0.0	0.0%	0.0	63
6	Apartment	75910	69	113.5	20.0%	90.8	0
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Totals	Apartment	383054	340	559.1	20.0%	447.2	0
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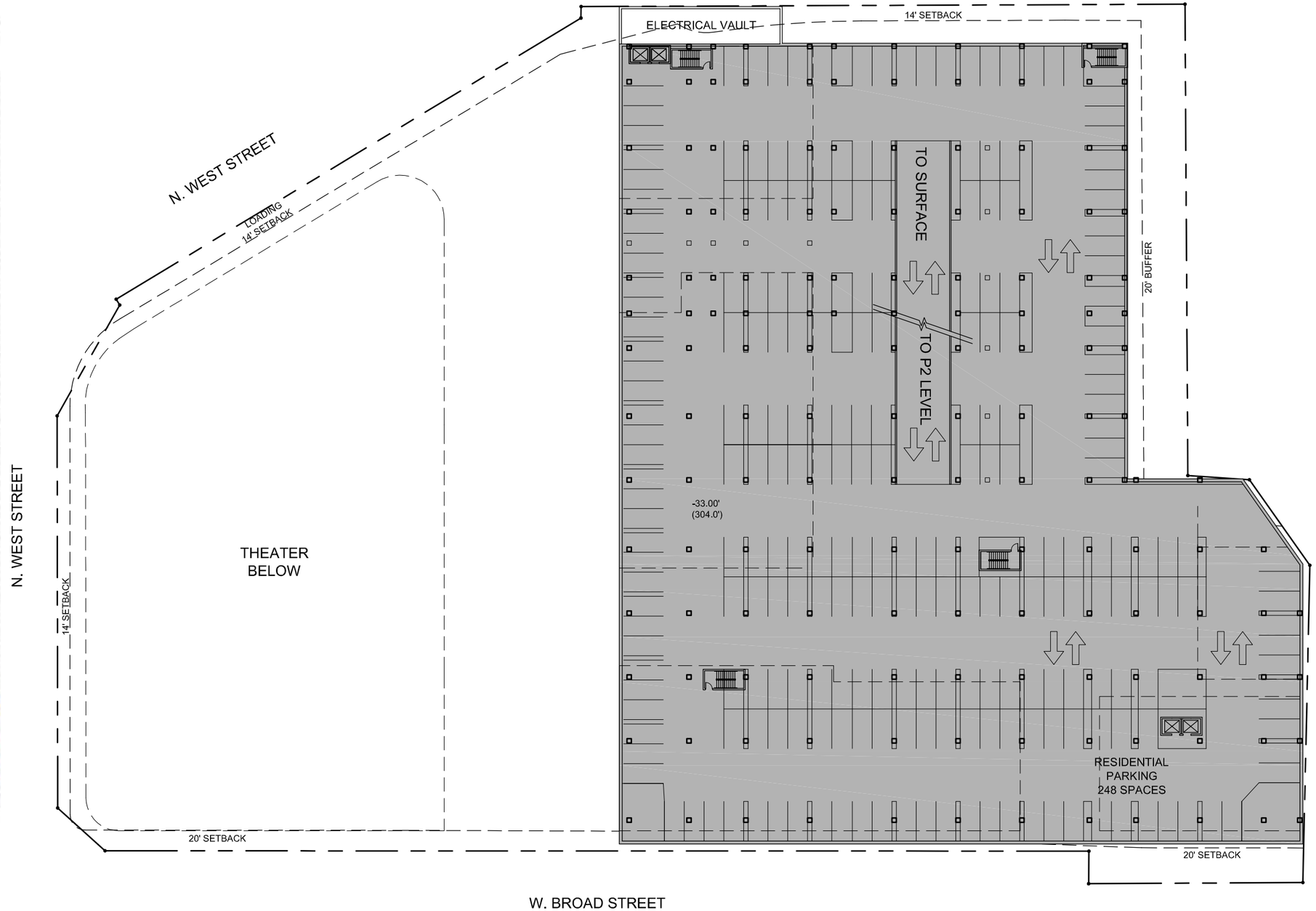
		920245		*1160.2*	*18.5%*	*946.1*	*947*



P1 PARKING LEVEL PLAN

1" = 50'-0"

N

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

A1.2

SPECTRUM development LLC

GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 03

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		920245		*1160.2*	*18.5%*	*946.1*	*947*

FIRST FLOOR PLAN
1" = 50'-0"

A1.3

N

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

SPECTRUM development LLC

GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 03

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		920245		*1160.2*	*18.5%*	*946.1*	*947*

MEZZANINE FLOOR PLAN
1" = 50'-0"

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

A1.4

SPECTRUM development LLC
GTM ARCHITECTS

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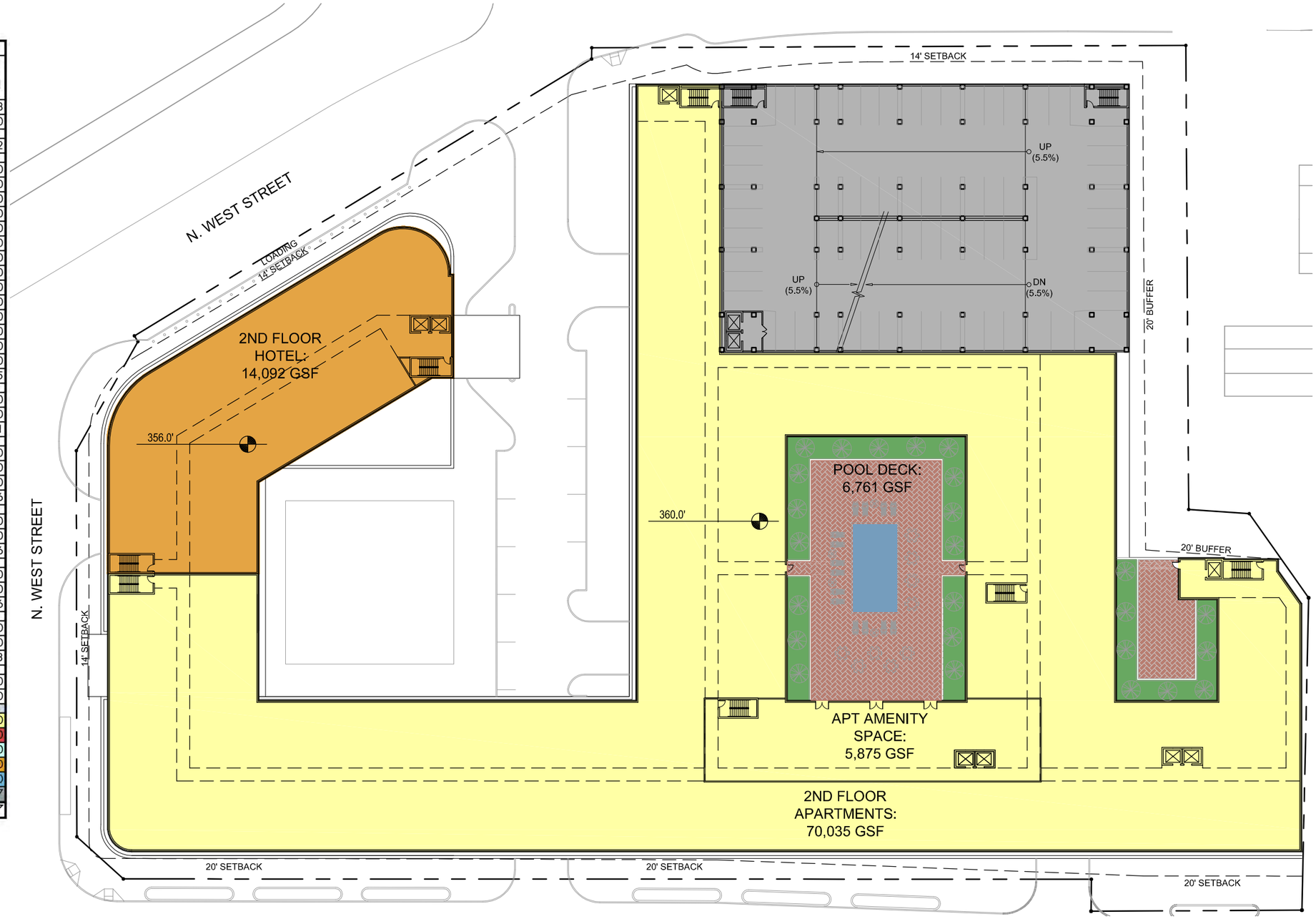

A1.5

N

SECOND FLOOR PLAN
1" = 50'-0"

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

SPECTRUM development LLC
GTM
GTM ARCHITECTS

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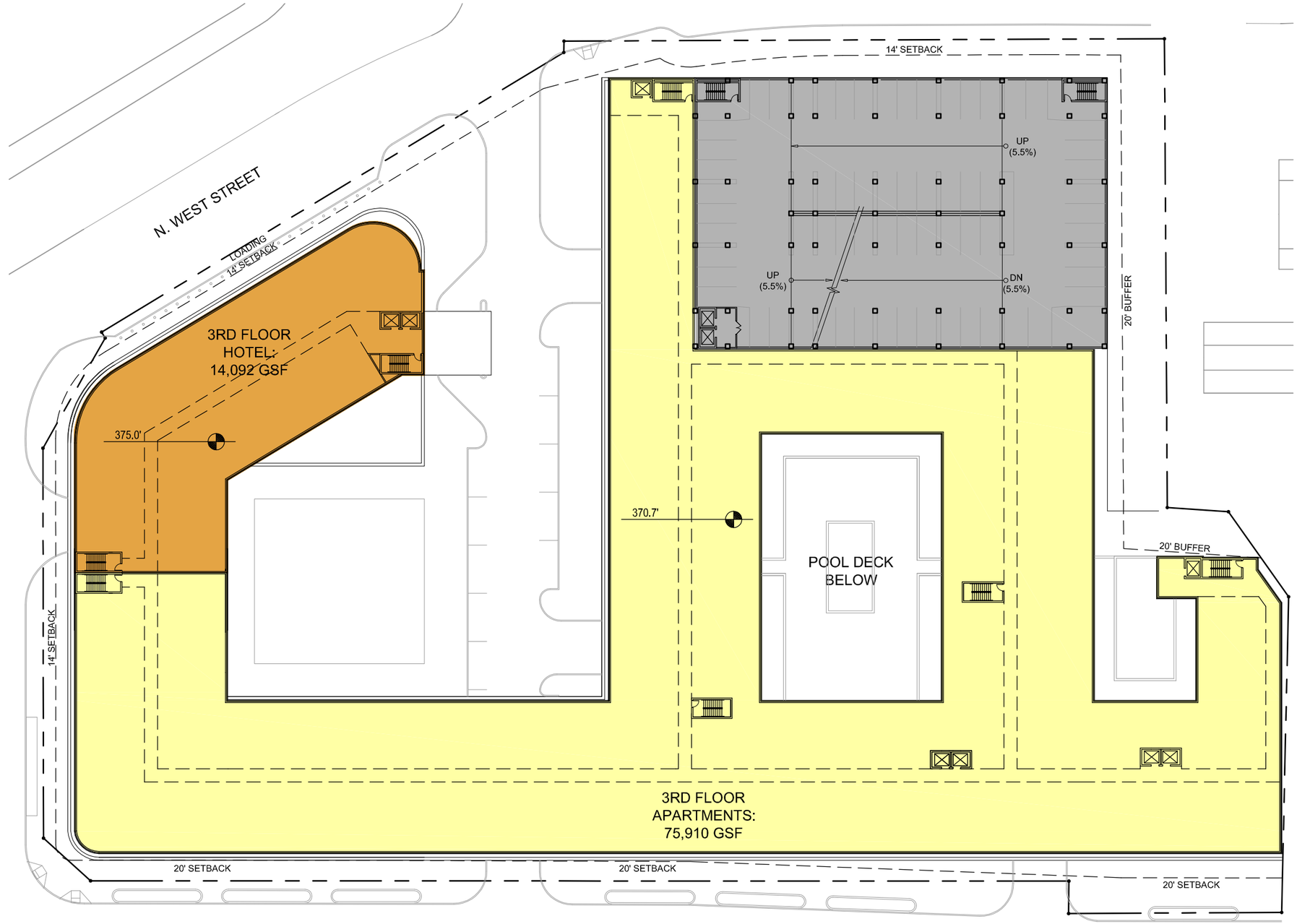
	Retail #6	3099	0	12.4	16.0%	10.4	0
	Retail #7	10822	0	43.3	16.0%	36.4	0
	Retail #8	5268	0	21.1	16.0%	17.7	0
	Theater	9093	0	36.4	17.0%	30.2	0
	Apt. Lobby 1	1623	0	0.0	0.0%	0.0	0
	Apt. Lobby 2	516	0	0.0	0.0%	0.0	0
	Apt. Lobby 3	476	0	0.0	0.0%	0.0	0
	Office Lobby	304	0	0.0	0.0%	0.0	0
	Hotel Lobby	558	0	0.0	0.0%	0.0	0
	Parking Lobby	460	0	0.0	0.0%	0.0	0
	Parking	29623	0	0.0	0.0%	0.0	85
Mezz	Apt Lobby 1	889	0	0.0	0.0%	0.0	0
	Office	5635	0	18.8	20.0%	15.0	0
	Parking	40833	0	0.0	0.0%	0.0	111
2	Apartment	70035	64	105.2	20.0%	84.2	0
	Apt Amenity	5875	0	0.0	0.0%	0.0	0
	Hotel	14092	14	15.4	18.0%	12.6	0
	Parking	23249	0	0.0	0.0%	0.0	66
3	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	23249	0	0.0	0.0%	0.0	66
4	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	23249	0	0.0	0.0%	0.0	66
5	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22012	0	0.0	0.0%	0.0	63
6	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
Totals	Apartment	383054	340	559.1	20.0%	447.2	0
	Theater	51665	0	206.7	17.0%	171.5	0
	Office	5939	0	18.8	20.0%	15.0	0
	Hotel	71018	150	165.0	18.0%	135.3	0
	Retail	52667	0	210.7	16.0%	177.0	0
	Parking	355902	0	0.0	0.0%	0.0	947
		920245		*1160.2*	*18.5%*	*946.1*	*947*



THIRD FLOOR PLAN
1" = 50'-0"

A1.6

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

0 25' 50' 100'

SPECTRUM development LLC
GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 03

GTM PROJECT: 14.0041 NEC of W. Broad St & N. West St, Falls Church City, VA 01/30/15

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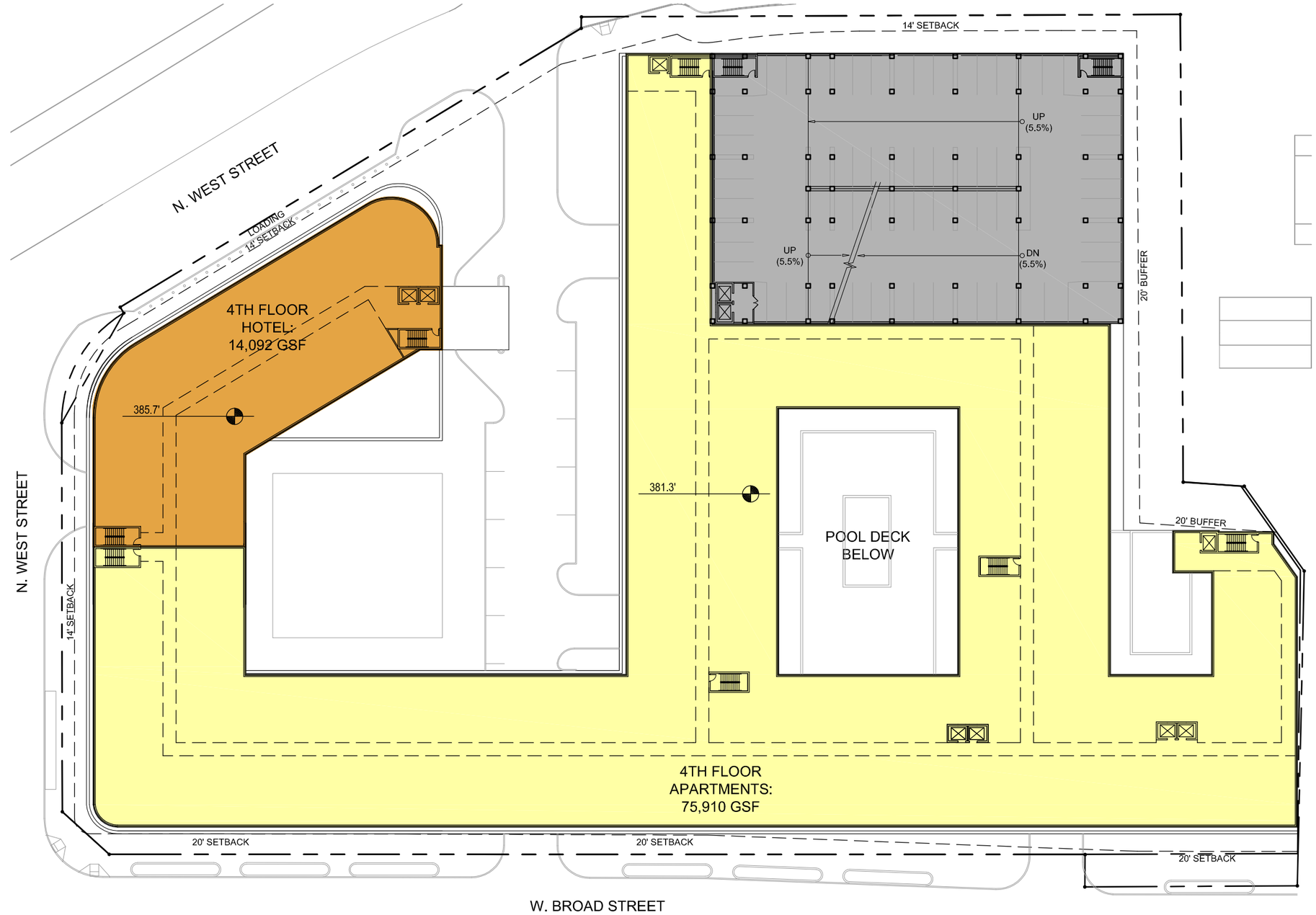
Massing Yields				Parking Totals			
Level	Use	Floor Area (SF)	# of Units	Parking Required	Parking Reduction %	Reduced Req'd Parking	Parking Provided
P2	Parking	96624	0	0.0	0%	0.0	248
P2	Theater	42572	0	170.3	17.0%	141.3	0
P1	Parking	96603	0	0.0	0%	0.0	242
1	Retail #1	4664	0	18.7	16.0%	15.7	0
	Retail #2	17076	0	68.3	16.0%	57.4	0
	Retail #4	9913	0	39.7	16.0%	33.3	0
	Retail #5	1825	0	7.3	16.0%	6.1	0
	Retail #6	3099	0	12.4	16.0%	10.4	0
	Retail #7	10822	0	43.3	16.0%	36.4	0
	Retail #8	5268	0	21.1	16.0%	17.7	0
	Theater	9093	0	36.4	17.0%	30.2	0
	Apt. Lobby 1	1623	0	0.0	0.0%	0.0	0
	Apt. Lobby 2	516	0	0.0	0.0%	0.0	0
	Apt. Lobby 3	476	0	0.0	0.0%	0.0	0
	Office Lobby	304	0	0.0	0.0%	0.0	0
	Hotel Lobby	558	0	0.0	0.0%	0.0	0
	Parking Lobby	460	0	0.0	0.0%	0.0	0
	Parking	29623	0	0.0	0.0%	0.0	85
Mezz	Apt Lobby 1	889	0	0.0	0.0%	0.0	0
	Office	5635	0	18.8	20.0%	15.0	0
	Parking	40833	0	0.0	0.0%	0.0	111
2	Apartment	70035	64	105.2	20.0%	84.2	0
	Apt Amenity	5875	0	0.0	0.0%	0.0	0
	Hotel	14092	14	15.4	18.0%	12.6	0
	Parking	23249	0	0.0	0.0%	0.0	66
3	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	23249	0	0.0	0.0%	0.0	66
4	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	23249	0	0.0	0.0%	0.0	66
5	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22012	0	0.0	0.0%	0.0	63
6	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
Totals	Apartment	383054	340	559.1	20.0%	447.2	0
	Theater	51665	0	206.7	17.0%	171.5	0
	Office	5939	0	18.8	20.0%	15.0	0
	Hotel	71018	150	165.0	18.0%	135.3	0
	Retail	52667	0	210.7	16.0%	177.0	0
	Parking	355902	0	0.0	0.0%	0.0	947
		920245		*1160.2*	*18.5%*	*946.1*	*947*



FOURTH FLOOR PLAN
1" = 50'-0"

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

A1.7

N

0 25' 50' 100'

Spectrum MASON ROW Special Exception Application Sub 03

GTM PROJECT: 14.0041 NEC of W. Broad St & N. West St, Falls Church City, VA 01/30/15

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SPECTRUM development LLC

GTM ARCHITECTS

Massing Yields				Parking Totals			
Level	Use	Floor Area (SF)	# of Units	Parking Required	Parking Reduction %	Reduced Req'd Parking	Parking Provided
P2	Parking	96624	0	0.0	0%	0.0	248
P2	Theater	42572	0	170.3	17.0%	141.3	0
P1	Parking	96603	0	0.0	0%	0.0	242
1	Retail #1	4664	0	18.7	16.0%	15.7	0
	Retail #2	17076	0	68.3	16.0%	57.4	0
	Retail #4	9913	0	39.7	16.0%	33.3	0
	Retail #5	1825	0	7.3	16.0%	6.1	0
	Retail #6	3099	0	12.4	16.0%	10.4	0
	Retail #7	10822	0	43.3	16.0%	36.4	0
	Retail #8	5268	0	21.1	16.0%	17.7	0
	Theater	9093	0	36.4	17.0%	30.2	0
	Apt. Lobby 1	1623	0	0.0	0.0%	0.0	0
	Apt. Lobby 2	516	0	0.0	0.0%	0.0	0
	Apt. Lobby 3	476	0	0.0	0.0%	0.0	0
	Office Lobby	304	0	0.0	0.0%	0.0	0
	Hotel Lobby	558	0	0.0	0.0%	0.0	0
	Parking Lobby	460	0	0.0	0.0%	0.0	0
	Parking	29623	0	0.0	0.0%	0.0	85
Mezz	Apt Lobby 1	889	0	0.0	0.0%	0.0	0
	Office	5635	0	18.8	20.0%	15.0	0
	Parking	40833	0	0.0	0.0%	0.0	111
2	Apartment	70035	64	105.2	20.0%	84.2	0
	Apt Amenity	5875	0	0.0	0.0%	0.0	0
	Hotel	14092	14	15.4	18.0%	12.6	0
	Parking	23249	0	0.0	0.0%	0.0	66
3	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	23249	0	0.0	0.0%	0.0	66
4	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	23249	0	0.0	0.0%	0.0	66
5	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22012	0	0.0	0.0%	0.0	63
6	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
Totals	Apartment	383054	340	559.1	20.0%	447.2	0
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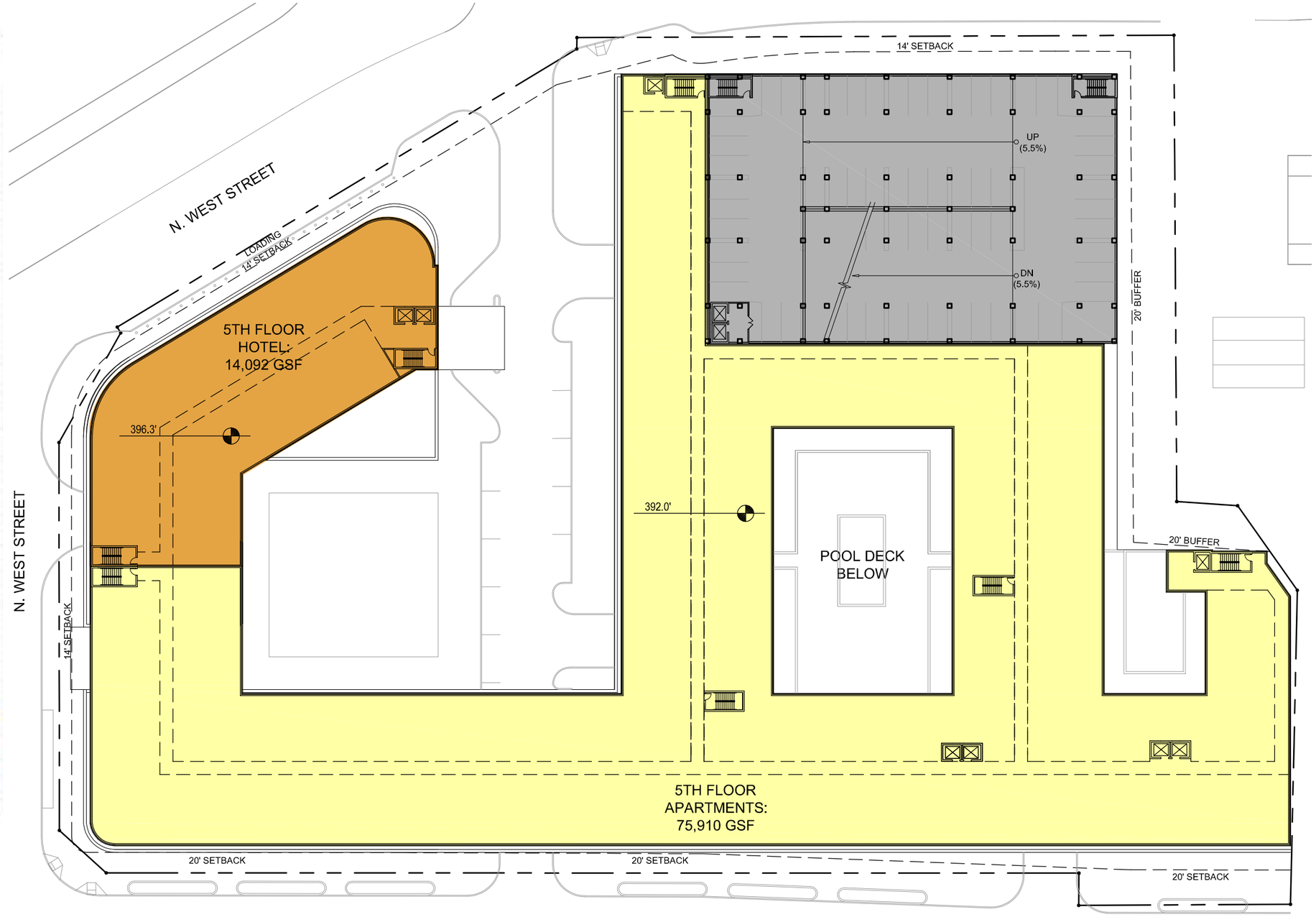
	Office	5939	0	18.8	20.0%	15.0	0
	Hotel	71018	150	165.0	18.0%	135.3	0
	Retail	52667	0	210.7	16.0%	177.0	0
	Parking	355902	0	0.0	0.0%	0.0	947
		920245		*1160.2*	*18.5%*	*946.1*	*947*



FIFTH FLOOR PLAN
1" = 50'-0"

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

A1.8

0 25' 50' 100'

Spectrum MASON ROW Special Exception Application Sub 03

GTM PROJECT: 14.0041 NEC of W. Broad St & N. West St, Falls Church City, VA 01/30/15

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P2	Theater	42572	0	170.3	17.0%	141.3	0
P1	Parking	96603	0	0.0	0%	0.0	242
1	Retail #1	4664	0	18.7	16.0%	15.7	0
	Retail #2	17076	0	68.3	16.0%	57.4	0
	Retail #4	9913	0	39.7	16.0%	33.3	0
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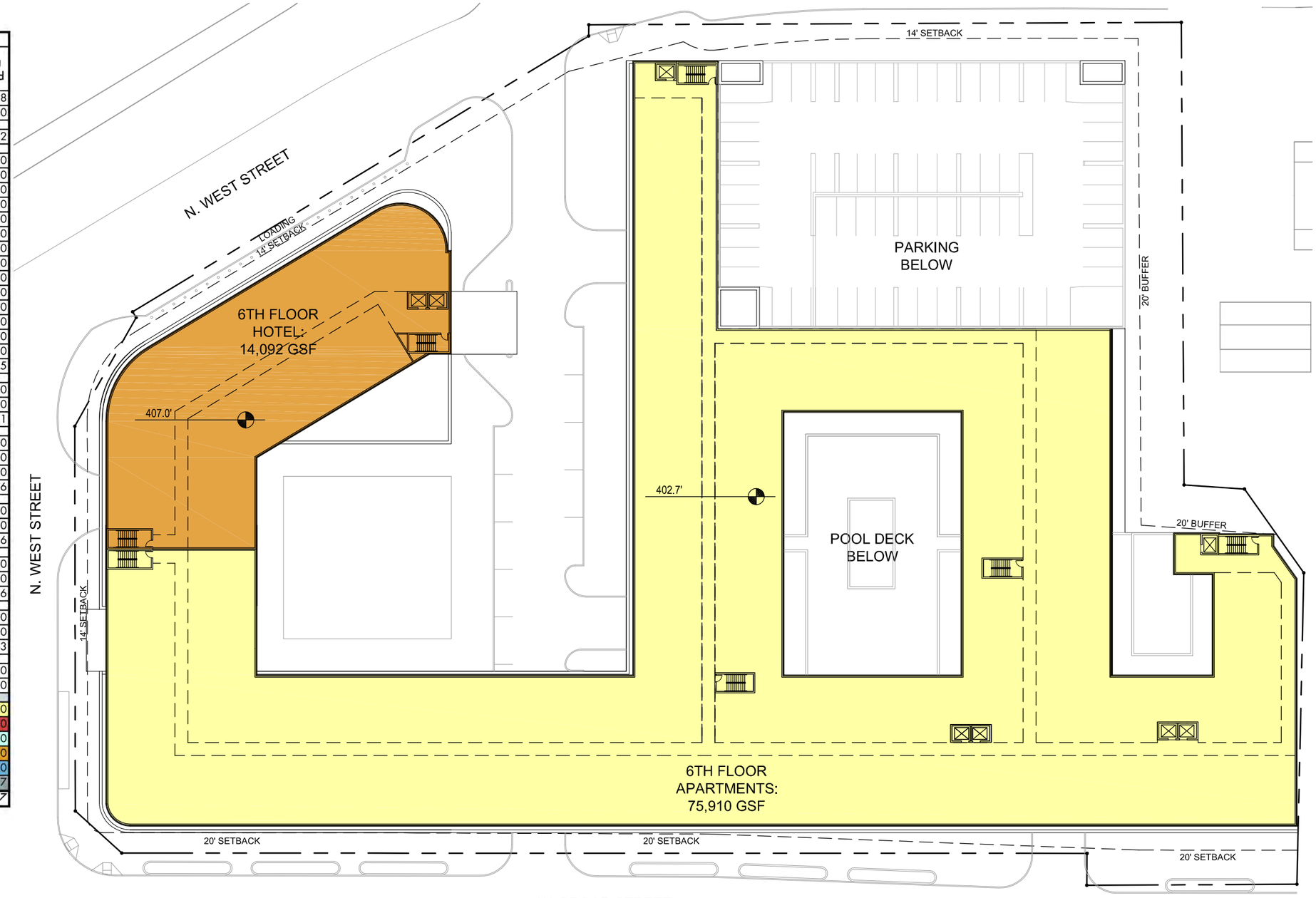
	Retail #6	3099	0	12.4	16.0%	10.4	0
	Retail #7	10822	0	43.3	16.0%	36.4	0
	Retail #8	5268	0	21.1	16.0%	17.7	0
	Theater	9093	0	36.4	17.0%	30.2	0
	Apt. Lobby 1	1623	0	0.0	0.0%	0.0	0
	Apt. Lobby 2	516	0	0.0	0.0%	0.0	0
	Apt. Lobby 3	476	0	0.0	0.0%	0.0	0
	Office Lobby	304	0	0.0	0.0%	0.0	0
	Hotel Lobby	558	0	0.0	0.0%	0.0	0
	Parking Lobby	460	0	0.0	0.0%	0.0	0
	Parking	29623	0	0.0	0.0%	0.0	85
Mezz	Apt Lobby 1	889	0	0.0	0.0%	0.0	0
	Office	5635	0	18.8	20.0%	15.0	0
	Parking	40833	0	0.0	0.0%	0.0	111
2	Apartment	70035	64	105.2	20.0%	84.2	0
	Apt Amenity	5875	0	0.0	0.0%	0.0	0
	Hotel	14092	14	15.4	18.0%	12.6	0
	Parking	23249	0	0.0	0.0%	0.0	66
3	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	23249	0	0.0	0.0%	0.0	66
4	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	23249	0	0.0	0.0%	0.0	66
5	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
	Parking	22012	0	0.0	0.0%	0.0	63
6	Apartment	75910	69	113.5	20.0%	90.8	0
	Hotel	14092	34	37.4	18.0%	30.7	0
Totals	Apartment	383054	340	559.1	20.0%	447.2	0
	Theater	51665	0	206.7	17.0%	171.5	0
	Office	5939	0	18.8	20.0%	15.0	0
	Hotel	71018	150	165.0	18.0%	135.3	0
	Retail	52667	0	210.7	16.0%	177.0	0
	Parking	355902	0	0.0	0.0%	0.0	947
		920245		*1160.2*	*18.5%*	*946.1*	*947*



SIXTH FLOOR PLAN
1" = 50'-0"

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

A1.9

0 25' 50' 100'

Spectrum MASON ROW Special Exception Application Sub 03

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NORTH ELEVATION
N.T.S.

SOUTH ELEVATION
N.T.S.

A2.0

SPECTRUM development LLC

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EAST ELEVATION
N.T.S.

A2.1

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WEST ELEVATION
N.T.S.

A2.2

SPECTRUM development LLC
GTM
GTM ARCHITECTS

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TRESPA PANELS- WHITE FINISH

BRICK VENEER- RED

MANUFACTURED LIMESTONE

SOUTH ELEVATION MATERIALS
N.T.S.

A2.4

SPECTRUM development LLC

GTM ARCHITECTS

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TRESPA PANELS - GREY FINISH

FIELD STONE VENEER

WEST ELEVATION MATERIALS
N.T.S.

TRESPA PANELS- WHITE FINISH

BRICK VENEER- RED

A2.5

SPECTRUM development LLC

GTM ARCHITECTS

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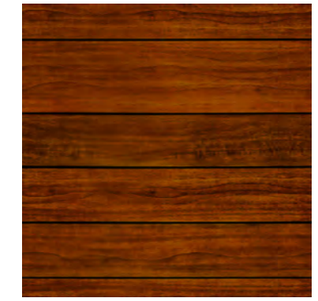
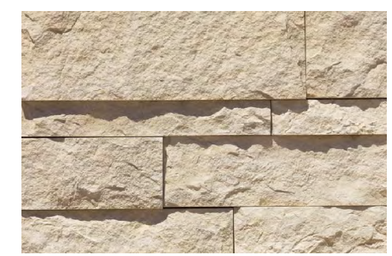
BRICK VENEER- DARK GREY

TRESPA PANELS- WHITE FINISH



TRESPA PANELS- WOOD FINISH

MANUFACTURED LIMESTONE



ROCKFACED MANUFACTURED LIMESTONE

WEST ELEVATION MATERIALS (HOTEL)
N.T.S.

A2.6

SPECTRUM development LLC

GTM

GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 03

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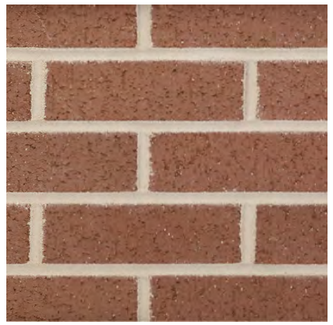
TRESPA PANELS- GREY FINISH



BRICK VENEER- CHESNUT

MANUFACTURED LIMESTONE

SOUTH ELEVATION MATERIALS
N.T.S.

A2.7

SPECTRUM development LLC

GTM

GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 03

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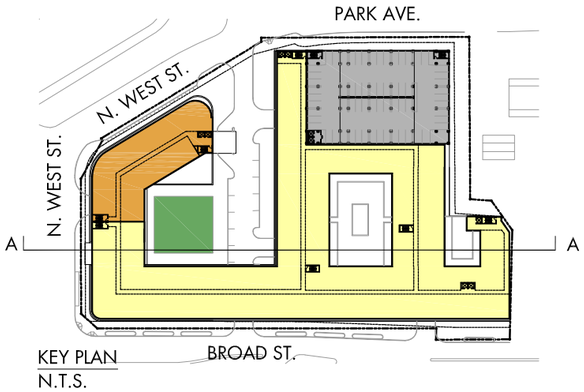
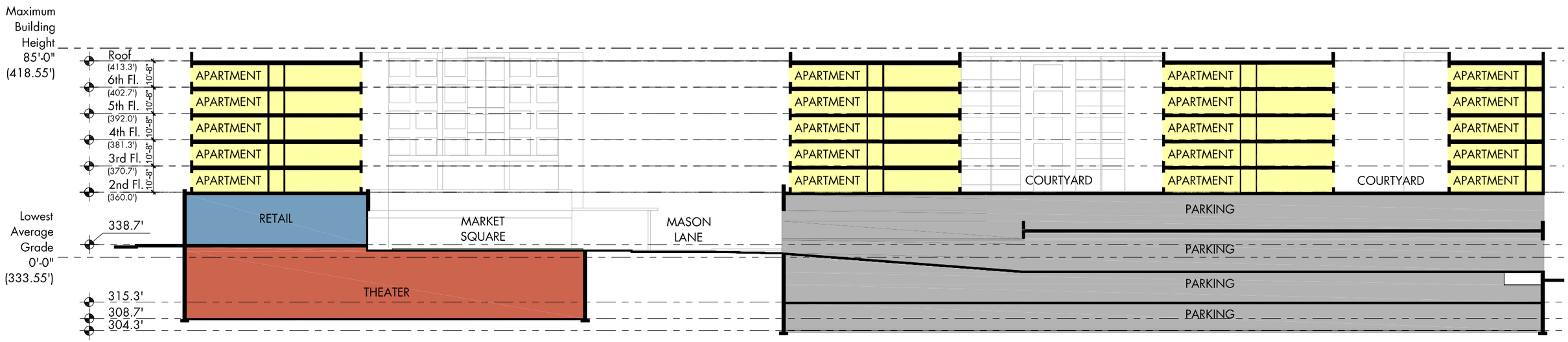


KEY PLAN
N.T.S.



SITE SECTION A-A
1" = 40'-0"

A3.0

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

SPECTRUM development LLC
GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 03

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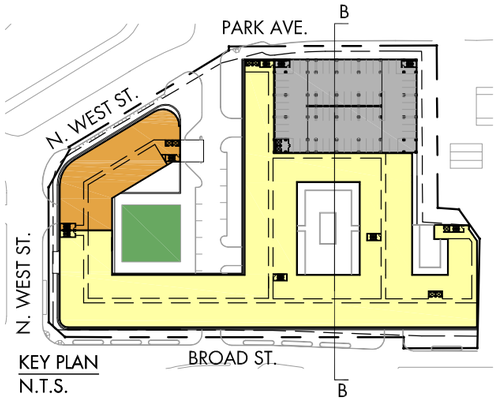
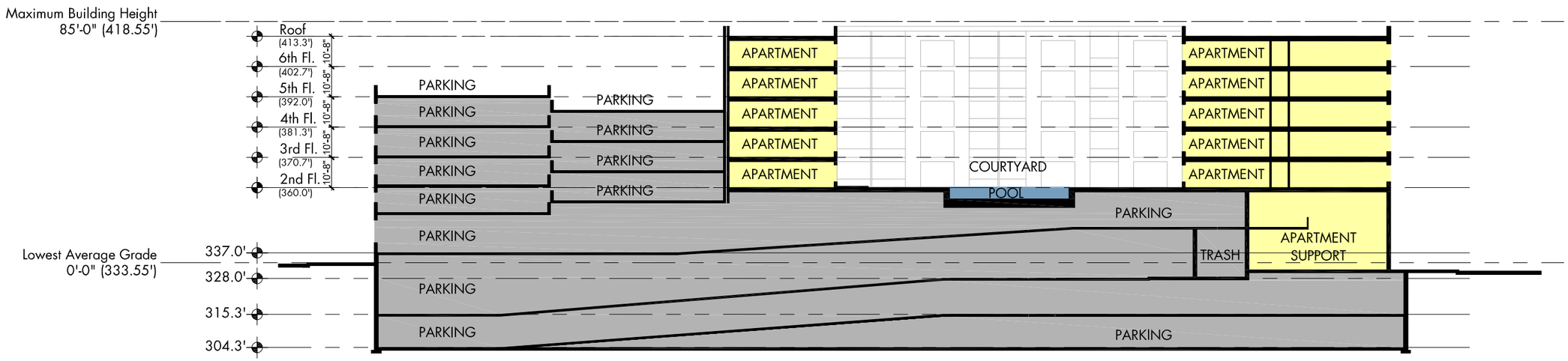


KEY PLAN
N.T.S.



SITE SECTION B-B
1" = 40'-0"

A3.1

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

SPECTRUM development LLC
GTM
GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 03

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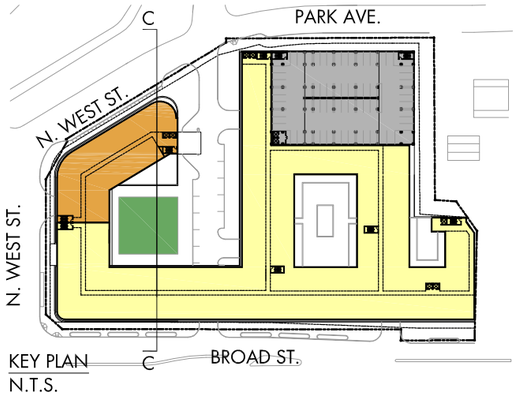
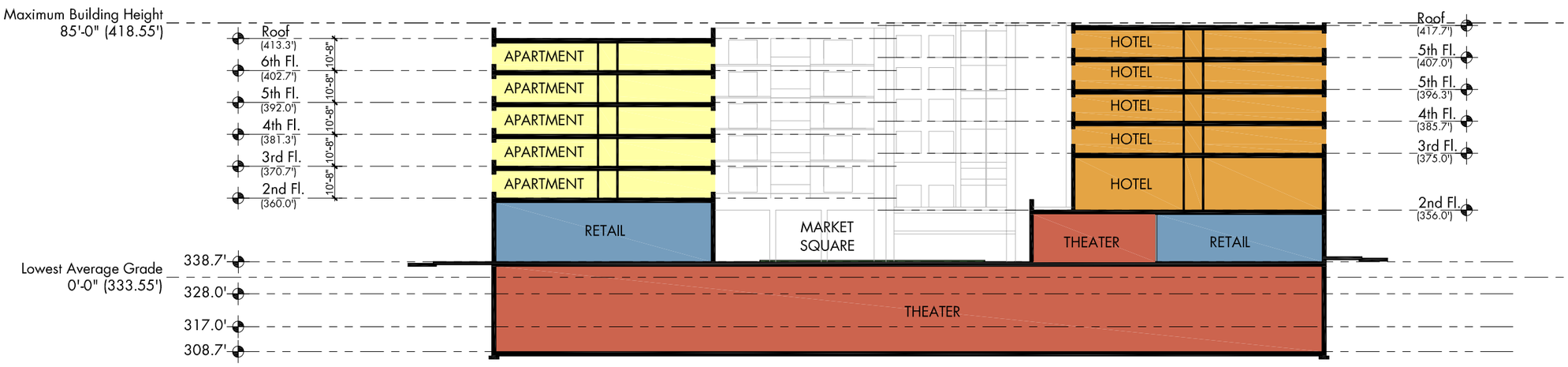


KEY PLAN
N.T.S.



SITE SECTION D-D
1" = 40'-0"

A3.2

OFFICE
HOTEL
APARTMENTS
RETAIL
THEATER
PARKING

SPECTRUM development LLC
GTM
GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 03

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ENTRY TO MASON ROW FROM W. BROAD ST
N.T.S.

A4.0

Spectrum MASON ROW Special Exception Application Sub 03

GTM PROJECT: 14.0041 NEC of W. Broad St & N. West St, Falls Church City, VA 01/30/15

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MASON LANE & MARKET SQUARE
N.T.S.

A4.1

SPECTRUM development LLC
GTM
GTM ARCHITECTS

Spectrum MASON ROW Special Exception Application Sub 03

GTM PROJECT: 14.0041 NEC of W. Broad St & N. West St, Falls Church City, VA 01/30/15

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MASON LANE & MARKET SQUARE
N.T.S.

A4.2

Spectrum MASON ROW Special Exception Application Sub 03

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ENTRY FROM PARK AVENUE
N.T.S.

A4.3

Spectrum MASON ROW Special Exception Application Sub 03

GTM PROJECT: 14.0041 NEC of W. Broad St & N. West St, Falls Church City, VA 01/30/15

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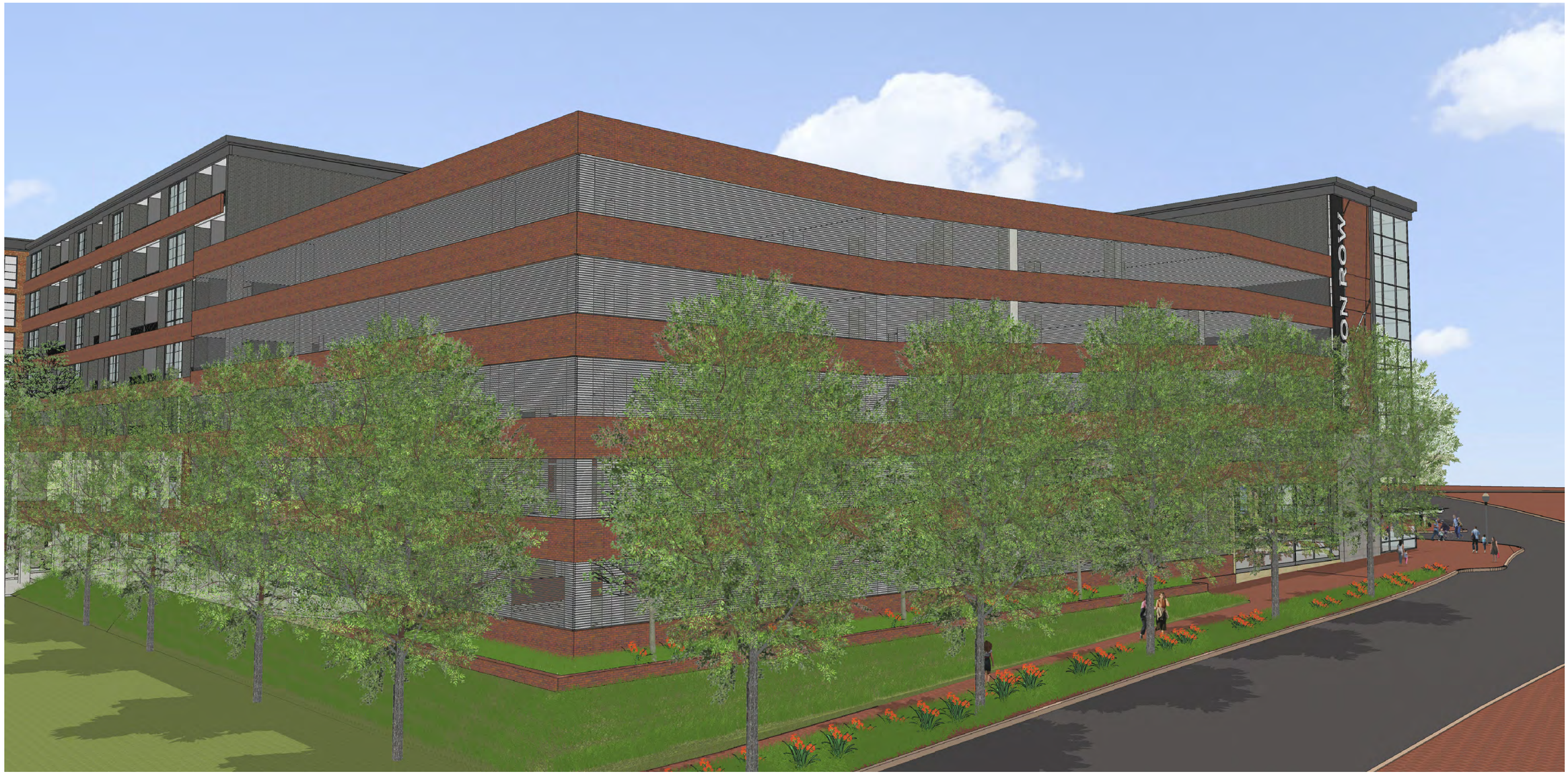

PARKING GARAGE

N.T.S.

A4.4

Spectrum MASON ROW Special Exception Application Sub 03

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Attachment 12

RECEIVED
FEB 03 2015
CITY OF FALLS CHURCH
DEVELOPMENT SERVICES

Voluntary Concessions, Community Benefits, Terms and Conditions
Mason Row ("Broad and West") Development
January 30, 2015

In association with the requested Rezoning, Special Exception Application to allow the mixed-use redevelopment of property at parcels located in the area generally bounded by Park Avenue, West St. and West Broad Street (parcels 51-202-015, 51-202-014, 51-202-013, 51-202-012, 51-202-011, 51-202-010, 51-202-009, 51-202-028 Outlot, 51-202-028, 51-202-005, 51-202-004, and 52-202-003 (Mason Row or "Broad and West") and Spectrum Development LLC (herein referred to as the "Developer") voluntarily agrees to make the following concessions for the benefit of the community and the City of Falls Church (hereinafter referred to as the "City")

1. Conformance with Conceptual Development/Special Exception (CDP/SE) Plan: The Developer agrees to construct the development in substantial conformance with the CDP/SE plan, as prepared by Walter L. Phillips, Inc., as approved by the City Council at second reading. Minor modifications to the CDP/SE and these Voluntary Concessions may be permitted by the Planning Commission during site plan approval.

   The development shall include the following: a hotel with a minimum of 140 rooms; a multifamily component, which can be a rental or condominium at the discretion of the Developer, of a maximum of three hundred forty five (345) dwelling units; and a retail component on the ground and underground level comprised of a minimum of 90,000 sq. ft. with such retail component containing a theater use of not less than 38,000 sq. ft. and an office component containing 6,000 sq. ft.

2. Streetscape: To promote a pedestrian environment, the Developer shall construct streetscape improvements consistent with that shown on the Concept Development Plan (CDP) to be finalized at site plan along the Property's frontage on W. Broad Street. The streetscape shall be twenty (20) feet wide along West Broad Street and not less than eighteen (18) feet wide along N. West Street as shown on the adopted CDP/SE. At the discretion of the City Manager and subject to a streetscape maintenance agreement to be approved at Site Plan, the Owner agrees to maintain the streetscape improvements in perpetuity along the frontages of the Subject Property.

3. West Broad Street and Mason Lane Commercial Space ("Mason Row"). The development_ is currently called *'Mason Row"*: it will have an internal center street that is now being referred to as "*Mason Lane"* The name of the development and the name of the internal center street may be changed in the sole discretion of the Developer.

There will be a 24 hour lighted vehicular and pedestrian connection on the site through the surface level from W. Broad & N. West. Also, Pedestrians will be able to access Mason Row and the development at grade level entrances on W. Broad and N. West Streets. The Mason Row development will have five main elements: (A) an open air, pedestrian oriented row of shops and restaurants, (B) a movie/dining use with the screens on lower levels, (C) an open air market square, (D) hotel, (E) offices and (F) modern residential multi-family residences. Mason Row will have a direct pedestrian and visual connection with the W&OD Trail. Retail shops and restaurants will face W. Broad St. and retail will face the development's market square and the new Mason Lane, which passes through the middle of the development; outdoor displays and dining shall be allowed in the areas shown in the Site Plan, all of the foregoing being consistent with the final approved CDP/SE for the Development.

4. Retail Merchandising Plan: At least thirty per cent (30%) of the ground level retail space shall be leased to food and beverage retailers and there shall be at least two (2) restaurants with venting to the roof supplied and to be shown on site plan and construction documents. The commercial uses allowed shall be those permitted by the B-1or B-2 zoning district except no retail tenant shall be allowed in Mason Row unless said retail tenant is included in one of the use categories set forth in the Mason Row Retail Merchandising Plan (Retail Merchandising Plan Attached hereto as Exhibit A) without the express agreement of the City Manager, or on appeal by City Council.

5. Hotel: Mason Row will include a hotel with not less than 140 rooms. The architecture will be of the same high quality; fully street complimentary to the remainder of the development and approved in concept by the City Council and in detail by the Planning Commission based on the AAB's advice during the site plan process. The rezoning and special exception shall also become final only after the City Manager states in writing to the City Council that he has determined there exists an executed contract with a hotel developer to construct a hotel building consistent with the CDP/SE for the Development. The Manager shall notify the City Council with a copy of the notification sent to the developer, of having received the executed contract no later than ten (10) business days from the delivery of the contract to the City Manager by the Developer, in which event the rezoning and special exception approved by the City Council shall be deemed automatically final. The hotel developer will employ sustainable practices in the construction of the hotel, and will agree to achieve LEED certification or equivalent 3rd-party certification. Prior to the issuance of hotel building permits, the Applicant will post a $20,000 bond or letter of credit for the hotel building. If the building achieves the intended LEED certification or equivalent certification, then the associated bond or letter of credit

will be released by the City. If the hotel component does not achieve the intended LEED or equivalent certification within three (3) years after the issuance of the certificate of occupancy, the City will redeem the associated bond or letter of credit for City environmental improvements at the project location and/or vicinity at the City's sole discretion.

6. Schools Capital Cost Contribution: A voluntary contribution shall be made to the City of Falls Church to offset school capital costs. The developer agrees to voluntarily contribute $7,511 for each of the market rate rental apartments or $3,756 for each residential condominium unit, to offset school capital costs. The contribution shall be paid at the time of the issuance of the first residential certificate of occupancy.

7. Payment for Parks: A payment of One Hundred and Fifty thousand dollars ($150,000.00) shall be made to fund construction and/or impove Parks in the immediate vicinity of the Development and such payment to be made prior to the issuance of the first residential certificate of occupancy.

8. Contribution to The Little City C.A.T.C.H Foundation: A Twenty Five thousand dollar ($25,000.00) contribution shall be made to The Little City C.A.T.C.H Foundation. The contribution shall be used by the Foundation to fund grants to organizations that desire to stage art, history or cultural events and activities at Mason Row.

9. Parking: The project shall provide parking in a below-grade garage to create better pedestrian circulation and site amenities and in a four level above grade parking structure plus mezzanine level (as well as some surface parking as shown on the CDP/SE). Developer agrees to ensure that the garage will be constructed in a manner that permits 800 MHz radio signals to be transmitted and received from within the garage. The Developer shall install the necessary equipment and perform a radio transmission test upon completion of the project, and prior to the first Certificate of Occupancy being issued for the ability to transmit and receive police and fire 800 MHz radio signals from the interior of the parking garages, including the subterranean parking garages. Should the test verify that the 800 MHz radio signals are transmitted and received, the requirements shall have been met. Should the test fail, the Developer shall find a solution acceptable to the City and the Developer so as to resolve the problem within ninety (90) days of this test.

10. Off-Site Infrastructure Improvements on W. Broad Street, N West Street and Park Avenue: If approved by the Northern Virginia Regional Park Authority 90 days before the time the undergrounding of utilities on the site must begin, the Developer shall include in the undergrounding work that portion of aerial utilities along that portion

of the north side of N. West Street which abuts the W & OD Trail and is directly across from the Development site. All undergrounding of utilities, including the location and installation of all transformer pad(s), shall be carried out according to the specifications of all applicable utilities. No above-ground telecommunications or electrical facilities (transformers, switches, wires, etc.) shall be located within any right-of-way. In addition the other off-site improvements shown on the CDP shall be provided.

11. Washington and Old Dominion Trail: The Developer will provide the construction and delineation of a crosswalk on N West Street that will serve to connect the subject property to the Trail as part of the off-site improvements described above in paragraph 9.

12. Transportation: The developer shall provide those transportation improvements shown in the Council approved CDP/SE so as to provide traffic calming and to direct traffic in a more safe manner at the intersections of W Broad and N West Street, N West Street and Grove Ave and at Park Ave and N. West and at the entrances to the Project along West Broad St as part of the off-site improvements described above in paragraph 9.

13. TDM: The Developer shall also implement a Transportation Demand Management (TDM) program. In addition, the Developer shall develop and implement a Parking Management Plan, to be finalized and approved as part of site plan approval.

14. LEED or Equivalent Criteria: The Developer agrees to have the rental and condominium residential portions of the project designed such that a Leadership in Energy and Environmental Design Accredited Professional or equivalent accredited professional ("LEED AP") can and will certify that such portions of the project will achieve the necessary points to obtain LEED Silver status or an equivalent certified status for the rental and condominium residential portions of the project. Prior to site plan approval, the Developer will provide the City with a LEED or equivalent checklist as prepared by a LEED AP. Following completion of construction and occupancy, and in accordance with LEED or equivalent guidelines, the Developer will prepare the necessary documentation to seek official LEED Silver certification from the U.S. Green Building Council or equivalent certification for such residential portions of the project. Prior to the issuance of building permits, the Applicant will post a $50,000 bond or letter of credit for the residential components of the building. If the building achieves the intended LEED or equivalent certification, then the associated bond or letter of credit will be released by the City. If the residential components do not achieve the intended LEED or equivalent certification within three (3) years after the issuance of the certificate of occupancy, the City will redeem the associated bond or

letter of credit for City environmental improvements at the project location and/or at a vicinity at the City's sole discretion.

15. Affordable Dwelling Units (ADUs): The Developer agrees to provide within the rental residential component of the project, six percent (6%) of all rental units as Affordable Dwelling Units (ADUs). The unit sizes, features, and types shall be comparable to the market rate rental units. ADUs shall be dispersed throughout the rental component of the project.

i) The Developer agrees to accept Restrictive Covenants, which shall define terms and conditions of the ADUs regarding issues including, but not limited to, price control periods and renter occupancy. These Covenants shall run with the land and be an encumbrance on the ADU units. The Restrictive Covenants shall be recorded with the City's land records in Arlington County.

ii) The Developer will administer the ADU program for the City.

iii) The monthly rent for the ADUs shall be as follows:

a) One third of the units shall be made available to those households at 60% of HUD median income rents approved by the Housing Commission for a term of 20 years.

b) One third of the units shall be made available to those households at 80% of HUD median income rents approved by the Housing Commission for a term of 20 years.

c) One third of the units shall be made available to those households at 100% of HUD median income rents approved by the Housing Commission for a term of 20 years.

The ADU monthly rent shall include an additional amount as calculated by the percentage increase in HUD median income, but not less than the original ADU monthly rents listed above.

iv) A minimum of one of the ADU units shall be accessible as defined by the Americans With Disabilities Act (ADA). As provided by federal law, all ADU and market units shall be ADA adaptable.

16. Excavation Monitoring:. The Developer agrees to monitor for soil movement and structural damage to adjacent structures during and after excavation for the project. Structures within a distance equivalent to the depth of the excavation plus ten feet shall be surveyed for pre-development conditions and compared to post-development conditions. For such structures, the developer agrees to provide insurance coverage for damages caused by excavations or construction activities, as independently verified by a third party engineering consultant, acceptable to the City and provided by the Developers. In no way shall this provision limit the liability of the Developer or its contractors for damages caused by construction activity.

17. Community Liaison During Construction: Once a contractor has been selected for the project, the Developer will work with the City staff to prepare a construction management plan. The plan shall include a construction parking plan, construction traffic and staging plan and other required plans for the life of the construction phase of the project. The plan must be approved by the City Manager, or City Manager's designee, prior to commencement of any work on the site, including demolition. The Developer agrees to identify a person who will serve as liaison to the community throughout the duration of construction. This individual shall be on the construction site on a consistent basis. The name and telephone number of this individual shall be provided in writing to residents, property managers and business owners whose property abuts the site, and to the Zoning Administrator, and shall be posted at the entrance of the project.

18. Underground Overhead Utilities: Further, this undergrounding of utilities on and off site will not create any obligation or expense for the City.

19. Bicycle Storage and Bike Share: The Developer shall provide secure bicycle storage facilities for at least 20 bicycles for employees, residents and commercial users of the project, such facilities to be shown on the Site Plan and maintained in good condition by the Developer. Developer agrees that should the City join a "Bike Share" program, the Developer will work with the City to place a bike stand facility within a public access easement at an appropriate location on the site.

20. Electric Vehicle Charging Station: A charging station for electric vehicles shall be provided.

21. Pest Control: A process of pest control/extermination for potential rodents will occur prior to the start of any demolition work or other land disturbing activities.

22. Emergency Generator: Developer agrees to provide an emergency generator capable of operating elevators and other necessary equipment for the safety of residents and users of the development.

23. Bus Shelter: Developer agrees to construct a bus shelter with appropriate signage and land pad amenities near the existing MATA bus stop in the 900 block of W Broad Street, the cost of which shall not exceed Fifteen thousand dollars ($15,000.00). The exact location of the shelter to be determined by the City Manager during Site Plan approval. The type of bus shelter must be approved by the City prior to construction. In lieu of building the shelter, the developer will pay the City Fifteen thousand dollars ($15,000.00) prior to the issuance of building permits for the project, as a contribution toward the City building the bus shelter at this MATA location.

24. Truck Deliveries and Large Truck Restrictions: The developer agrees to restrict truck deliveries and trash/recycling trucks to the hours of 6 AM and 9 PM weekdays; and between the hours of(8 AM and 9 PM on Saturdays, Sundays and local legal holidays. A delivery management system will be implemented to coordinate delivery traffic and timeframes to prevent cueing of secondary vehicles and to avoid the use of primary City residential streets in the vicinity.

25. Fire Engines on Ground Level: The ground level of the development shall be designed and constructed so as to allow a Fire Engine to enter and use the ground level for emergency purposes.

26. Other Terms and Conditions:

a) The Owner acknowledges, understands and agrees that the Subject Property shall be developed in accordance with the applications approved for the Subject Property by the City Council and in full compliance with all applicable laws, codes, ordinances, charters, statutes, rules, regulations, agreements, and commitments.

b) The City of Falls Church Commissioner of Revenue and/or his designated staff, upon providing written notice to the managers of the residences and commercial spaces of the project, shall have access to the garage on the Subject Property at the specified times in the provided written notice for inspection of window stickers related to personal property taxes for vehicles. The Commissioner of Revenue shall be provided all credentials necessary for him and his staff to have access to the parking garage by vehicle at all times. In the event the access

credentials are changed or updated, the Commissioner of Revenue shall be provided notice and updated access credentials within thirty (30) calendar days.

c) The Owner shall designate a representative who is physically present on a regular basis on the Subject Property to serve as a liaison to the community for the period leading up to the issuance of the first Certificate of Occupancy and for two years thereafter. The name and telephone number of the liaison shall be provided in writing by the Owner to the Zoning Administrator.

d) The Owner agrees that these Voluntary Proffered Conditions shall apply to and be binding upon all future owners, and upon all heirs, successors and assigns of any portion of the Subject Property, and the Owner further agrees that it will provide a copy of these Voluntary Proffered Conditions to any such future owner, heir, successor and assign prior to transferring any interest in the Subject Property to any such person, firm, corporation, or other entity.

We hereby proffer that the development of the Subject Property shall be in strict accordance with the conditions set forth herein.

Spectrum Development LLC

By_____:

Name: Richard P. Buskell

Title: President and Managing Member

Updated 2-9-15

(Mason Row) Broad and West Development Proposal Overview of Changes

	Broad & West [March 2014] First Submission			Broad & West [July 7, 2014] Second Submission			(March to July)		Mason Row [August 28, 2014] Third Submission			(July to August)		Mason Row [Feb., 2015] Fourth Submission			(Aug. 14 to Feb. 15)	
	Units	Square Feet	Percent	Units	Square Feet	Percent	Percent Change	Number Increase	Units	Square Feet	Percent	Percent Change	Number Increase	Units	Square Feet	Percent	Percent Change	Number Increase
Commercial																		
Hotel	150	90,214	69.7%	150	88,731	65.4%	-1.6%	-1,483	150	80,076	62.1%	-9.8%	-8,655	150	71,018	39.2%	-11.3%	-9,058
Retail		39,272	30.3%		46,931	34.6%	19.5%	7,659		48,834	37.9%	4.1%	1,903		52,667	29.1%	7.8%	3,833
Office															5,939	3.3%		
Theater															51,665	28.5%		
Subtotal		**129,486**	**28.4%**	**150**	**135,662**	**26.5%**	**4.8%**	**6,176**		**128,910**	**24.9%**	**-5.0%**	**-6,752**		**181,289**	**32.1%**	**40.6%**	**52,379**
Residential																		
Rental	302	326,950	100.0%	253	278,983	74.0%	-14.7%	-47,967	253	283,929	72.9%	1.8%	4,946	340	383,054	100.0%	34.9%	99,125
Condo				67	98,047	26.0%	100.0%	67	67	105,309	27.1%	7.4%	7,262	0	0			
Subtotal	**302**	**326,950**	**71.6%**	**320**	**377,030**	**73.5%**	**15.3%**	**50,080**	**320**	**389,238**	**75.1%**	**3.2%**	**12,208**	**340**	**383,054**	**67.9%**	**-1.6%**	**-6,184**
Project																		
Commercial		129,486	28.4%		135,662	26.5%	4.8%	6,176		128,910	24.9%	-5.0%	-6,752		181,289	32.1%	40.6%	52,379
Residential		326,950	71.6%		377,030	73.5%	15.3%	50,080		389,238	75.1%	3.2%	12,208		383,054	67.9%	-1.6%	-6,184
TOTAL		**456,436**			**512,692**		**12.3%**	**56,256**		**518,148**		**1.1%**	**5,456**		**564,343**		**8.9%**	**46,195**
Ratio (Comm./Res.)		(28.4 : 71.6)			(26.5 : 73.5)		1.9%			(24.9 : 75.1)		1.6%			(32.1 : 67.9)			
Land																		
(Acres/Square Feet)	3.91	170,488		3.91	170,488				3.91	170,488				4.32	188,137			
FAR (Floor Area Ratio)		2.68		3.01			12.3%	0.33		3.04		1.1%	0.03		3.00		-1.3%	-0.04

Attachment 14

BROAD & WEST PARKING TABULATION
2/27/2015

USE	TOTAL PROPOSED	REQUIRED PARKING RATIO [SEC. 48-1004]		PARKING REQUIRED	PARKING PROVIDED	RATIO *
RESIDENTIAL (APARTMENTS)		SPACE/		SPACES		
EFFICIENCY	19 UNITS	1.0	UNIT	19		
1 BEDROOM	106 UNITS	1.5	UNIT	159		
1 BEDROOM W. DEN	98 UNITS	1.5	UNIT	147		
2 BEDROOM	117 UNITS	2	UNIT	234		
TOTAL	340 UNITS					
TOTAL				**559**	**447**	**1/856 SQFT**
HOTEL		SPACE/		SPACES		
PER GUESTROOM	150 ROOMS	1	ROOM	150		
EMPLOYEE SPACE PER 10 ROOMS	150 ROOMS	1	10 ROOMS	15		
TOTAL				**165**	**135**	**1/526 SQFT**
OFFICE		SPACE/	SF	SPACES		
PER OFFICE FLOOR AREA	5635 SF	1	300	19		
TOTAL				**19**	**15**	**1/312 SQFT**
THEATER		SPACE/	SEAT	SPACES		
FIXED SEATS	752 SEATS	1	4	188		
TOTAL				**188**	**172**	**1/300 SQFT**
RETAIL/RESTAURANT		SPACE/	SF	SPACES		
RETAIL/RESTAURANT SPACE	53043 SF	1	250	213		
TOTAL				**213**	**177**	**1/297 SQFT**
OVERALL TOTAL				**1,144**	**947**	

NOTES:

1. RETAIL/RESTAURANT PARKED AT THE SHOPPING CENTER RATE OF 1 SPACE/250 SF.

GARAGE LEVEL	SPACES PER LEVEL
P2	248
P1	242
LEVEL 1	85
LEVEL 1A	111
LEVEL 2	66
LEVEL 3	66
LEVEL 4	66
LEVEL 5	63
TOTAL	**947**

INCLUDES 19 ACCESSIBLE SPACES (4 VAN ACCESSIBLE)

Attachment 15

City of Falls Church Fiscal Impact Model Input Data

(please fill in yellow cells that apply and attach any other requested information)

RESIDENTIAL TYPE:	Assessable Value of residential unit type	% of residential use	# of units	# of SF
Single Family Detached				
Townhouse - Owner Occupied				
Townhouse - Rental				
Garden Apartments				
Mid-Rise Apartments - studios		5.6%	19	15,438
Mid-Rise Apartments - 1 bedrooms		60.0%	204	214,039
Mid-Rise Apartments - 2 bedrooms		34.4%	117	153,577
Mid-Rise Apartments - 3 bedrooms				
Condominiums - Studio unit				
Condominiums - 1 bedroom unit				
Condominiums - 2 bedroom unit				
Condominiums - 3 bedroom unit				
High-Rise Condominiums				
Age-Restricted Housing				
Affordable Housing Units				
All Other Housing Types (fill in)				
Total GROSS SF of Residential Use				383,054
Total Project % of Residential Use	67.9%			

NON-RESIDENTIAL TYPE:	# of SF	% of commercial use	Assessable Value per SF	Sales per SF
Com / Shop Ctr 50,000 SF or less	22,110	12.2%		$500
Com / Shop Ctr 50,001 SF or more				
Office / Inst 50,000 SF or less	5,939	3.3%		
Office / Inst 50,001 SF or more				
Bank with Drive Thru				
Medical-Dental Office				
Theater	48,394	26.7%		$225
Supermarket				
Drug Store				
Big Box Retail				
Quality Restaurant	18,747	10.3%		$700
High-Turnover (Sit-down) Restaurant	15,081	8.3%		$650
Gym/Health Club				
Hotel (# of rooms)			Average Daily Rate here	Number of rooms here
Extended Stay Hotel (# of Rms.)	71,018	39.2%	$172	150
Gasoline/Service Station				
Other use (fill in)				
Total GROSS SF of Commercial Use	181,289			
Total Project % Commercial Use	32.1%			

Project Name:
MASON ROW BROAD & WEST

Total Project SF = 564,343

Efficiency % for Residential	5.6%
Avg. gross SF of residential units	1,099
Avg. net SF of residential units	901

City Staff Use Only:
Net Fiscal Impact Result:
$

Please also attach info on:
Unit type per bedroom/bathroom/den count
Square ft. of each unit type
Projected rent for each unit type

	# of Beds
Assisted Living	

ATTACHMENT

UNIIT TYPE	NUMBER	EST. SQ. FT	EST. MO RENT
Efficiency	19	650	$1,750
One Bedroom	106	825	$2,100
One Bedroom + Den	98	875	$2,230
Two Bedroom	117	1,050	$2,625

Mason Row Mixed Use Development

Fiscal Impact Projections

An Estimated Range of Annual Revenues and Expenses (Assumes 340 apartments, operating hotel & movie theater, & full occupancy of remaining commercial space.)

	Lower Yield Scenario	Higher Yield Scenario
GROSS ANNUAL REVENUES		
Real Estate Property Taxes	$1,930,415	$1,930,415
Personal Property Taxes	201,254	201,254
Local Sales & Use Taxes	368,031	368,031
Utility Tax	61,207	61,207
Cigarette Tax	16,589	16,589
Meals Tax	865,498	865,498
Other Sales & Use Taxes	11,450	11,450
Hotel Tax	343,721	343,721
Gross Receipts Business Tax	72,156	72,156
Other Taxes	35,257	35,257
Licenses, Fees, & Permits*	10,024	7,824
Charges for Services	118,689	118,689
Fines & Forfeitures	34,590	34,590
Schools Intergovernmental (State & Federal)	314,490	154,787
Schools Community Services Fund	64,644	31,817
TOTAL GROSS REVENUES	**$4,448,015**	**$4,253,285**
GROSS ANNUAL OPERATING EXPENDITURES		
Legislative	6,693	6,693
Constitutional Officers	21,181	21,182
Executive	15,330	15,330
Administrative Services	53,526	53,526
Community Services: Health & Human Services	110,448	110,448
Community Services: Parks, Recreation & Library	107,131	107,131
Development Services	21,258	21,258
Environmental Services	154,430	154,430
Public Safety: Police	196,795	196,795
Public Safety: Fire	112,867	112,867
Public Safety: Adult Corrections	12,592	12,592
Clerk of Court	1,007	1,007
Education (Non-FCCPS)	1,101	1,101
Schools (FCCPS) Operating Expenditures (All Funds)	1,761,859	867,158
TOTAL GROSS OPERATING EXPENDITURES	**$2,576,218**	**$1,681,518**
NET OPERATING FISCAL IMPACT	**$1,871,797**	**$2,571,767**

* Additional estimated licenses, fees & permits revenue for first year only = $473,596

Assumptions:	Lower Yield Scenario	Higher Yield Scenario
	Average pupil ratio in all city mid-rise apartments	*Pearson Sq., Read Building & Northgate by bedroom & bedrooms with dens*
Estimated Pupil Ratios	**0.33 per apartment unit (no differentiation based on bedroom count)**	**studios: 0.00 1 bedroom: 0.00 1 bedroom + den: 0.15 2 bedrooms: 0.34**
Estimated Pupils	**112**	**55**

Total Project Market Value: $138,245,713; residential = $89,930,000; non-residential = $48,315,713
Total Retail SF: 22,110
Total Restaurant SF: 33,828
Office SF: 5,939
Movie Theater SF: 48,394
Hotel: 150 Rooms (71,018 SF)
340 Apartment Units (383,054 GSF)

NET/NET FISCAL IMPACT:

Gross City tax revenue from all current land uses on the 4.3-acre development assemblage is estimated at $398,097 per year. Model generated annual City expenses are estimated at $163,933. Net fiscal impact of existing land uses = $234,164 per year, the amount to subtract from the estimated net fiscal impact of the proposed development to produce a net/net revenue result. (Note: 7-11 store generates about 20% of gross revenues from existing uses. Developer intends to lease space to this store in Mason Row.)

West & Broad

Property Analysis and Overview

Attachment 17

Aerial

Mason Row

Property Overview

N
W E
S

City of Falls Church

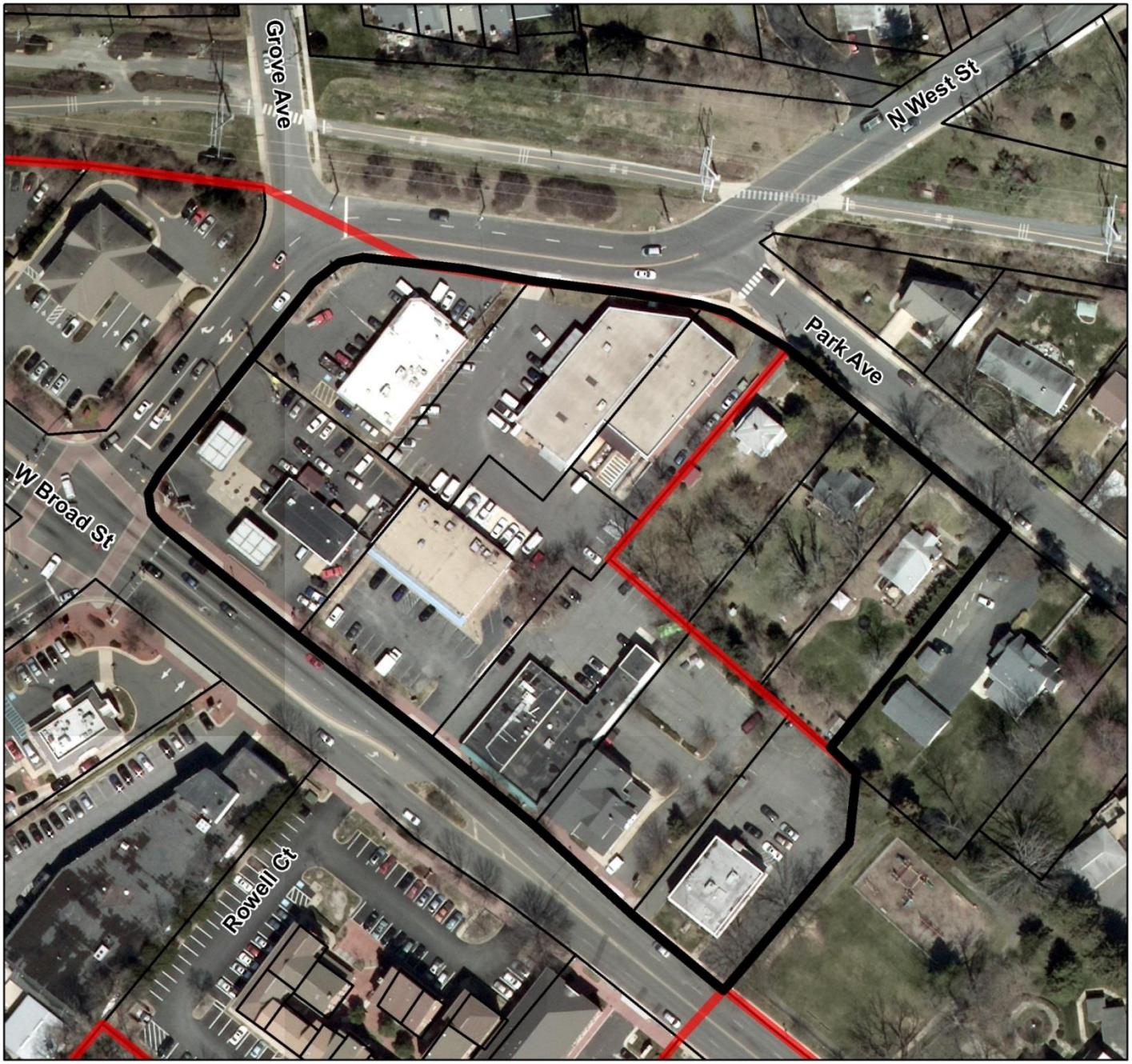
Legend

Planning Opportunity Area

Proposed Mason Row

Map Based on 2013 Aerial Imagery for City of Falls Church

0 50 100 150 200 Feet



Aerial

Mason Row

Property Overview

N
W E
S

City of Falls Church

Legend

Planning Opportunity Area

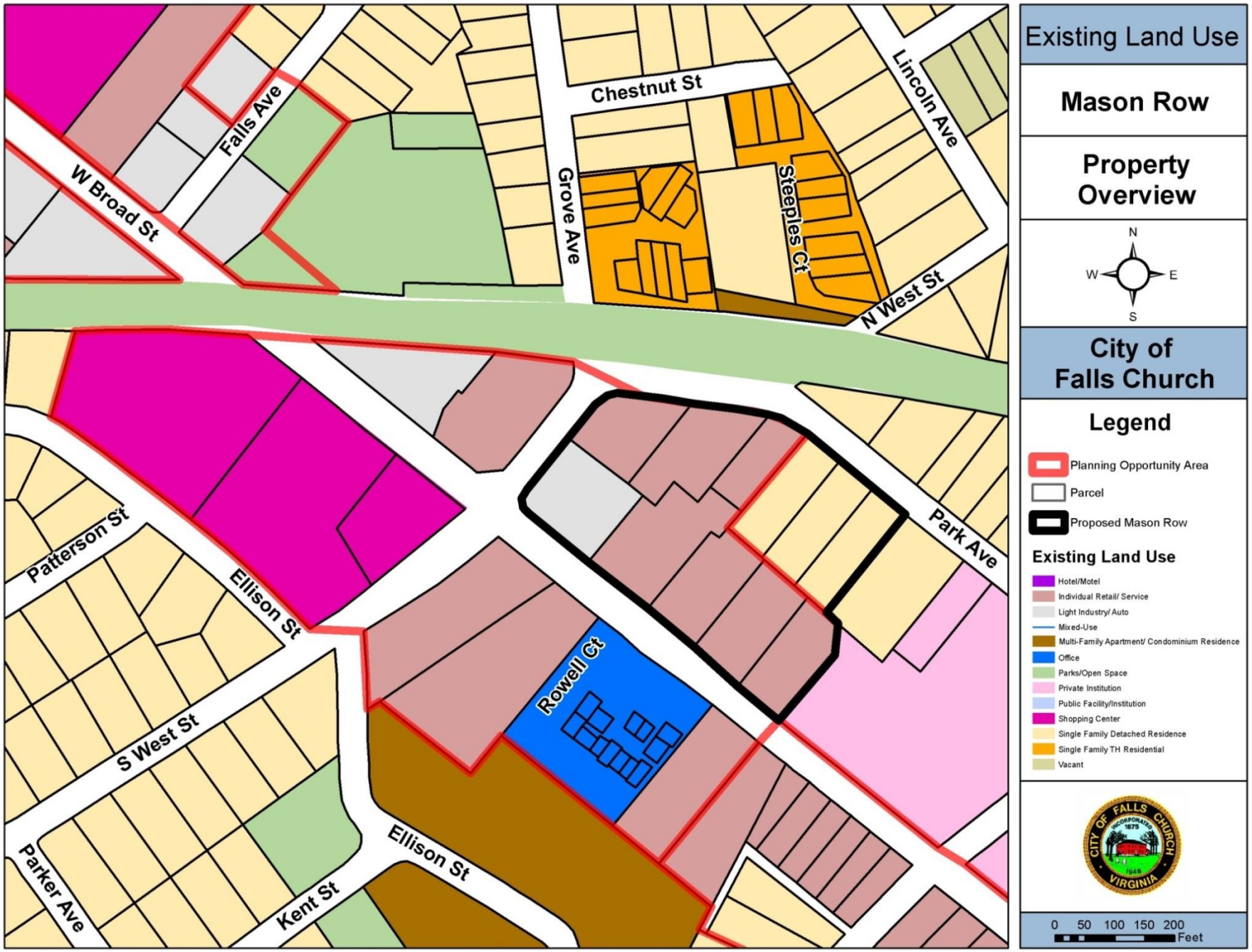
Proposed Mason Row

Map Based on 2013 Aerial Imagery for City of Falls Church

0 25 50 75 100 Feet

Overview

- **11 Parcels**
- **Land Area**
  - 4.32 acres
  - 181,179 sqft
- **Buildings**
  - 48,839 sqft
- **Current FAR: 0.26**
- **Value**
  - Land: $9,896,000
  - Buildings: $2,209,100
  - Total: $12,105,100


Existing Land Use
Mason Row
Property Overview
N
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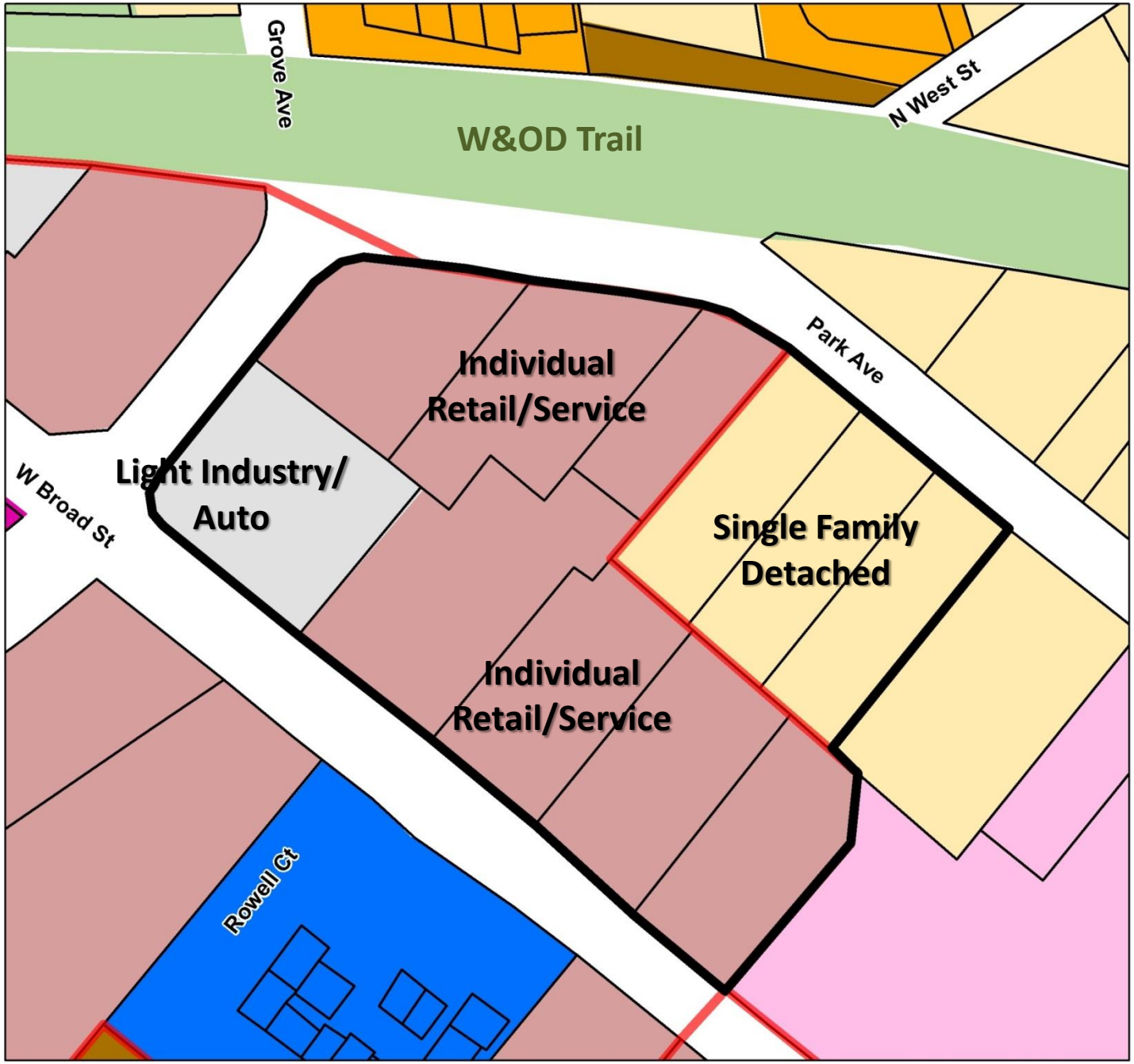
City of Falls Church
Legend
Planning Opportunity Area
Parcel
Proposed Mason Row
Existing Land Use
Hotel/Motel
Individual Retail/ Service
Light Industry/ Auto
Mixed-Use
Multi-Family Apartment/ Condominium Residence
Office
Parks/Open Space
Private Institution
Public Facility/Institution
Shopping Center
Single Family Detached Residence
Single Family TH Residential
Vacant
0 50 100 150 200
Feet
Chestnut St
Lincoln Ave
Falls Ave
W Broad St
Grove Ave
Steeples Ct
N West St
Patterson St
Ellison St
Park Ave
Rowell Ct
S West St
Parker Ave
Kent St
Ellison St



Existing Land Use

Mason Row

Property Overview

N
W E
S

City of Falls Church

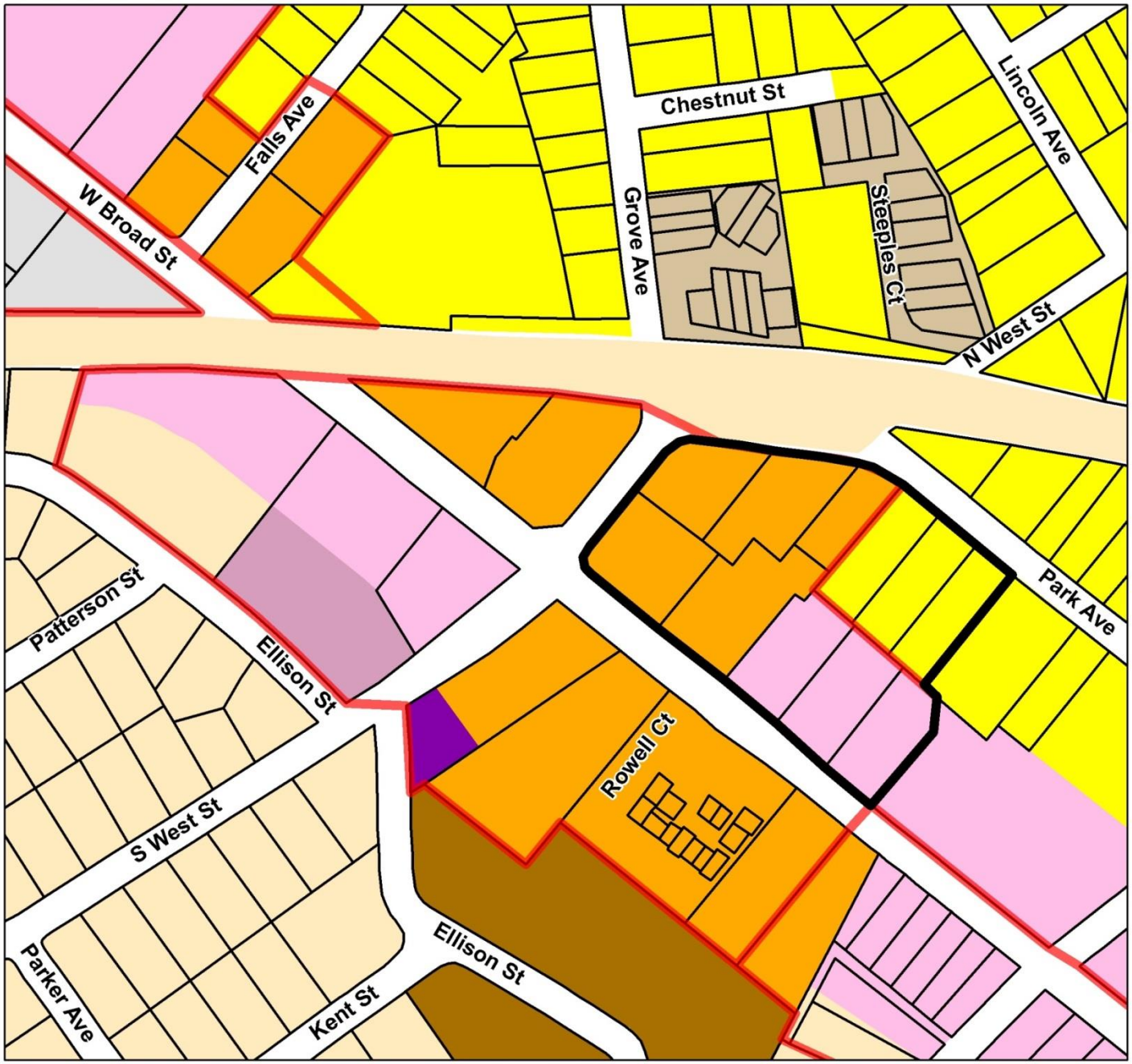
Legend

- Planning Opportunity Area
- Parcel
- Proposed Mason Row

Existing Land Use

- Hotel/Motel
- Individual Retail/ Service
- Light Industry/ Auto
- Mixed-Use
- Multi-Family Apartment/ Condominium Residence
- Office
- Parks/Open Space
- Private Institution
- Public Facility/Institution
- Shopping Center
- Single Family Detached Residence
- Single Family TH Residential
- Vacant

0 25 50 75 100 Feet



Zoning

Mason Row

Property Overview

N
W E
S

City of Falls Church

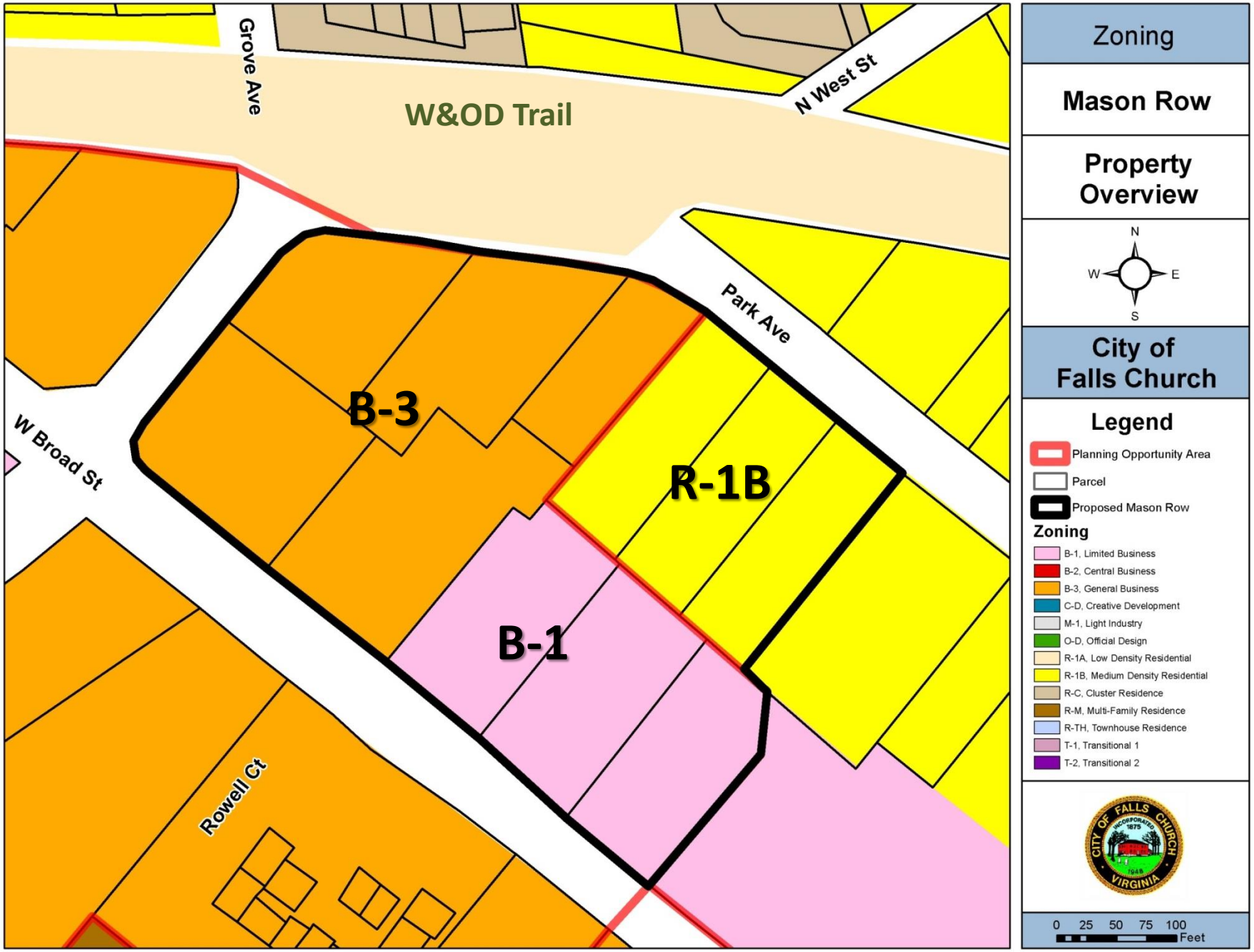
Legend

- Planning Opportunity Area
- Parcel
- Proposed Mason Row

Zoning

- B-1, Limited Business
- B-2, Central Business
- B-3, General Business
- C-D, Creative Development
- M-1, Light Industry
- O-D, Official Design
- R-1A, Low Density Residential
- R-1B, Medium Density Residential
- R-C, Cluster Residence
- R-M, Multi-Family Residence
- R-TH, Townhouse Residence
- T-1, Transitional 1
- T-2, Transitional 2

0 50 100 150 200 Feet


Grove Ave
W&OD Trail
N West St
Park Ave
W Broad St
B-3
R-1B
B-1
Rowell Ct
Zoning
Mason Row
Property Overview
N
W
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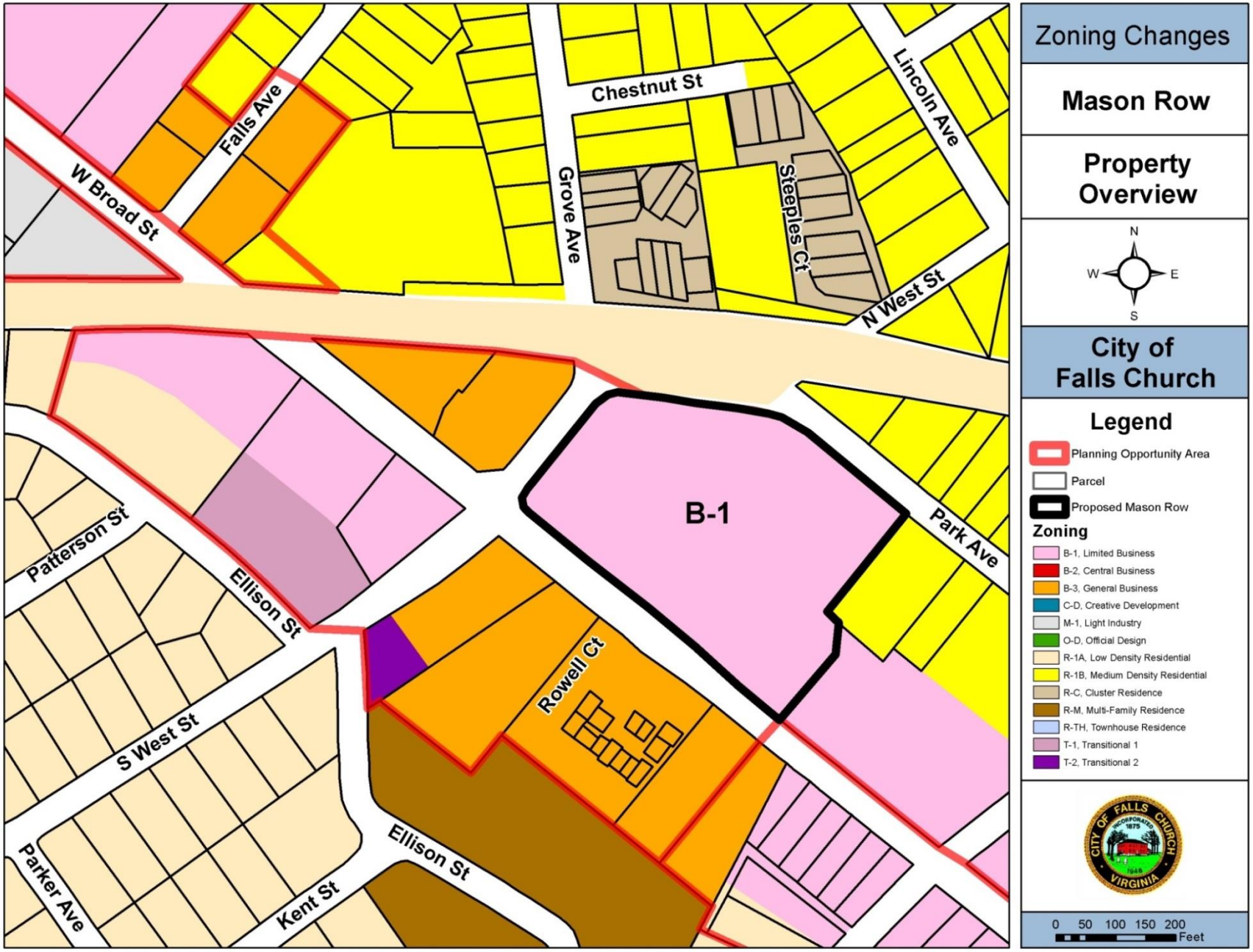
City of Falls Church
Legend
Planning Opportunity Area
Parcel
Proposed Mason Row
Zoning
B-1, Limited Business
B-2, Central Business
B-3, General Business
C-D, Creative Development
M-1, Light Industry
O-D, Official Design
R-1A, Low Density Residential
R-1B, Medium Density Residential
R-C, Cluster Residence
R-M, Multi-Family Residence
R-TH, Townhouse Residence
T-1, Transitional 1
T-2, Transitional 2
0 25 50 75 100
Feet


Zoning Changes
Mason Row
Property Overview
N
W
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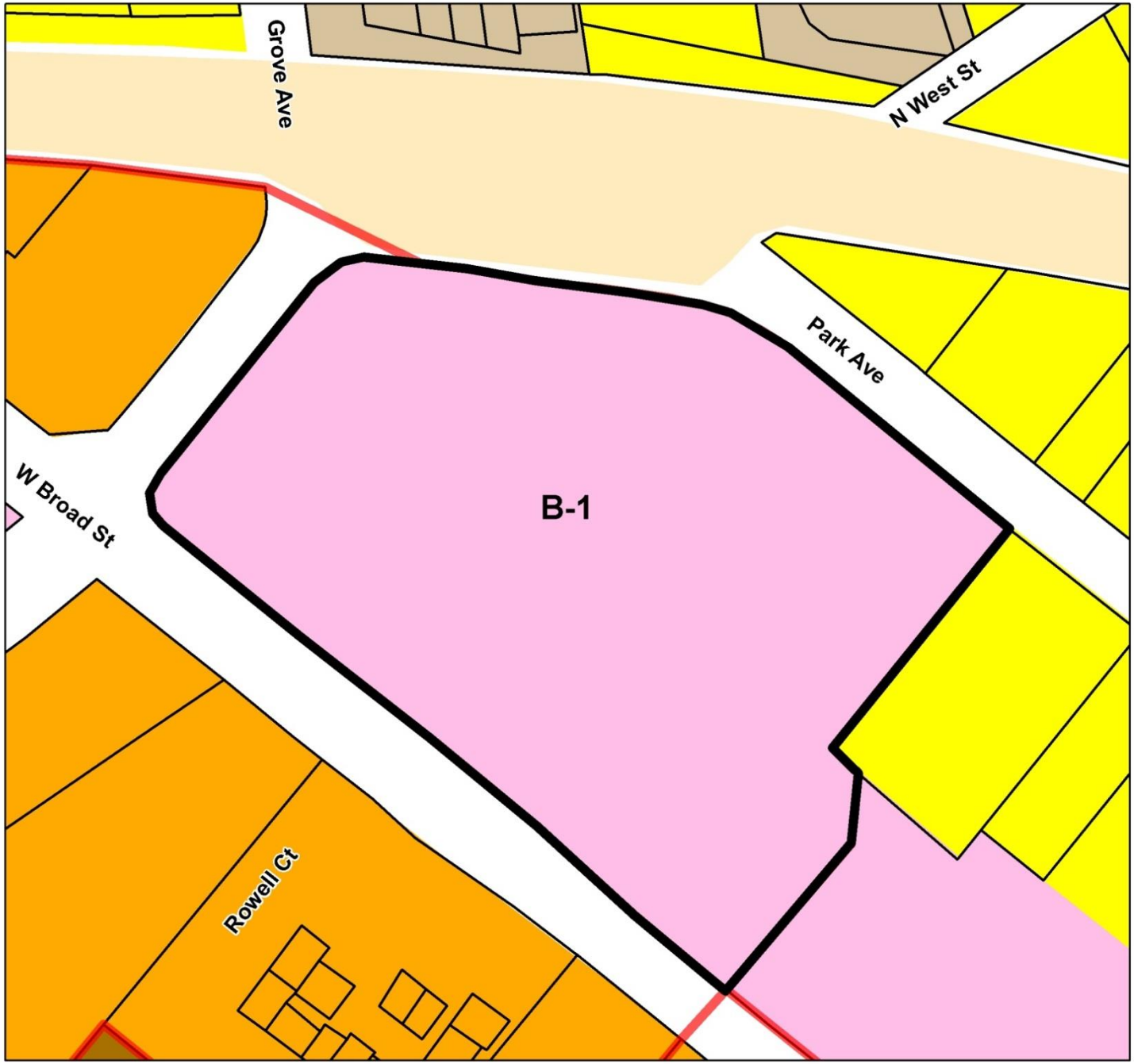
City of Falls Church
Legend
Planning Opportunity Area
Parcel
Proposed Mason Row
Zoning
B-1, Limited Business
B-2, Central Business
B-3, General Business
C-D, Creative Development
M-1, Light Industry
O-D, Official Design
R-1A, Low Density Residential
R-1B, Medium Density Residential
R-C, Cluster Residence
R-M, Multi-Family Residence
R-TH, Townhouse Residence
T-1, Transitional 1
T-2, Transitional 2
0 50 100 150 200
Feet
Chestnut St
Lincoln Ave
Falls Ave
W Broad St
Grove Ave
Steeples Ct
N West St
B-1
Park Ave
Patterson St
Ellison St
Rowell Ct
S West St
Parker Ave
Kent St
Ellison St



Zoning Changes

Mason Row

Property Overview

N
W E
S

City of Falls Church

Legend

- Planning Opportunity Area
- Parcel
- Proposed Mason Row

Zoning

- B-1, Limited Business
- B-2, Central Business
- B-3, General Business
- C-D, Creative Development
- M-1, Light Industry
- O-D, Official Design
- R-1A, Low Density Residential
- R-1B, Medium Density Residential
- R-C, Cluster Residence
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- T-1, Transitional 1
- T-2, Transitional 2

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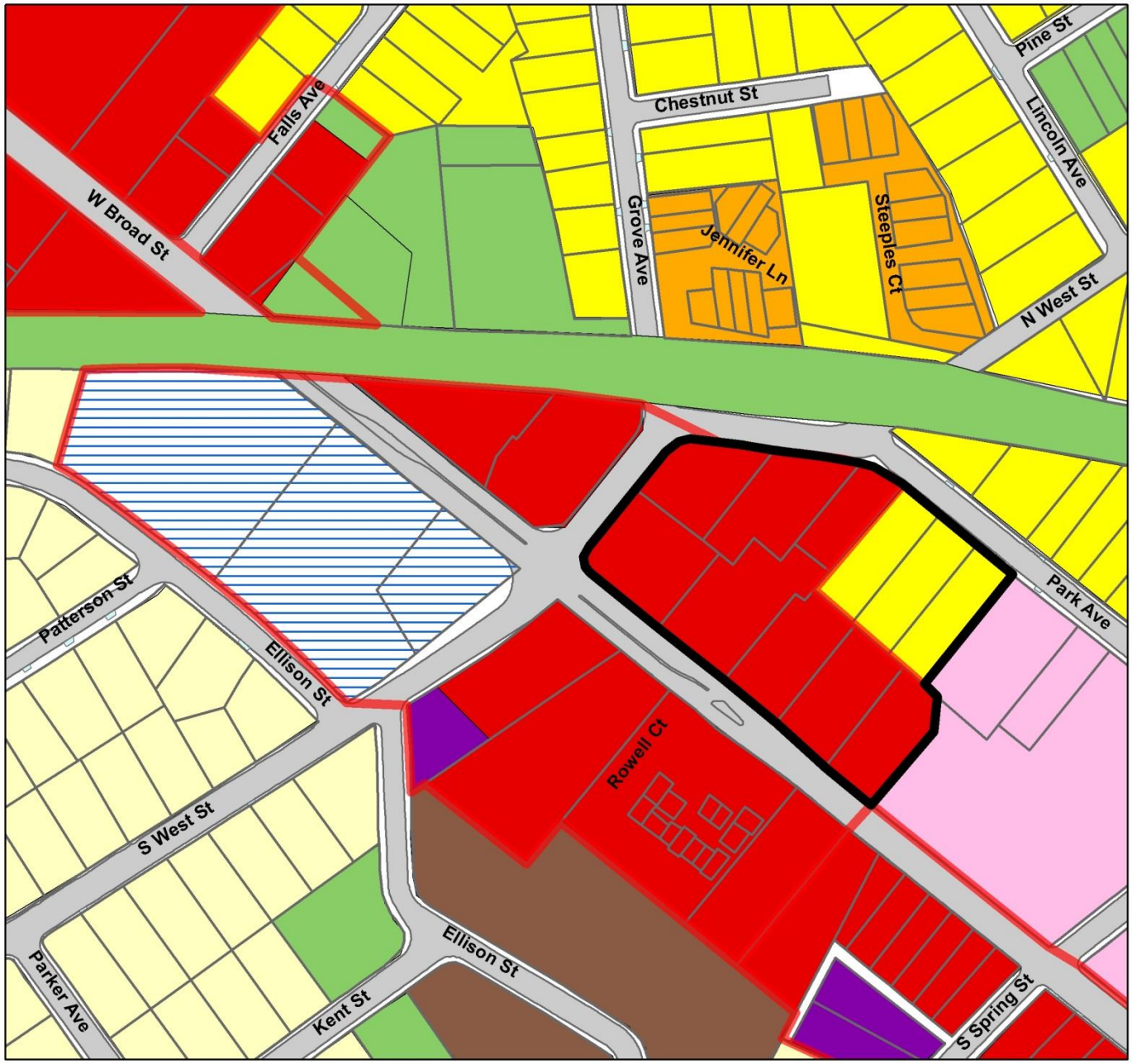


Future Land Use

Mason Row

Property Overview

N
W E
S

City of Falls Church

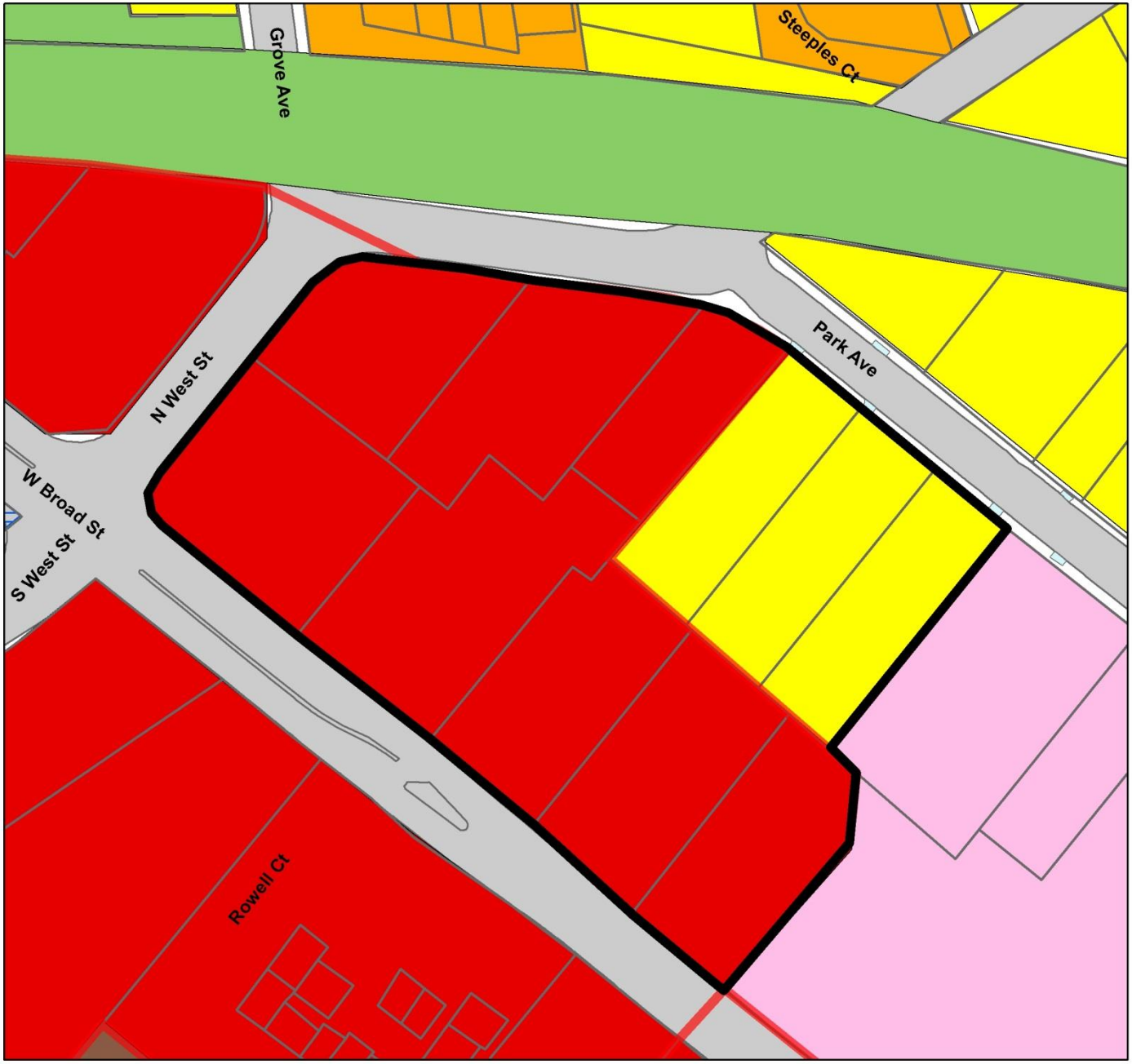
Legend

- Planning Opportunity Area
- Parcel
- Proposed Mason Row

Future Land Use

- Business
- High Density Residential
- Low Density Residential (4.0)
- Low Density Residential (6.0)
- Medium Density Residential
- Mixed-Use
- Park and Open Space
- Private Institutions
- Public Facilities and Institutions
- Transitional

0 50 100 150 200 Feet



Future Land Use

Mason Row

Property Overview

N
W E
S

City of Falls Church

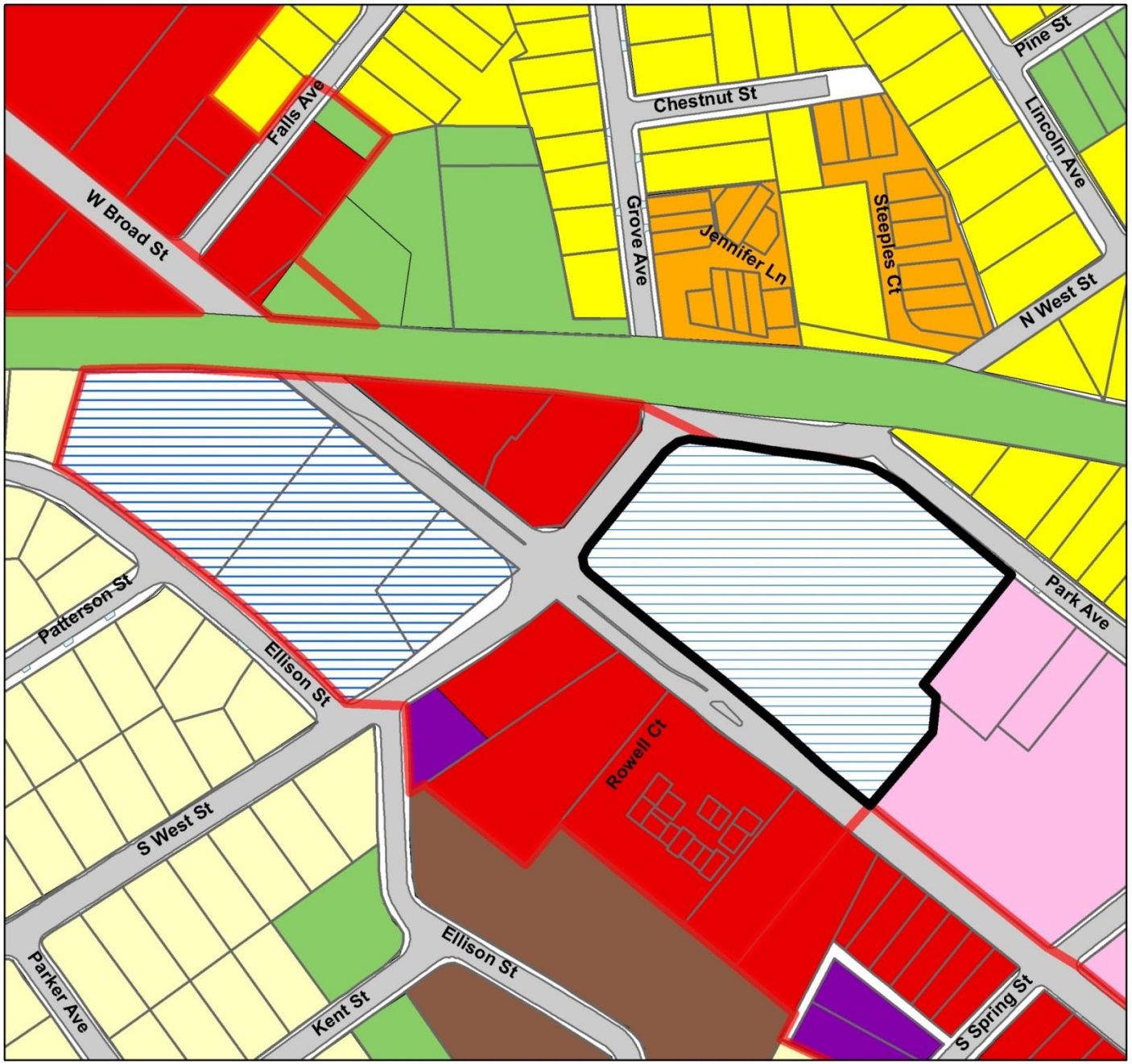
Legend

- Planning Opportunity Area
- Parcel
- Proposed Mason Row

Future Land Use

- Business
- High Density Residential
- Low Density Residential (4.0)
- Low Density Residential (6.0)
- Medium Density Residential
- Mixed-Use
- Park and Open Space
- Private Institutions
- Public Facilities and Institutions
- Transitional

0 25 50 75 100 Feet



Future Land Use Change

Mason Row

Property Overview

N
W E
S

City of Falls Church

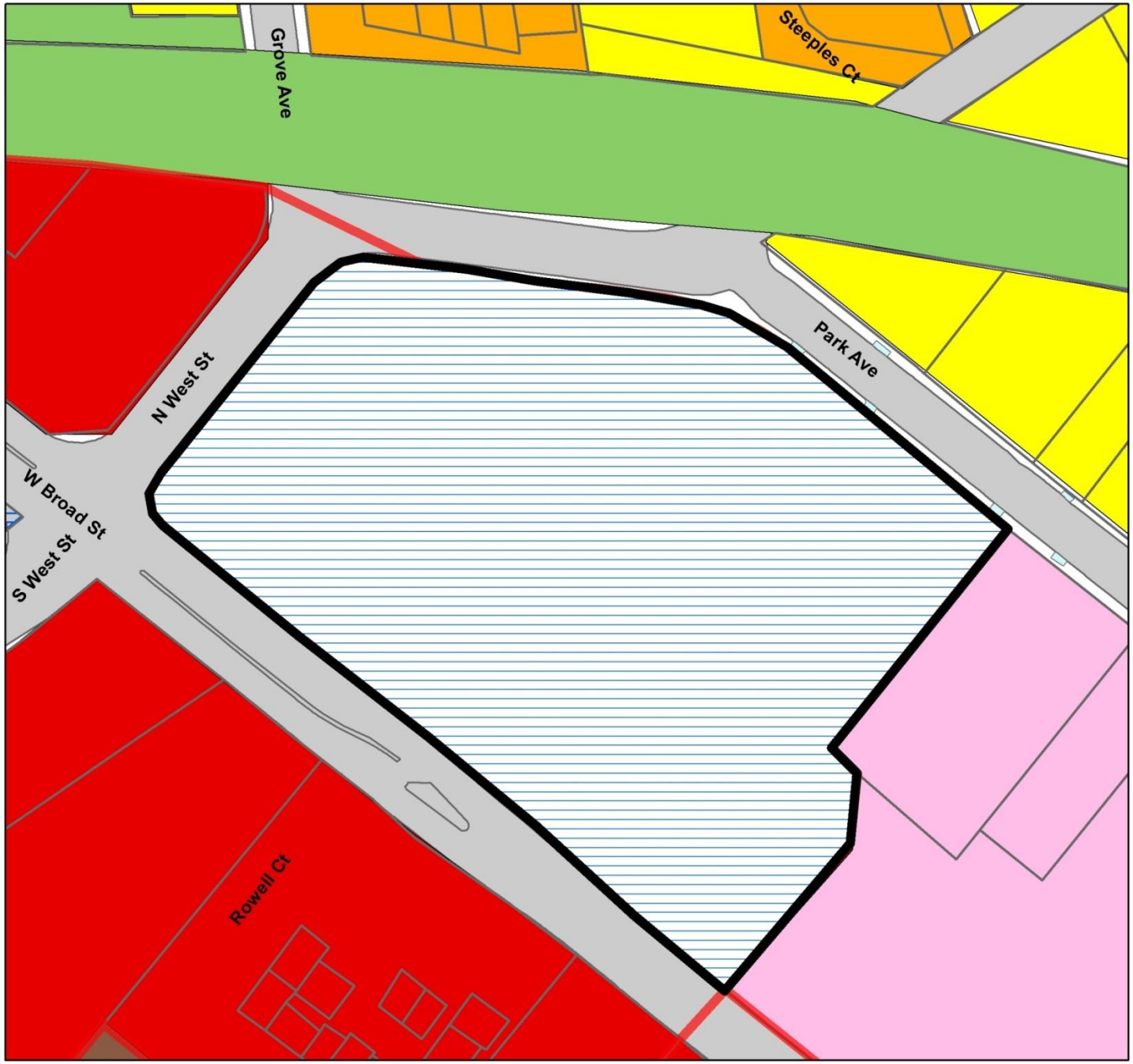
Legend

- Planning Opportunity Area
- Parcel
- Proposed Mason Row

Future Land Use

- Business
- High Density Residential
- Low Density Residential (4.0)
- Low Density Residential (6.0)
- Medium Density Residential
- Mixed-Use
- Park and Open Space
- Private Institutions
- Public Facilities and Institutions
- Transitional

0 50 100 150 200 Feet



Future Land Use Change

Mason Row

Property Overview

N
W E
S

City of Falls Church

Legend

- Planning Opportunity Area
- Parcel
- Proposed Mason Row

Future Land Use

- Business
- High Density Residential
- Low Density Residential (4.0)
- Low Density Residential (6.0)
- Medium Density Residential
- Mixed-Use
- Park and Open Space
- Private Institutions
- Public Facilities and Institutions
- Transitional

0 25 50 75 100 Feet

W Broad St

W Broad St & N West St

N West St & Grove Ave

N West St & Park Ave

Park Ave

Akida Rouzi

Subject: FW: Resident input for Mason Row Joint Work Session

From: Rohini Winters [mailto:rohinicdfm@yahoo.com]
Sent: Sunday, March 08, 2015 11:29 PM
To: City Clerk
Subject: Resident input for Mason Row Joint Work Session

Please pass to the members of the City Council and Planning Commission and Parks and Recreation Commission and all other boards and commissions that as a resident of the City on Grove Avenue and as a Small Business owner in the City, I would like the City to go back to First Reading on this newest proposed development.

I would like the City to disapprove the height waiver for building structure on West St facing the W&OD Trail and Grove Ave residences. A stepped down design from the City commercial zone toward the West End neighbors would be more appropriate and consistent with existing zoning ordinances. Current residents should embrace, not dread, economic development but it must be done with residential owners in mind to keep quality of life aspects whole.

It was unclear who the movie theater operator was and we had also seen news that the City was contemporary laying a theater at the corner of Broad and Haycock in the commercial use of acquired land from sale of water utility. Please ask the FCNP not to print misleading pieces to stir up residents or to force readership through negative concepts. The latest headline about a tepid response to library move plan is irresponsible and paints City Leaders in a bad light. There is a sense in the City that what is printed is already done and decided. I think some may want it that way but it should be met head on with the official position of the elected Council and no council member should be having private design with developers proposing work did City to approve. The appearance is just wrong.
Rohini Winters

Akida Rouzi

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m: Karen <barberie@aol.com>
Sent: Tuesday, December 30, 2014 10:37 AM
To: Plan
Cc: vkwongnova@gmail.com
Subject: Mason Row

Good morning Ms. Rogers and members of the Planning Commission,

We hope you're enjoying the holidays.

As we approach the New Year, we wanted to take a moment to share with you our thoughts on the latest proposal for Mason Row, likely to be the biggest new development in 2015. As we have said from the beginning, we are generally in favor of the development at West and Broad Streets. Having said that, here are our thoughts and/or concerns:

- We would like to preserve the residential nature of our street. We think Mason Row can be a success without altering the character of this block of Park Avenue. (There are currently 11 houses on the north side of the street and in those homes reside eight children, five of whom are under the age of 10.) Although we preferred the original proposal where the three existing houses would be replaced by two single family homes, in keeping with our residential street we would like to see townhomes or condominiums in place of e three homes slated to be demolished.

- Traffic is an ongoing concern for us. In the 20 years that we have lived here, traffic on our street has risen exponentially to the point where vehicles are often lined up in front of our homes during certain hours of the day. For that reason, the intersection of Mason Lane and Park Avenue should be treated as a four way intersection. A "right turn only" onto Park Avenue from Mason Lane as proposed by Peter Batten at the December 17th town hall meeting would have a tremendously negative impact on Park Avenue.

- We would like parking by permit only 24/7 for the 11 homes on the north side of the block. Nearly all of these homes rely on street parking in whole or in part. In consideration of St. James parishioners, we support two hour parking on the south (church) side of the street. As you know, this block of Park Avenue is a virtual parking lot on weekends and holidays. The new development has the potential to make a bad situation worse. St. James is a beautiful church with a large and active congregation ... as well as three large parking lots in addition to a fourth smaller one. Yet even with ample parking provided by the church many parishioners prefer to park in front of our homes as a matter of convenience. As we have learned from St. James, there will be some percentage of Mason Row patrons who will prefer to park on the street as a matter of convenience. To our knowledge, no other residential street in the City of Falls Church faces similar challenges.

- We support the idea of the movie theater in theory but wonder if it's economically feasible in our small community, especially given the fact that the number of actual movie goers appears to be on the decline. http://www.wsj.com/articles/heard-on-the-street-netflix-thickens-the-plot-for-movie-theaters-12350570

- Finally, we love the idea of a satellite library extension as part of the new development and think it will be widely popular.

The bottom line is that, like you, we want Mason Row to be a success and we think it can be a success without dramatically altering the residential character of our family-filled street.

Kindest regards,

Victor Wong & Karen Barberie
914 Park Avenue

January 15, 2015

Mayor Tarter and Members of City Council
Chair Rodgers and Members of the Planning Commission
300 Park Avenue
Falls Church, VA 22046

SUBJ: Proposed Broad and West Street Development (temporarily Mason Row)

Dear Members of City Council and the Planning Commission:

The Board of Directors of the Falls Church Village Preservation and Improvement Society (VPIS) commends the City and the developers of the proposed project at Broad and West Streets (temporarily Mason Row) for listening to community issues and proposing substantial improvements in the project design over the past several months. Many of these project changes respond to suggestions provided by VPIS (see our letter at http://www.vpis.org/event.php?id=123) and by other community organizations.

Recognizing that the project footprint has changed and that numerous design elements are unresolved at this stage, VPIS would like to offer several general suggestions concerning topics that have been raised at recent meetings.

1) **A New First Reading:** A new First Reading would be appropriate since the project footprint has changed and numerous design elements are unresolved at this stage.

2) **Support for Council Project Guidelines**: VPIS generally supports the Recommended Actions and Strategies presented at the October 8th Council meeting. As the project continues to develop, the Council should continue to expect those actions and outcomes.

3) **Concern on Library Proposal for Mason Row**: VPIS has concerns about the suggestion to relocate some or all of the Mary Riley Styles Public Library to the Mason Row project and urges the Council to give careful consideration to the substantial problems in the short and long-term that would result from moving some or all of the Library into that location. The library needs should be addressed at the existing library location.

4) **Concern on City Financing of Movie Theatres:** VPIS strongly supports the addition of a second major retail operation to the project and believes that the proposed movie theaters can provide benefits to the project and the City if the obvious resulting traffic and parking issues are somehow mitigated.

We understand, however, that the City is considering providing significant financial support for the theatres. We urge the City to be cautious in providing financial assistance to support any specific project element. If a theatre development on this site can't be financed through a conventional, private process, the financial success of the project over the long term seems questionable. For the City to provide financing for a project element that might not be financially viable otherwise puts scarce City resources at risk and detracts from efforts to identify a second retail anchor that is more likely to be a long term financial success.

In addition, City financial participation in a major commercial element of a development project raises questions over the net financial benefit of the project to the City and sets a precedent that could result in requests for comparable treatment in future projects. It should not be forgotten that the City is already providing a significant allowance by permitting residential units to be built within the business district zoning.

5) **Need for Clear Open Process for Project Approval:** The process for finalizing the project should be better defined and more clearly open to public comment. The City website on the project includes all the major project documents up to the release of the PowerPoint presentation to the Town Hall Meeting on December 17th. This presentation, however, does not speak to a wide range of important detail issues of interest to VPIS and other community organizations, including:

- residential quantity, type and density;
- impacts on schools;
- final net new financial impact assessment;
- environmental features;
- traffic management;
- affordable housing;
- an agreeable interface with the W&OD Trail;
- general architectural style of the tradition in Virginia and
- a development name that is distinctive of this location.

VPIS would like the opportunity to review and comment on the amended project application and supporting materials describing the project elements. Although further public meetings to hear of project developments are helpful, they do not commonly include the project details that are needed to carefully evaluate the project.

Thank you for considering these additional suggestions. We look forward to working with you to develop a financially successful project that provides the City with multiple benefits.

Sincerely,

Keith Thurston, President

Keith Thurston, President
on Behalf of the Board of Directors
Village Preservation and Improvement Society

cc: City Manager
Spectrum Development

Akida Rouzi

Subject: FW: Mason Row and flooding issues on West Street
Attachments: Photos_of_flooding_at_West_Street_and_Steeples_Court.pdf

Mr. Peter Batten
Principal
Spectrum Development LLC
P.O. Box 937
Vienna, VA 22183

23 December 2014

Dear Mr. Batten,

You and I spoke after the town hall meeting in Falls Church City last week on the proposed Mason Row development. I came to the meeting as a representative of the Steeples Court Homeowners Association. As you know, Steeples Court is adjacent to the proposed project.

You may recall that we discussed the problem of flooding on West Street, between Steeples Court and Lincoln Avenue. West is a major through-street (essentially north-south) that is just a few hundred feet from the proposed Mason Row project. The flooding on West is caused by the volume of water coursing downward from Mt. Daniel after large storms. This problem has worsened in recent years. When the water flows down to the bottom of the hill, it ends up at the hill's lowest spot, according to the City's contour maps—a shallow ditch behind Steeples Court. After major storms, the ditch backs up, flooding yards on Steeples Court and Lincoln as well as West Street itself. Drivers coming down West Street after such flooding have to divert and search the neighborhood for alternate routes (see two photos, attached).

A critical problem contributing to the flooding is the small diameter of the storm water pipe running beneath West Street. It cannot handle the volume of water that now results from such storms.

The Falls Church City Government is aware of the problem. Installing a larger pipe beneath West Street is one of the storm water improvements that will be made with revenue from the City's new storm water tax. However, the replacement will likely occur in 5 to 7 years, we have been told by City officials.

Since the Mason Row project is already planning to make changes on West Street, it seems to us that the City should replace the pipe simultaneously. Not only will the street be disrupted by construction anyway. And not only would replacing it later add to the length of the disruption.

But the volume of traffic on West will be much higher after the Mason Row project is completed, thus inconveniencing more drivers when the pipe replacement construction does takes place. Meanwhile, whenever storm water floods West after the Mason Row project is completed, but before the pipe is replaced, more cars will be backed up and hunting for alternate routes. The potential for serious traffic problems will be much greater. This could adversely affect the residents and retail tenants of Mason Row.

Based on all of this, and our conversation last week, we believe we have mutual interests here. We appreciated your tentative offer at the meeting to work with us in solving this problem.

We would like to ask for your support as we seek to have the City align the pipe replacement schedule with the Mason Row-related construction on West Street.

I will call you after the holidays to follow up.

Thanks again for listening to us on this.

Best wishes for the holiday season.

Sincerely,

Jim Morrison

1012 Steeples Court
Falls Church, VA 22046

cc.
Gary Fuller, Principal Planner, Planning Division, City of Falls Church
Paul Stoddard, Senior Planner, Planning Division, City of Falls Church

Recent moderate flooding on West Street

More serious flooding, as seen from back of 1004 Steeples Court, ditch visible beyond fence, West Street at upper right

Akida Rouzi

From: Kimberly Callahan <kimberlyjones26@hotmail.com>
Sent: Friday, January 02, 2015 8:31 PM
To: Marybeth Connelly (Personal Email); Nader Baroukh; Dave Tarter; dxsez1@verizon.net; Phil Duncan; Karen Oliver (Contact); David Snyder (contact); Plan
Subject: Mason Row Project- Citizen Comments

Mr. Mayor and Councilmen,

My name is Kimberly Callahan and I live at 918 Park Avenue, directly across Park Avenue from the proposed Mason Row mixed-use development project. I reviewed the updated plans posted on the City web site, and attend the first half of the community meeting held by the developer on December 17th. Based on the information that was presented to me, I have the following comments and concerns:

1. The 900 block of Park Avenue is highly residential. While I appreciate the gesture of removing the parking garage entrance from Park Avenue, replacing three single family homes with a 55 foot high parking structure is not acceptable. In the October 8, 2014 staff report, the 1st Architectural comment was "Address massing and scale of the building to be more consistent with the neighboring residential areas.....". With this latest iteration of the plan, the development could not be less consistent with or respectful of it's nearest residential neighbors; the single family homes on Park Avenue. How is an imposing 55 foot high concrete structure with glaring lights consistent with the residential neighborhood? In addition, Park Avenue is a major pedestrian way for those traveling east-west through the City. Continuing to allow Park Avenue to be treated as the "back-of-house" to buildings facing Broad would be a mistake, as it will ruin the currently enjoyable pedestrian experience. I ask you to think about this not only for the Mason Row project, but for future projects, as the parcels of land between Park and Broad continue to develop.

After reviewing the plans, it appears that the north end of the apartment building is single loaded. Therefore, it is feasible to ask the developer to push the parking garage south and wrap the apartments around the garage so that the apartments face Park Avenue instead of the garage. This issue was brought up at the community meeting, but Architect brushed it off and did not give an answer for why this could not be done. I also believe that changing the Comp Plan and Zoning from low density residential to high density sets a dangerous president for future development in the City. In speaking with the City Manager earlier in the year, it is my understanding that land within the City has never been rezoned from low density residential to a high density use. I understand that the vision of what our "Little City" should look like will continue to change over time, but it should be the City Leaders (with input from the residents) leading that charge, not the developers.

2. It is very important that the intersection of Mason Row/Park/West be treated as a traditional 4-way intersection. Please do not allow this intersection to be right-only onto Park Avenue. This will force large amounts of traffic onto Park Avenue which is a residential street that children play on. It is my understanding that many years ago city leaders discussed making Park Avenue and the parallel section of Broad Street on-way to reduce traffic congestion on Broad Street. In their wisdom, they rejected this idea because Park Avenue is a residential street. Please continue to view Park Avenue as a residential street, and treat it as such.

3. I am not overly excited about the theaters as part of the new development (I worry about the competition it would have with Tysons and Mosaic being so close).However, if the City Leaders believe that it is a viable pursuit, I can support it, with the understanding that the City tax payers will not be subsidizing it in any way. I already feel that the cost of the theater is being off set in part by the above grade parking structure (which saves the developer approximately $20,000/space).

Thank you very much for your time and consideration.
Kimberly Callahan

Akida Rouzi

From: Rohini Winters <rohinicdfm@yahoo.com>
Sent: Thursday, December 18, 2014 11:23 PM
To: Gary Fuller; Akida Rouzi
Subject: Spectrum Development proposed at West /Broad St

Thank you for posting the revised plans.

I would like the name to be something else so I'm not using one yet.
I would like the trash/loading area on West facing Grove to be a green space and have them give up retail space to house it with access off Broad St where commercial vehicles belong.
I am strongly opposed to the 30ft height exception for reasons that it is not compatible with the neighborhood and W&OD trail and West End park.
I am happy that the residential density may be lowered.
I am curious about the office space and if any concessions or priorities would be considered for Falls Church City business desiring to move to that location.
I am curious whether the pool will allow community access or be strictly for residents.
I am strongly requesting the "to metro .6 mile" marker be removed from Grove Ave on all plans and presentations as this is not intended to be a thoroughfare for traffic to metro and the Developer continues to advertise it as such
I am very concerned about the safety on the roads in this area. Already the left turn out of Grove during restricted hours is one of the most hazardous points in the City due to poor right of way /control mechanisms and poor visibility when there is a line of cars at Broad St red light. There is no visibility making a right turn almost the only safe way to exit Grove Ave but 4-6pm there is a no right turn even for us residents. Adding vehicles to this area by allowing use of Grove Ave is ridiculous. I could not find any traffic mitigation in the presentation slides.
I am strongly opposed to a 6 story façade facing the W&OD Trail. There is no apparent attempt to integrate green space on the Spectrum property to tie into the Trail as a Welcome. I am not seeing it.

I am strongly opposed to the conceptual rendering of rectangular building with no colonial style architecture such as peak roof elevations that might tie to the commercial plaza where Dominion Jewelers and Dominion Wine is now.

I am strongly in favor of increasing the commercial tax base and improving the few eye sores we have today such as dumpsters and used clothing bins however I am strongly opposed to losing character of The Little City through the greed of mixed use developers. I
I am in favor of the dine in theater but I am not in favor of rowdy bars close to the neighborhood with drunk pedestrians walking back to metro late at night past my house. I will expect law enforcement to increase in my neighborhood and the developer better be making adequate proffers to offset the cost of that impact.

I noted the lack of fidelity in the number and types of residential units after the change to the parking structure. The City must be sure to have the accurate numbers including required numbers of affordable units and ensure adequate proffers to the City Schools for the impact over 20 -50 years. If half a school bus worth of students is expected to live there then there better be proffers for the school bus up front because ours are full.

I am glad the plaza space is increased and that Park Ave will have no access point.

I hope Parks and Recs is going to review and weigh heavily on this.
I am opposed to an amendment to the Comprehensive Plan to allow 85' facing residential and for any commercial entrance within 100' of residential. That is unacceptable to me as a current resident of the City.

I would recommend the Developer include trail traffic signals on the W&OD trail and lit crosswalks wherever the trail crosses Grove or West St. to improve safety for all. The trail should flash yellow and flash red during commute hours.

Rohini Winters
324 Grove Ave

Akida Rouzi

From: Margaret Rood <mrood@iglou.com>
Sent: Wednesday, December 17, 2014 11:19 AM
To: Gary Fuller; Akida Rouzi
Subject: Comment on Mason Row Project

I will be unable to attend tonight's town hall meeting on the Mason Row Project, but want to express my hope that it will not be approved. My opposition is based on three factors:

1) The project will cause huge traffic problems in the construction, and the streets cannot realistically be improved in such a way as to accommodate the level of residential and business development proposed.

2) The businesses that will be demolished to make way for the project are needed more than the new ones that will populate Mason Row. This is not like building over an unused property like the Adcom site. The Sunoco gas station at the corner of West and Broad Streets is the only one for a significant distance in either direction on Broad Street. The convenience store, ice cream parlor, and other businesses provide services we actually use, and they are centrally located.

The proposed "quality retail" appears to me to be mostly boutiques and expensive eateries. We need to consider whether our area has reached the saturation point, especially with the nearby Mosaic District, for this kind of development. This will not help Falls Church residents keep our purchase dollars in the city for everyday needs.

3) The movie theater industry is in decline, and there is a large new theater complex in the Mosaic District in Merrifield.

http://www.businessinsider.com/see-how-movie-ticket-sales-have-drastically-declined-over-the-past-decade-2012-9

If I learned that a developer was proposing to put in an urban-style Target with a parking deck such as the one at the Mosaic District, I could perhaps support this project. We just don't need any more $5/bowl yogurt shops or doo-dad purveyors as an excuse for putting in hundreds of new residential units. If my instincts are correct that the retail will not be patronized as adequate levels, then Mason Row will start to look like parts of the original Reston.

Margaret Rood

1310 Gibson Place
Falls Church, VA 22046

Office of the City Clerk
300 Park Ave #303e,
Falls Church, VA 22046

March 18, 2105

Re: February 3, 2015 RESUBMISSION by Spectrum Development for Mason Row

Attachment: Text of Statement to Planning Commission, October 6, 2014

Dear Council Member,

I have followed the proposed development of the four acre parcel located at West and Broad Street since the August 11, 2014 first reading, through the October 6, 2014 Planning Commission Public Hearing, and the developer's December "Town Hall Meeting". Given the inability of the developer to prepare for the scheduled 2nd reading on December 8, 2014, I am pleased that the City Council has determined that the "Mason Row" project should be resubmitted and considered for a first reading.

After attending the March 2, 2015 City Council work session and viewing the current submission of Spectrum Development for "Mason Row" I was dismayed to see the continued minimal effort of the applicant to address concerns and requests of City Staff, boards and commissions, and citizenry. Had the meeting been a month earlier, on Groundhog Day, I would have thought that we were somehow trapped in a time loop of repetitive work sessions with an unresponsive developer.

The Council work session in March opened with the attorney for the applicant stating that in response to the charge to the development team to have a second anchor to Mason Row, Spectrum now has two movie theatre franchises "quite interested". In fact, the City Council motion for first reading in August, 2014 states "the applicant shall also have in place, prior to second reading (December 8, 2014), a written contract with an additional anchor acceptable to the City Council." The vague nature of Spectrum's statements has been a hallmark of this project. I would ask Council to be certain to include again the motion made by Nader Baroukh at last year's first reading requiring stated actions to be undertaken by the Applicant. It has been my observation that the only named, guaranteed tenant for this project is 7-1; a retail store already in operation on West Street.

It concerns me that Mr. Lasso states in his letter of January 30, 2015 to the Planning Director, that Spectrum has identified as a "central concern", after "extensive discussions with The City Council and Planning Commission" that "Density should be increased...to assist in achieving the desired positive fiscal impact." City staff has repeatedly expressed concern about the high

density of the project and the increased number of residential units, as have several City Council members.

In the same vein, I would call to your attention staff's continued reservations concerning the Applicant's request to change the Comprehensive Plan and Zoning of this parcel. Staff has stated the rezoning request "undermines the intent to preserve the residential character of the neighborhood."

I find it of additional interest that by changing the Residential zoning of a portion of the consolidated parcel, the developer makes inapplicable the stipulation in the City Zoning Ordinance Special Exceptions Section 48-455(1)(a) that requires the tapering in height of all structures that abut an R district. The developer's request for a zoning change would eliminate the R district which abuts the present B zoning. A convenience, since the developer has also applied for a special exception, in order to attain a height bonus.

I agree with City Council member Karen Oliver, who spoke at the March, 2015 work session, that essential to this project is a sense of "place making". She defined it as "a sense of where we want to be". This is a tenet of good mixed use development.

The acreage taken up by this 4 acre parcel in Falls Church is .3% of our city's acreage. Rockefeller Center, a 22 acre mixed use development in Manhattan, is only .1% of that borough's acreage. My point being, this development is a significant commitment. The Council has the responsibility to demand the best of the petitioning developer. The developer chosen should attempt a best effort. While economic benefits are important, they are never guaranteed. Every safeguard should be utilized to ensure the responsibilities of the developer. Definite obligations must be detailed and guarantees for these obligations established. Again, I stress that the unanimously supported motion initiated in August, 2014 by Nader Baroukh should carry on with a first reading of Spectrum's new submission.

At the March 2, 2015 work session, Vice-Mayor David Snyder expressed his doubts concerning the residential component of the Mason Row project. I believe many share this doubt. In the light of the Harris Teeter development the high number of residential units in the Mason Row project seems unwise. Mr. Snyder also noted the developer's lack of sensitivity to context and the focus of the building remaining inward rather than outward. This observation is especially pointed in that sensitivity to context and an engaging outward focus to the surrounding area are essential qualities of successful mixed-use development. Mr. Snyder stated as well that this project could be "plopped down anywhere". I agree that the boilerplate nature of the development lacks the quality that we in the City of Falls Church deserve. The generic quality of Mason Row prohibits this project from meeting the special exception criterion of "exemplary".

During the same work session, a member of the Planning Commission summarized the February 3, 2015 resubmission with the statement "I am underwhelmed by the design." A fellow Planning Commissioner mentioned that the project resubmission is "way too large for that peninsula, at the worst intersection in town- traffic was redone to the benefit of the developer".

At present, I see no grounds for granting a first reading to the Mason Row project. The amount of time invested by the City weighed against the efforts made by the developer is a top heavy ratio. Let's let a developer offer us something better.

Sincerely,

Pat Meyers
115 Buxton Rd.
Falls Church, VA 22046

ATTACHMENT: Text of Statement to Planning Commission, October 6, 2014

My name is Pat Meyers, I live at 115 Buxton Rd. and have been a resident of the City of Falls Church since 1987.

I have followed the now called Mason Row project since the first reading in mid-August of this year. Along with many members of the community I was shocked and appalled by the soulless architectural concept initially presented by Spectrum Development.

When I discovered that the developer was asking for a land use change, a zoning change, a special exception to allow residential uses within a mixed use development project and a special exception bonus of thirty feet, allowing building height of up to 85 feet- while asking for a reduction in parking spaces from that required by City Code- I resolved to find out more.

Overall, I want to request City officials to keep in mind what is crucial to the City. Not only do we have excellent schools, services, and citizens, but we have an excellent location AND a small one. Our real estate is precious in both senses of the word- expensive, and there's not very much of it.

The decisions made by the Planning Commission and the City Council are weighty, long-lasting, and significant. I am puzzled by efforts to imitate development nearby- Tysons, Clarendon, Ballston, Reston, Bethesda- all of which is easily accessible to anyone in the City of Falls Church- rather than create a multi-use project which would not only attract revenue but enrich the surrounding community. Why do we tout uniqueness and strive for sameness? Yes, all dollar bills are identical, but here in the City of Falls Church I would like to think the bottom line can be more than the BOTTOM LINE.

Anyhow, points.

- The building is too dense and too high. More setbacks in height are required.
- Setbacks from the street as shown on West Street are inadequate.
- Waivers for landscaping buffers should not be granted.
- The 'festival space' is close to laughable in terms of small scale and lack of detail.

- The IDEA of providing additional in-and-out traffic to West Street from a 7-11!
- The disappearance of the original plan's two single family houses and their replacement with condos with a so-called "dramatic step down" and an entrance to garage parking is not a suitable transition from the single family homes across the street and makes the request for a zoning change from R1-B hard to swallow.
- Loading dock access and trash removal and the effect on traffic and parking is unclear.
- Traffic increase must be handled by a traffic light not just at West and Park but by an additional traffic light at West and Grove. This would be a basic, minimal requirement for any of the changes the developer is requesting.
- No parking reduction should be given. The developers cannot possibly justify reduced parking given the number of unknowns inherent in a multi-use project containing retail of assorted and changing types, a hotel, and residential use of great density.
- The proffers given by the developer seem vague and scanty.
- The idea of a movie theater- while everyone likes to go the movies- is unworkable. The extra parking required and not just the amount, but specifically the type of traffic generated are more than can be accommodated at this site. Movie theater traffic is typified by many cars coming and going many times a day, including late in the evening, every day of the week.
- I would like to stress that the idea of pulling these 11 parcels together is in line with the City's Comprehensive Plan, but it is not a once in a lifetime achievement. I agree with the concept of consolidating small parcels, but two compatible developments of a smaller size may be a better alternative. Additionally, smaller size developments could possibly allow us to keep a longtime Falls Church business, Curlie's Sunoco, which, despite the developer's self-proclaimed efforts to reach out to local businesses which will be displaced, has not been offered consideration by Spectrum.
- Lastly, I question what the net revenue of the project will really be. Will everyone's real estate taxes go down $100 a year? $500? What price will we put on what we will lose alongside what we will, in reality, get. Why not be sure we are gaining a

really worthwhile, enlivening asset to the City when we agree to development of this site?

I would like to commend the huge amount of work the City Staff has spent in analysis and evaluation of this project, specifically Gary Fuller and Akida Rouzi. Their thorough assessments are very much appreciated.

In addition, the many Boards and commissions who have commented on this project have provided valuable perspectives. I would call attention specifically to the September 18 letter from VPIS which covers a lot of cogent ground. The Chief of Police, Mary Gavin, and Police Captain Tom Polera have raised valid safety issues, including the special needs of an All-Hazards Plan if a movie theater is under consideration.

I would like to mention that I am puzzled by repeated requests by the planning staff which have not been addressed by the developers. This has been noted in staff memos. I am not sure whether the inability of the developer to address changes and requests indicates a lack experience with a project of this size and type or if it is a tactic to force the City's acceptance of an unsatisfactory and poorly conceived project with the excuse of "time is running out".

Presently we have two large multi-use projects underway in the City of Falls Church, the Harris Teeter and the Tinner Hill sites. Would it not be wise to see the effects of these projects before handing out the changes and special exceptions asked for by this development as it stands now? "Wait and see" is preferable to "Fools rush in".

Whatever your decision please be thoughtful, prudent, and demanding. Don't sell us short. Don't sell us cheap.

Thank you.

Akida Rouzi

From: Lisa Varouxis <lisa.varouxis@verizon.net>
Sent: Friday, March 20, 2015 5:03 PM
To: City Clerk; Akida Rouzi; Plan; Zoning; Rick Goff; Becky Witsman; Paul Stoddard; Dave Tarter; David Snyder; Nader Baroukh; Marybeth Connelly (City Council); Phil Duncan; Karen Oliver; Daniel Sze; Loren Bruce; Gary Fuller; Debra Gee; Akida Rouzi; Paul Stoddard; John Boyle; Brandon Wade; Kim Varner
Subject: The Development Plan for West and Broad Streets

Mayor Tarter, Vice Mayor Snyder, Members of the City Council, Members of the Architectural Advisory Board, Members of the Board of Zoning Appeals, Members of the Citizens Advisory Committee, Members of the Economic Development Advisory Committee, Members of the Planning Board, Members of the Citizens Advisory Committee on Transportation, and Members of the Environmental Services Council,

Previous emails to the City Council (November 24 (2013), January 3, March 16, July 21,July 25, August 8 and September 17 (2014 dates)) expressed my concerns regarding the development, as proposed, of the now 4.83 acres abutted by the St James property, Park Avenue, West Street, Grove Avenue and Broad Street. Unfortunately, even with the most recent (02/03/15) submission from Spectrum Development LLC, many of those concerns still exist.

Those concerns include, but are not limited to, the following:

1. The request by Spectrum Development, LLC for a Special Exception to add thirty feet to the height of the building.

   The developer is requesting both a zoning change from a B3 General Business District along West Street and from R1-B along Park Avenue to a B1, Limited Business District with a Special Exception to increase the height from 55' to 85'.

   The side of the development facing West Street between the intersections of Grove Avenue and Park Avenue will face residential neighborhoods consisting of single family homes and town homes, albeit it with the slight buffer of the W&OD trail . Along Park Avenue, it will be directly across from single-family homes. An eighty-five foot tall building bordering those neighborhoods would be out of character with the existing structures, and may detract from the neighborhoods. Without a scale model of the proposed design, it is difficult to envision just how much of a visual impact such a size disparity would have.

   The request for a Special Exception to the B1 Limited Business District zoning restriction of 55' in height should not be granted along this section of the planned development. The additional height would not be as harsh where the new development faces other businesses (on West Street south of Grove Avenue and along Broad Street).

   Granting a Special Exception for the height of this building would set precedence for future developments. (The Gordon Road "triangle", the development of the land acquired by the sale of the water system, the recently sold "Applebee's" parcel.)

2. No waiver should be granted for the requested 18.5% reduction in required parking spaces.

   Spectrum Development, LLC must be required to provide the number of parking spaces deemed necessary by the City code for this project. The residents of Grove Avenue and Park Avenue should

feel confident in their ability to park in front of their own homes without having to worry about overflow parking from the apartments, retail shops, and movie theaters at "Mason Row."

3. Relocate the hotel to the Broad Street facing side of the development, as shown on the plan presented by the Spectrum Development, LLC on July 21, 2014.

   At present, the five-story hotel is shown at the corner of the building on West Street facing the residences on Grove Avenue. A hotel of that size belongs on the front of the building, facing Route 7 and the business corridor, not the residential neighborhoods.

4. Reduce the number of residential units.

   The July 2014 submission included 320 units, an increase in the originally planned 302 units. At that time, a few Council members felt the development was "too dense." The latest submission increases the number of residential units to 340 – 19 efficiencies, 106 1-bedroom units, 98 1-bedroom with den units, and 117 2-bedroom units.

   Calculating one person per bedroom (not to include dens), the number of people projected to occupy this development totals 340. If the den is used as an additional bedroom, as is occurring at the Northgate (per a statement made by a Spectrum Development, LLC representative during a previous meeting), the total rises to 438 occupants. When added to the number of new residents from the recent completion of the Northgate (95 apartments + 10 townhomes), the current construction of The Lincoln at Tinner Hill (244 units) and 301 West Broad (288 units), the increase in the number of residents in a city this size is in such a short time period is daunting. (http://www.fallschurchva.gov/documentcenter/view/737)

   The Council should also be thinking five to ten years ahead to the future development of the Gordon Road Triangle, the newly acquired property near the West Falls Church Metro station and the "Applebee's" tract - how many additional residential units will be added when those projects come to fruition?

5. The impact of the 340-438 (or more) new residents from this development on the existing City infrastructure and services, to include schools.

   Yes, Councilman Duncan did state City infrastructure and services would not be adversely impacted at the joint meeting held on 03/02/15 when Spectrum Development, LLC presented their latest plan, but I still wonder how true that can be.

   Although the developer has agreed to a concession of $7511 per rental unit, this is a one-time contribution and will do nothing to cover adequately the long-term cost of educating a child in the City schools. Mr. Goff mentioned a formula of .33 children per unit when he gave his financial impact analysis on March 2, which revealed there is the potential of an additional one hundred twelve students being added to our overburdened school system from the proposed 340 apartments. I do not know what other concessions/proffers have been made to the City by the developer; nevertheless, I hope the offers are not clouding anyone's overall decisions pertaining to this project.

   Aside from the over-crowded school system, take into consideration the other costs incurred by the City in support of this development: If each unit has only one vehicle, again unlikely, this project adds an additional 340 vehicles to our already congested streets. There is also the increased cost of providing the necessary emergency services (police, fire and rescue), and other support personnel and expenses. What provisions, other than increasing the personal property tax for homeowners, are under consideration to cover the increased costs incurred by adding a large number of units and residents?

6. Increased volume of cut-through traffic on Grove Avenue to/from the development

   I have not had an opportunity to read the traffic study submitted by the Spectrum Development, LLC on February 3, but saw the study was actually conducted on September 12, 2013. I have great concern about the impact the movie theater proposed for the development will have on the volume of traffic on Grove Avenue.

   I submitted a Traffic Calming Request to Paul Stoddard and the Citizens Advisory Commission on Traffic last October requesting assistance with traffic calming measures along Grove Avenue. I plan to attend the meeting he is hosting on March 30 to discuss some possible solutions. If I am not mistaken representatives from Spectrum Development, LLC will also attend.

Please, when considering this project, imagine you live on Grove Avenue, Park Avenue, Jennifer Lane, Steeples Court or Chestnut Street and think of how your decisions pertaining to this project would affect your quality of life. **Think about what brought you to Falls Church to begin with and the values, customs, characteristics and quirks that make Falls Church, aka The Little City, worth caring about.** Does that include seeing an 85' tall building every time you walk to the end of your walkway to retrieve your newspaper, chat with a neighbor or get in your car? Consider how anxious you might be about your ability to safely enter or exit your car while in front of your home due to the large volume of vehicles driving past (many above the posted speed limit). Then consider the volume of traffic passing by your house (if you are on one of the Avenues) or past the entry to your street and the impact it has on your quality of life at your home.

To obtain a better understanding of the impact of the current volume of traffic, I invite you to visit Grove Avenue at the intersection with West Street for thirty minutes or more any weekday between the hours of 4 p.m. and 7 p.m. From that vantage point, you can also see how many vehicles violate the No Right Turn restriction between 4 p.m. and 6 p.m. Monday through Friday currently in place.

To summarize, my concerns with this development as proposed are thus:

- - The developer's request for an exception for the height of the building along West Street, beginning at Grove Avenue and continuing down Park Avenue.
- - No waiver should be granted for the requested 18.5% reduction in required parking spaces.
- - Relocate the hotel to the Broad Street facing side of the development, as shown on the plan presented by the developers on July 21, 2014.
- - Reduce the number of residential units.
- - The impact of the 340-438 (or more) new residents from this development on the existing City infrastructure and services, to include schools.
- - Increased volume of cut-through traffic on Grove Avenue to/from the development

I am not averse to developing the intersections of Broad Street/West Street/Grove Avenue/Park Avenue. I believe smart development, that which takes into account the impact on the existing neighborhoods and the environment, is necessary to reduce the tax burden on the City's residents and to keep the City viable and vibrant.

"Run amok growth doesn't pay for itself. Taxpayers always get stuck with the bill for sprawl and the hometown ills it brings." – Carl Hiaasen, Dance of the Reptiles

Respectfully,

Lisa G. Varouxis
301 Grove Avenue – 31 years
City of Falls Church – 47 years

Akida Rouzi

Subject: FW: Mason Row Meetings with Potentially-Displaced FCC Businesses-Per FCN-P Commentary Yesterday

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From: Debra (Z) Roth <debrazroth@gmail.com>
Sent: Friday, March 20, 2015 12:58:39 PM
Subject: Mason Row Meetings with Potentially-Displaced FCC Businesses-Per FCN-P Commentary Yesterday

I think there's been quite a misconception -- perhaps the commentary that ran in the 3/19/15 News-Press was submitted before Peter Batten met with Dave Tax and other businesses that are wondering if they will be able to relocated into Mason Row if the development is approved!

In my most recent meeting with Peter, he seemed shocked! Though he admitted he hadn't met with them till recently, he seems quite committed to taking steps to bring to fruition ideas they offered that he sees as a win-win (and I do, too) especially to pair Bikenetics with Mike's Deli/Lazy Sundae by the trail with features inviting to bike riders.

And he said he agreed to a lease discount indefinitely.

Meanwhile, we discussed much more he is drawing up for arts/history programming with the community.

And he thinks he sees a place for a fountain, possibly along the trail. I'd love it more central but am happy about this environmentally-attractive feature. We talked about designs that would incorporate themes from the community (more, hopefully, to come before long).

And he's looking at some shuttle options-- alas, not a link through FCC at this point.

I believe Peter sincerely wants Mason Row to be more than a money-making venture for him and his company: I believe he understands that it needs to be a part of and to enhance what FCC already offers and loves. I believe Peter wants this showcase to be an example of business developments that help communities just as the communities help them reach their bottom line. That's a win-win. Of course we have much more to explore and pin down but I think it's important to know that the commentary yesterday seemed off-base.

Thanks for considering these thoughts and all you do.

Deb(ra)
Debra Z. Roth
Falls Church City, VA USA
703/867-7406 (cell)

Akida Rouzi

Subject: FW: Please forward FW: Comments on Mason Row Project

From: Katie Niemi [mailto:katieniemi@gmail.com]
Sent: Friday, March 20, 2015 3:26 PM
To: City Clerk
Subject: Comments on Mason Row Project

Falls Church City Council and Planning Commission:

As a resident and homeowner in Falls Church I have concerns over the proposed Mason Row development project. Though I support the redevelopment of the property, I have concerns over the proposed scale of the project and the negative impact it will have on traffic/congestion, bike/pedestrian safety, and school enrollment. I strongly urge the City Council and Planning Commission to require the building height to step down to code on West Street facing the W&OD Trail (4 stories rather than 6 stories the developer wants a waiver for). I strongly oppose any above ground parking lot facing Park Avenue (i.e, like the eyesore above ground parking lot associated with the new Hilton Hotel). Please ensure that adequate free retail parking is available in an underground garage to ensure that retail customers do not have to park on neighborhood streets. I also urge the developer and City planners to maximize the retail opportunities within the new development to include small eateries (with adequate space for outdoor seating), strong anchor tenants (e.g. a small grocery like Mom's Organic, movie theater, and/or library), and maximize public green/open community space (e.g., like green space/ice rink at Pentagon Row to be used for public gatherings like Farmer's Market, concerts, etc.). I urge the City Council and Planning Commission to carefully consider traffic flow and congestion (i.e., need for new traffic light at Park and West Streets and other traffic calming measures) and maximize pedestrian/bike safety (i.e., consider pedestrian/bike bridge where bike path currently crosses West Street). If the project is done right, it will encourage walking by allowing pedestrian-friendly (and safe) access among the development, bike path, and neighborhoods. If the project is done wrong, it will further contribute to traffic congestion and potential for accidents around Park/Grove/West Streets. I also have concerns over the impact of the proposed project on school enrollment and urge City Council to ensure sufficient revenues from this project to mitigate the known impact to the schools (i.e., to help support prompt construction of a new George Mason High School to accommodate the growth that is inevitable to the schools as a result of this project and other development projects already underway within Falls Church).

Thank you for your consideration.

Katie Niemi
304A Pine Street, Falls Church

Akida Rouzi

Subject: FW: Mason Row Meetings with Potentially-Displaced FCC Businesses-Per FCN-P Commentary Yesterday

From: Debra (Z) Roth [mailto:debrazroth@gmail.com]
Sent: Friday, March 20, 2015 12:59 PM
Subject: Mason Row Meetings with Potentially-Displaced FCC Businesses-Per FCN-P Commentary Yesterday

I think there's been quite a misconception -- perhaps the commentary that ran in the 3/19/15 News-Press was submitted before Peter Batten met with Dave Tax and other businesses that are wondering if they will be able to relocated into Mason Row if the development is approved!

In my most recent meeting with Peter, he seemed shocked! Though he admitted he hadn't met with them till recently, he seems quite committed to taking steps to bring to fruition ideas they offered that he sees as a win-win (and I do, too) especially to pair Bikenetics with Mike's Deli/Lazy Sundae by the trail with features inviting to bike riders.

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And he's looking at some shuttle options-- alas, not a link through FCC at this point.

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Thanks for considering these thoughts and all you do.

Deb(ra)
Debra Z. Roth
Falls Church City, VA USA
703/867-7406 (cell)

Memorandum

TO: The Falls Church City Council, Planning Commission, City Manager

From: Residents of the 900 Block of Park Avenue

RE: The Mason Row Development

DATE: April 6, 2015

CC: Peter Batton, Richard Baskell
Spectrum Development

From the moment we first learned of the proposed development now known as Mason Row, we have generally been supportive. Understandably our primary focus is and has always been on the preservation of our residential street as well as concerns regarding parking and traffic which will necessarily increase as a direct result of Mason Row.

Since its inception, each proposed modification to the Mason Row project has retreated further and further from the developer's original proposal which not only preserved the residential character of our street but was received enthusiastically by neighbors on Park Avenue.

With regards to the latest modifications that were presented by Spectrum on March 21st, we respectfully ask city leaders to take into consideration the following:

- **Limit the number of residential units.** 340 units are too dense for this intersection and significantly more than were originally proposed. We have been told that 1) this number is necessary in order for the developer to make up for the two "loss leaders" - movie theaters and the extended stay hotel; 2) the two loss leaders were included in the project at the request of the city.

- **Alleviate the burden on the developer by moving one of the two loss leaders.** Since the extended stay hotel is the only thing to remain constant in this project, we would like to suggest moving the theaters to a more central location in the heart of the city ... specifically to the proposed new development at the corner of Broad and Washington Streets, a location that is truly in "downtown Falls Church." This location is more easily accessed and is also within convenient walking/biking distance for many city residents.

  Without one of the two loss leaders, the developer should be able to substantially reduce the number of units in Mason Row. This would hopefully allow for some form of residential to remain on Park Avenue, be it two single family homes, condos, townhomes, apartments or some combination thereof.

- **Retail on Park Avenue.** Retail on this block would have a permanent and detrimental effect on the residential character of this street. Perhaps equally important such retail would likely encourage even more parking and traffic on what is already a very crowded street.

- **Adequate Parking at Mason Row.** We ask the city to ensure that the developer includes at least the minimum number of required parking spaces for the development size. We are strongly opposed to any move that would push a significant amount of Mason Row parking onto Park Avenue.

- **Permit Parking.** No single issue has been more important to us. Since September of last year, we have been trying to secure permit parking for the houses on the north side of the street, nearly all of whom rely either in part or in whole on street parking. During our second meeting with the city manager which took place in early February we amended our original request for "Permit Parking Only 24/7" to the following:

  Two Hour Parking, 7am-5pm, Monday through Friday
  Resident Only Permit Parking from 5 pm through Midnight, Monday through Thursday
  Resident Only Permit Parking from 5 pm Friday through Midnight on Sunday

Thank you in advance for your time and consideration.

Respectfully yours,

Name	Address
Betty Pitera	912 Park Avenue
Jeff and Susan Henrikson	916 Park Avenue
Karen Barberie & Victor Wong	914 Park Avenue
Bob & Jenny Ford	910 Park Avenue
Joanne Fuches	920 Park Avenue
Kim and Deniz Callahan	918 Park Avenue

Attachment 19

Architectural Advisory Board
Council Chambers
March 4, 2015
7:45 p.m.

Meeting called to order 7:47 p.m.

1. Roll Call: Mrs. Friedlander, Mr. Fritsch, Mr. Anderson, and Mr. Way were present.

2. Petitions: There were no petitions.

3. Consent Calendar:

    a. AAB #2014-1309 – installation of wall-mounted, illuminated sign at 1112 W. Broad St. for Pita Pouch. Mr. Way made a motion to approve as submitted. The motion was seconded by Mr. Anderson and unanimously approved.

    b. AAB #2015-0175 – installation of wall-mounted, illuminated sign at 1001 W. Broad St. for House of Interiors. Mr. Way made a motion to approve as submitted with recommendation to change color of letters from red to white, and all other signs are to be removed. The motion was seconded by Mrs. Friedlander and unanimously approved.

    c. AAB #2015-0120 – installation of a wall-mounted sign and temporary banner at 450 N. Washington St. Suite H for Make My Day CPA. Mrs. Friedlander made a motion to accept as submitted with recommendation that the "CPA" text be smaller so as to fit in space dictated by existing masonry features. The motion was seconded by Mr. Anderson and unanimously approved.

    d. AAB #2015-0125 – installation of a wall-mounted, illuminated sign at 450 N. Washington St. Suite D for Comfort First Family. Mr. Way made a motion to approve as submitted. The motion was seconded by Mr. Anderson and unanimously approved.

4. Other Business: There was no other business.

5. Old Business: There was no old business.

6. New Business:

    a. AAB #2014-1292 – by BCN Enterprises, LLC, preliminary review of a conceptual plan for premises known as 205 Park Avenue, RPC # 51-106-010 of the Falls Church Real Property records, zoned B-2 "General Business", to restore exterior elevations, to remove the second front door and replace with a window to match existing windows, to add covered front porch, to provide outdoor dining areas, and to construct an addition at the rear elevation of the existing structure. After a

presentation by the applicant and discussion, the board recommends the applicant consider the following: address location of a second egress stair for the second level; work with HARB on details related to restoring the historic structure including gutters, downspouts, railings, etc.; consider the handicap parking location and ramp design to best maintain the historic Park Avenue facade and presentation; consider the inclusion of transom windows on north elevation of new addition; pay careful consideration to the transitional space between new addition and the existing historic components; and consider integration of signage. Overall, the board feels that the applicant has presented an effective and attractive design that maintains the historic nature of the existing structure and its relationship to the City of Falls Church.

b. AAB #2013-1165 – by Spectrum Development, LLC, preliminary review of a revised conceptual development packet for the proposed Mixed Use Development, named Mason Row (Broad and West). After a presentation by the applicant and discussion, the board recommends the applicant consider the following: consider the scale and impact of the parking deck that faces Park Avenue and consider stepping back the levels that are planned for above the 35' elevation; consider the architectural design and detailing of the parking garage facade at the Park St. elevation and how it can better relate to the context of its residential neighbors; consider moving the amenity spaces from internal of the structure to face outward to Broad Street so as to breakup the impact of the continuous unarticulated massing of the building along Broad Street; further develop the architecture of the building into related but distinct elements to help further aid in breaking down the massing of the building; consider alternative treatment to the ground level appearance at the intersection of N. West Street and Grove Avenue so as to reduce the "wall" effect at this location; give consideration to the corner feature at West and Broad as this is a very visible and highly influential portion of the building; consider integration of signage for the hotel and theater components so they are best integrated into the overall design; and consider developing and presenting facade design options/variants in further iterations of the preliminary process. The board feels that, overall, the design needs to better acknowledge the context of the City of Falls Church and better manage the transition from business to residential properties. Contextual considerations include local and state building traditions, the existing built environment along Broad Street and the unique history and values of the community.

7. Minutes:

   a. Minutes from the December 3, 2014 meeting were reviewed. Mr. Way amended the minutes to add a motion that was missing and has resubmitted those minutes to staff.

8. Adjournment: The meeting was adjourned at 10:22 p.m.

Attachment 20

CITY OF FALLS CHURCH

DATE: February 19, 2015

TO: Gary H. Fuller, AICP, Principal Planner
Akida Rouzi, Planner

FROM: Paul Stoddard, Senior Planner

SUBJECT: Proposed Mason Row Development, Transportation Planning Review

---

Please find below my transportation comments and recommendations regarding the proposed redevelopment project at West Broad Street and North West Street, titled "Mason Row". These comments and recommendations respond to the following documents received on February 3, 2015:

1. Applications for rezoning, comprehensive plan amendment, and special exception;
2. Parcel ownership information and consent letters from property owners;
3. Transmittal and justification letters regarding rezoning, comprehensive plan amendment, and comprehensive plan conformance;
4. Voluntary Concessions;
5. Retail Merchandising Plan;
6. Conceptual Development Plan;
7. Conceptual Development Packet; and
8. Traffic Impact Study, both short and long form.

These comments and recommendations also respond to the Parking Reduction Request, dated February 11, 2015.

Major Issues

Several issues in the submission require further attention. The following short list of items highlights major issues.

1. A Transportation Demand Management (TDM) Plan and a Parking Management Plan should be included with the application materials and be agreed upon before accepting the conceptual development plan and granting the rezoning and special exception.
2. Building entrances need to be identified so that site elements like bike racks, sidewalk dining, and landscaping can be property sited.
3. As indicated in the Parking Reduction Request submitted by the applicant, the amount of automobile parking proposed, 916 spaces, may provide more automobile parking than is

required to meet demand. Providing more spaces than needed could have several detrimental effects. City staff and the development team should work together to develop an appropriate level of automobile parking for the proposed project.

Policy Guidance

These comments are motivated by the following policy guidance.

Comprehensive Plan

- Mobility for all Modes, Chapter 7
    - Increase pedestrian safety and accessibility in both the commercial and residential areas of the City.
    - Increase the safety and accessibility of bicycling.
    - Ensure that bicycle routes connect the City's commercial areas, transit facilities, regional bicycle facilities, and designated bicycle routes in neighboring jurisdictions.
    - Provide bicycle parking at all facilities generally open to the public and in all commercial areas of the City.
    - To the extent possible, meet increased travel demand within, from, and through the City via non-automobile modes.
    - When roadways are being constructed or repaired, adjust lane widths and turning radii to be as small as possible according to the City's design guidelines.
- Chapter 4, Goal 3, Strategy C: Develop pedestrian and bicycle trails that link recreational, residential, and commercial uses, as well as schools and metro stations, to reduce the need for auto trips and increase residential-commercial linkages.

City's Design Guidelines

- Page 39, provide a width of 10 feet of pedestrian space on sidewalks in commercial areas.

Bus Stop and Bus Shelter Master Plan

- Priority locations map, site layout, shelter design.

Pedestrian Access

Several positive changes have been made to the plan since it was last submitted. Those items are noted below. Several items require further review.

The following changes are all beneficial for pedestrian access and safety. These should be commended and maintained as the process moves forward:

1. The crosswalk and traffic light along Broad Street at the eastern end of the project. These elements dramatically improve pedestrian access and safety.
2. Flush sidewalks at all vehicle entrances. These will help clarify that entering and exiting motorists need to yield to sidewalk users.

3. The crosswalks connecting the site to the W&OD Trail across N West St. Including the concrete medians for the crosswalk near Grove Ave.
4. The traffic light at Park Ave.

The follow elements require further attention:

1. Is sidewalk dining envisioned for this site? If so, areas should be identified on the conceptual development plan in order to ensure pedestrian passage is accommodated.
2. At the intersection of W Broad St & N West St, can the turning radius be tightened? The 27 foot radius shown appears overly wide.
3. At the intersection of W Broad St & N West St, can the median on W Broad be carried through the crosswalk? This would better direct turning motorists and better protect pedestrians using the crosswalk.
4. Can the proposed concrete median on N West St be carried though the repositioned W&OD Trail crossing?
5. Additional treatments are needed at the crossing of Grove Ave and the W&OD Trail. Perhaps something similar to what is proposed for the crossing with N West St.
6. When the theater entrance location is identified, ensure sufficient sidewalk space out front for pedestrian access.
7. Ensure adequate lighting at all vehicle entrances, in particular, lighting at the entrance near Park Ave and the east entrance on Broad St appear too far away.

Bicycle Parking and Access

Some positive changes have been made to the plan since it was last submitted. Those items are noted below. Several items require further review.

The following changes are all beneficial for bicyclist access and safety. These should be commended and maintained as the process moves forward:

1. The strengthened connections to the W&OD Trail, specifically the new crosswalks.
2. The mention of a Capital BikeShare station.

The following items require further attention:

1. Outdoor bicycle parking should be shown within each “block” as separated by driveway entrances.
2. Voluntary Concession #19, Bicycle Storage and Bike Share. The provision of 20 bicycle parking spaces is insufficient. The number of bicycle parking spaces should be connected to the site’s TDM plan and the mode-share goals for the site. The project should provide separate secure bicycle parking facilities for the apartments, the condominiums, and the retail spaces. Additionally, non-secure spaces should be provided for retail customers and other short-term visitors.

- Stipulate that the long-term, secure bicycle parking will meet "Class 1" requirements as described by Arlington County's bicycle parking standards - http://www.commuterpage.com/pages/special-programs/tdm-for-site-plans/bicycle-parking-specifications/.
- Provide separate secure bicycle facilities for residential users (residents) and commercial users (employees).
- For commercial users, stipulate that parking is for employee use.
- Locate the secure parking facilities close to parking garage entrances or provide a separate entrance directly onto the sidewalk.
- Provide separate "Class 2" or "Class 3" visitor bike parking (again referencing Arlington County standards) for non-residents and non-employees.
- Stipulate the number of bicycle parking spaces to be provided will be consistent with Arlington County bicycle parking requirements.

3. Voluntary Concession #19, Bike Share. The location for the proposed Bike-Share location should be included in the CDP. Please see guidance from Arlington County regarding the site locations for Bike-Share stations, with particular emphasis on visibility and pedestrian accessibility. Further, both (1) up front capital costs and (2) ongoing operating costs should be included as a developer contribution.

Transit Access

Some positive changes have been made to the plan since it was last submitted. Those items are noted below. Some items require further review.

The following change is beneficial for transit rider access and safety. These should be commended and maintained as the process moves forward:

1. The relocation of the bus stop area to the intersection of West Street and West Broad. This location substantially improves access and safety for bus riders and it is consistent with the City adopted Bus Stop and Bus Shelter Master Plan, http://www.fallschurchva.gov/BusStop

The following item require further attention:

1. Voluntary Concession #23, Bus Shelter. The language should be updated to confirm that the bus stop will be provided as shown in the CDP. Additionally, the language should clarify that it is the City Manager's option to trigger the in lieu payment for a shelter, not the developer's. Lastly, per the latest cost estimate from the City's bus shelter efforts, the in lieu payment should be increased to $30,000.

Automobile Access and Parking

Some positive changes have been made to the plan since it was last submitted. Those items are noted below. Some items require further review.

The follow changes are beneficial to the project in providing balanced access to the site. These should be commended and maintained as the process moves forward:

1. The standardization of travel lane widths to 11 feet. Please confirm that travel lanes along W Broad Street will be 11 feet.
2. The addition of a traffic light at the intersection of N West St & Park Ave.
3. The removal of the automobile entrance and parking spaces along N West St.
4. The removal of the garage entrance from Park Ave.

The following items require further attention:

1. Lane widths on Grove Ave and N West St should be standardized at 11 feet through the intersections with the W&OD Trail.
4. Please indicate whether it is still expected that Mason Ln, the internal street, can be blocked for festivals. If that is the case, please indicate on the CDP where street would be closed.
5. Voluntary Concession #20, Electric Vehicle Charging Station. Please explore whether multiple stations should be provided.

Transportation Demand Management

A Transportation Demand Management (TDM) Plan must be included to properly review the application. As noted in the City's Comprehensive Plan, new projects should, "to the extent possible, meet increased travel demand within, from, and through the City via non-automobile modes". Without a TDM plan, it is not possible to assess whether this is being done. Further, it is not possible to fully assess automobile parking needs without a TDM plan.

In developing a TDM Plan, the intention should be to equalize the benefits being offered for different modes of transportation. So instead of providing everyone a free parking space, give people a choice of parking, transit, bicycle, or pedestrian benefits. Additionally, transportation benefits need to be tailored to the different user groups – renters, owners, employees, hotel visitors, etc. Some ideas for that include:

- Unbundle the parking from the apartments. Allow renters to rent an apartment without renting a parking space – offer rented parking as a separate item in the lease.
- Unbundle the parking from the condominiums. Allow the condominiums and parking spaces to be purchased as separate items. As needed, condo owners could rent additional parking spaces through the same program as the renters.
- Work with employers to offer employees a "parking cashout" – allow employees to choose among a parking pass, transit benefits ~$100/mo, or cash payments ~$50/mo.
- Provide secure bicycle parking for residents with access directly off the sidewalk or close to the garage entrance.
- Provide separate secure bicycle parking for employees, along with showers and changing facilities.
- Provide hotel guests with prepaid SmarTrip cards.

- Provide designated spaces for vanpool and carpool in preferred spaces – either near building entrances or parking area entrances.
- Provide designated spaces for car-sharing services in preferred spaces.
- Provide a fleet of cars available for residents and/or employees in the building.

Parking Management

Similar to a TDM Plan, a Parking Management Plan must be included at this stage of the development process. Overall, the intention is to manage the parking supply in order to avoid constructing more parking spaces than are needed to meet demand - building 1 space that is used 16 hours a day is preferable to building 2 spaces that are each used 8 hours a day. This means taking into account when (day, night, weekend) different groups of users will need access to parking and how (short-term vs long-term) they will use it. For example:

- Hotel and residential parking use will be heaviest at night, whereas retail parking use will be heaviest midday and early evening.
- The "retail" parking spaces could be signed as four hour parking during expected business hours and available to residential users (residents and visitors) with either a parking sticker or a hang tag overnight or outside of business hours.

Automobile Parking Supply

As indicated in the Parking Reduction Request submitted by the applicant, the amount of automobile parking proposed, 916 spaces, may provide more automobile parking than is required to meet demand. Providing more spaces than needed could have several detrimental effects. These effects include (1) the incentivizing of more patrons to drive, thereby increasing congestion on nearby roadways and (2) the over commitment of project resources toward the construction of parking that could instead be invested in community benefits. City staff and the development team should work together to develop an appropriate level of automobile parking for the proposed project.

Because the built environment has a dramatic effect of travel mode and therefore parking demands, the exemplars in the Parking Reduction Request should be selected to reflect a range of built environments. The range of environments should reflect the current environment in the City of Falls Church today and the planned built environment described in the City's Comprehensive Plan, small area plans, and zoning ordinance.

Attachment 21

CITY OF FALLS CHURCH

DATE: March 13, 2015

TO: Gary H. Fuller, AICP – Principal Planner, DDS
Akida Rouzi – Planner, DDS

FROM: Stephanie Taylor, P.E. – Transportation Engineer, DPW
Jason Widstrom, P.E. – Civil Engineer, DPW
Kate Reich – City Arborist, DPW

SUBJECT: 900 Block of West Broad Street Mixed-Use Development (Mason Row)
Revised Submission

The Department of Public Works has reviewed the revised submission of the traffic impact study and concept plan, dated February 11, 2015, for the Mason Row site located along the 900 block of West Broad Street. Updated comments on the submission are provided below.

Report

1. The TDM section is still vague and repetitive. For example, Item A7 states, "Encourage residents and employees to ride bikes or walk to work," but does not say how. Also, Items E2 and E3 state the same thing.
2. As noted in the previous submission's comments, the TDM's target reduction goal should include the retail uses.
3. As noted in the previous submission's comments, while the current report did not require vehicular data collection on weekend day, a technical memorandum which analyzes weekend operations should be prepared approximately one year after the site is occupied. This memo should also examine parking operations and site circulation and propose specific mitigation measures if needed. The report and/or voluntary concessions should reflect this.
4. As noted in the previous submission's comments, include the date that PHR&A performed the counts along North Oak Street in the report. If available, include the detailed data collection information in the appendix. If these counts were collected before 2010, they are no longer representative of local traffic volumes and new data will need to be collected.
5. A full MUTCD-compliant signal warrant analysis at the intersection of West Broad Street and the eastern site access point should be provided per the scope.
6. There are major impacts expected for the EBL approach West Broad Street and West Street. Potential mitigations should be listed.

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www.fallschurchva.gov

7. The Lost Time Adjust in the Synchro file need to be set so that total lost time = 3 sec per attachment V.
8. The Synchro future lane configuration at West Broad Street and West Street should be revised to match the proposed development plan. The southbound left turn lane is missing.

Plan – Utilities

1. The City could not locate the stormwater easement along 905 W Broad Street. Please provide this information.
2. The City requires stormwater calculations showing pre- and post-development flow rates. Be sure to account for existing stormwater detention facilities in the pre-development flow rate.
3. There are two illicit connections to the RCP on 919 Park Ave. These must be removed and repaired.
4. We are awaiting CCTV of the storm piping along West Broad St. to see if there are other repairs needed.
5. Show all existing utilities, especially drainage facilities, and grading in the area surrounding the bike path. The City has a concern about changes to the area and the impact on stormwater conveyance.
6. The City's sanitary sewer model indicates there is a capacity concern with the proposed development. A sewer capacity analysis from str. 70 to str. 25 and str. 70 to str. 144 will be required as part of the development application.

Plan – Landscaping

1. Emphasize the green corridor between Mason Row, the W&OD Trail and West End Park by adding landscape improvements on city ROW and NVRPA property across the street from Mason Row, and using some of the same landscape elements in the Mason Row streetscape. There should be a clear visual and pedestrian connection between Mason Row and West End Park.
2. Improved W&OD Trail street crossings should include trees and/or shrubs in the ROW.
3. The landscape strip between the street and sidewalk on Park Avenue should be at least 6 feet wide.
4. Trees are shown planted 7 feet from the north side of a very wide 5-story building, but no trees will thrive there due to the lack of available sunlight.
5. Please plant trees in the buffer area on the east side, if acceptable to the Public Works Director.
6. Add a streetscape planter on West Street between the garbage driveway and the proposed

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crosswalk to Grove Ave.

7. Use the adopted Broad Street streetscape planter design on Broad and on West, including the raised bullnose edge.
8. Streetscape planters should be placed at the back of the curb; no utility strip is needed.
9. A continuous planting-soil bed along the curb below the pavement, sloped to a drain line at the bottom, is preferred over discrete individual planting pits. The surface design will still be individual planters with pavement between them.
10. Streetscape planters need to be irrigated with a separate irrigation water meter and shutoff on the street.

Plan – Transportation

1. Enhanced trail crossings for Grove Avenue and N West Street are preferred over not treating the Grove crossing or relocating the N West crossing to the intersection.
2. Eliminate the loading zone along N West Street to provide sufficient space for streetscape. Parking and loading should be considered part of the internal site circulation.
3. Evaluate the feasibility of relocating the crosswalk across N West St to with the west side of Grove Avenue so that West End Park visitors only have to cross one street. Consider visibility and potential conflicts with right turning vehicles.

Plan – Solid Waste & Recycling

1. Conceptual design shows trash dumpsters in two of the five buildings. It is unclear how recycling/trash will be handled in the remaining three buildings. Please provide plan for solid waste management in these buildings.
2. Conceptual design is not clear on how recycling/trash will be handled in the residential portion of the development. Please provide a plan for residential solid waste management.

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DEVELOPMENT SERVICES ROUTING TRANSMITTAL

Attachment 22

Project Address: 900 Block of W. Broad Street	**Project Name:** Mason Row (Broad and West)
Review Type ☒Conceptual Development Plan ☐Site Plan Review ☐Preliminary Subdivision Plat Review ☐Final Subdivision Plat Review ☐2232 Review ☐Other_____	**Application Type** ☐Site Plan ☐Site Plan Amendment-Major ☐Site Plan Amendment-Minor ☒Special Exception ☒Comprehensive Plan Amendment ☐Subdivision, Consolidation or Lot Line Adjustment ☒Rezoning ☐Interpretation/Planning Director ☐Zoning Ordinance Text Amendment
Munis # 2013-1165	

Routing Date: February 5, 2015	**Case Manager(s):** Gary Fuller, Principal Planner; Akida Rouzi, Planer gfuller@fallschurchva.gov 703-248-5039 arouzi@fallschurchva.gov 703-248-5104
Routing To: ☒Building Safety ☒City Arborist ☒City Engineer ☒Transportation Engineering Supervisor ☒Fire Marshal [Tom Polera] ☒DDS/Planning Director [Jim Snyder] ☒Northern Virginia Regional Park Authority ☒Fairfax Water ☒Principal Planner ☒Senior Planner ☒Transportation Review ☒Comprehensive Plan Review ☒Planner ☐Planning Specialist (HARB) ☒Zoning Administrator ☒Police [James Brooks] ☒Economic Development ☒Housing and Human Services ☐Real-Estate Assessor ☒City Manager's Office ☒City Attorney ☒File Copy	**Special Comments from Case Manager:**

Project Schedule:	**Written Comments Due to Case Manager:** February 27, 2015
☐**Planning Commission Meeting on: TBD** ☒**DRC Meeting on:** Feb. 26th ☐**City Council Meeting on: TBD**	**Reviewer Comments:** ☒No comments - See Reaffirmed comments of 9/4/14 + 7/15/14 ☐Standardized comment sheet is attached ☐Comments have been emailed to Case Manager(s) Signature: Randy Thornton Date: 2/9/15 Department/Division: Short Range Planning

FAIRFAX COUNTY WATER AUTHORITY
8560 Arlington Boulevard, Fairfax, Virginia 22031
www.fairfaxwater.org

PLANNING & ENGINEERING DIVISION
Jamie Bain Hedges, P.E.
Director
(703) 289-6325
Fax (703) 289-6382

September 4, 2014

Mr. Gary H. Fuller
AICP, Principal Planner
City of Falls Church
300 Park Avenue, Suite 300 West
Falls Church, Virginia 22046

Re: Broad & West Mixed Use
Tax Map: 40-4

Dear Mr. Fuller:

Fairfax Water would like to reaffirm its comments from July 15, 2014 (please see attached).

If you have any questions regarding this information please contact me at (703) 289-6385

Sincerely,

Ross Stilling

Ross K. Stilling, P.E.
Chief, Plan Review

Enclosure

COMMENTS DUE BY:
September 12, 2014
(2 weeks)

CITY OF FALLS CHURCH
PLANNING DIVISION
MEMORANDUM

DATE: August 29, 2014
TO: **Development Review Committee (DRC)**
_____ AAB Coordinator [Schedule *pending*]
__X__ Building Official
__X__ City Arborist [Tree Survey provided, with Special Exception]
__X__ City Engineer [Engineering/TIA] (Sanitary/Storm Sewer) (referral Sabra Wang)
__X__ Fire Marshal [Tom Polera]
__X__ GM Development Services/Planning Director
__X__ Northern Virginia Regional Park Authority
__X__ Fairfax Water (Water Utilities)
__X__ Principal Planner (Development Review/Case Manager)
__X__ Senior Planner (Transportation/TIA) (Comprehensive Planning)
__X__ Planner
__X__ Planning Specialist (HARB)
__X__ Zoning Administrator
__X__ Police
__X__ Other_____ADU's _____ Housing etc.
__X__ Other_____ Economic Development (Fiscal Impact, EDA, etc.)
__X__ Other_____ City Manager's Office.
__X__ Other_____ City Attorney – (Development Conditions etc)..

Scheduled
Developer presentation for City staff on September 2nd at 10:30 a.m. in the Dogwood Room

FROM: **Gary H. Fuller, AICP, Principal Planner and Akida Rouzi, Planner**

SUBJECT: Special Exception/Rezoning/ Comprehensive Plan Amendment/Special Use Permit/Historic Dwelling (Demo) – *Broad and West*, Mixed-Use Development for **900 Block of West Broad Street** – 3.91 acres. Proposed 5/6-Story, Mixed-Use Building - Ground Level Retail/Service uses; Hotel and Multi-Family Residential Rental/Condo Units. MUNIS # 2013 1165

Enclosed: Revised submission dated August 27, 2014
Cover Letter, Architectural Conceptual Development Plan, Site Conceptual Development Plan, and Updated Traffic Impact Study

Note: There will be Developer presentation for City staff and management on September 2, 2014 at 10:30 a.m. in the Dogwood Room.

_____ I have reviewed this conceptual development plan. My review is complete.
_____ I have no comments. __Y__ Standardized Comment Sheet is attached.

Signature: Randy Morris Date: 9-4-14
Department/Division: Short Range Planning

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www.fairfaxwater.org

PLANNING & ENGINEERING DIVISION
Jamie Bain Hedges, P.E.
Director
(703) 289-6325
Fax (703) 289-6382

July 15, 2014

Mr. Gary H. Fuller
AICP, Principal Planner
City of Falls Church
300 Park Avenue, Suite 300 West
Falls Church, Virginia 22046

Re: Broad & West Mixed Use
Tax Map: 40-4

Dear Mr. Fuller:

The following information is submitted in response to your request for a water service analysis for the above application:

1. The property can be served by Fairfax Water.

2. Adequate domestic water service is available at the site from existing 12-inch water main located in West Broad Street and a 20-inch water main located in Park Avenue. See the enclosed water system map.

3. Depending upon the configuration of any proposed on-site water mains, additional water main extensions may be necessary to satisfy fire flow requirements and accommodate water quality concerns.

4. Please be aware that Fairfax Water operates a 20-inch transmission main in Park Avenue. In accordance with Fairfax Water policy (copy enclosed) all developer proposed relocations of Fairfax Water transmission mains greater than 16-inches in diameter require the approval of the Fairfax Water Board. If it is determined that the proposed construction requires relocation of this transmission main, the applicant must submit a letter to the attention of Ms. Jamie Bain Hedges, P.E., Director, Planning and Engineering, requesting permission to relocate the existing transmission main. Submission of such a request, if necessary, is recommended as soon as possible to avoid subsequent project delays or rework. Relocation of the transmission main, if approved, will be at the owner's expense. After staff review, the request will be forwarded to the Board for consideration.

If you have any questions regarding this information please contact Ross Stilling, P.E., Chief, Site Plan Review at (703) 289-6385.

Sincerely,

Traci K. Goldberg

Traci K. Goldberg, P.E.
Manager, Planning

Enclosure

Transmission Main Relocation Policy

Adopted April 23, 2009

Water mains larger than 16-inches in diameter constitute the backbone of the Fairfax County Water Authority's (Authority) transmission system. Their continuous operation is necessary to best ensure adequate flow and pressure throughout the system for the provision of domestic service and fire protection. These transmission mains are located in easements benefitting the Authority and in state right-of-ways with approval of the Virginia Department of Transportation.

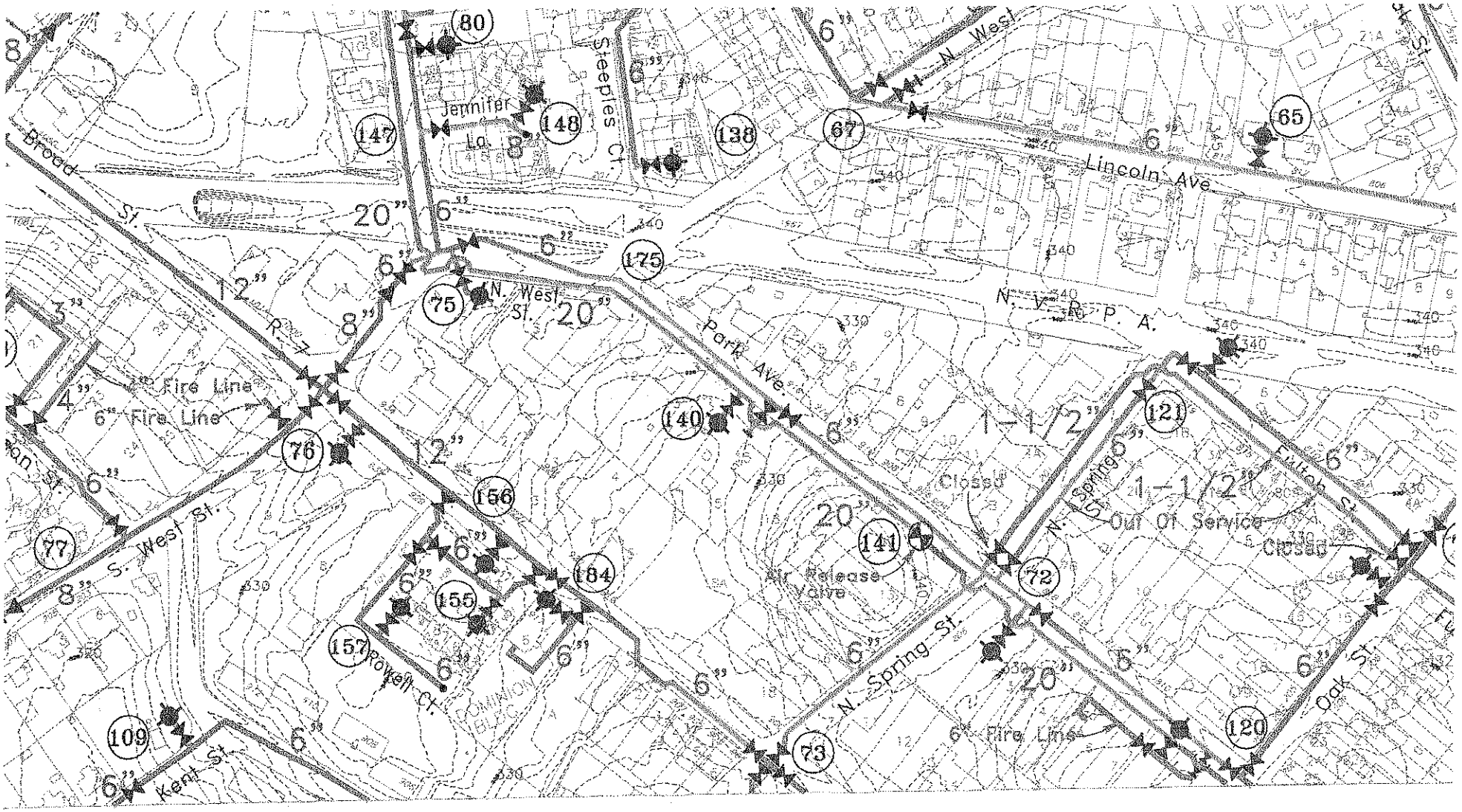
Occasionally, private land developers request permission to relocate portions of the Authority's transmission mains to facilitate best use of the developer's property. Given the significant risk and high degree of coordination necessary to effectively relocate transmission mains without compromising the integrity of the Authority's operations during these activities, all proposed relocations of water mains larger than 16-inches in diameter that are initiated by private development activity must be submitted to the Authority Board for approval

When reviewing proposed relocations, the Board will consider various factors, including but not limited to:

1) The extent of the relocation.
2) The anticipated transmission main outage duration during tie-ins.
3) The impact to the local service area and the overall system.
4) The level of staff effort required to effectively coordinate and execute the relocation.
5) The benefits to the Authority of the proposed relocation.

Upon a request from a private developer to relocate a water main larger than 16-inches in diameter, Authority staff will prepare an item discussing the above factors for the Board's consideration.

All such transmission relocations approved by the Authority shall be designed, constructed and completed at the sole cost and expense of the developer, including a reasonable fee to compensate the Authority for staff time devoted to the review, inspection and approval of such relocation. For all approved transmission relocations, the Authority shall require the developer to enter into a written agreement that obligates the developer to complete all work in accordance with the plans approved by the Authority for such relocation. Whether the subject property will be served by the Authority or by another public water utility shall not be a factor in the Board's consideration of whether to approve a relocation request.


Broad St.
Jennifer La.
Steeples Ct.
N. West St.
Lincoln Ave.
N. V. R. P. A.
Park Ave.
Fire Line
6" Fire Line
S. West St.
Kent St.
Powell Ct.
Air Release Valve
Closed
Out Of Service
N. Spring St.
Fulton St.
Oak St.
6" Fire Line
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COMMENTS DUE BY: Thursday, July 24, 2014 (2 weeks)

CITY OF FALLS CHURCH
PLANNING DIVISION
MEMORANDUM

DATE: July 9, 2014

TO: **Development Review Committee (DRC)**
_____ AAB Coordinator [Schedule *pending*]

__X__ Building Official

__X__ City Arborist [Tree Survey provided, with Special Exception]

__X__ City Engineer [Engineering/TIA] (Sanitary/Storm Sewer) (referral Sabra Wang)

__X__ Fire Marshal [Tom Polera]

__X__GM Development Services/Planning Director

__X__ Fairfax Water (Water Utilities)
__X__ Principal Planner (Development Review/Case Manager)
__X__ Senior Planner (Transportation/TIA) (Comprehensive Planning)
__x__ Planner
__x__ Planning Specialist (HARB)
__X__ Zoning Administrator
__X__ Police
__x__ Other_____ADU's _____ Housing etc.
__x__ Other_____ Economic Development (Fiscal Impact, EDA, etc.)
__X__ Other_____ City Manager's Office.
__X__ Other_____ City Attorney – (Development Conditions etc)..

To schedule DRC Meeting in late July or early August to be announced

FROM: **Gary H. Fuller, AICP, Principal Planner**

SUBJECT: **Special Exception/Rezoning/ Comprehensive Plan Amendment/Special Use Permit/Historic Dwelling (Demo)** – ***Broad and West*, Mixed-Use Development** for **900 Block of West Broad Street** – 3.91 acres. Proposed 5/6-Story, Mixed-Use Building - Ground Level Retail/Service uses; Hotel and Multi-Family Residential Rental/Condo Units…**Booklet** - *Application, Requests & Justifications* **Conceptual Development Plan, Voluntary Concessions, Community Benefits, Terms & Conditions, dated July 7, 2014**

MUNIS # 2013 1165
Special Exception (Height) and (Residential Uses) in Commercial District
Comp. Plan – Future Land Use Map - Low Density Res/Gen. Bus to Mixed Use
Rezoning - Zoning Map Amendment R1-B, B-3 to B-1
HCC Designated Structure – Demo application

_____ I have reviewed this conceptual development plan. My review is complete.
_____ I have no comments. __X__ Standardized Comment Sheet is attached.

Signature: Randy Morton Date: 7-15-14
Department/Division: Planning

Attachment 23

CITY OF FALLS CHURCH

DATE: February, 25 2015

TO: Akida Rouzi, Planner

FROM: Nancy Vincent, Director, Department of Human Services
Kevin Denton, Housing Specialist II, Housing and Human Services

SUBJECT: Spectrum Affordable Housing Voluntary Concessions

The Affordable Dwelling Unit (ADU) policy specifically targets households at 50%-80% of the Area Median Income (AMI). Rental ADUs should be affordable to households with incomes at 60% AMI and should have a similar bedroom ratio to the project as a whole, although the City has a preference for units affordable at lower than 60% AMI and for larger units. ADUs will be similar in size and quality to market rate units while also being spread throughout the entire project. Building owners will be responsible for marketing and assessing tenant qualifications of all ADU apartments. ADU apartments are excluded from any annual amenities fee.

Housing and Human Services staff recommends the following affordable housing contribution:

- At least 6% of all residential units will be designated as ADUs.
- ADUs will be affordable to households at no more than 60% AMI.
- A minimum of one of the ADU apartments will be accessible as defined by the American with Disabilities Act.

I:\Housing\Mason Row\HHS Mason ADU recommendation.docx

Attachment 24

CITY OF FALLS CHURCH
FIRE MARSHAL
300 PARK AVENUE
FALLS CHURCH, VA 22046
Phone: (703) 248-5058 Fax: (703) 248-5158
Email: FireMarshal@fallschurchva.gov

March 5, 2015

TO: Gary Fuller, City Planner

FROM: Capt. Tom Polera, City Fire Official

SUBJECT: Comments on Mason Row Project

While many of the specifics of this project relating to Fire and Building codes are still in development, the following items need further details to address life safety concerns. Upon further explanation additional items may be brought forward to be incorporated into the voluntary concessions:

- Streetscape: The Fire Official shall review and approve streetscape to assure interoperability for the building egress, emergency responder operations and unhampered access to building systems. This includes the locations of fire hydrants and their relation to FDC connections as not to block or impede egress points including garage access/egress points.
- Mason Lane and Road Access: The addition of the new street shall meet and maintain the intent of the Statewide Fire Prevention Code requirement for 20 foot width access road for fire apparatus. This includes weight capacities for fire apparatus.
- Designated Fire Lanes: Indicate Fire Lanes for emergency response.
- Radio Coverage Compliance: Regarding the public safety radio coverage compliance, this requirement is not only for the underground parking garage but includes coverage requirements inside and aboveground in the building(s) to include stairwells. The space and equipment needed shall be provided by the developer/building owner and be maintained by the building owner. The City Fire Official is the point of coordination for all city emergency services for approval of radio compliance.
- High-rise Packages: Due to the mixed use and complexity of life safety systems for this development, there needs to be a clear understanding on which buildings will be equipped with a high-rise fire protection package. This includes the details of buildings that are inter-connected with sprinkler/standpipe/alarm systems including the locations and number of Fire Control Rooms and locations of Fire Department Connections.
- Emergency Generators: Those structures not equipped with a high-rise package shall have a generator that will have the capability to supply and sustain fire

protection systems, emergency lighting and ventilation, elevator service as well as domestic water in order to sustain the sanitary systems and any other critical functions that are to remain viable during extended outages. Generators are preferred to be natural gas supplied.

- Parking Spaces: The project shall have a least two designated parking spaces for POLICE Department needs.
- Movie Theatres: This project shall include the close coordination regarding the feasibility of acceptable assembly areas (movie theatre's) in the underground space. An **All-Hazards Plan** shall be submitted for approval regarding this space that shall include plans and building features for evacuation, shelter in place, security, and "lock-down" scenarios. These plans shall address an all-hazard approach to maintain a safe community environment. The All-Hazards Plan for this assembly area shall be approved by the Building Official, Fire Official and the Chief of Police.

Please contact me if you have any additional questions.

Sincerely,

Capt. Tom Polera

Attachment 25

CITY OF FALLS CHURCH

MEMORANDUM

DATE: March 10, 2015

TO: Gary Fuller, Principal Planner
Akida Rouzi, Planner

FROM: John C. Boyle, Zoning Administrator

SUBJECT: Mason Row Special Exception / Rezoning

This will serve as my comments on this plan—

Rezoning

The plan proposes to rezone the subject parcels to B-1 Limited Business. This requires a revision to the Future Land Use Plan for the parcels currently zoned R-1B Medium Density Residential, which are slated to remain R-1B. The Future Land Use map revision noted in the application is the appropriate process to achieve this.

The plan should consolidate the multiple underlying lots into either a single lot or the minimum necessary to achieve the intended use and ownership separation. Recordation of the resulting lots should be attached to the final site plan.

Special Exception Language

The applicant is advised to propose language and conditions in the special exception ordinance that allows flexibility in securing tenants. Several recent special exceptions have been especially restrictive and required City Council amendments to remove use limitations in order to address market realities. That is an expensive and time-consuming public process that is not guaranteed to succeed. The proposed special exception language should be carefully crafted to anticipate likely uses while still complying with the intent of the ordinance, and it is far easier to craft that language at this time than after occupancy.

920 W. Broad Street Historic Structure

The applicant's appeal A1561-14 was sustained by the Board of Zoning Appeals on July 17, 2014. 920 W. Broad is now considered to have an active demolition permit from the Historic Architectural Review Board and may be demolished at the owner's discretion pending issuance of a building demolition permit from the Building Official.

Parking

1. The shopping center parking ratio of 1:250 is available for the proposed commercial uses.
2. The mix of uses requires 1,144 parking spaces by code; the 947 proposed is a reduction of 17% and requires justification. The Planning Commission may adjust the required parking ratio upon review of the applicant's justification.
3. The proposed on-street loading space requires City Council approval. Staff supports on-street loading spaces when they are posted as such between certain hours that are compatible with the retail uses. An example is the loading space approved by Council on N. Lee Street that serves the Broadway Building. Large delivery vehicles such as moving vans will not be able to negotiate the interior of this site plan and will likely make use of on street. Anticipating that, it will be beneficial to designate such areas in the plan.
4. Staff recommends the applicant request a Planning Commission reduction in required loading zone spaces where practical, i.e. for after-hours deliveries and for deliveries that will not requires large vehicles; in such cases it may be possible to dedicate specific passenger vehicle parking spaces as loading during posted hours. An example of this exists in the Reed Building.
5. With regard to the apartment and commercial parking, the applicant is urged to provide a parking management plan that prevents the mixing of residential, commercial and hotel parking and that provides dedicated parking for the apartments and their guests. There are several examples in recently built structures that confirm mixing retail and residential spaces has not been successful and becomes a significant site plan compliance issue after occupancy. Compliance with such a plan should be made part of the leases.
6. The applicant is cautioned not to allow units to lease or purchase dedicated parking above and beyond what the code requires. Where this has occurred, parking plans have failed and caused significant conflicts between residents, HOA's and commercial tenants. With the parking reduction requested, there will be no excess of parking to lease or purchase.

Building Height

As noted, the proposed building height of 85 feet requires a special exception and must be measured from the lower of existing or finished grade; proposed height and table on P-0401 complies.

Setbacks

The setbacks indicated on P-0101 are correct.

General

- The use of underground vaults proposed for the transformers is noted and encouraged; The applicant is advised that in the event the vaults cannot be used and the transformers are located above grade, they must be moved out of a yard abutting a street.
- Vision obstruction triangles are noted on the plan; maintain sight lines at intersections including where pedestrians cross vehicle drive aisles.

Attachment 26

NOVA PARKS
Northern Virginia Regional Park Authority

5400 Ox Road, Fairfax Station, VA 22039 | 703-352-5900 | Fax: 703-273-0905 | www.novaparks.com

February 27, 2015

Gary Fuller
Principal Planner
City of Falls Church
Department of Development Services
300 Park Avenue, Room 300 West
Falls Church, VA 22046

RE: Mason Row (Broad & West) Rezoning and Special Exception

Dear Mr. Fuller:

We have reviewed the application materials for the Mason Row rezoning and special exception and offer the following comments.

1. The modifications to the proposed W&OD Trail/N. West Street/Park Avenue/Mason Lane intersection shown on the Conceptual Development Plan include: realignment of the W&OD Trail so that it is part of the intersection and within the view of approaching motorists; reduction of the N. West Street/Park Avenue curb radii to calm traffic; a median island within N. West Street to calm traffic; and, widened trail approaches to allow groups to cross the roadway more efficiently. The CDP also shows a new sidewalk along the north side of N. West Street and three new crosswalks. NOVA Parks supports the intersection design and the enhancements to pedestrian access to the W&OD Trail.

2. The applicant's statements regarding conformance with the Comprehensive Plan and meeting special exception criteria state that the proposed development will increase pedestrian and bicycle activity in the area and that the W&OD Trail/N. West Street intersection improvements will help to mitigate traffic impacts. Moreover, the applicant's Traffic Impact Study recommends that the W&OD Trail crossing be integrated with the new signalized intersection and that intersection improvements will enable the intersection to operate at level of service "C". The intersection improvements and trail realignment must be constructed by the project sponsor concurrently with the roadway improvements instead of a monetary contribution proffered for the trail realignment. This will ensure that the significant changes to the road network and trail will be coordinated, traffic disturbance minimized, and adequate funds for the all intersections improvements, including the trail realignment, are provided. NOVA Parks' support of the intersection reconfiguration, utility undergrounding, and sidewalk improvements is contingent on the applicant's construction of the intersection and trail improvements concurrently and the installation of a traffic signal. As noted in previous

City of Alexandria	Arlington County	Fairfax County	City of Fairfax	City of Falls Church	Loudoun County
David M. Pritzker	Paul Ferguson	Stella Koch	Brian D. Knapp	Barry D. Buschow	Cate Magennis Wyatt
Scott Price	Michael A. Nardolilli	Laura Grape	Arthur F. Little	Jeffrey Tarbert	Daniel Kaseman

correspondence, the signal must have a protected phase for trail users or a leading interval to minimize conflicts between motorists and trail users. Voluntary Concessions 7 and 11 and the note on Sheet-P0402 "Approximate location of future trail and crosswalk by others" must be revised accordingly.

3. Motorist should not be allowed to turn right on red from southbound N. West Street. Otherwise, southbound traffic on N. West Street will queue across W&OD Trail crosswalk, which will block the trail crossing and limit sight lines between motorist and trail users, as well as result in trail users unsafely maneuvering between stopped vehicles.

4. The CDP does not show trail curb ramps at N. West Street. Future plans must show curb ramps that match the width of the crosswalk.

Thank you for the opportunity to provide comments. Please contact me at 703-359-4628 or at diglhaut@nvrpa.org if you or the applicant would like to discuss our comments in more detail.

Sincerely,

Daniel Iglhaut
Deputy Director of Planning and Grants

c: Todd Hafner, NOVA Parks, Director of Planning and Development
Chris Pauley, NOVA Parks, Director of Park Operations

Attachment 27

CITY OF FALLS CHURCH

DATE: 26 February 2015

TO: Gary Fuller, Principal Planner

FROM: PFC James Brooks, Community Services Officer, Police Department

SUBJECT: Mason Row Project

I have reviewed the conceptual plan submitted by Spectrum Development received on 3 February 2015. Listed below are the following comments regarding the planned development.

Recommendations/Requests:

- Install mirrors in strategic places in the garage to minimize areas which are obscured for both pedestrians and vehicles.
- Create physical segregation between residential and public use parking to limit illegitimate pedestrian and vehicular traffic.
- Segregate elevators for residential and public use to discourage “piggybacking” entrances by non-residents.
- The police department requests a parking space in an area with direct ingress and egress for emergency services.
- A camera layout plan is requested for increased surveillance in public areas in the facility and its exterior.
- An emergency operations plan developed for both natural and man-made disasters.
- The police department requests keys or access to the main doors for emergency entrance purposes.
- The police department requests a 24 hour point of contact during construction in case of emergency.
- Bollards should be placed near main entrances and border areas of heavy pedestrian traffic to prevent pedestrian-vehicular accidents in pedestrian areas.

W&OD Trail Crosswalk:

- Design a controlled perpendicular crosswalk that would increase visibility of pedestrians and promote cyclists to stop and follow traffic law. With the anticipated increase in shared use traffic, calming designs are highly encouraged.

Theater

- The Police Department is opposed to any plans of a basement theater without alternative exit areas from the theater rooms. Any natural or man-made disaster can be deathly catastrophic if the only egress point is blocked; preventing any escape or alternative access by emergency personnel.

Library

- ADA access ramp should be more prominent near main entrance to decrease walking distance for ADA users and follow the spirit of the law.

CC: Joe Carter, Commander, Police Special Services
Mary Gavin, Chief of Police

Attachment 28

CITY OF FALLS CHURCH

April 3, 2015

By Email and First Class Mail

David R. Lasso
Baskin, Jackson & Lasso, PC
301 Park Avenue
Falls Church, Virginia 22046

Mason Row Mixed Use Development – Comprehensive Plan Map Amendment Rezoning, Special Exception, and Related Applications

Mason Row – Application/Requests for Comprehensive Plan, Future Land Use Plan Map Amendment (Temporary Resolution TR14-29); Official Zoning Map Amendment (Rezoning) (Temporary Ordinance TO14-28); and Special Exception(s) Residential/Height (Temporary Resolution TR14-28), Application (MUNIS #2013 1165) for portions of the northeast corner of the intersection of *(900 Block)* West Broad Street/*(100-200 Block)* North West Street/*(900 Block)* Park Avenue totaling 4.3 acres of land

Dear Mr. Lasso:

This letter officially transmits the city staff review comments for the resubmission for *Mason Row*, special exceptions, Official Zoning Map and Comprehensive Plan Future Land Use Map Amendments, application February 28, 2015 and related conceptual development plans. These final city staff review comments where previously included in the *Mason Row*, City Council Staff Report, dated March 23, 2015, with preliminary Planning staff comments. The staff comments on the draft *Voluntary Concessions, Community Benefits, Terms and Conditions*, dated January 23, 2013 will be transmitted separately, at a later date, by the City Manager's office, though individual staff comments may reflect preliminary comments, edits or recommendations. This staff review of the fourth application and revised *Mason Row* conceptual plans and application materials is based upon staff review of the city code's special exception, applicable zoning code requirements and a preliminary application of site plan code criteria, where sufficient plan detail is available.

Application Package Reviewed:
The applicant has submitted the following application materials, plans and documents in support of the application for the proposed Mason Row (Broad and West) mixed-use development project. The rezoning, special exception and comprehensive plan map amendment package includes a booklet, conceptual development plan set, certified survey plat, voluntary concessions, community benefits, terms and conditions sheet, traffic impact study, and other supporting materials as follows:

- Conceptual Development Plan, *Mason Row*, dated January 29, 2015
- Architectural Packet, *Special Exception Application*, dated January 30, 2015
- Supporting Application Documents, dated January 30, 2015
- *Voluntary Concessions, Community Benefits, Terms & Conditions*, dated January 30, 2015
- Traffic Impact Study, dated revised January 30, 2015
- Parking Reduction Request Report, revised February 11, 2015

General Changes/Updates: (between August 2014 and February 2015 Submissions)
This section provides a brief overview of the revisions proposed in the February 2015 (4th Submission) from to the previous (third submission) application and conceptual development plan enclosed Table - Overview of Changes (Enclosure 1). Following list highlights some of major changes/improvements that have been made to the proposed concept with the latest iteration of the project.

Programmatic Changes
Generally, the programmatic changes entail:

- Major addition of a partially underground movie theater and second preferred use/anchor;
- Addition of a small (5,939 sq. ft.) office component, to accommodate a current business;
- Increase in the size of the market square;
- Additional (1,903 sq. ft.) commercial retail space, net of the theater;
- Increase in the size of the market square (dimensions 50' x 50' to 75' x 77') doubling in area to 5,775 sq. ft.;
- An increase in the number of apartments (from 253 rental units to 340 rental units) and removal of the condominium component (from 67 units to 0 units);
- The elimination of the parking garage entrance previously proposed on Park Avenue;
- Addition of a new above ground parking garage (8-levels including mezzanine garage level) on Park Avenue with the primary entrance proposed on West Broad Street.
- Elimination of the some on-street parking spaces on North West Street and additions of a proposed on-street loading space and off-street trash area access;
- New mid-block crosswalk and traffic light on West Broad Street;
- Crosswalks connecting the site to the W&OD Trail across North West Street;

- New traffic light and intersection re-alignment at N. West Street/Park Avenue/Future Mason Lane;

Site Changes

A parcel at 916 West Broad Street (approximately 17,649 square feet), Zoned B-1, Limited Business, located on the northeast corner of the site was added to the proposed mixed-use development. The three (3) residential parcels zoned R-1B on Park Avenue will remain as part of the proposed development.

Residential/Commercial Ratio Changes

With the addition of a movie theater and other programmatic adjustments, the commercial square footage of the project has increased by 52,379 square feet (40%) from 128,910 to 181,289 square feet. This is a significant increase in the overall commercial square footage.

There is an increase in residential density from 320 condominium and rental apartment units to 340 rental apartment only units, with the net result of slight decrease in residential square footage (389,238 to 383,054 sq. ft.), but an overall increase of 20 in the number of residential units.

The overall proposed mixed use development project's resulting ratio of commercial to residential has changed from the previous 25 / 75% to 32 % / 68%. The Floor Area Ratio (FAR) is relatively unchanged from at 3.00 from 3.04 FAR.

Land Use/Zoning Actions Required:

The land used actions required remain unchanged from the prior application. The new, revised application reflects the added property at 916 W. Broad Street and the revised Conceptual Development Plan (CDP) with the development program changes and uses as described above. The following applications have been filed in support of the proposed mixed-use project that requires legislative action by the City Council with mandatory recommendations by the Planning Commission:

1. **Comprehensive Plan Amendment** - "*Business & Low Density Residential (6.0)*" change to "*Mixed –Use*";
2. **Rezoning** - Zoning Map Amendment, (B-3 and R-1B zoning districts all rezoned to B-1);
3. **Special Exception** - Residential development within a mixed-use development;
4. **Special Exception** - 30-foot Building Height Bonus for the proposed 85 foot high buildings.

In addition, formal action(s) that may be required based upon an initial staff review of the new revised application and conceptual development plans that include:

5. **"Exception"** by City Council (Resolution) – Expressed permission to allow a commercial loading space to occupy a public street rights-of-way, where otherwise prohibited [*Ref. Section 48-939 (1) city code*];
6. **Variance** by the Board of Zoning Appeals – Allow commercial vehicles to back-out onto a public street, where otherwise prohibited [*Ref. Section 48-933 (b), (1) city code*].

General Summary - Major Issues and Objectives:

The following list highlights some of the major issues evident in the proposed concept and needs further evaluation and continued discussion with the applicant. Details of these issues and other city staff review comments are discussed in the subsequent section of this letter and enclosures.

- **Density, scale and massing** continue to be an issue related to building heights, locations and design. Specifically, the proposed parking garage location and height is incompatible with the existing adjacent residential neighborhood – comprehensive plan and zoning map amendment requests;
- Overall **residential density** has increased from 320 units to 340 units, while residential density reductions were sought;
- **Proposed parking garage on Park Avenue** is incompatible with the surrounding neighborhood in terms of massing, scale and aesthetics;
- A **TDM plan and Parking Management Plan** will need to be submitted for staff review for accurate evaluation of the request in parking reduction and traffic impacts of the overall project;
- The **on-street loading space proposed along N. West Street** substantially narrows a section of that streetscape to less than 10 feet in width;
- **Trash pickup space proposed on N. West Street** raises concerns from traffic and safety perspectives;
- Proposed **ADUs** do not meet the City standards of the targeted households at 60% AMI.

Development Program and Uses

1. **Residential Density** – Although the 67 unit condominium component has been eliminated, the overall residential density has increased with the new proposal of 340 apartment units. The proposed increase in the residential density and the requested bonus building height of 30 feet is one of the contributing factors in the perceived massing and scale of the project. A reduction in the overall residential density should be considered.
2. **Retail** - In response to previous comments and guidance from the City Council, the applicant is proposing a dine-in theater as a second retail anchor. The submitted Retail Merchandising Plan offers a list of preferred uses and minimum of 30 percent food and beverage uses. A stronger commitment to high quality retail is needed to avoid only mediocre retail or mostly service type of commercial users. At this time the refined list of retailers and services uses would apparently allow all the same uses and tenants in recently built mixed use projects in the city. The proposed market square concept is

desirable assuming a critical mass of quality retailers. Uncertainty in the retail component continues to be evident. Further refinement of the proposed retail quality, type, and amount should be a commitment by the applicant in the special exception entitlement process.

3. **Theater** – The revised application and plans include the proposed theater which is a very desirable preferred use. The specifics regarding the nature and structure of the subsidy being requested for the theater should be identified and detailed in writing. Theater layout, entrances, and seating details should also be included in the next submission.
4. **Local Business** – Redevelopment of the site should avoid existing tenant displacement to the extent possible. Some existing businesses on the site, in the city or even in the regional market place that are food and bicycle oriented are examples of possible desirable and preferred uses for the proposed retail space. Affordable rents for key "targeted" uses and/or relocation assistance in an interim period could help to retain and attract local businesses.
5. **Street Furniture** - At this stage, the conceptual design does not offer sufficient details for type of landscaping and street furniture for staff to evaluate adequately using the Design Guidelines. Going forward, staff recommends that design development should consider placement, scale, color scheme, uniformity, maintenance and visual interest in conformance with the *Design Guidelines* and other city policy and guidelines.

<u>STAFF REVIEW COMMENTS</u> (Detailed):

Zoning and Land Use Requested Changes:

1. **Zoning Map (Rezoning) and Comprehensive Plan - Future Land Use Plan Map, Amendments** - The requested rezoning from "residential" to "commercial" for an existing neighborhood and residential zoned and land use designated properties on Park Avenue is a deviation and substantial change from the City's Adopted Comprehensive Plan, Future Land Use Plan Map designation of "Low Density Residential, (6.0)" and undermines the intent to preserve the residential character of the neighborhood.
    a. The "orphan" nature of the isolated three existing residential lots on Park Avenue, by commercial and institutional use designations, on either side based on the comprehensive plan future land use designations, seems to be the premise of the Applicant's justification and does not provide substantive grounds for changing the current city's adopted land use policy. Further discussion regarding the possibility of a more appropriate land use designation and zoning for these subject lots may be merited. However, as communicated in previous staff comments, staff consideration of the Applicant's justification will rely on the type of uses proposed for subject lots that are compatible with the existing neighborhood and residential areas in scale, height and character.
    b. Although, the previously proposed parking garage entrance on Park Avenue has been eliminated in the latest design iterations of the project, the new currently

proposed parking garage has an even more pronounced adverse impact on the adjacent residential uses. The parking garage impact is derived from its massing and height, as well as, the design being aesthetically intrusive and incompatible as depicted in the architectural elevations, for an existing residential street and neighborhood. Appropriate building location, setbacks, step backs, and façade treatments are needed to reduce the massing, height and appearance of the garage and must be explored.

2. **Special Exception(s)** - As part of the "exemplary" evaluation requirements in Section 48-455 of the City code, buildings heights adjacent to existing R districts must be stepped back at the maximum height (35 feet) of that zoning district. The proposed six-story parking garage on Park Avenue does not provide any step-backs along Park Avenue and east building elevations abutting R districts to the immediate north and east. With the proposed building height bonus and the overall size, the project has not adequately explored options to reduce the perceived mass of the structure particularly along Park Avenue. The overall appearance of the scale and height of the proposed structure(s) are generally not at a level compatible with the surrounding residential neighborhood. Applicant should consider further reducing the height and scale to address issues concerning aesthetic incompatibility and disproportionality. Architectural treatments that may offer visual reduction in scale can only do so to a limited extent relative to actually reducing the mass by reducing density and thereby eliminating multiple floors.
3. **Special Exception(s)** - Applicant's *Statement that Proposed Mason Row Development Meets Special Exception Criteria for Mixed-Use and Height Bonus* states "the Comprehensive Plan's Future Land Use Map designates the property as business". This statement implies that the entire site is designated as "business". Language to clarify that the portion of the site along Park Avenue which are designated as "Low Density Residential (6.0)" should be included.

STAFF REVIEW COMMENTS, By City Department/Division:
The following are the specific city staff review comments for the current application (4th submission):

Planning – Gary Fuller, Principal Planner (703) 248-5039/Akida Rouzi, Planner (703) 248-5104

General/Major Issues Areas:

1. **Recent Project Changes/Revisions** - The latest application and conceptual development plans had notable and needed improvements in terms of commercial uses, land consolidation, traffic/pedestrian facilities and providing more adequate of on-site parking. The addition of the theater as a second preferred commercial use and anchor; inclusion and addition of the "left-over" commercial property at 916 W. Broad to the land assemblage and completes this end of the block; addition of office uses, more retail and improved size of the proposed "market square" along with

transportation, traffic and parking improvements and facilities - two traffic lights, intersection redesigns, various pedestrian crossings and more parking were very positive improvements to the proposed project, design and application. The overall increase in commercial density of the proposed mixed-use project resulting in a ratio of 32% *Commercial* / 68% *Residential* was notable and significant.

2. **Building Density/Reduction in Residential Units** – The proposed multi-family residential uses has increased in number of units from 320 to 340 apartment units, while the overall building density (square feet) and unit sizes have remained relatively the same. The proposed high density of residential uses is driving the need for bonus heights up to 85 feet (special exception for height) in a commercial zone (B-1, General Business district) with 55 foot limits, as well as, the need for increased parking and requested parking reductions from city code of 20 percent for all residential uses. A ratio of 1.65 parking spaces per residential unit is proposed or 1.23 parking spaces per bedroom based upon the current proposed multi-family mix {Note: (19) *efficiencies counted as one bedrooms and* (98) *one-bedrooms + dens, counted as one-bedrooms for parking purposes*}.
3. **Massing, Design and Architecture** – The proposed building heights at a maximum of 85-feet for much of the project is excessive and the building design has little modulation or step backs of buildings and the solid wall appearance still remains. The overall modern style architecture like recent projects in the marketplace has minimal masonry brick and lack of a Falls Church architectural compatibility and style. The applicant's architect should at least, provide a narrative design rationale on how the proposed buildings reflect Falls Church and the subject site environs.
4. **Parking Garage Location and Adverse Neighborhood Impacts** – Proposed garage location negatively impacts an existing residential neighborhood at Park Avenue and adjacent R-Districts – Lack of compatibility of the proposed garage use/location, is due to excessive height at six levels or 58-foot building height, minimal building setback from Park Avenue, no building step backs and incompatible architectural treatment, materials and design.
5. **Parking** – Request for a total overall project required parking reduction of 17 percent (Residential component 20% reduction/Commercial 15% reduction) needs further reasoning in the context of the Parking Study and a strong TDM plan to justify the request. The proposed mixed use project and various uses provide opportunities for shared parking, transit and alternative modes to single occupancy vehicular trips that can be structured and strategies developed in support of a viable reduction in code required parking. Commercial parking requirements are for 585 parking spaces with 500 proposed or a reduction of 85 spaces of 15 percent. Residential parking, per city code, requires 559 spaces and 447 are proposed to be provided, a reduction request of 20 percent or 112 parking spaces from city code. Proposed is a ratio of 1.65 parking spaces per residential unit is proposed or 1.23 parking spaces per bedroom based

upon the current proposed multi-family mix {Note: (19) *efficiencies counted as one bedrooms and* (98) *one-bedrooms + dens, counted as one-bedrooms for parking purposes*}. The Parking Reduction Request study, revised dated February 11, 2015 and Transportation Demand Management (TDM) plan, Section 8 of the Traffic Impact Study, dated revised January 30, 2015 needs to provide more refined strategies and justifications for the proposed modifications to the required parking ratios. To clearly demonstrate shared parking strategies, as well as, specific trip and parking demand reduction methods and strategies that are measurable and to the extent quantifiable based on industry standards, study and/or case results.

6. **Loading and Trash Parking Spaces** - A commercial loading space is proposed on a public street rather than on site as required. A trash parking area is proposed off of N. West Street, on-site, but requiring trucks to back out onto a public street, where prohibit by city code. A City Council "exception" by a formal *Resolution* is required for the commercial loading space to be located o a public street and a Board of Zoning Appeals *variance* would be required for the trash trucks to back-up into a public street.
7. **Voluntary Concessions, Community Benefits, Terms and Conditions, dated** - # 15 Affordable Dwelling Units – ADU's should all be at or below 60 percent of AMI to meet identified city affordable housing needs, only 1/3 of the proposed ADU's are at 60 percent with 2/3^{rds} or 13 of the 20 units being above 60 percent AMI, at 80/100 percent, as proposed. See City Affordable Housing Policy approved by City Council in 2013, and recent correspondence from Housing staff memorandum dated February 25, 2015 (Enclosure 2).
8. **Community Improvement Objectives** – Consideration of a raised W&OD trail crossing and traffic calming feature at Grove Avenue, should be explored with city staff and NOVA Parks in the context of the other vicinity improvements and coordinated efforts. Include Grove Avenue in the planned improvements and final community benefits associated with the applicant's offered, in-kind at improvements to the W&OD trail crossing at N. West Street and financial contribution to vicinity park improvements, possibly for the West End Park planned city improvements.

General/Specific Technical

Conceptual Development Plan:

1. (Sheet P-0101, Cover Sheet) *Parking Tabulation* [Add] column to table Proposed parking – list number of parking spaces, by use type. Also under the Parking provided table [Add] columns for use types and number of parking spaces, per level. Note: *All parking totals, by each use type, are rounded up in the case of fractions, per the zoning code.*
2. (Sheet P-0101, Cover Sheet) *Parking Notes* – Indicates a parking reduction request of 17 percent, per the zoning administration and Planner comments indicates 17.2 percent, however 18 percent parking reduction is referenced (*equals 8 more parking*

total space reduction or 955 spcaes), please check and reconcile, as needed. Please confirm and provide consistent data in all application materials.

3. (Sheet P-0101, Cover Sheet) Under *Special Exception* [Add] new heading "Exception" Exception requested to City Council to allow a required off-street loading space to occupy a public street right-of-way, prohibited under Section 48-939 (1). *Occupancy of required yards.* Or eliminate from plans.
4. (Sheet P-0101, Cover Sheet) Under *Waivers* [Add] new heading "*Variance*" A variance is requested to allow backing-out onto a pubic street (N. West Street) by trash trucks, prohibited under Section 48-933 (b) (2) of the City Code. Or eliminate from plans.
5. (Sheet P-0101, Cover Sheet) Under *Waivers* [Add *] a specific description and numerical count of the landscape plant material reduction to the waiver description to define further..
6. (Sheet P-0101, Cover Sheet) Under *Landscape Notes:* [Add #3] and the design and materials for West Broad Street shall conform to the *City's Adopted Streetscape Plan for West Broad Street* and specifications, except for the streetscape width may be in excess of 14-feet and the raised planters located at the face-of-curb instead of setback one-foot. [ADD & REPEAT] same complete *Note* on Sheet P-0402, Conceptual Streetscape Plan.
7. Conceptual Development Plan and Packet – Building orientation and entrances are not clearly indicated on the conceptual development plan and the packet. All building entrances should be shown in both documents in future submissions.
8. (Sheet P-0401, Conceptual Development Plan) [Add Notes]
    - Proposed trash vehicular parking area on N. West Street, is prohibited from having vehicles backing out into a public street, per Section 48-933 (b), (2) of the city code. (*Variance by the BZA is required, if proposed that vehicles back-up into the public street*). Or eliminate from plans.
    - Proposed commercial loading space located on N. West Street, is prohibited to occupy any public street rights-of-way, per Section 48-939 (1), except by expressed permission by the City Council. (*City Council, Resolution and approval required*). Or eliminate from plans.
    - Proposed parking structures shall be of a design and materials compatible with the principal habitable building, per Section 48-939 (2) of the City Code. (*Planning Commission determination at site plan*)
    - Proposed commercial vehicular entrance and exit at Mason Lane/N. West Street is prohibited within 100-feet of an R-District unless the Planning Commission finds that there is no other feasible location, considering public safety and adequate vehicular circulation, per Section 48-938 (d) of the City code. (*Planning Commission waiver required*).

- Streetscape plans along West Broad Street shall be compatible with the City's <u>*Adopted Streetscape Plan for West Broad Street*</u>, except the streetscape width may exceed 14-foot minimum and the raised planters may be located at the face-of-curb instead of setback one-foot.

9. (Sheet P-0401, Conceptual Development Plan) Interior sidewalk on Mason Lane at the Hotel lobby narrows to only three-four feet in width and should be at least a minimum of six feet in width for pedestrian accessibility.
10. (Sheet P-0401, Conceptual Development Plan) Interior loading space on Mason Lane – define off-hours and include in # 24 of the *Voluntary Concessions*.
11. (Sheet P-0401, Conceptual Development Plan) proposed commercial loading space on N. West Street is not recommended or supported by staff, due to safety, aesthetic and adequate pedestrian accessibility and improvements. The on-street parking is a safety concern, the streetscape width between Grove Avenue and Mason Lane in reduced to just under 10 feet in width for 70 percent (*155 feet of 225 feet in total length*) of the streetscape segment and the loading space is suppose to be off-street and accommodated on-site. An exception by the City Council and must be approved by Resolution, per Section 48-939 (1) of the city code.
12. (Sheet P-0401, Conceptual Development Plan) Proposed trash vehicular area off of N. West Street should be relocated internal to the site to provide safe access. City staff opposes this location and use of a public street, either backing in or out of trash trucks. There have been verbal references to a garage door for this off-street trash vehicular area, but none are shown or notes on the CDP. In the event, it is proposed to remain the hours should be severely restricted and avoid off-peak traffic times. Define the operations, limited hours, truck movements, management plan and any planned enclosures (not shown on CDP) and include in #24 of the *Voluntary Concessions*.
13. (Sheet P-0401, Conceptual Development Plan) The proposed location of the six-level or 58 foot high parking on Park Avenue is problematic, due to the adverse impact on the existing single-family neighborhood. The use is not compatible at this density, height, setback, no building step-backs and non-compatible building design, materials and architectural treatments. The proposed parking structure is not supported by staff in this location, scale and architecture. A row of rental townhouse or single-family cottage style structures are suggested along Park Avenue at the scale of the existing neighborhood. The proposed parking garage might be located behind these townhomes or cottage style homes and at a lesser scale than currently proposed and with a façade that architectural appears as multi-family rental units above for the upper stories. Recommend major redesign of proposed structure on Park Avenue that is compatible with the existing residential neighborhood, comprehensive plan objectives and supportive of a rezoning request for the fronting existing single-family R-1B, district residential lots.

14. (Sheet P-0401, Conceptual Development Plan) The proposed streetscape along N. West Street, initial part (from West Broad Street) to the proposed vehicular trash area entrance on N. West Street, is recommended to be built in the same streetscape design as West Broad Street is to be compatible with the existing streetscape across the street along the existing bank. The balance of N. West Street could be the same or alternative streetscape design – although the W. Broad Streetscape design would be preferred.
15. [Sheet P-0401] Conceptual Development Plan – There appears to be a driveway or a curb cut shown along North West Street in front of the theater, which is not shown on the conceptual development packet (elevations) sheet A1.0. Information shown should be consistent in both documents.
16. Sheet P-0402, Conceptual Streetscape Plan. The proposed North West Street streetscape only has a minimum of 18 feet in width for approximately 30 percent or 70 feet (of 225 feet), between Grove Avenue and proposed Mason Lane due to the proposed on-street, loading space and six parking spaces. This results in approximately 70 percent or 155 feet of streetscape on this segment of N. West Street to be less than 10 feet in width due to the proposed on-street loading and parking spaces. Recommend eliminating the on-street the loading and parking spaces and providing full streetscape in this important and visible pedestrian area. Need to ensure the proposed street retailers and storefronts are viable and attractive to the pedestrian and biker in the immediate vicinity.
17. Sheet P-0402, Conceptual Streetscape Plan. Proposed replacement of a portion of the existing 15 inch storm sewer pipe to a 42 inch size pipe is shown off-site on the adjacent Church property that the City has an existing utility easement across. There would be an opportunity to landscape the disturbed area, after the pipe installation to provide some buffer and more aesthetic view of the proposed hotel building side. [Suggest ADDING foundation plantings on the Church property, if the adjacent owner is interested].
18. Sheet P-0402, Conceptual Streetscape Plan. [ADD & REPEAT] same complete *Note* from Sheet P-0101, regarding Streetscape on West Broad Street.
19. **Waiver – Parking**. The modification of mixed-use development parking ratios is derived from Section 48-971 (2) application of a *shared parking formula* and *study* to determine the acceptable number of parking spaces. The *modification to the parking ratios*; in section 48-1004 *Table of use types*, which may be granted with approval of the Planning Commission. The appropriate waiver reference and is:
[*Section 48-971 (2) – Parking. Modification of the required parking (1,144) per city code to the provided parking (947 spaces) as demonstrated in the parking reduction request study, traffic impact study and transportation demand management plan (TDM) as shown herein is requested of the Planning Commission*].

NOTE: The reference used {48-1080(d) (2) in the February 11, 2015 Parking Reduction Request study is in *error*, as this is applicable only to, by right, MUR applications to the Planning Commission and not discretionary special exceptions to the City Council as this application has been filed. Correct and revise study accordingly per section 48-971 (2) of the city code.

20. Staff is considering the parking ratios requested, provided a strong **TDM plan** is submitted that provides additional support for the reductions. At this time the TDM plan does not provide sufficient details and estimated trips by alternative modes to substantiate anticipated on-site parking reductions and requested parking space reductions etc.
21. While the proposed streetscape elements are generally shown on the conceptual development plan and conceptual landscape plan, the city's Adopted Streetscape Plan for West Broad Street are the final specifications at site plan. (Note to applicant only).
22. The site covers more than one lot or parcel and a subdivision consolidation plat will be required at the future site plan review stage.
23. Building "Step Backs" are not evident for the proposed parking garage along the adjacent R-district and church property. Special exception criteria for height bonuses are predicated on building step backs and in this case the proposed garage.
24. The required perimeter landscaping buffer, between zoning districts (adjacent residential district) has been increased to meet the city code requirements and is a major improvement from the previous design. The only exception is a waiver required for a reduction in the size, quantity and type of the trees. Continue to explore opportunities and permissions form the City Arborist, City engineers (storm sewer line/easement) and adjacent property owner to provide appropriate trees.
25. The applicant's current proposed public sidewalk easements along N. West Street do not incorporate all of the proposed streetscape width as a approximate six foot wide area off the proposed buildings are not in public easements, but shown as remaining private? Streetscape sidewalk areas are as little as three-four feet (public easement + 6 foot private sidewalk) wide for a 155 foot linear distance along N. West Street at the proposed on-street loading and parking area. If this private sidewalk area is to not be publically accessible at all times as a sidewalk use there would be an issue with adequate sidewalk space and public pedestrian access. Please explain the reasoning and planned usage for the additional six-foot privately owned sidewalk portion off the buildings along N. West Street that is in addition to the three-four foot wide public sidewalk (public easement).
26. **Parking Management Plan (PMP)** will be needed as part of the site plan review and approval process, but a preliminary plan is needed at special exception to effectively evaluate the requested parking reductions. This plan will outline how retail employees, apartment residents, customers and visitor parking will be provided and users directed. The Plan would also address vehicular accessibility for transit, para-

transit, taxi, passenger waiting areas, bus stops, ridesharing locations, deliveries, on and off street parking for residents, employees and visitors. Also the plan would include related restriction as to time that various activities are permitted in the respective parking spaces. See Arlington County, Virginia guidelines for preparation purposes and examples.

Circulation and Layout Design

1. **Commercial Loading Space on N. West Street** - A loading area is proposed along North West Street in front of the ground level retail and theater and the resulting carve-out to create this space substantially reduces the width of the streetscape, which may adversely impact pedestrian circulation and streetscape amenities like outdoor dining. Alternatively, can drop off area be accommodated on the interior of the complex to avoid reducing the streetscape width?
2. **North West Trash Pick Up** – The placement of the proposed trash pickup area along N. West streets raises concerns in terms of the traffic safety impacts and aesthetic suitability. At site plan, the Applicant should explore strategies to mitigate/address impacts in for both aspects.
3. **Market Square and Mason Lane** – Applicant has expressed the possibility of closure of the Mason Lane for weekend festivals. Moving forward, details of what this would entail in terms of timing, traffic, pedestrian circulation should be identified conceptually.
4. **Streetscape** – Provide 10 feet of pedestrian walk space on sidewalks in commercial areas per the City's Design Guidelines. Compliance with the Streetscape standards for Broad Street should be maintained both on W. Broad Street and on south portion of the N. West Street continue northward up N West Street, for the first 100 to 150 feet, to achieve consistency with the pattern across the street. Where appropriate 20' foot of streetscape should be provided.

Other Requirements (Most actions and information are needed at the subsequent *site plan* stage and not necessarily the current special exception conceptual plan stage, but appropriate conceptual site planning is needed).

1. Dedication or easements for public street rights-of-way along West Broad Street and North West Street is required to provide adequate public right-of-way for public streetscape improvements and public street rights-of-way. [Needed at site plan, outline at special exception]
2. An approved **Management of Traffic/Construction Management Plan** shall be required prior to issuance of any permits. [*Needed at time of site plan approval*]
3. A detailed **TDM plan** is necessary to support the applicant's request for reduced parking ratios and vehicular site access demand. Pedestrian access is especially critical and the adjacent W&OD Trail connections and linkages. Determine likely

locations of pedestrian trip origination in surrounding neighborhoods and ensure that safe, comfortable routes are provided. Consider traffic calming improvements to improve pedestrian routes. [*Needed at special exception in substantial form and detail with minor refinements at time of site plan approval*]

4. Possible traffic calming techniques on residential streets in the vicinity of the subject site were investigated by the applicant, particularly as it relates to Grove Avenue and North West Street. In addition, the pedestrian and bike accessibility via the W&OD Trail and related pedestrian access routes and street crossings to and around the subject site are prime considerations. City staff currently is pursuing concepts for raised crossings for the W&OD Trail at N. West Street and Grove Avenue and will follow up with the applicant and NOVA Parks meet and discuss further.

Streetscape – Design/Specifications - (Details to be addressed at the time of site plan)

1. The concept plans and architectural elevations must show implementation of the City of Falls Church's Adopted Streetscape for West Broad Street. The only modifications are the 14-foot streetscape width is now proposed at 20-feet and the one-foot utility strip at the curb can be removed and the raised landscape planters shifted one foot towards the street and flush to the curb.
2. The exact plan specifications for the hardscape, street furniture, irrigation and related and elements are know to your engineers and can be provided at the time of future site plan review, however the current concept plans and elevations should not depict different elements, particularly – flush at grade planters and tree pits on West Broad Street and the first section of North West Street from W. Broad Street. On the balance of North West Street and Park Avenue alternative streetscape may be proposed, but details must be provided, if differing in design and features, furniture etc.
3. Future maintenance responsibility for the planned streetscape areas shall be determined by the city at the time of site plan. The applicant has agreed to maintain all streetscape through a streetscape maintenance agreement, at the discretion of the City Manager or the City may choose to maintain the streetscape and in either case the City may retain authority to maintain or approve maintenance of street trees in the public street right-of-way, as determined by the city.
4. All landscaped areas within the City's right-of-way (ROW) must show irrigation to be installed. This includes a water meter(s), control valve(s), and backflow preventer(s) located in the ROW that is accessible to the City at all times. (Address at the time of site plan)
5. Public access easements should be dedicated along all public rights of way. A sample deed with standard dedication language is available, by request. In general, a 14' easement is recommended or in this case a 20-foot appears to be needed along West Broad Street. The City does not have interest in maintaining non-standard improvements within public access easements, so the plan should address how these

areas will be addressed and maintained. Ultimately the city will decide if the applicant or city will be responsible for maintenance of the future streetscape areas. The privately held six foot area of streetscape adjacent to the proposed buildings along N. West Street should be included in the public access and maintenance easements.

6. The final site plan must adequately specify all materials and streetscape fixtures including but not limited to lights, trash receptacles and benches to ensure they are in compliance with City standard improvements.
7. A landscape plan shall be required for plan approval that details species, locations, arrangements, and sizes of all streetscape plant materials. The landscape plan must include a corresponding planting schedule and all standard details for the West Broad Street Streetscape design. *Note: The City has recently amended the plant materials designated for this section of West Broad Street in and will supply a copy to applicant upon request*

Architectural (Elevations)

Generally, the architectural design and materials (brick and masonry) for the proposed buildings has improved noticeably with the last revisions. Additional building massing redesign and modulation is needed to brake-up the long, expansive six-story high uniform building fronts.

1. The modern architectural design style proposed Please provide a narrative on "how the proposed architectural design is compatible with Falls Church and the immediate vicinity".
2. [Cover Sheet] Suggest renaming booklet from "Special Exception Application SUB 03" to "**Architectural Elevations** Special Exception Application SUB 03 in order to differentiate the document when referencing in the city resolutions, ordinances and applicant's voluntary concessions etc.
3. [Sheet A1.1 thru A1.9] Massing Yields/Parking Totals Table – in Parking provided column [Add] breakdown of number of parking spaces by each "line use" category. [Add] Parking space *numerical* counts, by row on all graphic parking areas
   Note: *Parking totals by each different use type Retail, Office, Hotel and Residential are rounded up, if fractions per city code.* Correct as needed for different use totals. (Note: *Engineering, architectural and traffic based application materials need to have the same parking numbers*).
4. [Sheet A1.3] Label first floor plan "grey" curb cut and building feature (vehicular entrance, loading, garage etc?) at the street corner of Grove Avenue and N. West Street that services the theater. Also [Add] Proposed Traffic sign graphics at other two locations (W. Broad Street mid-block and N. West Street and future Mason Lane).
5. [Sheet A1.0] Conceptual Development Packet – Relocate some of the labels and description text boxes to ensure legibility on the site context map.

6. [Sheet A2.0 – A2.2] Conceptual Development Packet – Vertical height dimensions for elevations at all varying levels and not just for the max building height should be provided.
7. [Sheet A1.0] Conceptual Development Packet – There appears to be a driveway or a curb cut shown along North West Street in front of the theater, which is not shown on the conceptual development plan sheet P-0401. Information shown should be consistent in both documents.
8. [Sheet A2.0 thru A2.7] Elevations [Add] Key Plan graphic (*like on Floor Plans*) to orient readers better and quickly.
9. [Sheet A2.0 –A2.7] Conceptual Development Packet – The elevations are titled based on the directionality of the elevation on the site. Include the corresponding street names in the elevation titles to help orient the reader easily (i.e. for North Elevation, consider North Elevation – From Park Avenue).
10. [Sheet A2.0/A4.3] Elevations/Entry – North Elevation/Entry from Park Avenue, what is planned for the (*blank wall* – no doors or windows) wood finish trespa panels at street level, if this is a proposed retail storefront area on N. West Street? Also what is the curb cut and garage door looking feature (to the right side) on the North Elevation?
11. [Sheet A4.3] Elevation/Entry from Park Avenue – On–street parking/loading spaces is not shown, as is on A1.3. Show correct streetscape/parking features, if on-street parking/loading continues to be requested.
12. [Sheet A2.2/A2.2/A2.6] Elevations – West Elevation, what is planned for the (*blank walls* – no doors or windows) wood finish trespa panels and rockfaced limestone at street level? If this a proposed retail active storefront area on N. West Street, it should not appear as a wall? Are the grates below the hotel windows individual air conditioning vent plates – if so are their other options?
13. [Sheet A4.4] Parking Garage – The garage location and architectural elevation is not compatible with Parking Avenue and the adjacent existing residential neighborhood and R-District. The proposed rezoning of the existing residential R-1B lots is not supported by staff due to the adverse land use impacts, based upon the current proposed parking garage location and use on Park Avenue. The structure needs further setbacks (*25 to 45 feet minimum, as the existing residential structures are setback at 45 feet*); building stepbacks (*at 35 feet*); height reduction to 3-4 stories; and per section 48-939 (2) of the city code, … "*a parking structure of a design and materials compatible with the principal habitable building (Hotel or Apartments that the garage serves)*." A garage with an open air design between floors or green screen would not be considered design and materials that are compatible. Recommended is a garage that is wrapped by residential townhouses or multi-family units or has an architectural design that makes the building to appear as such.

Architecture and Design

1. **Massing** - The City's Design Guidelines call for a small and mid-scale urban street front and discourages large scale structures with massive building walls. With the requested height bonus of up to 30 feet and the overall size, the project has not adequately explored options to reduce the perceived mass of the structure. Design approaches should avoid strongly vertical or solid/flat façade expressions to break with two, dimensional linearity, and utilize surface interruptions like deeper recesses along facades, stronger mass modulations and penetrations of varying depths, fenestration, articulation of details and adequate horizontal step backs. Furthermore, the buildings should be designed with upper-story setbacks and modulation and special treatments to moderate the massing.
2. **Building Elevations** – The building elevations virtually wrap around the entire site with limited visual or physical relief which gives the proposed development a closed off feeling. Consider visual and physical openings in the structure particularly visible in the elevation. Consider breaking up the façade further both horizontally and vertically to break up the length and the appearance of visual rigidity. Minimize the bulk of the building(s) by limiting building length and by using horizontal and vertical setbacks and step-backs, major full-height penetrations along the length of the building thereby breaking it into smaller discrete masses. Manipulating the massing by removing or reducing the volume over the Mason Lane entrance is another opportunity to explore.
3. **Parking Garage on Park Avenue** - The proposed parking garage on Park Avenue is directly across from residential homes on Park. The location and the scale of the structure raise concerns in terms of aesthetic incompatibility and undermine the predominantly residential character of Park Avenue. At a human scale, the building elevation also assumes an inactive vertical space and will negatively impact the pedestrian experience. Step backs at 35 feet and 55 feet along the Park Avenue elevation of the building, facing residential district to the north of the site, are required pursuant to Section 48-455 of the City Code. This approach could help to minimize the aesthetic impact and the intrusive appearance of the garage. Other design strategies such as manipulating façade of the garage to provide a discreet elevation that adapts to the residential character of the neighborhood should also be explored.
4. **Retail Frontage** – previous staff guidance included comments regarding the previously proposed ground level retail facades that appeared to rely on too many variations of surface material, texture and color, offering a composition that did not adequately define a unifying architectural expression. Staff recommended, *while maintaining visual diversity*, to explore options to minimize the appearance of clutter by using a coordinated palette of complimentary colors and textures, rather than a patchwork of competing schemes. Although, the current design has improved substantially in providing a sense of architectural consistency and unified visual expression, it has lost some of its visual diversity and interest. Consider adding a touch of visual interest to engage the pedestrian.

5. **Coordinated Signage** – Continue to integrate effectively the proposed signage with the building façade design. A coordinated visual relationship of the signs should be considered and designs that achieve harmony while maintaining visual interest should be further explored. The Design Guidelines encourages *"the use of awnings at the storefront level to shield displays and entry and to add visual interest."* An overall scheme should be established to coordinate the choice of colors and placement of the awnings when such elements are added to the design.
6. **Community Character and Context Sensitivity** – The Architectural Advisory Board, during their March 4, 2015 meeting, expressed that the overall design needs to better acknowledge the context of the City of Falls Church and better manage the transition from business to residential properties in a manner that is sensitive to the local and state building traditions, as well as the existing built environment along Broad Street and the unique history and values of the community. (Enclosure 3 - *AAB comments)*
7. **Connectivity between areas and neighborhoods** – In the City's Design Guidelines, connectivity to surrounding areas and neighborhoods is considered an important tool in enhancing the pedestrian experience. Proposed site design should explore options to create an active space at the corners of the north entrance of Mason Lane that offers a sense of place and a strong pedestrian and visual connection to the W&OD Trail. Use of attractive streetscape furniture, landscaping and public art activates the space should be explored.
8. **Public art** – both the City's Design Guidelines and Comprehensive Plan encourage the use of public art to add more character and visual interest to public open spaces and streetscapes. Both the interior courtyard and the exterior space at the corner of Park Avenue and Mason Lane may provide opportunities for public art. Applicant should consider circulation and safety in the placement of any public art.
9. **East Elevation** – South segment of the east elevation offers a dull and inactive façade. Architectural treatments that offer visual interest to liven this façade should be explored.

Comprehensive Planning (As applied to requested Future Land Use and Zoning Map Amendments) – Gary Fuller, Principal Planner

1. The revised special exception application dated January 30, 2015 and proposed parking garage structure location on Park Avenue has a major impact on the lower scale and density existing single family neighborhood. Staff does not considered to be consistent with the city's comprehensive plan and requested Future Land Use Plan Map amendment and consequently is not compatible with the requested Official Zoning Map Amendment. The proposed rezoning of the existing residential R-1B lots is not supported by staff due to the adverse land use impacts, based upon the current proposed parking garage location and use on Park Avenue. This is a key issue and these requested map amendments approvals are a prerequisite for the ability to file a special exception and then key in the evaluation based upon the stated *primary* criteria. In addition, note design/architecturally, that Section 48-939 (2) of the city code requires at site plan that

"parking structures be of a design and materials compatible with the principal habitable building."

2. The proposed parking garage structure on Park Avenue in incompatible with its minimal setback of 14 feet, no building step-backs, above ground six-level or 58 foot height, building massing and garage structure design, architectural materials and treatment. An inappropriate location and use at this density massing and design.
3. Recommend are lower density residential structures or *like* building architectural design and material treatments along Park Avenue. A parking garage setback of at least 25-45 feet, building step-back at the 35 foot height, a reduction to three-to-four stories versus current five stories or 85 feet in height, as well as, architecturally of a design and materials compatible with the principal (Apartment or Hotel) habitable building use that the parking garage supports, is needed for the redesign of the building or other proposed structures along Park Avenue.

Parking Reduction Study/Traffic Impact Study

1. A requested total parking space reduction of approximately 17 percent or 197 parking spaces is requested. Residential is proposed to be reduced by 20% or 112 spaces and the commercial use parking reduced by 15% or 85 parking spaces. Parking Reduction Request study dated, revised February 11, 2015 should be revised to reflected the latest parking numbers, as older numbers were used that do not match the rest of the application package. For example: proposed 916 parking spaces is actually 947; parking reduction of 20% is actually 17.2 %; proposed average parking rate for residential is 1.32 versus 1.31 (rounding) and Section II Non-Residential Parking Overview, all numbers need updating – based on 947 parking provided versus 469; and *Conclusions* section etc. all need number corrections/updates.
2. The *Local Residential Parking Requirements* – Summary of Parking Occupancy/Demand – The Multi-family project survey data for parking demand is an excellent type of comparable data, but the information that is almost 15 years old, however is their more current data for contemporary multi-family projects (outside Metro Transit corridor or ½ Mile + or other suburban?) > Ref. Table 2, 3 and Attachment II etc.
3. Parking Reduction Request study dated, revised February 11, 2015 – Reference to Section 48-1080 of the Zoning Code is an incorrect reference and to the requested parking reduction. This reference is for MUR, by right applications and approval by the Planning Commission and not special exception applications as is the Mason Row application. The correct reference is *Section 48-971 (2) – Parking. Modification of the required parking* along with *Section 48-1004* of the city code. Revise all references accordingly in the study. That said, the application of the MUR, Section 48-1080 (d) Parking requirements is an appropriate strategy and criteria for evaluation of the parking reduction request for mixed use projects in the city. Staff recommends and supports that the applicant use this criteria for the parking reduction request and justification based on:
    - Specific uses, (provide verifiable data);

- Shared parking (Table), commercial uses (highest column total becomes the parking requirement);
- Alternative modes of transportation, (provide verifiable data);
- Associated conditions (see code list) applying to parking facilities, in mixed use projects (list in parking study as part of recommendations, include in Voluntary Concessions sheet and in notes on Conceptual Development Plan, sheet P-0101.

4. Traffic Impact Study dated, revised January 22, 2015 – Section 8 Transportation Demand Management, pages 43 and 44 including Section 9 Recommendations, page 45-46 should be revised to further refine the specific *shared parking strategies* with detailed and expanded measurable *TDM strategies*, as well as, associated recommendations.

Voluntary Concessions, Community Benefits, Terms and Conditions (VC's):
The applicant has submitted VC's dated January 30, 2015, which staff has some partial or preliminary comments and edits, while the city's complete review comments and recommendations will be officially transmitted, by separate communication, through the City Manager's Office.

1. **VC # 1, Conceptual Development Plan (CDP)** – Development shall include the following: ..."*multifamily component, which can be a rental or condominium at the discretion of the Developer, of a maximum of three hundred forty five (345) dwelling units*;"... The maximum 345 dwelling units do not match other application documents showing 340 units and needs to be reconciled or re-confirmed at 345? The Hotel is listed with a minimum of 140 rooms, with 150 rooms shown on plan and parking table, reconcile or re-confirm. The retail component (retail/theater) comprised of a minimum of 90,000 sq. ft. versus 104,332 sq. ft. is listed in other application documents. The *theater use of not less than 38,000 square feet*, where 51,665 square feet is depicted in other application documents. The *office component containing 6,000 sq. ft.*, however the other application documents indicate 5,939 sq. ft. These differences in numbers and sizes for the same residential and commercial *use types* affects the development program, parking requirements, fiscal impact/net revenues calculations and ability to evaluate the proposed mixed use project. Different numbers are confusing and possible use changes in size could vary from one to twenty-six percent (1% - 26%) as provided in the current February application package. It is understood the Developer is looking for flexibility in the development program, however the city has to understand, evaluate and present the application in quantifiable terms through various analyses. The city is looking for maximums on residential units and minimums on commercial uses. [Provide reconciled numbers for all development program use types in all application documents or indicate that the *Voluntary Concessions, Community Benefits, Terms and Conditions* govern and are to be the base numbers and staff will modify all related analysis documents accordingly or in ranges].

2. **VC # 2, Streetscape** – In order to be clear due to the conceptual nature and lack of detail of the current (CDP) plan the need for references to the city's adopted streetscape plan for this West Broad Street corridor need to be specifically referenced as it is adopted city policy. (States) "To promote a pedestrian environment, the Developer shall construct streetscape improvements consistent with" [Add] **the City's Adopted Streetscape Plan for West Broad Street and** that shown on the Conceptual Development Plan (CDP) to be finalized at site plan along the Property's frontage on West Broad Street."
   Also the North West Street streetscape there is only a minimum of 18 feet in width for approximately 30 percent or 70 feet (of 225 feet), between Grove Avenue and proposed Mason Lane due to the proposed on-street, loading space and six parking spaces. This results in approximately 70 percent or 155 feet of streetscape on this segment of N. West Street to be less than 10 feet in width due to the proposed on-street loading and parking spaces. Recommend eliminating the on-street parking and loading spaces on the CDP.
3. **VC #4, Retail Merchandising Plan** – Suggest development of a *primary* (A) and *secondary* (B) retail location guide/site map using the professional retail consultant that prioritizes the retail spaces and targets specific priority use types for the primary spaces and average for the secondary spaces. At this time the list of retail and service uses provided, potentially accommodates the typical uses seen in recent mixed use projects and should be further refined.
4. **VC #5, Hotel** – "*Not less than 140 rooms*" (versus 150 room) is inconsistent to the Conceptual Development Plans and all other supporting documents and affects parking, fiscal impact, and other review and evaluation criteria. Either a consistent number is needed or indicate they will differ and the staff analyses will use a *High – Low* range. The LEED guarantee $20,000 bond should be in the form of cash [Add] *cash* reference and [Delete] ~~*or letter of credit*~~. The LEED bond amount should be $50,000 as is for the apartments to encourage compliance. Bond timing – LEED cash bond release is tied to certificate of occupancy (CO) [Add] *hotel* certificate of occupancy to specify which CO it is tied to. [Add] after $20,000 cash bond "*and associated LEED or equivalent checklist*"... for timing purposes.
5. **VC #6 Schools Capital Cost Contribution** – the ADU's above 60 percent of HUD median income may be considered market units for purposes calculating rental apartment unit voluntary contributions to offset school capital costs.
6. **VC #7 Payment for Parks** – [Add] "*the City of Falls Church to" (before)* fund construction...[Add] (after) vicinity of the Development "*or in the City*" and such... At present time the major park expansion and re-construction of West End Park is presently under construction and completed will be in advance of this proposed project. Therefore funds may be needed elsewhere since the newest city park will have been completed in the immediate vicinity.

7. **VC #8 Contribution to the Little City C.A.T.C.H. Foundation** – The timing of the contribution should be specified and timed to "prior to *first residential certificate of occupancy.*"
8. **VC #10 Off-Site Infrastructure Improvements... -** [Add] "*public*" (before) rights-of-way.
9. **VC #12 Transportation** – [Clean up wording] (spell out) *North, West, Street and Avenue* for consistency. Paragraph 9 reference should be paragraph 10?
10. **VC #13 TDM** – [Add Reference] to attached TDM program]. The TDM program/plan is critical for the proposed parking reduction request and needs to be further developed in detail, identified measurable targets, annual reporting and included at the time of special exception, but refined and approved at site plan. A draft of the Parking Management Plan is needed at special exception with final approval at site plan.
11. **VC # 14 LEED or Equivalent Criteria -** The LEED guarantee $50,000 bond should be in the form of cash [Add] *cash* reference and [Delete] ~~*or letter of credit*~~. Bond timing – LEED cash bond release is tied to certificate of occupancy (CO) [Add] *first residential* certificate of occupancy to specify which CO it is tied to. [Add] after $20,000 cash bond "*and associated LEED or equivalent checklist*"... for timing purposes.
12. **VC #15 Affordable Dwelling Units (ADU's)** – Affordable units should all be at 60 percent AMI and not 2/3rd of the units above at 80 and 100 percent of AMI. Need to provide affordable units that meet identified city housing needs. Note: all fractions of 6% of the total units, are rounded up.
13. **VC #17 – Community liaison During Construction** – [Add] (after) any work on the site "*and prior to any permits*" ...
14. **VC #19 Bicycle Storage and Bike Share** – The location of a future, potential public bike share station should be clearly identified on the CDP as a "reserved area for a future bike share facilities" and referenced as such in the VC. The designated area should be of an appropriate size and location.
15. **VC #21 Pest Control – [Add]** A copy of contract and pest plan shall be provided to the city prior to any such work or activities.
16. **VC #23 Bus Shelter –** WMATA (spelling)
17. **VC #26 Other... b) Commissioner of Revenue Access –** notice to the managers of the residences and commercial spaces has the potential to be numerous contacts under the commercial side and untenable. [Add] *Owner will provide contacts, addresses and phone numbers for the two residential management and commercial management office contacts.*
18. **VC #26 Other... c) Community Representative** – [Add to end] (After) Zoning Administrator "*and Planning Director prior to first certificate of occupancy.*"

Transportation Planning – Paul Stoddard, Transportation/Senior Planner (703) 248-5041.

Several issues in the submission require further attention. The following short list of items highlights major issues, while detailed comments are provided in the enclosed memorandum, dated February 19, 2015.

1. A fully developed *Transportation Demand Management (TDM) Plan* and a *Parking Management Plan* should be included with the application materials and be agreed upon before accepting the conceptual development plan and granting the rezoning and special exception.
2. Building entrances need to be identified so that site elements like bike racks, sidewalk dining, and landscaping can be property sited.
3. As indicated in the Parking Reduction request submitted by the applicant, the amount of automobile parking proposed, 916 spaces, may provide more automobile parking than is required to meet demand. Providing more spaces than needed could have several detrimental effects. City staff and the development team should work together to develop an appropriate level of automobile parking for the proposed project.
4. The relocation and placement of the existing bus stop and a new bus shelter on West Broad Street closer to the intersection with N. West Street appears to meet WMATA bus stop guidelines and is appropriate.
5. See Memorandum, dated February 19, 2015 for complete comments and details (Enclosure 4).

Zoning Administrator – John Boyle, (703) 248-5126

1. Rezoning to B-1 is requested and requires a revision to the City's adopted Comprehensive Plan and Plan Future Land Use Plan Map.
2. Special Exception Voluntary Concession language is recommended to be flexible for other B-1 by right commercial uses types and not be restricted to retail only uses as has been done in other previous special exception projects.
3. The mix of uses proposed requires 1,144 parking space per city code. The proposed 947 spaces is a reduction of 17 percent or 197 parking spaces and requires a parking study that adequately justifies the request. The Planning Commission may modify the required parking ratio upon review of the applicant's studies and justifications.
4. The proposed on-street loading space on N. West Street requires City Council approval.
5. The maximum proposed building height of a B-district is 55 feet in height. The proposed maximum 85 feet building height for much of the project is based upon a 30 foot bonus under the requested special exception and may be approved by City Council. Evaluation of the requested height bonus is based upon the application package, special exception criteria and related justifications.
6. See Memorandum, dated March 15, 2015 for further comments and detail (Enclosure 5).

Department Public Works – Transportation Engineering Stephanie Taylor, P.E. (703) 248-5459; Jason Widstrom, P.E. Civil Engineer (703) 248-5026; Kate Reich, City Arborist (703) 248-5183

1. Traffic Impact Report, TDMs, utilities, landscaping transportation, solid waste and recycling comments provided on current application conceptual plans and associates studies.
2. See Memorandum from DPW, dated March 13, 2015 for further comments and details (Enclosure 6).

Housing – Kevin Denton, Housing Specialist (703) 248-5124

1. On February 11, 2013 the City Council approved a revised Affordable Housing policy, which recommends a minimum 6 percent of new multi-family units be affordable dwelling units and that the City may negotiate for a percentage above the six percent, depending on prevailing market forces and the unmet demand for ADU's.
2. The Housing and Human Services staff concur with the 6 percent ADU concession. Further suggest that any special exception negotiations include a consideration of additional ADU's or cash contributions to the City's affordable housing fund.
3. Recommends that ADU's be affordable to households at no more than 60% AMI. The currently proposed ADU's do not meet the City's ADU needs in terms of affordability as 2/3rd exceed 60 percent AMI.
4. A minimum of one of the ADU apartments will be accessible as defined by the American with Disabilities Act.
5. See Memorandum, dated February 25, 2015 for complete comments and details (Enclosure 2).

Fire Official – Capt. Tom Polera, (703) 248-5058

1. High-rise package is needed due to building heights. High-rise fire package is required for all buildings over 75 feet in height and recommended for others near 75 feet in height in mixed-use projects. At this time all buildings and underground structures must specifically identify if they are providing high-rise fire packages or not
2. Comments on Streetscape, Mason Lane and road access, designated fire lanes, radio coverage compliance, emergency generators, designated parking and movie theater.
3. Review will occur at the time of site plan and building plan review when sufficient plan details are provided.
4. See Memorandum, dated March 5, 2015 for complete comments and details (Enclosure 7).

Building Official - Doug Fraser (703) 248-5087

No further comments at this time.

Police – PFC James Brooks, (703) 248-5001

1. Comments on safety, emergency, design and other.
2. See Memorandum, dated February 26, 2015 for complete comments and details (Enclosure 8).

Water Public Utilities – Ross Stilling, P.E., Fairfax Water (703) 289-6385

1. Adequate water service is available at the site.
2. Depending upon the final development and building configuration of any proposed on-site water mains, additional water main extensions may be necessary to satisfy fire flow requirements and accommodate water quality concerns.
3. See correspondence, dated February 9, 2015, July 15, 2014 and September 4, 2014 for complete comments and details (Enclosure).

NOVA Parks – D. Iglhaut, (703) 359-4628-5001

1. Comments on W&OD Trail, trailer users, N. West Street, accessibility and traffic.
2. See letter, dated February 27, 2015 for complete comments and details (Enclosure 10).

City Council, Planning Commission, EDA Comments:

At the March 2, 2015 joint City Council, Planning Commission and EDA work session brief round table comments on the latest *Mason Row* application and plans (fourth submission) and applicant's presentation, were provided to the applicant and staff.

The most recent City Council comments on proposed Mason Row mixed-use project were provided at the March 23, 2015 meeting as part of the motion to defer the *Mason Row* agenda item until April 13, 2015. At that City Council meeting councilmember Baroukh listed five issue areas that needed to be addressed by the applicant. The request was that the applicant addresses the first two issue areas by first reading and the other three during the public review process and by second reading. The following issue areas were listed:

1. A reduction in the residential density, either in square feet or units.
2. The proposed parking garage massing needs to be reduced. To re-design the garage with different massing, possibly wrap in residential units and other solutions.
3. The hotel related Voluntary Concessions, Community Benefits, Terms and Conditions Terms must provide for solid guarantees. That a hotel contract be in place and also that a substantial surety performance bond is provided to the city.
4. That the applicant continues to work on addressing the Planning Commission, public and city council issues for future resubmissions and during the review process. To address previous comments from the March 2, 2015 joint work session and issues still pending from the special exception review process to date.
5. That the applicant works with existing businesses on the site to provide for business retention and relocation opportunities.

Public/Neighborhood Comments

As of the date of this staff letter to the applicant, the most recent written public comments were those transmitted by staff to the City Council in the Report to City Council dated March 23, 2015. Additional public correspondence received since March 23 is also provided for your review and consideration. See Enclosures package (Enclosure 11).

Architectural Review Board (AAB)

The Architectural Advisory Board (AAB) reviewed (architectural elevations, landscaping and site features) at their March 4, 2015 meeting. The AAB minutes are pending, but summary comments compiled by staff are detailed in the enclosed synopsis, dated March 4, 2015 (Enclosure 3).

Next Steps:

The city staffs review comments, on the fourth resubmission, detailed in this letter need to be addressed by the applicant and the supporting application documents revised along with in writing and preferably an annotated format in the coming weeks, preferably by mid-late April. A meeting with staff to review and discuss these comments in detail can be arranged upon request and is encouraged in the next two weeks - possible dates might be April 9-14. All application materials including conceptual plans, elevations, traffic/parking studies and *Voluntary Concessions, Community Benefits, Terms and Conditions* would need to be revised accordingly.

Based upon several identified issue areas associated with the Mason Row application, city staff has scheduled several meetings. A neighborhood transportation/traffic/parking discussion was held March 30, 2015 and a meeting with the NOVA Parks staff, city staff and applicant representatives to further discuss alternative concepts for the W&OD Trail crossings at N. West Street and Grove Avenue was held on April 1, 2015. Additional meetings with City staff and appropriate representatives of the applicant's team are to be scheduled to discuss TDM's and City Managers follow up discussion on *Voluntary Concessions, Community Benefits, Terms and Conditions*.

As a result of the City Council March 23, 2015 meeting the *Mason Row* application was deferred until April 13, 2015 for formal consideration of First Reading/Referral to city boards, commissions and community organizations. The applicants planned conceptual plan and application revisions need to be resubmitted by **Wednesday, April 8, 2015**, by noon, for the April 13, 2015 City Council meeting package. Also a cover letter describing the application package changes since the previous submission should be provided. In order to have sufficient meeting, review and record copies for City Council (25), Planning Commission (14), AAB (7), boards and commissions (11) and staff (16) a total of 73 complete new application packages are required.

Akida Rouzi and I are co-managers of this application. If you should have any general questions just email or call, either Akida at 703-248-5041 or myself at 703-248-5039 or the respective staff, listed above for any specific technical questions on the staff comments

Sincerely,

Gary H. Fuller, AICP
Principal Planner
gfuller@fallschurchva.gov

Akida Rouzi
Planner
arouzi@fallschurchva.gov

cc: James Snyder, Director Planning & Development Services

Enclosures:

1. Mason Row Development Proposal - Overview of Changes, Table, dated February 9, 2015
2. Memorandum, from K. Denton & N. Vincent, dated February 13, 2013
3. Architectural Review Board, Draft Meeting Minutes, March 4, 2015
4. Memorandum from P. Stoddard, dated February 19, 2015
5. Memorandum, from J. Boyle, dated March 10, 2015
6. Memorandum from DPW, dated March 13, 2015
7. Memorandum from Capt. T. Polera, dated March 5, 2015
8. Memorandum from J Brooks, dated February 26, 2015
9. Letters and Transmittal from R Stilling, dated February 9, 2015, September 4, 2014 & July 15, 2014
10. Letter, from D. Iglhaut, dated February 27, 2015
11. Letters and Emails from Public, dated February - March 2015

Applicant Contact/Agent:

David R. Lasso
Baskin, Jackson & Lasso, PC
301 Park Avenue
Falls Church, Virginia 22046
703-534-3610 Phone
703-536-7315 Fax
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David.Lasso@baskinjackson.com

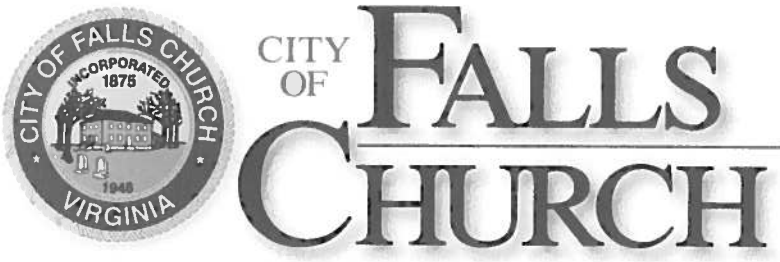
Updated 2-9-15

(Mason Row) Broad and West Development Proposal Overview of Changes

	Broad & West [March 2014] First Submission			Broad & West [July 7, 2014] Second Submission			(March to July)		Mason Row [August 28, 2014] Third Submission			(July to August)		Mason Row [Feb., 2015] Fourth Submission			(Aug. 14 to Feb. 15)	
	Units	Square Feet	Percent	Units	Square Feet	Percent	Percent Change	Number Increase	Units	Square Feet	Percent	Percent Change	Number Increase	Units	Square Feet	Percent	Percent Change	Number Increase
Commercial																		
Hotel	150	90,214	69.7%	150	88,731	65.4%	-1.6%	-1,483	150	80,076	62.1%	-9.8%	-8,655	150	71,018	39.2%	-11.3%	-9,058
Retail		39,272	30.3%		46,931	34.6%	19.5%	7,659		48,834	37.9%	4.1%	1,903		52,667	29.1%	7.8%	3,833
Office															5,939	3.3%		
Theater															51,665	28.5%		
Subtotal		**129,486**	**28.4%**	**150**	**135,662**	**26.5%**	**4.8%**	**6,176**		**128,910**	**24.9%**	**-5.0%**	**-6,752**		**181,289**	**32.1%**	**40.6%**	**52,379**
Residential																		
Rental	302	326,950	100.0%	253	278,983	74.0%	-14.7%	-47,967	253	283,929	72.9%	1.8%	4,946	340	383,054	100.0%	34.9%	99,125
Condo				67	98,047	26.0%	100.0%	67	67	105,309	27.1%	7.4%	7,262	0	0			
Subtotal	**302**	**326,950**	**71.6%**	**320**	**377,030**	**73.5%**	**15.3%**	**50,080**	**320**	**389,238**	**75.1%**	**3.2%**	**12,208**	**340**	**383,054**	**67.9%**	**-1.6%**	**-6,184**
Project																		
Commercial		129,486	28.4%		135,662	26.5%	4.8%	6,176		128,910	24.9%	-5.0%	-6,752		181,289	32.1%	40.6%	52,379
Residential		326,950	71.6%		377,030	73.5%	15.3%	50,080		389,238	75.1%	3.2%	12,208		383,054	67.9%	-1.6%	-6,184
TOTAL		**456,436**			**512,692**		**12.3%**	**56,256**		**518,148**		**1.1%**	**5,456**		**564,343**		**8.9%**	**46,195**
Ratio (Comm./Res.)		(28.4 : 71.6)			(26.5 : 73.5)		1.9%			(24.9 : 75.1)		1.6%			(32.1 : 67.9)			
Land																		
(Acres/Square Feet)	3.91	170,488		3.91	170,488				3.91	170,488				4.32	188,137			
FAR (Floor Area Ratio)		2.68		3.01			12.3%	0.33		3.04		1.1%	0.03		3.00		-1.3%	-0.04

ENCLOSURE 1

ENCLOSURE 2



DATE: February, 25 2015

TO: Akida Rouzi, Planner

FROM: Nancy Vincent, Director, Department of Human Services
Kevin Denton, Housing Specialist II, Housing and Human Services

SUBJECT: Spectrum Affordable Housing Voluntary Concessions

The Affordable Dwelling Unit (ADU) policy specifically targets households at 50%-80% of the Area Median Income (AMI). Rental ADUs should be affordable to households with incomes at 60% AMI and should have a similar bedroom ratio to the project as a whole, although the City has a preference for units affordable at lower than 60% AMI and for larger units. ADUs will be similar in size and quality to market rate units while also being spread throughout the entire project. Building owners will be responsible for marketing and assessing tenant qualifications of all ADU apartments. ADU apartments are excluded from any annual amenities fee.

Housing and Human Services staff recommends the following affordable housing contribution:

- At least 6% of all residential units will be designated as ADUs.
- ADUs will be affordable to households at no more than 60% AMI.
- A minimum of one of the ADU apartments will be accessible as defined by the American with Disabilities Act.

ENCLOSURE 3

Architectural Advisory Board
Council Chambers
March 4, 2015
7:45 p.m.

Meeting called to order 7:47 p.m.

1. Roll Call: Mrs. Friedlander, Mr. Fritsch, Mr. Anderson, and Mr. Way were present.

2. Petitions: There were no petitions.

3. Consent Calendar:

   a. AAB #2014-1309 – installation of wall-mounted, illuminated sign at 1112 W. Broad St. for Pita Pouch. Mr. Way made a motion to approve as submitted. The motion was seconded by Mr. Anderson and unanimously approved.

   b. AAB #2015-0175 – installation of wall-mounted, illuminated sign at 1001 W. Broad St. for House of Interiors. Mr. Way made a motion to approve as submitted with recommendation to change color of letters from red to white, and all other signs are to be removed. The motion was seconded by Mrs. Friedlander and unanimously approved.

   c. AAB #2015-0120 – installation of a wall-mounted sign and temporary banner at 450 N. Washington St. Suite H for Make My Day CPA. Mrs. Friedlander made a motion to accept as submitted with recommendation that the "CPA" text be smaller so as to fit in space dictated by existing masonry features. The motion was seconded by Mr. Anderson and unanimously approved.

   d. AAB #2015-0125 – installation of a wall-mounted, illuminated sign at 450 N. Washington St. Suite D for Comfort First Family. Mr. Way made a motion to approve as submitted. The motion was seconded by Mr. Anderson and unanimously approved.

4. Other Business: There was no other business.

5. Old Business: There was no old business.

6. New Business:

   a. AAB #2014-1292 – by BCN Enterprises, LLC, preliminary review of a conceptual plan for premises known as 205 Park Avenue, RPC # 51-106-010 of the Falls Church Real Property records, zoned B-2 "General Business", to restore exterior elevations, to remove the second front door and replace with a window to match existing windows, to add covered front porch, to provide outdoor dining areas, and to construct an addition at the rear elevation of the existing structure. After a

presentation by the applicant and discussion, the board recommends the applicant consider the following: address location of a second egress stair for the second level; work with HARB on details related to restoring the historic structure including gutters, downspouts, railings, etc.; consider the handicap parking location and ramp design to best maintain the historic Park Avenue facade and presentation; consider the inclusion of transom windows on north elevation of new addition; pay careful consideration to the transitional space between new addition and the existing historic components; and consider integration of signage. Overall, the board feels that the applicant has presented an effective and attractive design that maintains the historic nature of the existing structure and its relationship to the City of Falls Church.

b. AAB #2013-1165 – by Spectrum Development, LLC, preliminary review of a revised conceptual development packet for the proposed Mixed Use Development, named Mason Row (Broad and West). After a presentation by the applicant and discussion, the board recommends the applicant consider the following: consider the scale and impact of the parking deck that faces Park Avenue and consider stepping back the levels that are planned for above the 35' elevation; consider the architectural design and detailing of the parking garage facade at the Park St. elevation and how it can better relate to the context of its residential neighbors; consider moving the amenity spaces from internal of the structure to face outward to Broad Street so as to breakup the impact of the continuous unarticulated massing of the building along Broad Street; further develop the architecture of the building into related but distinct elements to help further aid in breaking down the massing of the building; consider alternative treatment to the ground level appearance at the intersection of N. West Street and Grove Avenue so as to reduce the "wall" effect at this location; give consideration to the corner feature at West and Broad as this is a very visible and highly influential portion of the building; consider integration of signage for the hotel and theater components so they are best integrated into the overall design; and consider developing and presenting facade design options/variants in further iterations of the preliminary process. The board feels that, overall, the design needs to better acknowledge the context of the City of Falls Church and better manage the transition from business to residential properties. Contextual considerations include local and state building traditions, the existing built environment along Broad Street and the unique history and values of the community.

7. Minutes:

   a. Minutes from the December 3, 2014 meeting were reviewed. Mr. Way amended the minutes to add a motion that was missing and has resubmitted those minutes to staff.

8. Adjournment: The meeting was adjourned at 10:22 p.m.

ENCLOSURE 4

CITY OF FALLS CHURCH

DATE: February 19, 2015

TO: Gary H. Fuller, AICP, Principal Planner
Akida Rouzi, Planner

FROM: Paul Stoddard, Senior Planner

SUBJECT: Proposed Mason Row Development, Transportation Planning Review

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Please find below my transportation comments and recommendations regarding the proposed redevelopment project at West Broad Street and North West Street, titled "Mason Row". These comments and recommendations respond to the following documents received on February 3, 2015:

1. Applications for rezoning, comprehensive plan amendment, and special exception;
2. Parcel ownership information and consent letters from property owners;
3. Transmittal and justification letters regarding rezoning, comprehensive plan amendment, and comprehensive plan conformance;
4. Voluntary Concessions;
5. Retail Merchandising Plan;
6. Conceptual Development Plan;
7. Conceptual Development Packet; and
8. Traffic Impact Study, both short and long form.

These comments and recommendations also respond to the Parking Reduction Request, dated February 11, 2015.

Major Issues

Several issues in the submission require further attention. The following short list of items highlights major issues.

1. A Transportation Demand Management (TDM) Plan and a Parking Management Plan should be included with the application materials and be agreed upon before accepting the conceptual development plan and granting the rezoning and special exception.
2. Building entrances need to be identified so that site elements like bike racks, sidewalk dining, and landscaping can be property sited.
3. As indicated in the Parking Reduction Request submitted by the applicant, the amount of automobile parking proposed, 916 spaces, may provide more automobile parking than is

required to meet demand. Providing more spaces than needed could have several detrimental effects. City staff and the development team should work together to develop an appropriate level of automobile parking for the proposed project.

Policy Guidance

These comments are motivated by the following policy guidance.

Comprehensive Plan

- Mobility for all Modes, Chapter 7
  - Increase pedestrian safety and accessibility in both the commercial and residential areas of the City.
  - Increase the safety and accessibility of bicycling.
  - Ensure that bicycle routes connect the City's commercial areas, transit facilities, regional bicycle facilities, and designated bicycle routes in neighboring jurisdictions.
  - Provide bicycle parking at all facilities generally open to the public and in all commercial areas of the City.
  - To the extent possible, meet increased travel demand within, from, and through the City via non-automobile modes.
  - When roadways are being constructed or repaired, adjust lane widths and turning radii to be as small as possible according to the City's design guidelines.
- Chapter 4, Goal 3, Strategy C: Develop pedestrian and bicycle trails that link recreational, residential, and commercial uses, as well as schools and metro stations, to reduce the need for auto trips and increase residential-commercial linkages.

City's Design Guidelines

- Page 39, provide a width of 10 feet of pedestrian space on sidewalks in commercial areas.

Bus Stop and Bus Shelter Master Plan

- Priority locations map, site layout, shelter design.

Pedestrian Access

Several positive changes have been made to the plan since it was last submitted. Those items are noted below. Several items require further review.

The following changes are all beneficial for pedestrian access and safety. These should be commended and maintained as the process moves forward:

1. The crosswalk and traffic light along Broad Street at the eastern end of the project. These elements dramatically improve pedestrian access and safety.
2. Flush sidewalks at all vehicle entrances. These will help clarify that entering and exiting motorists need to yield to sidewalk users.

3. The crosswalks connecting the site to the W&OD Trail across N West St. Including the concrete medians for the crosswalk near Grove Ave.
4. The traffic light at Park Ave.

The follow elements require further attention:

1. Is sidewalk dining envisioned for this site? If so, areas should be identified on the conceptual development plan in order to ensure pedestrian passage is accommodated.
2. At the intersection of W Broad St & N West St, can the turning radius be tightened? The 27 foot radius shown appears overly wide.
3. At the intersection of W Broad St & N West St, can the median on W Broad be carried through the crosswalk? This would better direct turning motorists and better protect pedestrians using the crosswalk.
4. Can the proposed concrete median on N West St be carried though the repositioned W&OD Trail crossing?
5. Additional treatments are needed at the crossing of Grove Ave and the W&OD Trail. Perhaps something similar to what is proposed for the crossing with N West St.
6. When the theater entrance location is identified, ensure sufficient sidewalk space out front for pedestrian access.
7. Ensure adequate lighting at all vehicle entrances, in particular, lighting at the entrance near Park Ave and the east entrance on Broad St appear too far away.

Bicycle Parking and Access

Some positive changes have been made to the plan since it was last submitted. Those items are noted below. Several items require further review.

The following changes are all beneficial for bicyclist access and safety. These should be commended and maintained as the process moves forward:

1. The strengthened connections to the W&OD Trail, specifically the new crosswalks.
2. The mention of a Capital BikeShare station.

The following items require further attention:

1. Outdoor bicycle parking should be shown within each "block" as separated by driveway entrances.
2. Voluntary Concession #19, Bicycle Storage and Bike Share. The provision of 20 bicycle parking spaces is insufficient. The number of bicycle parking spaces should be connected to the site's TDM plan and the mode-share goals for the site. The project should provide separate secure bicycle parking facilities for the apartments, the condominiums, and the retail spaces. Additionally, non-secure spaces should be provided for retail customers and other short-term visitors.

- Stipulate that the long-term, secure bicycle parking will meet "Class 1" requirements as described by Arlington County's bicycle parking standards - http://www.commuterpage.com/pages/special-programs/tdm-for-site-plans/bicycle-parking-specifications/.
- Provide separate secure bicycle facilities for residential users (residents) and commercial users (employees).
- For commercial users, stipulate that parking is for employee use.
- Locate the secure parking facilities close to parking garage entrances or provide a separate entrance directly onto the sidewalk.
- Provide separate "Class 2" or "Class 3" visitor bike parking (again referencing Arlington County standards) for non-residents and non-employees.
- Stipulate the number of bicycle parking spaces to be provided will be consistent with Arlington County bicycle parking requirements.

3. Voluntary Concession #19, Bike Share. The location for the proposed Bike-Share location should be included in the CDP. Please see guidance from Arlington County regarding the site locations for Bike-Share stations, with particular emphasis on visibility and pedestrian accessibility. Further, both (1) up front capital costs and (2) ongoing operating costs should be included as a developer contribution.

Transit Access

Some positive changes have been made to the plan since it was last submitted. Those items are noted below. Some items require further review.

The following change is beneficial for transit rider access and safety. These should be commended and maintained as the process moves forward:

1. The relocation of the bus stop area to the intersection of West Street and West Broad. This location substantially improves access and safety for bus riders and it is consistent with the City adopted Bus Stop and Bus Shelter Master Plan, http://www.fallschurchva.gov/BusStop

The following item require further attention:

1. Voluntary Concession #23, Bus Shelter. The language should be updated to confirm that the bus stop will be provided as shown in the CDP. Additionally, the language should clarify that it is the City Manager's option to trigger the in lieu payment for a shelter, not the developer's. Lastly, per the latest cost estimate from the City's bus shelter efforts, the in lieu payment should be increased to $30,000.

Automobile Access and Parking

Some positive changes have been made to the plan since it was last submitted. Those items are noted below. Some items require further review.

The follow changes are beneficial to the project in providing balanced access to the site. These should be commended and maintained as the process moves forward:

1. The standardization of travel lane widths to 11 feet. Please confirm that travel lanes along W Broad Street will be 11 feet.
2. The addition of a traffic light at the intersection of N West St & Park Ave.
3. The removal of the automobile entrance and parking spaces along N West St.
4. The removal of the garage entrance from Park Ave.

The following items require further attention:

1. Lane widths on Grove Ave and N West St should be standardized at 11 feet through the intersections with the W&OD Trail.
4. Please indicate whether it is still expected that Mason Ln, the internal street, can be blocked for festivals. If that is the case, please indicate on the CDP where street would be closed.
5. Voluntary Concession #20, Electric Vehicle Charging Station. Please explore whether multiple stations should be provided.

Transportation Demand Management

A Transportation Demand Management (TDM) Plan must be included to properly review the application. As noted in the City's Comprehensive Plan, new projects should, "to the extent possible, meet increased travel demand within, from, and through the City via non-automobile modes". Without a TDM plan, it is not possible to assess whether this is being done. Further, it is not possible to fully assess automobile parking needs without a TDM plan.

In developing a TDM Plan, the intention should be to equalize the benefits being offered for different modes of transportation. So instead of providing everyone a free parking space, give people a choice of parking, transit, bicycle, or pedestrian benefits. Additionally, transportation benefits need to be tailored to the different user groups – renters, owners, employees, hotel visitors, etc. Some ideas for that include:

- Unbundle the parking from the apartments. Allow renters to rent an apartment without renting a parking space – offer rented parking as a separate item in the lease.
- Unbundle the parking from the condominiums. Allow the condominiums and parking spaces to be purchased as separate items. As needed, condo owners could rent additional parking spaces through the same program as the renters.
- Work with employers to offer employees a "parking cashout" – allow employees to choose among a parking pass, transit benefits ~$100/mo, or cash payments ~$50/mo.
- Provide secure bicycle parking for residents with access directly off the sidewalk or close to the garage entrance.
- Provide separate secure bicycle parking for employees, along with showers and changing facilities.
- Provide hotel guests with prepaid SmarTrip cards.

- Provide designated spaces for vanpool and carpool in preferred spaces – either near building entrances or parking area entrances.
- Provide designated spaces for car-sharing services in preferred spaces.
- Provide a fleet of cars available for residents and/or employees in the building.

Parking Management

Similar to a TDM Plan, a Parking Management Plan must be included at this stage of the development process. Overall, the intention is to manage the parking supply in order to avoid constructing more parking spaces than are needed to meet demand - building 1 space that is used 16 hours a day is preferable to building 2 spaces that are each used 8 hours a day. This means taking into account when (day, night, weekend) different groups of users will need access to parking and how (short-term vs long-term) they will use it. For example:

- Hotel and residential parking use will be heaviest at night, whereas retail parking use will be heaviest midday and early evening.
- The "retail" parking spaces could be signed as four hour parking during expected business hours and available to residential users (residents and visitors) with either a parking sticker or a hang tag overnight or outside of business hours.

Automobile Parking Supply

As indicated in the Parking Reduction Request submitted by the applicant, the amount of automobile parking proposed, 916 spaces, may provide more automobile parking than is required to meet demand. Providing more spaces than needed could have several detrimental effects. These effects include (1) the incentivizing of more patrons to drive, thereby increasing congestion on nearby roadways and (2) the over commitment of project resources toward the construction of parking that could instead be invested in community benefits. City staff and the development team should work together to develop an appropriate level of automobile parking for the proposed project.

Because the built environment has a dramatic effect of travel mode and therefore parking demands, the exemplars in the Parking Reduction Request should be selected to reflect a range of built environments. The range of environments should reflect the current environment in the City of Falls Church today and the planned built environment described in the City's Comprehensive Plan, small area plans, and zoning ordinance.

ENCLOSURE 5

CITY OF FALLS CHURCH

MEMORANDUM

DATE: March 10, 2015

TO: Gary Fuller, Principal Planner
Akida Rouzi, Planner

FROM: John C. Boyle, Zoning Administrator

SUBJECT: Mason Row Special Exception / Rezoning

This will serve as my comments on this plan—

Rezoning

The plan proposes to rezone the subject parcels to B-1 Limited Business. This requires a revision to the Future Land Use Plan for the parcels currently zoned R-1B Medium Density Residential, which are slated to remain R-1B. The Future Land Use map revision noted in the application is the appropriate process to achieve this.

The plan should consolidate the multiple underlying lots into either a single lot or the minimum necessary to achieve the intended use and ownership separation. Recordation of the resulting lots should be attached to the final site plan.

Special Exception Language

The applicant is advised to propose language and conditions in the special exception ordinance that allows flexibility in securing tenants. Several recent special exceptions have been especially restrictive and required City Council amendments to remove use limitations in order to address market realities. That is an expensive and time-consuming public process that is not guaranteed to succeed. The proposed special exception language should be carefully crafted to anticipate likely uses while still complying with the intent of the ordinance, and it is far easier to craft that language at this time than after occupancy.

920 W. Broad Street Historic Structure

The applicant's appeal A1561-14 was sustained by the Board of Zoning Appeals on July 17, 2014. 920 W. Broad is now considered to have an active demolition permit from the Historic Architectural Review Board and may be demolished at the owner's discretion pending issuance of a building demolition permit from the Building Official.

Parking

1. The shopping center parking ratio of 1:250 is available for the proposed commercial uses.
2. The mix of uses requires 1,144 parking spaces by code; the 947 proposed is a reduction of 17% and requires justification. The Planning Commission may adjust the required parking ratio upon review of the applicant's justification.
3. The proposed on-street loading space requires City Council approval. Staff supports on-street loading spaces when they are posted as such between certain hours that are compatible with the retail uses. An example is the loading space approved by Council on N. Lee Street that serves the Broadway Building. Large delivery vehicles such as moving vans will not be able to negotiate the interior of this site plan and will likely make use of on street. Anticipating that, it will be beneficial to designate such areas in the plan.
4. Staff recommends the applicant request a Planning Commission reduction in required loading zone spaces where practical, i.e. for after-hours deliveries and for deliveries that will not requires large vehicles; in such cases it may be possible to dedicate specific passenger vehicle parking spaces as loading during posted hours. An example of this exists in the Reed Building.
5. With regard to the apartment and commercial parking, the applicant is urged to provide a parking management plan that prevents the mixing of residential, commercial and hotel parking and that provides dedicated parking for the apartments and their guests. There are several examples in recently built structures that confirm mixing retail and residential spaces has not been successful and becomes a significant site plan compliance issue after occupancy. Compliance with such a plan should be made part of the leases.
6. The applicant is cautioned not to allow units to lease or purchase dedicated parking above and beyond what the code requires. Where this has occurred, parking plans have failed and caused significant conflicts between residents, HOA's and commercial tenants. With the parking reduction requested, there will be no excess of parking to lease or purchase.

Building Height

As noted, the proposed building height of 85 feet requires a special exception and must be measured from the lower of existing or finished grade; proposed height and table on P-0401 complies.

Setbacks

The setbacks indicated on P-0101 are correct.

General

- The use of underground vaults proposed for the transformers is noted and encouraged; The applicant is advised that in the event the vaults cannot be used and the transformers are located above grade, they must be moved out of a yard abutting a street.
- Vision obstruction triangles are noted on the plan; maintain sight lines at intersections including where pedestrians cross vehicle drive aisles.

ENCLOSURE 6

CITY OF FALLS CHURCH

DATE: March 13, 2015

TO: Gary H. Fuller, AICP – Principal Planner, DDS
Akida Rouzi – Planner, DDS

FROM: Stephanie Taylor, P.E. – Transportation Engineer, DPW
Jason Widstrom, P.E. – Civil Engineer, DPW
Kate Reich – City Arborist, DPW

SUBJECT: 900 Block of West Broad Street Mixed-Use Development (Mason Row)
Revised Submission

The Department of Public Works has reviewed the revised submission of the traffic impact study and concept plan, dated February 11, 2015, for the Mason Row site located along the 900 block of West Broad Street. Updated comments on the submission are provided below.

Report

1. The TDM section is still vague and repetitive. For example, Item A7 states, "Encourage residents and employees to ride bikes or walk to work," but does not say how. Also, Items E2 and E3 state the same thing.
2. As noted in the previous submission's comments, the TDM's target reduction goal should include the retail uses.
3. As noted in the previous submission's comments, while the current report did not require vehicular data collection on weekend day, a technical memorandum which analyzes weekend operations should be prepared approximately one year after the site is occupied. This memo should also examine parking operations and site circulation and propose specific mitigation measures if needed. The report and/or voluntary concessions should reflect this.
4. As noted in the previous submission's comments, include the date that PHR&A performed the counts along North Oak Street in the report. If available, include the detailed data collection information in the appendix. If these counts were collected before 2010, they are no longer representative of local traffic volumes and new data will need to be collected.
5. A full MUTCD-compliant signal warrant analysis at the intersection of West Broad Street and the eastern site access point should be provided per the scope.
6. There are major impacts expected for the EBL approach West Broad Street and West Street. Potential mitigations should be listed.

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www.fallschurchva.gov

7. The Lost Time Adjust in the Synchro file need to be set so that total lost time = 3 sec per attachment V.
8. The Synchro future lane configuration at West Broad Street and West Street should be revised to match the proposed development plan. The southbound left turn lane is missing.

Plan – Utilities

1. The City could not locate the stormwater easement along 905 W Broad Street. Please provide this information.
2. The City requires stormwater calculations showing pre- and post-development flow rates. Be sure to account for existing stormwater detention facilities in the pre-development flow rate.
3. There are two illicit connections to the RCP on 919 Park Ave. These must be removed and repaired.
4. We are awaiting CCTV of the storm piping along West Broad St. to see if there are other repairs needed.
5. Show all existing utilities, especially drainage facilities, and grading in the area surrounding the bike path. The City has a concern about changes to the area and the impact on stormwater conveyance.
6. The City's sanitary sewer model indicates there is a capacity concern with the proposed development. A sewer capacity analysis from str. 70 to str. 25 and str. 70 to str. 144 will be required as part of the development application.

Plan – Landscaping

1. Emphasize the green corridor between Mason Row, the W&OD Trail and West End Park by adding landscape improvements on city ROW and NVRPA property across the street from Mason Row, and using some of the same landscape elements in the Mason Row streetscape. There should be a clear visual and pedestrian connection between Mason Row and West End Park.
2. Improved W&OD Trail street crossings should include trees and/or shrubs in the ROW.
3. The landscape strip between the street and sidewalk on Park Avenue should be at least 6 feet wide.
4. Trees are shown planted 7 feet from the north side of a very wide 5-story building, but no trees will thrive there due to the lack of available sunlight.
5. Please plant trees in the buffer area on the east side, if acceptable to the Public Works Director.
6. Add a streetscape planter on West Street between the garbage driveway and the proposed

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crosswalk to Grove Ave.

7. Use the adopted Broad Street streetscape planter design on Broad and on West, including the raised bullnose edge.
8. Streetscape planters should be placed at the back of the curb; no utility strip is needed.
9. A continuous planting-soil bed along the curb below the pavement, sloped to a drain line at the bottom, is preferred over discrete individual planting pits. The surface design will still be individual planters with pavement between them.
10. Streetscape planters need to be irrigated with a separate irrigation water meter and shutoff on the street.

Plan – Transportation

1. Enhanced trail crossings for Grove Avenue and N West Street are preferred over not treating the Grove crossing or relocating the N West crossing to the intersection.
2. Eliminate the loading zone along N West Street to provide sufficient space for streetscape. Parking and loading should be considered part of the internal site circulation.
3. Evaluate the feasibility of relocating the crosswalk across N West St to with the west side of Grove Avenue so that West End Park visitors only have to cross one street. Consider visibility and potential conflicts with right turning vehicles.

Plan – Solid Waste & Recycling

1. Conceptual design shows trash dumpsters in two of the five buildings. It is unclear how recycling/trash will be handled in the remaining three buildings. Please provide plan for solid waste management in these buildings.
2. Conceptual design is not clear on how recycling/trash will be handled in the residential portion of the development. Please provide a plan for residential solid waste management.

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ENCLOSURE 7

CITY OF FALLS CHURCH
FIRE MARSHAL
300 PARK AVENUE
FALLS CHURCH, VA 22046
Phone: (703) 248-5058 Fax: (703) 248-5158
Email: FireMarshal@fallschurchva.gov

March 5, 2015

TO: Gary Fuller, City Planner

FROM: Capt. Tom Polera, City Fire Official

SUBJECT: Comments on Mason Row Project

While many of the specifics of this project relating to Fire and Building codes are still in development, the following items need further details to address life safety concerns. Upon further explanation additional items may be brought forward to be incorporated into the voluntary concessions:

- Streetscape: The Fire Official shall review and approve streetscape to assure interoperability for the building egress, emergency responder operations and unhampered access to building systems. This includes the locations of fire hydrants and their relation to FDC connections as not to block or impede egress points including garage access/egress points.
- Mason Lane and Road Access: The addition of the new street shall meet and maintain the intent of the Statewide Fire Prevention Code requirement for 20 foot width access road for fire apparatus. This includes weight capacities for fire apparatus.
- Designated Fire Lanes: Indicate Fire Lanes for emergency response.
- Radio Coverage Compliance: Regarding the public safety radio coverage compliance, this requirement is not only for the underground parking garage but includes coverage requirements inside and aboveground in the building(s) to include stairwells. The space and equipment needed shall be provided by the developer/building owner and be maintained by the building owner. The City Fire Official is the point of coordination for all city emergency services for approval of radio compliance.
- High-rise Packages: Due to the mixed use and complexity of life safety systems for this development, there needs to be a clear understanding on which buildings will be equipped with a high-rise fire protection package. This includes the details of buildings that are inter-connected with sprinkler/standpipe/alarm systems including the locations and number of Fire Control Rooms and locations of Fire Department Connections.
- Emergency Generators: Those structures not equipped with a high-rise package shall have a generator that will have the capability to supply and sustain fire

protection systems, emergency lighting and ventilation, elevator service as well as domestic water in order to sustain the sanitary systems and any other critical functions that are to remain viable during extended outages. Generators are preferred to be natural gas supplied.

- Parking Spaces: The project shall have a least two designated parking spaces for POLICE Department needs.
- Movie Theatres: This project shall include the close coordination regarding the feasibility of acceptable assembly areas (movie theatre's) in the underground space. An **All-Hazards Plan** shall be submitted for approval regarding this space that shall include plans and building features for evacuation, shelter in place, security, and "lock-down" scenarios. These plans shall address an all-hazard approach to maintain a safe community environment. The All-Hazards Plan for this assembly area shall be approved by the Building Official, Fire Official and the Chief of Police.

Please contact me if you have any additional questions.

Sincerely,

Capt. Tom Polera

ENCLOSURE 8

CITY OF FALLS CHURCH

DATE: 26 February 2015

TO: Gary Fuller, Principal Planner

FROM: PFC James Brooks, Community Services Officer, Police Department

SUBJECT: Mason Row Project

I have reviewed the conceptual plan submitted by Spectrum Development received on 3 February 2015. Listed below are the following comments regarding the planned development.

Recommendations/Requests:

- Install mirrors in strategic places in the garage to minimize areas which are obscured for both pedestrians and vehicles.
- Create physical segregation between residential and public use parking to limit illegitimate pedestrian and vehicular traffic.
- Segregate elevators for residential and public use to discourage "piggybacking" entrances by non-residents.
- The police department requests a parking space in an area with direct ingress and egress for emergency services.
- A camera layout plan is requested for increased surveillance in public areas in the facility and its exterior.
- An emergency operations plan developed for both natural and man-made disasters.
- The police department requests keys or access to the main doors for emergency entrance purposes.
- The police department requests a 24 hour point of contact during construction in case of emergency.
- Bollards should be placed near main entrances and border areas of heavy pedestrian traffic to prevent pedestrian-vehicular accidents in pedestrian areas.

CITY OF FALLS CHURCH

W&OD Trail Crosswalk:

- Design a controlled perpendicular crosswalk that would increase visibility of pedestrians and promote cyclists to stop and follow traffic law. With the anticipated increase in shared use traffic, calming designs are highly encouraged.

Theater

- The Police Department is opposed to any plans of a basement theater without alternative exit areas from the theater rooms. Any natural or man-made disaster can be deathly catastrophic if the only egress point is blocked; preventing any escape or alternative access by emergency personnel.

Library

- ADA access ramp should be more prominent near main entrance to decrease walking distance for ADA users and follow the spirit of the law.

CC: Joe Carter, Commander, Police Special Services
Mary Gavin, Chief of Police

DEVELOPMENT SERVICES ROUTING TRANSMITT

ENCLOSURE 9

Project Address:
900 Block of W. Broad Street

Project Name:
Mason Row (Broad and West)

Review Type

- ☒ Conceptual Development Plan
- ☐ Site Plan Review
- ☐ Preliminary Subdivision Plat Review
- ☐ Final Subdivision Plat Review
- ☐ 2232 Review
- ☐ Other _____

Application Type

- ☐ Site Plan
- ☐ Site Plan Amendment-Major
- ☐ Site Plan Amendment-Minor
- ☒ Special Exception
- ☒ Comprehensive Plan Amendment
- ☐ Subdivision, Consolidation or Lot Line Adjustment
- ☒ Rezoning
- ☐ Interpretation/Planning Director
- ☐ Zoning Ordinance Text Amendment

Munis # 2013-1165

Routing Date: February 5, 2015

Routing To:

- ☒ Building Safety
- ☒ City Arborist
- ☒ City Engineer
- ☒ Transportation Engineering Supervisor
- ☒ Fire Marshal [Tom Polera]
- ☒ DDS/Planning Director [Jim Snyder]
- ☒ Northern Virginia Regional Park Authority
- ☒ Fairfax Water
- ☒ Principal Planner
- ☒ Senior Planner
  - ☒ Transportation Review
  - ☒ Comprehensive Plan Review
- ☒ Planner
- ☐ Planning Specialist (HARB)
- ☒ Zoning Administrator
- ☒ Police [James Brooks]
- ☒ Economic Development
- ☒ Housing and Human Services
- ☐ Real-Estate Assessor
- ☒ City Manager's Office
- ☒ City Attorney
- ☒ File Copy

Case Manager(s): Gary Fuller, Principal Planner; Akida Rouzi, Planer
gfuller@fallschurchva.gov 703-248-5039
arouzi@fallschurchva.gov 703-248-5104

Special Comments from Case Manager:

Project Schedule:

- ☐ **Planning Commission Meeting on: TBD**
- ☒ **DRC Meeting on: Feb. 26th**
- ☐ **City Council Meeting on: TBD**

Written Comments Due to Case Manager: February 27, 2015

Reviewer Comments:

- ☒ No comments - See Reaffirmed comments of 9/4/14 + 7/15/14
- ☐ Standardized comment sheet is attached
- ☐ Comments have been emailed to Case Manager(s)

Signature: Randy Thornton Date: 2/9/15
Department/Division: Short Range Planning

FAIRFAX COUNTY WATER AUTHORITY
8560 Arlington Boulevard, Fairfax, Virginia 22031
www.fairfaxwater.org

PLANNING & ENGINEERING DIVISION
Jamie Bain Hedges, P.E.
Director
(703) 289-6325
Fax (703) 289-6382

September 4, 2014

Mr. Gary H. Fuller
AICP, Principal Planner
City of Falls Church
300 Park Avenue, Suite 300 West
Falls Church, Virginia 22046

Re: Broad & West Mixed Use
Tax Map: 40-4

Dear Mr. Fuller:

Fairfax Water would like to reaffirm its comments from July 15, 2014 (please see attached).

If you have any questions regarding this information please contact me at (703) 289-6385

Sincerely,

Ross Stilling

Ross K. Stilling, P.E.
Chief, Plan Review

Enclosure

FAIRFAX COUNTY WATER AUTHORITY
8560 Arlington Boulevard, Fairfax, Virginia 22031
www.fairfaxwater.org

PLANNING & ENGINEERING DIVISION
Jamie Bain Hedges, P.E.
Director
(703) 289-6325
Fax (703) 289-6382

July 15, 2014

Mr. Gary H. Fuller
AICP, Principal Planner
City of Falls Church
300 Park Avenue, Suite 300 West
Falls Church, Virginia 22046

Re: Broad & West Mixed Use
Tax Map: 40-4

Dear Mr. Fuller:

The following information is submitted in response to your request for a water service analysis for the above application:

1. The property can be served by Fairfax Water.

2. Adequate domestic water service is available at the site from existing 12-inch water main located in West Broad Street and a 20-inch water main located in Park Avenue. See the enclosed water system map.

3. Depending upon the configuration of any proposed on-site water mains, additional water main extensions may be necessary to satisfy fire flow requirements and accommodate water quality concerns.

4. Please be aware that Fairfax Water operates a 20-inch transmission main in Park Avenue. In accordance with Fairfax Water policy (copy enclosed) all developer proposed relocations of Fairfax Water transmission mains greater than 16-inches in diameter require the approval of the Fairfax Water Board. If it is determined that the proposed construction requires relocation of this transmission main, the applicant must submit a letter to the attention of Ms. Jamie Bain Hedges, P.E., Director, Planning and Engineering, requesting permission to relocate the existing transmission main. Submission of such a request, if necessary, is recommended as soon as possible to avoid subsequent project delays or rework. Relocation of the transmission main, if approved, will be at the owner's expense. After staff review, the request will be forwarded to the Board for consideration.

If you have any questions regarding this information please contact Ross Stilling, P.E., Chief, Site Plan Review at (703) 289-6385.

Sincerely,

Traci K. Goldberg

Traci K. Goldberg, P.E.
Manager, Planning

Enclosure

Transmission Main Relocation Policy

Adopted April 23, 2009

Water mains larger than 16-inches in diameter constitute the backbone of the Fairfax County Water Authority's (Authority) transmission system. Their continuous operation is necessary to best ensure adequate flow and pressure throughout the system for the provision of domestic service and fire protection. These transmission mains are located in easements benefitting the Authority and in state right-of-ways with approval of the Virginia Department of Transportation.

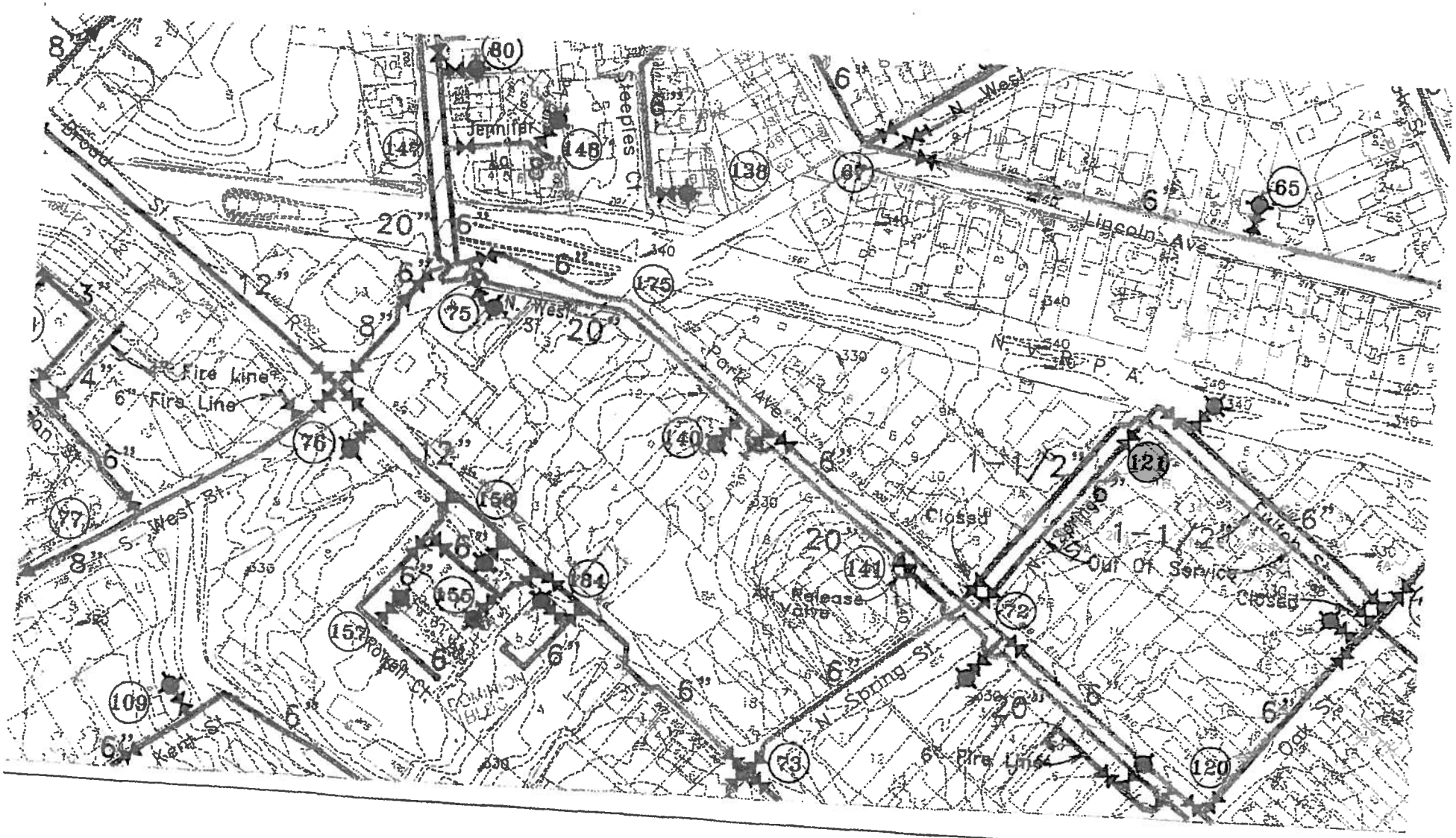
Occasionally, private land developers request permission to relocate portions of the Authority's transmission mains to facilitate best use of the developer's property. Given the significant risk and high degree of coordination necessary to effectively relocate transmission mains without compromising the integrity of the Authority's operations during these activities, all proposed relocations of water mains larger than 16-inches in diameter that are initiated by private development activity must be submitted to the Authority Board for approval

When reviewing proposed relocations, the Board will consider various factors, including but not limited to:

1) The extent of the relocation.
2) The anticipated transmission main outage duration during tie-ins.
3) The impact to the local service area and the overall system.
4) The level of staff effort required to effectively coordinate and execute the relocation.
5) The benefits to the Authority of the proposed relocation.

Upon a request from a private developer to relocate a water main larger than 16-inches in diameter, Authority staff will prepare an item discussing the above factors for the Board's consideration.

All such transmission relocations approved by the Authority shall be designed, constructed and completed at the sole cost and expense of the developer, including a reasonable fee to compensate the Authority for staff time devoted to the review, inspection and approval of such relocation. For all approved transmission relocations, the Authority shall require the developer to enter into a written agreement that obligates the developer to complete all work in accordance with the plans approved by the Authority for such relocation. Whether the subject property will be served by the Authority or by another public water utility shall not be a factor in the Board's consideration of whether to approve a relocation request.


Broad St.
Jennifer Ln.
Steeples Ct.
N. West St.
Lincoln Ave.
N. Y. R. R. P. A.
Park Ave.
Fire Line
6" Fire Line
S. West St.
Closed
Release Valve
Out Of Service
Closed
Power Ct.
N. Spring St.
6" Fire Line
Kent St.
Oak St.
Elm St.
20"
12"
8"
6"
4"
1-1/2"
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COMMENTS DUE BY:
September 12, 2014
(2 weeks)

CITY OF FALLS CHURCH
PLANNING DIVISION
MEMORANDUM

DATE: August 29, 2014
TO: **Development Review Committee (DRC)**
_____ AAB Coordinator [Schedule *pending*]
__X__ Building Official
__X__ City Arborist [Tree Survey provided, with Special Exception]
__X__ City Engineer [Engineering/TIA] (Sanitary/Storm Sewer) (referral Sabra Wang)
__X__ Fire Marshal [Tom Polera]
__X__ GM Development Services/Planning Director
__X__ Northern Virginia Regional Park Authority
__X__ Fairfax Water (Water Utilities)
__X__ Principal Planner (Development Review/Case Manager)
__X__ Senior Planner (Transportation/TIA) (Comprehensive Planning)
__X__ Planner
__X__ Planning Specialist (HARB)
__X__ Zoning Administrator
__X__ Police
__X__ Other_____ADU's _____ Housing etc.
__X__ Other_____ Economic Development (Fiscal Impact, EDA, etc.)
__X__ Other_____ City Manager's Office.
__X__ Other_____ City Attorney – (Development Conditions etc)..

Scheduled
Developer presentation for City staff on September 2nd at 10:30 a.m. in the Dogwood Room

FROM: **Gary H. Fuller, AICP, Principal Planner and Akida Rouzi, Planner**

SUBJECT: **Special Exception/Rezoning/ Comprehensive Plan Amendment/Special Use Permit/Historic Dwelling (Demo) – *Broad and West*, Mixed-Use Development** for **900 Block of West Broad Street** – 3.91 acres. Proposed 5/6-Story, Mixed-Use Building - Ground Level Retail/Service uses; Hotel and Multi-Family Residential Rental/Condo Units. MUNIS # 2013 1165

Enclosed: Revised submission dated August 27, 2014
Cover Letter, Architectural Conceptual Development Plan, Site Conceptual Development Plan, and Updated Traffic Impact Study

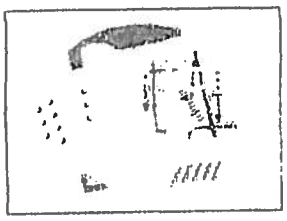
Note: There will be Developer presentation for City staff and management on September 2, 2014 at 10:30 a.m. in the Dogwood Room.

_____ I have reviewed this conceptual development plan. My review is complete.
_____ I have no comments. __X__ Standardized Comment Sheet is attached.

Signature: Roxcy Morton
Department/Division: Short Range Planning
Date: 9-4-14

COMMENTS DUE BY: Thursday, July 24, 2014 (2 weeks)

CITY OF FALLS CHURCH
PLANNING DIVISION
MEMORANDUM



DATE: July 9, 2014

TO: **Development Review Committee (DRC)**
_____ AAB Coordinator [Schedule *pending*]

__X__ Building Official

__X__ City Arborist [Tree Survey provided, with Special Exception]

__X__ City Engineer [Engineering/TIA] (Sanitary/Storm Sewer) (referral Sabra Wang)

__X__ Fire Marshal [Tom Polera]

__X__ GM Development Services/Planning Director

__X__ Fairfax Water (Water Utilities)
__X__ Principal Planner (Development Review/Case Manager)
__X__ Senior Planner (Transportation/TIA) (Comprehensive Planning)
__x__ Planner
__x__ Planning Specialist (HARB)
__X__ Zoning Administrator
__X__ Police
__x__ Other_____ADU's _____ Housing etc.
__x__ Other_____ Economic Development (Fiscal Impact, EDA, etc.)
__X__ Other_____ City Manager's Office.
__X__ Other_____ City Attorney – (Development Conditions etc)..

To schedule DRC Meeting in late July or early August to be announced

FROM: **Gary H. Fuller, AICP, Principal Planner**

SUBJECT: **Special Exception/Rezoning/ Comprehensive Plan Amendment/Special Use Permit/Historic Dwelling (Demo) – *Broad and West*, Mixed-Use Development** for **900 Block of West Broad Street** – 3.91 acres. Proposed 5/6-Story, Mixed-Use Building - Ground Level Retail/Service uses; Hotel and Multi-Family Residential Rental/Condo Units…**Booklet** - *Application, Requests & Justifications* **Conceptual Development Plan, Voluntary Concessions, Community Benefits, Terms & Conditions, dated July 7, 2014**

MUNIS # 2013 1165
Special Exception (Height) and (Residential Uses) in Commercial District
Comp. Plan – Future Land Use Map – Low Density Res/Gen. Bus to Mixed Use
Rezoning - Zoning Map Amendment R1-B, B-3 to B-1
HCC Designated Structure – Demo application

_____ I have reviewed this conceptual development plan. My review is complete.
_____ I have no comments. __X__ Standardized Comment Sheet is attached.

Signature: Randy Morton Date: 7-15-14
Department/Division: Planning

ENCLOSURE 10

NOVA PARKS
Northern Virginia Regional Park Authority
5400 Ox Road, Fairfax Station, VA 22039 | 703-352-5900 | Fax: 703-273-0905 | www.novaparks.com

February 27, 2015

Gary Fuller
Principal Planner
City of Falls Church
Department of Development Services
300 Park Avenue, Room 300 West
Falls Church, VA 22046

RE: Mason Row (Broad & West) Rezoning and Special Exception

Dear Mr. Fuller:

We have reviewed the application materials for the Mason Row rezoning and special exception and offer the following comments.

1. The modifications to the proposed W&OD Trail/N. West Street/Park Avenue/Mason Lane intersection shown on the Conceptual Development Plan include: realignment of the W&OD Trail so that it is part of the intersection and within the view of approaching motorists; reduction of the N. West Street/Park Avenue curb radii to calm traffic; a median island within N. West Street to calm traffic; and, widened trail approaches to allow groups to cross the roadway more efficiently. The CDP also shows a new sidewalk along the north side of N. West Street and three new crosswalks. NOVA Parks supports the intersection design and the enhancements to pedestrian access to the W&OD Trail.

2. The applicant's statements regarding conformance with the Comprehensive Plan and meeting special exception criteria state that the proposed development will increase pedestrian and bicycle activity in the area and that the W&OD Trail/N. West Street intersection improvements will help to mitigate traffic impacts. Moreover, the applicant's Traffic Impact Study recommends that the W&OD Trail crossing be integrated with the new signalized intersection and that intersection improvements will enable the intersection to operate at level of service "C". The intersection improvements and trail realignment must be constructed by the project sponsor concurrently with the roadway improvements instead of a monetary contribution proffered for the trail realignment. This will ensure that the significant changes to the road network and trail will be coordinated, traffic disturbance minimized, and adequate funds for the all intersections improvements, including the trail realignment, are provided. NOVA Parks' support of the intersection reconfiguration, utility undergrounding, and sidewalk improvements is contingent on the applicant's construction of the intersection and trail improvements concurrently and the installation of a traffic signal. As noted in previous

City of Alexandria: David M. Pritzker, Scott Price
Arlington County: Paul Ferguson, Michael A. Nardolilli
Fairfax County: Stella Koch, Laura Grape
City of Fairfax: Brian D. Knapp, Arthur F. Little
City of Falls Church: Barry D. Buschow, Jeffrey Tarbert
Loudoun County: Cate Magennis Wyatt, Daniel Kaseman

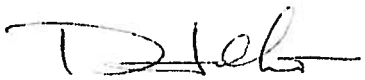
correspondence, the signal must have a protected phase for trail users or a leading interval to minimize conflicts between motorists and trail users. Voluntary Concessions 7 and 11 and the note on Sheet-P0402 "Approximate location of future trail and crosswalk by others" must be revised accordingly.

3. Motorist should not be allowed to turn right on red from southbound N. West Street. Otherwise, southbound traffic on N. West Street will queue across W&OD Trail crosswalk, which will block the trail crossing and limit sight lines between motorist and trail users, as well as result in trail users unsafely maneuvering between stopped vehicles.

4. The CDP does not show trail curb ramps at N. West Street. Future plans must show curb ramps that match the width of the crosswalk.

Thank you for the opportunity to provide comments. Please contact me at 703-359-4628 or at diglhaut@nvrpa.org if you or the applicant would like to discuss our comments in more detail.

Sincerely,



Daniel Iglhaut
Deputy Director of Planning and Grants

c: Todd Hafner, NOVA Parks, Director of Planning and Development
Chris Pauley, NOVA Parks, Director of Park Operations

2015 Public Correspondence and Comments

as of April 2, 2015

Akida Rouzi

From:	Lisa Varouxis <lisa.varouxis@verizon.net>
Sent:	Friday, March 20, 2015 5:03 PM
To:	City Clerk; Akida Rouzi; Plan; Zoning; Rick Goff; Becky Witsman; Paul Stoddard; Dave Tarter; David Snyder; Nader Baroukh; Marybeth Connelly (City Council); Phil Duncan; Karen Oliver; Daniel Sze; Loren Bruce; Gary Fuller; Debra Gee; Akida Rouzi; Paul Stoddard; John Boyle; Brandon Wade; Kim Varner
Subject:	The Development Plan for West and Broad Streets

Mayor Tarter, Vice Mayor Snyder, Members of the City Council, Members of the Architectural Advisory Board, Members of the Board of Zoning Appeals, Members of the Citizens Advisory Committee, Members of the Economic Development Advisory Committee, Members of the Planning Board, Members of the Citizens Advisory Committee on Transportation, and Members of the Environmental Services Council,

Previous emails to the City Council (November 24 (2013), January 3, March 16, July 21,July 25, August 8 and September 17 (2014 dates)) expressed my concerns regarding the development, as proposed, of the now 4.83 acres abutted by the St James property, Park Avenue, West Street, Grove Avenue and Broad Street. Unfortunately, even with the most recent (02/03/15) submission from Spectrum Development LLC, many of those concerns still exist.

Those concerns include, but are not limited to, the following:

1. The request by Spectrum Development, LLC for a Special Exception to add thirty feet to the height of the building.

   The developer is requesting both a zoning change from a B3 General Business District along West Street and from R1-B along Park Avenue to a B1, Limited Business District with a Special Exception to increase the height from 55' to 85'.

   The side of the development facing West Street between the intersections of Grove Avenue and Park Avenue will face residential neighborhoods consisting of single family homes and town homes, albeit it with the slight buffer of the W&OD trail . Along Park Avenue, it will be directly across from single-family homes. An eighty-five foot tall building bordering those neighborhoods would be out of character with the existing structures, and may detract from the neighborhoods. Without a scale model of the proposed design, it is difficult to envision just how much of a visual impact such a size disparity would have.

   The request for a Special Exception to the B1 Limited Business District zoning restriction of 55' in height should not be granted along this section of the planned development. The additional height would not be as harsh where the new development faces other businesses (on West Street south of Grove Avenue and along Broad Street).

   Granting a Special Exception for the height of this building would set precedence for future developments. (The Gordon Road "triangle", the development of the land acquired by the sale of the water system, the recently sold "Applebee's" parcel.)

2. No waiver should be granted for the requested 18.5% reduction in required parking spaces.

   Spectrum Development, LLC must be required to provide the number of parking spaces deemed necessary by the City code for this project. The residents of Grove Avenue and Park Avenue should

feel confident in their ability to park in front of their own homes without having to worry about overflow parking from the apartments, retail shops, and movie theaters at "Mason Row."

3. Relocate the hotel to the Broad Street facing side of the development, as shown on the plan presented by the Spectrum Development, LLC on July 21, 2014.

   At present, the five-story hotel is shown at the corner of the building on West Street facing the residences on Grove Avenue. A hotel of that size belongs on the front of the building, facing Route 7 and the business corridor, not the residential neighborhoods.

4. Reduce the number of residential units.

   The July 2014 submission included 320 units, an increase in the originally planned 302 units. At that time, a few Council members felt the development was "too dense." The latest submission increases the number of residential units to 340 – 19 efficiencies, 106 1-bedroom units, 98 1-bedroom with den units, and 117 2-bedroom units.

   Calculating one person per bedroom (not to include dens), the number of people projected to occupy this development totals 340. If the den is used as an additional bedroom, as is occurring at the Northgate (per a statement made by a Spectrum Development, LLC representative during a previous meeting), the total rises to 438 occupants. When added to the number of new residents from the recent completion of the Northgate (95 apartments + 10 townhomes), the current construction of The Lincoln at Tinner Hill (244 units) and 301 West Broad (288 units), the increase in the number of residents in a city this size is in such a short time period is daunting. (http://www.fallschurchva.gov/documentcenter/view/737)

   The Council should also be thinking five to ten years ahead to the future development of the Gordon Road Triangle, the newly acquired property near the West Falls Church Metro station and the "Applebee's" tract - how many additional residential units will be added when those projects come to fruition?

5. The impact of the 340-438 (or more) new residents from this development on the existing City infrastructure and services, to include schools.

   Yes, Councilman Duncan did state City infrastructure and services would not be adversely impacted at the joint meeting held on 03/02/15 when Spectrum Development, LLC presented their latest plan, but I still wonder how true that can be.

   Although the developer has agreed to a concession of $7511 per rental unit, this is a one-time contribution and will do nothing to cover adequately the long-term cost of educating a child in the City schools. Mr. Goff mentioned a formula of .33 children per unit when he gave his financial impact analysis on March 2, which revealed there is the potential of an additional one hundred twelve students being added to our overburdened school system from the proposed 340 apartments. I do not know what other concessions/proffers have been made to the City by the developer; nevertheless, I hope the offers are not clouding anyone's overall decisions pertaining to this project.

   Aside from the over-crowded school system, take into consideration the other costs incurred by the City in support of this development: If each unit has only one vehicle, again unlikely, this project adds an additional 340 vehicles to our already congested streets. There is also the increased cost of providing the necessary emergency services (police, fire and rescue), and other support personnel and expenses. What provisions, other than increasing the personal property tax for homeowners, are under consideration to cover the increased costs incurred by adding a large number of units and residents?

6. Increased volume of cut-through traffic on Grove Avenue to/from the development

I have not had an opportunity to read the traffic study submitted by the Spectrum Development, LLC on February 3, but saw the study was actually conducted on September 12, 2013. I have great concern about the impact the movie theater proposed for the development will have on the volume of traffic on Grove Avenue.

I submitted a Traffic Calming Request to Paul Stoddard and the Citizens Advisory Commission on Traffic last October requesting assistance with traffic calming measures along Grove Avenue. I plan to attend the meeting he is hosting on March 30 to discuss some possible solutions. If I am not mistaken representatives from Spectrum Development, LLC will also attend.

Please, when considering this project, imagine you live on Grove Avenue, Park Avenue, Jennifer Lane, Steeples Court or Chestnut Street and think of how your decisions pertaining to this project would affect your qualily of life. **Think about what brought you to Falls Church to begin with and the values, customs, characteristics and quirks that make Falls Church, aka The Little City, worth caring about.** Does that include seeing an 85' tall building every time you walk to the end of your walkway to retrieve your newspaper, chat with a neighbor or get in your car? Consider how anxious you might be about your ability to safely enter or exit your car while in front of your home due to the large volume of vehicles driving past (many above the posted speed limit). Then consider the volume of traffic passing by your house (if you are on one of the Avenues) or past the entry to your street and the impact it has on your quality of life at your home.

To obtain a better understanding of the impact of the current volume of traffic, I invite you to visit Grove Avenue at the intersection with West Street for thirty minutes or more any weekday between the hours of 4 p.m. and 7 p.m. From that vantage point, you can also see how many vehicles violate the No Right Turn restriction between 4 p.m. and 6 p.m. Monday through Friday currently in place.

To summarize, my concerns with this development as proposed are thus:

- - The developer's request for an exception for the height of the building along West Street, beginning at Grove Avenue and continuing down Park Avenue.
- - No waiver should be granted for the requested 18.5% reduction in required parking spaces.
- - Relocate the hotel to the Broad Street facing side of the development, as shown on the plan presented by the developers on July 21, 2014.
- - Reduce the number of residential units.
- - The impact of the 340-438 (or more) new residents from this development on the existing City infrastructure and services, to include schools.
- - Increased volume of cut-through traffic on Grove Avenue to/from the development

I am not averse to developing the intersections of Broad Street/West Street/Grove Avenue/Park Avenue. I believe smart development, that which takes into account the impact on the existing neighborhoods and the environment, is necessary to reduce the tax burden on the City's residents and to keep the City viable and vibrant.

"Run amok growth doesn't pay for itself. Taxpayers always get stuck with the bill for sprawl and the hometown ills it brings." – Carl Hiaasen, Dance of the Reptiles

Respectfully,

Lisa G. Varouxis
301 Grove Avenue – 31 years
City of Falls Church – 47 years

Akida Rouzi

Subject: FW: Mason Row Meetings with Potentially-Displaced FCC Businesses-Per FCN-P Commentary Yesterday

From: Debra (Z) Roth <debrazroth@gmail.com>
Sent: Friday, March 20, 2015 12:58:39 PM
Subject: Mason Row Meetings with Potentially-Displaced FCC Businesses-Per FCN-P Commentary Yesterday

I think there's been quite a misconception -- perhaps the commentary that ran in the 3/19/15 News-Press was submitted before Peter Batten met with Dave Tax and other businesses that are wondering if they will be able to relocated into Mason Row if the development is approved!

In my most recent meeting with Peter, he seemed shocked! Though he admitted he hadn't met with them till recently, he seems quite committed to taking steps to bring to fruition ideas they offered that he sees as a win-win (and I do, too) especially to pair Bikenetics with Mike's Deli/Lazy Sundae by the trail with features inviting to bike riders.

And he said he agreed to a lease discount indefinitely.

Meanwhile, we discussed much more he is drawing up for arts/history programming with the community.

And he thinks he sees a place for a fountain, possibly along the trail. I'd love it more central but am happy about this environmentally-attractive feature. We talked about designs that would incorporate themes from the community (more, hopefully, to come before long).

And he's looking at some shuttle options-- alas, not a link through FCC at this point.

I believe Peter sincerely wants Mason Row to be more than a money-making venture for him and his company: I believe he understands that it needs to be a part of and to enhance what FCC already offers and loves. I believe Peter wants this showcase to be an example of business developments that help communities just as the communities help them reach their bottom line. That's a win-win. Of course we have much more to explore and pin down but I think it's important to know that the commentary yesterday seemed off-base.

Thanks for considering these thoughts and all you do.

Deb(ra)
Debra Z. Roth
Falls Church City, VA USA
703/867-7406 (cell)

Akida Rouzi

Subject: FW: Please forward FW: Comments on Mason Row Project

From: Katie Niemi [mailto:katieniemi@gmail.com]
Sent: Friday, March 20, 2015 3:26 PM
To: City Clerk
Subject: Comments on Mason Row Project

Falls Church City Council and Planning Commission:

As a resident and homeowner in Falls Church I have concerns over the proposed Mason Row development project. Though I support the redevelopment of the property, I have concerns over the proposed scale of the project and the negative impact it will have on traffic/congestion, bike/pedestrian safety, and school enrollment. I strongly urge the City Council and Planning Commission to require the building height to step down to code on West Street facing the W&OD Trail (4 stories rather than 6 stories the developer wants a waiver for). I strongly oppose any above ground parking lot facing Park Avenue (i.e, like the eyesore above ground parking lot associated with the new Hilton Hotel). Please ensure that adequate free retail parking is available in an underground garage to ensure that retail customers do not have to park on neighborhood streets. I also urge the developer and City planners to maximize the retail opportunities within the new development to include small eateries (with adequate space for outdoor seating), strong anchor tenants (e.g. a small grocery like Mom's Organic, movie theater, and/or library), and maximize public green/open community space (e.g., like green space/ice rink at Pentagon Row to be used for public gatherings like Farmer's Market, concerts, etc.). I urge the City Council and Planning Commission to carefully consider traffic flow and congestion (i.e., need for new traffic light at Park and West Streets and other traffic calming measures) and maximize pedestrian/bike safety (i.e., consider pedestrian/bike bridge where bike path currently crosses West Street). If the project is done right, it will encourage walking by allowing pedestrian-friendly (and safe) access among the development, bike path, and neighborhoods. If the project is done wrong, it will further contribute to traffic congestion and potential for accidents around Park/Grove/West Streets. I also have concerns over the impact of the proposed project on school enrollment and urge City Council to ensure sufficient revenues from this project to mitigate the known impact to the schools (i.e., to help support prompt construction of a new George Mason High School to accommodate the growth that is inevitable to the schools as a result of this project and other development projects already underway within Falls Church).

Thank you for your consideration.

Katie Niemi
304A Pine Street, Falls Church

Akida Rouzi

Subject: FW: Mason Row Meetings with Potentially-Displaced FCC Businesses-Per FCN-P Commentary Yesterday

From: Debra (Z) Roth [mailto:debrazroth@gmail.com]
Sent: Friday, March 20, 2015 12:59 PM
Subject: Mason Row Meetings with Potentially-Displaced FCC Businesses-Per FCN-P Commentary Yesterday

I think there's been quite a misconception -- perhaps the commentary that ran in the 3/19/15 News-Press was submitted before Peter Batten met with Dave Tax and other businesses that are wondering if they will be able to relocated into Mason Row if the development is approved!

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And he's looking at some shuttle options-- alas, not a link through FCC at this point.

I believe Peter sincerely wants Mason Row to be more than a money-making venture for him and his company: I believe he understands that it needs to be a part of and to enhance what FCC already offers and loves. I believe Peter wants this showcase to be an example of business developments that help communities just as the communities help them reach their bottom line. That's a win-win. Of course we have much more to explore and pin down but I think it's important to know that the commentary yesterday seemed off-base.

Thanks for considering these thoughts and all you do.

Deb(ra)
Debra Z. Roth
Falls Church City, VA USA
703/867-7406 (cell)

Akida Rouzi

Subject: FW: Resident input for Mason Row Joint Work Session

From: Rohini Winters [mailto:rohinicdfm@yahoo.com]
Sent: Sunday, March 08, 2015 11:29 PM
To: City Clerk
Subject: Resident input for Mason Row Joint Work Session

Please pass to the members of the City Council and Planning Commission and Parks and Recreation Commission and all other boards and commissions that as a resident of the City on Grove Avenue and as a Small Business owner in the City, I would like the City to go back to First Reading on this newest proposed development.

I would like the City to disapprove the height waiver for building structure on West St facing the W&OD Trail and Grove Ave residences. A stepped down design from the City commercial zone toward the West End neighbors would be more appropriate and consistent with existing zoning ordinances. Current residents should embrace, not dread, economic development but it must be done with residential owners in mind to keep quality of life aspects whole.

It was unclear who the movie theater operator was and we had also seen news that the City was contemporary laying a theater at the corner of Broad and Haycock in the commercial use of acquired land from sale of water utility. Please ask the FCNP not to print misleading pieces to stir up residents or to force readership through negative concepts. The latest headline about a tepid response to library move plan is irresponsible and paints City Leaders in a bad light. There is a sense in the City that what is printed is already done and decided. I think some may want it that way but it should be met head on with the official position of the elected Council and no council member should be having private design with developers proposing work did City to approve. The appearance is just wrong.
Rohini Winters

Akida Rouzi

From: Karen <barberie@aol.com>
Sent: Tuesday, December 30, 2014 10:37 AM
To: Plan
Cc: vkwongnova@gmail.com
Subject: Mason Row

Good morning Ms. Rogers and members of the Planning Commission,

We hope you're enjoying the holidays.

As we approach the New Year, we wanted to take a moment to share with you our thoughts on the latest proposal for Mason Row, likely to be the biggest new development in 2015. As we have said from the beginning, we are generally in favor of the development at West and Broad Streets. Having said that, here are our thoughts and/or concerns:

- We would like to preserve the residential nature of our street. We think Mason Row can be a success without altering the character of this block of Park Avenue. (There are currently 11 houses on the north side of the street and in those homes reside eight children, five of whom are under the age of 10.) Although we preferred the original proposal where the three existing houses would be replaced by two single family homes, in keeping with our residential street we would like to see townhomes or condominiums in place of the three homes slated to be demolished.

- Traffic is an ongoing concern for us. In the 20 years that we have lived here, traffic on our street has risen exponentially to the point where vehicles are often lined up in front of our homes during certain hours of the day. For that reason, the intersection of Mason Lane and Park Avenue should be treated as a four way intersection. A "right turn only" onto Park Avenue from Mason Lane as proposed by Peter Batten at the December 17th town hall meeting would have a tremendously negative impact on Park Avenue.

- We would like parking by permit only 24/7 for the 11 homes on the north side of the block. Nearly all of these homes rely on street parking in whole or in part. In consideration of St. James parishioners, we support two hour parking on the south (church) side of the street. As you know, this block of Park Avenue is a virtual parking lot on weekends and holidays. The new development has the potential to make a bad situation worse. St. James is a beautiful church with a large and active congregation ... as well as three large parking lots in addition to a fourth smaller one. Yet even with ample parking provided by the church many parishioners prefer to park in front of our homes as a matter of convenience. As we have learned from St. James, there will be some percentage of Mason Row patrons who will prefer to park on the street as a matter of convenience. To our knowledge, no other residential street in the City of Falls Church faces similar challenges.

- We support the idea of the movie theater in theory but wonder if it's economically feasible in our small community, especially given the fact that the number of actual movie goers appears to be on the decline. http://www.wsj.com/articles/heard-on-the-street-netflix-thickens-the-plot-for-movie-theaters-12350570

- Finally, we love the idea of a satellite library extension as part of the new development and think it will be widely popular.

The bottom line is that, like you, we want Mason Row to be a success and we think it can be a success without dramatically altering the residential character of our family-filled street.

Kindest regards,

Victor Wong & Karen Barberie
914 Park Avenue

January 15, 2015

Mayor Tarter and Members of City Council
Chair Rodgers and Members of the Planning Commission
300 Park Avenue
Falls Church, VA 22046

SUBJ: Proposed Broad and West Street Development (temporarily Mason Row)

Dear Members of City Council and the Planning Commission:

The Board of Directors of the Falls Church Village Preservation and Improvement Society (VPIS) commends the City and the developers of the proposed project at Broad and West Streets (temporarily Mason Row) for listening to community issues and proposing substantial improvements in the project design over the past several months. Many of these project changes respond to suggestions provided by VPIS (see our letter at http://www.vpis.org/event.php?id=123) and by other community organizations.

Recognizing that the project footprint has changed and that numerous design elements are unresolved at this stage, VPIS would like to offer several general suggestions concerning topics that have been raised at recent meetings.

1) **A New First Reading:** A new First Reading would be appropriate since the project footprint has changed and numerous design elements are unresolved at this stage.

2) **Support for Council Project Guidelines**: VPIS generally supports the Recommended Actions and Strategies presented at the October 8th Council meeting. As the project continues to develop, the Council should continue to expect those actions and outcomes.

3) **Concern on Library Proposal for Mason Row**: VPIS has concerns about the suggestion to relocate some or all of the Mary Riley Styles Public Library to the Mason Row project and urges the Council to give careful consideration to the substantial problems in the short and long-term that would result from moving some or all of the Library into that location. The library needs should be addressed at the existing library location.

4) **Concern on City Financing of Movie Theatres:** VPIS strongly supports the addition of a second major retail operation to the project and believes that the proposed movie theaters can provide benefits to the project and the City if the obvious resulting traffic and parking issues are somehow mitigated.

We understand, however, that the City is considering providing significant financial support for the theatres. We urge the City to be cautious in providing financial assistance to support any specific project element. If a theatre development on this site can't be financed through a conventional, private process, the financial success of the project over the long term seems questionable. For the City to provide financing for a project element that might not be financially viable otherwise puts scarce City resources at risk and detracts from efforts to identify a second retail anchor that is more likely to be a long term financial success.

In addition, City financial participation in a major commercial element of a development project raises questions over the net financial benefit of the project to the City and sets a precedent that could result in requests for comparable treatment in future projects. It should not be forgotten that the City is already providing a significant allowance by permitting residential units to be built within the business district zoning.

5) **Need for Clear Open Process for Project Approval:** The process for finalizing the project should be better defined and more clearly open to public comment. The City website on the project includes all the major project documents up to the release of the PowerPoint presentation to the Town Hall Meeting on December 17th. This presentation, however, does not speak to a wide range of important detail issues of interest to VPIS and other community organizations, including:

- residential quantity, type and density;
- impacts on schools;
- final net new financial impact assessment;
- environmental features;
- traffic management;
- affordable housing;
- an agreeable interface with the W&OD Trail;
- general architectural style of the tradition in Virginia and
- a development name that is distinctive of this location.

VPIS would like the opportunity to review and comment on the amended project application and supporting materials describing the project elements. Although further public meetings to hear of project developments are helpful, they do not commonly include the project details that are needed to carefully evaluate the project.

Thank you for considering these additional suggestions. We look forward to working with you to develop a financially successful project that provides the City with multiple benefits.

Sincerely,

Keith Thurston, President

Keith Thurston, President
on Behalf of the Board of Directors
Village Preservation and Improvement Society

cc: City Manager
Spectrum Development

Akida Rouzi

bject: FW: Mason Row and flooding issues on West Street
Attachments: Photos_of_flooding_at_West_Street_and_Steeples_Court.pdf

Mr. Peter Batten
Principal
Spectrum Development LLC
P.O. Box 937
Vienna, VA 22183

23 December 2014

Dear Mr. Batten,

You and I spoke after the town hall meeting in Falls Church City last week on the proposed Mason Row development. I came to the meeting as a representative of the Steeples Court Homeowners Association. As you know, Steeples Court is adjacent to the proposed project.

You may recall that we discussed the problem of flooding on West Street, between Steeples Court and Lincoln Avenue. West is a major through-street (essentially north-south) that is just a few hundred feet from the proposed Mason Row project. The flooding on West is caused by the volume of water coursing downward from Mt. Daniel after large storms. This problem has worsened in recent years. When the water flows down to the bottom of the hill, it ends up at the hill's lowest spot, according to the City's contour maps—a shallow ditch behind Steeples Court. After major storms, the ditch backs up, flooding yards on Steeples Court and Lincoln as well as West Street itself. Drivers coming down West Street after such flooding have to divert and search the neighborhood for alternate routes (see two photos, attached).

critical problem contributing to the flooding is the small diameter of the storm water pipe running beneath West Street. It cannot handle the volume of water that now results from such storms.

The Falls Church City Government is aware of the problem. Installing a larger pipe beneath West Street is one of the storm water improvements that will be made with revenue from the City's new storm water tax. However, the replacement will likely occur in 5 to 7 years, we have been told by City officials.

Since the Mason Row project is already planning to make changes on West Street, it seems to us that the City should replace the pipe simultaneously. Not only will the street be disrupted by construction anyway. And not only would replacing it later add to the length of the disruption.

But the volume of traffic on West will be much higher after the Mason Row project is completed, thus inconveniencing more drivers when the pipe replacement construction does takes place. Meanwhile, whenever storm water floods West after the Mason Row project is completed, but before the pipe is replaced, more cars will be backed up and hunting for alternate routes. The potential for serious traffic problems will be much greater. This could adversely affect the residents and retail tenants of Mason Row.

Based on all of this, and our conversation last week, we believe we have mutual interests here. We appreciated your tentative offer at the meeting to work with us in solving this problem.

We would like to ask for your support as we seek to have the City align the pipe replacement schedule with the Mason Row-related construction on West Street.

I will call you after the holidays to follow up.

Thanks again for listening to us on this.

st wishes for the holiday season.

Sincerely,

Jim Morrison

1012 Steeples Court
Falls Church, VA 22046

cc.
Gary Fuller, Principal Planner, Planning Division, City of Falls Church
Paul Stoddard, Senior Planner, Planning Division, City of Falls Church

Recent moderate flooding on West Street

More serious flooding, as seen from back of 1004 Steeples Court, ditch visible beyond fence, West Street at upper right

Akida Rouzi

From: Kimberly Callahan <kimberlyjones26@hotmail.com>
Sent: Friday, January 02, 2015 8:31 PM
To: Marybeth Connelly (Personal Email); Nader Baroukh; Dave Tarter; dxsez1@verizon.net; Phil Duncan; Karen Oliver (Contact); David Snyder (contact); Plan
Subject: Mason Row Project- Citizen Comments

Mr. Mayor and Councilmen,

My name is Kimberly Callahan and I live at 918 Park Avenue, directly across Park Avenue from the proposed Mason Row mixed-use development project. I reviewed the updated plans posted on the City web site, and attend the first half of the community meeting held by the developer on December 17th. Based on the information that was presented to me, I have the following comments and concerns:

1. The 900 block of Park Avenue is highly residential. While I appreciate the gesture of removing the parking garage entrance from Park Avenue, replacing three single family homes with a 55 foot high parking structure is not acceptable. In the October 8, 2014 staff report, the 1st Architectural comment was "Address massing and scale of the building to be more consistent with the neighboring residential areas.....". With this latest iteration of the plan, the development could not be less consistent with or respectful of it's nearest residential neighbors; the single family homes on Park Avenue. How is an imposing 55 foot high concrete structure with glaring lights consistent with the residential neighborhood? In addition, Park Avenue is a major pedestrian way for those traveling east-west through the City. Continuing to allow Park Avenue to be treated as the "back-of-house" to buildings facing Broad would be a mistake, as it will ruin the currently enjoyable pedestrian experience. I ask you to think about this not only for the Mason Row project, but for future projects, as the parcels of land between Park and Broad continue to develop.

After reviewing the plans, it appears that the north end of the apartment building is single loaded. Therefore, it is feasible to ask the developer to push the parking garage south and wrap the apartments around the garage so that the apartments face Park Avenue instead of the garage. This issue was brought up at the community meeting, but Architect brushed it off and did not give an answer for why this could not be done. I also believe that changing the Comp Plan and Zoning from low density residential to high density sets a dangerous president for future development in the City. In speaking with the City Manager earlier in the year, it is my understanding that land within the City has never been rezoned from low density residential to a high density use. I understand that the vision of what our "Little City" should look like will continue to change over time, but it should be the City Leaders (with input from the residents) leading that charge, not the developers.

2. It is very important that the intersection of Mason Row/Park/West be treated as a traditional 4-way intersection. Please do not allow this intersection to be right-only onto Park Avenue. This will force large amounts of traffic onto Park Avenue which is a residential street that children play on. It is my understanding that many years ago city leaders discussed making Park Avenue and the parallel section of Broad Street on-way to reduce traffic congestion on Broad Street. In their wisdom, they rejected this idea because Park Avenue is a residential street. Please continue to view Park Avenue as a residential street, and treat it as such.

3. I am not overly excited about the theaters as part of the new development (I worry about the competition it would have with Tysons and Mosaic being so close).However, if the City Leaders believe that it is a viable pursuit, I can support it, with the understanding that the City tax payers will not be subsidizing it in any way. I already feel that the cost of the theater is being off set in part by the above grade parking structure (which saves the developer approximately $20,000/space).

Thank you very much for your time and consideration.
Kimberly Callahan

Akida Rouzi

From: Rohini Winters <rohinicdfm@yahoo.com>
Sent: Thursday, December 18, 2014 11:23 PM
To: Gary Fuller; Akida Rouzi
Subject: Spectrum Development proposed at West /Broad St

Thank you for posting the revised plans.

I would like the name to be something else so I'm not using one yet.
I would like the trash/loading area on West facing Grove to be a green space and have them give up retail space to house it with access off Broad St where commercial vehicles belong.
I am strongly opposed to the 30ft height exception for reasons that it is not compatible with the neighborhood and W&OD trail and West End park.
I am happy that the residential density may be lowered.
I am curious about the office space and if any concessions or priorities would be considered for Falls Church City business desiring to move to that location.
I am curious whether the pool will allow community access or be strictly for residents.
I am strongly requesting the "to metro .6 mile" marker be removed from Grove Ave on all plans and presentations as this is not intended to be a thoroughfare for traffic to metro and the Developer continues to advertise it as such
I am very concerned about the safety on the roads in this area. Already the left turn out of Grove during restricted hours is one of the most hazardous points in the City due to poor right of way /control mechanisms and poor visibility when there is a line of cars at Broad St red light. There is no visibility making a right turn almost the only safe way to exit Grove Ave but 4-6pm there is a no right turn even for us residents. Adding vehicles to this area by allowing use of Grove Ave is ridiculous. I could not find any traffic mitigation in the presentation slides.
I am strongly opposed to a 6 story façade facing the W&OD Trail. There is no apparent attempt to integrate green space on the Spectrum property to tie into the Trail as a Welcome. I am not seeing it.

I am strongly opposed to the conceptual rendering of rectangular building with no colonial style architecture such as peak roof elevations that might tie to the commercial plaza where Dominion Jewelers and Dominion Wine is now.

I am strongly in favor of increasing the commercial tax base and improving the few eye sores we have today such as dumpsters and used clothing bins however I am strongly opposed to losing character of The Little City through the greed of mixed use developers. I
I am in favor of the dine in theater but I am not in favor of rowdy bars close to the neighborhood with drunk pedestrians walking back to metro late at night past my house. I will expect law enforcement to increase in my neighborhood and the developer better be making adequate proffers to offset the cost of that impact.

I noted the lack of fidelity in the number and types of residential units after the change to the parking structure. The City must be sure to have the accurate numbers including required numbers of affordable units and ensure adequate proffers to the City Schools for the impact over 20 -50 years. If half a school bus worth of students is expected to live there then there better be proffers for the school bus up front because ours are full.

I am glad the plaza space is increased and that Park Ave will have no access point.

I hope Parks and Recs is going to review and weigh heavily on this.
I am opposed to an amendment to the Comprehensive Plan to allow 85' facing residential and for any commercial entrance within 100' of residential. That is unacceptable to me as a current resident of the City.

I would recommend the Developer include trail traffic signals on the W&OD trail and lit crosswalks wherever the trail crosses Grove or West St. to improve safety for all. The trail should flash yellow and flash red during commute hours.

Rohini Winters
324 Grove Ave

Akida Rouzi

From: Margaret Rood <mrood@iglou.com>
Sent: Wednesday, December 17, 2014 11:19 AM
To: Gary Fuller; Akida Rouzi
Subject: Comment on Mason Row Project

I will be unable to attend tonight's town hall meeting on the Mason Row Project, but want to express my hope that it will not be approved. My opposition is based on three factors:

1) The project will cause huge traffic problems in the construction, and the streets cannot realistically be improved in such a way as to accommodate the level of residential and business development proposed.

2) The businesses that will be demolished to make way for the project are needed more than the new ones that will populate Mason Row. This is not like building over an unused property like the Adcom site. The Sunoco gas station at the corner of West and Broad Streets is the only one for a significant distance in either direction on Broad Street. The convenience store, ice cream parlor, and other businesses provide services we actually use, and they are centrally located.

The proposed "quality retail" appears to me to be mostly boutiques and expensive eateries. We need to consider whether our area has reached the saturation point, especially with the nearby Mosaic District, for this kind of development. This will not help Falls Church residents keep our purchase dollars in the city for everyday needs.

3) The movie theater industry is in decline, and there is a large new theater complex in the Mosaic District in Merrifield.

http://www.businessinsider.com/see-how-movie-ticket-sales-have-drastically-declined-over-the-past-decade-2012-9

If I learned that a developer was proposing to put in an urban-style Target with a parking deck such as the one at the Mosaic District, I could perhaps support this project. We just don't need any more $5/bowl yogurt shops or doo-dad purveyors as an excuse for putting in hundreds of new residential units. If my instincts are correct that the retail will not be patronized as adequate levels, then Mason Row will start to look like parts of the original Reston.

Margaret Rood

1310 Gibson Place
Falls Church, VA 22046

Office of the City Clerk
300 Park Ave #303e,
Falls Church, VA 22046

March 18, 2105

Re: February 3, 2015 RESUBMISSION by Spectrum Development for Mason Row

Attachment: Text of Statement to Planning Commission, October 6, 2014

Dear Council Member,

I have followed the proposed development of the four acre parcel located at West and Broad Street since the August 11, 2014 first reading, through the October 6, 2014 Planning Commission Public Hearing, and the developer's December "Town Hall Meeting". Given the inability of the developer to prepare for the scheduled 2nd reading on December 8, 2014, I am pleased that the City Council has determined that the "Mason Row" project should be resubmitted and considered for a first reading.

After attending the March 2, 2015 City Council work session and viewing the current submission of Spectrum Development for "Mason Row" I was dismayed to see the continued minimal effort of the applicant to address concerns and requests of City Staff, boards and commissions, and citizenry. Had the meeting been a month earlier, on Groundhog Day, I would have thought that we were somehow trapped in a time loop of repetitive work sessions with an unresponsive developer.

The Council work session in March opened with the attorney for the applicant stating that in response to the charge to the development team to have a second anchor to Mason Row, Spectrum now has two movie theatre franchises "quite interested". In fact, the City Council motion for first reading in August, 2014 states "the applicant shall also have in place, prior to second reading (December 8, 2014), a written contract with an additional anchor acceptable to the City Council." The vague nature of Spectrum's statements has been a hallmark of this project. I would ask Council to be certain to include again the motion made by Nader Baroukh at last year's first reading requiring stated actions to be undertaken by the Applicant. It has been my observation that the only named, guaranteed tenant for this project is 7-1; a retail store already in operation on West Street.

It concerns me that Mr. Lasso states in his letter of January 30, 2015 to the Planning Director, that Spectrum has identified as a "central concern", after "extensive discussions with The City Council and Planning Commission" that "Density should be increased...to assist in achieving the desired positive fiscal impact." City staff has repeatedly expressed concern about the high

density of the project and the increased number of residential units, as have several City Council members.

In the same vein, I would call to your attention staff's continued reservations concerning the Applicant's request to change the Comprehensive Plan and Zoning of this parcel. Staff has stated the rezoning request "undermines the intent to preserve the residential character of the neighborhood."

I find it of additional interest that by changing the Residential zoning of a portion of the consolidated parcel, the developer makes inapplicable the stipulation in the City Zoning Ordinance Special Exceptions Section 48-455(1)(a) that requires the tapering in height of all structures that abut an R district. The developer's request for a zoning change would eliminate the R district which abuts the present B zoning. A convenience, since the developer has also applied for a special exception, in order to attain a height bonus.

I agree with City Council member Karen Oliver, who spoke at the March, 2015 work session, that essential to this project is a sense of "place making". She defined it as "a sense of where we want to be". This is a tenet of good mixed use development.

The acreage taken up by this 4 acre parcel in Falls Church is .3% of our city's acreage. Rockefeller Center, a 22 acre mixed use development in Manhattan, is only .1% of that borough's acreage. My point being, this development is a significant commitment. The Council has the responsibility to demand the best of the petitioning developer. The developer chosen should attempt a best effort. While economic benefits are important, they are never guaranteed. Every safeguard should be utilized to ensure the responsibilities of the developer. Definite obligations must be detailed and guarantees for these obligations established. Again, I stress that the unanimously supported motion initiated in August, 2014 by Nader Baroukh should carry on with a first reading of Spectrum's new submission.

At the March 2, 2015 work session, Vice-Mayor David Snyder expressed his doubts concerning the residential component of the Mason Row project. I believe many share this doubt. In the light of the Harris Teeter development the high number of residential units in the Mason Row project seems unwise. Mr. Snyder also noted the developer's lack of sensitivity to context and the focus of the building remaining inward rather than outward. This observation is especially pointed in that sensitivity to context and an engaging outward focus to the surrounding area are essential qualities of successful mixed-use development. Mr. Snyder stated as well that this project could be "plopped down anywhere". I agree that the boilerplate nature of the development lacks the quality that we in the City of Falls Church deserve. The generic quality of Mason Row prohibits this project from meeting the special exception criterion of "exemplary".

During the same work session, a member of the Planning Commission summarized the February 3, 2015 resubmission with the statement "I am underwhelmed by the design." A fellow Planning Commissioner mentioned that the project resubmission is "way too large for that peninsula, at the worst intersection in town- traffic was redone to the benefit of the developer".

At present, I see no grounds for granting a first reading to the Mason Row project. The amount of time invested by the City weighed against the efforts made by the developer is a top heavy ratio. Let's let a developer offer us something better.

Sincerely,

Pat Meyers
115 Buxton Rd.
Falls Church, VA 22046

ATTACHMENT: Text of Statement to Planning Commission, October 6, 2014

My name is Pat Meyers, I live at 115 Buxton Rd. and have been a resident of the City of Falls Church since 1987.

I have followed the now called Mason Row project since the first reading in mid-August of this year. Along with many members of the community I was shocked and appalled by the soulless architectural concept initially presented by Spectrum Development.

When I discovered that the developer was asking for a land use change, a zoning change, a special exception to allow residential uses within a mixed use development project and a special exception bonus of thirty feet, allowing building height of up to 85 feet- while asking for a reduction in parking spaces from that required by City Code- I resolved to find out more.

Overall, I want to request City officials to keep in mind what is crucial to the City. Not only do we have excellent schools, services, and citizens, but we have an excellent location AND a small one. Our real estate is precious in both senses of the word- expensive, and there's not very much of it.

The decisions made by the Planning Commission and the City Council are weighty, long-lasting, and significant. I am puzzled by efforts to imitate development nearby- Tysons, Clarendon, Ballston, Reston, Bethesda- all of which is easily accessible to anyone in the City of Falls Church- rather than create a multi-use project which would not only attract revenue but enrich the surrounding community. Why do we tout uniqueness and strive for sameness? Yes, all dollar bills are identical, but here in the City of Falls Church I would like to think the bottom line can be more than the BOTTOM LINE.

Anyhow, points.

- The building is too dense and too high. More setbacks in height are required.
- Setbacks from the street as shown on West Street are inadequate.
- Waivers for landscaping buffers should not be granted.
- The 'festival space' is close to laughable in terms of small scale and lack of detail.

- The IDEA of providing additional in-and-out traffic to West Street from a 7-11!
- The disappearance of the original plan's two single family houses and their replacement with condos with a so-called "dramatic step down" and an entrance to garage parking is not a suitable transition from the single family homes across the street and makes the request for a zoning change from R1-B hard to swallow.
- Loading dock access and trash removal and the effect on traffic and parking is unclear.
- Traffic increase must be handled by a traffic light not just at West and Park but by an additional traffic light at West and Grove. This would be a basic, minimal requirement for any of the changes the developer is requesting.
- No parking reduction should be given. The developers cannot possibly justify reduced parking given the number of unknowns inherent in a multi-use project containing retail of assorted and changing types, a hotel, and residential use of great density.
- The proffers given by the developer seem vague and scanty.
- The idea of a movie theater- while everyone likes to go the movies- is unworkable. The extra parking required and not just the amount, but specifically the type of traffic generated are more than can be accommodated at this site. Movie theater traffic is typified by many cars coming and going many times a day, including late in the evening, every day of the week.
- I would like to stress that the idea of pulling these 11 parcels together is in line with the City's Comprehensive Plan, but it is not a once in a lifetime achievement. I agree with the concept of consolidating small parcels, but two compatible developments of a smaller size may be a better alternative. Additionally, smaller size developments could possibly allow us to keep a longtime Falls Church business, Curlie's Sunoco, which, despite the developer's self-proclaimed efforts to reach out to local businesses which will be displaced, has not been offered consideration by Spectrum.
- Lastly, I question what the net revenue of the project will really be. Will everyone's real estate taxes go down $100 a year? $500? What price will we put on what we will lose alongside what we will, in reality, get. Why not be sure we are gaining a

really worthwhile, enlivening asset to the City when we agree to development of this site?

I would like to commend the huge amount of work the City Staff has spent in analysis and evaluation of this project, specifically Gary Fuller and Akida Rouzi. Their thorough assessments are very much appreciated.

In addition, the many Boards and commissions who have commented on this project have provided valuable perspectives. I would call attention specifically to the September 18 letter from VPIS which covers a lot of cogent ground. The Chief of Police, Mary Gavin, and Police Captain Tom Polera have raised valid safety issues, including the special needs of an All-Hazards Plan if a movie theater is under consideration.

I would like to mention that I am puzzled by repeated requests by the planning staff which have not been addressed by the developers. This has been noted in staff memos. I am not sure whether the inability of the developer to address changes and requests indicates a lack experience with a project of this size and type or if it is a tactic to force the City's acceptance of an unsatisfactory and poorly conceived project with the excuse of "time is running out".

Presently we have two large multi-use projects underway in the City of Falls Church, the Harris Teeter and the Tinner Hill sites. Would it not be wise to see the effects of these projects before handing out the changes and special exceptions asked for by this development as it stands now? "Wait and see" is preferable to "Fools rush in".

Whatever your decision please be thoughtful, prudent, and demanding. Don't sell us short. Don't sell us cheap.

Thank you.

CITY OF FALLS CHURCH

Mason Row Proposal

Neighborhood Transportation Workshop

March 30, 2015

Introduction

On March 30, 2015, City of Falls Church staff hosted a public workshop to discuss anticipated transportation impacts of the proposed Mason Row project. Approximately 50 community members participated in the workshop. The document includes the following:

1. A summary of the concerns raised by workshop participants;
2. The information presented by City staff regarding neighborhood parking programs and parking requirements;
3. Other solutions raised residents, but not fully discussed given time limitations;
4. Other topics raised during the meeting, but not fully discussed because they were outside the scope of the meeting;
5. A summary of the survey responses submitted by workshop participants; and
6. All notes from the breakout groups as written on the flip charts.

During the meeting, participants raised a number of transportation concerns. Most of them had to do with parking and traffic in adjacent neighborhoods.

In general, participants reported that they were satisfied with their ability to express their concerns and participate in the workshop. Most participants supported holding similar workshops for future development proposals.

1. Next Steps

Notes from this workshop will be posted on the project website and shared with City Council, the Planning Commission, the Citizen Advisory Committee on Transportation (CACT), and City staff. City staff will review the concerns raised and seek to address them as the project continues through the application process.

2. Summary of Concerns

During the meeting, participants broke up into neighborhood-level groups to discuss their transportation concerns. Then, each group reported out its list of concerns to all participants. This list summarizes the concerns raised by all groups.

2.1 Parking

Spillover Parking: Participants were concerned that if insufficient automobile parking is provided onsite or if visitors and/or tenants are required to pay for parking then parking will spill over into adjacent neighborhoods.

Garage Layout and Parking Space Size: Participants were concerned that the garage layout would be difficult to navigate or that spaces would be difficult to access.

Parked Cars Being Hit: Participants living along Grove Ave and Park Ave reported parallel parked cars being struck by passing vehicles and stated that the narrowness of the road was a factor.

2.2 Traffic

Neighborhood Traffic Impacts: Participants were concerned that automobile traffic volumes would increase on neighborhood streets. Participants were concerned that this traffic would travel too fast. Participants were also concerned that the increased volume would lead to congestion and slower speeds. Possible sources of new traffic included: new residents, visitors to the site, overflow traffic from West Broad Street, construction traffic, and a Metro shuttle. Participants were concerned about vibration, noise, light, and safety impacts of increased traffic.

Neighborhood Access: Participants were concerned that additional vehicles would lead to (or increase the occurrence of) residents being blocked from entering or exiting neighborhood streets and driveways.

Traffic Impact Analysis: Participants expressed concerns about the validity of the traffic impact analysis performed by the development team. Participants were particularly concerned with the data collection (time of year and days of week) and whether the results were validated by City staff.

Traffic Enforcement: Participants were concerned about insufficient police enforcement of traffic laws.

Peak Flows: Participants were concerned about proper management of peak flows from the project, especially when theater traffic exited.

2.3 Project Coordination

Participants wanted to know how construction of the proposed project would be coordinated with other projects, such as stormwater projects and how construction impacts could be mitigated.

2.4 W&OD Trail

Trail Parking: Participants wanted automobile parking provided for people that visit the area to use the W&OD Trail.

Trail Access/Connectivity: Participants expressed that the proposed access and connectivity to the W&OD Trail was insufficient.

3. Staff Discussion of Parking Programs

Although the agenda called for discussion of multiple solutions to address neighborhood concerns, timing limitations restricted the discussion to two topics: Residential Parking Programs and Project Parking Requirements.

3.1 Residential Parking Programs

Staff presented the following information as an introduction to residential (zoned) parking programs.

Program Goals: A successful program needs a set of clearly defined goals. For example, in a residential area, the goal could be to preserve on-street parking for neighborhood residents.

Permissible Users: Following the goal, a program needs to establish who can use on-street parking. Is it only residents of a particular street or streets? Is some limited parking for people patronizing commercial uses allowed?

Program Structure: Several program elements would need to be established, including:

- Program Hours – all day, overnight, evening, daytime, etc.
- Number of Passes – how many resident and guest passes is a household eligible for?
- Management – how is the program administered?
- Zone Boundaries – how are zone boundaries set? Larger zones provide more access and therefore less protection. Smaller zones provide the reverse.
- Project Cost – who pays to operate the program? Do zone residents have to pay an additional fee?

3.2 Parking Requirements

Staff presented the following information on parking requirements.

The goal of parking requirements for new development is to provide sufficient automobile parking for the proposed uses. For the Mason Row project, the City Code requires 1,200 spaces. The latest proposal includes 900 spaces.

Staff noted that parking requirements were designed for auto-dependent areas and there are numerous opportunities to reduce the amount of parking required, including:

- **Shared-Parking:** different uses (residential, retail, hotel, etc.) will have different parking demands throughout the day. These uses could share a smaller pool of parking spaces and still meet demand.

- **Transportation Demand Management:** providing incentives to use other forms of transportation can dramatically reduce demand for automobile travel and therefore reduce the demand for automobile parking.
- **Trends:** Automobile ownership and vehicle miles traveled are declining in the U.S.

4. Other Solutions

Time limitations did not allow for a full discussion of all the solutions proposed by participants. This is a list of the ideas discussed.

- **School Bus**: Providing a school bus stop that does not impede vehicular traffic.
- **Grove & West**: Better defining the intersection of Grove & West to deter queued cars from blocking sight lines and vehicle access or installing a 3-way stop.
- **Ped/Bike Bridge:** Constructing a bridge to carry pedestrian and bicycle traffic.
- **Metro Shuttle:** Providing a shuttle to Metro and making it available for everyone at the site.
- **Traffic Signal Synchronization:** Synchronizing traffic lights in the area.
- **Parking Garage Lighting:** Sufficiently lighting the garage to provide safety.

5. Other Topics

During the meeting, several topics came up that were outside the meeting's scope. While the timing of the meeting did not allow for discussion of the topics, they are recorded here.

- Construction working hours
- Utility outages
- Difficulty in responding to a design in flux
- Insufficient width of snow plowing
- Design compatibility along Park Ave
- Impacts of parking garage or retail uses along Park Ave
- Crime, personal safety, and disorderly conduct of site visitors
- Ability to continue the Grove Ave Halloween block party

6. Summary of Survey Responses

Each participant was asked to complete a short survey as a way of capturing any additional feedback on the proposed project and to assess the meeting format. Of the approximately 50 participants, 23 completed a survey. Responses from those surveys are summarized below.

Question 1: Do you have additional transportation concerns regarding the proposed Mason Row project beyond what was discussed tonight?

Some respondents were satisfied with the coverage of the meeting, with one respondent stating "No, mine were all touched on during the meeting."

The majority of respondents listed additional concerns. The responses touched on the following topics:

- Need for specific information regarding intersection layout and traffic patterns.
- Church parking.
- Trash pickup.
- Ability of or designation of nearby streets to handle additional traffic.
- Implications for existing businesses.
- The appropriateness of the project in general.
- Interactions with other redevelopment projects, ongoing or future.
- Staff was unprepared to discuss solutions or unwilling to discuss specifics.
- Materials should have been available earlier.

Question 2: Do you agree or disagree that you were given an opportunity to communicate your traffic and parking concerns about the proposed project?

Response	Count
Strongly Agree	4
Agree	12
Neither Agree nor Disagree	0
Disagree	2
Strongly Disagree	2

Question 3: Do you agree or disagree that tonight's workshop will be effective in informing the planning/approval process for this project?

Response	Count
Strongly Agree	1
Agree	7
Neither Agree nor Disagree	4
Disagree	5
Strongly Disagree	2

Question 4: Do you agree or disagree that City staff should coordinate community workshops (either in this format or a different format) for future development proposals?

Response	Count
Strongly Agree	14
Agree	5
Neither Agree nor Disagree	0
Disagree	1
Strongly Disagree	0

Question 5: Do you have any suggestions for improving the format of future community workshops?

Some respondents were satisfied with the meeting format. Others suggested that the time spent recapping the resident input be shortened to leave more time for discussion of solutions.

Several respondents noted that the room was too noisy during the breakout session and suggested breaking out to other rooms.

Some respondents were happy that facilitators tried to keep the meeting on schedule. Others responded that they felt rushed.

Some respondents felt that the facilitators did a fair job of managing conversations and reporting results of the group. Others felt that the facilitators were argumentative and/or biased.

7. Street-by-Street Notes

For completeness, the notes from the individual breakout groups are included here.

7.1 Grove Avenue

Community

- Want to continue Halloween Block Party (with road closure)

Construction Traffic

- Worker parking
- Heavy vehicles

Late Night Traffic

- Crime
- Lights
- Noise
- Pedestrians
- Trash
- Urination

Market Square

- No bike access from Grove Avenue
- No pedestrian access from Grove Avenue

Parking

- Lack of adequate (on-street) parking for residents
- Lack of visibility when backing out of driveways
- Loading spaces “disconnect” development from the W&OD Trail (idling noise)
- Security
- Street too narrow for existing traffic volumes

Pedestrians

- Cut-through private properties
- Late night use of street
- Safety impacts

- Security
- Noise
- Traffic impacts
- West Street crosswalk will create too much conflict

Speed

- Enforcement
- Rushing to movie
- Rushing to restaurants
- Lack of safety

Traffic Problems

- Commercial (Hotel shuttle) utilizing Grove Avenue to/from West Falls Church Metro Station
- Delivery trucks create wear and tear on street, noise, vibration, and volume
- Too difficult to turn right off of Grove to go east on West Broad Street

Traffic Volume

- Difficult to back out of driveways
- Make pedestrian access less accessible
- Will make West/Grove too difficult

7.2 North West Street

Blocking driveways

Blocking intersections

Capacity of nonresidential components, as presented in traffic study

Construction

- Parking
- Utility conflicts/conflicting timelines for projects
- Utility outages

Drainage

Flooding

Garage Access (size, number of spaces)

Need for North West Street Traffic Calming

Parking

- No parking program in residential area
- Charging for site parking may motivate site residents and visitors to park on the street
- Insufficient parking supply in the garage for residents and their visitors

Pedestrian facilities/access

Traffic data (margin of error and sensitivity analysis)

7.3 Park Avenue

On-Street Parking

- A combination of vehicles parked on Park Avenue and increased traffic to/from the development proposed will be the potential cause of more accidents
- Businesses on Park Avenue will increase overflow parking
- Cars parked on Park Avenue are hit by other drivers frequently
- Concerned that everyone from Mason Row will park on Park Avenue
- Development should provide parking per the City code to mitigate overflow parking
- Homes without driveways will be impacted
- Users/Visitors/Residents will find it easier to park on the street

Other Issues

- Concerned about increased traffic impact on Park Avenue businesses
- Placing a parking garage on Park Avenue is incompatible with the residential character of Park Avenue

North Spring Street

- Pedestrian cross this street frequently
- Maintain a one-way vehicle flow on Spring Street
- Vehicle volume on Spring Street is an issue

Traffic

- Cars moving slowly cause other cars in the backup to block driveways
- West bound vehicles on Broad Street will move onto Park Avenue and make vehicular traffic an issue
- West bound on Park, waiting to turn onto North West Street, backs up to North Spring Street

Traffic Study

- Believe that the traffic study reflects their August counts
- Concerned about the TIS dates and times
- Desire more data for traffic volumes on the weekends
- Did not address Sunday volumes; this is one of heavy traffic days
- How do they update the traffic study?
- How is pedestrian safety being addressed?
- Should include children and other pedestrians crossing the street from St. James
- Uncertainty of composition of residential uses yields the study somewhat inaccurate
- Uncertainty of retail uses yields the study somewhat inaccurate

7.4 Other

In addition to the identified neighborhood stakeholder groups along Grove Ave, N West St, and Park Ave, there was a fourth group titled "Other" for people that wanted to participate in the meeting.

Areas Represented in this Group

- Chestnut Street
- East Columbia Street
- Hillwood Avenue
- Irving Street
- Noland Street
- North Oak Street

Bicycles and Pedestrians

- Improve access and safety
- Need bridges over West/Broad/Grove
- Proposal is not pedestrian friendly
- Separate automobile traffic flow from bikers and pedestrians

Concerns

- Traffic volumes on residential streets
- Cut through traffic
- Grove Avenue
- Park Avenue
- North West Street
- Route 7 Failing

Lack of Enforcement

- Grove Avenue

Mobility

- Failure of current West Broad Street (Unable to make left turn from North West Street to West Broad Street)
- Left in???

North West Street

- Between West Broad Street/Park Avenue to Lincoln Avenue traffic backs up
- Northbound lacks synchronized traffic signals and new traffic signals for left turns from West Street that is eastbound

Queueing into Proposed Development

- Backup on streets
- Traffic Demand Management (tools) proposed
- Weekend traffic (impact of theater, shuttle bus, West Falls Church Metro)

Traffic Failures

- Don’t raise failures at intersection of West Broad Street and North West Street
- Improve intersection
- North West Street and West Broad Street
- Need to improve intersection with new development

Traffic Volumes

- Compare numbers from previous VDOT counts and developer counts

West Broad Street

- Failure on West Broad Street forces traffic to side streets
- Need synchronized traffic lights

The City of Falls Church is committed to the letter and spirit of the Americans with Disabilities Act. To request a reasonable accommodation for any type of disability, call 703-248-5027 (TTY 711). For more information call 703-248-5178.

Attachment B

Updated Traffic Impact Analysis and Parking Reduction Report

WELLS + ASSOCIATES

MEMORANDUM

TO:	Gary Fuller City of Falls Church Development Services
FROM:	William F. Johnson, P.E. Andrew C. Buntua
RE:	Mason Row City of Falls Church, Virginia
SUBJECT:	Parking Reduction Request
DATE:	April 18, 2014 Revised April 20, 2015

Introduction

This memorandum provides an analysis to support a parking reduction in conjunction with a redevelopment of certain parcels in the City of Falls Church. The 4.32-acre site is generally located on the north side of West Broad Street (Route 7), east of North West Street and south of Park Avenue, as shown on Figure 1.

The subject site is currently zoned Residential (R-1B) and Business (B-3) and is developed with an existing mix of retail/commercial uses as well as three (3) single family dwelling units. The Applicant is proposing to rezone the property to the B-1 District and redevelop the property with the following mix of uses:

- 60,581 gross square feet (GSF) of commercial (retail) uses
- 150 room hotel
- 340 apartment dwelling units
- 6,108 GSF of office uses
- 776-seat theater

The current development plan is provided on Figure 2. Based on information from the Applicant, approximately 996 parking spaces are proposed to support the redevelopment. As described in this document, the Applicant is seeking an overall 15.7 percent parking reduction from the City's Zoning Code requirements. The purpose of this memorandum, therefore, is to present the results of a parking study in support of the parking reduction request.

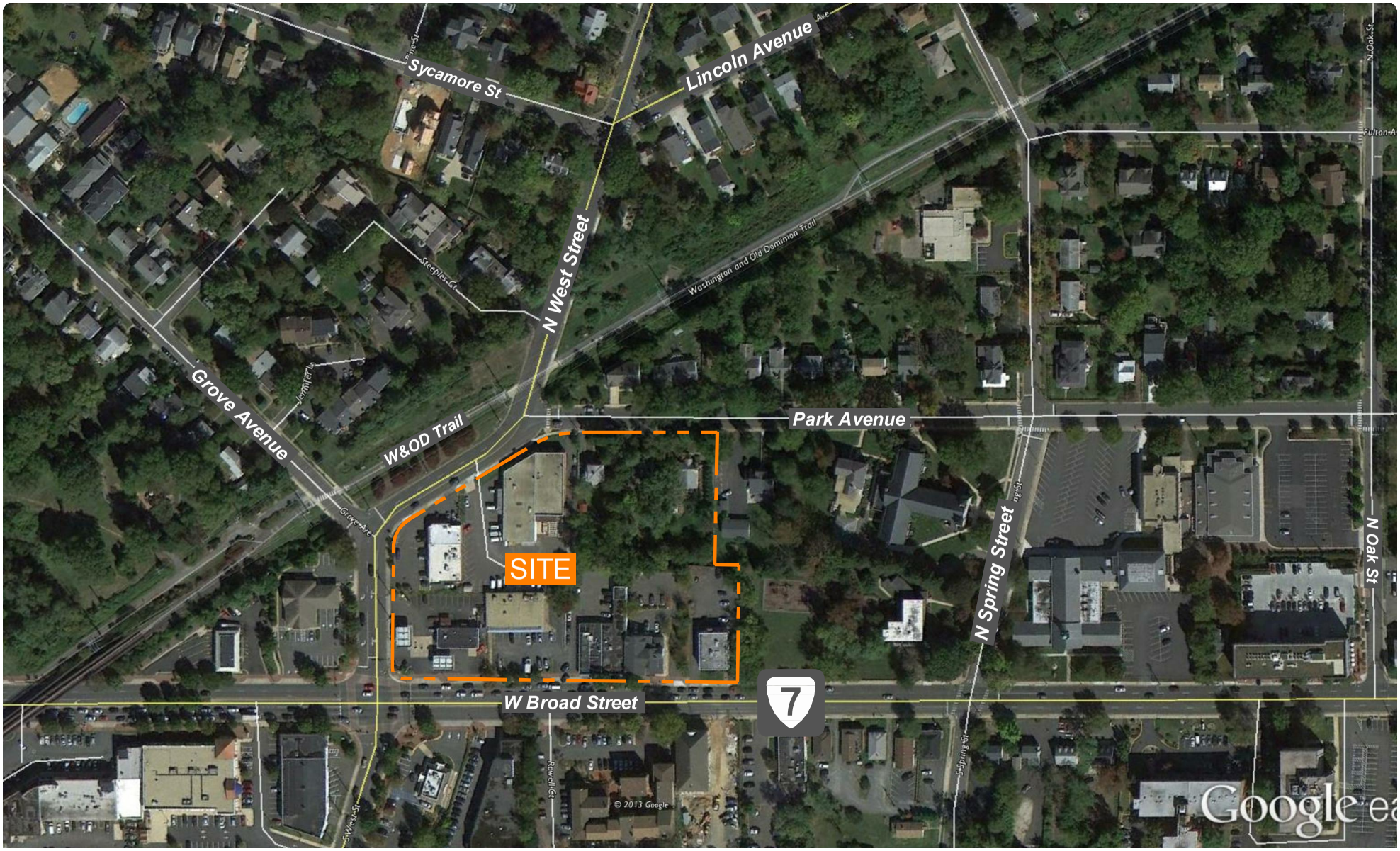

Figure 1
Site Location

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

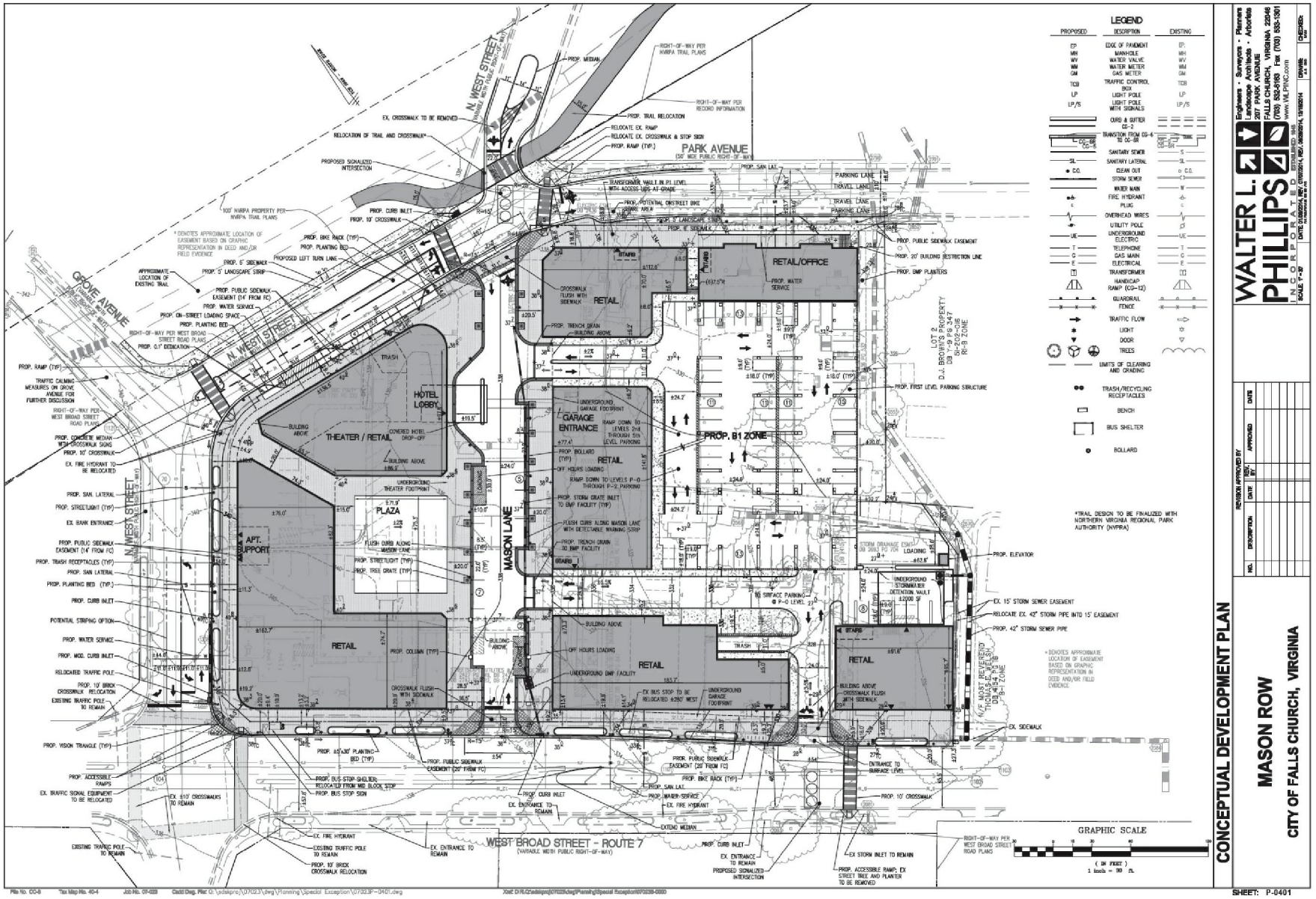

Figure 2
Site Redevelopment Plan Reduction

North

Sources of data for this analysis include, but are not limited to, a review of parking requirements both locally and nationally; plans prepared by Walter L. Phillips, Inc., the files and library of Wells + Associates, Inc., Transforming Tysons Plan Amendment Text dated June 22, 2010, and Spectrum Development LLC.

Background

The subject site is currently zoned Residential (R-1B) and Business (B-3) and is developed with primarily commercial/retail uses as well as three single family dwelling units. The applicant is proposing to rezone and redevelop the site with a cohesive mix of uses containing both residential and non-residential components. Based on the most recent plan concepts provided to date, the proposed development mix is described as follows:

<u>Residential</u>

- 19 – Studio Units
- 204 – 1 Bedroom Units
- 117 – 2 Bedroom Units

<u>Non-Residential</u>

- 150-room Hotel
- 60,581 GSF Retail/Restaurant space
- 776-seat Theater
- 6,108 GSF Office

As reflected on the plan, parking for this redevelopment would be provided in both surface lots (94 spaces) and a parking structure (902 spaces) totaling approximately 996 parking spaces proposed to serve the site. The parking total includes those spaces necessary for use by commercial patrons, residents, visitors, and staff. Access to the parking structure will be provided by ramps located within the site.

City of Falls Church Zoning Requirements

Chapter 48, Article V, Division 2 of the City of Falls Church Code of Ordinance establishes off-street parking requirements for various land uses by providing parking rates per unit of land use (i.e., per residential dwelling unit, per 1,000 GSF of retail uses, etc.). A copy of the relevant Ordinance text applicable to the Mason Row redevelopment is provided as Attachment I.

Section 48-1004 of the Ordinance outlines the parking requirements for the proposed/planned on-site use as follows:

Dwelling, Multifamily – 1.0 per efficiency unit, no bedroom
1.50 per one bedroom unit
2 per two bedroom unit
2 per three or more bedroom unit

Motion Picture Theatres – 1 per 4 seats based on maximum seating capacity in main assembly

Hotel and Motel – 1 per guestroom, plus one employee space per ten guestrooms

Shopping Center – 1 per 250 sf of floor area

Office – 1 per 300 sf of floor area

As reflected on Table 1, based on a strict application of the Zoning Ordinance, the residential dwelling units would require 559 parking spaces and the non-residential uses would require 623 parking spaces for a total of 1,182 spaces required per the Ordinance.

Requested Parking Reduction

Section 48-971 (2) of the Zoning Ordinance allows the Applicant to request a modification of the off-street parking and loading requirements contained in Section 48-1004. As stated in 48-971 (2):

> *In mixed-use developments in which two or more users exist on the same site, appropriate required parking may be determined by applying a shared parking formula. It shall be the responsibility of the applicant to perform any studies or site evaluations as necessary to determine the acceptable number of spaces. No modification in parking ratios, as set forth in the table in section 48-1004, shall be granted without approval of the planning commission..*

A copy of the specific ordinance text is also included in Attachment I. In accordance with the above citation, the Applicant is requesting a parking reduction of 15.7% from the number of parking spaces that would be required by a strict application of the City of Falls Church Zoning Ordinance. The proposed 996 parking spaces would be allocated to the site uses as per the following:

Table 1
Mason Row
Falls Church Ordinance Parking Requirements

Land Use		Amount	Units	Falls Church, Virginia [1] Code Requirement	Spaces
Residential (Combined Apartment and Condominium)					
	Studio	*19*	*Dwelling Units*	1 space per unit	19
	One Bedroom	*204*	*Dwelling Units*	1.5 spaces per unit	306
	Two Bedroom	*117*	*Dwelling Units*	2 spaces per unit	234
				Residential Spaces Code Requirement	**559**
Hotel	*Guestrooms*	*150*	*Guestrooms*	1 space per guestroom	150
				1 space per 10 guestrooms	15
				Hotel Spaces Code Requirement	**165**
Office		*6,108*	*Square Feet*	1 space per 300 sf of floor area	21
				Commercial Spaces Code Requirement	**21**
Theater		*776*	*Fixed Seats*	1 space per 4 seats	194
				Commercial Spaces Code Requirement	**194**
Retail/Restaurant		*60,581*	*Square Feet*	1 space per 250 sf of floor area	243
				Commercial Spaces Code Requirement	**243**
				Total Spaces Required	**1,182**
				Parking Provided	**996**
				Parking Reduction Requested	**15.7%**

Note(s) (1) Calculations based on the Falls Church Zoning Ordinance

- Residential – 471 spaces (average rate of 1.39 spaces per unit)
- Non-residential (hotel and commercial) – 525 spaces
- TOTAL – 996 spaces

Due to the inherent separation of the on-site parking supply described above, this report is divided into two sections: 1) residential parking and 2) non-residential parking. The following sections provide the justification for the requested parking reduction per the City's Ordinance provisions.

SECTION I: RESIDENTIAL PARKING

Overview

As stated above, the Applicant proposes to dedicate 471 parking spaces for the proposed 340 multifamily residential uses. This supply represents an average parking rate of 1.39 spaces per unit. Based on the City Code requirement (see Table 1), the average parking rate to meet Code is calculated at 1.64 spaces per unit. Therefore, the proposed residential parking supply represents a 15.7% reduction from the Code requirement.

Experience at Existing Residential Developments

Parking Occupancy Counts. Wells + Associates has conducted a number of parking occupancy counts at existing multifamily properties within the City of Alexandria, Arlington County and Fairfax County, which have characteristics consistent with the proposed Mason Row project and provide between 1.0 and 1.61 parking spaces per unit. The demographics associated with each site and a summary of the count data are included in Tables 2 and 3, respectively. The count summaries from each are included in Attachment II. The Circle Towers site is an exception as it provides 1.75 spaces per unit; however, those spaces are partly shared between the existing 606 residential dwelling units, as well as 66,700 SF of commercial uses.

As shown on Table 3, the ratio of occupied parking to occupied units ranged between 0.93 and 1.45 spaces per unit which represent the actual parking demand associated with those properties. The proposed parking rate of 1.39 spaces per unit lies within this range of actual parking demand rates.

Local Residential Parking Requirements

Imposing controls and gaining parking efficiencies can work to encourage the use of alternate modes of transportation (a City planning objective) and foster smart growth. Tightening parking supplies at concentrated residential and/or commercial sites, in conjunction with certain Transportation Demand Management (TDM) strategies have resulted in conditions shown to

Table 2
Mason Row
Parking Count Demographic Summary

Characteristic	Meridian At Carlyle	Warwick I	Courtland Park	Springfield Station	Ravensworth Towers	Fairfax Towers	Circle Towers [1]
				Sites			
Jurisdiction	City of Alexandria	Arlington County	Arlington County	Fairfax County	Fairfax County	Fairfax County	Fairfax County
Unit Count	403	321	264	631	219	396	606
- efficiency	33	32	8	not available	34	0	not available
- one bedroom	247	202	211	not available	110	144	not available
- two bedroom	123	87	44	not available	75	216	not available
- three or more bedroom	0	0	1	not available		36	not available
Occupied Units	339	310	264	623	214	380	579
- efficiency	not available	31	8	not available	34	not available	not available
- one bedroom	not available	195	211	not available	109	not available	not available
- two bedroom	not available	84	44	not available	71	not available	not available
- three or more bedroom	not available	0	1	not available		not available	not available
Percent Occupancy	84%	96%	100%	99%	98%	96%	96%

Notes:
[1] The parking provided serves 66,700 SF of commercial uses in addition to the 606 residential dwelling units.

Table 3
Mason Row
Parking Count Summary

Characteristic	Sites: Meridian At Carlyle	Warwick I	Courtland Park	Springfield Station	Ravensworth Towers	Fairfax Towers	Circle Towers [1]
Jurisdiction	City of Alexandria	Arlington County	Arlington County	Fairfax County	Fairfax County	Fairfax County	Fairfax County
Unit Count	403	321	264	631	219	396	606
Parking Provided	496	342	265	933	353	551	1,059
Ratio of Parking Provided	1.23	1.07	1.00	1.48	1.61	1.39	1.75
Occupied Units	339	310	264	623	214	380	579
Max. Parking Occupancy	316	292	258	805	273	506	840
Ratio of Occupied Parking	0.93	0.94	0.98	1.29	1.28	1.33	1.45

Notes:
[1] The parking provided serves 66,700 SF of commercial uses in addition to the 606 residential dwelling units.

increase mode splits. As a result, communities throughout the nation, like the City of Falls Church, have begun to incorporate flexibility into their parking requirements as evidenced by the great number of internet sites relating to parking. The following sections summarize the parking requirements for residential projects in Fairfax County, The City of Alexandria, and Arlington County. These parking requirements are also summarized on Table 4. The relevant excerpts from each of the documents described below are included in Attachment III.

Fairfax County. The City of Falls Church is surrounded by Fairfax County. The land uses and zoning associated with the surrounding areas of the County are comparable to those of the City. Based on the Fairfax County Zoning Ordinance, a multifamily residential dwelling unit requires 1.6 parking spaces per unit. Based on the application of Fairfax County parking rates to the Mason Row project, the subject site would require 544 parking spaces (15 fewer than the City of Falls Church Code requirement). This would correspond to a parking reduction of approximately 3% from City of Falls Church residential code requirements. Furthermore, Fairfax County has its own provisions for reducing Ordinance required parking which has resulted in a number of parking reduction approved throughout the County. Notably, the Circle Towers property located along Lee Highway (Route 29) in Fairfax County was approved in 2011 with a 26.5% parking reduction.

Transforming Tysons –Plan Amendment June 22, 2010. As a result of the 2004 Area Plan Review (APR) process, the Fairfax County Board of Supervisors established the Tysons Land Use Task Force to "update the 1994 [Comprehensive] Plan." In conjunction with this update to the Tysons Corner Plan, parking recommendations for residential and commercial uses were provided in the plan text. These recommendations included proposed minimum and maximum parking ratios for residential developments based on proximity to rail stations and modified parking rates in consideration of the number of bedrooms per unit. For multifamily residential uses located more than ½ mile from a rail station, considered to be a non-TOD (Transit Oriented Development) area, minimum parking ratios of 1.1 spaces per unit is recommended for studio/one bedroom units, 1.35 spaces per unit for two bedroom units, and 1.6 spaces per unit for three bedroom units. Based on the application of the non-TOD minimum parking ratios, the residential parking demand for the proposed site would be 404 parking spaces (or 155 fewer than the City of Falls Church code requirement). This would correspond to a parking reduction of approximately 28% from City of Falls Church residential code requirements.

City of Alexandria. Multi-family dwelling units in the City of Alexandria are parked in accordance with the bedroom count based on the following schedule:

Unit Type	Spaces Required
Efficiency and 1 bedroom	1.3 spaces/unit
2 bedroom unit	1.75 spaces/unit

Table 4
Mason Row
Jurisdictional Residential Parking Requirement Comparison

Land Use	Amount	Units	City of Falls Church (1) Code Requirement	Spaces	Fairfax County (2) Code Requirement	Spaces	Tysons Comprehensive Plan Amendment (3,4) Code Requirement	Spaces	City of Alexandria (5) Code Requirement	Spaces	Arlington County (6) Code Requirement	Spaces
Multifamily (Apartments and Condominiun	340	DU										
Studio	*19*	*DU*	1 spaces/DU	19	1.6 spaces/DU	544	1.1 spaces/DU	21	1.3 spaces/DU	25	1.125 spaces/DU for first 200 units	225
1 Bedroom	*204*	*DU*	1.5 spaces/DU	306			1.1 spaces/DU	225	1.3 spaces/DU	266	1.0 space/DU for each additional unit	140
2 Bedroom	*117*	*DU*	2 spaces/DU	234			1.35 spaces/DU	158	1.75 spaces/DU	205		
Residential Spaces Required				***559***		***544***		***404***		***496***		***365***
Percent Residential Reduction						*3%*		*28%*		*11%*		*35%*

Note(s): (1) Calculations based on the City of Falls Church Zoning Ordinance
(2) Calculations based on the Fairfax County Zoning Ordinance.
(3) Calculations based on the Fairfax County Comprehensive Plan's *Plan Amendment*, dated June 22, 2010
(4) Calculations based on the minimum number of parking spaces allowed in a non-TOD area.
(5) Calculations based on the City of Alexandria Zoning Ordinance.
(6) Calculations based on the Arlington County Zoning Ordinance.

Within the certain metro parking districts (such as King Street), multi-family developments are parked at the rate of 1.0 space/unit, regardless of the bedroom count. Based on Alexandria's baseline requirements, a total of 496 spaces would be required to accommodate the multifamily residential units proposed for the Mason Row development. This represents an 11% reduction from the City of Falls Church Code requirements.

Arlington County. Based on the 2014 Arlington County Zoning Ordinance, multifamily residential uses are parked per the following:

Dwellings, other than one- and two-family: "1 & 1/8 for each of the first 200 dwelling units in any structure…Plus 1 for each additional dwelling unit constructed and maintained in accordance with Section 14.3.3."

Based on these requirements, the Mason Row development would need 365 parking spaces to accommodate the proposed residential uses. This represents a 35% reduction from the City of Falls Church Code requirements.

Unit Type

As part of the Mason Row redevelopment project, the Applicant proposes a mix of unit types that would minimize the number of two and three bedroom units. The following summary outlines the proposed unit mix for the combined apartment and condominium uses:

Unit Type	Proposed	
	Number	*Percentage*
Studio	19	6%
One Bedroom	204	60%
Two Bedroom	117	34%
TOTAL	340	100%

As shown above, the proposed redevelopment will include studio apartment units in the community while minimizing the percentage of two-bedroom units. By providing a unit mix in this manner, the overall parking ratio necessary to adequately supply the development will be reduced. This unit mix will encourage, on average, fewer occupants per dwelling unit which, in turn, results in diminished auto ownership per unit. Many jurisdictions including and outside of the City of Falls Church recognize that studio and single bedroom multifamily units generate less parking demand and therefore have variable parking ratios in their ordinances that reflect different unit types as summarized in Table 4. Therefore, the mix of unit types proposed by the Applicant would, in of itself, serve to reduce residential parking demand. By introducing measures and strategies

that would take advantage of other transportation mode choices as elaborated later in this document, the full residential parking reduction is justified.

Alternate Modes

In addition to the unique unit type mix, the site is located completely within one mile of the West Falls Church metrorail station (as measured from the site's farthest point from the station). Furthermore, the site is served by metrorail destined bus routes located along West Broad Street adjacent to the property. The metrobus (WMATA) 28A, 28X, and 3T bus routes operate on 20 to 30 minute headways during the weekday peak hours and serve the West Falls Church station as well as locations within Tysons Corner. The bus stop(s) for these lines are located along West Broad Street directly adjacent to the subject site.

Based on U.S. 2010 Census Journey to Work data for the City of Falls Church, drivers within the City utilize the following modes of transportation:

- Drive Alone: 61.8%
- Carpool: 8.0%
- Mass Transit: 16.9%
- Walk/Bike: 4.3%
- Other: 9.0%

As indicated above, non-single occupant vehicle (non-SOV) travelers account for approximately 38.2% of vehicle trips in the area. Although in the interest of conservatism, only a nominal mode split of 5% was applied in the traffic impact study, the effect of alternative modes would further reduce the residential parking demand associated with the property. It should be noted that the proximity of the Washington & Old Dominion (W&OD) regional trail makes this site ideally situated to take advantage of walking and bicycling as viable modes of transportation.

In addition to the transit services currently available, the applicant intends to implement various transportation demand management (i.e., "TDM") strategies to further reduce vehicle trips and auto dependency for future residents. Examples of these strategies that would serve to reduce parking demand include the following potential measures:

- Offering/augmenting shuttle service to the West Falls Church metrorail station (hotel only).
- Providing dedicated parking on-site or in the vicinity for Zip Cars and/or supplying dedicated rental vehicles for use.
- Encouraging/incentivizing Ridesharing opportunities.
- Supplying new residents with pre-loaded SmarTrip cards.
- Provision of on-site bicycle storage.

It is widely recognized that reducing available on-site parking is, in itself, a TDM measure. Regular parking management, including the requirement of parking decals/passes and/or the limiting of guaranteed parking spaces per unit has been shown to both reduce average auto occupancy and lessen the number of vehicle trips generated by a residential development. In concert with the above TDM strategies, the actual parking demand that will be experienced upon completion of the redevelopment will justify the reduced parking supply as requested.

A TDM and Parking Management Plan should be developed and submitted under separate cover to better define the strategies intended to reduce parking demand.

Alternate Vehicle Parking

The proposed residential parking supply of 471 spaces represents those spaces that will meet the City's Ordinance definition of legal off-street parking. As stated previously, these spaces will be provided in a parking garage within the property. As the design of the buildings and the parking facilities become more engineered throughout the zoning and site plan processes, there may be opportunities for the parking and/or storage of alternate vehicles that require less area than a legal parking space and can be accommodated within geometrically irregular garage area. The Applicant intends to maximize the use of available garage space for potential parking and on-site vehicle storage for residents. Examples of these alternate vehicles include the following:

- Charging stations for electric cars
- Tandem parking spaces
- Bicycles (storage provided in racks and/or storage lockers)

The potential ability to offer parking for these alternate vehicles, in concert with incentivizing their use, would serve to further reduce the demand for conventional parking, which may serve to further justify this parking reduction request. The applicant has already committed to provide/install bicycle racks for site patrons and visitors as indicated on the CDP.

SECTION II: NON-RESIDENTIAL PARKING

Overview

As stated previously, a total of 525 parking spaces are proposed to serve Mason Row's non-residential uses, which include the hotel and office/retail uses. Based on a strict application of the Falls Church City Code, a total of 623 spaces would be required to serve these uses. Therefore, a reduction of 98 spaces (or 15.7 percent) is requested for the non-residential uses.

Based on information provided by the Applicant, the following allocation of these 525 parking spaces is proposed between the office, theater, retail and hotel uses:

Use	Spaces
Office	18
Retail	205
Hotel	139
Theatre	163
Total	525

Shared Parking

Because of the synergistic mix of uses that will be present on the same site, the site will benefit from being able to share parking between the non-residential uses (i.e., a single parking space can potentially serve both the retail use and the hotel). This phenomenon is common in mixed-use developments and is possible since the different on-site land uses experience peak parking demands at different times of day. The Falls Church Ordinance recognizes that this pattern occurs and includes a provision to calculate shared parking specific to mixed-use developments (Section 48-1080 (d) (3)). The same shared parking strategy was applied herein. A copy of the Ordinance text is included as Attachment I.

The methodology included in Section 48-1080 was applied to the mix of non-residential uses proposed for the Mason Row development as shown in Table 5 in order to calculate the number of shared parking spaces per the Ordinance. As shown in the table, and according to the Ordinance, a reduction of 59 spaces is calculated which represents the number of non-residential parking spaces which may, in theory, be shared between the hotel and commercial uses.

Urban Land Institute. As an alternative to the methodology described in the City's Ordinance, the Urban Land Institute (ULI) publication Shared Parking, 2nd edition has established a model and methodology for determining parking demand for various types of

Table 5
Mason Row
Falls Church Shared Parking Methodology

	Weekday		Weekend			
Use	Day	Evening	Day	Evening	Night	Total
Business and professional offices	100%	10%	**10%**	5%	5%	
Retail business and service establishments	60%	90%	**100%**	70%	5%	
Hotels/motels	75%	100%	**75%**	100%	75%	
Business and professional offices	21	3	**3**	2	2	21
Retail business and service establishments	263	394	**437**	306	22	437
Hotels/motels	124	165	**124**	165	124	165
Total Shared Parking Required (Commercial/Hotel)	408	562	**564**	473	148	623

Note(s): (1) Calculations based on the Falls Church Zoning Ordinance

development. This methodology is especially useful in cases such as Mason Row, where a single parking space may be used for parking associated with either the proposed retail or hotel use. Because each land use within a development may experience a peak parking demand at different times of day, or different months of the year, relative to the other land uses on-site, the actual peak parking demand of the entire development may be less than if the peak parking demand of each land use was considered separately.

The ULI model applies various hourly, monthly and weekday/weekend adjustment factors to the parking demands of each land use. For informational purposes, these adjustment factor tables are provided in Attachment IV. Please note that no synergy adjustment factors were applied to the model for purposes of this analysis. Based on the monthly and weekday adjustment calculations, the model establishes a peak demand hour and month during which the proposed new development's parking requirements would be at their highest. The ULI model calculation summary of the subject site (only considering the shared parking hours) is provided in Table 6. When the project's parking demands (based on the Falls Church Ordinance minimum parking rates) are adjusted to reflect hourly, monthly, and weekday/weekend variations, a peak parking demand of 429 parking spaces results for the hotel, retail, theatre, and office uses on the weekday. The weekday shared parking figure represents a 31% (or 194 fewer parking spaces) reduction from the Falls Church Zoning Ordinance. As stated previously, the Applicant is requesting a 15.7% reduction from the required parking for the non-residential uses, which is less a reduction than the ULI shared parking model would support.

Conclusions

Based on the documentation provided herein, the following can be concluded:

1. Under a strict application of the City of Falls Church Zoning Ordinance, 1,182 parking spaces would be required to accommodate the proposed site uses.

2. The applicant is requesting an overall parking reduction of up to 15.7% (a reduction of 186 parking spaces) in order to provide 996 parking spaces to serve the site uses.
    a. Parking associated with the site's residential component would be reduced by 15.7% (a reduction of 88 parking spaces).
    b. Parking associated with the site's non-residential component (hotel, office, theater and retail uses) would be reduced by 15.7% (a reduction of 98 parking spaces).

3. With the application of various local code requirements, the proposed unit mix (studio vs. one-bedroom, two-bedroom, and three-bedroom units) would result in a residential parking demand between 11 percent and 37 percent less than a strict application of the City of Falls Church Zoning Ordinance requirements.

4. Due to the proximity of metrorail and ready access to multiple bus routes adjacent to the site, in concert with proposed transportation demand management (TDM) and parking management strategies, the peak residential parking demands associated with the Mason Row project would be further reduced.

5. The proximity of the W&OD regional trail makes this site ideally situated for walking a bicycling as viable modes of travel.

6. The applicant intends to maximize any excess available garage space for the potential parking and/or storage of additional types of vehicles, including charging stations for electric cars and bicycles.

7. Shared parking between the site's non-residential uses (hotel and retail uses) will reduce the overall site parking demands.

8. The Urban Land Institute shared parking model supports a shared parking reduction of up to 31% for the site's non-residential uses. The Applicant is only requesting a 15.7% parking reduction for the site's non-residential uses.

9. Based on the preceding background research and analysis, the proposed parking reduction requested by the Applicant should be supported.

Table 6
Mason Row
ULI Shared Parking Model

4/20/2015

SHARED PARKING DEMAND SUMMARY

PEAK MONTH: LATE DECEMBER -- PEAK PERIOD: 3 PM, WEEKDAY

			Weekday							Weekend					Weekday			Weekend		
	Project Data																			
Land Use	Quantity	Unit	Base Rate	Mode Adj	Non-Captive Ratio	Project Rate	Unit	Peak Hr Presence 7:00 PM	Peak Mo Adj October	Base Rate	Mode Adj	Non-Captive Ratio	Project Rate	Unit	Peak Hr Adj 3 PM	Peak Mo Adj ate Decembe	Estimated Parking Demand	Peak Hr Adj 3 PM	Peak Mo Adj ate Decembe	Estimated Parking Demand
Community Shopping Center (<400 ksf)	60,581	sf GLA	3.20	1.00	1.00	3.20	/ksf GLA	0.89	0.70	3.20	1.00	1.00	3.20	/ksf GLA	1.00	0.80	155	1.00	0.80	155
Employee			0.80	1.00	1.00	0.80	/ksf GLA	0.90	0.70	0.80	1.00	1.00	0.80	/ksf GLA	1.00	0.90	43	1.00	0.90	43
Cineplex	776	seats	0.24	1.00	1.00	0.24	/seat	0.78	0.46	0.24	1.00	1.00	0.24	/seat	0.80	1.00	149	0.80	1.00	149
Employee			0.01	1.00	1.00	0.01	/seat	1.00	0.46	0.01	1.00	1.00	0.01	/seat	0.75	1.00	6	0.75	1.00	6
Hotel-Business	150	rooms	1.00	1.00	1.00	1.00	/rooms	1.00	0.95	1.00	1.00	1.00	1.00	/rooms	0.60	0.50	45	0.60	0.50	45
Employee			0.10	1.00	1.00	0.10	/rooms	1.00	0.90	0.10	1.00	1.00	0.10	/rooms	1.00	1.00	15	1.00	1.00	15
Office <25 ksf	6,108	sf GLA	0.30	1.00	1.00	0.30	/unit	0.94	1.00	0.03	1.00	1.00	0.03	/unit	0.45	0.80	1	0.40	0.80	0
Employee			3.03	1.00	1.00	3.03	/unit	0.97	1.00	3.30	1.00	1.00	3.30	/unit	1.00	0.80	15	0.40	0.80	6
															Customer		350	Customer		349
															Employee		79	Employee		70
															Reserved		0	Reserved		0
															Total		429	Total		419
															Shared Parking Reduction		31%			33%

ULI base data have been modified from default values.

Attachment I

City of Falls Church Zoning Ordinance

Sec. 48-1004. Table of use types.

In all districts off-street parking areas, off-street loading areas and standing spaces shall be provided in connection with, accessory to, and on the same premises as, each and every use, including municipal facilities, in the amount specified within this subsection. Certain modifications are permitted for mixed-use redevelopments as shown in division 5 of this article, as deemed appropriate by the planning commission and as regulated in section 48-971(2).

Use Types	Loading	Required Off-Street Parking and Standing Spaces
Cultural, Entertainment and Recreational Uses		
Amusements		
Billiards		1 per 200 sf of floor area
Miniature gold and outdoor installations		1 per 400 sf of the designated site area
Amusement arcades		1 per two amusement machines
Cultural Activities		
Art galleries, libraries, museums		1 per 400 sf of floor area
Botanical gardens/arboretums and zoos		1 per 500 sf of designated site area
Historical and monumental sites		Planning commission determination upon recommendation of historical commission
Parks		Planning commission determination based upon such criteria as the number of persons expected to use the facility at any one time, their means of transportation and the availability of on- or off-street parking spaces nearby.
Public Assembly		
Amphitheaters, band shells, coliseums, stadiums	2	1 per 3 seats or six-foot benches
Auditoriums, assembly halls, community centers, dance halls, legitimate and motion picture theatres		
Fixed seats	1	1 per 4 seats based on maximum seating capacity in main assembly
Without fixed seats	1	1 per 60 sf of floor area
Recreational Activity		
Day camp, outdoors		1 per 10 pupils, plus 1 per staff member
Gymnasiums	1	1 per 4 seats
Sports activities		
Bowling		
Indoor		5 per alley
Outdoor		1 per 400 sf of designated site area
Riding stables		1 per every 2 stalls
Skating, ice and roller		
Indoor		1 per 60 sf of floor area or 1 per 4 seats, whichever is greater
Outdoor		1 per 200 sf of designated site area
Swimming pools		1 per 54 sf of water surface area
Tennis courts		2 per court
Manufacturing		
Assembly, distribution, fabrication, packaging, processing; bottling, canning, chemical, chipping, curing, cutting, electrical, extruding, milling, punching, stamping, thermal	2	1 per 500 sf of floor area
Industrial research, development and testing	1	1 per 300 sf of floor area
Office		
Business, general and governmental buildings	1	1 per 300 sf of floor area

Professional office buildings, mixed professional uses composing 50 percent or more of the total floor area		1	1 per 250 sf of floor area
Residence			
Dwellings			
One-family detached and two-family semidetached			1 per dwelling unit
Multifamily			1.0 per efficiency unit, no bedroom 1.50 per one bedroom unit 2 per two bedroom unit 2 per three or more bedroom unit
Townhouse			2.5 per dwelling unit
Group quarters			
Boardinghouse, lodginghouse, or roominghouse			1 per residence unit, plus two spaces for employees
Convalescent, human care, nursing or rest home, sanitarium		1	1 per 4 beds of maximum capacity, plus 1 for every fulltime staff member on the maximum shift, and 1 per attending physician
Dormitory, fraternity or sorority			1 per 2 beds, plus one per 200 sf of floor area
Foster home			1 per full or parttime staff member
Religious accommodations			1 per 10 beds with a minimum of 4 spaces
Home occupations			According to specific use type
Transient lodgings			
Hotel and motel		1	1 per guestroom, plus one employee space per ten guestrooms
Tourist home			1 per guestroom, plus two spaces for employees
Prenatal and infant care counseling center in an R-1A or R-1B district			As required by special use permit conditions
Service			
Business services			
Advertising, adjustments and collections, bonding, consulting, consumer and mercantile credit, data processing, detective and protective, employment, stenographic, public relations			1 per 300 sf of floor area
Blueprinting, delivery, duplicating, hand tool rental, mailing, office equipment leasing and sales, photocopying and finishing, printing, trading stamps		1	1 per 200 sf of floor area
Warehousing and storage			
	Indoor	4	1 per 1,000 sf of floor area
	Outdoor	2	1 per 2,000 sf of total site area
	Self storage warehouse	*	1 per 400 sf of office floor area, plus 2 spaces for employees
Vehicle and wheeled equipment		1	1 per 1,000 sf of total site area
Contract construction services		2	1 per 500 sf of floor area
Educational services			
Day care and kindergarten			1 per 125 sf of floor area, plus 2 for employees
Nursery			1 per 175 sf of floor area, plus two per employee
Schools			
	Instructional		
	Arts, commercial, drafts, driving, physical culture, physically and mentally handicapped, professional		1 per 4 students of maximum capacity, plus 1 per classroom and 1 per fulltime staff member on maximum shift
	Parochial, private or public		
	Elementary, intermediate or junior high	1	1 per teacher, employee or administrator whether full or parttime, if activities of personnel are conducted between 8:00 a.m. and 4:00 p.m.
	High school or college or preparatory	1	1 per teacher, employee or administrator whether full or parttime, plus one for every 10 students of maximum enrollment or capacity

Finance, insurance and real estate services		
Banks, savings and loan associations		1 per 300 sf of floor area
Drive-in		5 standing spaces, per teller window
Insurance		1 per 300 sf of floor area
Real estate		1 per 200 sf of floor area
Governmental services		
Postal		
Window service	4	2 per employee, clerk or carrier on maximum shift
Mail handling station with no window service	4	1 per employee, clerk or carrier on maximum shift
Protection functions, fire, police		2 per fulltime employee on maximum shift
Armed forces recruitment		1 per employee on maximum shift
Personal services		
Apparel and accessory repair		1 per 200 sf of floor area
Barbershop, beauty salon		3 per 100 sf of floor area
Cemeteries		1 per 2,500 sf of total site area
Funeral home, crematory, mortuary	2	1 per four seats in chapels or parlors with fixed seats or one per 100 sf of floor area of assembly rooms without fixed seats for services, plus five for employees
Laundering, dry cleaning		
Automatic, self-service	1	1 per two cleaning or laundry machines
Depot	1	1 per 50 sf of floor area
On-premises finishing	1	1 per 200 sf of floor area
Other		1 per 200 sf of floor area
Professional services		
Architect, artist, attorney, engineer		1 per 300 sf of floor area
Medical		
Clinic, outpatient	1	1 per 200 sf of floor area
Dental office		1 per 300 sf of floor area
Life science laboratory and research	1	1 per 200 sf of floor area
Physician and surgeon		1 per 200 sf of floor area
Musician		1 per 300 sf of floor area
Other		1 per 300 sf of floor area
Veterinary		
Indoor	1	1 per 300 sf of floor area
Outdoor	1	1 per 500 sf of designated site area
Repair services		
Motor vehicle		
Maintenance and mechanical repair		2 per service bay for employee parking, 5 per bay for vehicle storage
Drive-through maintenance and mechanical repair		1 per service bay, plus 4 per bay for employee parking, 5 per bay for vehicle standing
Painting and bodywork		2 per service bay for employee parking, 10 per of first 3 bays for vehicle storage
Wash, full service		2 for employees, 10 spaces per service bay for vehicle standing
Wash, self service		5 per bay for vehicle standing
Note—Establishments offering a variety of motor vehicle repair and maintenance services shall be required to meet the requirements of this section per use type that will be present on site.		
General maintenance		
Indoor	1	1 per 400 sf of floor area
Outdoor	1	1 per 1,000 sf of total site area
Miscellaneous services		
Business and labor associations		1 per 100 sf of floor area
Churches, synagogues, temples and places of worship		1 per 4 seats in sanctuary

Civic, fraternal, political, private, religious and social, nonprofit associations			1 per 60 sf of floor area with a minimum of 10
Open air business and temporary stands not otherwise categorized by use type		1	1 per 200 sf of designated site area
Sign painters, cabinet, carpentry and refinishing		1	1 per 500 sf of floor area
Welfare and charitable centers			1 per 200 sf of floor area
Trade			
Retail			
Apparel and accessories			1 per 200 sf of floor area
Automotive			
	Accessory sales		
		Indoor	1	1 per 200 sf of floor area
		Outdoor	1	1 per 1,000 sf of total site area with a minimum of 10 spaces
	Dealership, New and Used		
		Indoor	2	1 per 400 sf of floor area devoted to display
		Outdoor	2	1 per 1,000 sf of total site area with a minimum of 10 spaces
	Inspection stations			5 standing spaces
	Gasoline service stations		1	2 standing spaces per fueling service bay, 3 vehicle storage spaces per service bay, 2 for employees, plus 1 employee space per service bay.
	Note—Gasoline stations shall provide 1 per 100 sf of floor area dedicated to sale of food and non-auto oriented goods in addition to other requirements.			
	Motorcycle and accessory sales		1	1 per 200 sf of floor area
	Marine		2	1 per 400 sf of floor area or site area devoted to display
Building materials, contractor supplies, hardware				
	Air conditioning, brick, concrete aggregates, electric, glass, heating, metals, plumbing, tile, wood			
		Indoor	2	1 per 400 sf of floor area
		Outdoor	2	1 per 1,000 sf of total site area
	Hardware		1	1 per 400 sf of floor area
	Storage of gravel, sand, etc., outdoors		2	1 per 1,000 sf of total site area
Food				
	Automobile oriented convenience food store		1	1 per 100 sf of floor area
	Baker, confectionery, dairy, delicatessen, groceries, meats, poultry, produce, seafood		1	1 per 200 sf of floor area
Furniture, home furnishings, household appliances, radio and television, rental, sales and service			1	1 per 400 sf of floor area
Garden supplies, greenhouses and nursery stock				
	Indoor		1	1 per 200 sf of floor area
	Outdoor		1	1 per 600 sf of designated site area
General merchandise, antiques, bicycles, books, department stores, drugs, dry goods, florist, jewelry, magazine, novelty, optical, pet, photographic, secondhand merchandise, sporting goods, stationery, tobacco, variety store and vending machine operation			1	1 per 200 sf of floor area
Machinery sales				
	Indoor		1	1 per 500 sf of floor area minimum 5 spaces
	Outdoor		1	1 per 1,000 sf of total site area
Restaurant, liquor outlet, tavern			1	1 per 100 sf of floor area
	Restaurant Drive-through			12 standing spaces, or as determined by use permit
Shopping center			2	1 per 250 sf of floor area
Wholesale, inventory, sales, storage not otherwise classified			2	1 per 1,000 sf of floor area devoted to enclosed storage
Transportation, Communication and Utility				

Automobile parking, attendant, shelter		1 per employee on the maximum shift
Communications facilities, broadcasting studios, message centers, telephone exchange, transmitting stations and towers		1 per 300 sf of floor area
Motor vehicle transportation		
Bus equipment maintenance and garaging	2	2 per service bay or stall, plus 1 per vehicle storage space
Motor freight equipment maintenance and garaging	2	2 per service bay or stall, plus 1 per vehicle storage space
Taxicab		
Equipment maintenance and garaging	1	2 per service bay or stall, plus 1 per vehicle storage space
Convenience stands		2 standing spaces
Utility-Generation plants, refuse disposal, regulating substations, sanitary landfills, storage, solid waste disposal	1	1 per 1,000 sf of total site area
*Loading spaces for self storage warehouse-1 space per 20,000 sf of floor area. sf = square feet.		

(Code 1973, § 81-60; Code 1982, § 38-31(d)(2); Ord. No. 619; Ord. No. 790; Ord. No. 804; Ord. No. 811; Ord. No. 924; Ord. No. 960, 2-23-1981; Ord. No. 999, 2-22-1982; Ord. No. 1021, 8-9-1982; Ord. No. 1039, 2-28-1983; Ord. No. 1051, 6-13-1983; Ord. No. 1081, 9-10-1984; Ord. No. 1083, 9-24-1984; Ord. No. 1139, 5-27-1986; Ord. No. 1188, 5-26-1987; Ord. No. 1203, 10-13-1987; Ord. No. 1227, 6-13-1988; Ord. No. 1263, 5-22-1989; Ord. No. 1277, § 6, 10-10-1989; Ord. No. 1382, 11-25-1991; Ord. No. 1477, 5-9-1994; Ord. No. 1590, 10-14-1997; Ord. No. 1636, 3-8-1999; Ord. No. 1766, 9-13-2004)

Sec. 48-1080. General requirements.

(a) *Evidence of control and future development potential.* All property to be developed within a MUR shall be a single parcel of land and shall not be subdivided, except in accordance with chapter 38, pertaining to subdivisions. Upon approval of a MUR site plan, any building permit, subdivision plat, subsequent site plans or amendment, or any other application for development shall be in substantial conformance with the approved site plan. Any such subsequent application will be reviewed on the basis that it will not:

(1) Impair the ability of the project to be developed, as approved;

(2) Jeopardize approved pedestrian, vehicular, or utility connections on the property;

(3) Adversely affect the practicality or cost of maintaining common or shared facilities on the property;

(4) Change the ability of reduced parking spacing under shared parking to meet needs; or

(5) Fragment the property in a manner to negate the intent of consolidation of parcels, as stated in section 48-1079

(b) *Minimum project area.* The site area for all MUR applications must be at least 2½ contiguous acres.

(c) *Affordable dwelling units.* All residential units are subject to the provisions of article VII of this chapter.

(d) *Parking requirements.* Parking requirements shall be met in accordance with individual use requirements, as described in division 2 of this article, or may take advantage of a shared parking or reduced parking approach described in the text and table of this subsection (d). Landscaping requirements for parking areas in section 48-940 do not apply to MUR applications. For MUR application landscaping requirements, see subsections (f) through (h) of this section. Applicants may choose one of the following shared parking or reduced parking options:

(1) *Specific use parking reductions.* Applicants may request from the planning commission, during the site plan process, a consideration for a reduction in the parking requirements of division 2 of this article for a specific use, if verifiable data is produced that supports a reduction in parking and loading spaces.

(2) *Parking reductions for use of alternative modes of transportation.* Applicants may request from the planning commission, during the site plan process, a consideration for a reduction in the parking requirements of division 2 of this article of up to 20 percent for reduced parking demands due to the use of or incentives for the use of modes of transportation other than single-occupancy vehicles, such as carpooling, metro shuttle buses, proximity to metro, or contribution to city transit services. Verifiable data must be produced that supports a reduction in parking for these purposes.

(3) *Shared parking.* Shared parking for developments containing a mix of uses.

a. When any land and/or buildings are contiguous to one another, and are used for two or more purposes, the number of parking spaces shall be computed by multiplying the minimum requirements in division 2 of this article by the appropriate percentage as shown in the following parking credit schedule for each of the five time periods. The number of parking spaces required for the mixed-use development is then determined by adding the results in each column. The column total that generates the highest number of parking spaces becomes the parking requirement.

Shared Parking Requirements by Time Period

Use	Weekday		Weekend		
	Day	Evening	Day	Evening	Night
Industrial/warehouses/business and professional offices, including medical and dental	100%	10%	10%	5%	5%

Retail business and service establishments	60%	90%	100%	70%	5%
Hotels/motels	75%	100%	75%	100%	75%
Restaurants	50%	100%	100%	100%	10%
Indoor commercial recreation establishments and nonadult theaters	40%	100%	80%	100%	10%
All other uses	100%	100%	100%	100%	100%
Note—Time periods:	Day: 6:00 a.m. to 6:00 p.m.				
	Evening: 6:00 p.m. to 12:00 midnight				
	Night: 12:00 midnight to 6:00 a.m.				

b. The following conditions shall apply to any parking facility for a development containing a mix of uses:

1. The mixed-use property and mixed-use shared parking facility must be owned by the same developer/owner or must be the subject of a recorded shared parking agreement made between current and future owners of the properties involved and shall convey with the land. Any such agreements must also contain a provision for parking facility maintenance. Any changes to the agreement must be approved by the planning commission. There cannot be greater than 500 linear feet, measured along the most appropriate walking route between the shared parking facility and the entrance to the establishments being served. Shared parking facilities located on a separate lot from the establishments being served must meet the requirements of division 2 of this article.
2. Parking for the handicapped spaces may not be shared or included in any shared parking calculation.
3. All shared parking spaces must be available for common use by all participants in the shared parking agreement. No reserved spaces may be part of the shared parking agreement.
4. The planning staff shall determine at the time of site plan approval that shared parking is possible and appropriate at the location proposed. Particular attention is needed to ensure that sufficient and convenient shortterm parking will be available to commercial establishments during the weekday daytime period. The shared parking spaces must be located in the most convenient and visible area of the parking facility nearest the establishment being served.
5. All subsequent changes in use require a new occupancy permit and proof that sufficient parking will be available. The table in subsection (d)(3)a of this section determines a minimum number of spaces required to receive occupancy permits.
6. The requirements described in the table in subsection (d)(3)a of this section apply to all proposed uses for any one phase of development in addition to the ultimate buildout for the development.
7. A parking facility, for the purposes of this section, is defined as a surface parking lot or group of lots, a parking structure, or a garage.

(4) *Surface parking.* Surface parking shall not occupy more than 25 percent of the gross site area. Parking at grade that is covered as the first level of a parking structure does not count within this 25 percent requirement. If development of a project will be phased, in accordance with section 48-1139, such that structured parking will not be built within the first phase and surface parking will occupy more than 25 percent of the gross site area, the applicant must show the ultimate plan for buildout of the site with a maximum of 25 percent of the gross site area dedicated to surface parking. A conditional use permit is required for any surface parking

facilities that occupy greater than 25 percent of the gross site area, during any phase of the development project. This conditional use permit shall place a time limit on the temporary allowance for greater than 25 percent surface parking. In addition, the applicant must comply with the general design standards in subsection (f) of this section and parking design and landscaping standards in subsections (f) through (h) of this section.

(e) *Setback requirements.* Development shall comply with a minimum project area perimeter-building setback of 14 feet from the face of the curb or if there is no curb, from the property line, and a maximum project area perimeter-building setback of 20 feet. In addition, in MUR 1 areas, residential townhouses shall be set back no less than 20 feet from the face of the curb. The 14-foot minimum setback requirement does not apply when the perimeter of a MUR project adjoins an R district, in which case the setback shall be no less than 20 feet. No setback regulations between the interior uses apply to MUR applications. Two exceptions apply to the 20-foot maximum setback condition. When either of the following conditions exist, there will be no maximum setback requirements:

(1) Public open spaces are created on the perimeter that serves the uses adjoining it.

(2) Ancillary parking facilities are created on the perimeter that is bounded on three sides by retail space.

(f) *General design requirements.* Pursuant to the city Charter, section 17.10, all development in MUR areas must be in accordance with the design and appearance standards as set forth in the city's community appearance plan. These community appearance plan standards are designed to promote developments of excellent design and architecture that create a main street-type appearance on Broad and Washington Streets, and that are compatible with the surrounding area. In addition, the following design standards must be met:

(1) Buildings that front on Broad Street and Washington Street shall contain the following pedestrian-friendly features:

a. Direct access to pedestrian ways serving the use and to adjacent public streets.

b. Provision of seating, landscaping, lighting, and artistic or architectural embellishments on building facades and in public open spaces.

c. Architectural details in building facades that break up large blank walls.

d. Large first floor display windows that provide visual access into buildings for pedestrians and drivers.

(2) Wherever possible, parking and loading spaces shall be located to the rear of structures and shall be screened, in accordance with the requirements of this division.

(3) When parking areas are permitted to front on Broad Street, Washington Street, or Maple Avenue, decorative pavement materials, such as brick pavers or cobblestones, or textured pavement, shall be integrated with standard asphalt or concrete pavement treatments.

(4) Structures shall be designed and constructed to include features, such as: facade setbacks and recesses for purposes of plazas, arcades, open space, and streetscape features or furniture; different architectural treatment of ground-level areas; canopies and awnings for functional purposes and visual interest, balconies, terraces, and yards for use and visual interest; wall materials that reflect materials in the nearby street frontage; facade offsets, pitched and varied rooflines, textured materials, and like devices to visually lessen the bulk of buildings that are greater in bulk than generally permitted in the zoning district.

(5) The visual impact of structured parking facilities should be reduced through design and topography.

(6) If residential townhouses or apartments are permitted and constructed within MUR application areas, they shall be physically and functionally integrated within the overall development, such that there are pedestrian connections to the remainder of the development and such that any buffers do not physically impede these connections.

(g) *Streetscape improvement requirements.* Streetscape improvements, that are consistent with the design shown in the city's adopted streetscape plan, shall be provided along all frontages on public

streets for which streetscape plans have been adopted. Landscaping within setback areas should be compatible with, if not an extension of, the streetscape treatments in the public right-of-way. Landscaped areas within the streetscape shall not count towards the landscaping and open space requirements of subsection (h) of this section.

(h) *Landscaping and open space requirements.* Section 48-940 does not apply to MUR applications. The remainder of division 2 of this article is applicable.

(1) All MUR site plan applications must contain a landscaping plan. A minimum of 15 percent of the gross site area must be landscaped open space. The term "landscaped open space" is defined in section 48-2. This 15 percent may include up to five feet of landscaped perimeter setback areas. A five-foot landscaped open space area, as defined in section 48-2, must be included on all MUR application area perimeter streets as part of the 14- to 20-foot required perimeter setback. MUR application area perimeters that are not bounded by street frontage and abut properties outside of the MUR application area must comply with the site screening requirements of this section. Five percent of the interior of all surface parking facilities must be landscaped. The internal area of a parking facility is defined by the perimeter of the curbs or edge of paving. This five percent of interior surface parking areas may also be included within the 15 percent gross site area requirement. Structured parking facilities must include a minimum of two percent of landscaped area on the top decks, with the remaining three percent to be planted adjacent to the ground level of the parking structure. Rear townhouse yards cannot be applied to the 15 percent landscaped open space requirement. The following standards also apply to the 15 percent gross site area landscaped open space requirements:

a. The five percent landscaping requirement for the interior of surface parking areas must be in the form of islands which must include a mixture of shade trees, shrubs, groundcover, and perennials to maximize shade potential and visual buffers. Each island must contain a minimum of one canopy tree and 150 square feet.

b. Best management practices shall be employed in establishing stormwater management techniques, as described in the Falls Church Watershed Management Plan, section 4.0.

c. The two percent landscaping requirement for the top decks of structured parking facilities should include three-foot perimeter planters at certain locations and corner planters with shade trees. The majority of the remaining three percent of landscaping adjacent to the ground level of the structure should be comprised of evergreen screening with the capacity to grow to a minimum of eight feet in height.

d. Landscaping within the required perimeter setback area shall include street-type shade trees, measuring from two to 2½ inches in caliper, planted at intervals of 30 to 40 feet. In addition, a combination of large shrubs, small shrubs, and groundcover (not to include turf grass) arranged formally or informally, that will cover the entire area at maturity, shall be required. Groundcover shall not comprise more than 15 percent of the site screen area. Large shrubs shall measure at least 30 inches in height at the time of planting and reach a minimum mature height of 3½ feet. Small shrubs shall measure at least 18 inches in height at the time of planting and reach a maximum of 3½ feet at maturity. Enough large shrubs must be planted to maintain a visual buffer the length of the setback area, if a MUR area perimeter is adjacent to an adjoining property and is not separated by a street, subsection (h)(2) of this section will govern the requirements for that section of the perimeter.

e. All plant materials must be inspected by the city arborist prior to planting and shall meet the city's approved plant list and commercial site planting requirements. Installation may be spot checked by the city arborist.

f. Landscaped open space shall be consolidated into useable areas when possible.

(2) Site screening is required between adjoining uses and development not separated by a street at a MUR application area perimeter. All MUR site plan applications must adhere to the

following site screening requirements to provide a visual buffer between adjoining uses. These requirements apply only to perimeter boundaries of any MUR application and not to district separations that are interior to a MUR application area. Site screening requirements vary depending on the intensity of both the district in which a use is proposed and its neighboring district.

a. *Site screening requirement A.* A ten-foot wide landscaped planting strip shall include street-type shade trees, measuring from two to 2½ inches in caliper, planted at intervals of 30 to 40 feet. In addition, a combination of large shrubs, small shrubs, and groundcover (not to include turf grass), arranged formally or informally, that will cover the entire area at maturity shall be required. Groundcover shall not comprise more than 15 percent of the site screen area. Large shrubs shall measure at least 30 inches in height at the time of planting and reach a minimum mature height of 3½ feet. Small shrubs shall measure at least 18 inches in height at the time of planting and reach a maximum of 3½ feet at maturity. Enough large shrubs must be planted to maintain a visual buffer the length of the site screen area. All species must be approved by the city arborist.

b. *Site screening requirement B.* A ten-foot wide landscaped planting strip shall include street-type shade trees, measuring from two to 2½ inches in caliper, planted at intervals of 30 to 40 feet. In addition, a combination of large shrubs, small shrubs, and groundcover (not to include turf grass), arranged formally or informally, that will cover the entire area at maturity shall be required. Groundcover shall not comprise more than 15 percent of the site screen area. Large shrubs shall measure at least 30 inches in height at the time of planting and reach a minimum mature height of 3½ feet. Small shrubs shall measure at least 18 inches in height at the time of planting and reach a maximum of 3½ feet at maturity. Enough large shrubs must be planted to maintain a visual buffer the length of the site screen area. In addition to this vegetation, a screening element of at least six feet in height must be created to consist of either a masonry wall, a combined three foot high earthen berm with the required landscaping located atop the berm, or a solid wood fence. All species must be approved by the city arborist.

c. *Site screening requirement C.*

   1. A seven-foot-wide landscaped planting strip shall include evergreen trees planted at intervals of six to ten feet, measuring a minimum of six feet in height at the time of planting and reaching a minimum height of 12 feet at maturity. In addition to this vegetation, a screening element of at least six feet in height must be created to consist of either a masonry wall or a solid wood fence. All species must be approved by the city arborist.

2. Requirements A, B, and C are standards for the size and site screening area and the density and type of landscaping/planting. The developer may substitute a higher site screening requirement, requirement C being higher than B, and B being higher than A. In certain situations, as designated in the table in this subsection, either site screening requirement B or C may be used. Existing trees and other vegetation may be used for site screening, if they are healthy and are approved as part of the landscaping plan by the city arborist. All site screening required by this section must be installed prior to the occupancy of the use. Where compliance with this regulation is not possible because of seasonal planting limitations, the city arborist shall grant an appropriate delay.

Zoning district in which the	Zoning district in which each adjacent use is located

proposed use or development is located	Lower	District intensity								Higher		
	R-1A	R-1B	R-C	R-TH	R-M	O-D	T-1	T-2	B-1	B-2	B-3	M-1
R-M	B or C	B or C	B or C	B or C	A	B or C	A	A	A	A	A	B or C
T-1	B or C	B or C	B or C	B or C	A	A	A	A	A	A	A	B or C
T-2	B or C	B or C	B or C	B or C	A	A	A	A	A	A	A	B or C
B-1	B or C	B or C	B or C	B or C	A	A	A	A	A	A	A	B or C
B-2	B or C	B or C	B or C	B or C	A	A	A	A	A	A	A	B or C
B-3	B or C	B or C	B or C	B or C	B or C	A	A	A	A	A	A	B or C
M-1	B or C	B or C	B or C	B or C	B or C	B or C	B or C	B or C	B or C	B or C	B or C	A

(i) MUR application requirements and procedures in addition to division 7 of this article, pertaining to site plan requirement, are as follows:

(1) *Requirements.* In addition to the site plan application requirements in division 7 of this article, a complete MUR application shall include the following:

a. A statement of how the proposed development will be consistent with the city comprehensive plan and its future land use plan map.

b. A statement of how the proposed development will be consistent with article VII of this chapter pertaining to affordable dwelling units.

c. A statement of how the proposed development will be consistent with the design and appearance standards as set forth in the city's community appearance plan.

d. A table including the total number of square feet of floor area that will be dedicated to specific permitted uses as required by section 48-1081

e. A statement of the floor area ratio of the project as a whole, and number of townhouse units per acre, if applicable.

f. A statement of number of parking spaces, and if utilized, an explanation of how shared parking reduction formulas in subsections (d)(1) through (3) of this section are being applied.

g. Location of and gross number of square feet of each area to be counted as landscaped open space in meeting the 15 percent requirement of subsection (h) of this section.

h. Location of public uses such as schools, parks, playgrounds, and other useable open space, if any are proposed.

i. A statement of the expected schedule of development.

j. A fiscal impact assessment of the proposed project, including the number of projected school age children. All projected costs and revenues associated with the proposed development must be stated in both average and marginal terms.

k. An analysis of traffic impacts associated with the development proposal.

l. A three-dimensional massing model of the proposed development. This may be submitted as a hand drawing or computer-aided drawing.

m. A statement of all anticipated off-site improvements, such as roads, sewer and drainage facilities, or other public improvements, necessary to construct the proposed development, as well as other amenities.

(2) *Procedure.*

a. All MUR applications will be processed as described in division 7 of this article. The planning director will initially review the conceptual plan and application based on the established MUR criteria. Following this review, there shall be a pre-site plan filing concept meeting with the planning commission, staff and applicant to provide

comments prior to significant site plan engineering and formal site plan filing under division 7 of this article;

b. MUR applicants may apply for phased site plan review per section 48-1139. It is preferred that the commercial components of approved MUR site plans be constructed prior to or simultaneous with the residential components; however, any one of the following options is allowed for the phasing of the residential component of MUR projects:

1. *Option 1.* No more than 50 percent of the building permits for residential units displayed on an approved MUR site plan may be granted prior to an approved footer inspection for all new commercial construction displayed on that approved site plan;

2. *Option 2.* One hundred percent of building permits for residential units displayed on an approved MUR site plan may be granted prior to an approved footer inspection for all new commercial construction displayed on that approved site plan, if a letter of credit or bond is posted in the amount of 25 percent of the cost constructing all new commercial structures and parking facilities displayed on the approved site plan;

c. *Option 3.* One hundred percent of building permits for residential units displayed on an approved MUR site plan may be granted following the completion and satisfactory inspection of all site preparation requirements including site preparation; earthwork; utility services; drainage/containment; foundation/load bearing elements; tunneling, boring and jacking; and bases, ballasts, pavements, and appurtenances, for the entire MUR application site as displayed on the approved site plan and subdivision. In addition, the posting of a letter of credit or bond in the amount of the cost of constructing all of the parking facilities displayed on the approved site plan is required for the use of this option; or

d. *Option 4.* Application for any phasing options other than those listed above may be made to the city council, which may, in its discretion, and following consideration by council of the recommendation of the planning commission, grant a construction phasing permit that shall meet the public purposes expressed in this division, pertaining to MUR. For purposes of this option, the planning commission shall report its recommendation to the city council within 45 days of the date of referral of the applicant's complete application the planning commission. Notwithstanding any other provision, this option 4, shall not become effective until such time as the council adopts appropriate standards for the implementation and administration of this option.

The preexisting commercial structures within a MUR application area shall not be basis for receiving residential building permits prior to the footer inspections for all commercial structures shown on the approved site plan.

(Code 1982, § 38-34(a)(2); Ord. No. 1636, 3-8-1999; Ord. No. 1670, 3-13-2000; Ord. No. 1671, 4-10-2000)

Attachment II

Parking Count Summaries

Table 3
Circle Towers Parking Study
Site Parking Occupancy Count Summary

Hour	Tuesday April 20, 2010	Total Occupied Spaces Thursday April 22, 2010	Saturday April 24, 2010
6:00 AM	778	840	830
7:00 AM	726	830	818
8:00 AM	653	643	769
9:00 AM	569	540	716
10:00 AM	494	520	672
11:00 AM	465	471	587
12:00 PM	477	491	561
1:00 PM	462	469	584
2:00 PM	452	436	559
3:00 PM	462	454	535
4:00 PM	474	456	520
5:00 PM	493	447	546
6:00 PM	493	466	552
7:00 PM	570	550	570
8:00 PM	604	626	590
9:00 PM	675	685	597
10:00 PM	728	738	628
11:00 PM	753	784	698
12:00 AM	752	818	718
Max. Occupancy	778	840	830

Meridian At Carlyle
Summary of Parking Occupancy/Demand

Date	Time	Occupied Spaces	Percent Occupied	Spaces per Occupied Unit
Weekday				
5/24/2001	10:00 PM	265	53%	0.78
5/25/2001	2:00 AM	296	60%	0.87
5/30/2001	10:00 PM	285	57%	0.84
5/31/2001	2:00 AM	306	62%	0.90
5/31/2001	10:00 PM	276	56%	0.82
6/1/2001	2:00 AM	316	64%	0.93
6/1/2001	10:00 PM	272	55%	0.80
6/2/2001	2:00 AM	288	58%	0.85
Average		288	58%	0.85
Saturday				
6/2/2001	10:00 PM	238	48%	0.70
6/3/2001	2:00 AM	281	57%	0.83
Average		260	52%	0.77
Parking Supply		496		
Occupied Units		339		

Warwick I
Summary of Parking Occupancy/Demand

Date	Time	Occupied Spaces	Percent Occupied	Spaces per Occupied Unit
Weekday				
5/15/2001	10:00 PM	251	73%	0.81
5/16/2001	10:00 PM	250	73%	0.81
5/17/2001	2:00 AM	285	83%	0.92
5/17/2001	10:00 PM	253	74%	0.82
5/18/2001	2:00 AM	279	82%	0.90
5/18/2001	10:00 PM	223	65%	0.72
5/19/2001	2:00 AM	253	74%	0.82
5/22/2001	10:00 PM	262	77%	0.85
5/23/2001	2:00 AM	292	85%	0.94
5/23/2001	10:00 PM	258	75%	0.83
5/24/2001	2:00 AM	278	81%	0.90
5/24/2001	10:00 PM	248	73%	0.80
5/25/2001	2:00 AM	281	82%	0.91
Average		263	77%	0.85
Saturday				
5/12/2001	10:00 PM	231	68%	0.75
5/13/2001	2:00 AM	268	78%	0.86
5/19/2001	10:00 PM	231	68%	0.75
5/20/2001	2:00 AM	250	73%	0.81
Average		245	72%	0.79
Parking Supply		342		
Occupied Units		310		

Courtland Park
Summary of Parking Occupancy/Demand

Date	Time	Occupied Spaces	Percent Occupied	Spaces per Occupied Unit
Weekday				
5/30/2001	10:00 PM	230	87%	0.87
5/31/2001	2:00 AM	258	97%	0.98
5/31/2001	10:00 PM	206	78%	0.78
6/1/2001	2:00 AM	255	96%	0.97
6/1/2001	10:00 PM	193	73%	0.73
6/2/2001	2:00 AM	239	90%	0.91
Average		230	87%	0.87
Saturday				
6/2/2001	10:00 PM	197	74%	0.75
6/3/2001	2:00 AM	231	87%	0.88
Average		214	81%	0.81
Parking Supply (1)		404		
Resident Parking Allocation		265		
Occupied Units		264		

Note: (1) Approved site plan references 265 spaces reserved for resident use. Percent occupancy calculated based on percent of resident allocation.

Fairfax Towers
Summary of Parking Occupancy/Demand

Date	Time	Occupied Spaces	Percent Occupied	Spaces per Occupied Unit
Weekday				
5/23/2001	10:00 PM	437	79%	1.15
5/24/2001	2:00 AM	487	88%	1.28
5/24/2001	10:00 PM	410	74%	1.08
5/25/2001	2:00 AM	483	88%	1.27
5/30/2001	10:00 PM	441	80%	1.16
5/31/2001	2:00 AM	506	92%	1.33
5/31/2001	10:00 PM	484	88%	1.27
6/1/2001	2:00 AM	506	92%	1.33
6/1/2001	10:00 PM	402	73%	1.06
6/2/2001	2:00 AM	485	88%	1.28
Average		464	84%	1.22
Saturday				
6/2/2001	10:00 PM	422	77%	1.11
6/3/2001	2:00 AM	489	89%	1.29
Average		456	83%	1.20
Parking Supply		551		
Occupied Units		380		

Ravensworth Towers
Summary of Parking Occupancy/Demand

Date	Time	Occupied Spaces	Percent Occupied	Spaces per Occupied Unit
Weekday				
5/16/2001	10:00 PM	253	72%	1.18
5/17/2001	2:00 AM	269	76%	1.26
5/17/2001	10:00 PM	234	66%	1.09
5/18/2001	2:00 AM	257	73%	1.20
5/18/2001	10:00 PM	227	64%	1.06
5/19/2001	2:00 AM	257	73%	1.20
5/22/2001	10:00 PM	246	70%	1.15
5/23/2001	2:00 AM	271	77%	1.27
5/23/2001	10:00 PM	250	71%	1.17
5/24/2001	2:00 AM	273	77%	1.28
Average		254	72%	1.19
Saturday				
5/19/2001	10:00 PM	221	63%	1.03
5/20/2001	2:00 AM	246	70%	1.15
Average		234	66%	1.09
Parking Supply		353		
Occupied Units		214		

Springfield Station
Summary of Parking Occupancy/Demand

Date	Time	Occupied Spaces	Percent Occupied	Spaces per Occupied Unit
Weekday				
12/13/1999	12:00 AM	786	84%	1.26
12/14/1999	12:00 AM	805	86%	1.29
12/15/1999	12:00 AM	795	85%	1.28
12/16/1999	12:00 AM	773	83%	1.24
12/17/1999	12:00 AM	781	84%	1.25
Average		788	84%	1.26
Saturday				
12/11/1999	12:00 AM	764	82%	1.23
Average		764	82%	1.23
Parking Supply		933		
Occupied Units		623		

Attachment III

Other Locality Parking Requirements

ARTICLE 11

OFF-STREET PARKING AND LOADING, PRIVATE STREETS

PART 1 11-100 OFF-STREET PARKING

11-101 Applicability

1. Except as provided for in a Commercial Revitalization District, in any R, C or I district, all structures built and all uses established hereafter shall provide accessory off-street parking in accordance with the following regulations, and in a P district, the provisions of this Part shall have general application as determined by the Director.

2. The provision of off-street parking for a change in use and/or an expansion or enlargement of an existing structure and/or use shall be in accordance with the following:

   A. When there is a change in use to a use which has the same or lesser parking requirement than the previous use, no additional parking shall be required. When there is a change to a use which has a greater parking requirement than the previous use, the minimum off-street parking requirement in accordance with the provisions of this Article shall be provided for the new use.

   B. When an existing structure and/or use is expanded or enlarged, the minimum off-street parking requirements in accordance with the provisions of this Article shall be provided for the area or capacity of such expansion or enlargement. However, compliance with the minimum off-street parking requirements shall not be required for the expansion or enlargement when such expansion or enlargement is to provide an accessibility improvement.

   Notwithstanding the above, for special permit and special exception uses, the respective approving body may require the provision of off-street parking in accordance with this Article for the entire structure or use as expanded or enlarged.

3. The provisions of this Part shall not be deemed to apply to motor vehicle storage or display parking areas associated with a vehicle sale, rental and ancillary service establishment, except as may be qualified elsewhere in this Ordinance.

11-102 General Provisions

1. All required off-street parking spaces shall be located on the same lot as the structure or use to which they are accessory or on a lot contiguous thereto which has the same zoning classification, and is either under the same ownership, or is subject to agreements or arrangements satisfactory to the Director that will ensure the permanent availability of such spaces.

   Provided, however, where there are practical difficulties or if the public safety and/or public convenience would be better served by the location other than on the same lot or on a contiguous lot with the use to which it is accessory, the Board, acting upon a specific request, may authorize such alternative location subject to conditions it deems appropriate and the following:

A. Such required space shall be subject to agreements or arrangements satisfactory to the Board that will ensure the permanent availability of such spaces, and

B. The applicant shall demonstrate to the Board's satisfaction that such required space shall be generally located within 500 feet walking distance of a building entrance to the use that such space serves or such space will be provided off-site with access via a valet or shuttle service subject to agreements or arrangements approved by the Board which will ensure the operation of such service and that there will not be any adverse impacts on the site of the parking spaces or the adjacent area, or

C. Such required space shall be accommodated in accordance with the provisions of Par. 6 below.

In a Commercial Revitalization District, the Director may approve an alternative location in accordance with the above and the provisions of the Commercial Revitalization District.

2. When provided as an accessibility improvement, accessible off-street parking spaces and related access aisles and accessible routes shall be in accordance with the provisions of the VUSBC and the Public Facilities Manual. The number of accessible parking spaces shall be included in the required number of parking spaces. Each such accessible parking space shall be designated as reserved for persons with disabilities by an above grade sign in conformance with the design and content specifications of the Public Facilities Manual.

3. No off-street parking facilities for a structure or use permitted only in a C or I district shall be located in an R district except upon approval as a special exception by the Board as provided in Part 6 of Article 9.

4. Off-street parking spaces may serve two (2) or more uses; however, in such case, the total number of such spaces must equal the sum of the spaces required for each separate use except:

A. As may be permitted under Paragraphs 5, 22, 26 and 27 below and Par. 3 of Sect. 106 below; or

B. That the Board may, subject to conditions it deems appropriate, reduce the total number of parking spaces required by the strict application of this Part when the applicant has demonstrated to the Board's satisfaction that fewer spaces than those required by this Part will adequately serve two (2) or more uses by reason of the hourly parking accumulation characteristics of such uses and such reduction will not adversely affect the site or the adjacent area.

Notwithstanding the above, required off-street parking spaces and their appurtenant aisles and driveways which are not fully utilized during the weekday may be used for a public commuter park-and-ride lot when such lot is established and operated in accordance with a public commuter park-and-ride lot agreement approved by the Board.

In addition, for a use where the minimum number of required parking spaces is provided on site in accordance with this Part, but additional off-site parking may be

desired, the Director may, subject to conditions the Director deems appropriate, approve the use of a portion of an adjacent site's required parking spaces, when the applicant has demonstrated to the Director's satisfaction that the use of such spaces on the adjacent site will not adversely affect such site or the adjacent area by reason of the hourly parking accumulation characteristics of such uses.

5. Within the area in proximity to a mass transit station, which station either exists or is programmed for completion within the same time frame as the completion of the subject development, or along a corridor served by a mass transit facility, which facility is conveniently accessible to the proposed use and offers a regular scheduled service, the Board may, subject to conditions it deems appropriate, reduce the number of off-street parking spaces otherwise required by the strict application of the provisions of this Part. Such reduction may be approved when the applicant has demonstrated to the Board's satisfaction that the spaces proposed to be eliminated are unnecessary based on the projected reduction in the parking demand resulting from the proximity of the transit station or mass transit facility and such reduction in parking spaces will not adversely affect the site or the adjacent area.

6. Within areas designated as Community Business Centers on the adopted comprehensive plan, the Board may waive the requirement that all required off-street parking spaces be located on the same lot or on a contiguous lot as set forth in Par. 1 above, provided the following conditions are met:

   A. The developer shall apply to the Director stating the circumstances which make it impracticable to meet the requirements of this Part, and

   B. The developer shall agree to pay to the County a sum for each space so eliminated, such sum to be set by the Board in an annually adopted schedule, and

   C. The County has plans for the erection of a public parking facility in the immediate area of the request, and

   D. The County has provided for the development of such parking, at a time and in a quantity sufficient to meet the needs of the applicant's proposed use.

7. All required off-street parking spaces and their appurtenant aisles and driveways shall be deemed to be required space on the lot on which the same are situated and shall not be encroached upon or reduced in any manner except upon approval by the Board in accordance with the provisions of this Ordinance, or except upon approval by the Director in any of the following circumstances. This provision shall not be deemed to negate pipestem lots otherwise allowed under the provisions of Sect. 2-406.

   A. Such space may be reduced by the amount to which other space, conforming to the provisions of this Ordinance, is provided for the use that is involved, or

   B. Such space may be reduced by an amount which is justified by a reduction in the need for such space by reason of a reduction in the size or change in the nature of the use to which such is appurtenant, or

C. Such space may be reduced by reason of the provision of conveniently available parking space in a parking lot established by a public authority for which the developer has made payment in accordance with the provisions of Par. 6 above, or

D. Such space may be reduced for an existing structure or use to provide an accessibility improvement.

8. Except as may be qualified elsewhere in this Ordinance, off-street parking spaces that are located on the ground and are open to the sky may be located in any required yard but not closer than ten (10) feet to any front lot line, unless modified by the Board or BZA pursuant to Part 2 of Article 13; except that this ten (10) foot minimum distance shall not be required between parking spaces provided for single family attached dwellings in parking bays and the front lot lines of single family detached dwelling unit lots and shall not apply to parking spaces provided for and on the same lot with single family detached or attached dwellings, provided such space shall not encroach into any sidewalk or trail.

For single family detached dwellings on lots containing 36,000 square feet or less in the R-1, R-2, R-3 and R-4 Districts, all parking for vehicles or trailers in a front yard shall be on a surfaced area, provided, however, that this shall not be deemed to preclude temporary parking on an unsurfaced area in a front yard for a period not to exceed forty-eight (48) hours for loading, unloading, cleaning or repair of vehicles or trailers. In addition, in the R-1 and R-2 Districts, no more than twenty-five (25) percent of any front yard and in the R-3 and R-4 Districts, no more than thirty (30) percent of any front yard shall be surfaced area for a driveway or vehicle/trailer parking area; provided, however, that these limitations may be exceeded for a surfaced area that is:

A. Directly contiguous with, and providing primary access to, two (2) side-by-side parking spaces as long as the surfaced area is not more than twenty-five (25) feet long and eighteen (18) feet wide;

B. On a lot which has its primary access from a major thoroughfare and consists of two (2) side-by-side parking spaces and a vehicular turn-around area as long as the surfaced area is not more than twenty-five (25) feet long and eighteen (18) feet wide and the turn-around area does not exceed 150 square feet; or

C. Provided as an accessibility improvement as approved by the Zoning Administrator.

Surfaced area shall include asphalt, poured or precast concrete, brick, stone, gravel, or any other impervious surface, or grasscrete or other similar pervious surface. On a pipestem lot, the surfaced area within the pipestem driveway shall not be included in this limitation.

Except as may be qualified elsewhere in this Ordinance, parking structures and carports shall be subject to the minimum yard requirements applicable in the zoning district in which located; except parking structures that are completely underground may be located in any required yard, but not closer than one (1) foot to any lot line.

9. All off-street parking facilities shall be used solely for the parking of vehicles in operating condition by patrons, occupants or employees of the use to which such parking is accessory.

No motor vehicle repair work except emergency service shall be permitted in association with any required off-street parking facilities.

10. All off-street parking space shall be provided with safe and convenient access to a street. If any such space is located contiguous to a street, the street side thereof shall be curbed, and ingress and egress shall be provided only through driveway openings through the curb of such dimension, location and construction as may be approved by the Director in accordance with the provisions of the Public Facilities Manual.

11. All off-street parking areas, including aisles and driveways, except those required for single family detached dwellings, shall be constructed and maintained with a dustless surface in accordance with construction standards presented in the Public Facilities Manual; however, the Director may approve a modification or waiver of the dustless surface requirement in accordance with the Public Facilities Manual.

12. All off-street parking spaces and areas shall comply with the geometric design standards presented in the Public Facilities Manual. All parking spaces, except those provided for and on the same lot with single family detached and attached dwellings, shall be clearly marked in accordance with the design guidelines set forth in the Public Facilities Manual and shall be subject to the approval of the Director.

    Except for public commuter park-and-ride lots which utilize existing off-street parking spaces accessory to another use, any proposal to redesignate parking space delineations which changes the existing space size, configuration or number shall require the submission to and approval by the Director of a plan certified by an engineer or land surveyor authorized by the State to practice as such. Such plan shall show all off-street parking spaces, related driveways, loading spaces and walkways, indicating type of surfacing, size, angle of stalls, width of aisles and a specific schedule showing the number of parking spaces provided and the number required by the provisions of this Article. No plan shall be approved which reduces the number of parking spaces below the minimum number required by this Article.

    Notwithstanding the above, a redesignation plan to provide an accessibility improvement need not be certified by an engineer or land surveyor and any such plan which reduces the number of parking spaces below the minimum requirements of this Article may be approved.

13. All required stacking spaces shall be a minimum of eighteen (18) feet in length. In addition, the geometric design of the stacking aisle(s), including but not limited to the radius and width of the travel aisle, shall be subject to the approval of the Director.

14. All lighting fixtures used to illuminate off-street parking areas shall be in conformance with the performance standards for outdoor lighting set forth in Part 9 of Article 14.

15. All off-street parking areas shall comply with the provisions for landscaping and screening presented in Article 13.

16. Parking spaces required on an employee/person basis in the Sections that follow shall be based on the maximum number of employees/persons on duty or residing, or both, on the premises at any one time, or the occupancy load of the building, whichever is greater.

17. Where a given use or building contains a combination of uses as set forth in the following Sections, parking shall be provided on the basis of the sum of the required spaces for each use, except as may be permitted by Par. 22 below.

18. If there is uncertainty with respect to the amount of parking spaces required by the provisions of this Ordinance as a result of an indefiniteness as to the proposed use of a building or of land, the maximum requirement for the general type of use that is involved shall govern.

19. Where the required number of parking spaces is not set forth for a particular use in the following Sections, and where there is no similar general type of use listed, the Zoning Administrator shall determine the basis of the number of spaces to be provided.

20. The Board may reduce the total number of stacking spaces required by the strict application of the provisions of this Part when it has been conclusively demonstrated that circumstances, site design or location do not warrant the number of spaces required and that such reduction will not adversely affect pedestrian or vehicular circulation on the site or on any abutting street.

21. When the number of spaces calculated in accordance with the provisions of this Article results in a number containing a fraction, the required number of spaces shall be the next higher whole number.

22. Accessory service uses, as permitted by Paragraphs 2 and 3 of Sect. 10-202, which are located within the building of a principal use, and which serve the occupants, their patients, clients or customers, may be parked in accordance with the parking requirement for the principal use; provided, however, that the total gross floor area for all such uses shall not exceed fifteen (15) percent of the total gross floor area of the building; that no signs for the accessory service uses shall be visible from the outside of the building; and that the hours of operation for such uses shall be limited to between 6:00 AM and 6:00 PM, Monday through Friday.

23. The same or fewer number of compact car parking spaces existing as of or grandfathered by the Board of Supervisors on September 19, 1988 may be retained in accordance with the conditions of the compact car approval, provided that the total number of parking spaces on-site is not reduced, except if:

    A. Such reduction is to provide an accessibility improvement, or

    B. Such reduction is a result of a reduction in land area by condemnation or by acquisition for public purposes by any governmental agency.

24. Additional off-street parking may be added to an existing development which met the parking requirement in effect at the time of its development, but which does not comply with the current requirements, in order to minimize the degree of current noncompliance.

25. Except as qualified below, for purposes of determining off-street parking requirements, gross floor area shall be determined in accordance with the gross floor area definition except that:

A. Outdoor display/sales area and that area within a cellar that is not used exclusively for storage or for mechanical equipment shall be included as gross floor area; and

B. Mall areas in shopping centers of less than 1,000,000 square feet of gross floor area, which shall be calculated as consisting of the sum of all floors in the mall, measured from the interior faces of the walls of the mall, shall be excluded from gross floor area.

26. In conjunction with the approval of a proffer to establish a transportation demand management (TDM) program, or if a development is subject to an approved proffer for the establishment of a TDM program, the Board may, subject to conditions it deems appropriate, reduce the number of off-street parking spaces otherwise required by the strict application of the provisions of this Part when the applicant has demonstrated to the Board's satisfaction that, due to the proffered TDM program, the spaces proposed to be eliminated for a site are unnecessary and such reduction in parking spaces will not adversely affect the site or the adjacent area. In no event shall the reduction in the number of required spaces exceed the projected reduction in parking demand specified by the proffered TDM program.

For the purposes of this provision, a proffered TDM program shall include: a projected reduction in parking demand expressed as a percentage of overall parking demand and the basis for such projection; the TDM program actions to be taken by the applicant to reduce the parking demand; a requirement by the applicant to periodically monitor and report to the County as to whether the projected reductions are being achieved; and a commitment and plan whereby the applicant shall provide additional parking spaces in an amount equivalent to the reduction should the TDM program not result in the projected reduction in parking demand.

27. For a hotel and/or conference/convention center in proximity to an airport, the Board may, subject to conditions it deems appropriate, reduce the total number of off-street parking spaces otherwise required by the strict application of the provisions of this Part, when it is warranted by a parking study, submitted by the applicant, which demonstrates that a reduction is justified based on actual parking usages at existing developments which are comparable in use and location.

28. The minimum off-street parking requirements for any non-residential use within the Lake Anne Commercial Revitalization Area as designated by the Board of Supervisors may be reduced by twenty (20) percent by the Board when it is demonstrated by the applicant and determined by the Board that such reduction is in furtherance of the goals of the Area as set forth in the adopted comprehensive plan. Such request may also be considered in conjunction with a rezoning and/or special exception application. The fee for a parking reduction set forth in Sect. 17-109 shall not be applicable.

11-103 Minimum Required Spaces for Residential and Lodging Uses

Minimum off-street parking spaces accessory to the uses hereinafter designated shall be provided as follows:

1. Bed and Breakfast:

Two (2) spaces per single family dwelling, provided that only one (1) such space must have convenient access to a street, plus one (1) space per guest room in the bed and breakfast

2. Dormitory, Fraternity or Sorority House, or Other Residence Hall Located Off Campus:

   One (1) space per two (2) sleeping accommodations based on the occupancy load of the building, plus one (1) additional space for each housemother, manager or employee

3. Dwelling, Single Family Detached:

   Two (2) spaces per unit for lots with frontage on a public street and three (3) spaces per unit for lots with frontage on a private street, provided that only one (1) such space must have convenient access to a street

4. Dwelling, Single Family Attached:

   Two and seven-tenths (2.7) spaces per unit, provided, however, that only one (1) such space must have convenient access to the street

5. Dwelling, Multiple Family:

   One and six-tenths (1.6) spaces per unit

6. Hotel, Motel:

   One (1) space per rental unit, plus four (4) spaces per fifty (50) rental units, plus such spaces as are required for eating establishments, assembly rooms and affiliated facilities as determined by the Director

7. Independent Living Facility

   One (1) space per four (4) dwelling units, plus one (1) space per one (1) employee or staff member on the major shift, or such greater number as the Board may require

8. Mobile Home:

   One and one-half (1.5) spaces per unit

9. Nursing, Convalescent, Assisted Living or Congregate Living Facility:

   One (1) space per three (3) residents, plus one (1) additional space for each employee

10. Tourist House, Boarding House, Rooming House:

    One (1) space per guest accommodation

11-104 Minimum Required Spaces for Commercial and Related Uses

Minimum off-street parking spaces accessory to the uses hereinafter designated shall be provided as follows:

1. Bowling Alley:

   Four (4) spaces per alley, plus one (1) space per employee, plus such additional spaces as may be required herein for affiliated uses such as eating establishments

2. Business Service and Supply Service Establishment:

   One (1) space per 300 square feet of gross floor area

3. Car Wash:

   Four (4) spaces per bay/stall plus one (1) space per employee for a self-service establishment, or one (1) space per employee, plus sufficient area for ten (10) stacking spaces per bay/stall for an automated establishment

4. Convenience Center:

   One (1) space per 500 square feet of net floor area plus one (1) space per employee, but never to exceed a total number of six (6) spaces

5. Drive-In Financial Institution:

   Four (4) spaces per 1000 square feet of gross floor area for customer service, lobby and teller area, plus additional space as required herein for any associated offices. In addition, there shall be eight (8) stacking spaces in front of the first window and two (2) stacking spaces in front of each additional window; except that five (5) stacking spaces may be permitted in front of each of the first two (2) windows, provided that both windows shall always remain open when the drive-in facility is operational

6. Drive-Through Pharmacy:

   As required in Par. 20 below, plus five (5) stacking spaces in front of each drive-through window

7. Eating Establishment or Commercial Recreation Restaurant:

   One (1) space per four (4) seats plus one (1) space per two (2) employees where seating is at tables,

   and/or

   One (1) space per two (2) seats plus one (1) space per two (2) employees where seating is at a counter

8. Fast Food Restaurant:

One (1) space per two (2) seats for table and/or counter seating, whether such seating facilities are inside or outside. For fast food restaurant with no seating facilities, one (1) space per sixty (60) square feet of net floor area with a minimum of ten (10) spaces

9. Fast Food Restaurant With Drive-In Facilities:

As required in Par. 8 above, plus eleven (11) stacking spaces for the drive-in window, with a minimum of five (5) such spaces designated for the ordering station. Such spaces shall be designed so as not to impede pedestrians or vehicular circulation on the site or on any abutting street

10. Financial Institution:

Four (4) spaces per 1000 square feet of gross floor area for customer service, lobby and teller area; plus additional spaces as required herein for any associated offices

11. Furniture or Carpet Store:

One (1) space per 500 square feet of net floor area, plus one (1) space for each employee

12. Garment Cleaning Establishment:

One (1) space per 200 square feet of gross floor area

13. Home Professional Office:

As determined by the BZA, a sufficient number of spaces to accommodate all employees plus the largest number of persons that may be expected at any one time

14. Office (unless otherwise provided for in this Section):

A. 50,000 square feet of gross floor area or less: Three and six-tenths (3.6) spaces per 1000 square feet of gross floor area

B. Greater than 50,000 but less than 125,000 square feet of gross floor area: Three (3.0) spaces per 1000 square feet of gross floor area

C. 125,000 square feet of gross floor area or more: Two and six-tenths (2.6) spaces per 1000 square feet of gross floor area

For purposes of determining whether Par. A, B or C is applicable, the size of the office building shall be based on the definition of gross floor area as set forth in Article 20 and where more than one (1) office building is located on a lot, such gross floor area shall be based on each individual building and not on the total gross floor area of all buildings on

the lot. However, once the applicable paragraph is determined, gross floor area as qualified in Sect. 102 above shall be used to determine the required number of parking spaces.

For purposes of this provision, buildings connected by structures such as atriums, awnings, breezeways, carports, garages, party walls, or plazas shall not be deemed to be one (1) building.

15. Outdoor Sales/Display Area other than Vehicle Sale, Rental and Ancillary Service Establishment:

    One (1) space per 500 square feet of open sales/display area plus one (1) space per employee

16. Personal Service Establishment:

    One (1) space per 200 square feet of gross floor area

17. Quick-Service Food Store:

    Six and one half (6.5) spaces per 1000 square feet of gross floor area

18. Recreational Facility other than Theatre, Auditorium, Stadium, Bowling Alley or Swimming Pool:

    One (1) space per three (3) persons based on the occupancy load plus one (1) space per employee

19. Repair Service Establishment:

    One (1) space per 200 square feet of gross floor area

20. Retail Sales Establishment and Retail Sales Establishment-Large, except Furniture or Carpet Store:

    One (1) space per 200 square feet of net floor area for the first 1000 square feet, plus six (6) spaces per each additional 1000 square feet

21. Service Station:

    Two (2) spaces per service bay, plus one (1) space per employee, but never less than five (5) spaces

22. Service Station/Mini-Mart, Combination Service Station and Quick-Service Food Store:

    Two (2) spaces per service bay, plus six and one half (6.5) spaces per 1000 square feet of gross floor area devoted to the retail use

23. Shopping Center:

A. 100,000 square feet of gross floor area or less: Four and three-tenths (4.3) spaces per 1000 square feet of gross floor area

B. Greater than 100,000 but equal to or less than 400,000 square feet of gross floor area: Four (4) spaces per 1000 square feet of gross floor area

C. Greater than 400,000 but less than 1,000,000 square feet of gross floor area: Four and eight tenths (4.8) spaces per 1000 square feet of gross floor area

D. 1,000,000 square feet of gross floor area or more: Four (4) spaces per 1000 square feet of gross floor area

For purposes of determining whether Par. A, B, C or D above is applicable, the size of the shopping center shall be based on the definition of gross floor area as set forth in Article 20, and shall be inclusive of any gross floor area devoted to offices, eating establishments and hotels. The gross floor area calculation as qualified in Sect. 102 above shall then be used to determine the required number of parking spaces.

The off-street parking requirement set forth above shall be applicable to all uses in a shopping center, except that the area occupied by offices, eating establishments and hotels shall be parked in accordance with the applicable standards for such uses as set forth in this Section. For shopping centers subject to Par. A, B or C above, the area occupied by theaters shall be parked in accordance with the applicable shopping center requirement, provided that for theaters with more than 2000 seats, an additional three-tenths (0.3) space shall be provided for each seat above 2000 seats. For shopping centers subject to Par. D above, the area occupied by theaters shall be parked in accordance with the applicable shopping center requirement, provided that for theaters with more than 750 seats, an additional six (6) spaces shall be provided for each 100 seats above 750 seats.

In addition, for all shopping centers, stacking spaces as required by this Part shall be provided for those uses which have drive-in facilities.

24. Swimming Pool, Commercial:

One (1) space per four (4) persons lawfully permitted in the pool at one time, plus one (1) space per employee

25. Theatre, Auditorium or Stadium:

Three-tenths (0.3) space per seat or similar vantage accommodation

26. Vehicle Light Service Establishment:

One (1) space per 200 square feet of net floor area, plus two (2) spaces per service bay, plus one (1) space per employee

27. Vehicle Major Service Establishment:

Two (2) spaces per service bay, plus one (1) space per employee

28. Vehicle Sale, Rental and Ancillary Service Establishment:

One (1) space per 500 square feet of enclosed sales/rental floor area, plus one (1) space per 2500 square feet of open sales/rental display lot area, plus two (2) spaces per service bay, plus one (1) space per employee, but never less than five (5) spaces

29. Vehicle Transportation Service Establishment:

Based on the size and maximum number of company vehicles stored on site with a minimum of one (1) space per (1) employee on major shift, plus one (1) space per company vehicle stored on site.

30. Veterinary Hospital, Kennel:

A. 5000 square feet of gross floor area or less: Ten (10) spaces

B. Greater than 5000 square feet of gross floor area: Ten (10) spaces plus additional spaces as determined by the Director, based on a review of each proposal to include such factors as the number of spaces required to accommodate both employees and visitors expected at the site

For the purpose of this requirement, gross floor area shall not include any outdoor exercise/dog run area, which is enclosed by a roof and/or fencing material.

31. Wholesale Trade Establishment:

One (1) space per 1.5 employees, plus one (1) space per company vehicle, but with a minimum of one (1) space per 1000 square feet of gross floor area

11-105 Minimum Required Spaces for Industrial and Related Uses

Minimum off-street parking spaces accessory to the uses hereinafter designated shall be provided as follows:

1. Manufacturing establishment or establishment for production, processing, assembly, compounding, preparation, cleaning, servicing, testing, repair or storage of materials, goods or products, and business offices accessory thereto:

One (1) space per one (1) employee on major shift, plus one (1) space per company vehicle and piece of mobile equipment

2. Heavy Equipment and Specialized Vehicle Sale, Rental and Service Establishment:

One (1) space per 500 square feet of enclosed sales/rental floor area, plus one (1) space per 2500 square feet of open sales/rental display lot area, plus two (2) spaces per service bay, plus one (1) space per employee, but never less than five (5) spaces

3. Mini-Warehousing Establishment:

Three and two-tenths (3.2) spaces per 1000 square feet of gross floor area of office space associated with the use plus one (1) space per employee, and two (2) spaces for a resident manager. The width of travel aisles for vehicular access and loading and unloading shall be subject to the approval of the Director

4. Scientific Research and Development Establishment:

   One (1) space per 1.5 employees based on the occupancy load, plus one (1) space per company vehicle

5. Warehousing, Storage Yard, Lumber and Building Material Yard, Motor Freight Terminal or Junk Yard:

   One (1) space per 1.5 employees on major shift, plus one (1) space per company vehicle, plus sufficient space to accommodate the largest number of visitors that may be expected at any one time, but with a minimum of one (1) space per 1000 square feet of gross floor area

6. Mixed Waste Reclamation Facilities and Recycling Centers:

   One (1) space per one (1) employee on major shift, plus one (1) space per company vehicle

7. Truck Rental Establishment:

   One (1) space per 500 square feet of enclosed sales/rental floor area, plus one (1) space per 2500 square feet of open sales/rental display lot area, plus one (1) space per employee, but never less than five (5) spaces. Provided however, when the enclosed office/sales/rental area or employees are shared with another use for which parking has been provided, only the open sales/rental display area shall be separately parked.

11-106 Minimum Required Spaces for Other Uses

Minimum off-street spaces accessory to the uses hereinafter designated shall be provided as follows:

1. Airport, Airpark or Airfield:

   One (1) space per employee, plus (1) space for each vehicle used in connection with the facility, plus sufficient space to accommodate the largest number of vehicles that may be expected at any one time

2. Child Care Center or Nursery School:

   A. 0.19 space per child for a center or school which has a maximum daily enrollment of 99 children or less

   B. 0.16 space per child for a center or school which has a maximum daily enrollment of 100 or more children

3. Church, Chapel, Temple, Synagogue or Other Such Place of Worship:

One (1) space per four (4) seats in the principal place of worship; provided that the number of spaces thus required may be reduced by the Director, subject to conditions the Director deems appropriate, by not more than fifty (50) percent if the place of worship is generally located within 500 feet of any public parking lot or any commercial parking lot where sufficient spaces are available by permission of the owner(s) without charge, during the time of services to make up the additional spaces required.

For places of worship with child care centers, nursery schools and/or schools of general or special education, the Director may, subject to conditions the Director deems appropriate, reduce the total number of parking spaces required by the strict application of this Part for such child care centers, nursery schools and/or schools of general or special education when the Director has determined that fewer spaces than those required will adequately serve all the uses on-site due to their respective hourly parking accumulation characteristics.

4. College or University:

Based on a review by the Director of each proposal including such factors as the occupancy load of all classroom facilities, auditoriums and stadiums, the availability of mass transportation, and the availability of areas on site that can be used for auxiliary parking in times of peak demand; but in no instance less than one (1) space per faculty and staff member and other full-time employee, plus a sufficient number of spaces to accommodate the anticipated number of students and visitors who will drive to the institution at any one time

5. Cultural Center, Museum or Similar Facility:

One (1) space per 300 square feet of gross floor area

6. Country Club:

One (1) space per four (4) members based on maximum anticipated membership

7. School of Special Education:

Two (2) spaces per each three (3) employees, plus a sufficient number of spaces to accommodate all persons who may be at the establishment at any one time under normal operating conditions

8. Funeral Chapel, Funeral Home:

One (1) space per four (4) seats in the main chapel or parlor, plus one (1) space per two (2) employees, plus one (1) space for each vehicle used in connection with the business

9. Heliport:

One (1) space per employee, plus one (1) space for each vehicle used in connection with the facility, plus sufficient space to accommodate the largest number of visitors that may be expected at any one time

10. Helistop:

A minimum of five (5) spaces for commercial helistops and a minimum of two (2) spaces for non-commercial helistops

11. Hospital:

Two and nine-tenths (2.9) spaces per bed licensed by the Commonwealth of Virginia, plus additional or fewer spaces as deemed necessary based on specific analysis for each site

12. Institution providing Intensive Special Medical/Mental Care or Welfare Institution:

One (1) space per two (2) patients, based on the occupancy load, plus one (1) space per employee or staff member on a major shift

13. Library:

Seven (7) spaces per 1000 square feet of gross floor area

14. Parks:

A. Neighborhood Parks:

(1) The Director shall determine the parking for residential neighborhood parks, which parks are designed to serve surrounding residential developments, where access is primarily by foot or bicycle, and which may contain facilities such as tot lots, playgrounds, picnic tables, multi-use courts, tennis courts, gardens, open play areas and trails. The review shall consider factors such as whether access to the park is provided solely from a local street, collector street, minor or principal arterial street; the extent to which pedestrian access is afforded to the park and the reasonableness of the walking distance to the park from the surrounding development; the location of the park in relation to the surrounding development and the density of the surrounding development the park is predominately intended to serve; and the extent of the proposed recreation uses or facilities. However, if tennis courts are provided, a minimum of two (2) spaces per tennis court shall be required.

(2) For urban parks no parking shall be required, provided such parks consist of urban style plazas, miniparks, and greenways, including trails, located within, contiguous to, or immediately across the street from urban, suburban and community business centers as defined in the adopted comprehensive plan, are oriented to pedestrian and/or bicycle use by the resident work force and adjacent residents, and provide open space and pedestrian oriented amenities.

B. Community, District, Countywide and Regional Parks:

As determined by the Director, based on the parking requirements for the most similar type of use or facility set forth herein.

15. Private, Civic, Fraternal Club or Lodge:

One (1) space per three (3) members based on maximum anticipated membership

16. Public Utility Establishment:

One (1) space per 1.5 employees on the major shift, plus one (1) space per company vehicle

17. School, Elementary or Intermediate, Public or Private School of General Education:

Based on a review by the Director of each proposal including such factors as the occupancy load of all classroom facilities, auditoriums and stadiums, proposed special education programs, and student-teacher ratios, and the availability of areas on site that can be used for auxiliary parking in times of peak demand; but in no instance less than one (1) space per faculty and staff member and other full-time employee, plus four (4) spaces for visitors

18. School, High School, Public or Private School of General Education:

Based on a review by the Director of each proposal including such factors as the occupancy load of all classroom facilities, auditoriums and stadiums, proposed special education programs, and student-teacher ratios, and the availability of areas on site that can be used for auxiliary parking in times of peak demand; but in no instance less than three-tenths (0.3) space per student, based on the maximum number of students attending classes at any one time

19. Swimming Pool, Community:

One (1) space for every seven (7) persons lawfully permitted in the pool at one time, plus one (1) space per employee, subject to a lesser number determined by the Director which is in accordance with that number of members who are within a reasonable walking distance of the pool

20. Tennis Club:

Four (4) spaces per court, plus such additional spaces as may be required herein for affiliated uses such as eating establishments

21. Public Uses not set forth above:

As determined by the Director, based on a review of each proposal to include such factors as the number of spaces required to accommodate employees, public use

vehicles anticipated to be on site at any one time, visitor parking and the availability of areas on site that can be used for auxiliary parking in times of peak demand. In no instance, however, shall the number of spaces required for government office use be less than that required herein for general office use

- If sufficient off-site parking is not available, additional on-site parking may be provided on condition that TDM goals are not jeopardized and that once all phases are constructed, parking ratios for the total development will not exceed the maximum values in Table 6.
- Parking in excess of the parking ratios in Table 6 should be available to the public at appropriate parking fees where possible.

In Non-TOD Districts and for residential development within TOD Districts, a parking plan can be submitted along with a development application that justifies parking levels below the minimums indicated in Table 6. The parking plan should indicate the techniques to be applied to justify a lower level of parking.

Table 6
Parking Ratios for Tysons Corner

Parking Spaces Per Unit or Spaces Per 1,000 sq. ft.									
Use	**Previous (2009)**	**< 1/8 mile Metro Station**		**1/8 - 1/4 mile Metro Station**		**1/4 - 1/2 mile Metro Station**		**Non-TOD**	
	Min.	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
Townhouse	2.7	1.75	2.2	1.75	2.2	2.0	2.5	2.0	2.7
Multifamily									
0-1 bedroom	1.6	1.0	1.3	1.0	1.3	1.1	1.4	1.1	1.4
2 bedroom	1.6	1.0	1.6	1.0	1.6	1.35	1.7	1.35	1.7
3+ bedroom	1.6	1.0	1.9	1.0	1.9	1.6	2.0	1.6	2.0
Hotel/Motel	1.08	none	1.0	none	1.0	none	1.05	0.85	1.08
Office	2.6	none	1.6	none	2.0	none	2.2	2.0	2.4

Notes:

1. For retail and service uses located in TOD areas not listed in Table 6, minimum parking requirements enumerated in Sections 11-103, 11-104, 11-105, and 11-106 of the Zoning Ordinance should be used as maximum parking requirements; in non-TOD Districts, the minimum required parking should be 75% of the minimum parking requirement in the Zoning Ordinance and the maximum should be 110% of the referenced minimum.

2. To encourage convenient retail and service uses within walking distance of office and residential development, the first 5,000 square feet of accessory retail and service uses in any such building should have no parking spaces allocated in the parking plan, nor should it be counted toward the maximum parking requirement.

As the Tysons Corner area is developed, and the land use and transportation infrastructure matures, parking requirements should be examined to determine if they are adequate for the changing conditions. Rather than supplying parking for each individual use, parking should be treated as a common resource for multiple uses. Implementing this practice will reap many advantages in creating a more walkable environment. Providing transit service, an effective mix of uses, and an appropriate network of sidewalks will reduce automobile use and, consequently, the need to provide parking.

Additional methods listed below should be pursued to ensure the appropriate amount of parking is provided.

- Encouraging shared parking arrangements across parcel lines.

City of Alexandria Parking Requirements

ARTICLE VIII. OFF-STREET PARKING AND LOADING

Sec. 8-100 Off-street parking required.
Sec. 8-200 General parking regulations.
Sec. 8-300 Central business district.
Sec. 8-400 King Street Transit Parking District.
Sec. 8-500 Waterfront parking exemption.
Sec. 8-600 Motor vehicle parking or storage in the RM zone.

Sec. 8-100 Off-street parking required.

(A) (1)*General requirement.* No land shall be used or changed in use, no structure or building shall be constructed, and no existing structure or building shall be changed in use, significantly enlarged or significantly altered as those terms are defined in section 8-200(F)(4), unless the off-street parking required by this Article VIII is provided for the entire land, structure or building.

(2) *Special requirement.* No existing building or structure shall be enlarged as that term is defined in section 8-200(F)(4) unless the off-street parking required by this Article VIII is provided for such enlargement.

(3) *Statutory exception.* Land, buildings or structures actually in use or constructed as of January 27, 1987, and prior thereto are exempted from the requirements of this Article VIII to the extent provided in section 8-200(F).

(4) *Reduction of requirement by special use permit.* A special use permit may be obtained pursuant to section 11-500, which authorizes the provision of less off-street parking than is otherwise required by this Article VIII, subject to the following:

(a) The special use permit applicant shall demonstrate that providing the required parking would be infeasible.

(b) If the requested reduction exceeds five parking spaces, the special use permit applicant shall propose and have approved as a condition of the permit a parking management plan which shall include reasonable and effective measures, appropriate to the size, scale and location of the use, building or structure, which will mitigate the impacts of the proposed reduction in parking.

(c) City council, upon consideration of the special use permit application, finds that the proposed reduction in parking will not have an adverse impact on the nearby neighborhood, and that the application otherwise complies with the standards for approval set forth in section 11-504.

(d) A special use permit may not reduce the number of off-street parking spaces otherwise required below the number of spaces which are provided at the time of the permit application, unless allowed by another provision of this ordinance or required by extraordinary circumstances.

(5) *Alternative reduction of requirement.* Required parking may be reduced in conjunction with the provision of low and moderate income housing as provided in section 7-700, and required parking may be reduced or waived where alley or interior court access is infeasible, in the RM zone pursuant to section 3-1107 and in the Old and Historic Alexandria District, Parker-Gray District, Town of Potomac Historic District, Rosemont Historic District and for designated buildings over 100 years old, pursuant to section 8-200(C)(5).

(B) It shall be unlawful to diminish the off-street parking facility required for any structure or premises by this Article VIII, unless another such facility, meeting all the requirements, is substituted.

(C) Notwithstanding the requirements of this Article VIII, those projects subject to approval under section 11-700 regarding Transportation Management Special Use Permits shall be required to provide for parking and loading in compliance with that section and the approved special use permit.

(Ord. No. 3620, § 1, 3-20-93; Ord. No. 3713, § 3, 3-19-94)

Sec. 8-200 General parking regulations.

(A) *Schedule of requirements.* The following number of parking spaces shall be provided for each use listed. In the case of any use not listed in this section 8-200(A), the requirements of the most similar listed use shall apply. The requirements of this section 8-200(A) may be reduced when special zoning allows parking reductions and the required approvals of the director and the director of transportation and environmental services have been obtained and the conditions of said approval are complied with.

(1) *Single-family detached, two-family and row or townhouse dwellings:* two (2.0) spaces per dwelling unit for single-family detached, two-family, and townhouse dwellings.

(2) *Multifamily dwellings.*

(a) One and three-tenths (1.30) spaces for each unit up to and including one bedroom unit.

(b) One and three quarters (1.75) spaces for each two bedroom unit;

(c) Two and two-tenths (2.20) spaces for each three bedroom unit or larger.

(3) *Boardinghouses and rooming houses:* one space for each four guest rooms; provided, that the number of off-street parking spaces for any rooming house or boarding house authorized by a special use permit granted by city council after December 12, 1987, shall be determined by council when granting, and shall be as set forth in, the special use permit.

(4) *Tourist homes:* one space for each two guest rooms.

(5) *Hotels or motels:* one space for each guest room or dwelling unit except that for buildings over three stories in height, one space for each two guest rooms or dwelling units; provided, that on sites for which preliminary site plans have been approved after July 6, 1966, one space for each guest room or dwelling unit plus one employee parking space for each 15 guest rooms or dwelling units or major fraction thereof. See also section 8-200(B)(21).

(6) *Hospitals, nursing homes, sanitariums and convalescent homes:* one space for each two patient beds.

(7) *Community buildings, fraternal organizations, civic clubs, lodges, museums, libraries and similar uses:* one space for each 200 square feet of floor area.

(8) *Theaters, auditoriums, assembly halls and restaurants:* one space for each four seats except that for restaurants used to serve employees, but not the general public, of a multi-story office building of four stories or more in height and located entirely within such building with no direct ingress or egress to the

restaurant from the exterior of the building except those required for service and emergency purposes and without any sign identifying such restaurant from the exterior of the restaurant or building: one space for each eight seats. Provided that this exception shall be permitted only with a special use permit.

(9) *Clinics, medical or dental:* one space for each 200 square feet of floor area.

(10) *Churches:* one space for each five seats in the principal auditorium or one space for each ten classroom seats, whichever is greater.

(11) *Schools, elementary:* one space for each 25 classroom seats. Schools, high: one space for each ten classroom seats. Schools, day nursery or nursery: two spaces for each classroom. Schools, commercial, including, but not limited to, secretarial, conservatories, art and craft and the like: one space for each two seats.

(12) *Automobile service stations:* one space for each gasoline pump.

(13) *Amusement enterprises (indoor):* one space for each 200 square feet of floor area on all floors.

(14) *Amusement enterprises (outdoor):* one space for each 400 square feet of lot area.

(15) *Homes for the elderly:* one space per each two units plus one space for each two guest rooms, except for homes for the low income elderly, one space per each four units plus one space for each four guest rooms only with a special use permit.

(16) *Retail uses:* the required number of parking spaces shall be determined by Table A.

(17) *Nonretail uses, including, but not limited to, personal service shops, equipment and repair businesses and the like:* one space for each 400 square feet of floor area.

Retail uses: the required number of parking spaces shall be determined by the following table:

TABLE INSET:

Total Floor Area in Square Feet per Floor		Required Number of Parking Spaces per Given Square Feet of Floor Area												
Not Less Than	Not More Than	Ground floor Parking Districts						Other Floors Parking Districts						
			1	2	3	4	5	6	1	2	3	4	5	6
--	1,500	1 per 200	1.1 per 200	1.2 per 200	1.2 per 200	1.2 per 200	1 per 200	1 per 300	1.1 per 300	1.2 per 300	1.2 per 300	1.2 per 300	1 per 300	
1,500	5,000	1 per 210	1.1 per 210	1.2 per 210	1.2 per 210	1.2 per 210	1 per 210	1 per 310	1.1 per 310	1.2 per 310	1.2 per 310	1.2 per 310	1 per 310	
5,000	20,000	1 per 220	1.1 per 220	1.2 per 220	1.2 per 220	1.2 per 220	1 per 220	1 per 320	1.1 per 320	1.2 per 320	1.2 per 320	1.2 per 320	1 per 320	

20,000	--	1 per 230	1.1 per 230	1.2 per 230	1.2 per 230	1.2 per 230	1 per 230	1 per 330	1.1 per 330	1.2 per 330	1.2 per 330	1.2 per 330	1 per 330

(18) *Office buildings, including commercial, governmental and professional:*

(a) The required number and type of parking spaces shall be determined by the following table:

In Parking Districts

(spaces required/square feet of floor area)

TABLE INSET:

	1	2	3	4	5	6
Minimum	1/500	1/450	1/475	1/475	1/475	1/600
Minimum car pool space set aside	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%

Parking district 6 shall encompass the area located within a radius of 2,000 feet from any entrance to any Washington/Metropolitan Transit Authority rail station. The boundaries of this and parking districts 1 through 5 shall be shown on the map designated "City of Alexandria Parking District Boundaries," dated May 26, 1987, signed by the mayor, the clerk of the council, the chairman of the planning commission, which map is on file in the office of the planning commission and which is hereby made a part of this Article VIII.

(b) The car pool parking spaces required by section 8-200(A)(18)(a) above to be provided in conjunction with an office building shall be reserved for car pool vehicles until 10:30 a.m. on work days. Each space so reserved and provided without charge for car pool vehicles may be counted as three spaces toward the minimum number of parking spaces required for an office building. For purposes of this section 8-200(A)(18), a car pool shall mean three or more people traveling together on a continuing and prearranged basis in a private motor vehicle. Each space similarly reserved and provided without charge for van pool vehicles may be counted as eight spaces toward the minimum number of parking spaces required for an office building. For purposes of this section 8-200 (A)(18), a van pool shall mean eight or more people traveling together on a continuing and prearranged basis in a motor vehicle designed for the transportation of persons. The provision of transit fare media (flash passes, tickets and tokens) at 100 percent subsidy to occupants of an office building may be used to reduce the required number of parking spaces on the basis of one space for each two persons for whom such transit fare media are provided on an annual basis. The total reduction attributable to the provision of car pool vehicle parking spaces, van pool vehicle parking spaces, and transit fare media shall not exceed 30 percent of the total number of parking spaces required by section 8-200 (A)(a) above. Compliance with these provisions allowing reductions in the number of required parking spaces where car pool and van pool spaces are provided without charge and where subsidized transit fare media are provided to building occupants shall be established in an annual report

prepared by the office building owner or occupant and submitted to the director. Failure to adhere to these provisions shall result in disallowance of the credit allowed hereunder to the extent of the failure to adhere.

(19) *Industrial warehouse building:*

(a) Where 75 percent or more of the floor area of the building is used for long-term storage the following provisions shall apply: one space for each 400 square feet of office area of all floors, in addition to the following requirements:

TABLE INSET:

Total Floor Area in Square Feet Per Floor (Excluding Office Floor Area)		Required Parking Space Per Given Square Feet of Floor Area
Not Less Than	Not More Than	
--	5,000	1 space per 2,500 square feet (or one per floor whichever is greater)
5,000	10,000	1 space per 3,000 square feet (or one space per floor whichever is greater)
50,000	--	1 space per 7,000 square feet (or one space per floor whichever is greater)

(b) For the purpose of this section 8-200(A)(19), long-term storage shall mean the storage of items for more than 30 days.

(20) *Industrial buildings used for other than long-term storage purposes:*

(a) One space for each 400 square feet of office area of all floors, in addition to the requirements of the following table:

(b) The parking requirements for industrial uses in this section 8-200(A)(20) shall be considered sufficient for industrial users having a maximum of 20 employees.

(c) Additional parking shall be required at a rate of one parking space for each three employees in excess of 20.

(d) Parking requirements shall at no time be considered sufficient for any other use of the premises, and additional spaces shall be provided to meet requirements when there is any change to a different industrial use or to a commercial use.

TABLE INSET:

Total Floor Area in Square Feet per Floor (excluding office floor area)		Required Number of Parking Spaces per Given Square Feet of Floor Area Parking Districts												
Not More Than	Not Less Than								1	2	3	4	5	6
--	5,000	1 sp. per 400 sq.	1.1 sp. per 400 sq.	1.2 sp. per 400 sq.	1.2 sp. per 400 sq.	1.2 sp. per 400 sq.	1.1 sp. per 400 sq.							

		ft.	ft.	ft.	ft.	ft.	ft.	
5,000	10,000	1 sp. per 500 sq. ft.	1.1 sp. per 500 sq. ft.	1.2 sp. per 500 sq. ft.	1.2 sp. per 500 sq. ft.	1.2 sp. per 500 sq. ft.	1.1 sp. per 500 sq. ft.	
10,000	--	1 sp. per 600 sq. ft.	1.1 sp. per 600 sq. ft.	1.2 sp. per 600 sq. ft.	1.2 sp. per 600 sq. ft.	1.2 sp. per 600 sq. ft.	1.1 sp. per 600 sq. ft.	

(21) Hotels within parking district 1 shall provide a minimum of .7 parking space per room and one parking space per each eight restaurant and meeting room seats. For purposes of this section 8-200(A)(21), a room shall be defined as an enclosed, private and secure area designed to provide overnight accommodation to not more than four persons.

(B) *Loading and unloading areas required.*

(1) Separate from the required off-street parking requirements of section 8-200 (A) and on the same premises with every building or structure erected and occupied for manufacturing, storage, warehouse, goods display, retail store, whole sale business, hotel, hospital, laundry, dry cleaning or other uses similarly involving the receipt or distribution by vehicles of materials or merchandise, there shall be provided and maintained adequate off-street space for standing, loading and unloading purposes.

(2) At least one off-street space shall be provided for each 20,000 square feet of floor area or fraction thereof used or intended to be used for any of the above purposes; provided, that this provision shall not apply to buildings or structures containing less than 2,500 square feet of floor area.

(3) Such off-street loading space shall be a minimum of 12 feet in width, 14 1/2 feet in clearance height and a depth sufficient to accommodate the largest delivery trucks serving the establishment, but in no case shall such length be less than 25 feet.

(4) All loading and unloading berths shall be surfaced with a bituminous or other dust-free surface, and if the loading berths front on a public street, the trucks shall at no time project onto the sidewalk or street.

(5) This section 8-200(B) shall not apply to buildings erected or occupied prior to June 25, 1963, unless there is an increase in floor area of more than 33 percent.

(C) *Location of parking facilities.*

(1) For all single-family detached and two-family residential dwellings, required off-street parking facilities shall be located on the same lot as the main building.

(2) For all multifamily dwellings, required off-street parking facilities shall be located on the same lot as the main building lot, on a lot separated from the main building lot by an alley or directly across the street from the main building when separated by a minor local street only.

(3) For all commercial or industrial uses, the distance from the off-street parking

facility to the commercial or industrial use which it serves shall not exceed 500 feet from the nearest corner of the lot containing the structure to the nearest usable portion of the lot used for parking, provided that such off-street parking facility shall be permitted on land in a commercial or industrial zone only.

(4) For all other uses, including, but not limited to churches, private and fraternal clubs, private and public schools and social service buildings, such required off-street parking shall be located on the same lot as the main building or on a lot immediately contiguous to the main building lot; except, that off-street parking may be permitted within 300 feet with a special use permit.

(5) *Access to parking, required or otherwise,* shall be limited as follows:

(a) Within the Old and Historic Alexandria District, access to all parking shall be provided from an alley or interior court. Upon a finding by the planning commission or director that it is clearly not feasible to provide such access, a waiver as to part or all of any parking requirement may be granted by the planning commission as part of its site plan review or, if no site plan is required, by the director.

(b) Within the Parker-Gray District, access to all parking shall be from an alley or interior court. Upon a finding by the director that such access is clearly not feasible, an application for a curb cut to provide access may be filed with the director of transportation and environmental services who shall, after review by the director and the director of transportation and environmental services, and provided the application meets the criteria of section 5-2-14(c) of the city code, docket the matter for hearing before the Parker-Gray District board of architectural review. The board of architectural review shall approve or deny the application based on whether the location and nature of the proposed curb cut and associated parking facility is compatible with the character and architectural style of the developed blockface. The decision of the board of architectural review may be appealed to city council pursuant to section 10-207. If approval of a curb cut as specified in this subparagraph is not granted, then a waiver as to part or all of any parking requirement may be granted by the planning commission as part of its site plan review, or, if no site plan is required, by the director.

(c) For buildings or structures over 100 years old designated for preservation pursuant to section 10-300, access to all parking shall be provided from an alley or interior court. Upon a finding by the director that such access is clearly not feasible, an application for a curb cut to provide access may be filed with the director of transportation and environmental services who shall, after review by the director and the director of transportation and environmental services, and provided the application meets the criteria of section 5-2-14(c) of the city code, docket the matter for hearing before the Old and Historic Alexandria District board of architectural review. The board of architectural shall approve or deny the application based on whether the location and nature of the proposed curb cut and associated parking facility is compatible with the character and architectural style of the designated building or structure. The decision of the board of architectural review may be appealed to city council pursuant to section 10-309. If approval of a curb cut as specified in this subparagraph is not granted, then a wavier as to part or all of any parking requirement may be granted by the planning commission as part of its site plan review or, if no site plan is required, by the director. The requirements of this subparagraph shall apply to all the land appurtenant

to such designated building or structure, whether comprised of a single lot or multiple lots of record, on the date of designation.

(d) Within the Town of Potomac and Rosemont Historic Districts, access to all parking shall be from an alley or interior court. Upon a finding by the director that such access is clearly not feasible, an application for a curb cut to provide access may be filed with the director of transportation and environmental services for review by the director and the director of transportation and environmental services. The approval of both directors constitutes approval of the application. The directors shall review the application for compliance with the criteria of section 5-2-14(c) of the city code, and for the compatibility of the location and nature of the proposed curb cut and associated parking facility with the character and architectural style of the developed blockface. The rejection by either director constitutes a denial of the application. The administrative determination on the application may be appealed to city council. The procedures of section 10-207 shall apply to the extent appropriate to any such appeal.

(e) For land not covered by paragraph (a) through (d) above, approval for a curb cut may be obtained either as part of a site plan approved by the planning commission pursuant to section 11-400 or by administrative approval pursuant to section 5-2-14 of the city code.

(f) It is the express intent of the city that no curb cut be permitted anywhere in the city which does not, at a minimum, meet the criteria of section 5-2-14(c) of the city code.

(6) *Parking, required or otherwise, limited on residential lots.* For all lots containing single-family, two-family or townhouse dwelling uses, there shall be a limit of one vehicle per 1,000 square feet of lot area, not to exceed a maximum of four (4) vehicles per lot parked or stored outside on the lot in question.

(D) *Design of parking spaces and facilities.*

(1) Each required parking space shall be no less than 18.5 feet in length and nine feet in width, except that each required compact car parking space shall be no less than 16 feet in length and eight feet in width for compact car parking spaces, exclusive of driveways and aisles; provided, however, that parking spaces parallel to driveways and aisles shall be not less than 22 feet in length and eight feet in width for standard cars and 18 feet in length and seven feet in width for compact cars.

(2) Aisles with two-way traffic movement shall be no less than 22 feet in width, unless 45- and 60-degree parking is provided or where parking on both sides of the aisle is for compact cars, in which case said aisles shall be no less than 20 feet in width, or as much additional width as may be required for access of emergency vehicles. Aisles with one-way traffic movement shall be as follows:

(a) Aisles serving 90-degree parking shall be no less than 22 feet in width, except that where parking on both sides of the aisle is for compact cars, the aisle shall be no less than 20 feet in width unless in special circumstances the director of transportation and environmental services and the fire marshall shall approve in writing a reduction in the 20-foot width by not more than two feet for an aisle serving not more than 30 parking spaces.

(b) Aisles serving 45-degree or 60-degree parking shall be no less than 16 feet in width or as much additional width as may be required for

access of emergency vehicles.

(c) Aisles serving parallel parking and located immediately adjacent to buildings shall be no less than 16 feet in width. All other aisles serving parallel parking shall be 12 feet in width or as much additional width as may be required for access of emergency vehicles on curvilinear streets.

(3) Each parking space shall be separated with proper striping, or other designation, approved by the department of planning and zoning.

(4) The requirements of section 8-200(D)(2) shall not apply to valet parking facilities when city-approved valet parking is provided.

(5) The driveways and parking spaces required by this section 8-200 shall be smoothly graded, adequately drained and constructed with suitable subgrade, base and surfacing to be durable under the use and maintenance contemplated and so that they can be reasonably used for off-street parking facilities. Any grade transition shall be designed and constructed to prevent undercarriage and bumper guards from dragging. Such parking facilities shall be properly maintained and aisles shall remain open and free for traffic flow.

(6) Means of ingress and egress for the off-street parking facility shall be constructed in accordance with prevailing city standards and remain adequate and unobstructed at all times. The off-street parking facility shall be constructed so that no part of parked vehicles will extend beyond the parking space so as to obstruct walkways, sidewalks, streets or alleys.

(E) *Provision of compact car spaces.*

(1) Parking facilities providing for ten or more required off-street parking spaces for a non-retail use may provide up to 75 percent of the required spaces as compact car parking spaces. Parking facilities providing ten or more required off-street parking spaces for a retail use may provide up to 30 percent of the required spaces as compact car parking spaces. Each compact car parking space shall be adequately signed to indicate the intended use and shall be provided as close as possible to the entrance of the building or structure to which such space is accessory; provided, however, that any parking facility for which a preliminary site plan has been submitted to the director on or before June 24, 1975, shall be treated as an existing parking facility subject to section 8-200(E)(2).

(2) Nonstructured surface parking facilities in existence on June 24, 1975, may be restriped for compact car parking spaces in conformance with these regulations; provided that compliance with section 11-410(CC)(5) of the site plan regulations, except for the setback requirement for a parking facility abutting a public road or sidewalk, is demonstrated to the director. If the director determines that the facility does not so comply, said nonstructured surface parking facilities may be restriped for compact car parking spaces only if a site plan has been submitted and approved in accordance with section 11-400 of this ordinance.

(3) Structured parking facilities in existence on June 24, 1975, may be restriped for compact car parking spaces in conformance with these regulations without the necessity of complying with section 11-410(CC)(5) of the site plan regulations.

(4) For purposes of this section, a compact car shall mean an automotive vehicle having a width of less than six feet and a length of less than 16 feet.

(5) The parking of vehicles other than compact cars, as defined above, in compact car parking spaces provided by this section 8-200(E) is hereby

prohibited. It shall be unlawful for any owner or operator of parking facilities with compact car parking spaces striped in conformance with these regulations to permit any person to park any vehicle other than a compact car in a compact car parking space.

(F) *Prior existing buildings and structures.*

(1) Notwithstanding the provisions of section 8-100 and except as provided in section 8-200(F)(3) below, no off-street parking need be provided for land actually in use on June 25, 1963, for structures or buildings partially or fully constructed as of that date, or for structures or buildings for which a final site plan had been approved or a building permit had been applied for on that date, except as follows:

(a) If any such land has been changed in use or any such structure or building has been changed in use, enlarged, significantly enlarged or significantly altered between June 23, 1963, and January 27, 1987, the parking requirements of this Article XIII shall apply only to such change in use, enlargement or alteration; and

(b) If any such land has been changed in use or any such structure or building has been changed in use, enlarged, significantly enlarged or significantly altered after January 27, 1987, the parking requirements of this Article XIII shall apply to all the land and to the entire structure or building upon completion of the change in use, significant enlargement or significant alteration, and such requirements shall apply only to the enlargement of the structure or building upon its completion, unless, as of January 27, 1987, a construction or alteration permit has been applied for and reasonably soon thereafter construction activity has commenced and continues to be diligently pursued, or unless a special use permit is obtained under section 7-700 or section 11-500 which authorizes the change in use, enlargement, significant enlargement or significant alteration with the provision of less off-street parking than is required.

(2) Notwithstanding the provisions of section 8-100 above and except as provided in section 8-200(F)(3) below, any change in use in land which had been placed in use between June 23, 1963, and January 27, 1987, and any change in use, enlargement, significant enlargement or significant alteration of a structure or building which had been constructed between those dates shall be governed by the provisions of sections 8-200(F)(1)(a) and (b).

(3) The provisions of this section 8-200(F) shall not apply to the enlargement, significant enlargement or significant alteration of single-family, two-family or row or townhouse dwellings.

(4) For purposes of this section 8-200(F), the following definitions shall apply:

(a) "Significantly altered" and "significant alteration" shall mean the reconstruction, remodeling or rehabilitation of, or other physical changes to, a structure or building, or a portion thereof, over any two-year period, whether or not involving any supporting members of the structure or building and whether altering interior or exterior components of the structure or building, which involves expenditures amounting to 33 1/3 percent or more of the market value of the structure or building, or portion thereof, at the time of the application for an alteration permit.

(b) "Enlarged" and "enlargement" shall mean an addition to a structure or building which increases its floor area by less than 20 percent. In the case of uses whose parking requirements are determined by a factor

other than floor area (e.g., dwelling units, seats, patient beds), these terms shall mean any action which increases this factor by less than 20 percent, whether or not accompanied by an increase in floor area.

(c) "Significantly enlarged" and "significant enlargement" shall mean an addition, or additions over any two-year period, to a structure or building which increases its floor area by 20 percent or more. In the case of uses whose parking requirements are determined by a factor other than floor area, these terms shall mean any action, or actions over the two-year period, which increases this factor by 20 percent or more, whether or not accompanied by an increase in floor area.

(5) No single-family, two-family or townhouse dwelling shall be deemed a noncomplying use or structure because it failed to provide two required parking spaces on June 24, 1992, if the dwelling did provide one required parking space on that date.

(G) *Removal of Parking Space in Old and Historic Alexandria District.* Within the Old and Historic Alexandria District, a non-required parking space on the same lot as a residential building, or on a contiguous lot under common ownership with a residential building, may not be removed if the removal is for the purpose of gaining open space to support a building addition. For the purpose of this subsection, a parking space is an area of land which is at least eight feet by 16 feet and which is either (a) improved as a parking space with brick, concrete, asphalt, gravel, or other covering designed to support a vehicle's weight, or (b) not improved for parking but actually used for parking on at least 90 calendar days within the previous 12-month period.

(Ord. No. 3620, § 2, 3-20-93; Ord. No. 3650, § 2, 6-22-93; Ord. No. 3713, §§ 4, 5, 3-19-94; Ord. No. 3774, § 2, 1-21-95; Ord. No. 3937, § 1, 6-17-97)

Sec. 8-300 Central business district.

(A) *Boundaries of district.* The boundaries of the central business district shall be as follows: Beginning at a point created by the eastward extension of the centerline of Duke Street to the present established pierhead line in the Potomac River; thence westward along the centerline of Duke Street to the centerline of South Peyton Street; thence northward along the centerline of South Peyton Street to the centerline of King Street; thence westward along the centerline of King Street to the centerline of Harvard Street; thence northward along the centerline of Harvard Street to a point created by the intersection of the westward extension of a line located 109.3 feet north of and parallel to the northern right-of-way line of King Street; thence eastward along said line extended to the eastern property line of the property located at 1601 King Street; thence south and perpendicular to the northern right-of-way line of King Street at a distance of nine and three-tenths (9.3) feet to a point 100 feet north of the northern right-of-way of King Street; thence eastward along a line 100 feet north of and parallel to the northern right-of-way of King Street to a point created by its intersection with the centerline of West Street; thence northward along the centerline of West Street to the centerline of Queen Street to a point created by the eastward extension of the centerline of Queen Street to the present established pierhead line in the Potomac River; thence southward along said pierhead line to the point of beginning.

(B) *Application of certain requirements.* Within the central business district any lot or group of contiguous lots of record as of June 28, 1983, containing less than 10,000 square feet shall not be subject to the requirements of the following: sections 8-200(A)(9), (11), (12), (16), (17), (18), (19) and (20) and section 8-200(B); provided, however, that any lots subdivided after June 28, 1983, into lots of 10,000 square feet or less and

developed or redeveloped individually or as a single entity shall comply with all provisions of sections 8-200(A) and (B). In addition, whenever a parcel or contiguous parcels of land within this area containing over 10,000 square feet or more are redeveloped, or whenever a parcel or contiguous parcels of undeveloped land within this area containing 10,000 square feet or more are developed, the requirements of section 8-200(A) shall apply. In addition, the provisions of section 8-200(A) shall not apply to restaurants. Furthermore, the provisions of sections 8-200(A) and (B) shall not apply within the boundaries of any urban renewal (redevelopment) project located within the central business district and for which project a cooperation agreement between the city and the Alexandria Redevelopment and Housing authority has been entered into nor to city hall nor to public uses (including the art center) which are located in torpedo plant building number two.

(C) *Valet parking.*

(1) Within the central business district, no valet parking operation which involves the pick up, delivery, stacking, storing, parking or unparking of motor vehicles by a valet or parking attendant from, to or on any public right-of-way shall be permitted after July 1, 1987, as, or in connection with, any principal or accessory use of lands, buildings or structures.

(2) The provisions of section 8-300(C)(1) to the contrary notwithstanding, such valet parking operation may be permitted provided that:

(a) The motor vehicles so served are parked, stored and unparked exclusively in an off-street parking facility; and

(b) A special use permit separately authorizing and governing such valet parking operation is applied for and granted pursuant to the provisions of section 11-500 of this ordinance.

Sec. 8-400 King Street Transit Parking District.

(A) *Boundaries of district.* The King Street parking district is hereby defined as being that area described as follows: Beginning at the intersection of the centerline of King Street and the centerline of Peyton Street; thence southwesterly with the centerline of Peyton Street to the centerline of Duke Street; thence easterly with the centerline of Duke Street, 140 feet to a point opposite the northeast corner of the land of Haridge properties and the northwest corner of the DIP commercial site; thence southerly 33 feet to the corner of Haridge and DIP; thence with Haridge and DIP, 352 feet to the northerly side of the land of Southern Railway System; thence westerly with the northern side of Southern Railway System, 1,040 feet to the land of RF&P Railway System, then with the northern side of RF&P, 1,550 feet to the land of Guiffre and WMATA; thence northeasterly with Guiffre and WMATA through several courses totaling 816 feet to the northeast corner of Guiffre and the south side of Duke Street; thence northerly and perpendicular to the Duke Street centerline, 96.4 feet to the centerline of Duke Street; thence westerly with the centerline of Duke Street, 530 feet to the centerline of Callahan Drive, thence northeasterly with the centerline of Callahan Drive to the centerline of King Street; thence easterly with the centerline of King Street; to the centerline of Commonwealth Avenue; thence northerly with the centerline of Commonwealth Avenue to the centerline of Cameron Street; thence northeasterly with the centerline of Cameron Street, 750 feet to a point opposite the northeast corner of Alexandria Management Corp. and the westerly side of a 12-foot public alley; thence southerly 33 feet to the northeast corner of Alexandria Management Corp., and the alley, thence (parallel to Harvard Street) with the alley and the properties of Alexandria Management Corp., Cassedy and Chapin and Scott, 105.7 feet (passing the end of the alley at 52.85 feet) to

the northeast corner of Edwards and the north side of a 10-foot public alley; thence southerly with Edwards and the west side of the 10-foot alley, 124 feet to the northwest corner of Kane and the south side of the ten-foot alley; thence easterly and parallel with King Street alley; thence easterly and parallel with King Street with the south side of the alley and the properties of Kane and Mendleson, 137.2 feet (passing Kane's corner at 91.2 feet) to the west side of Harvard Street and the northeasterly corner of the land of Mendleson, then with the same line 30 feet to the centerline of Harvard Street, 270.16 feet to the centerline of King Street; thence easterly with the centerline of King Street to the point of beginning.

(B) *Requirements.* Within the King Street transit parking district, the following regulations shall apply to off-street parking:

(1) Office buildings, including commercial, government and professional, shall have one parking space for each 530 square feet of floor area; provided, however, that the required parking may be reduced to not less than one parking space for each 665 square feet of floor area when the applicant, at the time of site plan approval, demonstrates through a parking study to the planning commission, or to the city council on appeal, which appeal may be filed within the time and in the manner prescribed by section 11-409(C), except that any aggrieved party may appeal, that the off-street parking provided is adequate for the site, and that there will be no unreasonable adverse effect on the surrounding residential neighborhoods.

(2) Single-family, two-family, row or townhouse and multifamily dwellings shall have one parking space per dwelling unit.

(3) Freestanding retail and service operations shall have one parking space for each 500 square feet of floor area.

(4) Freestanding restaurants shall have one parking space for each ten seats; except that for carry-out restaurants there shall be no requirement.

(5) Automobile service stations shall have one parking space for each service bay; except that for self-service operations, there shall be provided one parking space for each employee.

(6) Hotels shall have 0.7 of a parking space for each guest room.

(7) Amusement enterprise shall have one parking space for each 200 square feet of floor area.

(8) Hotel or office building projects with retail, restaurant or amusement enterprises as ancillary uses. No parking shall be required for the first 10,000 square feet of floor area for restaurants, for the first 10,000 square feet of floor area for retail uses and for the first 1,000 square feet of floor area for amusement enterprises; provided, that such uses occupy not more than 25 percent of the total floor area of the mixed use building project. Parking for the excess floor area for such ancillary uses above 25 percent shall be provided at one space for each 1,000 square feet of floor area.

(C) *Valet parking.* By utilizing valet parking as defined in section 2-201, the area of space in any parking facility as measured in square feet may be reduced by no more than 40 percent, subject to review of the director and the director of transportation and environmental services to ensure compliance with the following regulations:

(1) The number of parking spaces required by section 8-400(B) above shall not be reduced; however, the requirements of section 8-200(D)(2) relating to aisles and striping shall not apply.

(2) All required parking shall be located only in a structured parking facility.

(3) Kiosks, fare gates, walkways, customer waiting areas and all other facilities necessary to accommodate valet parking shall be shown on the site plan.

(4) Attendant parking service shall be available for the days and hours required by the director and the director of transportation and environmental services as specified in site plan approval.

(5) No vehicle shall be parked or temporarily stored by an attendant on streets or alleys, including sidewalks, abutting the structured parking facility.

(6) Failure to institute valet parking upon the occupancy of the building for which valet parking is provided or cessation of valet parking after occupancy has commenced as required by section 8-400(C)(4) above shall constitute a violation of this ordinance.

(7) No site plan for a structured parking facility designated for valet parking shall become effective unless and until the owner covenants and agrees, on behalf of itself and its successors in interest, to provide valet parking in accordance with the requirements of section 8-400(C)(4) above in an executed contract to be attached to the approved site plan and kept in city records.

(D) *Design standards.* Within the King Street transit parking district, all off-street parking shall conform to the following parking design standards to the satisfaction of the director:

(1) No less than 75 percent of the parking provided shall be in a structure, unless a special use permit is obtained.

(2) That part of a building fronting directly on a public street, sidewalk, plaza or other public area shall not be used for off-street parking except entrance/exit to the parking facility, except in those cases where the planning commission finds it to be physically impossible to do otherwise.

(3) Any surface parking area shall be landscaped.

(4) Open space shall contain such improvements as benches, walkways and other natural and manmade amenities for the use and enjoyment of residents, visitors and workers.

(E) *Conflict with other requirements.* The provisions of this section 8-400 are to be read in conjunction with section 8-200(A)(18) and, in the case of an inconsistency as to the required number of spaces, to apply the least restrictive minimum number.

Sec. 8-500 Waterfront parking exemption.

The off-street parking requirements of section 8-200(A) shall not apply to those properties located immediately abutting the Potomac River, south of Third Street to and including Jones Point Park, and that area immediately west of North Union Street at Pendleton and Oronoco Streets as shown in the map incorporated in this ordinance entitled "Federal Waterfront Settlement Restricted Parking Area -- September, 1984" and on file in the department of planning and zoning showing properties involved in land title settlements with the United States Department of Justice where such settlement prohibited parking. Properties whose title has not yet been settled shall not be considered part of the waterfront parking exemption.(Ord. No. 3774, § 2, 1-21-95)

Sec. 8-600 Motor vehicle parking or storage in the RM zone.

8-601 Motor vehicle parking or storage. Motor vehicle parking or storage for use by the general public shall be permitted in the RM residential zone; provided, that the requirements and standards set forth in this section 8-600 are met.

8-602 Requirements and standards. Any motor vehicle or storage use in the RM residence zone shall comply with the following requirements and standards:

(A) Such use shall be entirely located within the central business district, as defined in section 8-300.

(B) Such use shall be of sufficient size to accommodate at least 30 passenger vehicles.

(C) If unattended, such use shall contain at least 300 square feet of parking space per vehicle, including driveways and aisles, and all parking spaces shall be clearly marked or defined in accordance with the following:

TABLE INSET:

Angle of Parking At Curb	Width of Area Used when Parked	Width of Aisle and Parking Area	Length of Curb Per Car
Parallel	7 ft.	19 ft.	22.0 ft.
45°	17 ft.	29 ft.	11.3 ft.
60°	18 ft.	36 ft.	9.2 ft.
90°	17 ft.	40 ft.	8.0 ft.

(D) Such use shall be paved with bituminous or Portland cement binder so as to provide a permanent, durable and dustless surface and shall be so graded and drained as to dispose of all surface water within the area. Such paving and draining of surface waters shall be done in accordance with the specifications of the department of transportation and environmental services.

(E) Pedestrian walks shall be located in a manner to prevent the pedestrian use of vehicular ways and parking spaces and arranged so that pedestrians are not unnecessarily exposed to vehicular traffic.

(F) No signs shall be located on any such use, except behind the established building setback line and at entrances and exits. Any such signs may state no more than the use of the premises, the name of the operator, the hours of operation, the price and the means of egress and ingress, but shall state the price and the name of the operator or owner of the lot.

(G) Any such use located within or facing residential zones shall be properly enclosed with an ornamental fence, masonry wall or a compact evergreen hedge having a height of not more than six feet. Such fence or wall shall be maintained in good condition and shall not project beyond the established building setback line of the block on which the facility is located.

(H) Where established setbacks have created front and side yards, such required front and side yards of the parking facility shall be landscaped with evergreen ground cover and properly maintained.

(I) Barrier-type curbs or appropriate guards in accordance with specifications of the

department of transportation and environmental services shall be placed in, on or around the use where specified by the director of transportation and environmental services for the protection of the public welfare.

(J) No multi-storied structure shall be erected in conjunction with any such use in a residential zone.

(K) Any lighting used to illuminate any parking lot or area shall be so arranged as to reflect the light away from the adjoining or nearby premises and shall be focused in a manner so as not to offer a hazard to the traveling public.

(L) No such use shall be used for the parking of commercial vehicles, trucks, taxicabs or buses.

(M) No activity other than the parking of motor vehicles shall be allowed on any such use.

(N) All structures used in the operation of any such use, except walls, fences, barricades, light poles and signs shall be set back at least ten feet from the established building setback line.

(O) Such uses shall not be operated before 7:00 a.m., nor after 10:00 p.m.

(P) No such use shall allow, permit or have an open accumulation of garbage, trash or miscellaneous refuse on the premises, and suitable receptacles for the depositing of trash and miscellaneous refuse shall be kept on the premises at easily accessible places.

(Q) The vision clearance required by section 7-800 of this ordinance shall be maintained at all times.

(R) The location of all entrances and exits shall be designated by the director of transportation and environmental services.

(S) Where the interior of any block containing residence zones is used for such use, it shall not diminish the required land area of the required open and usable space for the residence zone.

(T) All structures on such uses located within the Old and Historic Alexandria District or the Parker-Gray District shall be subject to the approval of the board of architectural review of the applicable district.

(U) The city council shall find that such use would lessen congestion and facilitate the safe and expeditious movement of traffic along the streets of the city.

(V) The city council shall find that such a facility cannot be reasonably provided for on nearby land zoned commercial or industrial.

(W) Any such use shall be considered by the traffic and parking board prior to the time it is presented to the planning commission and city council for a hearing on the special use permit hereinafter required.

(X) A special use permit shall be obtained pursuant to section 11-500; provided, that any such use permit shall expire and become null and void if any such use ceases to be used as an off-street parking facility for a period of 30 consecutive days.

(Y) In the case of any permit issued after June 30, 1958, such use shall be found to be consistent as to general location and size with an approved parking plan for the business district in which it is located.

7. Acceptance by the zoning administrator of any agreement for the use of parking spaces shall in no way obligate the county to enforce the provisions of said agreement, nor shall it render the county liable for any damages, injury, or loss resulting from the implementation of the provisions of the agreement.

8. The applicant shall negotiate the renewal of any agreement for the use of said parking spaces prior to its expiration and provide copies of such supplemental agreement to the zoning administrator in the form and manner specified by this subsection.

C. Modification of parking requirements for restaurants by use permit

1. To encourage and promote pedestrian-related commercial activity in Metro station areas and to promote efficient use of parking spaces, the parking requirements for restaurants, the major portions of which are located within 1,000 feet of a Metro station entrance, may be modified by use permit. Such modification may include, but shall not be limited to, modification of the number of on site or off-site parking spaces required for the number of seats in the restaurant, and the distance between the restaurant and the proposed off-site parking spaces. In granting such use permit, the County Board may consider, among other things, the following factors:

(a) Hours of operation of the restaurant.

(b) The modes of transportation which are conveniently available to patrons of the restaurant.

(c) Management practices of the restaurant to reduce parking needs by patrons and employees.

(d) Whether parking spaces which are available for a restaurant are, as determined by the County Board, conveniently usable by patrons of the restaurant without causing unreasonable:

(1) Hazard to pedestrians.

(2) Hazard to vehicular traffic.

(3) Traffic congestion.

(4) Interference with safe and convenient access to other parking areas in the vicinity.

(5) Detriment to the appropriate use of business property in the vicinity.

(6) Detriment to any residential neighborhood.

D. Modification of parking requirements for office and commercial uses

The parking requirement for office and commercial uses may be reduced by 10 percent if a direct connection which is not greater than 500 feet in length and which provides shelter from the elements is provided from the structure housing the use to which the parking is appurtenant to a Metro Transit Station.

§14.3.7. Required parking and standing space

A. Parking shall be provided for all uses in accordance with the following standards unless specified otherwise in this or other sections of this zoning ordinance:

USE TYPES		PARKING REQUIREMENT, MINIMUM (SPACES)	ADDITIONAL REQUIREMENTS
Residential and housing uses			
One- and two-family dwellings	Not fronting on cul-de-sac	1 per dwelling unit	Constructed and maintained in accordance with §14.3.3.
	Fronting on cul-de-sac	2 per dwelling unit	Improved in accordance with §14.3.4.A. Constructed and maintained in accordance with §14.3.3.
Townhouses and stacked one-family dwellings		2 per dwelling unit, and 1/5 additional parking spaces per dwelling unit for visitors	Additional parking spaces for visitors shall be located in a clearly marked and designated common area available to all visitors. Provided, however, that visitor parking spaces may be included within the required two parking spaces per dwelling unit when at least 50 percent of parking spaces needed to meet the requirement are located in a common area and are available for either residents or visitors. -Constructed and maintained in accordance with §14.3.3.
Dwellings, other than one- and two-family		1 & 1/8 for each of the first 200 dwelling units in any structure	Plus1 for each additional dwelling unit Constructed and maintained in accordance with §14.3.3.
Establishments with sleeping accommodations other than dwellings, including tourist courts, tourist homes, lodging or rooming houses, motels and motor hotels		1 per dwelling unit or guest room	--
Conditional and community service uses			
Church sanctuaries		1 per each 5 sanctuary seats	Notwithstanding other sections of this zoning ordinance, required parking for churches may be located on a parking lot which is accessory to another principal use which is not open or operating on the days of the week on which the church sanctuaries are regularly used if said lot is either located within 600 feet by the shortest route of effective pedestrian access, or within 3/4 of one mile by the shortest route of effective vehicular access, and regular and frequent shuttle bus service is provided between the lot and the church during any hours when the use for which the lot is provided is not open and operating and the lot is open to persons attending meetings at the church.
Community swimming pools		1 per each 40 sq. ft. of pool area	--
Golf courses		40 per each standard 9 holes	--
Hospitals, rest homes, nursing homes, sanitariums, convalescent homes & institutions		1 per 4 beds	Plus 1 space for each 2 employees (other than staff doctors), plus 1 space for each doctor assigned to the staff.
Intermediate care facilities		1 per each 3 dwelling units	Plus 1per 3 employees, plus 1 per doctor
Libraries, art galleries, and museums, private and public		1 per each 500 sq. ft. of floor area	--
Public assembly establishments & club buildings	Excluding church sanctuaries, golf clubs and community buildings	1 per each 3 seats or other accommodations or other accommodations for attendants or participants	Computed on the basis of one accommodation for each attendant or participant

USE TYPES		PARKING REQUIREMENT, MINIMUM (SPACES)	ADDITIONAL REQUIREMENTS
Schools	Nursery	1 per each staff member or employee	Plus 1 space for each 10 fixed seats, or other vantage accommodation for spectators, for public assembly; plus 1 per 50 sq. ft. of floor area for auditoriums, multipurpose rooms, gymnasium or other facilities used for public assembly but having no fixed seating arrangement specified
	High	1 per each 10 students of design capacity	
	Higher education	As determined by the County Board	
Schools	Elementary and middle	1 per each 7.5 students of design capacity for employee parking	Plus 1 space for each 40 students of design capacity for visitor parking
Retail and service uses			
Retail and service uses other than those specified below		1 per each 250 sq. ft. of floor area on the first floor of a building	Plus 1 per each 300 sq. ft. of floor area located elsewhere in the building
Bowling alley		4 per each alley	--
Car wash		20 standing spaces for waiting vehicles for each wash rack	Plus 1 per each two employees.
Drive-in banking & similar "drive-in service establishments		5 standing spaces for each teller or customer window	--
Furniture & appliance stores, furniture repair shops		1 per each 400 sq. ft. of floor area	--
Greenhouses and nurseries		One space for each 400 sq. ft. of floor area, plus such space as may be determined to be necessary as set forth above	--
Health clubs and other fitness facilities		1 per 50 sq. ft. of gross floor area	--
Indoor or outdoor amusement facility		1 per 300 sq. ft. of indoor floor area or outdoor area used for amusement purposes	--
Motor vehicle sales		1 customer and 1 employee parking space for each 1,200 sq. ft. of area, whether or not said area is enclosed.	--
Offices of physicians, surgeons and dentists		1 per each 150 sq. ft. for first 5,000 sq. ft. in each building	Plus 1 per each 200 sq. ft. for next 10,000 sq. ft.; Plus 1 per each 250 sq. feet for area in excess of 15,000 sq. ft.
Other office buildings		1 per each 250 sq. ft. of floor area on the first floor	Plus 1 per 300 sq. ft. of floor area located in the basement or on the 2nd through 5th floors, plus 1 per 400 sq. ft. of floor area located above the fifth floor
Restaurants		1 per each 6 seats (in addition to all parking space provided for service to patrons while seated in automobiles).	--
Tennis, racquet and handball courts		3 per court	--
Theaters, auditoriums and other commercial places of public assembly		1 per each 3 seats or other accommodations, for attendants, employees or participants	--
Undertaking establishments, funeral parlors, mortuary or funeral homes		1 per 50 sq. ft. of chapel or parlor floor area, provided that there shall be no less than 20 spaces	--
Vehicle service establishment and vehicle body shop		3 standing spaces for each wash rack, lubrication rack, repair bay or similar facility for the servicing or repair of vehicles, not including said rack or bay as a space	Plus 1 per each employee.
Warehouse, wholesale and manufacturing uses			
Uses consisting of manufacture,	Excluding wholesale associated with retail	1 per 1,000 sq. ft. of floor area, or 1one space for each 2 employees,	--

USE TYPES		PARKING REQUIREMENT, MINIMUM (SPACES)	ADDITIONAL REQUIREMENTS
processing assembly, storage, warehousing, wholesale	uses, and distribution of products.	whichever is the greater	
Uses where at least 90 percent of the total floor area is available to the general public for the storage of items none of which is used for its intended purpose during the period that it is on the premises and is not associated with any office, retail, industrial or other business activity conducted on the premises		1 per each 3,000 sq. ft. of gross floor area excluding residential floor area	Plus1 for the resident manager; Plus 1 per each 2 employees

B. For uses not listed heretofore in this schedule of parking requirements, by the interpretation of the zoning administrator, spaces shall be provided on the same basis as required for the most similar listed use.

C. The County Board may, through Use Permit approval pursuant to Section §15.5, modify the conditional and community service uses and retail and service uses regulations set forth in §14.3.7 or modify regulations to permit off-site parking to be used for public and private elementary, middle and high schools and for uses associated with public and private noncommercial recreational and community center buildings and grounds, where the County Board finds that:

1. Such modifications will preserve or create recreational facilities such as playing fields, open space, playgrounds, and the like, that will reduce impervious surfaces, minimize grading and preserve existing trees, and

2. A transportation demand management plan submitted by the applicant demonstrates that the potential adverse impacts of parking demand and any potential disruption of parking patterns within affected neighborhoods that could result from the modification will be mitigated by utilizing available on-street parking contiguous to the site, and through the implementation of measures such as, but not limited to:

(a) Utilizing, by written agreement with another party in terms acceptable to the County, off-street parking spaces at a site owned or controlled by that same party; and/or

(b) Utilizing a managed or shared parking program at times when parking demand is highest; and/or

(c) Implementing Transportation Demand Management (TDM) strategies for the use, and/or demonstrating that transit or other transportation options exist that may offset parking demand.

§14.3.8. Off-street loading

Off-street loading spaces shall be provided for each use, as permitted in its respective classification, in not less than the amounts set forth below for every building, or addition thereto, and for all uses of land established or expanded:

A. All conditional uses

Sufficient space to provide on the lot for the use, as determined by the County Board, as set forth above.

Attachment IV

Urban Land Institute Shared Parking 2nd Edition Adjustment Factors

Time-of-Day Factors for Weekday Demand																					
		6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	
Shopping Center-Typical	Customer	1%	5%	15%	35%	65%	85%	95%	100%	95%	90%	90%	95%	95%	95%	80%	50%	30%	10%	0%	
December	Customer	1%	5%	15%	30%	55%	75%	90%	100%	100%	100%	95%	85%	80%	75%	65%	50%	30%	10%	0%	
Late December	Customer	1%	5%	10%	20%	40%	65%	90%	100%	100%	100%	95%	85%	70%	55%	40%	25%	15%	5%	0%	
	Employee	10%	15%	40%	75%	85%	95%	100%	100%	100%	100%	100%	95%	95%	95%	90%	75%	40%	15%	0%	
Residential	Resident	100%	90%	85%	80%	75%	70%	65%	70%	70%	70%	75%	85%	90%	97%	98%	99%	100%	100%	100%	
	Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	Guest	0%	10%	20%	20%	20%	20%	20%	20%	20%	20%	20%	40%	60%	100%	100%	100%	100%	80%	50%	
Office	Visitor	0%	1%	20%	60%	100%	45%	15%	45%	100%	45%	15%	10%	5%	2%	1%	0%	0%	0%	0%	
	Employee	3%	30%	75%	95%	100%	100%	90%	90%	100%	100%	90%	50%	25%	10%	7%	3%	1%			

Time-of-Day Factors for Weekend Demand																					
		6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	
Shopping Center-Typical	Customer	1%	5%	10%	30%	50%	65%	80%	90%	100%	100%	95%	90%	80%	75%	65%	50%	35%	15%	0%	
December	Customer	1%	5%	10%	35%	60%	70%	85%	95%	100%	100%	95%	90%	80%	75%	65%	50%	35%	15%	0%	
Late December	Customer	1%	5%	10%	20%	40%	60%	80%	95%	100%	100%	95%	85%	70%	60%	50%	30%	20%	10%	0%	
	Employee	10%	15%	40%	75%	85%	95%	100%	100%	100%	100%	100%	95%	85%	80%	75%	65%	45%	15%	0%	
Residential	Resident	100%	90%	85%	80%	75%	70%	65%	70%	70%	70%	75%	85%	90%	97%	98%	99%	100%	100%	100%	
	Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	Guest		20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	40%	60%	100%	100%	100%	100%	80%	50%	
Office	Visitor	0%	20%	60%	80%	90%	100%	90%	80%	60%	40%	20%	10%	5%	0%	0%	0%	0%	0%	0%	
	Employee	0%	20%	60%	80%	90%	100%	90%	80%	60%	40%	20%	10%	5%	0%	0%	0%	0%	0%	0%	

Monthly Adjustments for Customer/Visitor Parking													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Late Dec
Shopping Center	56%	57%	64%	63%	66%	67%	64%	69%	64%	66%	72%	100%	80%
Residential	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Office, Bank	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%

Monthly Adjustments for Employee/Resident Parking													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Late Dec
Shopping Center	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	90%	100%	90%
Residential	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Office, Bank	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%

MASON ROW
TRAFFIC IMPACT STUDY
CITY OF FALLS CHURCH, VIRGINIA

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Spectrum Development LLC

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January 22, 2014
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MASON ROW
TRAFFIC IMPACT STUDY
CITY OF FALLS CHURCH, VIRGINIA

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Section 1
INTRODUCTION

This report presents the results of a traffic impact study conducted in support of a proposed new mixed-use project to be developed in the City of Falls Church, Virginia. The subject site is located in the northeast quadrant of the West Broad Street/North West Street intersection, and south of Park Avenue, as shown on Figure 1-1.

The properties that comprise the subject application are currently zoned B-3 ("General Business District"), B-1 ("Limited Business"), and R-1B ("Medium Density Residential"). The properties are currently developed with a variety of commercial, office, and residential uses.

The applicant, Spectrum Development LLC, proposes to raze the existing uses and subsequently redevelop the property with the following mix of uses:

- 60,581 gross square feet (GSF) of retail uses.
- A 48,391 GSF movie theater.
- 6,780 GSF of office uses.
- A 150-room hotel.
- 340 apartment dwelling units.

In furtherance of the above proposed redevelopment project, rezoning and special exception (SE) applications have been filed by the applicant in order to achieve the envisioned mix of uses for the properties. The applicant's development Statement is provided for reference as Appendix A.

The redevelopment plan, as proposed, is consistent with the City's vision for mixed-use development within the West Street/West Broad Street Area as outlined in the City's Comprehensive Plan. The development plan includes an enhanced pedestrian network designed in a manner to be both visually appealing and functionally superior to meet the needs of existing and future residents/patrons.

The entire redevelopment, from its mix of uses on one site to its transit connectivity, trip mitigation measures, and pedestrian friendly environment achieves this future vision as outlined in the Falls Church Comprehensive Plan. By providing complementary uses on the same site, the proposed development will encourage self-contained pedestrian trips. Additionally, due to its location along transit routes and with the implementation of Transportation Demand Management (TDM) strategies, many of the trips generated by the proposed development are anticipated to utilize non-auto modes of transportation, also consistent with the City's framework established in the Comprehensive Plan. The redevelopment plan, as submitted, is shown on Figure 1-2.

According to the *24VAC30-155* ("Chapter 870") regulations, all development proposals which meet certain specific trip generation thresholds are subject to the regulations as outlined in VDOT's Traffic Impact Analysis Regulations Administrative Guidelines ("Administrative Guidelines"). In January 2012, an amendment to the Administrative Guidelines took effect that determined a development proposal is considered to substantially impact the transportation network if it generates 5,000 or more net new daily vehicle trips located on, or within 3,000 feet of a VDOT maintained roadway. Based on the trips anticipated to be generated by the subject development, the subject development would not require a Chapter 870 compliant traffic study.

Although a traffic impact analysis is not required per *24VAC30-155*, the City of Falls Church requires the submission of a traffic study in conjunction with any development application. The basis of this traffic impact assessment then includes a field reconnaissance of the area to determine access opportunities and constraints, traffic counts conducted at key intersections in the site vicinity, a review of the City's Comprehensive Plan, as well as conversations with City staff to ascertain planned transportation improvements/enhancements, and information from Spectrum Development LLC including preliminary site concepts.

This traffic assessment was completed in accordance with the City of Falls Church policies and guidelines and is intended to address the following issues:

1. Estimation of the total vehicle trip ends generated by the planned land uses during the weekday peak hours.

2. Determination of the effects of the development proposal on the surrounding local roadway network.

3. Identification of potential road and/or operational improvements necessary to mitigate the impacts of the developer's proposal.

A scoping meeting was held with City staff to determine specific study parameters. The resulting traffic study scoping form is provided in Appendix B. Tasks undertaken in the course of this study included the following:

1. A review of the Spectrum Development LLC's conceptual plans for the subject site.

2. A field reconnaissance of the subject site in order to determine existing roadway and intersection geometrics and traffic controls, access opportunities and/or constraints, and general traffic conditions.

3. Peak hour turning movement and pedestrian counts were obtained at the following study intersections:

   a. West Broad Street/West Street
   b. North West Street/Grove Avenue
   c. North West Street/Park Avenue
   d. West Broad Street/Spring Street
   e. Park Avenue/North Spring Street
   f. North West Street/Lincoln Avenue
   g. Grove Avenue/W&OD Trail
   h. North West Street/W&OD Trail
   i. West Broad Street/Birch Street
   j. West Broad Street/Oak Street*
   k. Park Avenue/North Oak Street*

   Generally, counts were conducted at the key study intersections listed above on Thursday, September 12, 2013. The intersections denoted above by an asterisk (*) were added to the scope at the request of staff and advised that the baseline counts associated with the *706 West Broad Street Traffic Impact Study* should be used for those intersections.

   Additionally, all existing entrances serving the current site uses were counted on Thursday, September 12, 2013 in order to determine the existing trip generation characteristics of the subject site.

4. Calculation of existing weekday AM and PM peak hour intersection levels of service at the study intersections.

5. Identification of the number of peak hour trips that would be generated by the proposed mixed-use development based on standard Institute of Transportation Engineers (ITE) 9th edition Trip Generation rates/equations.

6. Determination of future background traffic forecasts based on estimates of traffic that would be generated by other approved/planned developments in the site vicinity.

7. Calculation of future levels of service both with and without the proposed development at the key study intersections and all proposed site entrances for a proposed build-out year of 2019.

Sources of data for this analysis included traffic counts conducted by Wells + Associates Inc, information obtained from the City of Falls Church, the Institute of Transportation Engineers (ITE), the Highway Capacity Manual 2000 (Synchro software, version 7), Spectrum Development LLC, and the files and library of Wells + Associates.

Conclusions

Based on the results of this traffic impact study, the following may be concluded:

1. The redevelopment plan proposed by Spectrum Development LLC is consistent with the City and community's long term vision for the West Broad Street corridor as reflected in the adopted Comprehensive Plan.

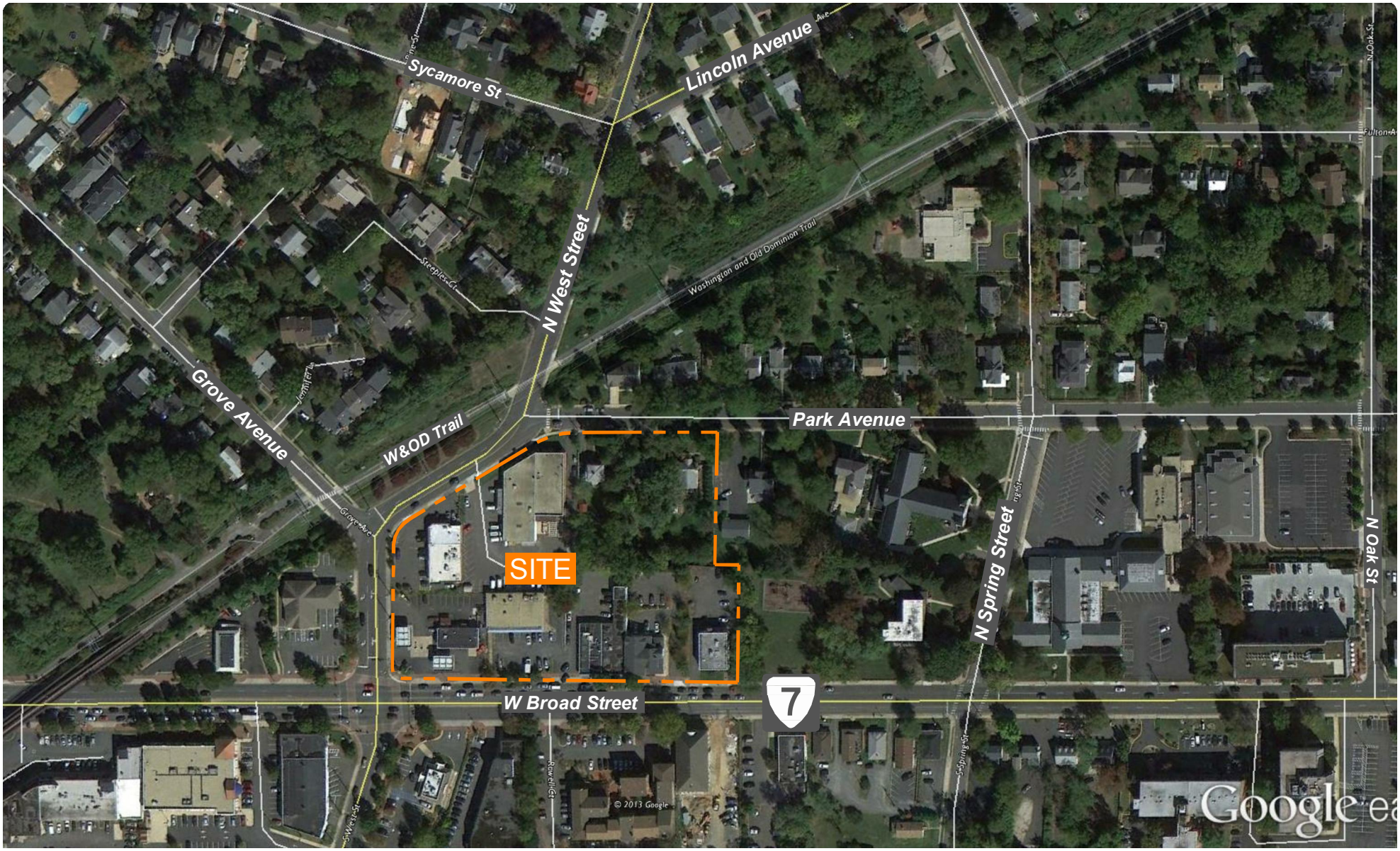

Figure 1–1
Site Location

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

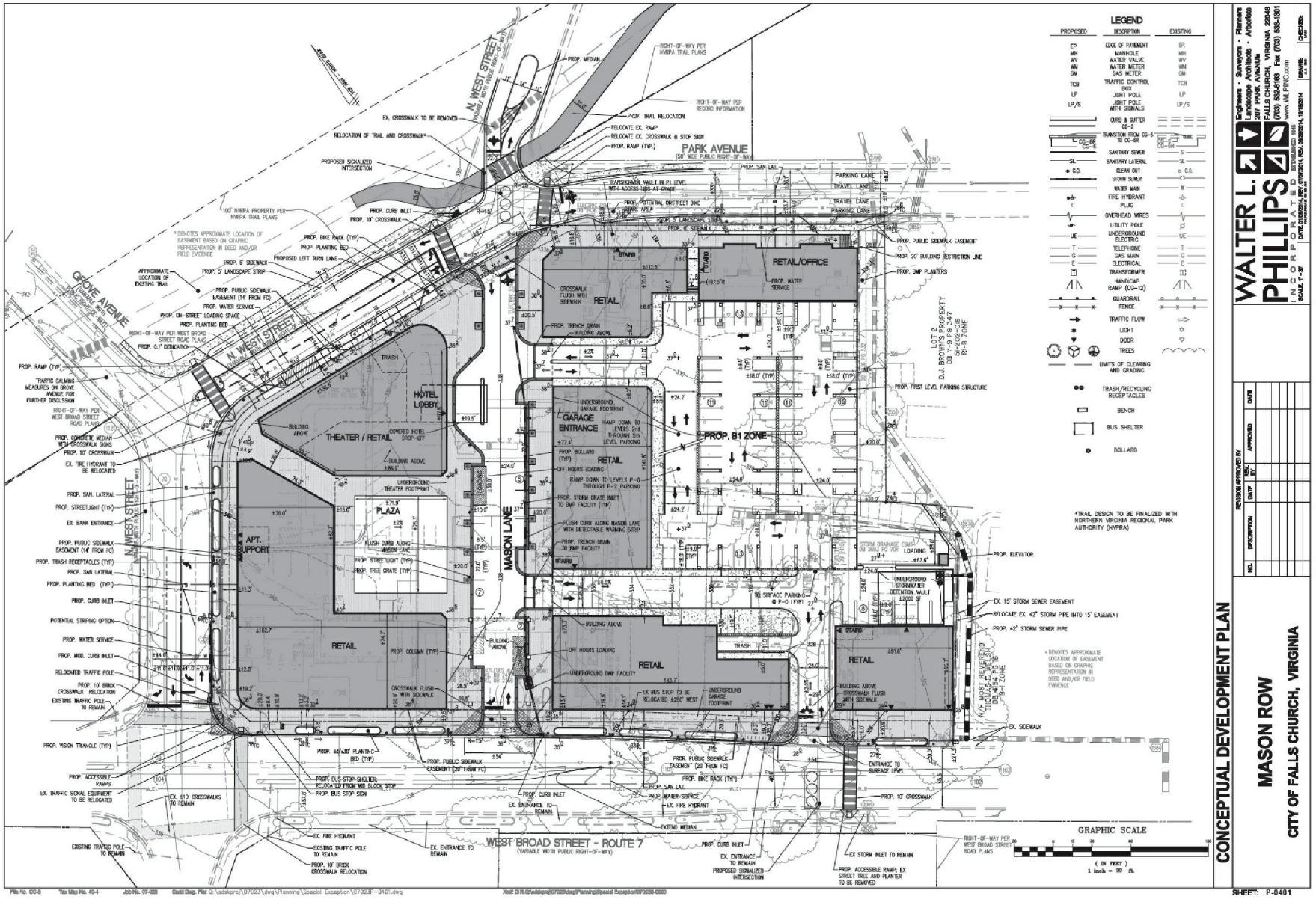

Figure 1–2
Site Redevelopment Plan Reduction

North

2. ***All signalized intersections within the study area currently operate at overall adequate levels of service (LOS "D" or better).***

3. ***Side street approaches along West Broad Street that operate under STOP sign control generally experience significant delays during commuter peak hours due to heavy mainline volumes.***

4. ***Under future 2019 traffic conditions, without the development of the subject site, delays would increase at study intersections due to regional traffic growth and trips generated by other approved/pending development within the City. However, overall levels of service would remain generally consistent with existing conditions, except for the West Broad Street/West Street intersection which would operate at LOS "E" during the PM peak hour.***

5. ***The Mason Row redevelopment project is anticipated to experience vehicle trip reductions due to internal trip capture, pass-by trip activity, and non-auto mode choice. The development, as a whole, is forecasted to generate 419 weekday AM peak hour and 586 weekday PM peak hour trips upon completion and full occupancy by 2019.***

6. ***Under future 2019 traffic conditions, with the development of the subject site, intersection levels of service would remain generally consistent with background conditions. Additional mitigation measures, as outlined below, would improve intersection performance and serve to further improve the overall transportation network.***

Recommendations

Based on the above conclusions and in order to mitigate the impacts of the subject development and improve the overall transportation network, the following recommendations should be considered:

1. ***As part of the redevelopment plan and to encourage walking trips, the applicant should provide and enhance the pedestrian facilities within the site's block. The applicant should further ensure connections between the site's internal network and the surrounding pedestrian/bicycle system, including the W&OD Trail, as envisioned in the Comprehensive Plan.***

2. ***The applicant should encourage bicycling as a mode of travel. Bicycle racks for site customers/visitors as well as bicycle storage lockers for residents should be provided.***

3. ***The western site access point along West Broad Street should operate as right-in/right-out only.***

4. ***The intersection of North West Street and Park Avenue should be reconfigured to accommodate a fourth leg accessing the subject site. The reconfiguration should properly align the four approaches and a signal should be installed in order to improve intersection operations and safety. The W&OD trail crossing of North West Street should be integrated within the new signalized intersection. With these improvements, this intersection is forecasted to operate at LOS "C".***

5. ***To improve levels of service, restriping of North West Street at the approach to West Broad Street should be considered in order to provide for three approach lanes.***

6. ***A signal should be installed at the eastern site access point along West Broad Street in order to facilitate site access and to provide a controlled pedestrian crossing. With this improvement, the intersection is forecasted to operate at LOS "C" or better.***

7. ***The applicant should implement Transportation Demand Management (TDM) strategies to encourage the use of alternate modes of transportation. A peak hour trip reduction target of 15% should be established for the site's residential and hotel components.***

Section 2
BACKGROUND INFORMATION

Location and Surrounding Uses

The site is located within the western limits of the City of Falls Church and is currently developed with a mix of commercial buildings, including a gas station, strip retail, and a warehouse building. Additionally, the site includes three single family detached homes along Park Avenue. Low-scale commercial uses generally surround the property to the west, south, and east. Residential uses are found east along Park Avenue and north along North West Street. Notably, the Washington and Old Dominion (W&OD) trail runs proximate to the site along the north side of North West Street. The W&OD trail is a major recreational trail for foot traffic and bicyclists. Also, Saint James Catholic Church and School is located east of the site along North Spring Street.

Comprehensive Plan Land Use Recommendations

The subject site is located within AREA 3-West Street/West Broad Street Area of the City's Comprehensive Land Use Plan (cf. Chapter 4). Redevelopment of the corridor with primarily retail and commercial uses is encouraged in the Plan in a manner that would be harmonious with the City's Design Guidelines. The Plan further states that when redevelopment is considered along the corridor, the following recommendations (among others) should be adhered to:

- Consolidate parcels to allow larger scale and mixed-use development,
- Consolidate entrances,
- Develop retail uses or retail appearance on the first floor of buildings on West Broad Street,
- Locate buildings close to West Broad Street with parking in the rear whenever possible,
- Effectively landscape parking areas on the interiors and such that they are screened from streets,
- Achieve specific and consistent architectural goals (building materials, window types, roof overhangs, roof pitch, and porches.

In furtherance of these recommendations and as elaborated in the applicant's Statement, an amendment to the City's Comprehensive Plan has been requested in order to change the site's designation on the land use map to "Mixed Use". The redevelopment plan achieves these objectives and further promotes a sustainable multi-modal transportation environment as elaborated in the following sections.

Existing Transportation Network

Existing Road Network. The following is a description of the roadways surrounding the proposed mixed-use development. For purposes of this report, West Broad Street (Route 7) is assumed east/west. All cross streets are referenced north/south, as appropriate. Figure 2-1 depicts existing lane use and traffic controls in the vicinity of the subject site:

West Broad Street (Route 7). West Broad Street fronts the southern boundary of the subject site and is currently constructed as a four-lane, median divided highway which transitions to an undivided highway immediately east of the site. West Broad Street carries a posted speed limit of 25 miles per hour (mph). According to the Falls Church Comprehensive Plan, West Broad Street is classified as a major arterial. As stated in the Plan, major arterials are roadways that "connecto to regional travel destinations." Accordingly, it is one of the major thoroughfares for travelers within the City of Falls Church.

West Street. West Street is constructed as a two-lane, undivided, street with a posted speed limit of 25 mph. According to the Plan, West Street is classified as a minor arterial. As stated in the Plan, a minor arterial roadway "provides for travel through the City." The intersection of West Broad Street and West Street operates under signal

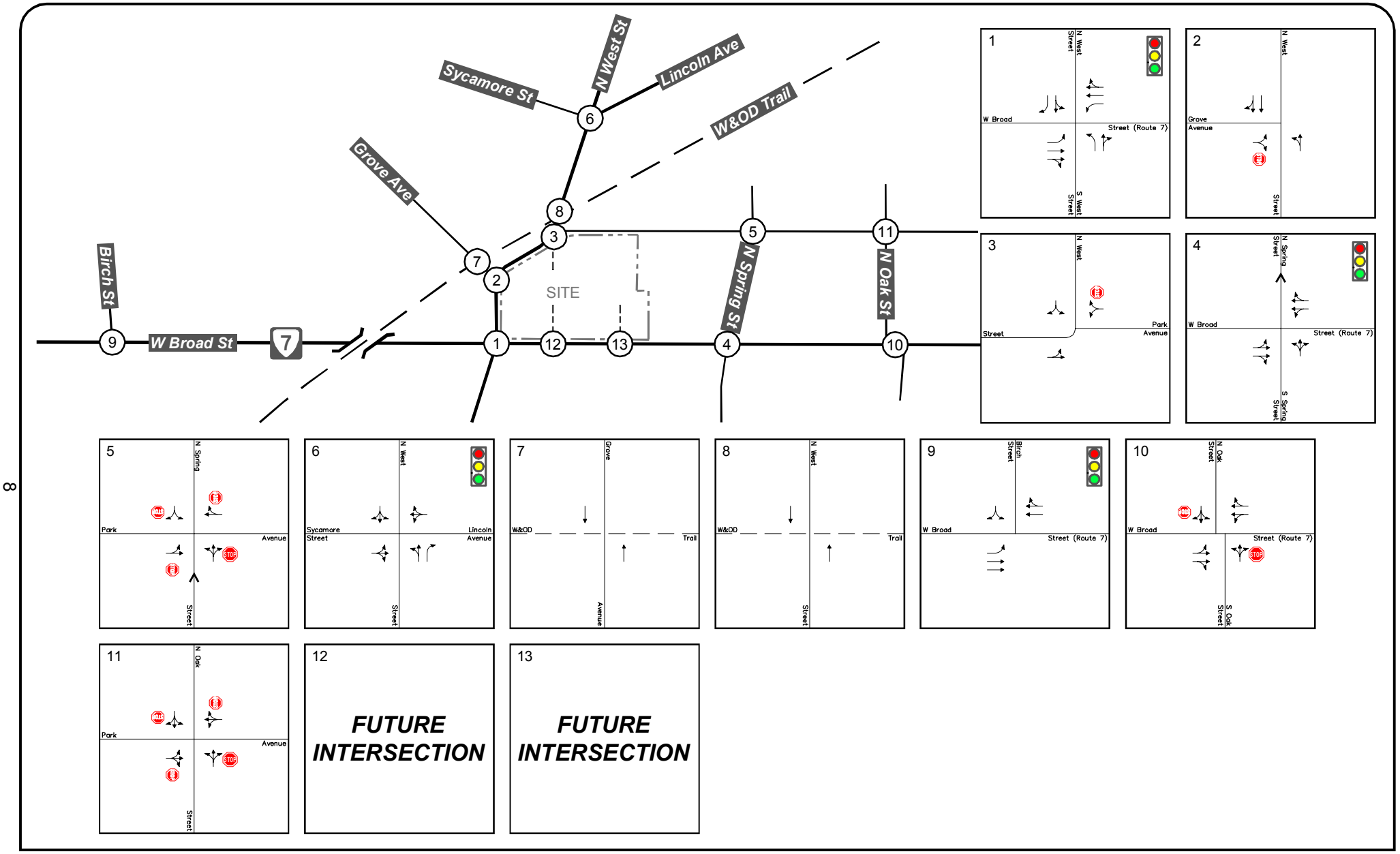

Figure 2–1
Existing Lane Use and Intersection Control

← Represents One Travel Lane
Signalized Intersection
Stop Sign

North

Mason Row
City of Falls Church, Virginia

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control.

Park Avenue. Park Avenue is a two-lane, undivided, collector street with a posted speed limit of 25 mph that runs from North West Street east along the northern property boundary. According to the Plan, collectors "provide for travel through neighborhoods." On-street parking is permitted along Park Avenue.

Grove Avenue. Grove Avenue is a two-lane, undivided, local street with a posted speed limit of 25 mph that runs from North West Street northwest to Haycock Road proximate to the West Falls Church metrorail station. On-street parking is permitted along Grove Avenue.

Washington and Old Dominion (W&OD) Trail. The W&OD Trail is a major multi-use recreational trail that generally follows the former alignment of the Washington and Old Dominion railroad. In the vicinity of the subject site, the trail has at-grade crossings at both Grove Avenue and North West Street.

Public Transit Service. The subject site is served by the following WMATA Metrobus Routes:

- 28A – "Leesburg Pike Line"
- 28X – "Leesburg Pike Limited Line"
- 3T – "Pimmit Hills Line"

These bus routes all run along West Broad Street within the City of Falls Church and provide service to the West Falls Church metrorail station. Directly adjacent to the site, marked bus stops are provided along West Broad Street as shown on Figure 2-2.

Pedestrian Facilities. Sidewalks are generally provided along the roadways in the immediate area of the subject site. As shown on Figure 2-3, sidewalks are located on both sides of West Broad Street and Park Avenue, and along the south and east sides of West Street. The W&OD trail also provides regional pedestrian access. As shown, there is a current lack of marked crosswalks at certain intersections proximate to the subject site.

Future Transportation Network

Planned Roadway Improvements. The City of Falls Church Comprehensive Plan includes recommendations for the future design and functionality of the City's transportation infrastructure as outlined in Chapter 7 "Mobility for all Modes" adopted May 27, 2014. This chapter outlines strategies that will enable and encourage less reliance on automobile travel while emphasizing, bicycle, walking, and transit modes of travel .As part of this analysis, the City requested the Applicant investigate ways to improve the performance and functionality of the North West Street/Park Avenue intersection to accommodate safer pedestrian and bicycle movement while integrating the W&OD Trail. As part of this evaluation, past proposals and concepts for the reconfiguration of this intersection were considered. Details of the intersection analysis are provided later in this report.

Bicycle and Pedestrian Facilities. The Comprehensive Plan addresses the future bike/pedestrian facilities in and around the City. The Plan considers pedestrian facilities as "a significant component of the transportation network." One of the strategies outlined in the Plan include "increase pedestrian safety and accessibility in both the commercial and residential areas of the City." The policy actions include adopting pedestrian-friendly design standards, wayfinding standards, and ensuring that ADA compliance is met. The Plan further recommends as a proposed action the adoption of a Bicycle Facilities Master Plan in order "to connect the City's commercial areas and neighborhoods, transit facilities, schools, regional bicycle facilities, and designated bicycle routes in neighboring jurisdictions."

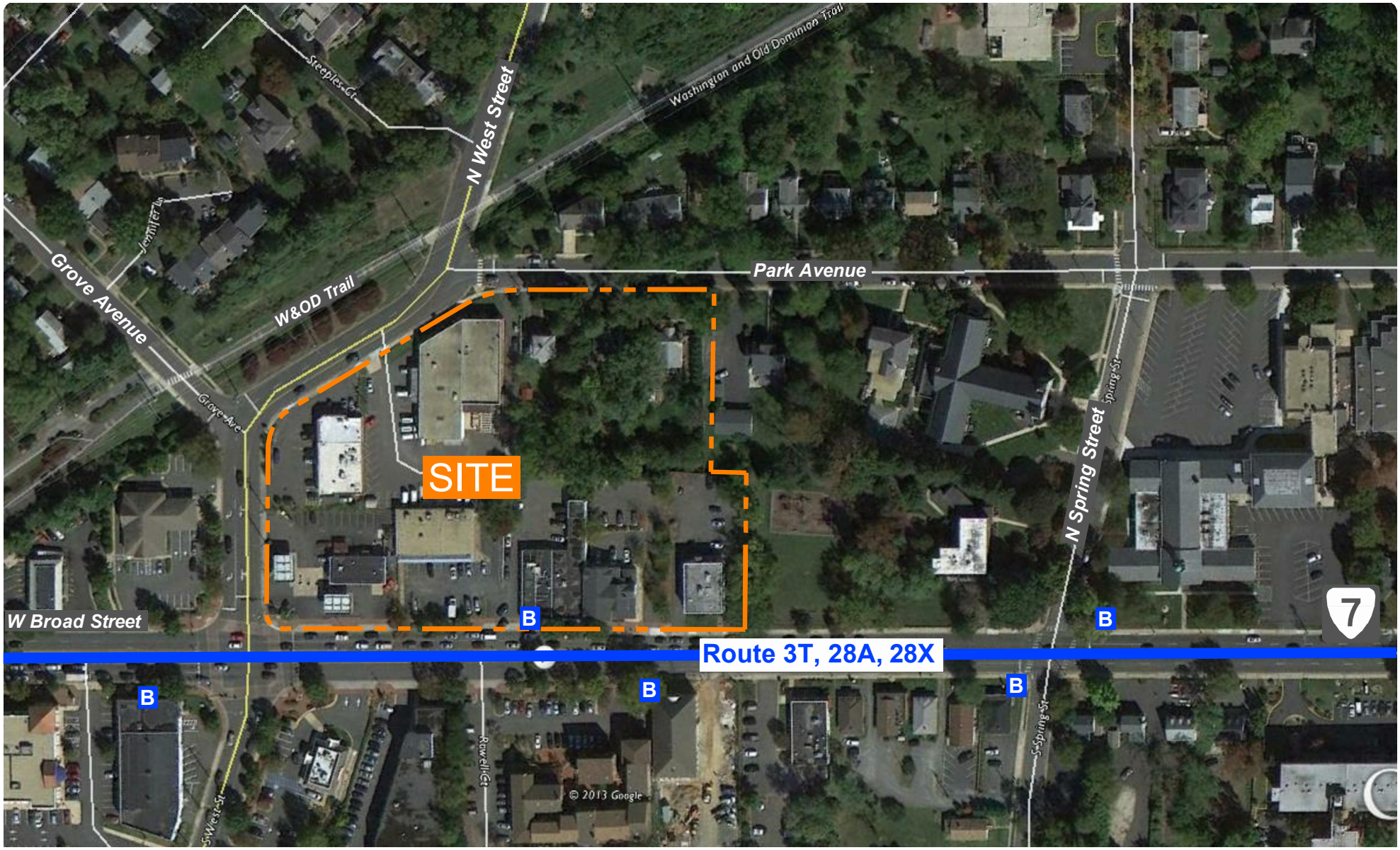

Figure 2–2
Existing Transit Service

WMATA Bus Routes 2B, 28A, and 28X

B Bus Stop

North

Mason Row
City of Falls Church, Virginia

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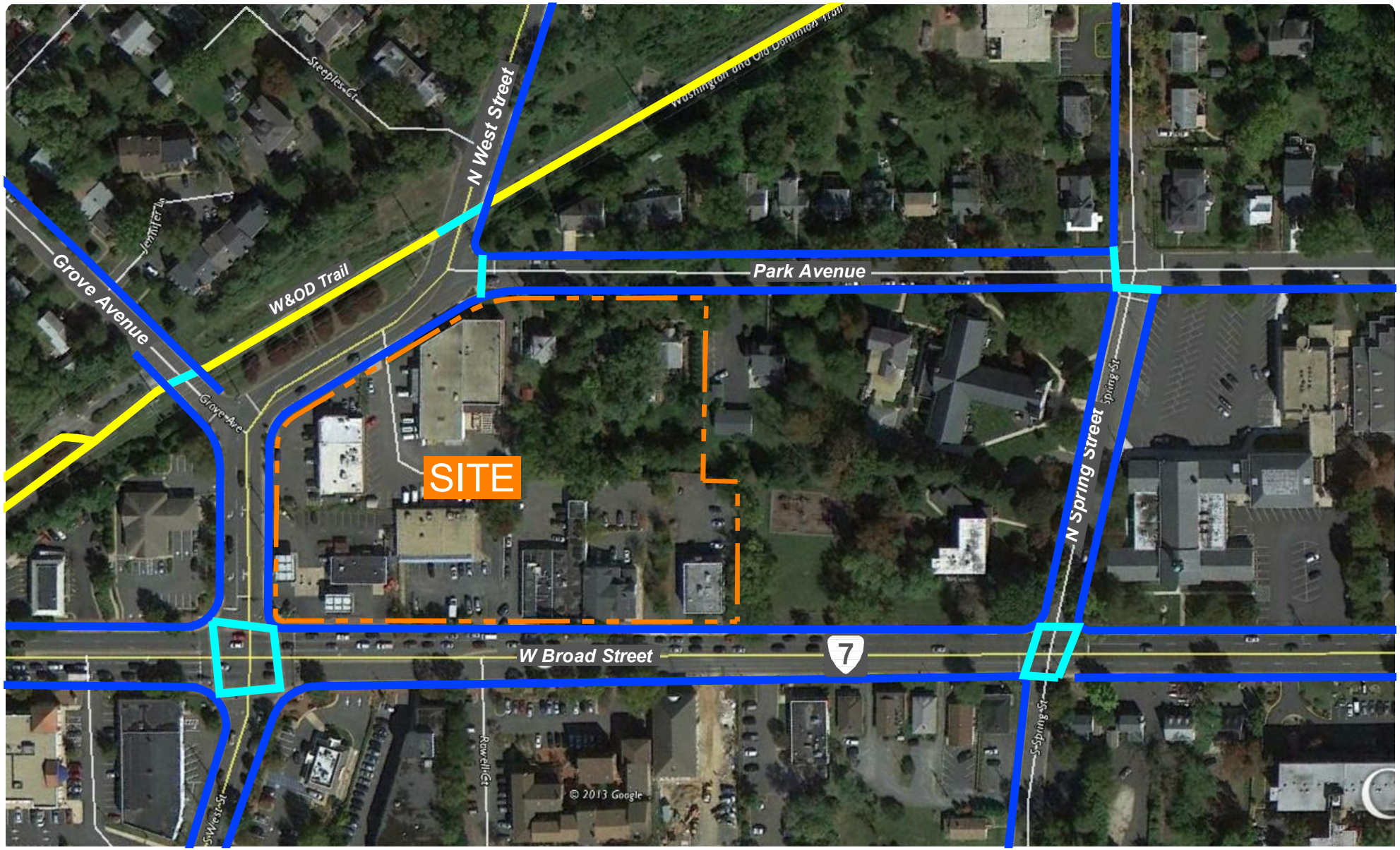

Figure 2–3
Existing Pedestrian Facilities

Sidewalk
Marked Crosswalk
W&OD Trail

North

Mason Row
City of Falls Church, Virginia

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The proposed mixed-use development will take advantage of the pedestrian/bicycle opportunities related to trip reduction and transportation demand management (described in greater detail later) and provide for amenities to encourage non-auto modes of travel. The applicant's development plan will enhance the pedestrian facilities by providing a complete sidewalk around its entire street frontage. The plan also shows the provision of crosswalks that will serve to connect the development with the surrounding pedestrian network.

To further enhance the pedestrian experience, the plan provides special paving and site furnishings. The enhanced streetscape is intended to encourage pedestrian and bicycle use, and strengthen connections to the W&OD Trail as well as adjacent commercial uses. Furthermore, the applicant has indicated a commitment to provide for bicycle storage facilities on-site for both residents and patrons.

Section 3
STUDY SCOPE AND ANALYSIS PARAMETERS

Overview

The Mason Row project is envisioned as a diverse mixed-use community of residential and retail/commercial uses. The primary advantages and assets associated with the community are its physical relationship and location adjacent to existing transit service and multi-modal network. The primary objective of this study is to assess the impacts associated with the proposed development plan on the surrounding street system.

This traffic study was conducted in general accordance with the City of Falls Church's "Guidelines for Development and Submittal of Traffic Impact Analysis (TIA)" and meetings/discussions with Wells + Associates, City staff, and the applicant. The traffic study scoping meeting between the applicant, City staff, and the City's traffic consultant (Sabra Wang) was held on August 15, 2013. Subsequent discussions further refined the desired study parameters and the City issued a letter, dated September 18, 2013, which finalized the scope. The scoping document and the City's letter are both provided in Appendix B.

Study Area

The study area was determined based on the intersections and roadways that potentially would be affected by implementation of the proposed development plan. The following intersections were selected for analysis and evaluation:

- West Broad Street/West Street
- North West Street/Grove Avenue
- North West Street/Park Avenue
- West Broad Street/Spring Street
- Park Avenue/North Spring Street
- North West Street/Lincoln Avenue
- Grove Avenue/W&OD Trail
- North West Street/W&OD Trail
- West Broad Street/Birch Street
- West Broad Street/Oak Street*
- Park Avenue/North Oak Street*
- All proposed site entrances

The intersections denoted with an asterisk (*) above were not initially proposed for analysis. City staff and the City's traffic consultant deemed that these intersections were critical to the analysis and requested these be added to the scope.

Study Methodology

Traffic (or site) impact studies are generally required by jurisdictions to assess the level of impact proposed changes in land use or development could have on a community's transportation system. Traffic impact studies focus on access to/from a property and those off-site local intersections that would potentially be impacted by traffic from the proposed development or land use change. Utilizing a four-step process, intersections are evaluated in terms of levels of service and then appropriate mitigation measures are identified to remediate sub-standard levels of service. The four-step planning process consists of trip generation, trip distribution, a determination of mode split, and traffic assignment.

As recommended by the City, trip generation estimates were developed based on standard Institute of Transportation Engineers (ITE), 9th edition, Trip Generation rates/equations for all land uses. As directed by staff, a transit/mode-split reduction of 5% was utilized. Furthermore, appropriate internal trip reductions were accounted for due to the mixed-use nature of the redevelopment and that certain trips would travel internal to the site. Appropriate pass-by reductions were applied for the retail components of the site in recognition that these uses would likely attract existing vehicles currently present along City roadways. Directional distributions and traffic assignments were developed based on a review of existing travel patterns, data from other traffic studies, local knowledge and experience, and engineering judgment and agreed to among the parties.

Levels of service and vehicle queues were estimated using established Highway Capacity Manual 2000 methodologies as reported by Synchro software, version 7. Synchro is a macroscopic analysis tool

and has the advantage of analyzing not only individual intersection performance but also how the performance measures of the intersection relate to other intersections in the same network. Important roadway network parameters, such as signal coordination/offsets and vehicle progression, are included in the Synchro analysis.

Assumed Site Development Program

For purposes of this analysis, the following types and levels of development were analyzed:

- 60,581 gross square feet (GSF) of retail uses.
- A 48,391 GSF movie theater.
- 6,780 GSF of office uses.
- A 150-room hotel.
- 340 apartment dwelling units.

For purposes of this assessment, buildout of the project is anticipated to occur in a single phase by the year 2019.

Analysis Study Periods

As requested by City staff, the intersections within the study area were analyzed under weekday AM and PM peak hour conditions.

Regional Growth

Through conversations/discussions with City staff, a 1% per year compounded growth rate was applied to existing traffic to account for background traffic growth.

Other Approved/Planned Developments

Background developments to be included in this analysis include the following planned (i.e. "pipeline") developments:

- 706 West Broad Street/707 Park Avenue
- 301 West Broad Street

Both of these proposed pipeline developments are mixed-use projects currently consisting of both residential and retail components.

Existing Traffic Volumes

Existing weekday AM and PM peak hour turning movement and pedestrian counts were conducted on Thursday, September 12, 2013 at the following intersections from 6:00 AM to 9:00 AM and from 4:00 PM to 7:00 PM:

- West Broad Street/West Street
- North West Street/Grove Avenue
- North West Street/Park Avenue
- West Broad Street/Spring Street
- Park Avenue/North Spring Street
- North West Street/Lincoln Avenue
- Grove Avenue/W&OD Trail
- North West Street/W&OD Trail

In addition, all existing site driveways were counted on September 12, 2013 in order to understand the existing trip generation characteristics of the site. On Saturday, September 14, 2013, additional Saturday midday peak hour turning movement and pedestrian counts were performed by Wells + Associates at the two W&OD Trail crossings at the request of the Northern Virginia Regional Park Authority (NVRPA).

Peak hour volumes for the following two intersections were taken from the *706 West Broad Street Traffic Impact Study*, prepared by Patton Harris Rust & Associates (PHR&A). The counts are dated November 30, 2010.

- West Broad Street/Oak Street
- Park Avenue/North Oak Street

The mainline volumes from the traffic counts were then balanced between intersections in order to provide a more representative picture of traffic conditions for analysis purposes.

The existing vehicle traffic volumes used in the analysis are provided on Figure 3-1. Existing pedestrian counts are provided on Figure 3-2. All counts data are included in Appendix C.

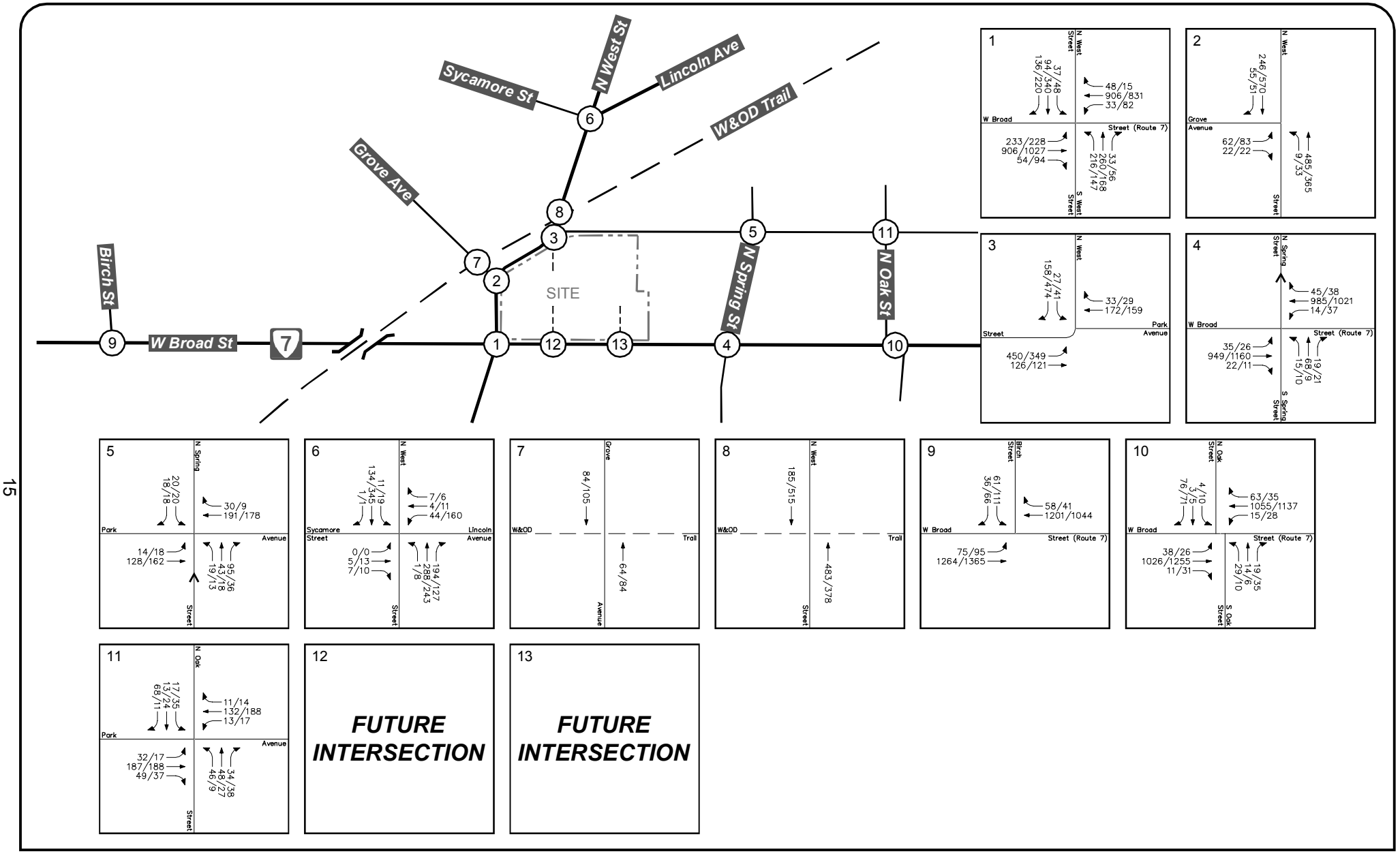

Figure 3–1
Existing Traffic Volumes

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

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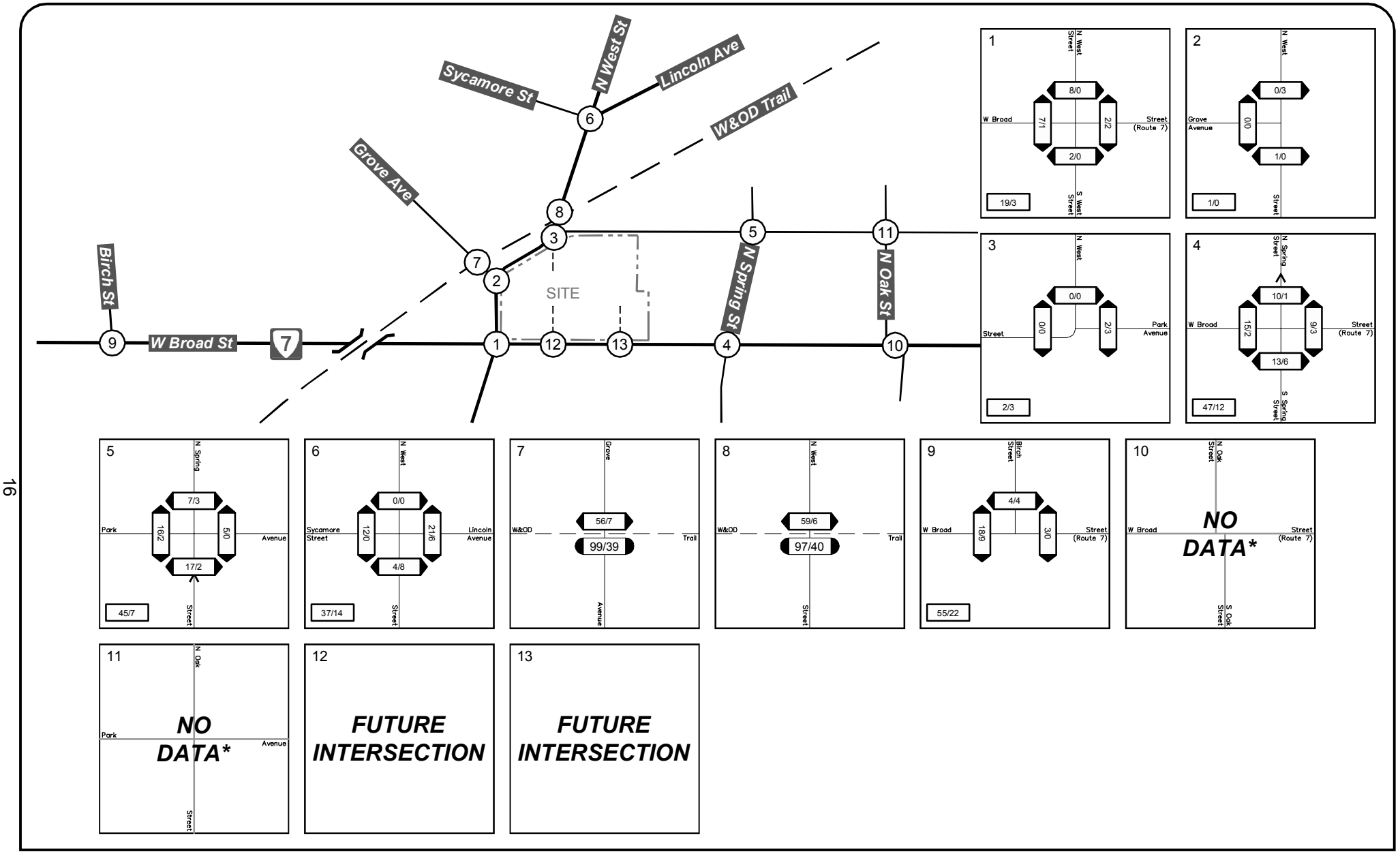

Figure 3–2
Existing Pedestrian Volumes

* Intersection Data gathered from 706 W. Broad Street and 707 Park Avenue TIA

000/000 Pedestrian Volumes

000/000 Bicycle Volumes

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

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Section 4
EXISTING CONDITIONS ANALYSIS

Existing Intersection Levels of Service

Peak hour levels of service were calculated for the study intersections based on the existing lane use and traffic controls shown on Figure 2-1, the existing traffic volumes shown on Figures 3-1 and 3-2, signal timings/phasings obtained from the City of Falls Church and the Virginia Department of Transportation (VDOT) as included in the base Synchro files, and the 2000 Highway Capacity Manual (HCM) analysis procedures for signalized and unsignalized intersections. The results are presented in Appendix D and summarized on Table 4-1 and Figure 4-1. Descriptions of levels of service are provided as Appendix E.

As reflected in Table 4-1, certain critical movements at the unsignalized intersection of West Broad Street and Oak Street are operating at or near theoretical capacity (LOS "F") during peak hours. These minor street approaches experience significant delays waiting for adequate gaps in the West Broad Street traffic stream before drivers attempt their turning maneuvers. It should be noted that the side-street delays reported by the analysis software may not reflect actual delays. Based on field data collection conducted by Wells + Associates on other projects within the City, actual STOP controlled delays may be less than HCM estimates as drivers may accept smaller gaps in traffic or may choose alternate routes if their desired turn is hindered. Mainline movements are not impacted at these intersections.

The signalized intersections currently operate at overall adequate levels of service (LOS "D" or better) based on the analysis results.

Existing Intersection Queuing

As requested by staff, an analysis of intersection 95th-percentile queues was performed at key locations. The results of the queuing analysis, as reported by Synchro, are summarized in Table 4-2.

As shown in the table, 95th-percentile queues at the West Broad Street/West Street intersection currently extend beyond the available turn bay distance at times. Specifically, the eastbound left turn queue from West Broad Street on to northbound West Street exceeds the available storage. The presence of adjacent turn lanes and the W&OD Trail aerial crossing make extending this turn bay problematic. In addition, the northbound and southbound queues on West Street at West Broad Street extend beyond upstream intersections and driveway entrances during peak hours. All other queues can be accommodated within the storage provided.

Table 4-1
Mason Row
Existing Intersection Levels of Service Summary [(1)(2)(3)(4)]

Intersection	Control	Lane Group	Existing AM	Existing PM
1. **N West Street**/W Broad Street	Signal	EBL	E (72.7)	E (64.8)
		EBTR	C (22.4)	C (29.6)
		WBL	C (24.8)	C (33.2)
		WBTR	D (38.4)	C (29.5)
		NBL	D (50.0)	D (49.8)
		NBTR	E (77.1)	E (62.2)
		SBLT	D (46.0)	F (157.7)
		SBR	C (33.7)	D (43.6)
		Overall	**D (40.9)**	**D (51.0)**
2. **N West Street**/Grove Street	STOP	EBLR	C [19.2]	E [43.7]
		NBLT	A [0.2]	A [1.2]
3. **N West Street**/Park Avenue	STOP	WBLR	D [33.7]	D [30.9]
		SBLT	A [1.6]	A [1.2]
4. W Broad Street/**N Spring Street**	Signal	EBLTR	B (12.8)	A (1.9)
		WBTR	A (5.6)	A (3.5)
		NBLTR	C (20.5)	D (53.1)
		Overall	**A (9.6)**	**A (3.6)**
5. Park Avenue/**N Spring Street**	All-way STOP	EBLT	A [9.3]	A [9.1]
		WBTR	A [10.0]	A [9.1]
		NBLTR	A [9.2]	A [8.2]
		SBLR	A [8.4]	A [8.2]
		Overall	**A [9.4]**	**A [8.9]**
6. **N West Street**/Lincoln Avenue	Signal	EBLTR	D (46.3)	C (32.6)
		WBLTR	D (42.2)	C (26.8)
		NBLT	A (3.9)	C (24.3)
		NBR	A (3.5)	C (20.2)
		SBLTR	A (3.4)	C (28.1)
		Overall	**A (7.7)**	**C (25.9)**
9. W Broad Street/**Birch Street**	Signal	EBL	A (7.2)	A (5.7)
		EBT	A (5.3)	A (6.4)
		WBTR	A (8.7)	B (18.5)
		SBLR	D (45.8)	D (54.3)
		Overall	**A (8.4)**	**B (14.5)**
10. W Broad Street/**N Oak Street**	STOP	EBLTR	A [2.3]	A [1.6]
		WBLTR	A [0.7]	A [1.7]
		NBLTR	F [662.0]	F [420.0]
		SBLTR	F [65.4]	F [295.4]
11. Park Avenue/**N Oak Street**	All-way STOP	EBLTR	B [11.3]	B [10.3]
		WBLTR	A [9.8]	B [10.1]
		NBLTR	A [9.7]	A [8.8]
		SBLTR	A [9.0]	A [9.1]
		Overall	**B [10.3]**	**A [9.9]**

Notes:
(1) Numbers in parentheses ( ) represent delay at signalized intersections in seconds per vehicle.
(2) Numbers in square brackets [ ] represent delay at unsignalized intersections in seconds per vehicle.
(3) Roadways in **BOLD** are considered North/South for purposes of this analysis
(4) Asterisks * represent delays in excess of 999.9 seconds.

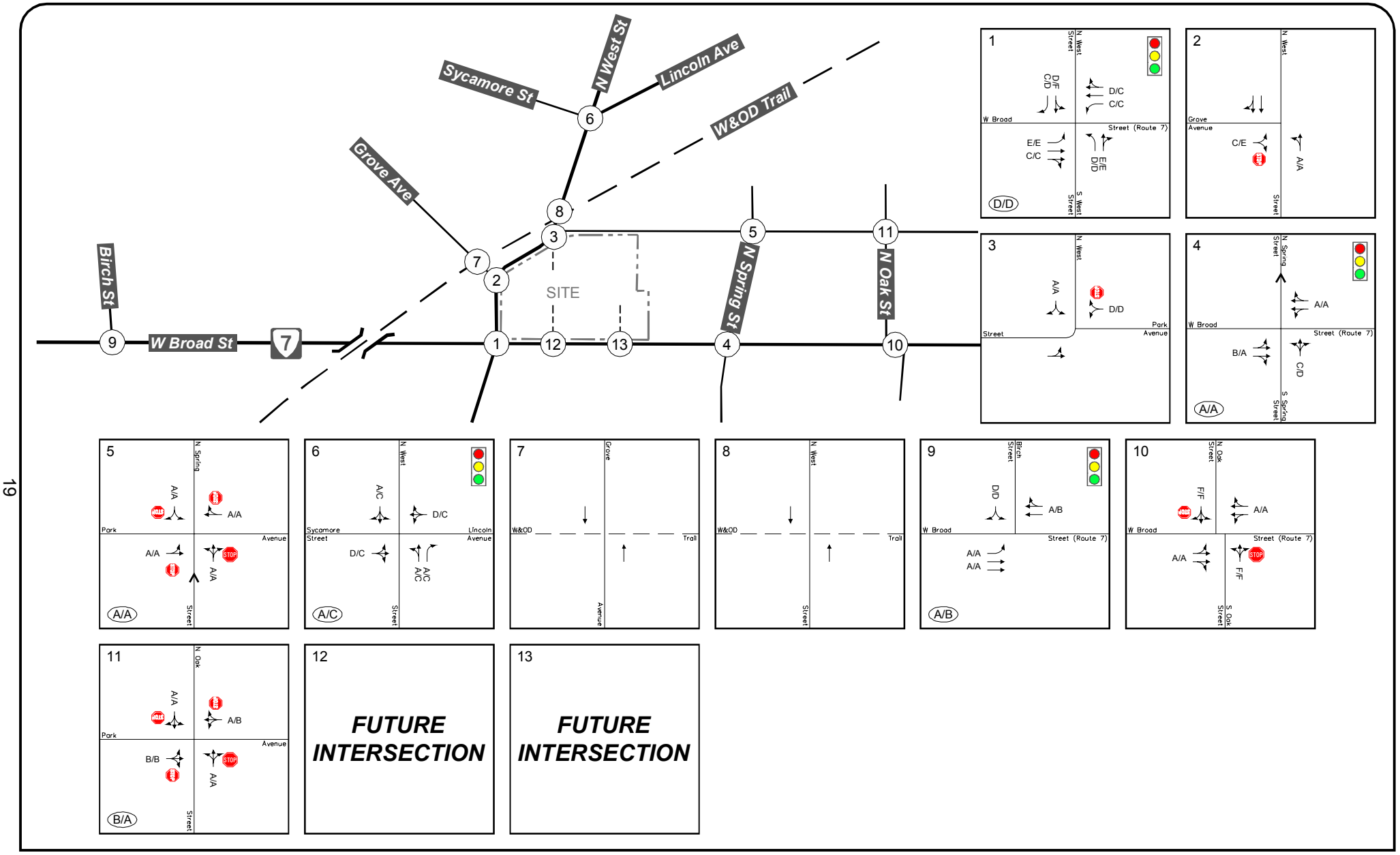

Figure 4–1
Existing Levels of Service

X/X Lane Group Level of Service
(X/X) Overall Level of Service

Represents One Travel Lane
Signalized Intersection
Stop Sign

North

Mason Row
City of Falls Church, Virginia

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Table 4-2
Mason Row
Existing Intersection Queues [1][2][3][4][5]

Intersection	Control	Lane Group	Available Storage	Existing AM	Existing PM
1. **N West Street**/W Broad Street	Signal	EBL	175	#300	#287
		EBTR	N/A	454	#638
		WBL	140	m27	86
		WBTR	N/A	527	307
		NBL	250	260	192
		NBTR	N/A	#400	278
		SBLT	N/A	161	#632
		SBR	N/A	80	94
2. **N West Street**/Grove Street	STOP	EBLR	N/A	28	76
		NBLT	N/A	1	3
3. **N West Street**/Park Avenue	STOP	WBLR	N/A	118	101
		SBLT	N/A	3	3
4. W Broad Street/**N Spring Street**	Signal	EBLTR	N/A	m508	m27
		WBTR	N/A	174	180
		NBLTR	N/A	56	51
5. Park Avenue/**N Spring Street** [6]	All-way STOP	EBLT	N/A	71	80
		WBTR	N/A	72	64
		NBLTR	N/A	69	47
		SBLR	N/A	46	48
6. **N West Street**/Lincoln Avenue	Signal	EBLTR	N/A	21	29
		WBLTR	N/A	68	153
		NBLT	N/A	115	197
		NBR	150	23	38
		SBLTR	N/A	59	295
9. W Broad Street/**Birch Street**	Signal	EBL	300	27	39
		EBT	N/A	256	343
		WBTR	N/A	506	470
		SBLR	N/A	109	206
10. W Broad Street/**N Oak Street**	STOP	EBLTR	N/A	6	4
		WBLTR	N/A	2	5
		NBLTR	N/A	185	139
		SBLTR	N/A	90	194
11. Park Avenue/**N Oak Street** [6]	All-way STOP	EBLTR	N/A	88	74
		WBLTR	N/A	63	97
		NBLTR	N/A	65	49
		SBLTR	N/A	54	49

Notes:
(1) Queue length is based on the 95th percentile queue in feet as reported by Synchro, Version 7.
(2) "#" indicates that the 95th percentile volume exceeds capacity, queue may be longer.
(3) "m" indicates that the volume for 95th percentile queue is metered by upstream signal.
(4) Roadways in **BOLD** are considered North/South for purposes of this analysis
(5) "*" indicates that the volume exceeds capacity, queue is theoretically infinite.
(6) Queue length analyzed with SimTraffic 7.

Section 5

ANALYSIS OF FUTURE CONDITIONS WITHOUT SITE DEVELOPMENT

Overview

Forecasts for traffic conditions without the development of the Mason Row project were estimated at key study intersections based on a composite of existing traffic, regional traffic growth, and pipeline development trips as described in Section 3 of this report. Future levels of service and queues under these forecasted conditions were evaluated at the key study intersections.

Regional Traffic Growth

For purposes of this traffic assessment, a study horizon year of 2019 was assumed for the anticipated build-out of the subject development. In order to develop future traffic forecasts, the existing traffic volumes shown on Figure 3-1 were adjusted to account for increases associated with regional traffic growth.

In order to account for a continued pattern of growth, a rate of one (1) percent per year compounded was applied to all existing mainline volumes within the study area. This rate is compatible with other area studies. The resulting increases in traffic volumes due to regional growth are depicted on Figure 5-1.

Traffic from Other Approved/Pending Developments

At the request of staff, the following approved or pending (i.e., "pipeline") developments were included in the forecasting of future traffic conditions:

- 706 West Broad Street
- 301 West Broad Street

The land use assumptions for each of these pipeline developments is summarized as follows and, as much as possible, are based on the most current development plans for each respective site and/or application.

706 West Broad Street
- 110-Room Hotel
- 5,439 gross square feet of office uses

301 West Broad Street
- 294 multifamily residential dwelling units
- 60,883 gross square foot supermarket
- 4,011 gross square feet of retail uses

Trips generated by these pipeline developments were estimated using ITE Trip Generation rates/equations consistent with their respective traffic studies. The trips are summarized in Table 5-1. Internal trip reductions and pass-by trip rates, as applicable, were applied to this analysis consistent with the background traffic studies. It should be noted that the trip generation estimates associated with these pipeline developments are not based on economic prediction models.

The pipeline development trips summarized in Table 5-1 were assigned to the public street network consistent with the directional distributions used in the background traffic studies. Trip assignments related to each individual pipeline development are provided in Appendix F. The sum total of all pipeline development related trips through each study intersection is summarized on Figure 5-2.

Background Traffic Forecasts

The existing traffic forecasts depicted on Figure 3-1, the regional growth shown on Figure 5-1, and the pipeline trip assignments shown on Figure 5-2 were added together to yield the background future traffic forecasts shown on Figure 5-3 for the study intersections.

Background Future Levels of Service

Capacity analyses of 2019 future traffic conditions without the proposed redevelopment are provided in Appendix G and summarized in Table 5-2. The forecasted levels of service are also depicted graphically on Figure 5-4.

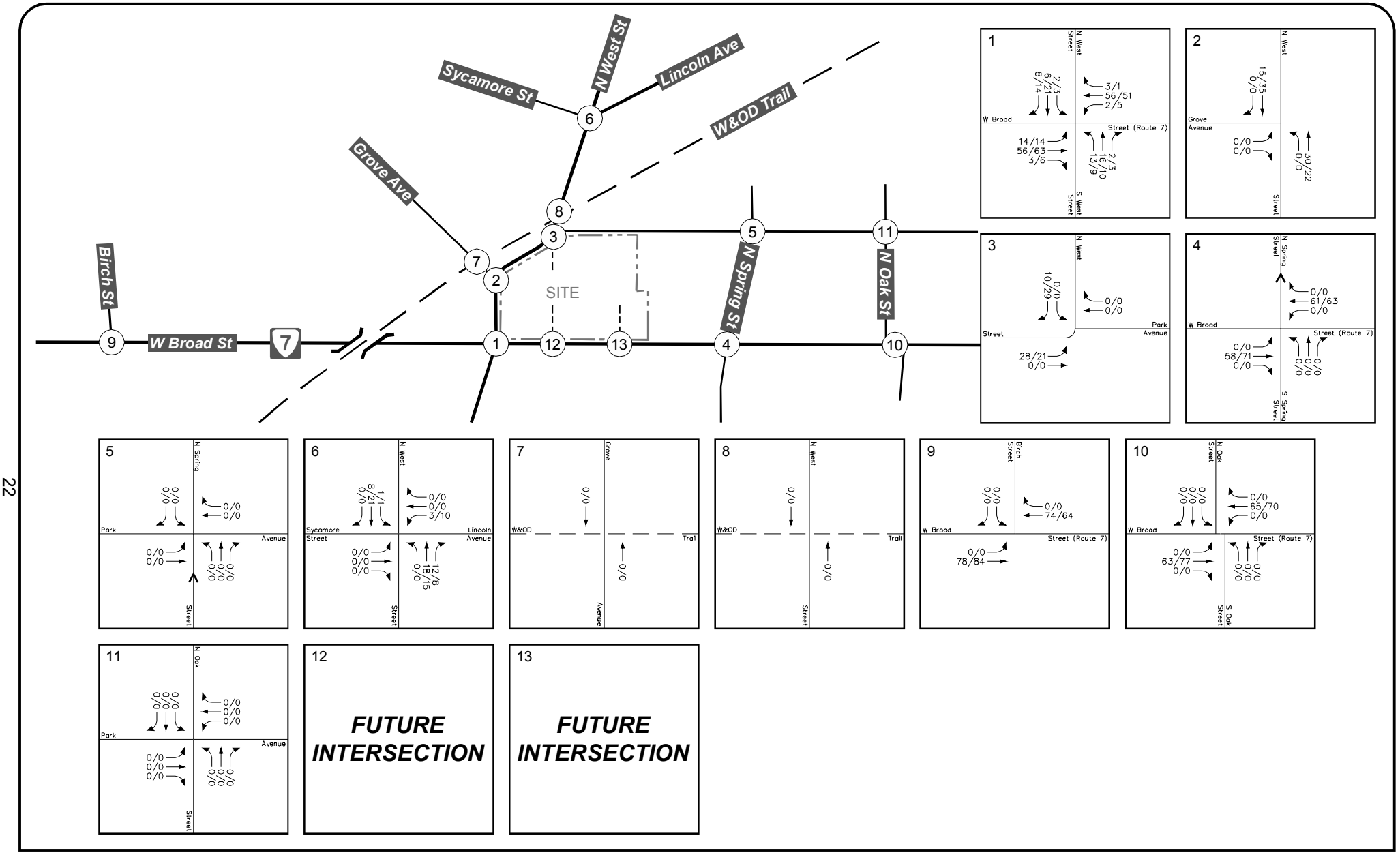

Figure 5–1
Regional Traffic Growth

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

Table 5-1
Mason Row
Pipeline Development Trip Generation Analysis [1]

Pipeline Development	Land Use Code	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	ADT
301 W Broad Street (2)										
Apartment	220	294	DU	30	118	148	116	63	179	2,052
Internal Trips Reduction				(2)	(6)	(8)	(12)	(6)	(18)	205
Total Residential External Trips				28	112	140	104	57	161	1847
Supermarket	850	60,883	GSF	134	85	219	325	312	637	10,812
Specialty Retail Center	814	4,011	GSF	2	2	4	14	17	31	169
Subtotal Retail Trips				136	87	223	339	329	668	10,981
Internal Trips Reduction				(6)	(2)	(8)	(6)	(12)	(18)	205
Subtotal Retail Trips				130	85	215	333	317	650	10,776
Pass by Trips Reduction				(47)	(31)	(78)	(120)	(114)	(234)	3,879
Total Retail External Trips				83	54	137	213	203	416	6,897
Existing Counts				19	20	39	48	36	84	1,196
Total Net New External Trips (Less Existing Trips)				**92**	**146**	**238**	**269**	**224**	**493**	**7,548**
706 W Broad Street/707 Park Avenue										
Hotel	310	110	rooms	38	24	62	34	31	65	899
Medical Office	710	5,439	GSF	10	3	13	5	14	19	197
			Total Trips	**48**	**27**	**74**	**39**	**44**	**84**	**1,095**
Total Pipeline Development Trip Generation				**140**	**173**	**312**	**308**	**268**	**577**	**8,643**

Note(s):
(1) Trip generation based on the Institute of Transportation Engineers' Trip Generation, 8th Edition.
(2) Trip generation taken from the "301 W. Broad Street - Traffic Impact Study" prepared by Gorove/Slade Associates, dated January 23, 2013

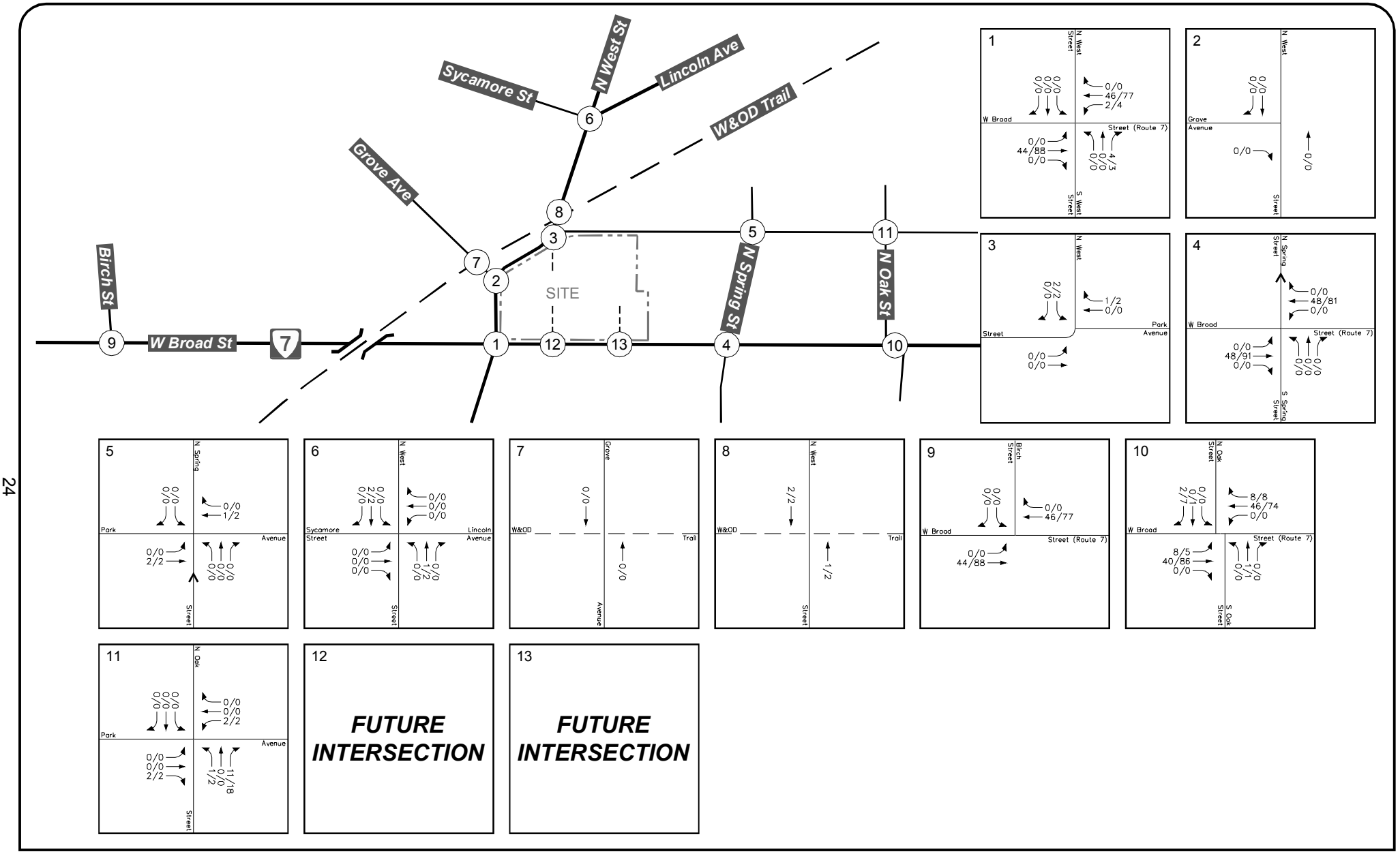

Figure 5-2
Pipeline Trip Assignments

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

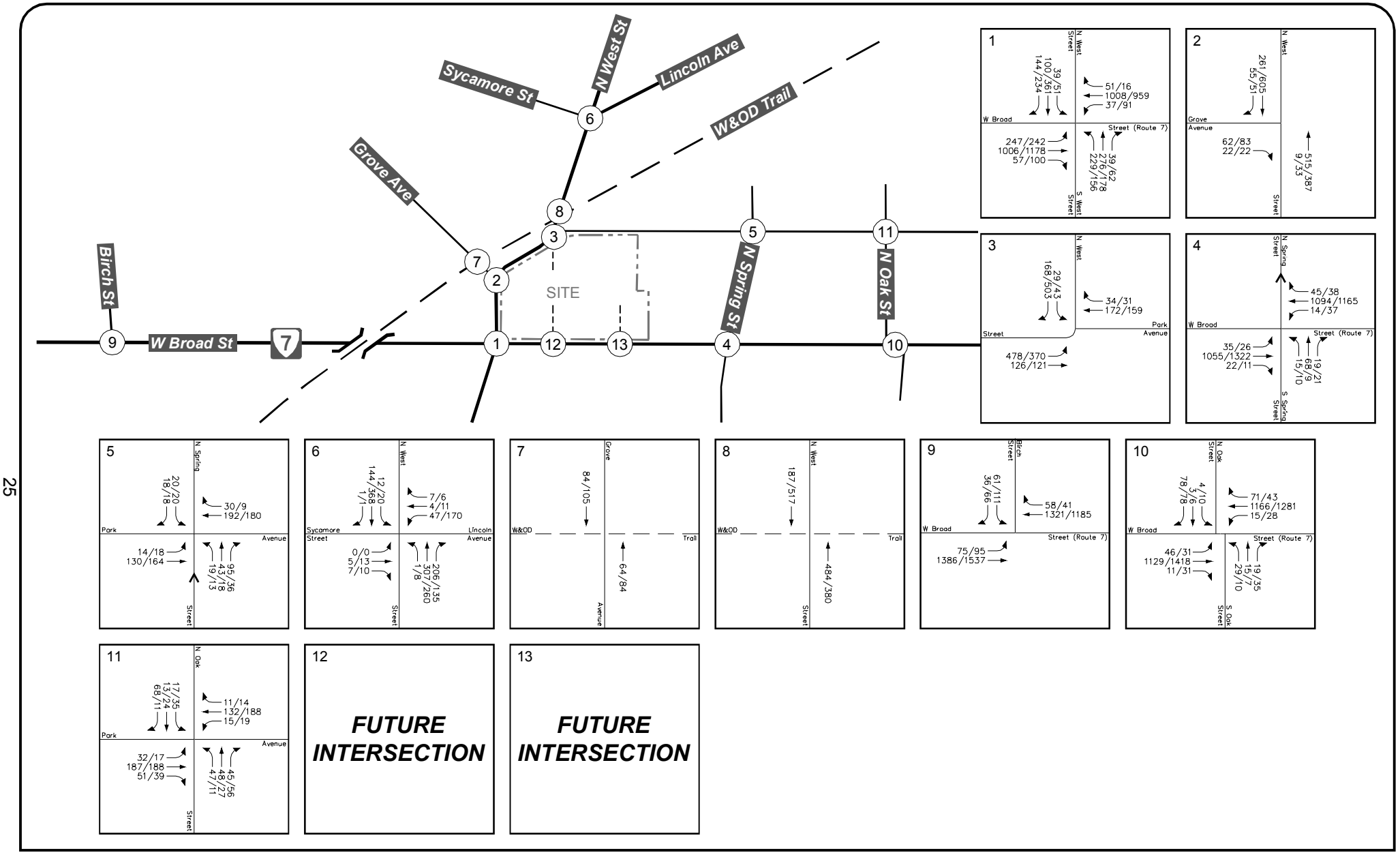

Figure 5–3
Background Future Traffic Forecasts

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

Table 5-2
Mason Row
Background Intersection Levels of Service Summary [(1)(2)(3)(4)]

Intersection	Control	Lane Group	Existing AM	Existing PM	Background AM	Background PM
1. **N West Street**/W Broad Street	Signal	EBL	E (72.7)	E (64.8)	F (136.4)	F (108.5)
		EBTR	C (22.4)	C (29.6)	C (25.3)	D (39.2)
		WBL	C (24.8)	C (33.2)	C (25.7)	D (37.0)
		WBTR	D (38.4)	C (29.5)	D (41.2)	C (32.0)
		NBL	D (50.0)	D (49.8)	D (49.5)	D (49.8)
		NBTR	E (77.1)	E (62.2)	E (76.7)	E (64.9)
		SBLT	D (46.0)	F (157.7)	D (45.8)	F (185.1)
		SBR	C (33.7)	D (43.6)	C (33.8)	D (44.1)
		Overall	**D (40.9)**	**D (51.0)**	**D (46.9)**	**E (60.8)**
2. **N West Street**/Grove Street	STOP	EBLR	C [19.2]	E [43.7]	C [19.3]	F [50.6]
		NBLT	A [0.2]	A [1.2]	A [0.2]	A [1.2]
3. **N West Street**/Park Avenue	STOP	WBLR	D [33.7]	D [30.9]	D [32.0]	D [29.9]
		SBLT	A [1.6]	A [1.2]	A [1.7]	A [1.2]
4. W Broad Street/**N Spring Street**	Signal	EBLTR	B (12.8)	A (1.9)	B (14.8)	A (3.2)
		WBTR	A (5.6)	A (3.5)	A (5.7)	A (4.0)
		NBLTR	C (20.5)	D (53.1)	C (20.5)	D (53.1)
		Overall	**A (9.6)**	**A (3.6)**	**B (10.6)**	**A (4.3)**
5. Park Avenue/**N Spring Street**	All-way STOP	EBLT	A [9.3]	A [9.1]	A [9.0]	A [8.9]
		WBTR	A [10.0]	A [9.1]	A [9.6]	A [8.9]
		NBLTR	A [9.2]	A [8.2]	A [8.9]	A [8.1]
		SBLR	A [8.4]	A [8.2]	A [8.2]	A [8.1]
		Overall	**A [9.4]**	**A [8.9]**	**A [9.1]**	**A [8.7]**
6. **N West Street**/Lincoln Avenue	Signal	EBLTR	D (46.3)	C (32.6)	D (46.2)	C (32.6)
		WBLTR	D (42.2)	C (26.8)	D (42.2)	C (27.0)
		NBLT	A (3.9)	C (24.3)	A (3.9)	C (24.7)
		NBR	A (3.5)	C (20.2)	A (3.5)	C (20.3)
		SBLTR	A (3.4)	C (28.1)	A (3.4)	C (29.1)
		Overall	**A (7.7)**	**C (25.9)**	**A (7.4)**	**C (26.4)**
9. W Broad Street/**Birch Street**	Signal	EBL	A (7.2)	A (5.7)	A (7.0)	A (6.7)
		EBT	A (5.3)	A (6.4)	A (5.3)	A (6.9)
		WBTR	A (8.7)	B (18.5)	A (7.4)	B (19.8)
		SBLR	D (45.8)	D (54.3)	D (45.7)	D (53.7)
		Overall	**A (8.4)**	**B (14.5)**	**A (7.7)**	**B (14.8)**
10. W Broad Street/**N Oak Street**	STOP	EBLTR	A [2.3]	A [1.6]	A [2.8]	A [2.2]
		WBLTR	A [0.7]	A [1.7]	A [0.7]	A [2.2]
		NBLTR	F [662.0]	F [420.0]	F [997.0]	F [*]
		SBLTR	F [65.4]	F [295.4]	F [451.3]	F [*]
11. Park Avenue/**N Oak Street**	All-way STOP	EBLTR	B [11.3]	B [10.3]	B [10.7]	A [10.0]
		WBLTR	A [9.8]	B [10.1]	A [9.5]	A [9.8]
		NBLTR	A [9.7]	A [8.8]	A [9.5]	A [8.7]
		SBLTR	A [9.0]	A [9.1]	A [8.8]	A [9.0]
		Overall	**B [10.3]**	**A [9.9]**	**A [9.9]**	**A [9.6]**

Notes:
(1) Numbers in parentheses ( ) represent delay at signalized intersections in seconds per vehicle.
(2) Numbers in square brackets [ ] represent delay at unsignalized intersections in seconds per vehicle.
(3) Roadways in **BOLD** are considered North/South for purposes of this analysis
(4) Asterisks * represent delays in excess of 999.9 seconds.

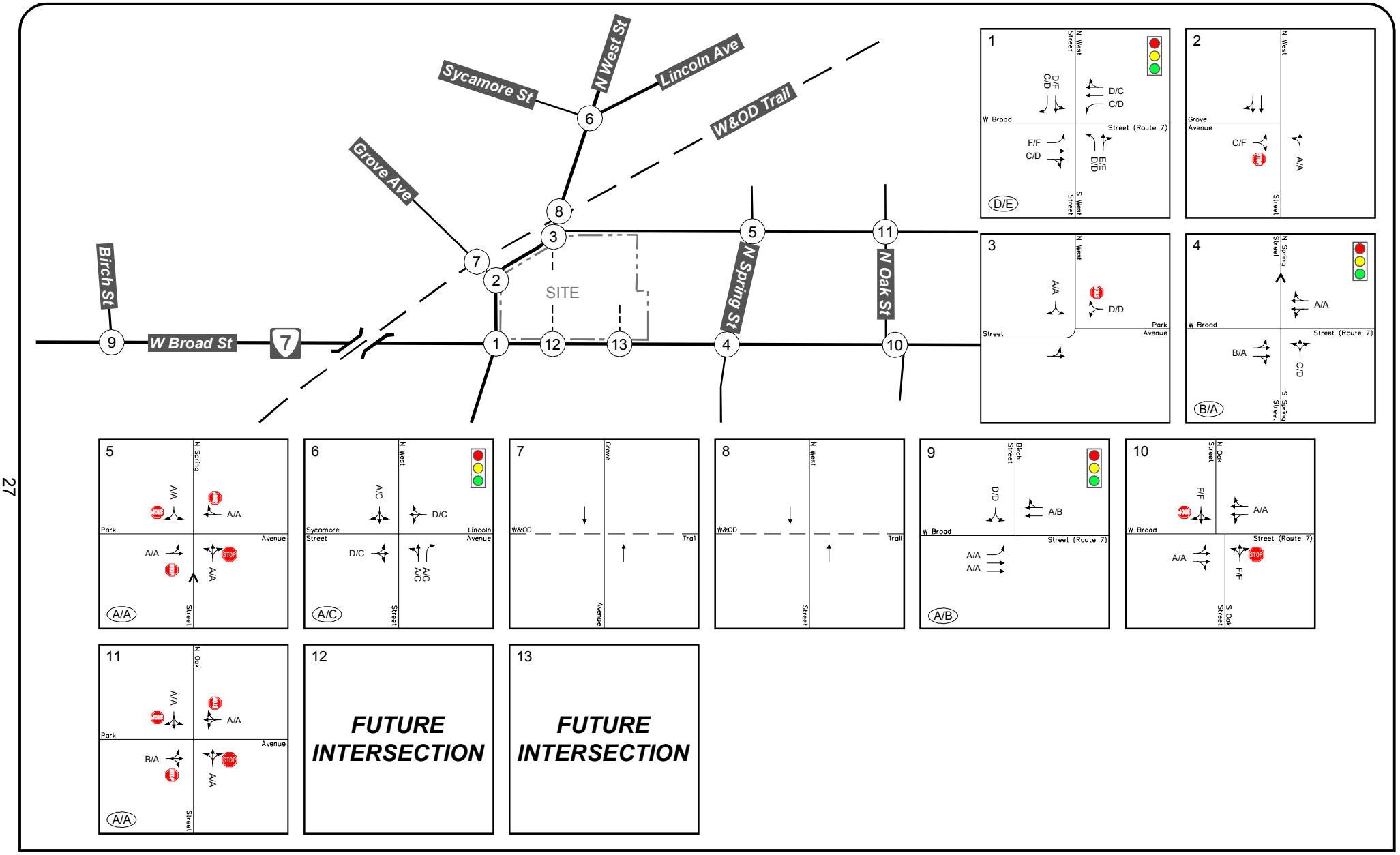

Figure 5–4
Background Future Levels of Service

X/X Lane Group Level of Service
(X/X) Overall Level of Service

Represents One Travel Lane
Signalized Intersection
Stop Sign

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

As shown on Table 5-2, delays and levels of service do not change significantly from existing (2013) to background future (2019) conditions. Critical movements at the unsignalized intersections on West Broad Street will continue to operate at or near capacity during one or more peak periods (LOS "F") due to heavy mainline through movements which are further exacerbated by increases in traffic resulting from regional growth and pipeline development.

The signalized intersections continue to operate at levels of service consistent with existing LOS. The exception is that the West Broad Street/West Street intersection would worsen from LOS "D" to LOS "E" under future background conditions.

Background Future Queuing

As requested by staff, an analysis of intersection queues was performed at key locations under background future traffic conditions. The results of the queuing analysis, with and without the recommended background improvement, are summarized in Table 5-3.

As shown in the table, under background future conditions, 95th-percentile queues would increase over existing conditions as a result of regional growth and future pipeline development. Consistent with existing conditions, certain turning movement queues would exceed the available storage length at the West Broad Street/West Street intersection during weekday peak hours.

Table 5-3
Mason Row
Background Intersection Queues [1][2][3][4][5]

Intersection	Control	Lane Group	Available Storage	Existing AM	Existing PM	Background AM	Background PM
1. **N West Street**/W Broad Street	Signal	EBL	175	#300	#287	#366	#350
		EBTR	N/A	454	#638	526	#800
		WBL	140	m27	86	m30	109
		WBTR	N/A	527	307	#591	361
		NBL	250	260	192	274	204
		NBTR	N/A	#400	278	#438	#305
		SBLT	N/A	161	#632	168	#679
		SBR	N/A	80	94	90	110
2. **N West Street**/Grove Street	STOP	EBLR	N/A	28	76	26	86
		NBLT	N/A	1	3	1	3
3. **N West Street**/Park Avenue	STOP	WBLR	N/A	118	101	106	92
		SBLT	N/A	3	3	3	4
4. W Broad Street/**N Spring Street**	Signal	EBLTR	N/A	m508	m27	m561	m83
		WBTR	N/A	174	180	202	220
		NBLTR	N/A	56	51	56	52
5. Park Avenue/**N Spring Street** [6]	All-way STOP	EBLT	N/A	71	80	90	75
		WBTR	N/A	72	64	69	57
		NBLTR	N/A	69	47	63	38
		SBLR	N/A	46	48	48	48
6. **N West Street**/Lincoln Avenue	Signal	EBLTR	N/A	21	29	21	30
		WBLTR	N/A	68	153	71	159
		NBLT	N/A	115	197	122	209
		NBR	150	23	38	24	39
		SBLTR	N/A	59	295	63	317
9. W Broad Street/**Birch Street**	Signal	EBL	300	27	39	27	37
		EBT	N/A	256	343	293	408
		WBTR	N/A	506	470	575	542
		SBLR	N/A	109	206	107	207
10. W Broad Street/**N Oak Street**	STOP	EBLTR	N/A	6	4	8	6
		WBLTR	N/A	2	5	2	6
		NBLTR	N/A	185	139	207	*
		SBLTR	N/A	90	194	211	*
11. Park Avenue/**N Oak Street** [6]	All-way STOP	EBLTR	N/A	88	74	85	65
		WBLTR	N/A	63	97	69	81
		NBLTR	N/A	65	49	63	66
		SBLTR	N/A	54	49	57	51

Notes:
(1) Queue length is based on the 95th percentile queue in feet as reported by Synchro, Version 7.
(2) "#" indicates that the 95th percentile volume exceeds capacity, queue may be longer.
(3) "m" indicates that the volume for 95th percentile queue is metered by upstream signal.
(4) Roadways in **BOLD** are considered North/South for purposes of this analysis
(5) "*" indicates that the volume exceeds capacity, queue is theoretically infinite.
(6) Queue length analyzed with SimTraffic 7.

Section 6
SITE ANALYSIS

Overview

As part of the four-step process described previously, trips anticipated to be generated by the proposed redevelopment plan were forecasted and then assigned to the surrounding roadway network based on a trip distribution. The generation, distribution, and assignment of site trips were based on the proposed development plan and program as well as the locations of future site entrances in relation to the surrounding roadway network.

Existing Site Trips

As stated previously, the site is currently developed with a number of existing commercial uses as well as three residential lots. The redevelopment plan proposes razing these existing uses in order to develop the site. As a result, trips currently generated by these uses would no longer be experienced on the surrounding roadway network. Driveway counts were conducted at each of the existing site driveways in order to determine the number of existing trips that should be removed from the network. These driveway count data are provided in Appendix H and summarized in Table 6-1. As shown in Table 6-1, the current site uses generate 216 weekday AM and 120 weekday PM peak hour trips. For purposes of forecasting future traffic conditions with the proposed redevelopment plan, these trips were removed at key study intersections based on these driveway counts as shown on Figure 6-1.

Proposed Site Access

A reduction of the proposed redevelopment plan is provided on Figure 1-2. As shown, the plan depicts two points of site access along West Broad Street. The westernmost access would operate as a right-in/right-out partial movement intersection. The easternmost would operate as a full-movement intersection. Full-movement access would be provided at the intersection of North West Street and Park Avenue pending a reconfiguration of the intersection. The analysis of these site access points are detailed in Section 7 of this report. The future lane use and intersection controls (with the proposed site entrances) are provided on Figure 6-2.

Trip Generation

Overview. Trip generation estimates for the AM, and PM peak hours, as well as the weekday average daily traffic (ADT), were derived from the standard Institute of Transportation Engineers (ITE) trip generation rates, as published in the 9th edition. The rates used for the analysis were for land uses "apartments" (Land Use Code 220) for the residential component, "specialty retail" (826) for the retail portion, "general office" (LUC 710) for the office uses, "movie theater with matinee" (LUC 444) for the proposed theater, and "hotel" (LUC 310) for the proposed hotel portion. The trip generation analysis is presented in Table 6-1.

Internal Trips. The redevelopment plan, as proposed by Spectrum Development LLC reflects a mix of retail, hotel, and residential uses. It is not unreasonable to assume that due to the nature of the mix of uses, a portion of trips generated by the site would be "captured" trips; that are trips internal to the development, and not new trips to the roadway network.

By its nature and character of uses, the land uses within the new development would experience a naturally occurring synergy. That is, a proportion of individual residential trips may then utilize the retail uses or retail customers that would take advantage of trip combining to conduct a multitude of trips. As a result of this naturally occurring synergy, some reduction in future volumes is likely. Given the variety of retail uses proposed and through conversation with City of Falls Church staff, an internal allowance of 5%/10% for the AM/PM peak hours, respectively, was applied between the residential/hotel and retail components of the generated trips. This internal trip reduction is shown in Table 6-1.

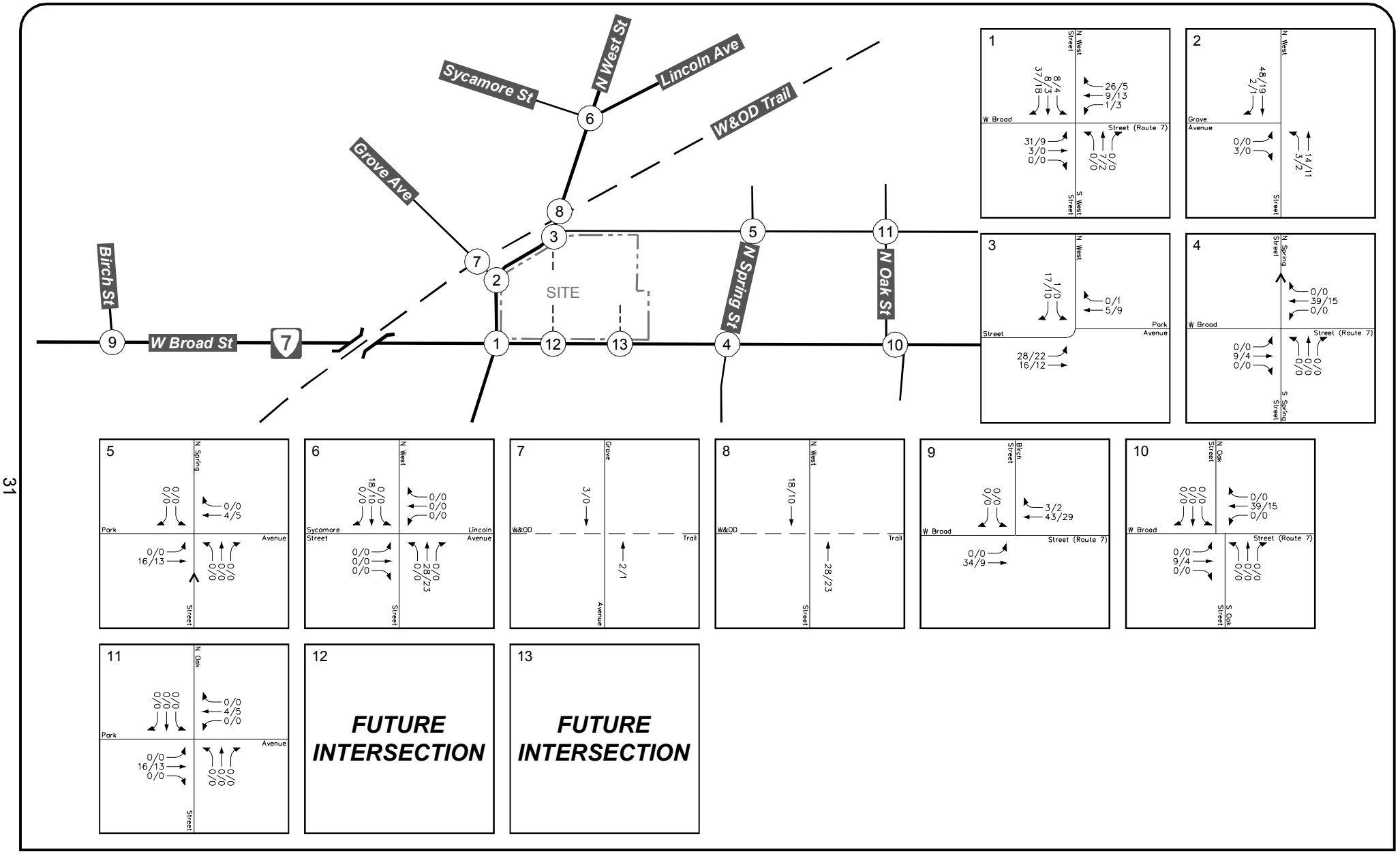

Figure 6–1
Existing Site Trips Removed

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

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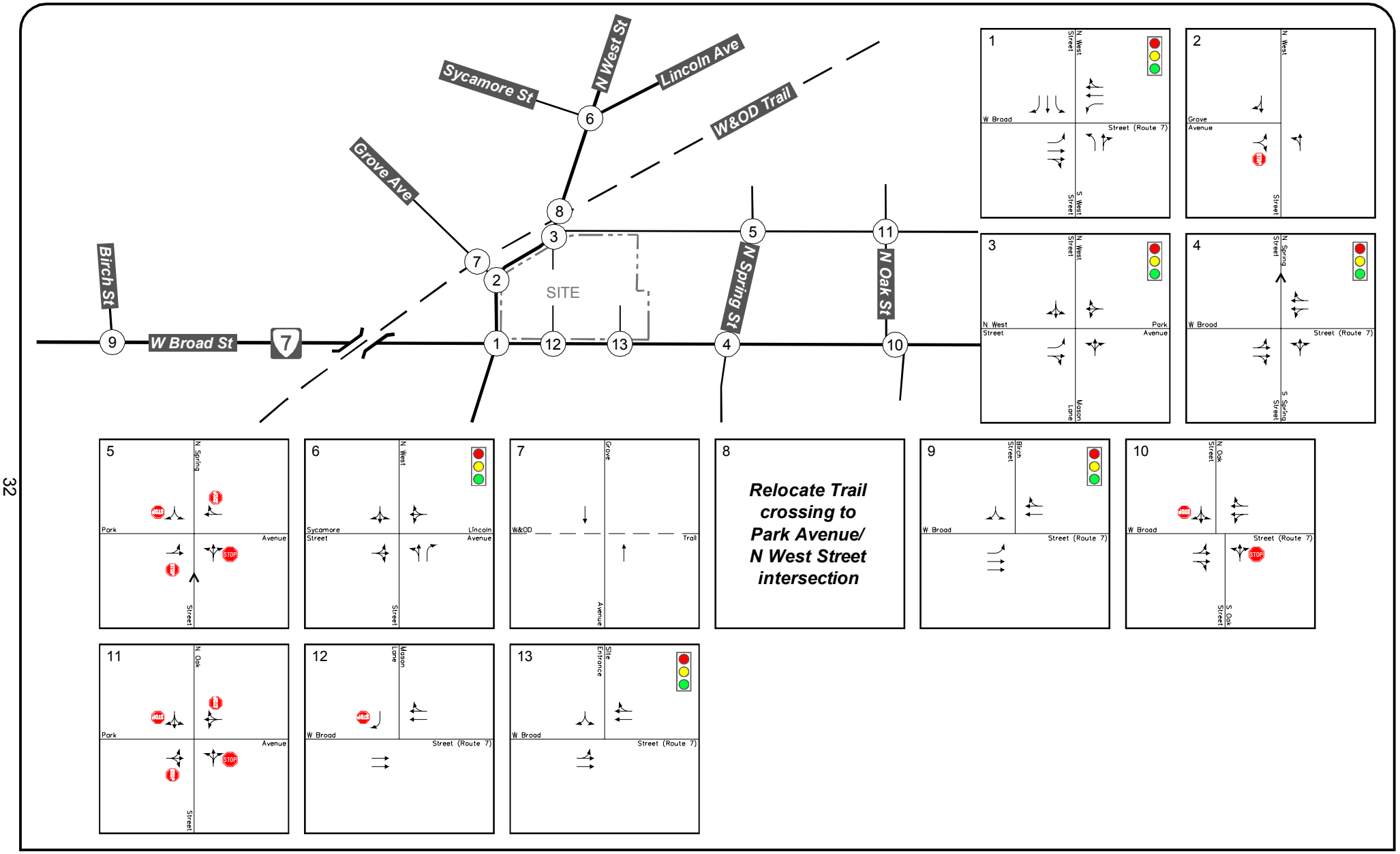

Figure 6–2
Future Lane Use and Intersection Control

Represents One Travel Lane
Signalized Intersection
Stop Sign

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

Table 6-1
Mason Row
Site Trip Generation Analysis [1]

Scenario	Land Use Code	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total		PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total		Average Daily Trips	
Existing Driveway Counts				106	110	216		42	78	120		1200	
Proposed Uses													
Residential/Hotel Uses													
Hotel	310	150	occupied rooms	59	42	101		51	54	105		1,338	
Apartment	220	340	dwelling units	34	136	170		133	72	205		2,184	
Residential/Hotel Subtotal				93	178	271		184	126	310		3522	
Retail/Residential Internal Allowance (5% AM/10% PM)				(5)	(5)	(10)		(9)	(7)	(16)		(403)	
Residential/Hotel External Trips				88	173	261		175	119	294		3,119	
5% Residential/Hotel Mode Split				(4)	(9)	(13)		(9)	(6)	(15)		(156)	
Total Residential/Hotel Vehicle Trips				**84**	**164**	**248**		**166**	**113**	**279**		**2,963**	
Office Uses	710	6,780	GSF	10	1	11	(2)	2	8	10	(2)	170	
Theater Uses	444	48,391	GSF	0	0	0		118	66	184		1,045	(3)
Specialty Retail Center	826	60,581	GSF	108	116	224	(4)	73	94	167		2,685	
Retail Subtotal				108	116	224		73	94	167		2685	
Retail/Residential Internal Allowance (5% AM/10% PM)				(5)	(5)	(10)		(7)	(9)	(16)		(403)	
Retail External Trips				103	111	214		66	85	151		2,282	
Pass-by Trips (25%)				(26)	(28)	(54)		(17)	(21)	(38)		(571)	
Total Non-Residential Vehicle Trips				**87**	**84**	**171**		**169**	**138**	**307**		**2,926**	
Total Site Trips				171	248	419		335	251	586		5,889	
Total Net New Trips				65	138	203		293	173	466		4,689	

Note(s):

(1) Trip generation based on the Institute of Transportation Engineers' Trip Generation, 9th Edition.

(2) It is noted in Trip Generation that "some of the regression curves plotted for this land use may produce illogical trip-end estimates for small office buildings". Thus, for this analysis, the rates have been used for the peak hour office trip generation.

(3) Average Daily Trips based on number of screens.

(4) AM peak hour of adjacent street rate based on (AM peak hour of generator rate X (PM peak hour of adjacent street rate / PM peak hour of generator rate))

Pass-by Trips. According to ITE, in some cases the driveway volumes at a particular land use are different from the amount of traffic added to the adjacent street system. Uses such as retail establishments attract a portion of their trips from traffic that is already present on the road network.

Pass-by trips are those trips which are made as intermediate stops on the way to a primary destination. An example of a pass-by trip would be one in which a driver stops at a retail store on his/her way home from work.

In recognition of this phenomenon and as agreed to with City staff, it was assumed that 25% of site generated retail trips would be classified as pass-by as shown in Table 6-1. As shown in the table, the site is anticipated to generate 54 weekday AM and 38 weekday PM pass-by trips. Therefore, these trips would be drawn from the existing road network and assigned to the future site entrances accordingly. Pass-by trip assignments at key study intersections are shown on Figure 6-3.

Transit Mode Split. A trip reduction was applied to account for the ready availability of transit given the location of the development proximate to a number of bus routes. As agreed to with staff, a trip reduction of 5% was only applied to the residential/hotel portion of the site. However, it should be noted that with the implementation of transportation demand management (TDM) strategies as proposed in Section 8, actual vehicle trip reductions may be higher than those forecasted herein. Therefore, this reduction should be considered conservative.

Net Site Trips. The net vehicle trips that would be generated by the proposed redevelopment plan (after discounting internal, pass-by, and transit/mode-split trips) are summarized in Table 6-1. As shown, the site would generate, upon completion and full occupancy, 419 weekday AM and 586 weekday PM, net peak hour vehicle trips.

Site Trip Distribution

The distribution of the anticipated trips generated by the completion of the proposed redevelopment was based on an examination of existing traffic counts and local knowledge. As agreed to with City staff, existing travel patterns indicate the following distribution is appropriate in the forecasting of future site traffic:

- To/from the west on West Broad Street: 35%
- To/from the east on West Broad Street: 35%
- To/from the north on North West Street: 10%
- To/from the south on South West Street: 8%
- To/from the east on Park Avenue: 10%
- To/from the west on Grove Avenue: 2%

Site Trip Assignments

The assignment of the net vehicle trips generated upon the future build-out of the Mason Row redevelopment project was based on the above distribution. These trip assignments are depicted on Figure 6-4.

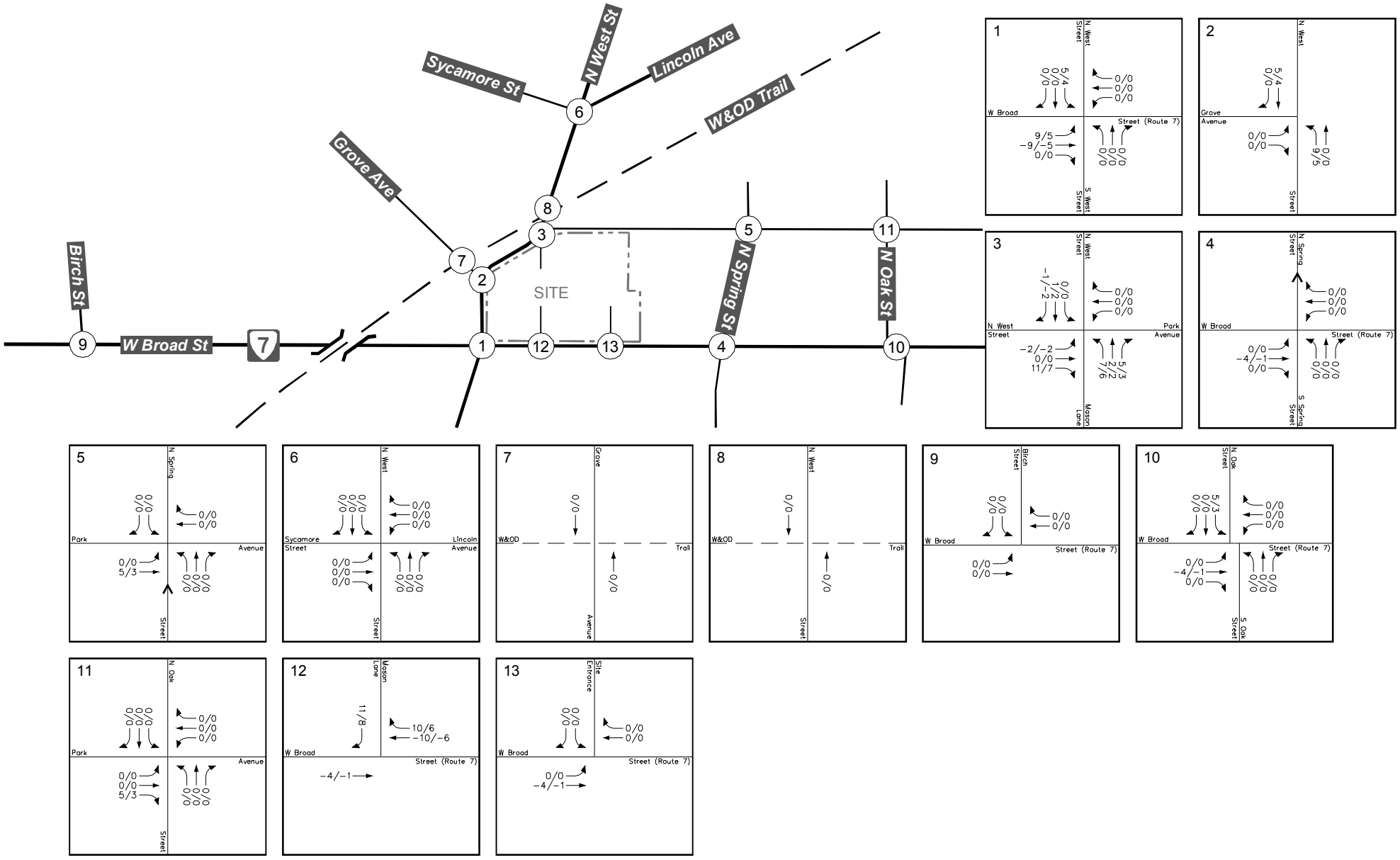

Figure 6–3
Pass–by Trip Assignments

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

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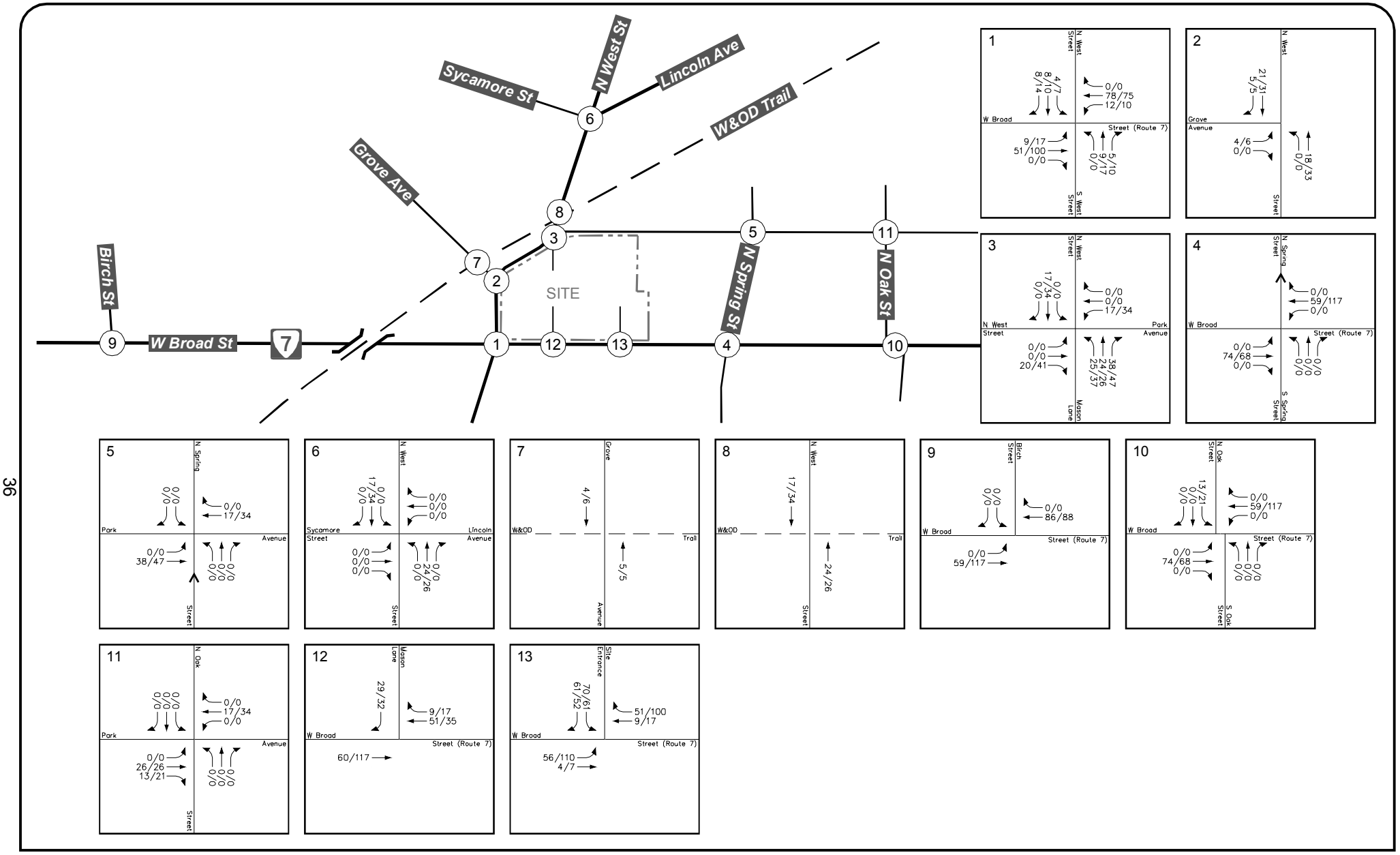

Figure 6–4
Site Trip Assignments

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

Section 7

ANALYSIS OF FUTURE CONDITIONS WITH SITE DEVELOPMENT

Total Future Traffic Forecasts

The 2019 total future traffic forecasts shown on Figure 7-1 were estimated by adding the site trip assignments (Figure 6-4) and pass-by trip assignments (Figure 6-3) to the background future traffic forecasts (Figure 5-3) after discounting those trips generated by the existing site uses (Figure 6-1).

Total Future Levels of Service with Proposed Development Plan

Future levels of service with the proposed redevelopment plan were estimated at key study intersections based on the future traffic volumes shown on Figure 7-1, the future lane use on Figure 6-2, the signal timings for the signalized intersections provided by the City of Falls Church and VDOT and the 2000 HCM methodologies for signalized and unsignalized intersections. The results of these analyses are provided in Appendix I and presented in Table 7-1. Total future levels of service are also presented graphically on Figure 7-2.

As shown in Table 7-1, levels of service under future site development conditions would remain generally consistent with future background conditions (i.e., without site development). Critical movements at the unsignalized intersections on West Broad Street would continue to operate at or near capacity during one or more peak periods as a result of heavy and increased mainline traffic volumes. The West Broad Street/West Street intersection would continue to operate at LOS "E" during the PM peak hour, consistent with background conditions. Improvements to the intersection, as detailed below, would reduce vehicle delays.

The recommended improvements outlined in the following section would serve to mitigate site impacts evidenced in the total future conditions analysis.

Recommended Improvements

North West Street/Park Avenue Intersection. As shown on the Applicant's plan (see Figure 1-2), the development would add a fourth leg to the North West Street/Park Avenue intersection in order to accommodate site access. City officials, NVRPA staff, and local citizens have long recognized the inherent challenges associated with the current configuration of the intersection. As stated earlier, the intersection is currently constructed with awkward angles and an operating condition that favors North West Street mainline traffic which often conflicts with the foot and bicycle traffic associated with the adjacent W&OD Trail crossing.

In order to improve the safety and performance of this intersection, the Applicant proposes to reconfigure the approaches in order for it to function more as a typical four-legged intersection. This would be achieved by having the western approach of North West Street align with Park Avenue while having the northern approach align with the new site entrance. An eastbound left turn lane would be provided while the southbound right turn lane would be narrowed in order to calm traffic. A traffic signal is proposed for this intersection to improve operations. The benefits of a traffic signal include:

- Reduce vehicle speeds
- Improve safety of the W&OD trail crossing as a result of lower travel speeds and a dedicated signal phase for trail crossing traffic.
- Improve the performance of the intersection by providing controlled signal phases for all movements.
- Allow pedestrians (trail and non-trail) to cross the intersection safely.

In order to determine the potential ability to signalize this intersection, a signal warrant analysis was conducted in accordance with Warrant 3 – "Peak Hour Volume" of the Manual of Uniform Traffic Control Devices (2009). The analysis is provided in Appendix J and shows that a signal is warranted under peak hour traffic conditions.

Based on the preliminary concepts to date, the proposed intersection improvements would not require the acquisition of off-site right-of-way, thus

negating any encroachment of roadways on to existing park land or other neighboring properties.

West Broad Street/West Street Intersection. As discussed with staff, a potential restriping of the North West Street approach would serve to increase capacity at the intersection. The restriping would add an exclusive left-turn lane to the approach (totaling three approach lanes). As shown in Table 7-1, this restriping improvement would result in less overall intersection delay during the AM and PM peak hours than that forecasted under future conditions without the subject development.

West Broad Street/Mason Lane. During the scoping of this traffic study, City staff indicated a strong desire to closely examine the future operations of the proposed site entrances. In particular, staff was concerned about the interaction of new site generated trips accessing via West Broad Street at the intersection closest to West Street in relation to the overall through traffic present on the highly traveled principal arterial. Because of the proximity of the proposed entrance to the nearby signalized intersection of West Broad Street/West Street, the Applicant proposes to operate this entrance as right-in/right-out only. The results of the site entrance analysis are shown in Table 7-1 (levels of service). As shown, the West Broad Street/West Entrance intersection would operate with adequate levels of service under this proposed operational condition.

West Broad Street/East Site Entrance. As stated previously, the West Broad Street/East Site Entrance would provide direct access to the site's retail parking and is proposed to operate as a full-movement intersection. As shown in Table 7-1, the southbound approach (exiting the site) is forecasted to operate at LOS "F" under STOP sign control. In order to improve the level of service, the installation of a traffic signal is recommended. As shown, the presence of a signal improves intersection operations to overall LOS "C" or better. A signal at this location would have the benefit of providing a controlled pedestrian crossing of West Broad Street, thus improving safety and enhancing connectivity between the site and the surrounding area.

In order to determine the potential ability to signalize this intersection, a signal warrant analysis was conducted in accordance with Warrant 3 – "Peak Hour Volume" of the Manual of Uniform Traffic Control Devices (2009). The analysis is provided in Appendix J and shows that a signal is warranted under peak hour traffic conditions.

Pedestrian/Multi-modal Enhancements. The proposed development should provide an enhanced pedestrian network and promote connectivity to existing pedestrian/multi-modal facilities in order to reduce vehicular trips and create a vibrant, accessible environment in keeping with the vision of the City's Comprehensive Plan. The Applicant has committed to providing wider sidewalks and an enhanced streetscape along the entire site's roadway frontages. Furthermore, the Applicant has shown open public space within the interior of the site, which would offer a place for site visitors and passers-by the opportunity to recreate. In conjunction with a crosswalk across Park Avenue, this space would offer connectivity to the W&OD trail, thus integrating the proposed development with the regional trail network.

Total Future Queuing

Total future queues were forecasted using Synchro software. The results of the queuing analysis are summarized in Table 7-2. As shown, forecasted queues with the proposed development would remain generally consistent with queues forecasted under background future conditions.

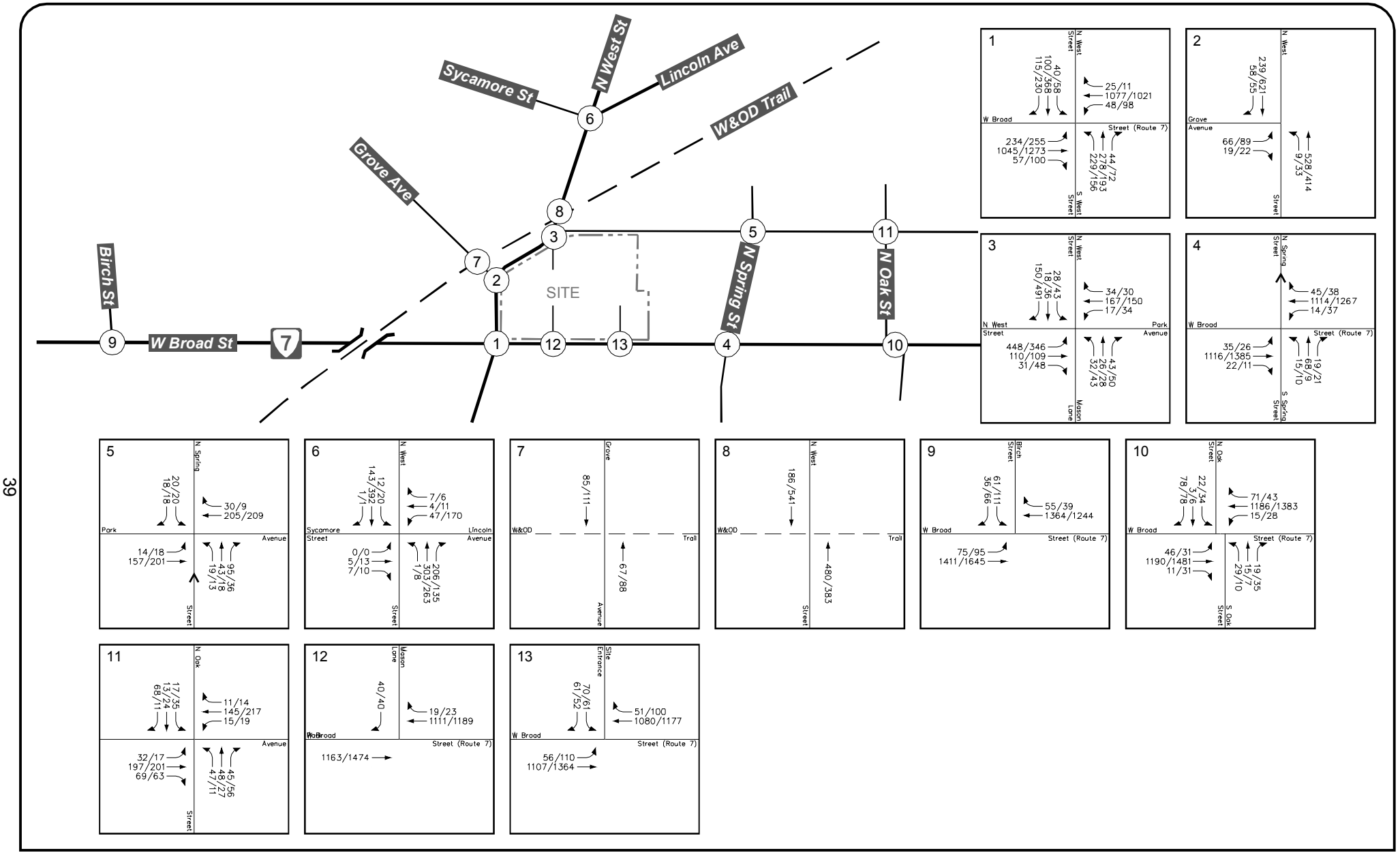

Figure 7–1
Total Future Traffic Forecasts

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

Table 7-1
Mason Row
Total Future Intersection Levels of Service Summary [1][2][3][4]

Intersection	Control	Lane Group	Existing AM	Existing PM	Background AM	Background PM	Total Future AM	Total Future PM
1. **N West Street**/W Broad Street	Signal	EBL	E (72.7)	E (64.8)	F (136.4)	F (108.5)	F (138.5)	F (164.2)
		EBTR	C (22.4)	C (29.6)	C (25.3)	D (39.2)	C (27.1)	E (61.6)
		WBL	C (24.8)	C (33.2)	C (25.7)	D (37.0)	C (27.1)	D (38.3)
		WBTR	D (38.4)	C (29.5)	D (41.2)	C (32.0)	D (43.1)	D (36.1)
		NBL	D (50.0)	D (49.8)	D (49.5)	D (49.8)	D (48.8)	D (48.4)
		NBTR	E (77.1)	E (62.2)	E (76.7)	E (64.9)	E (78.5)	E (70.2)
		SBLT	D (46.0)	F (157.7)	D (45.8)	F (185.1)	D (45.8)	F (203.3)
		SBR	C (33.7)	D (43.6)	C (33.8)	D (44.1)	C (33.0)	C (35.0)
		Overall	**D (40.9)**	**D (51.0)**	**D (46.9)**	**E (60.8)**	**D (47.9)**	**E (75.1)**
Add SBL turning lane	*Signal*	*EBL*	*N/A*	*N/A*	*N/A*	*N/A*	*E (73.7)*	*F (82.7)*
Optimize Signal Timing		*EBTR*	*N/A*	*N/A*	*N/A*	*N/A*	*C (25.7)*	*D (35.7)*
		WBL	*N/A*	*N/A*	*N/A*	*N/A*	*B (14.6)*	*D (35.8)*
		WBTR	*N/A*	*N/A*	*N/A*	*N/A*	*D (35.6)*	*D (53.7)*
		NBL	*N/A*	*N/A*	*N/A*	*N/A*	*D (48.8)*	*D (53.6)*
		NBTR	*N/A*	*N/A*	*N/A*	*N/A*	*E (78.5)*	*F (107.9)*
		SBL	*N/A*	*N/A*	*N/A*	*N/A*	*D (43.0)*	*D (43.3)*
		SBT	*N/A*	*N/A*	*N/A*	*N/A*	*D (44.8)*	*F (132.9)*
		SBR	*N/A*	*N/A*	*N/A*	*N/A*	*C (31.2)*	*C (31.1)*
		Overall	***N/A***	***N/A***	***N/A***	***N/A***	***D (40.0)***	***E (58.5)***
2. **N West Street**/Grove Street	STOP	EBLR	C [19.2]	E [43.7]	C [19.3]	F [50.6]	C [18.5]	F [55.2]
		NBLT	A [0.2]	A [1.2]	A [0.2]	A [1.2]	A [0.2]	A [1.2]
3. **N West Street**/Park Avenue	STOP	WBLR	D [33.7]	D [30.9]	D [32.0]	D [29.9]	N/A	N/A
		SBLT	A [1.6]	A [1.2]	A [1.7]	A [1.2]	N/A	N/A
Re-alignment with site entrance	*All-way STOP*	*EBL*	*N/A*	*N/A*	*N/A*	*N/A*	*D [37.3]*	*E [38.4]*
		EBTR	*N/A*	*N/A*	*N/A*	*N/A*	*A [9.5]*	*B [12.8]*
		WBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*B [12.8]*	*C [17.7]*
		NBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*B [11.2]*	*B [13.9]*
		SBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*B [12.4]*	*F [87.0]*
		Overall	***N/A***	***N/A***	***N/A***	***N/A***	***C [22.1]***	***E [50.0]***
Re-alignment with site entrance	*Signal*	*EBL*	*N/A*	*N/A*	*N/A*	*N/A*	*C (32.3)*	*C (34.7)*
Add Signal		*EBTR*	*N/A*	*N/A*	*N/A*	*N/A*	*A (8.9)*	*B (12.0)*
		WBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*D (43.6)*	*D (43.7)*
		NBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*C (23.7)*	*C (20.7)*
		SBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*B (13.2)*	*C (21.0)*
		Overall	***N/A***	***N/A***	***N/A***	***N/A***	***C (27.3)***	***C (26.8)***
4. W Broad Street/**N Spring Street**	Signal	EBLTR	B (12.8)	A (1.9)	B (14.8)	A (3.2)	B (14.6)	A (3.3)
		WBTR	A (5.6)	A (3.5)	A (5.7)	A (4.0)	A (5.8)	A (4.5)
		NBLTR	C (20.5)	D (53.1)	C (20.5)	D (53.1)	C (20.5)	D (53.1)
		Overall	**A (9.6)**	**A (3.6)**	**B (10.6)**	**A (4.3)**	**B (10.6)**	**A (4.6)**
5. Park Avenue/**N Spring Street**	All-way STOP	EBLT	A [9.3]	A [9.1]	A [9.0]	A [8.9]	A [9.4]	A [9.4]
		WBTR	A [10.0]	A [9.1]	A [9.6]	A [8.9]	A [9.9]	A [9.3]
		NBLTR	A [9.2]	A [8.2]	A [8.9]	A [8.1]	A [9.1]	A [8.3]
		SBLR	A [8.4]	A [8.2]	A [8.2]	A [8.1]	A [8.4]	A [8.2]
		Overall	**A [9.4]**	**A [8.9]**	**A [9.1]**	**A [8.7]**	**A [9.4]**	**A [9.2]**
6. **N West Street**/Lincoln Avenue	Signal	EBLTR	D (46.3)	C (32.6)	D (46.2)	C (32.6)	D (46.2)	C (32.6)
		WBLTR	D (42.2)	C (26.8)	D (42.2)	C (27.0)	D (42.2)	C (27.0)
		NBLT	A (3.9)	C (24.3)	A (3.9)	C (24.7)	A (3.9)	C (24.8)
		NBR	A (3.5)	C (20.2)	A (3.5)	C (20.3)	A (3.5)	C (20.3)
		SBLTR	A (3.4)	C (28.1)	A (3.4)	C (29.1)	A (3.4)	C (30.3)
		Overall	**A (7.7)**	**C (25.9)**	**A (7.4)**	**C (26.4)**	**A (7.4)**	**C (27.0)**
9. W Broad Street/**Birch Street**	Signal	EBL	A (7.2)	A (5.7)	A (7.0)	A (6.7)	A (7.6)	A (7.3)
		EBT	A (5.3)	A (6.4)	A (5.3)	A (6.9)	A (5.4)	A (7.6)
		WBTR	A (8.7)	B (18.5)	A (7.4)	B (19.8)	A (8.1)	C (21.1)
		SBLR	D (45.8)	D (54.3)	D (45.7)	D (53.7)	D (45.7)	D (53.7)
		Overall	**A (8.4)**	**B (14.5)**	**A (7.7)**	**B (14.8)**	**A (8.0)**	**B (15.6)**
10. W Broad Street/**N Oak Street**	STOP	EBLTR	A [2.3]	A [1.6]	A [2.8]	A [2.2]	A [2.9]	A [2.6]
		WBLTR	A [0.7]	A [1.7]	A [0.7]	A [2.2]	A [0.8]	A [2.4]
		NBLTR	F [662.0]	F [420.0]	F [997.0]	F [*]	F [*]	F [*]
		SBLTR	F [65.4]	F [295.4]	F [451.3]	F [*]	F [*]	F [*]
11. Park Avenue/**N Oak Street**	All-way STOP	EBLTR	B [11.3]	B [10.3]	B [10.7]	A [10.0]	B [11.3]	B [10.6]
		WBLTR	A [9.8]	B [10.1]	A [9.5]	A [9.8]	A [9.8]	B [10.4]
		NBLTR	A [9.7]	A [8.8]	A [9.5]	A [8.7]	A [9.7]	A [9.0]
		SBLTR	A [9.0]	A [9.1]	A [8.8]	A [9.0]	A [8.9]	A [9.2]
		Overall	**B [10.3]**	**A [9.9]**	**A [9.9]**	**A [9.6]**	**B [10.3]**	**B [10.2]**
12. W Broad Street/**Mason Lane**	STOP	SBR	N/A	N/A	N/A	N/A	B [10.8]	B [12.4]
13. W Broad Street/**Driveway**	STOP	EBLT	N/A	N/A	N/A	N/A	A [2.7]	A [6.3]
		SBLR	N/A	N/A	N/A	N/A	C [17.9]	F [70.0]
Add Signal	*Signal*	*EBLT*	N/A	N/A	N/A	N/A	B (13.2)	C (33.2)
		WBTR	N/A	N/A	N/A	N/A	B (16.8)	A (7.8)
		SBLR	N/A	N/A	N/A	N/A	B (15.0)	D (50.3)
		Overall	**N/A**	**N/A**	**N/A**	**N/A**	**B (15.0)**	**C (22.6)**

Notes:

(1) Numbers in parentheses ( ) represent delay at signalized intersections in seconds per vehicle.

(2) Numbers in square brackets [ ] represent delay at unsignalized intersections in seconds per vehicle.

(3) Roadways in **BOLD** are considered North/South for purposes of this analysis

(4) Asterisks * represent delays in excess of 999.9 seconds.

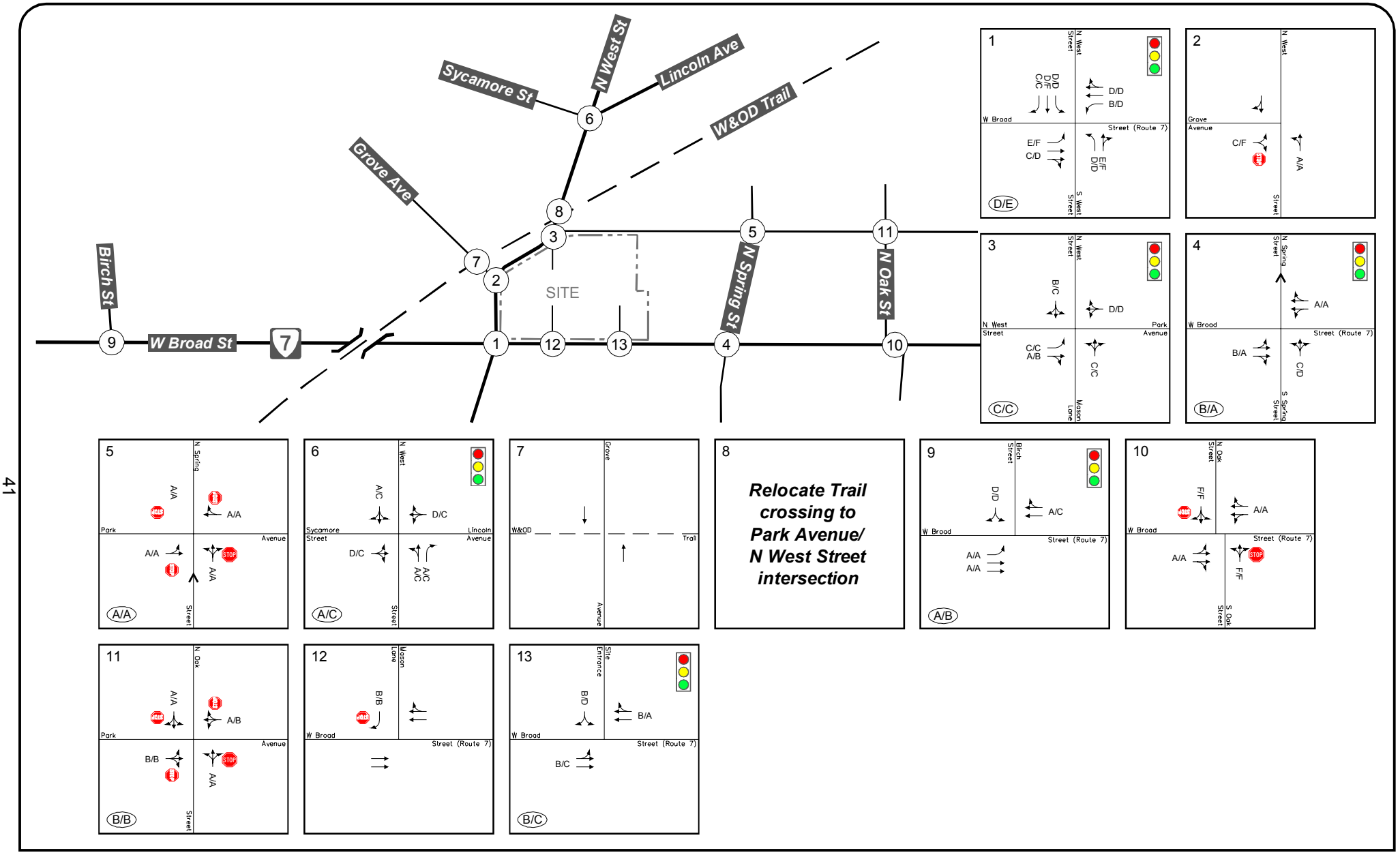

Figure 7–2
Total Future Levels of Service

X/X Lane Group Level of Service
(X/X) Overall Level of Service

Represents One Travel Lane
Signalized Intersection
Stop Sign

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

Table 7-2
Mason Row
Total Future Intersection Queues [(1)(2)(3)(4)(5)]

Intersection	Control	Lane Group	Available Storage	Existing AM	Existing PM	Background AM	Background PM	Total Future AM	Total Future PM
1. **N West Street**/W Broad Street	Signal	EBL	175	#300	#287	#366	#350	#358	#413
		EBTR	N/A	454	#638	526	#800	#598	#883
		WBL	140	m27	86	m30	109	m38	m111
		WBTR	N/A	527	307	#591	361	#630	446
		NBL	250	260	192	274	204	274	204
		NBTR	N/A	#400	278	#438	#305	#452	#368
		SBLT	N/A	161	#632	168	#679	169	#709
		SBR	N/A	80	94	90	110	65	154
Add SBL turning lane	*Signal*	*EBL*	*175*	*N/A*	*N/A*	*N/A*	*N/A*	*#323*	*#352*
Optimize Signal Timing		*EBTR*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*544*	*#330*
		WBL	*140*	*N/A*	*N/A*	*N/A*	*N/A*	*m32*	*#125*
		WBTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*#633*	*587*
		NBL	*250*	*N/A*	*N/A*	*N/A*	*N/A*	*274*	*214*
		NBTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*#452*	*#428*
		SBL	*70*	*N/A*	*N/A*	*N/A*	*N/A*	*60*	*87*
		SBT	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*126*	*#588*
		SBR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*63*	*172*
2. **N West Street**/Grove Street	STOP	EBLR	N/A	28	76	26	86	25	96
		NBLT	N/A	1	3	1	3	1	3
3. **N West Street**/Park Avenue	STOP	WBLR	N/A	118	101	106	92	N/A	N/A
		SBLT	N/A	3	3	3	4	N/A	N/A
Re-alignment with site entrance [(6)]	*All-way STOP*	*EBL*	*100*	*N/A*	*N/A*	*N/A*	*N/A*	*139*	*104*
		EBTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*193*	*129*
		WBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*116*	*84*
		NBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*68*	*62*
		SBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*100*	*180*
Re-alignment with site entrance	*Signal*	*EBL*	*100*	*N/A*	*N/A*	*N/A*	*N/A*	*330*	*273*
Add Signal		*EBTR*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*40*	*53*
		WBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*218*	*215*
		NBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*87*	*100*
		SBLTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*31*	*#456*
4. W Broad Street/**N Spring Street**	Signal	EBLTR	N/A	m508	m27	m561	m83	m576	m45
		WBTR	N/A	174	180	202	220	208	261
		NBLTR	N/A	56	51	56	52	56	52
5. Park Avenue/**N Spring Street** [(6)]	All-way STOP	EBLT	N/A	71	80	90	75	56	63
		WBTR	N/A	72	64	69	57	62	64
		NBLTR	N/A	69	47	63	38	63	44
		SBLR	N/A	46	48	48	48	44	46
6. **N West Street**/Lincoln Avenue	Signal	EBLTR	N/A	21	29	21	30	21	30
		WBLTR	N/A	68	153	71	159	71	159
		NBLT	N/A	115	197	122	209	120	211
		NBR	150	23	38	24	39	24	39
		SBLTR	N/A	59	295	63	317	62	341
9. W Broad Street/**Birch Street**	Signal	EBL	300	27	39	27	37	27	37
		EBT	N/A	256	343	293	408	302	470
		WBTR	N/A	506	470	575	542	628	572
		SBLR	N/A	109	206	107	207	107	207
10. W Broad Street/**N Oak Street**	STOP	EBLTR	N/A	6	4	8	6	8	6
		WBLTR	N/A	2	5	2	6	2	6
		NBLTR	N/A	185	139	207	*	217	*
		SBLTR	N/A	90	194	211	*	*	*
11. Park Avenue/**N Oak Street** [(6)]	All-way STOP	EBLTR	N/A	88	74	85	65	64	65
		WBLTR	N/A	63	97	69	81	62	81
		NBLTR	N/A	65	49	63	66	65	58
		SBLTR	N/A	54	49	57	51	49	47
12. W Broad Street/**Mason Lane**	STOP	SBR	N/A	N/A	N/A	N/A	N/A	5	7
13. W Broad Street/**Driveway**	STOP	EBLT	N/A	N/A	N/A	N/A	N/A	8	22
		SBLR	N/A	N/A	N/A	N/A	N/A	37	114
Add Signal	*Signal*	*EBLT*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*m572*	*m563*
		WBTR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*326*	*346*
		SBLR	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*55*	*137*

Notes:
(1) Queue length is based on the 95th percentile queue in feet as reported by Synchro, Version 7.
(2) "#" indicates that the 95th percentile volume exceeds capacity, queue may be longer.
(3) "m" indicates that the volume for 95th percentile queue is metered by upstream signal.
(4) Roadways in **BOLD** are considered North/South for purposes of this analysis
(5) "*" indicates that the volume exceeds capacity, queue is theoretically infinite.
(6) Queue length analyzed with SimTraffic 7.

Section 8
TRANSPORTATION DEMAND MANAGEMENT

In order to mitigate the potential impacts of the development and take full advantage of the site's proximity to various transit facilities/services, a key component of the project would be the implementation of comprehensive transportation demand management (TDM) strategies.

In an effort to decrease reliance on the personal automobile and encourage the use of transit, ridesharing, bicycling, and walking, the applicant should implement a Transportation Demand Management (TDM) Program. "TDM is a general term for strategies that result in more efficient use of transportation resources. There are many different TDM strategies with a variety of impacts. Some improve the transportation options available to consumers, while others provide an incentive to choose more efficient travel patterns. Some reduce the need for physical travel through mobility substitutes or more efficient land use. TDM strategies can change travel timing, route, destination, or mode."

Based on the site's proximity to transit opportunities and by its proposed mixed-use nature, the TDM program employed by the Applicant should target a goal of a 15 percent reduction in generated peak hour vehicle trips from established Institute of Transportation Engineers (ITE) trip rates for its residential and hotel components.

In developing the TDM program, the following strategies should be considered:

A. Designate a Transportation Management Coordinator (TMC) to implement the TDM program and advise residents, tenants, and employees of the availability and location of the TDM coordinator and program at least once a year. The position may be part of other duties assigned to the individual. Duties of the Transportation Management Coordinator would include the following:

    1. Assist residents and employees in making effective and efficient commuting choices.
    2. Disseminate Metrorail, Metrobus, ridesharing, and other relevant transit options to new residents, tenants and employees.
    3. Solicit support from the Metropolitan Washington Council of Governments (MWCOG) Commuter Connections program, the Washington Metropolitan Area Transit Authority (WMATA), the City of Falls Church government, and others.
    4. Provide on-site assistance to residents and employees in forming and maintaining carpools and vanpools.
    5. Disseminate park-and-ride lot information to prospective carpoolers and vanpoolers.
    6. Register carpool/vanpool participants, transit users, bicyclists, and walkers in the Guaranteed Ride Home (GRH) program.
    7. Encourage residents and employees to ride bikes or walk to work.
    8. Provide on-site facilities for bicycle parking and/or storage, including bike racks for visitors and bike storage lockers for residents.
    9. Market and promote the TDM Program among residents and employees through printed materials and web sites (if available).

B. Commuter Center.

    1. Designate a centralized space on-site as a "Commuter Center". The TMC functions would take place in this space, as appropriate.
    2. Install display racks that would provide information on local transit options.
    3. Sell transit fare media, such as SmarTrip cards, Metro fare cards, and Metrobus passes.
    4. Promote transit and multi-modal options provided by the City.

C. Incentives to use transit, including:

    1. Provide information on Metrorail, Metrobus, and other public transportation facilities, services, routes, schedules, and

fares.

2. Encourage retail tenants to subsidize part of employees' transit fare.
3. Disseminate information to transit users regarding free guaranteed rides home in cases of emergency.
4. At the time of initial lease/sales, provide SmarTrip cards to residents.
5. Provide safe, convenient, and attractive pedestrian connections on and off-site.

D. Carpool programs, including:

1. Disseminate information to carpoolers regarding free guaranteed rides home in cases of emergency.
2. Reserve a number of conveniently-located, first-level, free parking spaces for carpools only.

E. Parking management, including:

1. Reserve a number of conveniently-located, first-level, free parking spaces for carpools, vanpools and hybrid vehicles.
2. Reserve a conveniently-located, first-level, free parking space for Flex and/or Zip cars.

The preceding strategies should be incorporated into a comprehensive TDM and Parking Management Plan, to be provided under separate cover.

Section 9
CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the results of this traffic impact study, the following may be concluded:

1. The redevelopment plan proposed by Spectrum Development LLC is consistent with the City and community's long term vision for the West Broad Street corridor as reflected in the adopted Comprehensive Plan.

2. All signalized intersections within the study area currently operate at overall adequate levels of service (LOS "D" or better).

3. Side street approaches along West Broad Street that operate under STOP sign control generally experience significant delays during commuter peak hours due to heavy mainline volumes.

4. Under future 2019 traffic conditions, without the development of the subject site, delays would increase at study intersections due to regional traffic growth and trips generated by other approved/pending development within the City. However, overall levels of service would remain generally consistent with existing conditions, except for the West Broad Street/West Street intersection which would operate at LOS "E" during the PM peak hour.

5. The Mason Row redevelopment project is anticipated to experience vehicle trip reductions due to internal trip capture, pass-by trip activity, and non-auto mode choice. The development, as a whole, is forecasted to generate 419 weekday AM peak hour and 586 weekday PM peak hour trips upon completion and full occupancy by 2019.

6. Under future 2019 traffic conditions, with the development of the subject site, intersection levels of service would remain generally consistent with background conditions. Additional mitigation measures, as outlined below, would improve intersection performance and serve to further improve the overall transportation network.

Recommendations

Based on the above conclusions and in order to mitigate the impacts of the subject development and improve the overall transportation network, the following recommendations should be considered:

1. As part of the redevelopment plan and to encourage walking trips, the applicant should provide and enhance the pedestrian facilities within the site's block. The applicant should further ensure connections between the site's internal network and the surrounding pedestrian/bicycle system, including the W&OD Trail, as envisioned in the Comprehensive Plan.

2. The applicant should encourage bicycling as a mode of travel. Bicycle racks for site customers/visitors as well as bicycle storage lockers for residents should be provided.

3. The western site access point along West Broad Street should operate as right-in/right-out only.

4. The intersection of North West Street and Park Avenue should be reconfigured to accommodate a fourth leg accessing the subject site. The reconfiguration should properly align the four approaches and a signal should be installed in order to improve intersection operations and safety. The W&OD trail crossing of North West Street should be integrated within the new signalized intersection. With these improvements, this intersection is forecasted to operate at LOS "C".

5. To improve levels of service, restriping of North West Street at the approach to

West Broad Street should be considered in order to provide for three approach lanes.

6. A signal should be installed at the eastern site access point along West Broad Street in order to facilitate site access and to provide a controlled pedestrian crossing. With this improvement, the intersection is forecasted to operate at LOS "C" or better.

7. The applicant should implement Transportation Demand Management (TDM) strategies to encourage the use of alternate modes of transportation. A peak hour trip reduction target of 15% should be established for the site's residential and hotel components.

Appendix A

Development Statement

Appendix B

Scoping Document and Correspondence

Appendix C

Traffic and Pedestrian Count Data

Appendix D

Existing Conditions Synchro Analysis

Appendix E

Descriptions of Level of Service

Appendix F

Individual Pipeline Development Trip Assignments

Appendix G

Background Future Conditions Synchro Analysis

Appendix H

Existing Site Driveway Traffic Counts

Appendix I

Total Future Conditions Synchro Analysis

Appendix J

Peak Hour Signal Warrant Analysis
Manual of Uniform Traffic Control Devices (MUTCD)

Appendix A

Development Statement

LAW OFFICES
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ROBERT J. DUFFETT
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January 29, 2015

VIA HAND DELIVERY
James Snyder
Director of Planning and Zoning City of Falls Church
City Hall
300 Park Avenue
Falls Church, VA 22046

Re: January 29, 2015 Resubmission Development Site Mason Row ("Broad and West") ; Letter of Transmittal and Justification of Application for (1) for Rezoning certain areas of the site to B-1 (2) Special Exceptions to allow Mixed Use and for a Building Height Bonus.

Dear Jim:

Baskin, Jackson & Lasso represents Spectrum Development Company LLC ("Spectrum") which has contracts to purchase the parcels comprising 4.3152 acres (more specifically identified in the accompanying partial list) including at 919 Park Avenue, 921 Park Avenue, 925 Park Avenue, 212 N. West Street, 110 N. West Street, 934 W. Broad Street, 932 W. Broad Street 922 W. Broad Street, 920 W. Broad Street and 916 W. Broad Street (collectively the "Site").

After the initial application (January, 2014) was accepted, the City's representatives asked for a number of modifications to the proposal. Modifications were made and a resubmission was made July 7, 2014. Among other things, the pharmacy was dropped as was its drive through; additional modifications were made to the resubmission and this concept was called "Mason Row". Mason Row was characterized by a "market square" within the development that provided a community gathering place; the square was surrounded by quality retail with a "spine road" through the development that allowed for a four way intersection at West and Park connecting to West Broad Street. A condominium component was added and it was located on Park Avenue. There was also an access on Park Ave. that led to the underground parking garage.

The Mason Row concept was presented to the community, the City staff, boards and commissions and to the City Council. The Mason Row Concept was well received. However, additional requests were made to further modify the massing and design, to enlarge the market square, to include a movie/dinner theater (or another comparable anchor), to drop the condominium component as a separate building, to reduce the massing and height of the hotel on

West Street, to make the sidewalk on West 20' wide, and to remove the vehicular access on Park Ave. In terms of process, the applicant was asked to continue it outreach to the community and to work with neighbors on Park, Grove, Steeples Court and St. James Church.

The January 29, 2015 resubmission includes responses to all of these requests. The move/dinner theater has been added, the 916 W. Broad St. parcel has been added to the site plan of the project, the market square has been substantially enlarged, the six parking spaces off West have been relocated to the interior of the development, the spine road has been widened and straightened out, the hotel on West Street is now "set back" 3' above the retail level so as to diminish it massing and appearance of height, the West Street sidewalk is not a full 20' wide, the condo component has been dropped, an above grade parking structure has replaced the condo building on Park Ave, the parking structure is less tall and there is no vehicular access on Park, while the number of apartment units has increased to reflect the loss of the condo component the overall floor area devoted to residential is nearly the same, and finally, an office component has been added.

Please note in the table in the plans that the parking reduction needed has been modified from the prior plan. Even with the movie theater being added, the overall reduction request is limited to 15.14%. Given the small size of the apartments and TDM being provided, the reductions will function well.

The rezoning request remains the same. This is possible as 916 W. Broad is already zoned B-1 and it will remain so. The special exception for mixed use and for increased height to 85 feet is amended to include the 916 W. Broad St. parcel. Please accept this Transmittal of and Justification for Applications to rezone the residential (R-1B) properties on Park Avenue and the Commercial properties in the site now zoned B-3, to B-1. Also please accept this revised Justification for the special exception and height bonus.

As discussed below, the B-1 Zone allows the requested uses. Moreover by rezoning to B-1, automotive uses cannot be located on the site in the future. The City has requested this assurance be provided and so Spectrum requests those portions of the site now zoned B-3 be "downzoned" to B-1.

Spectrum proposes to redevelop the site for a mixed use project.

- A six story mixed use (apartment) building with retail and service uses in the ground floor and with 336 units with about 70 percent one bedroom and studios and 30 percent two bedrooms above the ground floor.
- A hotel of five floors with retail and service uses in the ground level of 73,000 sq. ft. and 150 rooms in floors 2 through 6.

- An above grade parking structure in place of the former 65 unit residential condominium facing Park Ave. with no vehicular access on Park.
- The ground floor of the apartment building and hotel would have retail uses comprising about 53,000 square feet; such uses will include restaurants, retail shops and service businesses with a mix of local, regional and national brands. A commitment to 25% food and beverage uses is provided in a Proffer.
- A movie/dinner theater is provided.
- An office component of about 6,600 sq. ft. is provided.
- Such improvements to the existing parkland along the W& OD trail that will provide a connection to the transit and recreational opportunities of the Trail; subject to the approval of the Northern Virginia Regional Park Authority.

The site is located in planning opportunity area three and the site is discussed in the Comprehensive Plan at pages 58 and 59. The redevelopment area calls for mixed uses diagonally across from the site but in fact that area is committed in the long term to retail uses.

By consolidating the parcels in this site, Spectrum has achieved a number of the Goals in the City's Comprehensive Plan. Specifically, the proposed mixed use development provides for sustainable development as it will allow for improvements to storm water management, to energy efficiency, to parks and open space, to locating residents nearer to employment, transit and shopping areas, enhances the integrity of the low density residential area by establishing for the long term a "terminus" to the residential area of Park Avenue. The internal and external improvements to traffic movement will greatly improve the current difficult intersection of West Street and Park Avenue (See pages 75Rv through 76Rv of the Comprehensive Plan).

Demographic and market trends demonstrate that the future development in this area should be an innovative and integrated approach to a mixture of uses including retail, office, hospitality, residential and service uses.

Spectrum expects that given the increasing mass of retail, and newer, smaller multi-family units, the surrounding area will become more attractive to office users and other retailers as well.

Additionally, Spectrum requests the approval of special exceptions to allow for a mixed use development to include multi-family rental units and for a bonus of 30 feet in height.

The Staff will provide the fiscal impact analysis; we expect the net impact to be about $2m.

These requests for specific parcels are summarized in the attached document entitled: The Spectrum Development / Parcel Ownership. Concurrently, Spectrum is requesting a change in the Comprehensive Plan Future Land Use Map for certain areas of the site to be shown as mixed use rather than business and for the area of the site now noted as low residential to be noted mixed use as well. While the resubmission replaces the current single family dwelling with the parking structure (a portion of the apartment building at the very western end of Park Ave, the use would make a very good transition from the remaining single family detached (low residential) area to the more active portions of the mixed use Mason Row.

Spectrum and its development team have had extensive discussions with The City Council and Planning Commissions in public work-sessions and with stakeholders in the community, elected and appointed official and staff members. The central concerns have been the following:

1. There should be a substantial commercial component for this large site, and a considerable positive fiscal impact for the City of Falls Church is a primary goal.
2. Density should be increased and a quality hotel should be brought to the project to assist in achieving the desired positive fiscal impact.
3. Traffic is a great concern given, among other things, the unusual configuration of West and Park Ave and the need to control access on West Broad Street and West Street.
4. The buildings should have superior architecture and layout with tapering toward Park Ave and the greatest height and massing along West Broad with a superior focal point at West and West Broad.
5. Some local retailers should be encouraged to stay in the project.
6. Parks and open space needs should be addressed in part by linking the site to the W& OD Trail.
7. The apartment should be LEED Certified Silver.
8. Storm water management for the site and the immediate area should be improved.
9. Streetscape should be tailored to the site and also consistent with (but not necessarily the same) the City's existing streetscape standards.
10. There should be two commercial anchor tenants.
11. The frontage along Park Avenue should take the opportunity to make an appropriate transition to the development and solidify for the long term the low residential density of that terminus of Park Avenue.
12. Aerial utilities on the site will be placed underground.
13. This redevelopment opportunity involves a large consolidation of eleven separate parcels in the West Broad Street Area, and if redevelopment fails to go forward for any cause, then the existing auto and light industrial uses on some of the

parcels will remain for a long indefinite period of time before another redevelopment opportunity may arise.

THE PROPOSED DEVELOPMENT AND ITS COMMUNITY BENEFITS

Spectrum proposes to redevelop the site as a mixed use project.

- This mixed use project will contribute about $2m annual in net new tax revenues to the City.
- A contribution of $175,000 to City Parks is to be made.
- Undergrounding of aerial utilities along West Street and the W & OD trail will be made.
- Bike Share facilities will be provided (in additional to provisions for residents and customers who will use bikes).
- The hotel of 150 rooms will bring visitor to the City who will spend substantially in the City.
- There will be about 53,000 sq. ft. of retail with a mix of local, regional an national brands, 6,600 sq. ft. of offices and a movie/dinner concept of 41,100 sq. ft.
- A gathering place for the residents that is sufficiently large enough to accommodate a "band shell", skating ring, or farmers' market.
- Such improvements to the existing parkland along the W& OD trail that will provide a connection to the transit and recreational opportunities of The Trail; subject to the approval of the Northern Virginia Regional Park Authority.
- The expected contributions to the Schools Capital program of about $7500 per market rate rental units will be met (about $2.5m total).
- A commitment of about six percent of the total of the rental units (70% one bedroom and 30% two bedroom) being set aside as Affordable Housing Units in the Rental component and allocated among several income levels. (Please see the Voluntary Concessions).
- Net tax revenue increases of approximately $2m annually are expected based on the City's economic projections.
- The traffic in and around the area will be better managed with traffic calming added and improvements added to the larger street grid around the project.

The site is located in planning opportunity area three and the site is discussed in the Comprehensive Plan at pages 58 and 59. The redevelopment area calls for mixed uses diagonally across from the site but in fact that area is committed in the long term to retail uses.

By consolidating the parcels in this site, Spectrum has achieved a number of the Goals in the City's Comprehensive Plan. Specifically, the proposed mixed use development provides for sustainable development as it will allow for improvements to storm water management, to energy efficiency, to parks and open space, to locating residents nearer to employment, transit and shopping areas, enhances the integrity of the low density residential area by establishing for the long term a "terminus" to the residential area of Park Avenue. The internal and external improvements to traffic movement will greatly improve the current difficult intersection of West Street and Park Avenue (See pages 75Rv through 76Rv of the Comprehensive Plan). The number of access points on Broad, West and Park are being reduced from thirteen to four.

Demographic and market trends demonstrate that the future development in this area should be an innovative and integrated approach to a mixture of uses including retail, hospitality, residential and service uses.

Spectrum expects that given the increasing mass of retail, and newer, smaller multi-family units, the surrounding area will become more attractive to additional pedestrian oriented shopping and office users as well. The once in a generation parcel consolidation achieved by Spectrum provides the City with the opportunity to address all of the issues outlined above. Without the approvals requested, the properties will continue with their current uses for the indefinite future.

TRAFFIC IMPACT

Wells & Associates has reviewed the revisions to the uses. A letter from Wells is provided in the package of materials.

SPECIAL EXCEPTION CRITERIA FOR MIXED-USE AND HEIGHT BONUS

1. Primary Criteria (Section 48-90(1)):

a. The resulting development conforms to the City's adopted Comprehensive Plan and Design Guidelines (Section 48-90(1) (a)).

The Comprehensive Plan shows that the property is located in Planning Opportunity Area 3, and the proposed development meets or exceeds the strategies called for in that area:

1. Consolidation of lots to accommodate higher density.

2. Promotion of redevelopment that eliminates stand-alone automobile and light industrial facilities.

3. Improve pedestrian accessibility with controlled cross walks at various locations.

4. Create a consistent design, in terms of building height and design, streetscape improvements, and other aspects of the built environment in the City.

5. Preserve recreational resources in the area.

6. Create development to promote a positive image of the City in an area that has not seen any significant new development in decades.

7. Locate buildings as close to West Broad and West Streets as possible with parking located in the rear or in shared buildings or in structured facilities (in this case covered, surface and underground).

8. Achieve consistent architectural goals.

9. Traffic turn lanes will be added to Broad and West Streets.

Additionally, the Comprehensive Plan's Future Land Use Map designates the property as "business". The text of the comprehensive plan currently points out that while this means the area should be "primarily" recognized as retail or office districts rather than residential, "special exceptions for residential use and height bonuses have also been granted to create mixed use projects in 'business' areas since 2002".

The Comprehensive Plan should be changed to reflect current practice, the City's goals and the changing environment. To do this, an application to change the Comprehensive Olan's designation from Business to "Mixed Use" has been submitted to the City. The Design Guidelines show that the property is located in the West Broad Street Area. As called for in the Guidelines, the proposed development will reflect an urban street front, will provide a consistent identity for the area, increase pedestrian activity, and indicate the high standards of the City. In addition, the proposed development will widen paving at crosswalks, improve the area around the W& OD trail, all of which will work to increase pedestrian and bicycle activity in the area. The site's proximity offers a unique opportunity to finally provide superior connection to the W&OD Trail. The best use to optimize that linkage is mixed use and not office or light industrial uses.

b. The resulting development provides for significant net new commercial square footage and allows for a mix of commercial and residential uses (Section 48-90(1) (b)).

Currently, the properties in the site contribute only minimally in tax revenue. All existing properties are served by significant surface parking. The proposed development will remove these largely automobile-oriented and light industrial uses, providing significant net new commercial square footage and allowing for a mix of commercial and residential uses. The proposed development as noted provides substantial new commercial space (more specifically described in the Table in the Concept plan), and uses language desired by the City.

c. The resulting development produces substantial positive net new commercial and residential revenue to the City (Section 48-90(1) (c)).

In conjunction with this application, information has been submitted to the City to be inputted into the City's cost/revenue impact model to predict the project's net new revenue, and a report has been received, which is attached separately. As recognized by the Comprehensive Plan, the parcels that make up the property are underutilized currently in terms of their density and use. The proposed development will significantly increase the assessed value of and resultant property tax revenue generated by the property. In addition, by creating a vibrant, attractive western gateway into the City, the development will encourage additional consumers to enter the area and patronize commercial uses throughout the City.

2. Secondary Criteria (Section 48-90(2)):

a. The development is not disproportionate to surrounding land uses and planned land uses in size, bulk or scale (Section 48-90(2) (a)).

The proposed development is a concrete podium of commercial uses with five floors of multi-family and hotel above, with a total height of about 85 feet. The development has the unique aspect of substantial at grade parking for the retail uses hidden behind the retail and under the residences. The exterior is masonry, and the building is fully consistent with high standards established by the City for prior mixed use projects. The area of the footprint of this project is "low" and the height of the new building will blend well with its environment and set the stage for future development. Given the high-quality design and construction of the building and its prominent place in the City, a building of this scale is appropriate. The proposed development works in conjunction with existing buildings to further create a dramatic, defined statement of quality for this area of the City. The development is consistent with the discussion in the Comprehensive Plan for this Redevelopment Opportunity Area which calls for significant mixed

(multifamily) uses-the area called for this Plan however is committed long term to other uses that conflict with the Plan.

b. **The resulting development does not overburden the existing community facilities, including the school, transportation and water and sewer systems (Section 48-90(2) (b)).**

Transportation

A traffic study has been conducted by Wells and Associates that evaluates the anticipated traffic impacts of the application and provides specific recommendations to mitigate those impacts. That Study has been provided to the Staff. Some revisions to counts will be made to reflect the changes in the retail plan for the site. The application envisions a vibrant mixed-use development that will be sensitive to the transportation concerns of the City. By providing a variety of complementary uses on the same site, the proposed development will encourage self-contained, pedestrian trips. Additionally, due to its location proximate to several bus routes including a future intermodal transportation center and with implementation of Transportation Demand Management ("TDM") measures, a percentage of the trips generated by the residential and commercial components of the proposed development are anticipated to utilize non-auto modes of transportation. TDM measures will include convenient bicycle storage facilities, transit incentives, and resources conducive to teleworking. Furthermore, the developer proposes to reconfigure of the intersection at West Street and Park Avenue and add lane changes and traffic calming.

Water & Sewer

The City's utility engineer has confirmed that water and sewer service is adequate. The project will greatly improve storm water management with BMPs as the existing development has virtually no storm water management measures.

c. **The resulting development provides community benefits such as affordable housing, as it is described in Section 38-43 (Section 48-90(2) (c)).**

The developer is proposing an Affordable Dwelling Unit contribution in keeping with similar mixed use developments contributions, with about 6% of the total units being contributed as Affordable Housing Units and equally allocated among households at 60%, 80% and 100% of the median household income.

A commitment to LEED Silver for the Apartment building is provided, and the developer will underground all aerial utilities contiguous to the site depending on costs and

availability of easements. The developer proposes to review this in detail with the City to determine what poles can be undergrounded in the immediate area.

d. **The resulting development contributes to a vibrant, pedestrian-oriented environment both on site and in relation to adjoining properties, with street level activity throughout the day and evening (Section 48-90(2) (d)).**

The current uses at the site are distinctly automobile-oriented, with the majority of the property occupied by their own surface parking lots. The proposed development will move almost all parking within enclosed structures, which will contribute further to the walkable nature of the area.

The provision of streetscape along the entire development's three sides facing streets will contribute to the vibrant, pedestrian-oriented environment with connectivity to adjacent commercial and park areas. The mix of uses, including restaurants, retail, and other commercial opportunities will provide a balanced commercial center that will generate pedestrian traffic throughout the day and evening. The street level retail uses will be very visible and will encourage customers to enter the area to shop and visit not only this development, but the additional retail located nearby.

e. **The resulting development offers creative use of landscaping, open space and/or parks, public plazas or and walkways connecting to adjoining properties (Section 48-90(2) (e)).**

Three sides of the proposed building will have the attractive "streetscape" design and fixtures, and there will be enhanced connections around the site to nearby businesses, parks, and residences. The area near the W&OD trail will invite pedestrians to ride bikes, rest, talk, sit, eat and simply enjoy the area which includes the soon to be completed West End Park.

A cash contribution is provided. Further, a cash contribution is possible to facilitate the completion of the West End Park.

f. **The resulting development provides a variety of commercial services and uses that are attractive to and meet the needs of all city residents for entertainment, art, recreation, dining retail and array of consumable goods (Section 48-90(2)(f)).**

As stated above, the proposed development envisions a hotel as well as a mix of commercial uses. This includes a movie/dinner theater, and retail opportunities in an area that is lacking sufficient quality retail currently. These commercial entities will serve the

residential uses within the proposed development, as well as the neighborhood as a whole.

g. **The resulting development encourages local or independent businesses (Section 48-90(2) (g)).**

The retail and restaurant space provide a unique opportunity for local, regional and independent businesses, and the high-quality development will help the area as a whole attract and cultivate local and independent businesses. The smaller retail spaces in the development provides excellent opportunities for local "mom and pop" and incubator businesses.

h. **The resulting development provides for a reduction of single use parking requirements through shared parking Section 48-90(2) (h)).**

As shown in the submitted conceptual plan, the developer is recommending shared parking. The developer will explore with the final parking provided with the City to determine any additional parking reductions are justified based on the characteristics of the property and its proximity to bike ways, as well as several bus lines, will lead to fewer automobile trips. Additionally, metro to the nearest metro rail station is easily available and it is expected that some residents will bike to work (or to a multi-modal transit location for switching to bus or rail), and that the commercial uses will be patronized at least in part by pedestrians and cyclists.

i. **The resulting development encourages multi-modal transportation through design and other techniques to reduce the reliance on single occupancy vehicles, and utilizes sheltered stops for mass transit whenever feasible Section 48-90(2) (i)).**

As discussed, the property is in close proximity to existing bike ways, as well as the Metro Rail station and several bus lines. It is expected that some residents will walk to the Metro Rail station and others will bike to work, and that the commercial uses will be patronized at least in part by pedestrians and cyclists. The design includes attractive and user friendly places for bikes to be parked and stored.

j. **The resulting development utilizes LEED criteria in the design of the project Section 48-90(2) (j)).**

The proposed apartment development is planned to be LEED Silver certified, and will otherwise be designed using green design principles and elements.

By removing the existing imperious parking lots and implementing a new storm water management plan, the development will greatly reduce storm water runoff in the area.

Additionally, the non-residential part of the project will incorporate eco-conscious sustainable elements in the design of the hotel and other commercial spaces.

Special Exception for Height Bonus.

The area of the site to be used for the mixed use project is currently zoned B-3 and B-1, which permit a by-right height of up to 55 feet. The developer proposes the requested development to be a maximum height of 85 feet.

Up to 30 feet of bonus height may be granted if the project is exemplary in terms of conformance to the Primary Criteria 1 and 2 set out above and assists in conformance with Primary Criteria 2 and 3. The amount of new commercial area is more than three times the area of the existing commercial activity. More importantly, the new commercial activity replaces commercial uses which are discouraged by the City's Comprehensive Plan. The net new commercial and retail income is far greater than that of the existing uses and far superior in terms of making the area a desirable play to live, work, and play. Many of the difficult to achieve goals of the Comprehensive Plan will be met by the proposed development. For these reasons, this plan is exemplary in its achievement of the primary criteria set out above.

Bonus height may able be awarded for certain preferred uses when located on primary street frontage. These uses include outdoor dining, hotel and other uses specifically requested by the City. This development proposes improvements to the W&OD Park, a hotel, offices, a new movie/dinner theater, multiple retail opportunities and outdoor dining and some restaurants possibly with entertainment; all of which are considered preferred uses, justifying a bonus height of 30 feet.

It is important to note here that the first floor retail uses require a ceiling heights ranging from 15 to 24 feet, and that this required ceiling height is a major reason why the bonus is needed. As discussed, the design of this project, and in particular its height, is an exceptional new addition to this part of the City. The project sets a high bar for quality in terms of design, use, and materials, and if the proposed project were to be lowered by 30 feet, the integrity of the design would be greatly compromised, likely making the development infeasible.

The location and unique physical characteristics of the site make the requested building height appropriate. The property is located in an area that is expected to attract similar developments which will likely reach heights of 85', so that the requested height of 85' in certain locations is not out of the character of the surrounding neighborhood and the expected area as it evolves.

CONCLUSION

The Spectrum redevelopment at Broad and West fully reflects the City's vision for that area of Falls Church. The project meets or exceeds the primary and secondary criteria used to evaluate the merits of the special exceptions. Therefore, the requested special exceptions for residential use and height bonus at the City's gateway should be granted.

Thank you and the City Staff for its guidance and attentiveness to this project.

Sincerely,

David R. Lasso

David R. Lasso

DRL/saj
Enclosures

Appendix B

Scoping Document and Correspondence

CITY OF FALLS CHURCH

TO: Will Johnson, Wells+Associates, Inc.

FROM: Kirsten Munz, P.E. – Civil Engineer, DPW

SUBJECT: N. West & West Broad Site ("Shreve Corner" development)
TIA Scoping Approval

DATE: September 18, 2013

On August 15, 2013 a scoping meeting was held to discuss the conceptual development of a mixed-use project located at the corner of North West Street, West Broad Street and Park Avenue in the City of Falls Church. The applicant's pre-scoping form was discussed to determine the parameters of a TIA for the subject project. Subsequent to the meeting, the applicant revised the pre-scoping form based on the discussion.

The City approves the scoping parameters outlined in the updated scoping form, received August 16, 2013 with the following points of clarification and emphasis:

- The project's proximity to the W&OD trail should be of utmost consideration. All design elements should be driven by the goal to facilitate safe, convenient and efficient travel for a mixture of transportation modes.
- NVRPA has conducted a preliminary redesign of the W&OD trail crossing on North West Street to improve safety, which was provided to the applicant. The applicant has agreed to consider incorporating this element into the intersection redesign. The applicant is advised to coordinate any changes within the NVRPA right-of-way closely with the Park Authority.
- Analysis of access point on West Broad shall also include an option for right-in/right-out only access.
- If a new signal is pursued at the access point on West Broad, a full MUTCD signal warrant analysis must be conducted prior to SE approval, to adequately understand its merits and impacts.
- In addition to a roundabout at North West/ Park Avenue, alternative designs shall be explored and analyzed.
- A transportation demand management plan (TDM) shall include specific, quantifiable measures, accompanied by justification based on numerical data.
- Sight distance analyses at all intersections shall be based on AASHTO standards. Sight distances for bicycles, particularly in the vicinity of the W&OD trail, shall be analyzed as well.

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- Geometric design shall accommodate school bus turning movements.
- The applicant is advised to examine the feasibility of providing a pedestrian route mid-block along the east edge of the site, connecting East Broad to Park Avenue.

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PRE-SCOPE OF WORK MEETING FORM

Information on the Project
Traffic Impact Analysis Base Assumptions

The applicant is responsible for entering the relevant information and submitting the form to VDOT and the locality no less than three (3) business days prior to the meeting. If a form is not received by this deadline, the scope of work meeting may be postponed.

Contact Information	
Consultant Name: Tele: E-mail:	William F. Johnson – Wells+Associates, Inc. 703-365-9262 wfjohnson@mjwells.com
Developer/Owner Name: Tele: E-mail:	Peter A. Batten – Spectrum Development LLC 202.607.3952 pbatten@spectrumdevelop.com

Project Information				
Project Name:	N West Street and W Broad Street		Locality/County:	City of Falls Church
Project Location: (Attach regional and site specific location map)	The subject site is located located north of W Broad Street (Route 7), south of Park Avenue and east of N West Street in the City of Falls Church, Virginia. See Attachment I for the site location.			
Submission Type	Comp Plan ☒	Rezoning ☒	Site Plan ☒	Subd Plat ☐
Project Description: (Including details on the land use, acreage, phasing, access location, etc. Attach additional sheet if necessary)	The subject properties are zoned B-3 (General Business), B-1 (Limited Business), and R-1B (Medium Density Residential). The properties are currently developed with a variety of commercial, office, and residential uses. The applicant proposes to raze the existing uses and subsequently redevelop these properties with a mix of residential, retail, and office and/or hotel components as shown in Attachment II (footnote 1). Access to the project is proposed on West Street, Broad Street, and Park Avenue. On N West Street, a right-in/right-out access would be located approximately 175 feet north of the W Broad Street/N West Street intersection. Two entrances are proposed on W Broad Street with the westernmost access restricted to right-in/right-out movements only. Lastly, an access is also provided on Park Avenue (see Attachment II). Footnote 1: About half of the area currently zoned R-1B will be rezoned to B-1 (22,353 GSF) and the remaining three R-1B building lots reduced to two. Six parcels zoned B-3 will be downzoned to B-1 (92,031 GSF). The area devoted to mixed use (148,135 GSF) will have its comprehensive plan designation changed from "Business" to "Mixed Use" and the approximately 22,353 GSF of R1-B from "Low Density Residential" to "Mixed Use".			
Proposed Use(s): (Check all that apply; attach additional pages as necessary)	Residential ☐	Commercial ☐	Mixed Use ☒	Other ☐

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

	Residential Uses(s) Number of Units: 274 multifamily dwelling units, 2 single family detached dwelling units ITE LU Code(s): 220 210 **Commercial Use(s)** ITE LU Code(s): 912 881 826 Square Ft or Other Variable:	3,000 GSF bank 14,800 GSF pharmacy up to 26,420 GSF other retail uses **Other Use(s)** ITE LU Code(s): 310 OR 710 Independent Variable(s): 149 hotel rooms OR 40,044 GSF office uses (See Attachment III for a preliminary trip generation analysis)

Total Peak Hour Trip Projection:	Less than 100 ☐	100 – 499 ☐	500 – 999 ☐	1,000 or more ☒

Traffic Impact Analysis Assumptions

Study Period	Existing Year: 2013	Build-out Year: 2019	Design Year: 2019
Study Area Boundaries (Attach map)	North: Lincoln Avenue (Route 6774)	South: W Broad Street (Route 7)	
	East: N Spring Street	West: N West Street (Route 6749)	
External Factors That Could Affect Project (Planned road improvements, other nearby developments)	Any approved and/or proposed pipeline development projects as well as potential external factors will be discussed with City staff.		
Consistency With Comprehensive Plan (Land use, transportation plan)	The subject parcels are planned for Business and Low Density Residential uses in the City's Future Land Use Plan Map. The applicant plans to redevelop the site in a manner that is in harmony with the City's Comprehensive Plan.		
Available Traffic Data (Historical, forecasts)	The traffic analysis will utilize the most recent VDOT traffic data as needed and the counts conducted by Wells+Associates, and/or counts from any other sources as agreed to with staff. 2012 VDOT Traffic Data: W Broad Street (Route 7) – 29,000 vehicles per day (vpd) N West Street (Route 6749) – 5,800 vpd Lincoln Avenue (Route 6774) – 2,700 vpd		
Trip Distribution	Road Name: 35% to/from west on W Broad Street	Road Name: 35% to/from east on W Broad Street	

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(Attach sketch)	Road Name: 8% to/from north on N West Street Road Name: 2% to/from north on Grove Avenue		Road Name: 12% to/from east on Park Avenue Road Name: 8% to/from south on S West Street (See Attachment IV)
Annual Vehicle Trip Growth Rate:	1.0%	Peak Period for Study (check all that apply)	☒ AM ☒ PM ☐ SAT
		Peak Hour of the Generator	See Attachment III
Study Intersections and/or Road Segments (Attach additional sheets as necessary)	1.W Broad Street/West Street		6.N West Street/Lincoln Avenue
	2.N West Street/Grove Avenue		7.Grove Avenue/W&OD Trail (including pedestrian/bicycle movements)
	3.N West Street/Park Avenue		8.N West Street/W&OD Trail (including pedestrian/bicycle movements)
	4.W Broad Street/Spring Street		9.All Future Site Entrances
	5.Park Avenue/N Spring Street		10.(See Attachment IV)
Trip Adjustment Factors	Internal allowance: ☒ Yes ☐ No Reduction: 5/10/15 for AM/PM/Saturday capture of retail/residential % trips		Pass-by allowance: ☒ Yes ☐ No Reduction: 25 (non-residential)% trips
Software Methodology	☒ Synchro ☐ HCS (v.2000/+) ☐ aaSIDRA ☐ CORSIM ☐ Other _____		
Traffic Signal Proposed or Affected (Analysis software to be used, progression speed, cycle length)	1. Synchro 7.0 will be used to conduct the capacity analysis. 2. Existing analysis will include Peak Hour Factor's from the existing traffic counts by approach. 3. A minimum PHF of 0.85 will be used under existing conditions. 4. Background and Total Future analysis will utilize a default PHF of 0.92. A table containing generalized Synchro parameters is included as Attachment V. These parameters will be used, as may be appropriate.		
Improvement(s) Assumed or to be Considered	A. Any assumed improvements/recommendations would be based on the results of the capacity analysis. B. Potential Transportation Demand Management (TDM) measures will be evaluated and included in the report. Additionally, enhancements to the pedestrian/bicycle network, as may be appropriate, will be investigated. C. Demonstration of adequate sight distance will be included in engineering drawings.		
Background Traffic Studies Considered			

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

Plan Submission	☐ Master Development Plan (MDP) ☒ Generalized Development Plan (GDP) ☐ Preliminary/Sketch Plan ☐ Other Plan type (Final Site, Subd. Plan)
Additional Issues to be Addressed	☒ Queuing analysis ☐ Actuation/Coordination ☐ Weaving analysis ☐ Merge analysis ☒ Bike/Ped Accommodations ☐ Intersection(s) ☒ TDM Measures ☐ Other _____

NOTES on ASSUMPTIONS: 1. Synchro 7.0 will be used to conduct the capacity analysis with a minimum PHF of 0.85; all other movements for existing conditions would be field measured PHFs. Background and Total Future analysis shall use a PHF of 0.92.

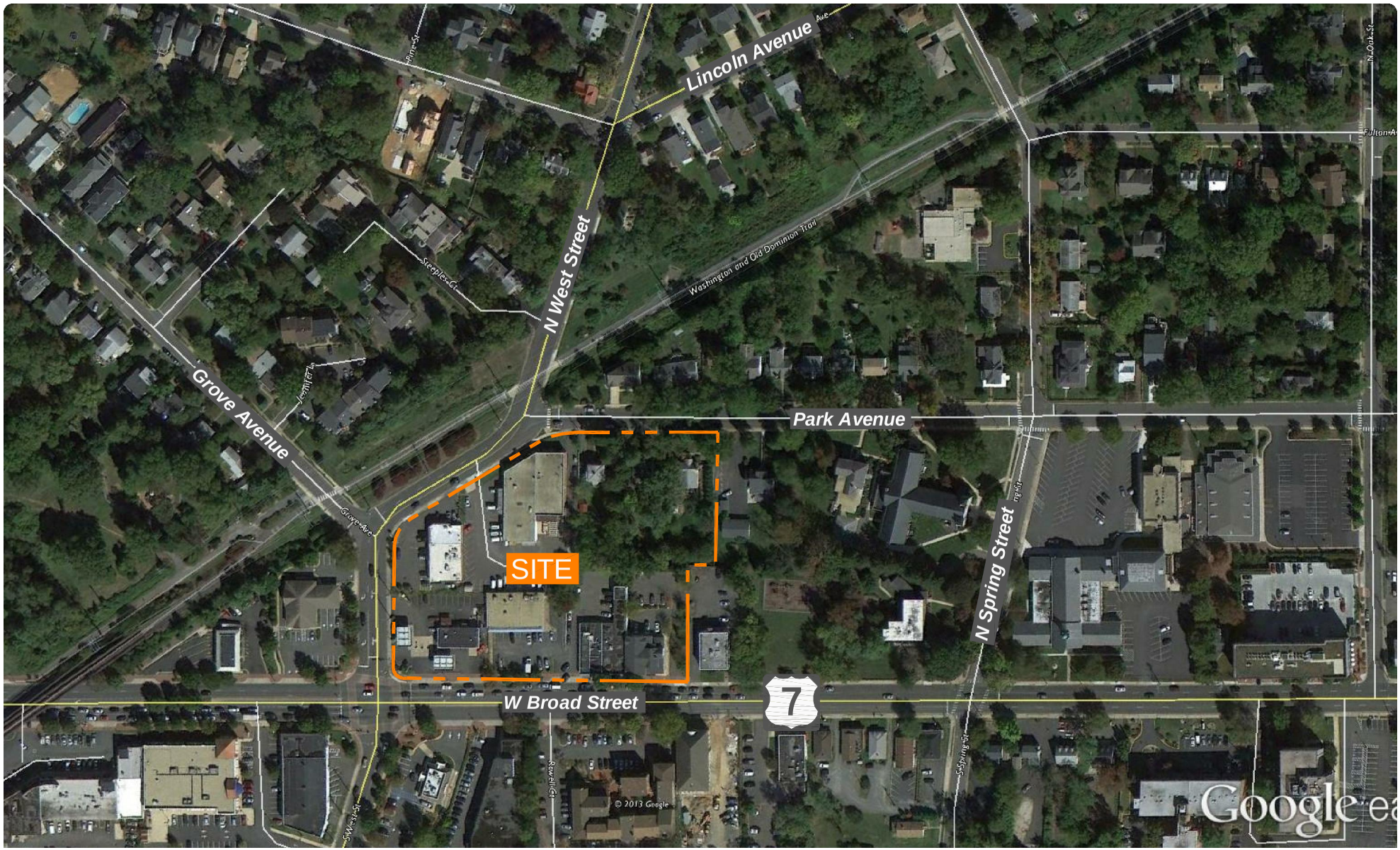
2. The percent heavy vehicles (%HV) will be based on the traffic counts or a default 2%, whichever is higher.

3. A maximum non-auto/transit reduction of 5% for residential generated trips will be applied, consistent with other area studies.

SIGNED: _____ DATE: _____
Applicant or Consultant

PRINT NAME: _____
Applicant or Consultant

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

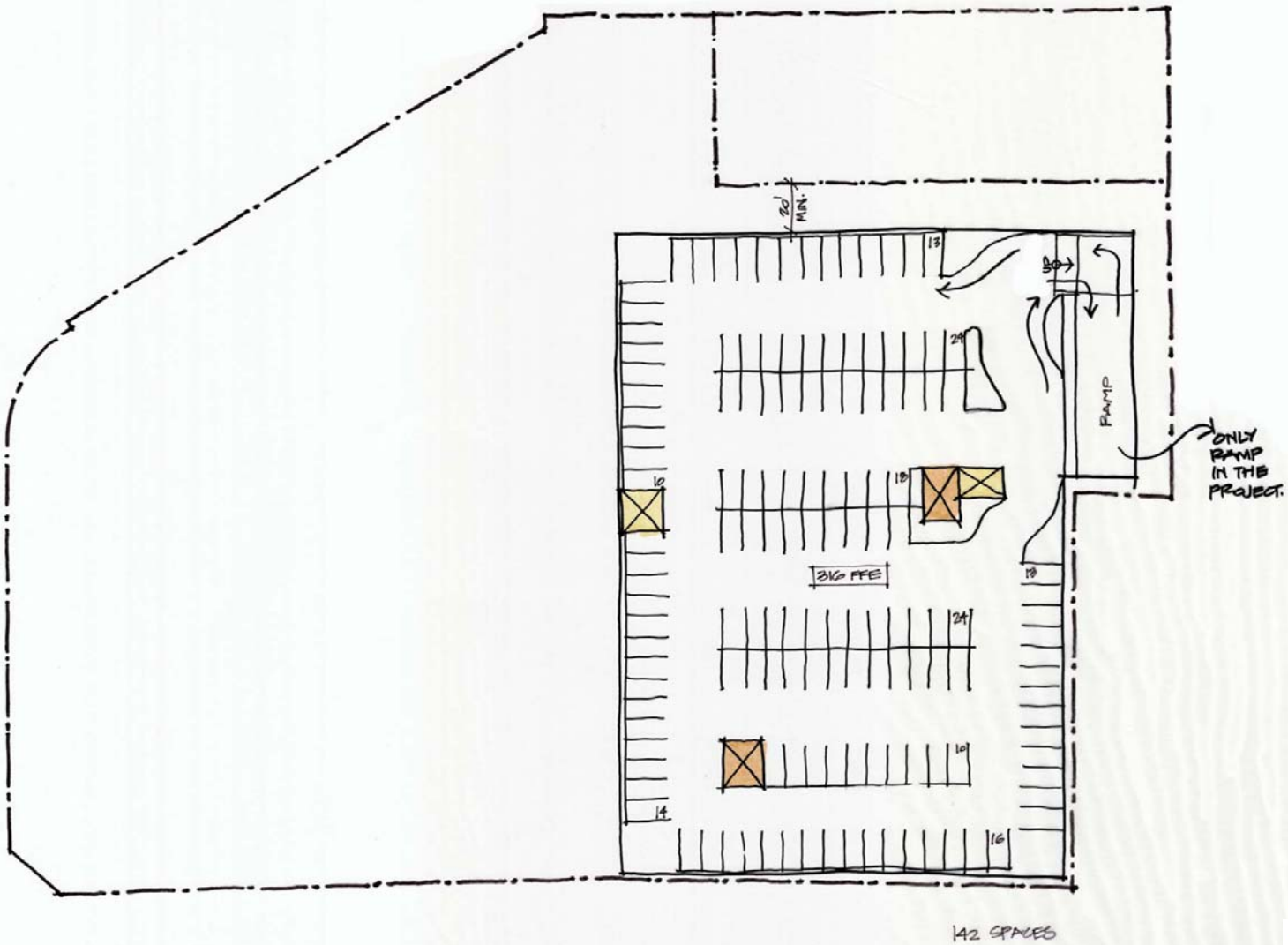


Attachment I
Site Location

North

N West Street and W Broad Street
City of Falls Church, Virginia

Wells + Associates, Inc.



1 Sketch of Lower Garage
N.T.S.

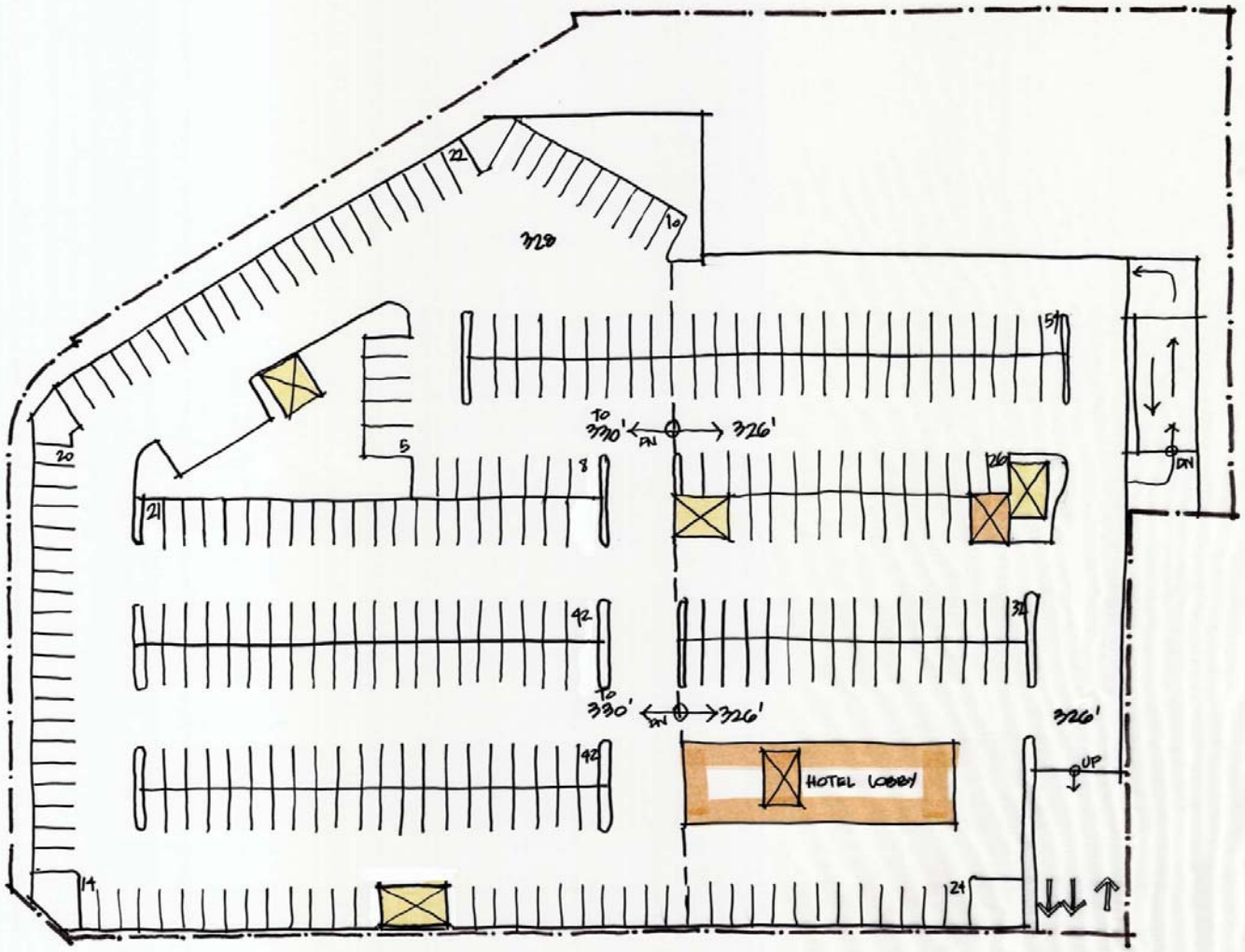
N West & W Broad Street

08/05/13

SPECTRUM development

streetsense.
streetsense.com

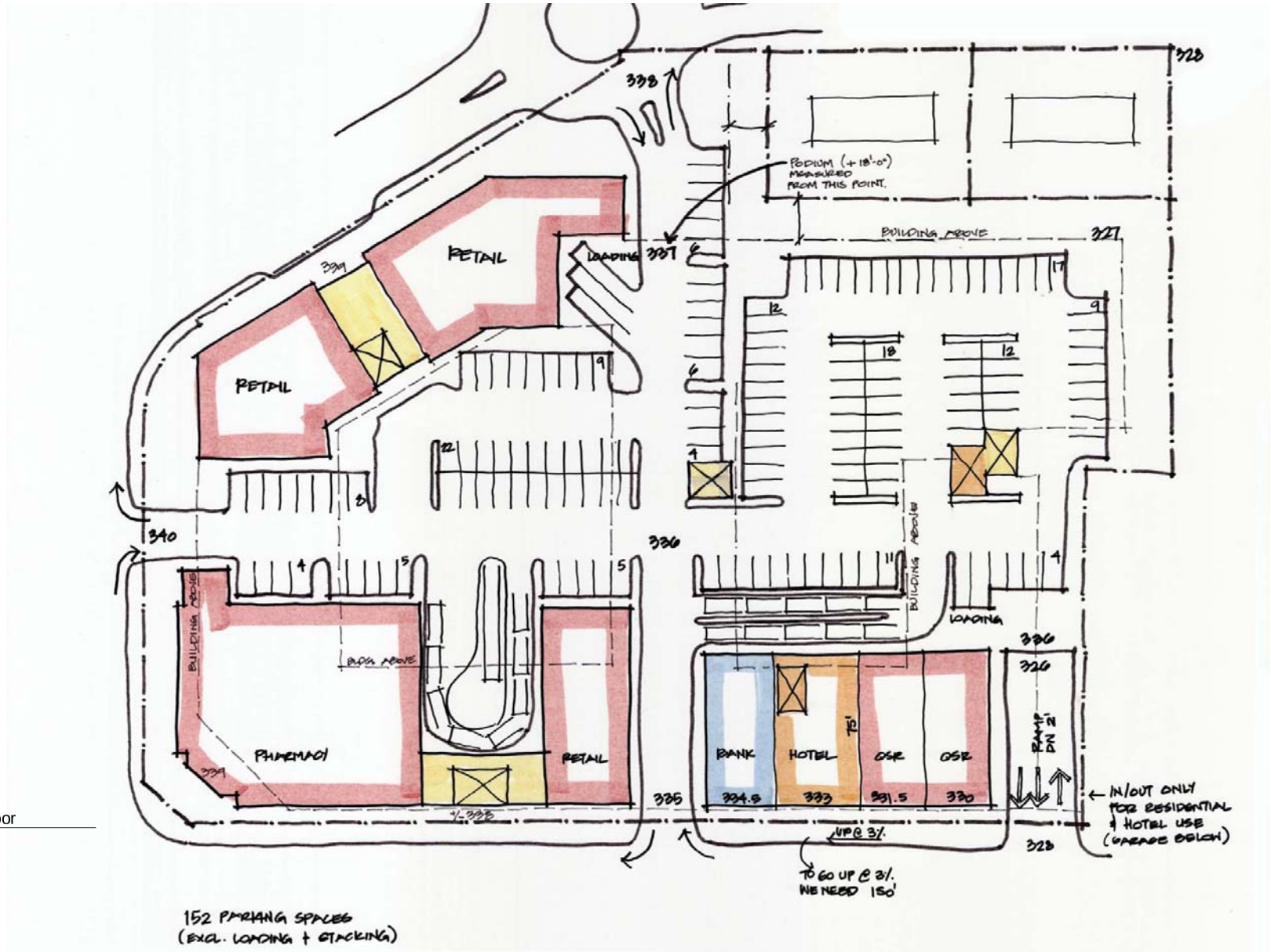
ATTACHMENT II



1 Sketch of Upper Garage
N.T.S.

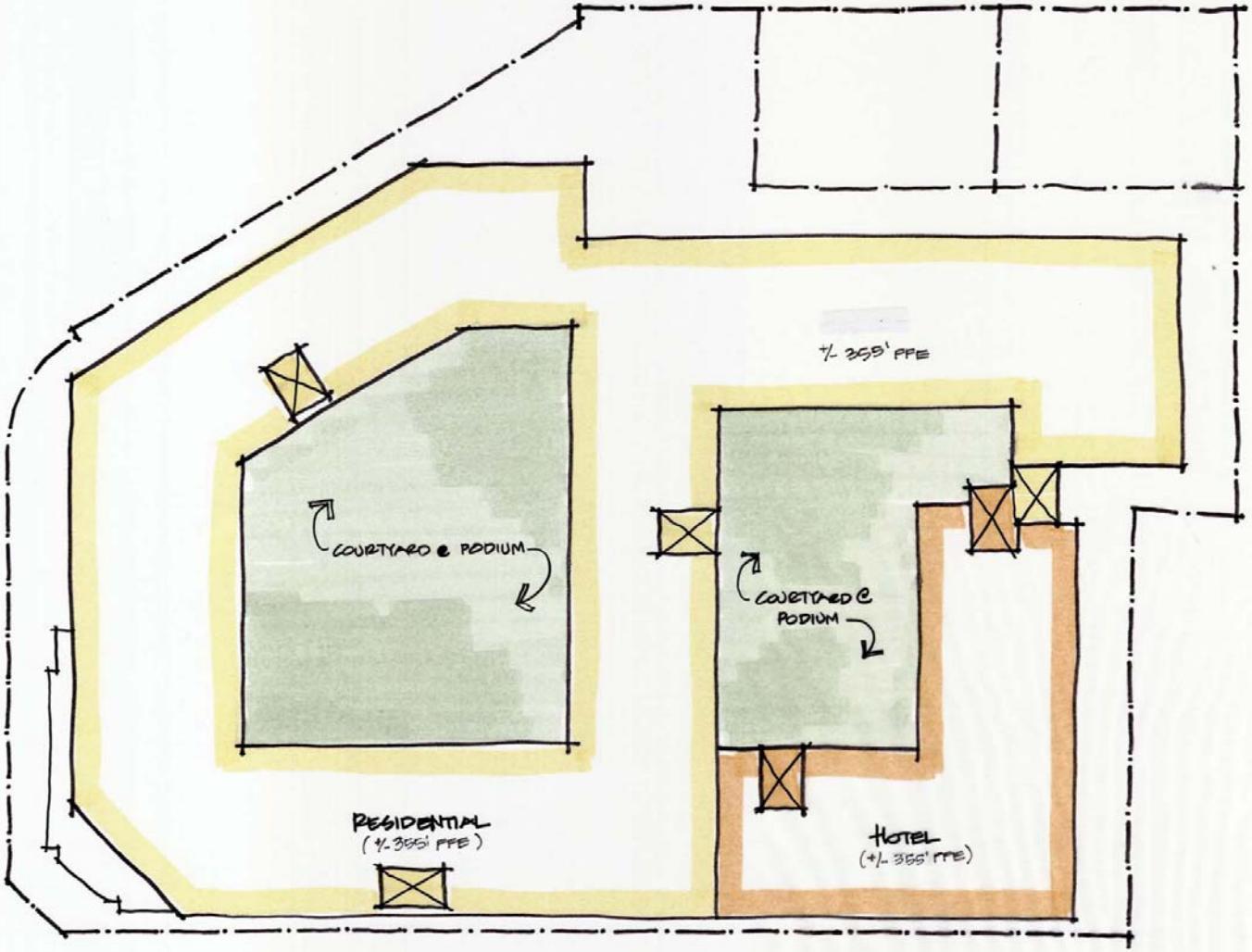
N West & W Broad Street

SPECTRUM development
streetsense.
streetsense.com



1 Sketch of 1st Floor
N.T.S.

N West & W Broad Street



1 Sketch of Upper Floors
N.T.S.

N West & W Broad Street

08/05/13

SPECTRUM development

streetsense.

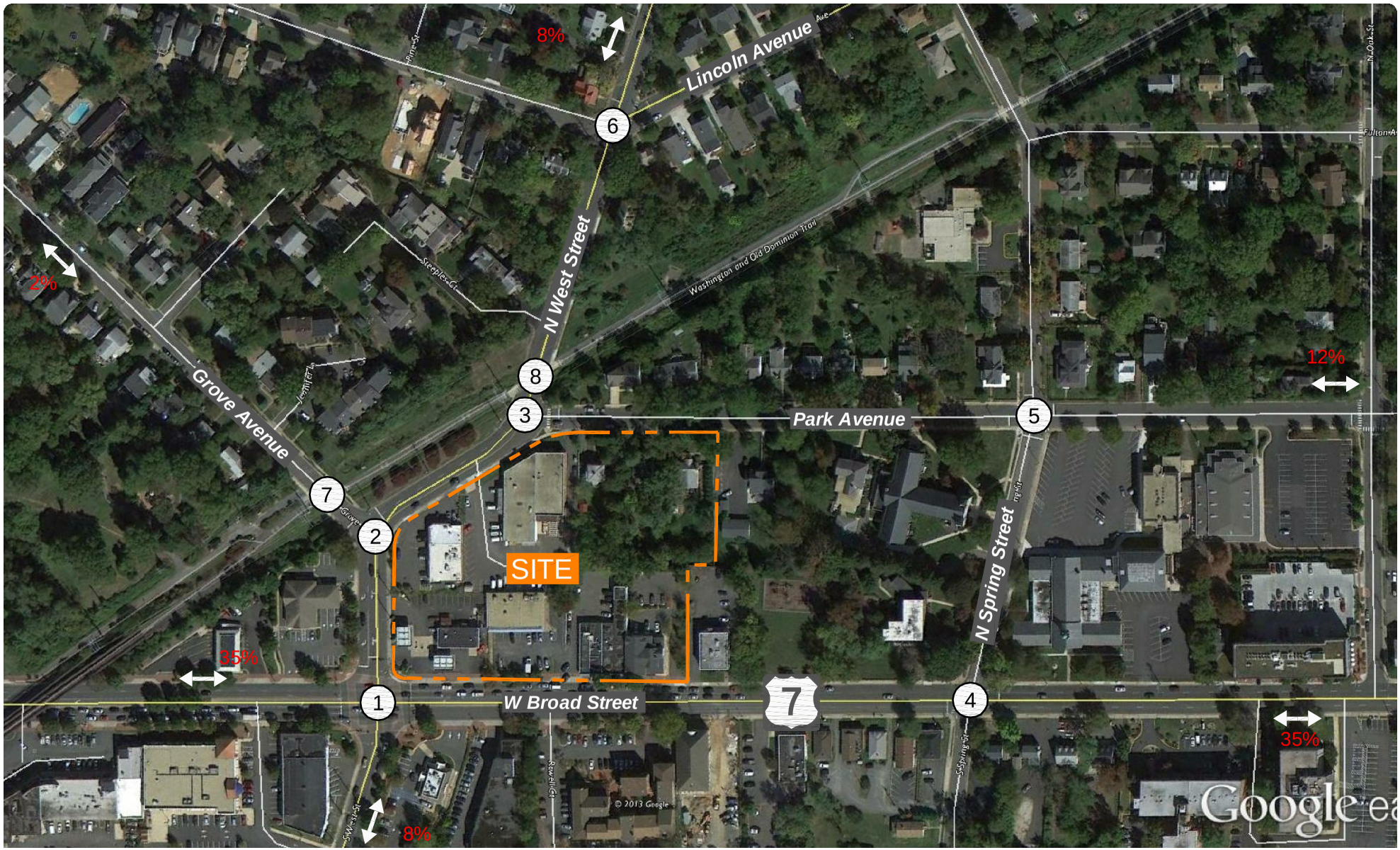
streetsense.com

ATTACHMENT II

Attachment III
North West and West Broad Street
Trip Generation - Peak Hour of the Generator (1)(2)

Lot Number	Land Use Code	Amount	Unit	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total		PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total		Average Daily Trips	
EXISTING USES													
51-202-009 Lot 1													
Gasoline/Service Station with Convenience Market	945	8	fueling positions	42	42	84	r	55	54	109	r	1,302	r
51-202-010 Lot 2													
Convenience Market (Open 24 Hours)	851	3,928	GSF	141	146	287	r	109	101	210	r	2,899	r
51-202-028 and 51-202-028 Outlot													
Specialty Retail Center	826	5,124	GSF	17	18	35	r	15	11	26	r	227	r
51-202-011 Lot 3 and 51-202-012													
Warehousing	150	11,016	GSF	10	6	16	e	2	11	13	e	39	r
51-202-005 Pt. Lot 1													
Specialty Retail Center	826	7,120	GSF	24	25	49	r	20	16	36	r	316	r
51-202-004 Pt. Lot 2													
Specialty Retail Center	826	5,740	GSF	19	20	39	r	16	13	29	r	254	r
51-202-013 Lot 2, 51-202-014 Lot 4 and 51-202-015 Lot 3													
Single-Family Detached Housing	210	3	dwelling units	4	10	14	e	3	2	5	e	42	e
Total Existing Trips				257	267	524		220	208	428		5,079	
PROPOSED USES													
Scenario 2A													
Drive-in Bank	912	3,000	GSF	28	25	53	r	41	39	80	r	444	r
Hotel	310	149	occupied rooms	53	43	96	e	61	46	107	e	1,329	r
Pharmacy/Drugstore with Drive Through Window	881	14,800	GSF	62	62	124	r	72	72	144	r	1,434	r
Apartment	220	274	dwelling units	44	106	150	e	109	70	179	e	1,784	e
Specialty Retail Center	826	11,516	GSF	38	41	79	r	32	26	58	r	510	r
Specialty Retail Center	826	12,468	GSF	41	44	85	r	35	28	63	r	553	r
Single-Family Detached Housing	210	2	dwelling units	4	10	14	e	2	1	3	e	29	e
Total Proposed Trips - Scenario 2A				270	331	601		352	282	634		6,083	
Total Net New Trips - Scenario 2A				13	64	77		132	74	206		1,004	
Scenario 2B													
Drive-in Bank	912	3,000	GSF	28	25	53	r	41	39	80	r	444	r
Pharmacy/Drugstore with Drive Through Window	881	14,800	GSF	62	62	124	r	72	72	144	r	1,434	r
General Office	710	40,044	GSF	81	11	92	e	21	102	123	e	655	e
Apartment	220	274	dwelling units	44	106	150	e	109	70	179	e	1,784	e
Specialty Retail Center	826	11,516	GSF	38	41	79	r	32	26	58	r	510	r
Specialty Retail Center	826	14,904	GSF	49	53	102	r	42	33	75	r	661	r
Single-Family Detached Housing	210	2	dwelling units	4	10	14	e	2	1	3	e	29	e
Total Proposed Trips - Scenario 2B				306	308	614		319	343	662		5,517	
Total Net New Trips - Scenario 2B				49	41	90		99	135	234		438	

Note(s):
(1) Trip generation based on the Institute of Transportation Engineers' Trip Generation Manual, 9th Edition.
(2) e = equations were used to calculate trip generation. r = rates were used to calculate trip generation.



Attachment IV
Trip Distribution and Study Intersections

(X) Study Intersection
XX% Site Trip Distribution

North

N West Street and W Broad Street
City of Falls Church, Virginia

Wells + Associates, Inc.

ITEM DESCRIPTION	STANDARD
SOFTWARE	
Software Version	Synchro 7.
Build	Build 773, Rev 8 (or most current build).
Source of Synchro Base	VDOT Synchro files.
Analysis Performed	Signalized and STOP-controlled intersection capacity analysis.
Reports Generated	"HCM Signals", "HCM Unsignalized", and the "INT: Queues" reports should be used.
Analysis Period	15 minutes.
LAYOUT	
Street Names/Route Numbers	Verify all links have street names and/or Route numbers.
Number of Lanes/Lane Markings	Field verify.
Layout of Lanes	Use cardinal directions for approaches (N, S, E & W): Leesburg Pike (Route 7) – East-West Chain Bridge Road (Route 123) – East-West Refer to area studies for orientation of specific intersections.
Distance between Intersections (centerline to centerline)	Import and scale aerial for all Synchro bases. Adjust base as required.
Speed Limits	Field verify.
Lane Widths	Set as default of 12'.
Grades (if available)	Leave values from VDOT Synchro files.
Central Business District (CBD)	Leave unchecked.
Storage Lane Lengths	Storage Length = Full width + portion of taper to a width of 8' (approximately 1/3 of taper)
Number of Storage Lanes	Field verify.
Channelization (yield, stop, signal, free flow)	Field verify.
Curb Radius	Field verify.
Add/Drop Lanes	Field verify.
Right Turns on Red	Field verify.
Left Turn Lanes	Field verify protected or protected/permitted phasing.
Bus Stops/Shelters	Field verify.
Terrain	All terrain in Northern Virginia is "level".
VOLUMES	
Vehicle Volumes	Based on master list of Tysons Corner area baseline volumes.
Pedestrian Volumes	Code in conflicting peds from count sheets if available.
Bicycle Volumes	Code in conflicting bikes from count sheets if available.
Peak Hour Factors	Use existing PHF's by approach adjusted to 0.85≤PHF≤0.92. Carry existing PHF 's to future scenarios for existing

ITEM DESCRIPTION	STANDARD
	intersections/approaches. New/modified intersections should be coded with PHF's of 0.92.
Heavy Vehicle Percentages	Use count data by movement if data is available. If not, use 2008 VDOT ADT data by approach.
Bus Blockages per Hour	Code in for all affected lane groups if there is a bus stop at an intersection approach. Base on number on bus headway data (30 min = 2 stops per hour).
Adjacent Parking	Check for all affected lane groups if there is on-street parking at the intersection.
Parking Maneuvers per Hour	Use engineering judgment. (e.g. 5 parked cars * 1 maneuver/hr = 5 per hour)
TIMING/PHASING	
Current Signal Timing Plans	Obtain VDOT MIST timing sheets from VDOT or other area projects.
Turn Types (left and right turns)	Field verify. For right turns that are coded as channelized yield control in the lane window, code them as permitted with the through movement on the same approach in the timing window, except in rare instances such as Route 123/Tysons Blvd. DO NOT code dual lefts as protected/permitted EVER.
Detector Phases Overrides	Leave consistent with VDOT Synchro files unless there is an obvious error. One error that seems to occur often is for right turn overlap phases; the detector phase should be coded with the mainline phase of the same approach, that is, not with the corresponding left turn movement.
Switch Phases Overrides	Leave consistent with VDOT Synchro files unless there is an obvious error.
Controller Type	Most likely either "Actd-Coord" or "Actd-Uncrd".
Cycle Length	Future signal timings should maintain corridor cycle lengths.
Minimum Green Time	New signals assume minimum G=7 seconds
Offset Time	Obtained from coordination sheet of MIST timing sheets.
Offset Referenced to (beginning of yellow, etc.)	Set for "Begin of Yellow".
Reference Phase	Almost always Phases 2 + 6. (Notable exception – Spring Hill Rd / International Dr / Jones Branch Dr. intersection)
Master Controller	Leave consistent with VDOT Synchro files.
Yield Point	Set as "Single".
Correct Phasing (split, lead, lag, etc.)	Field verify. For new intersections/approaches, all lefts should be treated as protected on roadways with speeds 45mph (or higher) or

ITEM DESCRIPTION	STANDARD
	with more than two opposing through lanes.
Minimum Initial	Based on "Phase Timing Bank" of MIST timing sheets. Usually 5-7s for lefts, 7-10s for side streets, and 10-20s for thrus.
Minimum Splits	Synchro can calculate as greater of min green + Y +AR or W + FDW + Y + AR.
Maximum Splits	Based on "Coordination Sheet" or "Phase Timing Bank" of MIST timing sheets. Can be less than the min split if there is a pedestrian phase. (Ped call would override max split). For uncoordinated signals, field timings are recommended to verify how much time each phase actually is using.
Yellow Time	Based on "Phase Timing Bank" of MIST timing sheets. Usually 4 seconds. Minimum Y+All R=6 seconds per *Administrative Guidelines*.
Red Time	Based on "Phase Timing Bank" of MIST timing sheets. Usually 3 seconds. Minimum Y+All R=6 seconds per *Administrative Guidelines*
Lost Time Adjust	Set so that total lost time = 3 sec. (Y + R + Adj = 3)
Allow led/lag Optimization	Uncheck to prevent accidental "optimization".
Vehicle Extension	Based on "Phase Timing Bank" of MIST timing sheets. Usually 2-4 seconds.
Minimum Gap	Based on "Phase Timing Bank" of MIST timing sheets. Almost always same as vehicle extension. Usually 2-4 seconds.
Recall Modes	For coordinated signals, the recall mode for the coordinated phases should be "C-Max". Other phases should be set to "No Recall". For uncoordinated phases, the mainline phases (2+6) should be set to "Min Recall". Other phases should be set to "No Recall".
Pedestrian Phase	Based on "Phase Timing Bank" of MIST timing sheets.
Walk Time	Based on "Phase Timing Bank" of MIST timing sheets. Usually 7 seconds.
Flashing Don't Walk Time	Based on "Phase Timing Bank" of MIST timing sheets. For new signals FDW = distance (in feet) / 3.5 ft/sec.
Pedestrian Calls per Hour	Based on ped counts where available. Use nominal value (e.g. 5 calls) when no information available.
Dual Entry	Based on "Coordination Timing Parameters" of MIST sheets.
Inhibit Max	Check boxes for mainline/coordinated phases. Uncheck boxes for all other phases.
SIGNING (UNSIGNALIZED)	

ITEM DESCRIPTION	STANDARD
Controller Type	Set as "Unsig".
Sign Control	Field verify.
Median Width	Equal to left turn lane width + additional median width.
TWLTL Median	Check if applicable. Use engineering judgment for storage length (e.g. distance to next driveway).
Right Turn Channelization	Should be same as in lane window.
SIMULATION SETTINGS	
Taper Lengths	Leave consistent with VDOT Synchro files unless there is an obvious error.
Lane alignment	Leave consistent with VDOT Synchro files unless there is an obvious error.
Enter Blocked Intersection	Leave consistent with VDOT Synchro files unless there is an obvious error.
Median widths	Equal to left turn lane width + additional median width.
Distance between offset legs of intersection	Leave consistent with VDOT Synchro files unless there is an obvious error.
Crosswalk widths	Leave consistent with VDOT Synchro files unless there is an obvious error.
Two-way Left Turn Lane	Check if applicable. Use engineering judgment for storage length (e.g. distance to next driveway).
Turning Speed	Leave consistent with VDOT Synchro files unless there is an obvious error.

Appendix C

Traffic and Pedestrian Count Data

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: North West & West Broad
W+A JOB NO: 5897
INTERSECTION: W. Broad St. & N. West St.
LOCATION: Fairfax County,VA

DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Geraldin & Marlen
INPUTED BY: agan

SOUTHBOUND ROAD: North West Street
NORTHBOUND ROAD: South West Street
WESTBOUND ROAD: West Broad Street - 7
EASTBOUND ROAD: West Broad Street - 7

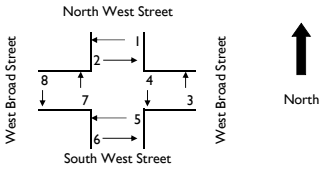
Time	Southbound North West Street					Westbound West Broad Street - 7					Northbound South West Street					Eastbound West Broad Street - 7					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM	8	2	5	15		3	36	4	43			13	8	21			67	18	85		36	128	164
6:15 AM - 6:30 AM	12	4		16		4	63		67		6	18	14	38		3	97	25	125		54	192	246
6:30 AM - 6:45 AM	14	9	4	27		9	118		127		4	28	27	59		9	177	34	220		86	347	433
6:45 AM - 7:00 AM	15	13	4	32		6	120	5	131		8	43	31	82		7	152	31	190		114	321	435
7:00 AM - 7:15 AM	24	8	5	37		3	151	4	158		5	62	62	129		7	154	48	209		166	367	533
7:15 AM - 7:30 AM	9	14	7	30		7	178	5	190		11	71	64	146		25	229	68	322		176	512	688
7:30 AM - 7:45 AM	29	18	7	54		19	210	7	236		6	74	55	135		21	231	64	316		189	552	741
7:45 AM - 8:00 AM	43	21	9	73		7	250	15	272		7	67	72	146		12	238	62	312		219	584	803
8:00 AM - 8:15 AM	32	22	12	66		11	221	2	234		14	51	46	111		12	212	44	268		177	502	679
8:15 AM - 8:30 AM	20	25	9	54		11	225	9	245		6	53	43	102		9	194	63	266		156	511	667
8:30 AM - 8:45 AM	31	13	5	49		3	192	4	199		15	59	59	133		9	178	48	235		182	434	616
8:45 AM - 9:00 AM	34	17	12	63		9	228	4	241		13	53	48	114		10	212	51	273		177	514	691
2:30 PM - 2:45 PM	39	31	20	90		11	191	14	216		11	28	42	81		30	165	40	235		171	451	622
2:45 PM - 3:00 PM	47	33	8	88		13	216	21	250		5	30	37	72		24	202	54	280		160	530	690
3:00 PM - 3:15 PM	61	33	14	108		7	201	20	228		8	33	27	68		29	193	39	261		176	489	665
3:15 PM - 3:30 PM	63	58	11	132		10	186	24	220		7	30	33	70		44	225	46	315		202	535	737
3:30 PM - 3:45 PM	43	37	9	89		14	221	28	263		4	13	31	48		25	215	40	280		137	543	680
3:45 PM - 4:00 PM	51	42	16	109		5	186	15	206		7	24	40	71		15	299	50	364		180	570	750
4:00 PM - 4:15 PM	66	67	9	142		5	220	26	251		7	28	30	65		25	297	52	374		207	625	832
4:15 PM - 4:30 PM	49	71	15	135		10	221	24	255		13	30	25	68		43	267	51	361		203	616	819
4:30 PM - 4:45 PM	65	93	21	179		2	196	30	228		18	43	29	90		24	229	46	299		269	527	796
4:45 PM - 5:00 PM	68	110	8	186		3	186	20	209		22	33	27	82		38	250	36	324		268	533	801
5:00 PM - 5:15 PM	58	91	8	157		3	196	19	218		10	38	36	84		25	270	56	351		241	569	810
5:15 PM - 5:30 PM	55	95	6	156		4	224	24	252		12	39	36	87		34	245	55	334		243	586	829
5:30 PM - 5:45 PM	66	81	12	159		1	180	17	198		12	47	38	97		17	255	77	349		256	547	803
5:45 PM - 6:00 PM	41	73	22	136		7	159	22	188		22	36	37	95		18	257	40	315		231	503	734
6:00 PM - 6:15 PM	66	82	9	157		14	221	27	262		9	33	36	78		27	279	63	369		235	631	866
6:15 PM - 6:30 PM	51	62	16	129		7	171	18	196		7	35	30	72		26	240	52	318		201	514	715
6:30 PM - 6:45 PM	43	51	14	108		8	138	14	160		16	36	29	81		26	289	41	356		189	516	705
6:45 PM - 7:00 PM	35	36	11	82		6	214	10	230		5	44	31	80		21	291	43	355		162	585	747
Total	1238	1312	308	2858		222	5519	432	6173		290	1192	1123	2605		615	6609	1437	8661		5463	14834	20297
One Hour Volumes																							
6:00 AM - 7:00 AM	49	28	13	90	0.7031	22	337	9	368	0.7023	18	102	80	200	0.6098	19	493	108	620	0.7045	290	988	1278
6:15 AM - 7:15 AM	65	34	13	112	0.7568	22	452	9	483	0.7642	23	151	134	308	0.5969	26	580	138	744	0.8455	420	1227	1647
6:30 AM - 7:30 AM	62	44	20	126	0.8514	25	567	14	606	0.7974	28	204	184	416	0.7123	48	712	181	941	0.7306	542	1547	2089
6:45 AM - 7:45 AM	77	53	23	153	0.7083	35	659	21	715	0.7574	30	250	212	492	0.8425	60	766	211	1037	0.8051	645	1752	2397
7:00 AM - 8:00 AM	105	61	28	194	0.6644	36	789	31	856	0.7868	29	274	253	556	0.9521	65	852	242	1159	0.8998	750	2015	2765
7:15 AM - 8:15 AM	113	75	35	223	0.7637	44	859	29	932	0.8566	38	263	237	538	0.9212	70	910	238	1218	0.9457	761	2150	2911
7:30 AM - 8:30 AM	124	86	37	247	0.8459	48	906	33	987	0.9072	33	245	216	494	0.8459	54	875	233	1162	0.9193	741	2149	2890
7:45 AM - 8:45 AM	126	81	35	242	0.8288	32	888	30	950	0.8732	42	230	220	492	0.8425	42	822	217	1081	0.8662	734	2031	2765
8:00 AM - 9:00 AM	117	77	38	232	0.8788	34	866	19	919	0.9378	48	216	196	460	0.8647	40	796	206	1042	0.9542	692	1961	2653
2:30 PM - 3:30 PM	210	155	53	418	0.7917	41	794	79	914	0.914	31	121	139	291	0.8981	127	785	179	1091	0.8659	709	2005	2714
2:45 PM - 3:45 PM	214	161	42	417	0.7898	44	824	93	961	0.9135	24	106	128	258	0.8958	122	835	179	1136	0.9016	675	2097	2772
3:00 PM - 4:00 PM	218	170	50	438	0.8295	36	794	87	917	0.8717	26	100	131	257	0.9049	113	932	175	1220	0.8379	695	2137	2832
3:15 PM - 4:15 PM	223	204	45	472	0.831	34	813	93	940	0.8935	25	95	134	254	0.8944	109	1036	188	1333	0.891	726	2273	2999
3:30 PM - 4:30 PM	209	217	49	475	0.8363	34	848	93	975	0.9268	31	95	126	252	0.8873	108	1078	193	1379	0.9218	727	2354	3081
3:45 PM - 4:45 PM	231	273	61	565	0.7891	22	823	95	940	0.9216	45	125	124	294	0.8167	107	1092	199	1398	0.9345	859	2338	3197
4:00 PM - 5:00 PM	248	341	53	642	0.8629	20	823	100	943	0.9245	60	134	111	305	0.8472	130	1043	185	1358	0.9078	947	2301	3248
4:15 PM - 5:15 PM	240	365	52	657	0.8831	18	799	93	910	0.8922	63	144	117	324	0.9	130	1016	189	1335	0.9245	981	2245	3226
4:30 PM - 5:30 PM	246	389	43	678	0.9113	12	802	93	907	0.8998	62	153	128	343	0.9528	121	994	193	1308	0.9316	1021	2215	3236
4:45 PM - 5:45 PM	247	377	34	658	0.8844	11	786	80	877	0.87	56	157	137	350	0.9021	114	1020	224	1358	0.9672	1008	2235	3243
5:00 PM - 6:00 PM	220	340	48	608	0.956	15	759	82	856	0.8492	56	160	147	363	0.9356	94	1027	228	1349	0.9608	971	2205	3176
5:15 PM - 6:15 PM	228	331	49	608	0.956	26	784	90	900	0.8588	55	155	147	357	0.9201	96	1036	235	1367	0.9262	965	2267	3232
5:30 PM - 6:30 PM	224	298	59	581	0.9135	29	731	84	844	0.8053	50	151	141	342	0.8814	88	1031	232	1351	0.9153	923	2195	3118
5:45 PM - 6:45 PM	201	268	61	530	0.8439	36	689	81	806	0.7691	54	140	132	326	0.8579	97	1065	196	1358	0.9201	856	2164	3020
6:00 PM - 7:00 PM	195	231	50	476	0.758	35	744	69	848	0.8092	37	148	126	311	0.9599	100	1099	199	1398	0.9472	787	2246	3033
-																							

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: North West & West Broad
W + A JOB NO: 5897
INTERSECTION: W. Broad St. & N. West St.
LOCATION: Fairfax County,VA
DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Geraldin
INPUTED BY: agan



Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
6:00 AM - 6:15 AM													
6:15 AM - 6:30 AM	1					1							
6:30 AM - 6:45 AM	2		2										
6:45 AM - 7:00 AM	2		2	1	1		1	1					
7:00 AM - 7:15 AM	2	2			4		7						
7:15 AM - 7:30 AM				2				2					
7:30 AM - 7:45 AM	4						1						
7:45 AM - 8:00 AM	2		2			1	3						
8:00 AM - 8:15 AM	1	1				1	1	1					
8:15 AM - 8:30 AM							1						
8:30 AM - 8:45 AM													
8:45 AM - 9:00 AM													
2:30 PM - 2:45 PM				2	1		1	1					
2:45 PM - 3:00 PM		2			4			2					
3:00 PM - 3:15 PM					5			2					
3:15 PM - 3:30 PM		10						6					
3:30 PM - 3:45 PM	1	2		4	2	2		4					
3:45 PM - 4:00 PM						1							
4:00 PM - 4:15 PM			1	2			1	1					
4:15 PM - 4:30 PM						1	1	1					
4:30 PM - 4:45 PM													
4:45 PM - 5:00 PM													
5:00 PM - 5:15 PM				1									
5:15 PM - 5:30 PM													
5:30 PM - 5:45 PM													
5:45 PM - 6:00 PM			1				1						
6:00 PM - 6:15 PM													
6:15 PM - 6:30 PM													
6:30 PM - 6:45 PM			1			3		1					
6:45 PM - 7:00 PM		1		1		1							
Total	15	18	9	13	17	11	18	22					
One Hour Volumes													
6:00 AM - 7:00 AM	5		4	1	1	1	1	1	5	5	2	2	14
6:15 AM - 7:15 AM	7	2	4	1	5	1	8	1	9	5	6	9	29
6:30 AM - 7:30 AM	6	2	4	3	5		8	3	8	7	5	11	31
6:45 AM - 7:45 AM	8	2	2	3	5		9	3	10	5	5	12	32
7:00 AM - 8:00 AM	8	2	2	2	4	1	11	2	10	4	5	13	32
7:15 AM - 8:15 AM	7	1	2	2		2	5	3	8	4	2	8	22
7:30 AM - 8:30 AM	7	1	2			2	6	1	8	2	2	7	19
7:45 AM - 8:45 AM	3	1	2			2	5	1	4	2	2	6	14
8:00 AM - 9:00 AM	1	1				1	2	1	2		1	3	6
2:30 PM - 3:30 PM		12		2	10		1	11	12	2	10	12	36
2:45 PM - 3:45 PM	1	14		4	11	2		14	15	4	13	14	46
3:00 PM - 4:00 PM	1	12		4	7	3		12	13	4	10	12	39
3:15 PM - 4:15 PM	1	12	1	6	2	3	1	11	13	7	5	12	37
3:30 PM - 4:30 PM	1	2	1	6	2	4	2	6	3	7	6	8	24
3:45 PM - 4:45 PM			1	2		2	2	2		3	2	4	9
4:00 PM - 5:00 PM			1	2		1	2	2		3	1	4	8
4:15 PM - 5:15 PM				1		1	1	1		1	1	2	4
4:30 PM - 5:30 PM				1						1			1
4:45 PM - 5:45 PM				1						1			1
5:00 PM - 6:00 PM			1	1			1			2		1	3
5:15 PM - 6:15 PM			1				1			1		1	2
5:30 PM - 6:30 PM			1				1			1		1	2
5:45 PM - 6:45 PM			2			3	1	1		2	3	2	7
6:00 PM - 7:00 PM		1	1	1		4		1	1	2	4	1	8
-													

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	Grove Avenue
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	North West Street
INTERSECTION:	N. West St. & Grove Ave.	**WEATHER:**	clear	**WESTBOUND ROAD:**	North West Street
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Farid	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

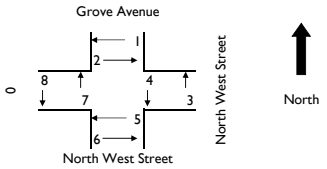
Time	Southbound Grove Avenue					Westbound North West Street					Northbound North West Street					Eastbound 0					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM		3	1	4		2		6	8		18	1		19							23	8	31
6:15 AM - 6:30 AM		1	2	3		2		8	10		32	5		37							40	10	50
6:30 AM - 6:45 AM		3	2	5		6		13	19		42	2		44							49	19	68
6:45 AM - 7:00 AM		2	7	9		3		28	31		63	6		69							78	31	109
7:00 AM - 7:15 AM		1	2	3		7		36	43		79	4		83							86	43	129
7:15 AM - 7:30 AM		2	16	18		9		33	42		128	4		132							150	42	192
7:30 AM - 7:45 AM		7	20	27		19		54	73		130	5		135							162	73	235
7:45 AM - 8:00 AM		6	18	24		17		60	77		132	3		135							159	77	236
8:00 AM - 8:15 AM		4	16	20		5		53	58		87			87							107	58	165
8:15 AM - 8:30 AM		5	8	13		9		55	64		123	1		124							137	64	201
8:30 AM - 8:45 AM		4	6	10		11		58	69		93	1		94							104	69	173
8:45 AM - 9:00 AM		4	10	14		4		45	49		97	2		99							113	49	162
2:30 PM - 2:45 PM		6	8	14		5		64	69		64	8		72							86	69	155
2:45 PM - 3:00 PM		7	8	15		13		69	82		80	6		86							101	82	183
3:00 PM - 3:15 PM		4	22	26		5		67	72		66	5		71							97	72	169
3:15 PM - 3:30 PM		4	12	16		8		107	115		67	3		70							86	115	201
3:30 PM - 3:45 PM		2	15	17		5		61	66		60	6		66							83	66	149
3:45 PM - 4:00 PM		4	10	14		13		84	97		75	2		77							91	97	188
4:00 PM - 4:15 PM		4	22	26		12		126	138		67	7		74							100	138	238
4:15 PM - 4:30 PM		4	18	22		16		105	121		69	9		78							100	121	221
4:30 PM - 4:45 PM		3	21	24		11		110	121		69	11		80							104	121	225
4:45 PM - 5:00 PM		4	22	26		11		105	116		69	6		75							101	116	217
5:00 PM - 5:15 PM		5	17	22		10		117	127		73	13		86							108	127	235
5:15 PM - 5:30 PM		4	23	27		15		100	115		88	2		90							117	115	232
5:30 PM - 5:45 PM		3	22	25		13		126	139		89	5		94							119	139	258
5:45 PM - 6:00 PM		6	21	27		13		103	116		79	7		86							113	116	229
6:00 PM - 6:15 PM		6	22	28		14		125	139		81	8		89							117	139	256
6:15 PM - 6:30 PM		10	27	37		9		91	100		80	8		88							125	100	225
6:30 PM - 6:45 PM		16	27	43		8		73	81		80	2		82							125	81	206
6:45 PM - 7:00 PM		9	19	28		10		67	77		74	12		86							114	77	191
Total	0	143	444	587		285	0	2149	2434		2354	154	0	2508		0	0	0	0		3095	2434	5529
One Hour Volumes																							
6:00 AM - 7:00 AM		9	12	21	0.5833	13		55	68	0.5484	155	14		169	0.6123						190	68	258
6:15 AM - 7:15 AM		7	13	20	0.5556	18		85	103	0.5988	216	17		233	0.7018						253	103	356
6:30 AM - 7:30 AM		8	27	35	0.4861	25		110	135	0.7849	312	16		328	0.6212						363	135	498
6:45 AM - 7:45 AM		12	45	57	0.5278	38		151	189	0.6473	400	19		419	0.7759						476	189	665
7:00 AM - 8:00 AM		16	56	72	0.6667	52		183	235	0.763	469	16		485	0.8981						557	235	792
7:15 AM - 8:15 AM		19	70	89	0.8241	50		200	250	0.8117	477	12		489	0.9056						578	250	828
7:30 AM - 8:30 AM		22	62	84	0.7778	50		222	272	0.8831	472	9		481	0.8907						565	272	837
7:45 AM - 8:45 AM		19	48	67	0.6979	42		226	268	0.8701	435	5		440	0.8148						507	268	775
8:00 AM - 9:00 AM		17	40	57	0.7125	29		211	240	0.8696	400	4		404	0.8145						461	240	701
2:30 PM - 3:30 PM		21	50	71	0.6827	31		307	338	0.7348	277	22		299	0.8692						370	338	708
2:45 PM - 3:45 PM		17	57	74	0.7115	31		304	335	0.7283	273	20		293	0.8517						367	335	702
3:00 PM - 4:00 PM		14	59	73	0.7019	31		319	350	0.7609	268	16		284	0.9221						357	350	707
3:15 PM - 4:15 PM		14	59	73	0.7019	38		378	416	0.7536	269	18		287	0.9318						360	416	776
3:30 PM - 4:30 PM		14	65	79	0.7596	46		376	422	0.7645	271	24		295	0.9455						374	422	796
3:45 PM - 4:45 PM		15	71	86	0.8269	52		425	477	0.8641	280	29		309	0.9656						395	477	872
4:00 PM - 5:00 PM		15	83	98	0.9423	50		446	496	0.8986	274	33		307	0.9594						405	496	901
4:15 PM - 5:15 PM		16	78	94	0.9038	48		437	485	0.9547	280	39		319	0.9273						413	485	898
4:30 PM - 5:30 PM		16	83	99	0.9167	47		432	479	0.9429	299	32		331	0.9194						430	479	909
4:45 PM - 5:45 PM		16	84	100	0.9259	49		448	497	0.8939	319	26		345	0.9176						445	497	942
5:00 PM - 6:00 PM		18	83	101	0.9352	51		446	497	0.8939	329	27		356	0.9468						457	497	954
5:15 PM - 6:15 PM		19	88	107	0.9554	55		454	509	0.9155	337	22		359	0.9548						466	509	975
5:30 PM - 6:30 PM		25	92	117	0.7905	49		445	494	0.8885	329	28		357	0.9495						474	494	968
5:45 PM - 6:45 PM		38	97	135	0.7849	44		392	436	0.7842	320	25		345	0.9691						480	436	916
6:00 PM - 7:00 PM		41	95	136	0.7907	41		356	397	0.714	315	30		345	0.9691						481	397	878
-																							

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: North West & West Broad
W + A JOB NO: 5897
INTERSECTION: N. West St. & Grove Ave.
LOCATION: Fairfax County,VA
DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Farid
INPUTED BY: agan



Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
6:00 AM - 6:15 AM													
6:15 AM - 6:30 AM													
6:30 AM - 6:45 AM				2		1		1					
6:45 AM - 7:00 AM													
7:00 AM - 7:15 AM					2	1							
7:15 AM - 7:30 AM													
7:30 AM - 7:45 AM													
7:45 AM - 8:00 AM													
8:00 AM - 8:15 AM													
8:15 AM - 8:30 AM						1							
8:30 AM - 8:45 AM					1								
8:45 AM - 9:00 AM													
2:30 PM - 2:45 PM													
2:45 PM - 3:00 PM													
3:00 PM - 3:15 PM								2					
3:15 PM - 3:30 PM						2							
3:30 PM - 3:45 PM						2							
3:45 PM - 4:00 PM													
4:00 PM - 4:15 PM				2									
4:15 PM - 4:30 PM													
4:30 PM - 4:45 PM													
4:45 PM - 5:00 PM													
5:00 PM - 5:15 PM													
5:15 PM - 5:30 PM				1									
5:30 PM - 5:45 PM													
5:45 PM - 6:00 PM			1	1									
6:00 PM - 6:15 PM													
6:15 PM - 6:30 PM													
6:30 PM - 6:45 PM				1		1							
6:45 PM - 7:00 PM				1	1								
Total	0	0	1	8	4	8	0	3					
One Hour Volumes													
6:00 AM - 7:00 AM				2		1		1		2	1	1	4
6:15 AM - 7:15 AM				2	2	2		1		2	4	1	7
6:30 AM - 7:30 AM				2	2	2		1		2	4	1	7
6:45 AM - 7:45 AM					2	1					3		3
7:00 AM - 8:00 AM					2	1					3		3
7:15 AM - 8:15 AM													
7:30 AM - 8:30 AM						1					1		1
7:45 AM - 8:45 AM					1	1					2		2
8:00 AM - 9:00 AM					1	1					2		2
2:30 PM - 3:30 PM						2		2			2	2	4
2:45 PM - 3:45 PM						4		2			4	2	6
3:00 PM - 4:00 PM						4		2			4	2	6
3:15 PM - 4:15 PM				2		4				2	4		6
3:30 PM - 4:30 PM				2		2				2	2		4
3:45 PM - 4:45 PM				2						2			2
4:00 PM - 5:00 PM				2						2			2
4:15 PM - 5:15 PM													
4:30 PM - 5:30 PM				1						1			1
4:45 PM - 5:45 PM				1						1			1
5:00 PM - 6:00 PM			1	2						3			3
5:15 PM - 6:15 PM			1	2						3			3
5:30 PM - 6:30 PM			1	1						2			2
5:45 PM - 6:45 PM			1	2		1				3	1		4
6:00 PM - 7:00 PM				2	1	1				2	2		4
-													

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: North West & West Broad
W+A JOB NO: 5897
INTERSECTION: N. West St. & Park Ave.
LOCATION: Fairfax County,VA

DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Muhamet & Mia
INPUTED BY: agan

SOUTHBOUND ROAD: North West Street
NORTHBOUND ROAD: North West Street
WESTBOUND ROAD: Park Avenue
EASTBOUND ROAD: 0

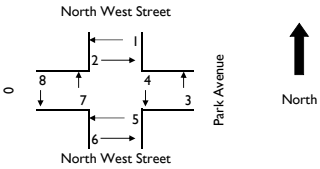
Time	Southbound North West Street					Westbound Park Avenue					Northbound North West Street					Eastbound 0					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM		4	1	5		1		2	3		8	13		21							26	3	29
6:15 AM - 6:30 AM		7		7				5	5		15	28		43							50	5	55
6:30 AM - 6:45 AM		16	2	18		1		7	8		14	41		55							73	8	81
6:45 AM - 7:00 AM		21	1	22		2		5	7		13	64		77							99	7	106
7:00 AM - 7:15 AM		17	2	19		1		18	19		14	90		104							123	19	142
7:15 AM - 7:30 AM		22	1	23				21	21		22	135		157							180	21	201
7:30 AM - 7:45 AM		37	12	49		4		28	32		41	119		160							209	32	241
7:45 AM - 8:00 AM		35	7	42		8		51	59		36	124		160							202	59	261
8:00 AM - 8:15 AM		32	2	34		5		17	22		17	91		108							142	22	164
8:15 AM - 8:30 AM		46	6	52		3		19	22		32	116		148							200	22	222
8:30 AM - 8:45 AM		38	6	44		9		25	34		26	97		123							167	34	201
8:45 AM - 9:00 AM		46	8	54		3		19	22		25	101		126							180	22	202
2:30 PM - 2:45 PM		48	5	53		5		24	29		27	47		74							127	29	156
2:45 PM - 3:00 PM		51	6	57		1		33	34		43	60		103							160	34	194
3:00 PM - 3:15 PM		52	10	62		3		24	27		54	39		93							155	27	182
3:15 PM - 3:30 PM		65	5	70		8		52	60		44	49		93							163	60	223
3:30 PM - 3:45 PM		61	2	63		5		17	22		33	49		82							145	22	167
3:45 PM - 4:00 PM		81	2	83		10		23	33		23	69		92							175	33	208
4:00 PM - 4:15 PM		88	8	96		5		34	39		34	56		90							186	39	225
4:15 PM - 4:30 PM		92	10	102		11		31	42		32	71		103							205	42	247
4:30 PM - 4:45 PM		96	3	99		4		36	40		32	58		90							189	40	229
4:45 PM - 5:00 PM		109	6	115		5		15	20		32	61		93							208	20	228
5:00 PM - 5:15 PM		111	12	123		6		26	32		36	65		101							224	32	256
5:15 PM - 5:30 PM		98	12	110		7		45	52		28	89		117							227	52	279
5:30 PM - 5:45 PM		104	9	113		7		29	36		32	86		118							231	36	267
5:45 PM - 6:00 PM		99	8	107		9		27	36		25	83		108							215	36	251
6:00 PM - 6:15 PM		102	8	110		4		35	39		32	81		113							223	39	262
6:15 PM - 6:30 PM		88	5	93		3		30	33		36	90		126							219	33	252
6:30 PM - 6:45 PM		66	3	69		4		23	27		32	81		113							182	27	209
6:45 PM - 7:00 PM		62	3	65		5		19	24		31	73		104							169	24	193
Total	0	1794	165	1959		139	0	740	879		869	2226	0	3095		0	0	0	0		5054	879	5933
One Hour Volumes																							
6:00 AM - 7:00 AM		48	4	52	0.5909	4		19	23	0.7188	50	146		196	0.6364						248	23	271
6:15 AM - 7:15 AM		61	5	66	0.75	4		35	39	0.5132	56	223		279	0.6707						345	39	384
6:30 AM - 7:30 AM		76	6	82	0.8913	4		51	55	0.6548	63	330		393	0.6258						475	55	530
6:45 AM - 7:45 AM		97	16	113	0.5765	7		72	79	0.6172	90	408		498	0.7781						611	79	690
7:00 AM - 8:00 AM		111	22	133	0.6786	13		118	131	0.5551	113	468		581	0.9078						714	131	845
7:15 AM - 8:15 AM		126	22	148	0.7551	17		117	134	0.5678	116	469		585	0.9141						733	134	867
7:30 AM - 8:30 AM		150	27	177	0.851	20		115	135	0.572	126	450		576	0.9						753	135	888
7:45 AM - 8:45 AM		151	21	172	0.8269	25		112	137	0.5805	111	428		539	0.8422						711	137	848
8:00 AM - 9:00 AM		162	22	184	0.8519	20		80	100	0.7353	100	405		505	0.853						689	100	789
2:30 PM - 3:30 PM		216	26	242	0.8643	17		133	150	0.625	168	195		363	0.8811						605	150	755
2:45 PM - 3:45 PM		229	23	252	0.9	17		126	143	0.5958	174	197		371	0.9005						623	143	766
3:00 PM - 4:00 PM		259	19	278	0.8373	26		116	142	0.5917	154	206		360	0.9677						638	142	780
3:15 PM - 4:15 PM		295	17	312	0.8125	28		126	154	0.6417	134	223		357	0.9597						669	154	823
3:30 PM - 4:30 PM		322	22	344	0.8431	31		105	136	0.8095	122	245		367	0.8908						711	136	847
3:45 PM - 4:45 PM		357	23	380	0.9314	30		124	154	0.9167	121	254		375	0.9102						755	154	909
4:00 PM - 5:00 PM		385	27	412	0.8957	25		116	141	0.8393	130	246		376	0.9126						788	141	929
4:15 PM - 5:15 PM		408	31	439	0.8923	26		108	134	0.7976	132	255		387	0.9393						826	134	960
4:30 PM - 5:30 PM		414	33	447	0.9085	22		122	144	0.6923	128	273		401	0.8568						848	144	992
4:45 PM - 5:45 PM		422	39	461	0.937	25		115	140	0.6731	128	301		429	0.9089						890	140	1030
5:00 PM - 6:00 PM		412	41	453	0.9207	29		127	156	0.75	121	323		444	0.9407						897	156	1053
5:15 PM - 6:15 PM		403	37	440	0.9735	27		136	163	0.7837	117	339		456	0.9661						896	163	1059
5:30 PM - 6:30 PM		393	30	423	0.9358	23		121	144	0.9231	125	340		465	0.9226						888	144	1032
5:45 PM - 6:45 PM		355	24	379	0.8614	20		115	135	0.8654	125	335		460	0.9127						839	135	974
6:00 PM - 7:00 PM		318	19	337	0.7659	16		107	123	0.7885	131	325		456	0.9048						793	123	916
-																							

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: North West & West Broad
W + A JOB NO: 5897
INTERSECTION: N. West St. & Park Ave.
LOCATION: Fairfax County,VA
DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Muhamet
INPUTED BY: agan



Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
6:00 AM - 6:15 AM			1										
6:15 AM - 6:30 AM				2									
6:30 AM - 6:45 AM			2	1									
6:45 AM - 7:00 AM				1									
7:00 AM - 7:15 AM			6	5									
7:15 AM - 7:30 AM													
7:30 AM - 7:45 AM													
7:45 AM - 8:00 AM													
8:00 AM - 8:15 AM			2										
8:15 AM - 8:30 AM													
8:30 AM - 8:45 AM													
8:45 AM - 9:00 AM			2										
2:30 PM - 2:45 PM													
2:45 PM - 3:00 PM			1	2									
3:00 PM - 3:15 PM			1										
3:15 PM - 3:30 PM													
3:30 PM - 3:45 PM			3										
3:45 PM - 4:00 PM													
4:00 PM - 4:15 PM													
4:15 PM - 4:30 PM													
4:30 PM - 4:45 PM													
4:45 PM - 5:00 PM													
5:00 PM - 5:15 PM													
5:15 PM - 5:30 PM													
5:30 PM - 5:45 PM													
5:45 PM - 6:00 PM			3										
6:00 PM - 6:15 PM													
6:15 PM - 6:30 PM													
6:30 PM - 6:45 PM													
6:45 PM - 7:00 PM													
Total	0	0	21	11	0	0	0	0					
One Hour Volumes													
6:00 AM - 7:00 AM			3	4						7			7
6:15 AM - 7:15 AM			8	9						17			17
6:30 AM - 7:30 AM			8	7						15			15
6:45 AM - 7:45 AM			6	6						12			12
7:00 AM - 8:00 AM			6	5						11			11
7:15 AM - 8:15 AM			2							2			2
7:30 AM - 8:30 AM			2							2			2
7:45 AM - 8:45 AM			2							2			2
8:00 AM - 9:00 AM			4							4			4
2:30 PM - 3:30 PM			2	2						4			4
2:45 PM - 3:45 PM			5	2						7			7
3:00 PM - 4:00 PM			4							4			4
3:15 PM - 4:15 PM			3							3			3
3:30 PM - 4:30 PM			3							3			3
3:45 PM - 4:45 PM													
4:00 PM - 5:00 PM													
4:15 PM - 5:15 PM													
4:30 PM - 5:30 PM													
4:45 PM - 5:45 PM													
5:00 PM - 6:00 PM			3							3			3
5:15 PM - 6:15 PM			3							3			3
5:30 PM - 6:30 PM			3							3			3
5:45 PM - 6:45 PM			3							3			3
6:00 PM - 7:00 PM													
-													

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: North West & West Broad
W+A JOB NO: 5897
INTERSECTION: W. Broad St. & N. Spring St.
LOCATION: Fairfax County,VA

DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Alba & Jacelin
INPUTED BY: agan

SOUTHBOUND ROAD: North Spring Street
NORTHBOUND ROAD: North Spring Street
WESTBOUND ROAD: West Broad Street - 7
EASTBOUND ROAD: West Broad Street - 7

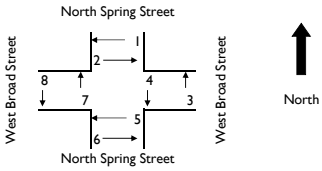
Time	Southbound North Spring Street					Westbound West Broad Street - 7					Northbound North Spring Street					Eastbound West Broad Street - 7					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM						1	39		40		1			1		1	64		65		1	105	106
6:15 AM - 6:30 AM						6	68		74		4	4		8		2	96	4	102		8	176	184
6:30 AM - 6:45 AM						5	121	1	127		2	3	1	6			187	3	190		6	317	323
6:45 AM - 7:00 AM						1	113		114		1	1	1	3			133		133		3	247	250
7:00 AM - 7:15 AM						2	138	2	142		3	4	6	13		1	164		165		13	307	320
7:15 AM - 7:30 AM						1	159	2	162		7	8	1	16		6	224	5	235		16	397	413
7:30 AM - 7:45 AM						9	193	3	205		7	33	7	47		2	207	9	218		47	423	470
7:45 AM - 8:00 AM						16	250	9	275		5	17	4	26		1	227	12	240		26	515	541
8:00 AM - 8:15 AM						7	217	1	225		3	5		8		4	212	8	224		8	449	457
8:15 AM - 8:30 AM						7	185	1	193		4	13	4	21		4	247	6	257		21	450	471
8:30 AM - 8:45 AM						4	205	4	213		5	15	4	24		1	212	4	217		24	430	454
8:45 AM - 9:00 AM						6	196	4	206		8	3	7	18		1	220	4	225		18	431	449
2:30 PM - 2:45 PM						13	237	7	257		2	2	3	7		4	156	30	190		7	447	454
2:45 PM - 3:00 PM						9	235	4	248		2	2	3	7		2	221	6	229		7	477	484
3:00 PM - 3:15 PM						9	178	2	189		3	5	1	9		1	184	6	191		9	380	389
3:15 PM - 3:30 PM						8	215	11	234		5	3	5	13			230	4	234		13	468	481
3:30 PM - 3:45 PM						8	248	5	261		11	1	2	14		4	218	5	227		14	488	502
3:45 PM - 4:00 PM						8	193	6	207		8	2		10		4	270	7	281		10	488	498
4:00 PM - 4:15 PM						9	248	10	267		5	2	1	8		6	275	6	287		8	554	562
4:15 PM - 4:30 PM						5	210	4	219		5	5	3	13		1	257	4	262		13	481	494
4:30 PM - 4:45 PM						14	256	10	280		7			7		5	259	7	271		7	551	558
4:45 PM - 5:00 PM						6	196	13	215		4	1	3	8		2	265	2	269		8	484	492
5:00 PM - 5:15 PM						9	202	5	216		9	3	3	15		8	273	8	289		15	505	520
5:15 PM - 5:30 PM						7	230	8	245		3	4	1	8		5	249	6	260		8	505	513
5:30 PM - 5:45 PM						5	262	8	275		3		1	4		4	294	5	303		4	578	582
5:45 PM - 6:00 PM						9	217	12	238		6	2	5	13		5	299	7	311		13	549	562
6:00 PM - 6:15 PM						6	250	9	265		7	2	4	13		4	275	5	284		13	549	562
6:15 PM - 6:30 PM						4	208	10	222		4	1	2	7		6	262	2	270		7	492	499
6:30 PM - 6:45 PM						5	190	6	201		9	2	1	12		6	285	7	298		12	499	511
6:45 PM - 7:00 PM						13	228	8	249		5	5	1	11		4	304	6	314		11	563	574
Total	0	0	0	0		212	5887	165	6264		148	148	74	370		94	6769	178	7041		370	13305	13675
One Hour Volumes																							
6:00 AM - 7:00 AM						13	341	1	355	0.6988	8	8	2	18	0.5625	3	480	7	490	0.6447	18	845	863
6:15 AM - 7:15 AM						14	440	3	457	0.8046	10	12	8	30	0.5769	3	580	7	590	0.7763	30	1047	1077
6:30 AM - 7:30 AM						9	531	5	545	0.841	13	16	9	38	0.5938	7	708	8	723	0.7691	38	1268	1306
6:45 AM - 7:45 AM						13	603	7	623	0.7598	18	46	15	79	0.4202	9	728	14	751	0.7989	79	1374	1453
7:00 AM - 8:00 AM						28	740	16	784	0.7127	22	62	18	102	0.5426	10	822	26	858	0.8938	102	1642	1744
7:15 AM - 8:15 AM						33	819	15	867	0.7882	22	63	12	97	0.516	13	870	34	917	0.9552	97	1784	1881
7:30 AM - 8:30 AM						39	845	14	898	0.8164	19	68	15	102	0.5426	11	893	35	939	0.9134	102	1837	1939
7:45 AM - 8:45 AM						34	857	15	906	0.8236	17	50	12	79	0.7596	10	898	30	938	0.9125	79	1844	1923
8:00 AM - 9:00 AM						24	803	10	837	0.93	20	36	15	71	0.7396	10	891	22	923	0.8979	71	1760	1831
2:30 PM - 3:30 PM						39	865	24	928	0.9027	12	12	12	36	0.6923	7	791	46	844	0.9017	36	1772	1808
2:45 PM - 3:45 PM						34	876	22	932	0.8927	21	11	11	43	0.7679	7	853	21	881	0.9412	43	1813	1856
3:00 PM - 4:00 PM						33	834	24	891	0.8534	27	11	8	46	0.8214	9	902	22	933	0.8301	46	1824	1870
3:15 PM - 4:15 PM						33	904	32	969	0.9073	29	8	8	45	0.8036	14	993	22	1029	0.8963	45	1998	2043
3:30 PM - 4:30 PM						30	899	25	954	0.8933	29	10	6	45	0.8036	15	1020	22	1057	0.9207	45	2011	2056
3:45 PM - 4:45 PM						36	907	30	973	0.8688	25	9	4	38	0.7308	16	1061	24	1101	0.9591	38	2074	2112
4:00 PM - 5:00 PM						34	910	37	981	0.8759	21	8	7	36	0.6923	14	1056	19	1089	0.9486	36	2070	2106
4:15 PM - 5:15 PM						34	864	32	930	0.8304	25	9	9	43	0.7167	16	1054	21	1091	0.9438	43	2021	2064
4:30 PM - 5:30 PM						36	884	36	956	0.8536	23	8	7	38	0.6333	20	1046	23	1089	0.942	38	2045	2083
4:45 PM - 5:45 PM						27	890	34	951	0.8645	19	8	8	35	0.5833	19	1081	21	1121	0.9249	35	2072	2107
5:00 PM - 6:00 PM						30	911	33	974	0.8855	21	9	10	40	0.6667	22	1115	26	1163	0.9349	40	2137	2177
5:15 PM - 6:15 PM						27	959	37	1023	0.93	19	8	11	38	0.7308	18	1117	23	1158	0.9309	38	2181	2219
5:30 PM - 6:30 PM						24	937	39	1000	0.9091	20	5	12	37	0.7115	19	1130	19	1168	0.9389	37	2168	2205
5:45 PM - 6:45 PM						24	865	37	926	0.8736	26	7	12	45	0.8654	21	1121	21	1163	0.9349	45	2089	2134
6:00 PM - 7:00 PM						28	876	33	937	0.884	25	10	8	43	0.8269	20	1126	20	1166	0.9283	43	2103	2146
-																							

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: North West & West Broad
W + A JOB NO: 5897
INTERSECTION: W. Broad St. & N. Spring St.
LOCATION: Fairfax County,VA
DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Jacelin
INPUTED BY: agan



Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
6:00 AM - 6:15 AM							1						
6:15 AM - 6:30 AM			1				1	2					
6:30 AM - 6:45 AM	2				2		1						
6:45 AM - 7:00 AM	3		3		1	1	1	1					
7:00 AM - 7:15 AM					1	1	1	1					
7:15 AM - 7:30 AM	2		2		1		1						
7:30 AM - 7:45 AM	7	2		1	2	4	4	3					
7:45 AM - 8:00 AM			6			2	3	3					
8:00 AM - 8:15 AM													
8:15 AM - 8:30 AM		1	1	1	3	2		2					
8:30 AM - 8:45 AM							1	1					
8:45 AM - 9:00 AM			2			1		1					
2:30 PM - 2:45 PM					1								
2:45 PM - 3:00 PM				2									
3:00 PM - 3:15 PM	2		2			4							
3:15 PM - 3:30 PM		2	2	2		4		6					
3:30 PM - 3:45 PM	4	3	2	3	1	6		6					
3:45 PM - 4:00 PM				4				2					
4:00 PM - 4:15 PM	1	1		2	1		1	1					
4:15 PM - 4:30 PM					3	3							
4:30 PM - 4:45 PM	1			1			1						
4:45 PM - 5:00 PM													
5:00 PM - 5:15 PM					1	2							
5:15 PM - 5:30 PM	1		1		1		1						
5:30 PM - 5:45 PM					1	1							
5:45 PM - 6:00 PM			1	1				1					
6:00 PM - 6:15 PM				1			1						
6:15 PM - 6:30 PM				1		1							
6:30 PM - 6:45 PM				1		3							
6:45 PM - 7:00 PM	1					1		1					
Total	24	9	23	20	19	36	18	31					
One Hour Volumes													
6:00 AM - 7:00 AM	5		4		3	1	4	3	5	4	4	7	20
6:15 AM - 7:15 AM	5		4		4	2	4	4	5	4	6	8	23
6:30 AM - 7:30 AM	7		5		5	2	4	2	7	5	7	6	25
6:45 AM - 7:45 AM	12	2	5	1	5	6	7	5	14	6	11	12	43
7:00 AM - 8:00 AM	9	2	8	1	4	7	9	7	11	9	11	16	47
7:15 AM - 8:15 AM	9	2	8	1	3	6	8	6	11	9	9	14	43
7:30 AM - 8:30 AM	7	3	7	2	5	8	7	8	10	9	13	15	47
7:45 AM - 8:45 AM		1	7	1	3	4	4	6	1	8	7	10	26
8:00 AM - 9:00 AM		1	3	1	3	3	1	4	1	4	6	5	16
2:30 PM - 3:30 PM	2	2	4	4	1	8		6	4	8	9	6	27
2:45 PM - 3:45 PM	6	5	6	7	1	14		12	11	13	15	12	51
3:00 PM - 4:00 PM	6	5	6	9	1	14		14	11	15	15	14	55
3:15 PM - 4:15 PM	5	6	4	11	2	10	1	15	11	15	12	16	54
3:30 PM - 4:30 PM	5	4	2	9	5	9	1	9	9	11	14	10	44
3:45 PM - 4:45 PM	2	1		7	4	3	2	3	3	7	7	5	22
4:00 PM - 5:00 PM	2	1		3	4	3	2	1	3	3	7	3	16
4:15 PM - 5:15 PM	1			1	4	5	1		1	1	9	1	12
4:30 PM - 5:30 PM	2		1	1	2	2	2		2	2	4	2	10
4:45 PM - 5:45 PM	1		1		3	3	1		1	1	6	1	9
5:00 PM - 6:00 PM	1		2	1	3	3	1	1	1	3	6	2	12
5:15 PM - 6:15 PM	1		2	2	2	1	2	1	1	4	3	3	11
5:30 PM - 6:30 PM			1	3	1	2	1	1		4	3	2	9
5:45 PM - 6:45 PM			1	4		4	1	1		5	4	2	11
6:00 PM - 7:00 PM	1			3		5	1	1	1	3	5	2	11
-													

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: North West & West Broad
W+A JOB NO: 5897
INTERSECTION: N. Spring St. & Park Ave.
LOCATION: Fairfax County,VA

DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Edvin
INPUTED BY: agan

SOUTHBOUND ROAD: North Spring Street
NORTHBOUND ROAD: North Spring Street
WESTBOUND ROAD: Park Avenue
EASTBOUND ROAD: Park Avenue

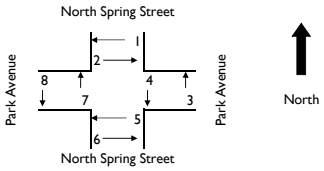
Time	Southbound North Spring Street					Westbound Park Avenue					Northbound North Spring Street					Eastbound Park Avenue					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM							5		5			2		2			5		5		2	10	12
6:15 AM - 6:30 AM	1			1			2		2		4	1	1	6			8	3	11		7	13	20
6:30 AM - 6:45 AM							3		3		1	3	3	7			16		16		7	19	26
6:45 AM - 7:00 AM	2		1	3		1	4		5		2	1		3			11	3	14		6	19	25
7:00 AM - 7:15 AM			1	1			15		15		4	5	2	11			17	2	19		12	34	46
7:15 AM - 7:30 AM	1		1	2		1	13		14		5	12	3	20			21	3	24		22	38	60
7:30 AM - 7:45 AM	2		13	15		6	33		39		44	6	3	53			50	1	51		68	90	158
7:45 AM - 8:00 AM	4		5	9		5	40		45		41	15	9	65			34	3	37		74	82	156
8:00 AM - 8:15 AM	6			6		2	14		16		4	10	4	18			13	6	19		24	35	59
8:15 AM - 8:30 AM	6		2	8		3	15		18		7	12	3	22			31	4	35		30	53	83
8:30 AM - 8:45 AM	8		1	9		2	21		23		6	7	5	18			28	2	30		27	53	80
8:45 AM - 9:00 AM	3		5	8		4	14		18		2	7	4	13			30	4	34		21	52	73
2:30 PM - 2:45 PM	2		1	3			26		26		11	4	3	18			31	1	32		21	58	79
2:45 PM - 3:00 PM	1			1		1	33		34		10	3	2	15			54	2	56		16	90	106
3:00 PM - 3:15 PM			1	1		2	22		24		18	5	1	24			53	1	54		25	78	103
3:15 PM - 3:30 PM	5		2	7		15	56		71		11	3		14			38	7	45		21	116	137
3:30 PM - 3:45 PM	3		1	4			23		23		9	2		11			33	1	34		15	57	72
3:45 PM - 4:00 PM							33		33		12	3	2	17			25	2	27		17	60	77
4:00 PM - 4:15 PM	2		3	5		3	30		33		9	2	1	12			38	1	39		17	72	89
4:15 PM - 4:30 PM	5		3	8		1	37		38		7	3		10			41	1	42		18	80	98
4:30 PM - 4:45 PM	1		5	6		8	16		24		6	21	3	30			15	3	18		36	42	78
4:45 PM - 5:00 PM	3		2	5		3	19		22		6	3		9			32	2	34		14	56	70
5:00 PM - 5:15 PM	4		5	9			28		28		6	7	3	16			46	7	53		25	81	106
5:15 PM - 5:30 PM	7		4	11		2	40		42		3	5	2	10			37	4	41		21	83	104
5:30 PM - 5:45 PM	4		7	11		3	20		23		1	3	3	7			27	4	31		18	54	72
5:45 PM - 6:00 PM	3		4	7		1	28		29		4	3	5	12			25	3	28		19	57	76
6:00 PM - 6:15 PM	2		4	6		3	33		36		2	3	8	13			36	2	38		19	74	93
6:15 PM - 6:30 PM	1			1			26		26		1	1	3	5			36	1	37		6	63	69
6:30 PM - 6:45 PM	2		1	3		6	12		18		4	2	4	10			30		30		13	48	61
6:45 PM - 7:00 PM	1		4	5		1	29		30		12	3	1	16			31	2	33		21	63	84
Total	79	0	76	155		73	690	0	763		252	157	78	487		0	892	75	967		642	1730	2372
One Hour Volumes																							
6:00 AM - 7:00 AM	3		1	4	0.3333	1	14		15	0.75	7	7	4	18	0.6429		40	6	46	0.7188	22	61	83
6:15 AM - 7:15 AM	3		2	5	0.4167	1	24		25	0.4167	11	10	6	27	0.6136		52	8	60	0.7895	32	85	117
6:30 AM - 7:30 AM	3		3	6	0.5	2	35		37	0.6167	12	21	8	41	0.5125		65	8	73	0.7604	47	110	157
6:45 AM - 7:45 AM	5		16	21	0.35	8	65		73	0.4679	55	24	8	87	0.4104		99	9	108	0.5294	108	181	289
7:00 AM - 8:00 AM	7		20	27	0.45	12	101		113	0.6278	94	38	17	149	0.5731		122	9	131	0.6422	176	244	420
7:15 AM - 8:15 AM	13		19	32	0.5333	14	100		114	0.6333	94	43	19	156	0.6		118	13	131	0.6422	188	245	433
7:30 AM - 8:30 AM	18		20	38	0.6333	16	102		118	0.6556	96	43	19	158	0.6077		128	14	142	0.6961	196	260	456
7:45 AM - 8:45 AM	24		8	32	0.8889	12	90		102	0.5667	58	44	21	123	0.4731		106	15	121	0.8176	155	223	378
8:00 AM - 9:00 AM	23		8	31	0.8611	11	64		75	0.8152	19	36	16	71	0.8068		102	16	118	0.8429	102	193	295
2:30 PM - 3:30 PM	8		4	12	0.4286	18	137		155	0.5458	50	15	6	71	0.7396		176	11	187	0.8348	83	342	425
2:45 PM - 3:45 PM	9		4	13	0.4643	18	134		152	0.5352	48	13	3	64	0.6667		178	11	189	0.8438	77	341	418
3:00 PM - 4:00 PM	8		4	12	0.4286	17	134		151	0.5317	50	13	3	66	0.6875		149	11	160	0.7407	78	311	389
3:15 PM - 4:15 PM	10		6	16	0.5714	18	142		160	0.5634	41	10	3	54	0.7941		134	11	145	0.8056	70	305	375
3:30 PM - 4:30 PM	10		7	17	0.5313	4	123		127	0.8355	37	10	3	50	0.7353		137	5	142	0.8452	67	269	336
3:45 PM - 4:45 PM	8		11	19	0.5938	12	116		128	0.8421	34	29	6	69	0.575		119	7	126	0.75	88	254	342
4:00 PM - 5:00 PM	11		13	24	0.75	15	102		117	0.7697	28	29	4	61	0.5083		126	7	133	0.7917	85	250	335
4:15 PM - 5:15 PM	13		15	28	0.7778	12	100		112	0.7368	25	34	6	65	0.5417		134	13	147	0.6934	93	259	352
4:30 PM - 5:30 PM	15		16	31	0.7045	13	103		116	0.6905	21	36	8	65	0.5417		130	16	146	0.6887	96	262	358
4:45 PM - 5:45 PM	18		18	36	0.8182	8	107		115	0.6845	16	18	8	42	0.6563		142	17	159	0.75	78	274	352
5:00 PM - 6:00 PM	18		20	38	0.8636	6	116		122	0.7262	14	18	13	45	0.7031		135	18	153	0.7217	83	275	358
5:15 PM - 6:15 PM	16		19	35	0.7955	9	121		130	0.7738	10	14	18	42	0.8077		125	13	138	0.8415	77	268	345
5:30 PM - 6:30 PM	10		15	25	0.5682	7	107		114	0.7917	8	10	19	37	0.7115		124	10	134	0.8816	62	248	310
5:45 PM - 6:45 PM	8		9	17	0.6071	10	99		109	0.7569	11	9	20	40	0.7692		127	6	133	0.875	57	242	299
6:00 PM - 7:00 PM	6		9	15	0.625	10	100		110	0.7639	19	9	16	44	0.6875		133	5	138	0.9079	59	248	307
-																							

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: North West & West Broad
W + A JOB NO: 5897
INTERSECTION: N. Spring St. & Park Ave.
LOCATION: Fairfax County,VA
DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Edvin
INPUTED BY: agan



Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
6:00 AM - 6:15 AM					1								
6:15 AM - 6:30 AM	1		2				1	5					
6:30 AM - 6:45 AM	1	2			1	3	1						
6:45 AM - 7:00 AM	1	1	1		3	1	3	2					
7:00 AM - 7:15 AM					8	4	2	1					
7:15 AM - 7:30 AM			1	2	1		1						
7:30 AM - 7:45 AM					1								
7:45 AM - 8:00 AM	2	2			1	5	2	6					
8:00 AM - 8:15 AM	1		1		2	1	1	2					
8:15 AM - 8:30 AM	2		3	1	7		4	1					
8:30 AM - 8:45 AM						3		3					
8:45 AM - 9:00 AM		2	2		2	2	1	2					
2:30 PM - 2:45 PM	1	1		1			1						
2:45 PM - 3:00 PM		1			1								
3:00 PM - 3:15 PM	5	2					1	5					
3:15 PM - 3:30 PM	3	10	2	3	2		18	3					
3:30 PM - 3:45 PM		2	1			1	1	4					
3:45 PM - 4:00 PM		5					3	1					
4:00 PM - 4:15 PM	2	2						4					
4:15 PM - 4:30 PM		1				1	1	1					
4:30 PM - 4:45 PM													
4:45 PM - 5:00 PM	1												
5:00 PM - 5:15 PM		2											
5:15 PM - 5:30 PM													
5:30 PM - 5:45 PM	1												
5:45 PM - 6:00 PM					1	1		2					
6:00 PM - 6:15 PM													
6:15 PM - 6:30 PM		1				1							
6:30 PM - 6:45 PM								1					
6:45 PM - 7:00 PM	1												
Total	22	34	13	7	31	23	41	43					
One Hour Volumes													
6:00 AM - 7:00 AM	3	3	3		5	4	5	7	6	3	9	12	30
6:15 AM - 7:15 AM	3	3	3		12	8	7	8	6	3	20	15	44
6:30 AM - 7:30 AM	2	3	2	2	13	8	7	3	5	4	21	10	40
6:45 AM - 7:45 AM	1	1	2	2	13	5	6	3	2	4	18	9	33
7:00 AM - 8:00 AM	2	2	1	2	11	9	5	7	4	3	20	12	39
7:15 AM - 8:15 AM	3	2	2	2	5	6	4	8	5	4	11	12	32
7:30 AM - 8:30 AM	5	2	4	1	11	6	7	9	7	5	17	16	45
7:45 AM - 8:45 AM	5	2	4	1	10	9	7	12	7	5	19	19	50
8:00 AM - 9:00 AM	3	2	6	1	11	6	6	8	5	7	17	14	43
2:30 PM - 3:30 PM	9	14	2	4	3		20	8	23	6	3	28	60
2:45 PM - 3:45 PM	8	15	3	3	3	1	20	12	23	6	4	32	65
3:00 PM - 4:00 PM	8	19	3	3	2	1	23	13	27	6	3	36	72
3:15 PM - 4:15 PM	5	19	3	3	2	1	22	12	24	6	3	34	67
3:30 PM - 4:30 PM	2	10	1			2	5	10	12	1	2	15	30
3:45 PM - 4:45 PM	2	8				1	4	6	10		1	10	21
4:00 PM - 5:00 PM	3	3				1	1	5	6		1	6	13
4:15 PM - 5:15 PM	1	3				1	1	1	4		1	2	7
4:30 PM - 5:30 PM	1	2							3				3
4:45 PM - 5:45 PM	2	2							4				4
5:00 PM - 6:00 PM	1	2			1	1		2	3		2	2	7
5:15 PM - 6:15 PM	1				1	1		2	1		2	2	5
5:30 PM - 6:30 PM	1	1			1	2		2	2		3	2	7
5:45 PM - 6:45 PM		1			1	2		3	1		3	3	7
6:00 PM - 7:00 PM	1	1				1		1	2		1	1	4
-													

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: North West & West Broad
W+A JOB NO: 5897
INTERSECTION: N. West St. & Lincoln Ave.
LOCATION: Fairfax County,VA

DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Camil & Dragan
INPUTED BY: agan

SOUTHBOUND ROAD: North West Street
NORTHBOUND ROAD: North West Street
WESTBOUND ROAD: Lincoln Avenue
EASTBOUND ROAD: Lincoln Avenue

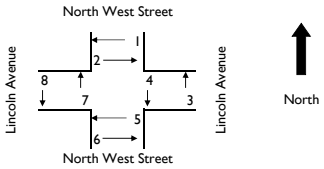
Time	Southbound North West Street					Westbound Lincoln Avenue					Northbound North West Street					Eastbound Lincoln Avenue					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM		5		5		1		2	3		4	11	1	16							21	3	24
6:15 AM - 6:30 AM		4		4				3	3		17	11		28							32	3	35
6:30 AM - 6:45 AM		13	1	14				3	3		12	29	1	42		1			1		56	4	60
6:45 AM - 7:00 AM		14		14				5	5		19	45		64			1		1		78	6	84
7:00 AM - 7:15 AM	1	13	2	16				6	6		33	58	3	94		2	1		3		110	9	119
7:15 AM - 7:30 AM		20	3	23			1	5	6		56	82	2	140			1		1		163	7	170
7:30 AM - 7:45 AM		37	1	38		2		12	14		51	71		122		2			2		160	16	176
7:45 AM - 8:00 AM		32	4	36		1	3	13	17		49	75		124		1	1		2		160	19	179
8:00 AM - 8:15 AM		28	5	33		4	1	10	15		47	63		110		1	2		3		143	18	161
8:15 AM - 8:30 AM	1	37	1	39				9	9		47	68	1	116		3	2		5		155	14	169
8:30 AM - 8:45 AM		41	2	43				8	8		39	64	1	104		1	1		2		147	10	157
8:45 AM - 9:00 AM		38	2	40		3	1	17	21		47	60	2	109		1	1		2		149	23	172
2:30 PM - 2:45 PM		36	1	37			1	18	19		16	43	1	60							97	19	116
2:45 PM - 3:00 PM		47		47		3	1	14	18		12	47	1	60							107	18	125
3:00 PM - 3:15 PM		44	3	47			2	21	23		9	31	1	41		2	1		3		88	26	114
3:15 PM - 3:30 PM		45		45		4		25	29		15	34	5	54							99	29	128
3:30 PM - 3:45 PM	1	45		46		1		19	20		18	35	3	56		2	2		4		102	24	126
3:45 PM - 4:00 PM	3	59		62			4	24	28		27	48	1	76		1		1	2		138	30	168
4:00 PM - 4:15 PM	2	67	1	70			3	34	37		21	46		67		2			2		137	39	176
4:15 PM - 4:30 PM		75	4	79		2	2	32	36		24	62		86		1	1		2		165	38	203
4:30 PM - 4:45 PM	1	69	4	74		1	1	28	30		13	47	1	61		2			2		135	32	167
4:45 PM - 5:00 PM		81	2	83		1	1	36	38		23	44	2	69		1	4		5		152	43	195
5:00 PM - 5:15 PM	1	75	3	79		1	5	39	45		22	42	3	67		5	2		7		146	52	198
5:15 PM - 5:30 PM		78	3	81			2	31	33		36	61	1	98		2	2		4		179	37	216
5:30 PM - 5:45 PM		77	8	85		4	2	37	43		31	64	1	96		1	3		4		181	47	228
5:45 PM - 6:00 PM		79	5	84		1	2	36	39		30	62	3	95		1	6		7		179	46	225
6:00 PM - 6:15 PM		77		77		2		38	40		34	37	5	76			1		1		153	41	194
6:15 PM - 6:30 PM		63	1	64		1	1	31	33		41	51	2	94		1	2		3		158	36	194
6:30 PM - 6:45 PM	1	47	3	51		1	3	26	30		37	54	1	92		1	3		4		143	34	177
6:45 PM - 7:00 PM		42	3	45		2	3	26	31		29	50	3	82		1	2		3		127	34	161
Total	11	1388	62	1461		35	39	608	682		859	1495	45	2399		35	39	1	75		3860	757	4617
One Hour Volumes																							
6:00 AM - 7:00 AM		36	1	37	0.6607	1		13	14	0.7	52	96	2	150	0.5859	1	1		2	0.5	187	16	203
6:15 AM - 7:15 AM	1	44	3	48	0.75			17	17	0.7083	81	143	4	228	0.6064	3	2		5	0.4167	276	22	298
6:30 AM - 7:30 AM	1	60	6	67	0.7283		1	19	20	0.8333	120	214	6	340	0.6071	3	3		6	0.5	407	26	433
6:45 AM - 7:45 AM	1	84	6	91	0.5987	2	1	28	31	0.5536	159	256	5	420	0.75	4	3		7	0.5833	511	38	549
7:00 AM - 8:00 AM	1	102	10	113	0.7434	3	4	36	43	0.6324	189	286	5	480	0.8571	5	3		8	0.6667	593	51	644
7:15 AM - 8:15 AM		117	13	130	0.8553	7	5	40	52	0.7647	203	291	2	496	0.8857	4	4		8	0.6667	626	60	686
7:30 AM - 8:30 AM	1	134	11	146	0.9359	7	4	44	55	0.8088	194	277	1	472	0.9516	7	5		12	0.6	618	67	685
7:45 AM - 8:45 AM	1	138	12	151	0.8779	5	4	40	49	0.7206	182	270	2	454	0.9153	6	6		12	0.6	605	61	666
8:00 AM - 9:00 AM	1	144	10	155	0.9012	7	2	44	53	0.631	180	255	4	439	0.9461	6	6		12	0.6	594	65	659
2:30 PM - 3:30 PM		172	4	176	0.9362	7	4	78	89	0.7672	52	155	8	215	0.8958	2	1		3	0.25	391	92	483
2:45 PM - 3:45 PM	1	181	3	185	0.984	8	3	79	90	0.7759	54	147	10	211	0.8792	4	3		7	0.4375	396	97	493
3:00 PM - 4:00 PM	4	193	3	200	0.8065	5	6	89	100	0.8621	69	148	10	227	0.7467	5	3	1	9	0.5625	427	109	536
3:15 PM - 4:15 PM	6	216	1	223	0.7964	5	7	102	114	0.7703	81	163	9	253	0.8322	5	2	1	8	0.5	476	122	598
3:30 PM - 4:30 PM	6	246	5	257	0.8133	3	9	109	121	0.8176	90	191	4	285	0.8285	6	3	1	10	0.625	542	131	673
3:45 PM - 4:45 PM	6	270	9	285	0.9019	3	10	118	131	0.8851	85	203	2	290	0.843	6	1	1	8	1	575	139	714
4:00 PM - 5:00 PM	3	292	11	306	0.9217	4	7	130	141	0.9276	81	199	3	283	0.8227	6	5		11	0.55	589	152	741
4:15 PM - 5:15 PM	2	300	13	315	0.9488	5	9	135	149	0.8278	82	195	6	283	0.8227	9	7		16	0.5714	598	165	763
4:30 PM - 5:30 PM	2	303	12	317	0.9548	3	9	134	146	0.8111	94	194	7	295	0.7526	10	8		18	0.6429	612	164	776
4:45 PM - 5:45 PM	1	311	16	328	0.9647	6	10	143	159	0.8833	112	211	7	330	0.8418	9	11		20	0.7143	658	179	837
5:00 PM - 6:00 PM	1	309	19	329	0.9676	6	11	143	160	0.8889	119	229	8	356	0.9082	9	13		22	0.7857	685	182	867
5:15 PM - 6:15 PM		311	16	327	0.9618	7	6	142	155	0.9012	131	224	10	365	0.9311	4	12		16	0.5714	692	171	863
5:30 PM - 6:30 PM		296	14	310	0.9118	8	5	142	155	0.9012	136	214	11	361	0.9401	3	12		15	0.5357	671	170	841
5:45 PM - 6:45 PM	1	266	9	276	0.8214	5	6	131	142	0.8875	142	204	11	357	0.9395	3	12		15	0.5357	633	157	790
6:00 PM - 7:00 PM	1	229	7	237	0.7695	6	7	121	134	0.8375	141	192	11	344	0.9149	3	8		11	0.6875	581	145	726
-																							

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: North West & West Broad
W + A JOB NO: 5897
INTERSECTION: N. West St. & Lincoln Ave.
LOCATION: Fairfax County,VA
DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Camil
INPUTED BY: agan



Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
6:00 AM - 6:15 AM													
6:15 AM - 6:30 AM				1									
6:30 AM - 6:45 AM				3			1						
6:45 AM - 7:00 AM			2			2							
7:00 AM - 7:15 AM			3		1								
7:15 AM - 7:30 AM			1	2		2		3					
7:30 AM - 7:45 AM			3	3		2		3					
7:45 AM - 8:00 AM				4									
8:00 AM - 8:15 AM			1	6	1			6					
8:15 AM - 8:30 AM			2	2		1		3					
8:30 AM - 8:45 AM			3	1				1					
8:45 AM - 9:00 AM			1		2			1					
2:30 PM - 2:45 PM			3										
2:45 PM - 3:00 PM					2		1						
3:00 PM - 3:15 PM			1					1					
3:15 PM - 3:30 PM			1		1			1					
3:30 PM - 3:45 PM			1		2								
3:45 PM - 4:00 PM				1				1					
4:00 PM - 4:15 PM			1										
4:15 PM - 4:30 PM			2										
4:30 PM - 4:45 PM													
4:45 PM - 5:00 PM			1										
5:00 PM - 5:15 PM			1										
5:15 PM - 5:30 PM													
5:30 PM - 5:45 PM			2	1		1							
5:45 PM - 6:00 PM			2		5	2							
6:00 PM - 6:15 PM			1			1							
6:15 PM - 6:30 PM			1			1							
6:30 PM - 6:45 PM													
6:45 PM - 7:00 PM					1	1							
Total	0	0	36	24	15	13	2	20					
One Hour Volumes													
6:00 AM - 7:00 AM			2	4		2	1			6	2	1	9
6:15 AM - 7:15 AM			5	4	1	2	1			9	3	1	13
6:30 AM - 7:30 AM			6	5	1	4	1	3		11	5	4	20
6:45 AM - 7:45 AM			9	5	1	6		6		14	7	6	27
7:00 AM - 8:00 AM			7	9	1	4		6		16	5	6	27
7:15 AM - 8:15 AM			5	15	1	4		12		20	5	12	37
7:30 AM - 8:30 AM			6	15	1	3		12		21	4	12	37
7:45 AM - 8:45 AM			6	13	1	1		10		19	2	10	31
8:00 AM - 9:00 AM			7	9	3	1		11		16	4	11	31
2:30 PM - 3:30 PM			5		3		1	2		5	3	3	11
2:45 PM - 3:45 PM			3		5		1	2		3	5	3	11
3:00 PM - 4:00 PM			3	1	3			3		4	3	3	10
3:15 PM - 4:15 PM			3	1	3			2		4	3	2	9
3:30 PM - 4:30 PM			4	1	2			1		5	2	1	8
3:45 PM - 4:45 PM			3	1				1		4		1	5
4:00 PM - 5:00 PM			4							4			4
4:15 PM - 5:15 PM			4							4			4
4:30 PM - 5:30 PM			2							2			2
4:45 PM - 5:45 PM			4	1		1				5	1		6
5:00 PM - 6:00 PM			5	1	5	3				6	8		14
5:15 PM - 6:15 PM			5	1	5	4				6	9		15
5:30 PM - 6:30 PM			6	1	5	5				7	10		17
5:45 PM - 6:45 PM			4		5	4				4	9		13
6:00 PM - 7:00 PM			2		1	3				2	4		6
-													

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Bicycles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	Grove Avenue
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	Grove Avenue
INTERSECTION:	Grove Ave. & W & OD Trail	**WEATHER:**	clear	**WESTBOUND ROAD:**	W & OD Trail
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Tyler	**EASTBOUND ROAD:**	W & OD Trail
		INPUTED BY:	agan		

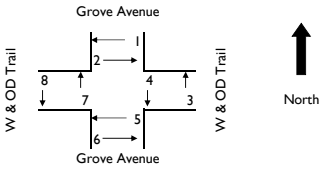
Time Period	Southbound Grove Avenue				Westbound W & OD Trail				Northbound Grove Avenue				Eastbound W & OD Trail				North & South	East & West	Total
	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total			
15 Minute Volumes																			
6:00 AM - 6:15 AM						3		3						6		6		9	9
6:15 AM - 6:30 AM						2		2						6		6		8	8
6:30 AM - 6:45 AM						1		1						11		11		12	12
6:45 AM - 7:00 AM						3		3						20		20		23	23
7:00 AM - 7:15 AM						13		13						11		11		24	24
7:15 AM - 7:30 AM						11		11						9		9		20	20
7:30 AM - 7:45 AM						16		16						18		18		34	34
7:45 AM - 8:00 AM						15		15						11		11		26	26
8:00 AM - 8:15 AM						6		6						12		12		18	18
8:15 AM - 8:30 AM						10		10						11		11		21	21
8:30 AM - 8:45 AM						7		7						9		9		16	16
8:45 AM - 9:00 AM						6		6						10		10		16	16
2:30 PM - 2:45 PM						2		2						1		1		3	3
2:45 PM - 3:00 PM						1		1						0				1	1
3:00 PM - 3:15 PM						2		2						9		9		11	11
3:15 PM - 3:30 PM						1		1						2		2		3	3
3:30 PM - 3:45 PM						4		4						2		2		6	6
3:45 PM - 4:00 PM						3		3						2		2		5	5
4:00 PM - 4:15 PM						7		7						2		2		9	9
4:15 PM - 4:30 PM						5		5						9		9		14	14
4:30 PM - 4:45 PM						5		5						2		2		7	7
4:45 PM - 5:00 PM						2		2						0				2	2
5:00 PM - 5:15 PM						5		5						0				5	5
5:15 PM - 5:30 PM						5		5						2		2		7	7
5:30 PM - 5:45 PM						7		7						5		5		12	12
5:45 PM - 6:00 PM						10		10						5		5		15	15
6:00 PM - 6:15 PM						13		13						0				13	13
6:15 PM - 6:30 PM						12		12						5		5		17	17
6:30 PM - 6:45 PM						6		6						3		3		9	9
6:45 PM - 7:00 PM						9		9						6		6		15	15
Total	0	0	0	0	0	192	0	192	0	0	0	0	0	189	0	189	0	381	381
One Hour Volumes																			
6:00 AM - 7:00 AM						9		9						43		43		52	52
6:15 AM - 7:15 AM						19		19						48		48		67	67
6:30 AM - 7:30 AM						28		28						51		51		79	79
6:45 AM - 7:45 AM						43		43						58		58		101	101
7:00 AM - 8:00 AM						55		55						49		49		104	104
7:15 AM - 8:15 AM						48		48						50		50		98	98
7:30 AM - 8:30 AM						47		47						52		52		99	99
7:45 AM - 8:45 AM						38		38						43		43		81	81
8:00 AM - 9:00 AM						29		29						42		42		71	71
2:30 PM - 3:30 PM						6		6						12		12		18	18
2:45 PM - 3:45 PM						8		8						13		13		21	21
3:00 PM - 4:00 PM						10		10						15		15		25	25
3:15 PM - 4:15 PM						15		15						8		8		23	23
3:30 PM - 4:30 PM						19		19						15		15		34	34
3:45 PM - 4:45 PM						20		20						15		15		35	35
4:00 PM - 5:00 PM						19		19						13		13		32	32
4:15 PM - 5:15 PM						17		17						11		11		28	28
4:30 PM - 5:30 PM						17		17						4		4		21	21
4:45 PM - 5:45 PM						19		19						7		7		26	26
5:00 PM - 6:00 PM						27		27						12		12		39	39
5:15 PM - 6:15 PM						35		35						12		12		47	47
5:30 PM - 6:30 PM						42		42						15		15		57	57
5:45 PM - 6:45 PM						41		41						13		13		54	54
6:00 PM - 7:00 PM						40		40						14		14		54	54
-																			

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: North West & West Broad
W + A JOB NO: 5897
INTERSECTION: Grove Ave. & W & OD Trail
LOCATION: Fairfax County,VA
DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Tyler
INPUTED BY: agan



Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
6:00 AM - 6:15 AM	7	3											
6:15 AM - 6:30 AM	10	17											
6:30 AM - 6:45 AM	9	11											
6:45 AM - 7:00 AM	10	5											
7:00 AM - 7:15 AM	20	9											
7:15 AM - 7:30 AM	6	8											
7:30 AM - 7:45 AM	10	9											
7:45 AM - 8:00 AM	7	7											
8:00 AM - 8:15 AM	4	6											
8:15 AM - 8:30 AM	10	3											
8:30 AM - 8:45 AM	7	6											
8:45 AM - 9:00 AM	3	8											
2:30 PM - 2:45 PM	3	1											
2:45 PM - 3:00 PM	0	4											
3:00 PM - 3:15 PM	2	4											
3:15 PM - 3:30 PM	4	9											
3:30 PM - 3:45 PM	3	4											
3:45 PM - 4:00 PM	1	3											
4:00 PM - 4:15 PM	24	23											
4:15 PM - 4:30 PM	2	3											
4:30 PM - 4:45 PM	1	0											
4:45 PM - 5:00 PM	0	0											
5:00 PM - 5:15 PM	0	0											
5:15 PM - 5:30 PM	0	0											
5:30 PM - 5:45 PM	1	0											
5:45 PM - 6:00 PM	4	2											
6:00 PM - 6:15 PM	2	0											
6:15 PM - 6:30 PM	1	2											
6:30 PM - 6:45 PM	1	2											
6:45 PM - 7:00 PM	0	0											
Total	152	149	0	0	0	0	0	0					
One Hour Volumes													
6:00 AM - 7:00 AM	36	36							72				72
6:15 AM - 7:15 AM	49	42							91				91
6:30 AM - 7:30 AM	45	33							78				78
6:45 AM - 7:45 AM	46	31							77				77
7:00 AM - 8:00 AM	43	33							76				76
7:15 AM - 8:15 AM	27	30							57				57
7:30 AM - 8:30 AM	31	25							56				56
7:45 AM - 8:45 AM	28	22							50				50
8:00 AM - 9:00 AM	24	23							47				47
2:30 PM - 3:30 PM	9	18							27				27
2:45 PM - 3:45 PM	9	21							30				30
3:00 PM - 4:00 PM	10	20							30				30
3:15 PM - 4:15 PM	32	39							71				71
3:30 PM - 4:30 PM	30	33							63				63
3:45 PM - 4:45 PM	28	29							57				57
4:00 PM - 5:00 PM	27	26							53				53
4:15 PM - 5:15 PM	3	3							6				6
4:30 PM - 5:30 PM	1								1				1
4:45 PM - 5:45 PM	1								1				1
5:00 PM - 6:00 PM	5	2							7				7
5:15 PM - 6:15 PM	7	2							9				9
5:30 PM - 6:30 PM	8	4							12				12
5:45 PM - 6:45 PM	8	6							14				14
6:00 PM - 7:00 PM	4	4							8				8
-													

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Bicycles

PROJECT:	North West & West Broad	**DATE:**	9/14/2013	**SOUTHBOUND ROAD:**	Grove Avenue
W+A JOB NO:	5897	**DAY:**	Saturday	**NORTHBOUND ROAD:**	Grove Avenue
INTERSECTION:	Grove Ave. & W & OD Trail	**WEATHER:**	clear	**WESTBOUND ROAD:**	W & OD Trail
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Tyler	**EASTBOUND ROAD:**	W & OD Trail
		INPUTED BY:	agan		

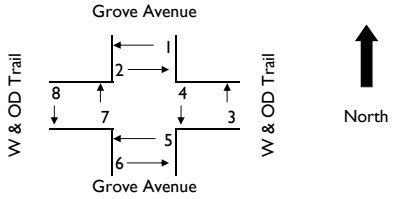
Time	Southbound Grove Avenue				Westbound W & OD Trail				Northbound Grove Avenue				Eastbound W & OD Trail				North & South	East & West	Total
Period	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total			
15 Minute Volumes																			
10:00 AM - 10:15 AM						17		17						16		16		33	33
10:15 AM - 10:30 AM						40		40						18		18		58	58
10:30 AM - 10:45 AM						28		28						22		22		50	50
10:45 AM - 11:00 AM						20		20						19		19		39	39
11:00 AM - 11:15 AM						32		32						17		17		49	49
11:15 AM - 11:30 AM						20		20						16		16		36	36
11:30 AM - 11:45 AM						21		21						26		26		47	47
11:45 AM - 12:00 PM						25		25						27		27		52	52
12:00 PM - 12:15 PM						15		15						33		33		48	48
12:15 PM - 12:30 PM						26		26						25		25		51	51
12:30 PM - 12:45 PM						14		14						25		25		39	39
12:45 PM - 1:00 PM						28		28						19		19		47	47
1:00 PM - 1:15 PM						17		17						25		25		42	42
1:15 PM - 1:30 PM						18		18						26		26		44	44
1:30 PM - 1:45 PM						34		34						31		31		65	65
1:45 PM - 2:00 PM						16		16						27		27		43	43
2:00 PM - 2:15 PM						39		39						26		26		65	65
2:15 PM - 2:30 PM						27		27						41		41		68	68
2:30 PM - 2:45 PM						19		19						23		23		42	42
2:45 PM - 3:00 PM						25		25						33		33		58	58
Total	0	0	0	0	0	481	0	481	0	0	0	0	0	495	0	495	0	976	976
One Hour Volumes																			
10:00 AM - 11:00 AM						105		105						75		75		180	180
10:15 AM - 11:15 AM						120		120						76		76		196	196
10:30 AM - 11:30 AM						100		100						74		74		174	174
10:45 AM - 11:45 AM						93		93						78		78		171	171
11:00 AM - 12:00 PM						98		98						86		86		184	184
11:15 AM - 12:15 PM						81		81						102		102		183	183
11:30 AM - 12:30 PM						87		87						111		111		198	198
11:45 AM - 12:45 PM						80		80						110		110		190	190
12:00 PM - 1:00 PM						83		83						102		102		185	185
12:15 PM - 1:15 PM						85		85						94		94		179	179
12:30 PM - 1:30 PM						77		77						95		95		172	172
12:45 PM - 1:45 PM						97		97						101		101		198	198
1:00 PM - 2:00 PM						85		85						109		109		194	194
1:15 PM - 2:15 PM						107		107						110		110		217	217
1:30 PM - 2:30 PM						116		116						125		125		241	241
1:45 PM - 2:45 PM						101		101						117		117		218	218
2:00 PM - 3:00 PM						110		110						123		123		233	233

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: North West & West Broad
W + A JOB NO: 5897
INTERSECTION: Grove Ave. & W & OD Trail
LOCATION: Fairfax County,VA
DATE: 9/14/2013
DAY: Saturday
WEATHER: clear
COUNTED BY: Tyler
INPUTED BY: agan



Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
10:00 AM - 10:15 AM	15	25											
10:15 AM - 10:30 AM	23	17											
10:30 AM - 10:45 AM	13	19											
10:45 AM - 11:00 AM	13	25											
11:00 AM - 11:15 AM	17	18											
11:15 AM - 11:30 AM	18	13											
11:30 AM - 11:45 AM	10	17											
11:45 AM - 12:00 PM	7	9											
12:00 PM - 12:15 PM	12	12											
12:15 PM - 12:30 PM	15	15											
12:30 PM - 12:45 PM	14	7											
12:45 PM - 1:00 PM	3	12											
1:00 PM - 1:15 PM	5	9											
1:15 PM - 1:30 PM	9	6											
1:30 PM - 1:45 PM	6	4											
1:45 PM - 2:00 PM	6	10											
2:00 PM - 2:15 PM	4	6											
2:15 PM - 2:30 PM	7	5											
2:30 PM - 2:45 PM	12	19											
2:45 PM - 3:00 PM	4	5											
Total	213	253	0	0	0	0	0	0					
One Hour Volumes													
10:00 AM - 11:00 AM	64	86							150				150
10:15 AM - 11:15 AM	66	79							145				145
10:30 AM - 11:30 AM	61	75							136				136
10:45 AM - 11:45 AM	58	73							131				131
11:00 AM - 12:00 PM	52	57							109				109
11:15 AM - 12:15 PM	47	51							98				98
11:30 AM - 12:30 PM	44	53							97				97
11:45 AM - 12:45 PM	48	43							91				91
12:00 PM - 1:00 PM	44	46							90				90
12:15 PM - 1:15 PM	37	43							80				80
12:30 PM - 1:30 PM	31	34							65				65
12:45 PM - 1:45 PM	23	31							54				54
1:00 PM - 2:00 PM	26	29							55				55
1:15 PM - 2:15 PM	25	26							51				51
1:30 PM - 2:30 PM	23	25							48				48
1:45 PM - 2:45 PM	29	40							69				69
2:00 PM - 3:00 PM	27	35							62				62

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Bicycles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	North West Street
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	North West Street
INTERSECTION:	N. West St. & W & OD Trail	**WEATHER:**	clear	**WESTBOUND ROAD:**	W & OD Trail
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Amela	**EASTBOUND ROAD:**	W & OD Trail
		INPUTED BY:	agan		

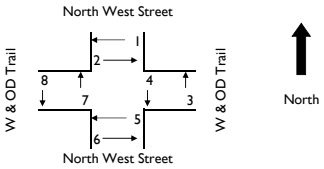
Time Period	Southbound North West Street				Westbound W & OD Trail				Northbound North West Street				Eastbound W & OD Trail				North & South	East & West	Total
	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total			
15 Minute Volumes																			
6:00 AM - 6:15 AM						3		3						7		7		10	10
6:15 AM - 6:30 AM						3		3						8		8		11	11
6:30 AM - 6:45 AM						1		1						12		12		13	13
6:45 AM - 7:00 AM						5		5						19		19		24	24
7:00 AM - 7:15 AM						13		13						11		11		24	24
7:15 AM - 7:30 AM						11		11						10		10		21	21
7:30 AM - 7:45 AM						15		15						17		17		32	32
7:45 AM - 8:00 AM						12		12						14		14		26	26
8:00 AM - 8:15 AM						8		8						13		13		21	21
8:15 AM - 8:30 AM						9		9						9		9		18	18
8:30 AM - 8:45 AM						7		7						12		12		19	19
8:45 AM - 9:00 AM						6		6						10		10		16	16
2:30 PM - 2:45 PM						2		2						1		1		3	3
2:45 PM - 3:00 PM						1		1						2		2		3	3
3:00 PM - 3:15 PM						1		1						9		9		10	10
3:15 PM - 3:30 PM						2		2						3		3		5	5
3:30 PM - 3:45 PM						6		6						2		2		8	8
3:45 PM - 4:00 PM						3		3						3		3		6	6
4:00 PM - 4:15 PM						7		7						2		2		9	9
4:15 PM - 4:30 PM						3		3						9		9		12	12
4:30 PM - 4:45 PM						8		8						3		3		11	11
4:45 PM - 5:00 PM						4		4						1		1		5	5
5:00 PM - 5:15 PM						4		4						0				4	4
5:15 PM - 5:30 PM						7		7						3		3		10	10
5:30 PM - 5:45 PM						6		6						4		4		10	10
5:45 PM - 6:00 PM						11		11						5		5		16	16
6:00 PM - 6:15 PM						17		17						0				17	17
6:15 PM - 6:30 PM						7		7						4		4		11	11
6:30 PM - 6:45 PM						7		7						3		3		10	10
6:45 PM - 7:00 PM						9		9						5		5		14	14
Total	0	0	0	0	0	198	0	198	0	0	0	0	0	201	0	201	0	399	399
One Hour Volumes																			
6:00 AM - 7:00 AM						12		12						46		46		58	58
6:15 AM - 7:15 AM						22		22						50		50		72	72
6:30 AM - 7:30 AM						30		30						52		52		82	82
6:45 AM - 7:45 AM						44		44						57		57		101	101
7:00 AM - 8:00 AM						51		51						52		52		103	103
7:15 AM - 8:15 AM						46		46						54		54		100	100
7:30 AM - 8:30 AM						44		44						53		53		97	97
7:45 AM - 8:45 AM						36		36						48		48		84	84
8:00 AM - 9:00 AM						30		30						44		44		74	74
2:30 PM - 3:30 PM						6		6						15		15		21	21
2:45 PM - 3:45 PM						10		10						16		16		26	26
3:00 PM - 4:00 PM						12		12						17		17		29	29
3:15 PM - 4:15 PM						18		18						10		10		28	28
3:30 PM - 4:30 PM						19		19						16		16		35	35
3:45 PM - 4:45 PM						21		21						17		17		38	38
4:00 PM - 5:00 PM						22		22						15		15		37	37
4:15 PM - 5:15 PM						19		19						13		13		32	32
4:30 PM - 5:30 PM						23		23						7		7		30	30
4:45 PM - 5:45 PM						21		21						8		8		29	29
5:00 PM - 6:00 PM						28		28						12		12		40	40
5:15 PM - 6:15 PM						41		41						12		12		53	53
5:30 PM - 6:30 PM						41		41						13		13		54	54
5:45 PM - 6:45 PM						42		42						12		12		54	54
6:00 PM - 7:00 PM						40		40						12		12		52	52
-																			

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: North West & West Broad
W + A JOB NO: 5897
INTERSECTION: N. West St. & W & OD Trail
LOCATION: Fairfax County,VA
DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Amela
INPUTED BY: agan



Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
6:00 AM - 6:15 AM	5	4											
6:15 AM - 6:30 AM	11	19											
6:30 AM - 6:45 AM	9	10											
6:45 AM - 7:00 AM	13	6											
7:00 AM - 7:15 AM	15	10											
7:15 AM - 7:30 AM	5	6											
7:30 AM - 7:45 AM	12	9											
7:45 AM - 8:00 AM	4	6											
8:00 AM - 8:15 AM	6	4											
8:15 AM - 8:30 AM	10	8											
8:30 AM - 8:45 AM	7	5											
8:45 AM - 9:00 AM	5	7											
2:30 PM - 2:45 PM	2	2											
2:45 PM - 3:00 PM	0	9											
3:00 PM - 3:15 PM	2	3											
3:15 PM - 3:30 PM	1	7											
3:30 PM - 3:45 PM	5	3											
3:45 PM - 4:00 PM	2	2											
4:00 PM - 4:15 PM	25	25											
4:15 PM - 4:30 PM	2	1											
4:30 PM - 4:45 PM	1	0											
4:45 PM - 5:00 PM	0	0											
5:00 PM - 5:15 PM	0	0											
5:15 PM - 5:30 PM	0	1											
5:30 PM - 5:45 PM	2	0											
5:45 PM - 6:00 PM	1	2											
6:00 PM - 6:15 PM	0	0											
6:15 PM - 6:30 PM	1	2											
6:30 PM - 6:45 PM	1	1											
6:45 PM - 7:00 PM	0	0											
Total	147	152	0	0	0	0	0	0					
One Hour Volumes													
6:00 AM - 7:00 AM	38	39							77				77
6:15 AM - 7:15 AM	48	45							93				93
6:30 AM - 7:30 AM	42	32							74				74
6:45 AM - 7:45 AM	45	31							76				76
7:00 AM - 8:00 AM	36	31							67				67
7:15 AM - 8:15 AM	27	25							52				52
7:30 AM - 8:30 AM	32	27							59				59
7:45 AM - 8:45 AM	27	23							50				50
8:00 AM - 9:00 AM	28	24							52				52
2:30 PM - 3:30 PM	5	21							26				26
2:45 PM - 3:45 PM	8	22							30				30
3:00 PM - 4:00 PM	10	15							25				25
3:15 PM - 4:15 PM	33	37							70				70
3:30 PM - 4:30 PM	34	31							65				65
3:45 PM - 4:45 PM	30	28							58				58
4:00 PM - 5:00 PM	28	26							54				54
4:15 PM - 5:15 PM	3	1							4				4
4:30 PM - 5:30 PM	1	1							2				2
4:45 PM - 5:45 PM	2	1							3				3
5:00 PM - 6:00 PM	3	3							6				6
5:15 PM - 6:15 PM	3	3							6				6
5:30 PM - 6:30 PM	4	4							8				8
5:45 PM - 6:45 PM	3	5							8				8
6:00 PM - 7:00 PM	2	3							5				5
-													

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Bicycles

PROJECT:	North West & West Broad	**DATE:**	9/14/2013	**SOUTHBOUND ROAD:**	North West Street
W+A JOB NO:	5897	**DAY:**	Saturday	**NORTHBOUND ROAD:**	North West Street
INTERSECTION:	N. West St. & W & OD Trail	**WEATHER:**	clear	**WESTBOUND ROAD:**	W & OD Trail
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Farid	**EASTBOUND ROAD:**	W & OD Trail
		INPUTED BY:	agan		

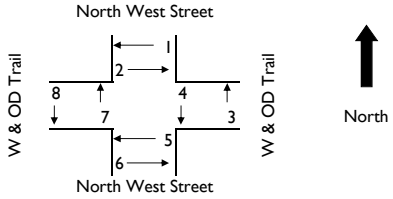
Time	Southbound North West Street				Westbound W & OD Trail				Northbound North West Street				Eastbound W & OD Trail				North & South	East & West	Total
Period	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total			
15 Minute Volumes																			
10:00 AM - 10:15 AM						17		17						11		11		28	28
10:15 AM - 10:30 AM						37		37						15		15		52	52
10:30 AM - 10:45 AM						25		25						23		23		48	48
10:45 AM - 11:00 AM						16		16						20		20		36	36
11:00 AM - 11:15 AM						25		25						14		14		39	39
11:15 AM - 11:30 AM						10		10						13		13		23	23
11:30 AM - 11:45 AM						17		17						25		25		42	42
11:45 AM - 12:00 PM						17		17						23		23		40	40
12:00 PM - 12:15 PM						13		13						26		26		39	39
12:15 PM - 12:30 PM						31		31						25		25		56	56
12:30 PM - 12:45 PM						13		13						17		17		30	30
12:45 PM - 1:00 PM						21		21						17		17		38	38
1:00 PM - 1:15 PM						16		16						18		18		34	34
1:15 PM - 1:30 PM						17		17						20		20		37	37
1:30 PM - 1:45 PM						17		17						24		24		41	41
1:45 PM - 2:00 PM						5		5						18		18		23	23
2:00 PM - 2:15 PM						33		33						16		16		49	49
2:15 PM - 2:30 PM						18		18						29		29		47	47
2:30 PM - 2:45 PM						20		20						15		15		35	35
2:45 PM - 3:00 PM						17		17						21		21		38	38
Total	0	0	0	0	0	385	0	385	0	0	0	0	0	390	0	390	0	775	775
One Hour Volumes																			
10:00 AM - 11:00 AM						95		95						69		69		164	164
10:15 AM - 11:15 AM						103		103						72		72		175	175
10:30 AM - 11:30 AM						76		76						70		70		146	146
10:45 AM - 11:45 AM						68		68						72		72		140	140
11:00 AM - 12:00 PM						69		69						75		75		144	144
11:15 AM - 12:15 PM						57		57						87		87		144	144
11:30 AM - 12:30 PM						78		78						99		99		177	177
11:45 AM - 12:45 PM						74		74						91		91		165	165
12:00 PM - 1:00 PM						78		78						85		85		163	163
12:15 PM - 1:15 PM						81		81						77		77		158	158
12:30 PM - 1:30 PM						67		67						72		72		139	139
12:45 PM - 1:45 PM						71		71						79		79		150	150
1:00 PM - 2:00 PM						55		55						80		80		135	135
1:15 PM - 2:15 PM						72		72						78		78		150	150
1:30 PM - 2:30 PM						73		73						87		87		160	160
1:45 PM - 2:45 PM						76		76						78		78		154	154
2:00 PM - 3:00 PM						88		88						81		81		169	169

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: North West & West Broad
W + A JOB NO: 5897
INTERSECTION: N. West St. & W & OD Trail
LOCATION: Fairfax County,VA
DATE: 9/14/2013
DAY: Saturday
WEATHER: clear
COUNTED BY: Farid
INPUTED BY: agan



Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
10:00 AM - 10:15 AM	23	15											
10:15 AM - 10:30 AM	16	19											
10:30 AM - 10:45 AM	14	17											
10:45 AM - 11:00 AM	15	28											
11:00 AM - 11:15 AM	12	16											
11:15 AM - 11:30 AM	14	9											
11:30 AM - 11:45 AM	9	17											
11:45 AM - 12:00 PM	6	4											
12:00 PM - 12:15 PM	9	9											
12:15 PM - 12:30 PM	14	15											
12:30 PM - 12:45 PM	14	4											
12:45 PM - 1:00 PM	5	8											
1:00 PM - 1:15 PM	9	9											
1:15 PM - 1:30 PM	6	3											
1:30 PM - 1:45 PM	12	3											
1:45 PM - 2:00 PM	7	4											
2:00 PM - 2:15 PM	5	3											
2:15 PM - 2:30 PM	4	4											
2:30 PM - 2:45 PM	5	14											
2:45 PM - 3:00 PM	4	5											
Total	203	206	0	0	0	0	0	0					
One Hour Volumes													
10:00 AM - 11:00 AM	68	79							147				147
10:15 AM - 11:15 AM	57	80							137				137
10:30 AM - 11:30 AM	55	70							125				125
10:45 AM - 11:45 AM	50	70							120				120
11:00 AM - 12:00 PM	41	46							87				87
11:15 AM - 12:15 PM	38	39							77				77
11:30 AM - 12:30 PM	38	45							83				83
11:45 AM - 12:45 PM	43	32							75				75
12:00 PM - 1:00 PM	42	36							78				78
12:15 PM - 1:15 PM	42	36							78				78
12:30 PM - 1:30 PM	34	24							58				58
12:45 PM - 1:45 PM	32	23							55				55
1:00 PM - 2:00 PM	34	19							53				53
1:15 PM - 2:15 PM	30	13							43				43
1:30 PM - 2:30 PM	28	14							42				42
1:45 PM - 2:45 PM	21	25							46				46
2:00 PM - 3:00 PM	18	26							44				44

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: North West & West Broad
W+A JOB NO: 5897
INTERSECTION: W. Broad St. & Birch St.
LOCATION: Fairfax County,VA

DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Majda & Luz
INPUTED BY: agan

SOUTHBOUND ROAD: Birch Street
NORTHBOUND ROAD: 0
WESTBOUND ROAD: West Broad Street - 7
EASTBOUND ROAD: West Broad Street - 7

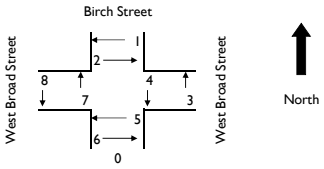
Time	Southbound Birch Street					Westbound West Broad Street - 7					Northbound 0					Eastbound West Broad Street - 7					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM	4		3	7		1	55		56								93	5	98		7	154	161
6:15 AM - 6:30 AM	8		5	13	`	2	91		93								132	8	140		13	233	246
6:30 AM - 6:45 AM	5		12	17		6	141		147								225	10	235		17	382	399
6:45 AM - 7:00 AM	3		5	8		8	154		162								181	4	185		8	347	355
7:00 AM - 7:15 AM	4		6	10		10	227		237								218	11	229		10	466	476
7:15 AM - 7:30 AM	11		11	22		13	249		262								325	17	342		22	604	626
7:30 AM - 7:45 AM	5		13	18		21	285		306								385	18	403		18	709	727
7:45 AM - 8:00 AM	13		15	28		13	365		378								297	19	316		28	694	722
8:00 AM - 8:15 AM	7		17	24		16	281		297								297	22	319		24	616	640
8:15 AM - 8:30 AM	11		16	27		8	270		278								285	16	301		27	579	606
8:30 AM - 8:45 AM	14		13	27		10	304		314								274	7	281		27	595	622
8:45 AM - 9:00 AM	8		15	23		12	269		281								266	13	279		23	560	583
2:30 PM - 2:45 PM	10		23	33		13	242		255								247	20	267		33	522	555
2:45 PM - 3:00 PM	11		26	37		14	231		245								279	29	308		37	553	590
3:00 PM - 3:15 PM	8		44	52		15	242		257								251	21	272		52	529	581
3:15 PM - 3:30 PM	10		30	40		11	247		258								269	27	296		40	554	594
3:30 PM - 3:45 PM	12		21	33		12	249		261								263	19	282		33	543	576
3:45 PM - 4:00 PM	14		24	38		18	253		271								395	26	421		38	692	730
4:00 PM - 4:15 PM	21		24	45		17	280		297								349	19	368		45	665	710
4:15 PM - 4:30 PM	8		38	46		9	252		261								338	41	379		46	640	686
4:30 PM - 4:45 PM	18		27	45		19	275		294								329	17	346		45	640	685
4:45 PM - 5:00 PM	8		29	37		10	259		269								382	27	409		37	678	715
5:00 PM - 5:15 PM	13		34	47		12	267		279								357	31	388		47	667	714
5:15 PM - 5:30 PM	10		27	37		6	251		257								321	21	342		37	599	636
5:30 PM - 5:45 PM	16		18	34		16	265		281								360	16	376		34	657	691
5:45 PM - 6:00 PM	27		32	59		7	261		268								327	27	354		59	622	681
6:00 PM - 6:15 PM	11		32	43		14	284		298								341	20	361		43	659	702
6:15 PM - 6:30 PM	20		27	47		17	233		250								325	26	351		47	601	648
6:30 PM - 6:45 PM	25		21	46		19	203		222								352	29	381		46	603	649
6:45 PM - 7:00 PM	14		20	34		14	243		257								340	32	372		34	629	663
Total	349	0	628	977		363	7228	0	7591		0	0	0	0		0	8803	598	9401		977	16992	17969
One Hour Volumes																							
6:00 AM - 7:00 AM	20		25	45	0.6618	17	441		458	0.7068							631	27	658	0.7	45	1116	1161
6:15 AM - 7:15 AM	20		28	48	0.7059	26	613		639	0.6741							756	33	789	0.8394	48	1428	1476
6:30 AM - 7:30 AM	23		34	57	0.6477	37	771		808	0.771							949	42	991	0.7244	57	1799	1856
6:45 AM - 7:45 AM	23		35	58	0.6591	52	915		967	0.79							1109	50	1159	0.719	58	2126	2184
7:00 AM - 8:00 AM	33		45	78	0.6964	57	1126		1183	0.7824							1225	65	1290	0.8002	78	2473	2551
7:15 AM - 8:15 AM	36		56	92	0.8214	63	1180		1243	0.8221							1304	76	1380	0.8561	92	2623	2715
7:30 AM - 8:30 AM	36		61	97	0.8661	58	1201		1259	0.8327							1264	75	1339	0.8306	97	2598	2695
7:45 AM - 8:45 AM	45		61	106	0.9464	47	1220		1267	0.838							1153	64	1217	0.9538	106	2484	2590
8:00 AM - 9:00 AM	40		61	101	0.9352	46	1124		1170	0.9315							1122	58	1180	0.9248	101	2350	2451
2:30 PM - 3:30 PM	39		123	162	0.7788	53	962		1015	0.9835							1046	97	1143	0.9278	162	2158	2320
2:45 PM - 3:45 PM	41		121	162	0.7788	52	969		1021	0.978							1062	96	1158	0.9399	162	2179	2341
3:00 PM - 4:00 PM	44		119	163	0.7837	56	991		1047	0.9659							1178	93	1271	0.7548	163	2318	2481
3:15 PM - 4:15 PM	57		99	156	0.8667	58	1029		1087	0.915							1276	91	1367	0.8118	156	2454	2610
3:30 PM - 4:30 PM	55		107	162	0.8804	56	1034		1090	0.9175							1345	105	1450	0.861	162	2540	2702
3:45 PM - 4:45 PM	61		113	174	0.9457	63	1060		1123	0.9453							1411	103	1514	0.899	174	2637	2811
4:00 PM - 5:00 PM	55		118	173	0.9402	55	1066		1121	0.9436							1398	104	1502	0.9181	173	2623	2796
4:15 PM - 5:15 PM	47		128	175	0.9309	50	1053		1103	0.9379							1406	116	1522	0.9303	175	2625	2800
4:30 PM - 5:30 PM	49		117	166	0.883	47	1052		1099	0.9345							1389	96	1485	0.9077	166	2584	2750
4:45 PM - 5:45 PM	47		108	155	0.8245	44	1042		1086	0.9662							1420	95	1515	0.926	155	2601	2756
5:00 PM - 6:00 PM	66		111	177	0.75	41	1044		1085	0.9653							1365	95	1460	0.9407	177	2545	2722
5:15 PM - 6:15 PM	64		109	173	0.7331	43	1061		1104	0.9262							1349	84	1433	0.9528	173	2537	2710
5:30 PM - 6:30 PM	74		109	183	0.7754	54	1043		1097	0.9203							1353	89	1442	0.9588	183	2539	2722
5:45 PM - 6:45 PM	83		112	195	0.8263	57	981		1038	0.8708							1345	102	1447	0.9495	195	2485	2680
6:00 PM - 7:00 PM	70		100	170	0.9043	64	963		1027	0.8616							1358	107	1465	0.9613	170	2492	2662
-																							

Wells + Associates, Inc.

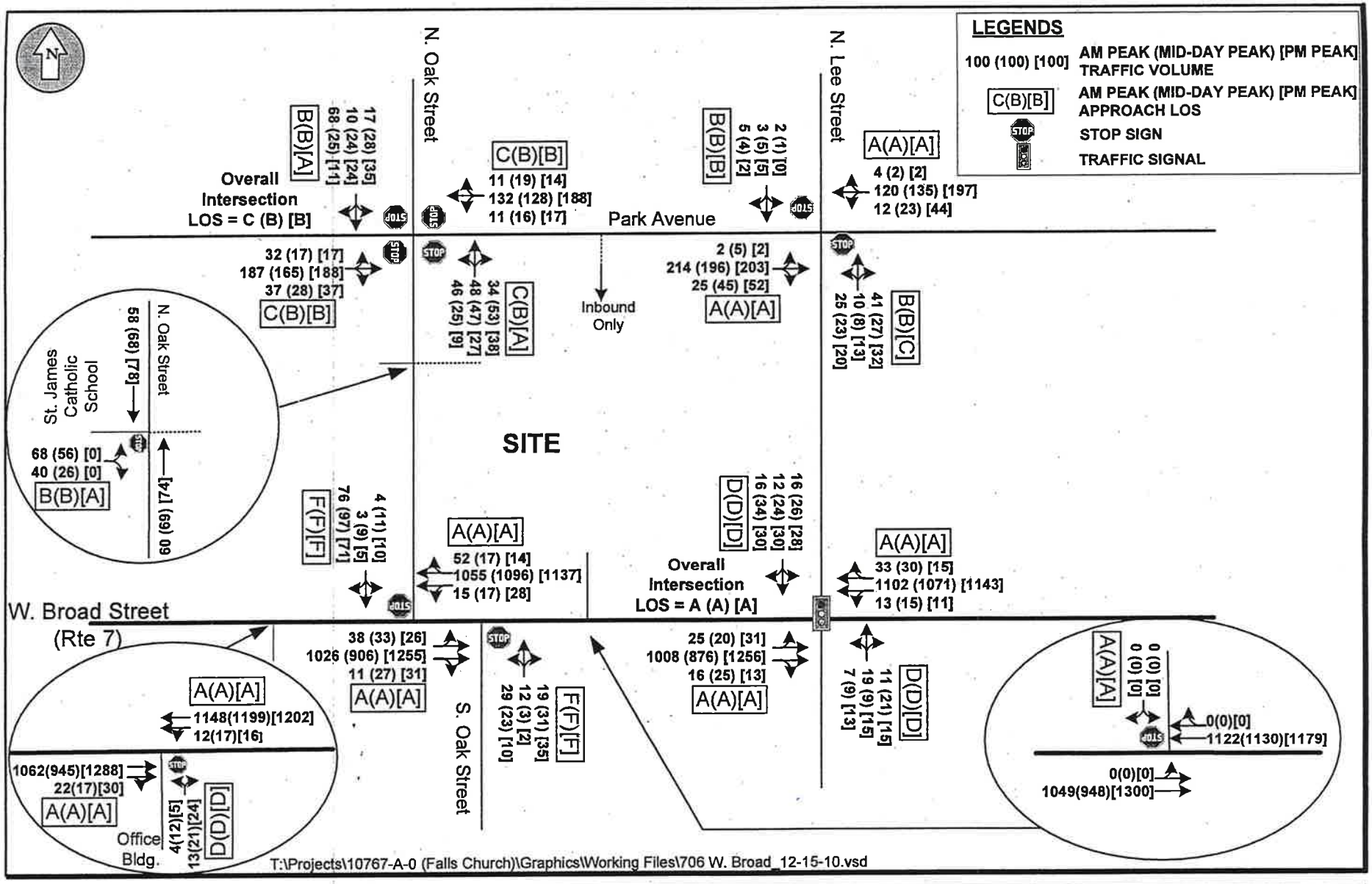
McLean, Virginia

Pedestrian Volume Survey

PROJECT: North West & West Broad
W + A JOB NO: 5897
INTERSECTION: W. Broad St. & Birch St.
LOCATION: Fairfax County,VA
DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Luz
INPUTED BY: agan



Time Period		Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes														
6:00 AM	- 6:15 AM	1							1					
6:15 AM	- 6:30 AM	1					4							
6:30 AM	- 6:45 AM	2	1				3	1						
6:45 AM	- 7:00 AM	1					3							
7:00 AM	- 7:15 AM	2	4			5	1	5						
7:15 AM	- 7:30 AM		1			3	3							
7:30 AM	- 7:45 AM		2			3	5	1	2					
7:45 AM	- 8:00 AM					3	5	4	1					
8:00 AM	- 8:15 AM	1		1		2	6	2	1					
8:15 AM	- 8:30 AM		1		2	2	4	3	4					
8:30 AM	- 8:45 AM					1	1	4						
8:45 AM	- 9:00 AM	1	1		3	2	2	3	3					
2:30 PM	- 2:45 PM	2				3	4	2						
2:45 PM	- 3:00 PM	1				3	3	1	1					
3:00 PM	- 3:15 PM	1				4	4		6					
3:15 PM	- 3:30 PM	2				5	3	2	1					
3:30 PM	- 3:45 PM	1				3	3	1	2					
3:45 PM	- 4:00 PM	1				3	2	4						
4:00 PM	- 4:15 PM		1	1	2	2	4	1	1					
4:15 PM	- 4:30 PM	1				1	2	1	4					
4:30 PM	- 4:45 PM					3	1	1						
4:45 PM	- 5:00 PM	1				5								
5:00 PM	- 5:15 PM	1				2	1	2						
5:15 PM	- 5:30 PM		1			1		1						
5:30 PM	- 5:45 PM	1				2	1	1	1					
5:45 PM	- 6:00 PM	1				1	1	3	1					
6:00 PM	- 6:15 PM	1	1			3			1					
6:15 PM	- 6:30 PM	1	1			4	1	1						
6:30 PM	- 6:45 PM	1				1	1	1						
6:45 PM	- 7:00 PM					1	2		2					
Total		25	14	2	7	68	70	45	32					
One Hour Volumes														
6:00 AM	- 7:00 AM	5	1				10	1	1	6		10	2	18
6:15 AM	- 7:15 AM	6	5			5	11	6		11		16	6	33
6:30 AM	- 7:30 AM	5	6			8	10	6		11		18	6	35
6:45 AM	- 7:45 AM	3	7			11	12	6	2	10		23	8	41
7:00 AM	- 8:00 AM	2	7			14	14	10	3	9		28	13	50
7:15 AM	- 8:15 AM	1	3	1		11	19	7	4	4	1	30	11	46
7:30 AM	- 8:30 AM	1	3	1	2	10	20	10	8	4	3	30	18	55
7:45 AM	- 8:45 AM	1	1	1	2	8	16	13	6	2	3	24	19	48
8:00 AM	- 9:00 AM	2	2	1	5	7	13	12	8	4	6	20	20	50
2:30 PM	- 3:30 PM	6				15	14	5	8	6		29	13	48
2:45 PM	- 3:45 PM	5				15	13	4	10	5		28	14	47
3:00 PM	- 4:00 PM	5				15	12	7	9	5		27	16	48
3:15 PM	- 4:15 PM	4	1	1	2	13	12	8	4	5	3	25	12	45
3:30 PM	- 4:30 PM	3	1	1	2	9	11	7	7	4	3	20	14	41
3:45 PM	- 4:45 PM	2	1	1	2	9	9	7	5	3	3	18	12	36
4:00 PM	- 5:00 PM	2	1	1	2	11	7	3	5	3	3	18	8	32
4:15 PM	- 5:15 PM	3				11	4	4	4	3		15	8	26
4:30 PM	- 5:30 PM	2	1			11	2	4		3		13	4	20
4:45 PM	- 5:45 PM	3	1			10	2	4	1	4		12	5	21
5:00 PM	- 6:00 PM	3	1			6	3	7	2	4		9	9	22
5:15 PM	- 6:15 PM	3	2			7	2	5	3	5		9	8	22
5:30 PM	- 6:30 PM	4	2			10	3	5	3	6		13	8	27
5:45 PM	- 6:45 PM	4	2			9	3	5	2	6		12	7	25
6:00 PM	- 7:00 PM	3	2			9	4	2	3	5		13	5	23
	-													



PHR+A

706 W. Broad Street
Traffic Impact Study

Existing Traffic Conditions (2010)

Figure 3
Revised December 2010
10767-A-0

Patton Harris Rust & Associates
14532 Lee Road
Chantilly, VA 20151
Engineers, Surveyors, Planners, Landscape Architects

Park Avenue & N Oak Street
Location: City of Falls Church, VA
Time: Weekday AM Peak
Analyst: PHR+A

File Name : Park Avenue & N Oak Street_AM
Site Code : 1076780
Start Date : 11/30/2010
Page No : 1

Groups Printed- Cars - Bus - Trucks

	N Oak Street Southbound					Park Avenue Westbound					N Oak Street Northbound					Park Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:30 AM	2	0	2	0	4	0	8	0	0	8	1	0	1	0	2	1	15	0	0	16	30
06:45 AM	1	3	5	0	9	1	15	1	0	17	3	2	1	0	6	0	10	1	0	11	43
Total	3	3	7	0	13	1	23	1	0	25	4	2	2	0	8	1	25	1	0	27	73
07:00 AM	3	2	5	0	10	2	12	0	0	14	1	4	2	0	7	3	20	4	0	27	58
07:15 AM	3	1	8	0	12	3	11	3	0	17	4	8	7	0	19	7	22	2	0	31	79
07:30 AM	2	2	16	0	20	2	28	0	1	31	11	14	11	0	36	6	42	4	0	52	139
07:45 AM	2	4	43	0	49	3	51	2	3	59	31	23	19	0	73	21	57	20	0	98	279
Total	10	9	72	0	91	10	102	5	4	121	47	49	39	0	135	37	141	30	0	208	555
08:00 AM	7	2	3	1	13	1	22	9	2	34	2	7	2	0	11	2	43	8	5	58	116
08:15 AM	6	2	6	0	14	5	31	0	2	38	2	4	2	0	8	3	20	5	0	28	88
08:30 AM	5	4	5	0	14	3	25	0	0	28	1	9	8	0	18	2	29	5	0	36	96
08:45 AM	4	5	1	0	10	3	24	6	2	35	0	3	5	1	9	2	35	9	5	51	105
Total	22	13	15	1	51	12	102	15	6	135	5	23	17	1	46	9	127	27	10	173	405
Grand Total	35	25	94	1	155	23	227	21	10	281	56	74	58	1	189	47	293	58	10	408	1033
Apprch %	22.6	16.1	60.6	0.6		8.2	80.8	7.5	3.6		29.6	39.2	30.7	0.5		11.5	71.8	14.2	2.5		
Total %	3.4	2.4	9.1	0.1	15	2.2	22	2	1	27.2	5.4	7.2	5.6	0.1	18.3	4.5	28.4	5.6	1	39.5	
Cars	34	25	94	1	154	23	224	20	10	277	56	74	57	1	188	47	293	58	10	408	1027
% Cars	97.1	100	100	100	99.4	100	98.7	95.2	100	98.6	100	100	98.3	100	99.5	100	100	100	100	100	99.4
Bus	1	0	0	0	1	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	5
% Bus	2.9	0	0	0	0.6	0	1.3	4.8	0	1.4	0	0	0	0	0	0	0	0	0	0	0.5
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1.7	0	0.5	0	0	0	0	0	0.1

Patton Harris Rust & Associates
14532 Lee Road
Chantilly, VA 20151
Engineers, Surveyors, Planners, Landscape Architects

Park Avenue & N Oak Street
Location: City of Falls Church, VA
Time: Weekday AM Peak
Analyst: PHR+A

File Name : Park Avenue & N Oak Street_AM
Site Code : 1076780
Start Date : 11/30/2010
Page No : 2

	N Oak Street Southbound					Park Avenue Westbound					N Oak Street Northbound					Park Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	2	2	16	0	20	2	28	0	1	31	11	14	11	0	36	6	42	4	0	52	139
07:45 AM	2	4	43	0	49	3	51	2	3	59	31	23	19	0	73	21	57	20	0	98	279
08:00 AM	7	2	3	1	13	1	22	9	2	34	2	7	2	0	11	2	43	8	5	58	116
08:15 AM	6	2	6	0	14	5	31	0	2	38	2	4	2	0	8	3	20	5	0	28	88
Total Volume	17	10	68	1	96	11	132	11	8	162	46	48	34	0	128	32	162	37	5	236	622
% App. Total	17.7	10.4	70.8	1		6.8	81.5	6.8	4.9		35.9	37.5	26.6	0		13.6	68.6	15.7	2.1		
PHF	.607	.625	.395	.250	.490	.550	.647	.306	.667	.686	.371	.522	.447	.000	.438	.381	.711	.463	.250	.602	.557
Cars	16	10	68	1	95	11	129	10	8	158	46	48	34	0	128	32	162	37	5	236	617
% Cars	94.1	100	100	100	99.0	100	97.7	90.9	100	97.5	100	100	100	0	100	100	100	100	100	100	99.2
Bus	1	0	0	0	1	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	5
% Bus	5.9	0	0	0	1.0	0	2.3	9.1	0	2.5	0	0	0	0	0	0	0	0	0	0	0.8
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Park Avenue & N Oak Street
Location: City of Falls Church, VA
Time: Weekday 2.00-4.00 PM
Analyst: PHR+A

File Name : Park Avenue & N Oak Street_Mid-day
Site Code : 1076780
Start Date : 11/30/2010
Page No : 1

Groups Printed- Cars - Bus - Trucks

	N Oak Street Southbound					Park Avenue Westbound					N Oak Street Northbound					Park Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
02:00 PM	3	6	0	0	9	5	28	2	0	35	4	3	9	1	17	1	24	5	0	30	91
02:15 PM	3	1	3	0	7	7	22	3	0	32	1	8	1	0	10	2	22	3	0	27	76
02:30 PM	3	4	2	0	9	4	30	5	0	39	6	2	2	1	11	0	29	2	1	32	91
02:45 PM	7	5	8	4	24	4	44	7	3	58	6	6	5	0	17	4	24	7	0	35	134
Total	16	16	13	4	49	20	124	17	3	164	17	19	17	2	55	7	99	17	1	124	392
03:00 PM	7	7	12	2	28	4	36	4	2	46	16	25	35	30	106	7	62	9	13	91	271
03:15 PM	8	5	2	0	15	6	26	5	2	39	2	8	7	0	17	3	35	8	2	48	119
03:30 PM	6	7	3	0	16	2	22	3	0	27	1	8	6	4	19	3	44	4	2	53	115
03:45 PM	9	7	4	0	20	4	32	0	0	36	3	7	6	0	16	2	42	8	5	57	129
Total	30	26	21	2	79	16	116	12	4	148	22	48	54	34	158	15	183	29	22	249	634
Grand Total	46	42	34	6	128	36	240	29	7	312	39	67	71	36	213	22	282	46	23	373	1026
Apprch %	35.9	32.8	26.6	4.7		11.5	76.9	9.3	2.2		18.3	31.5	33.3	16.9		5.9	75.6	12.3	6.2		
Total %	4.5	4.1	3.3	0.6	12.5	3.5	23.4	2.8	0.7	30.4	3.8	6.5	6.9	3.5	20.8	2.1	27.5	4.5	2.2	36.4	
Cars	45	42	34	6	127	36	239	28	7	310	39	67	70	36	212	22	280	46	23	371	1020
% Cars	97.8	100	100	100	99.2	100	99.6	96.6	100	99.4	100	100	98.6	100	99.5	100	99.3	100	100	99.5	99.4
Bus	1	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	2	0	0	2	5
% Bus	2.2	0	0	0	0.8	0	0	3.4	0	0.3	0	0	1.4	0	0.5	0	0.7	0	0	0.5	0.5
Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	0	0	0	0	0	0.4	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0.1

	N Oak Street Southbound					Park Avenue Westbound					N Oak Street Northbound					Park Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:45 PM																					
02:45 PM	7	5	8	4	24	4	44	7	3	58	6	6	5	0	17	4	24	7	0	35	134
03:00 PM	7	7	12	2	28	4	36	4	2	46	16	25	35	30	106	7	62	9	13	91	271
03:15 PM	8	5	2	0	15	6	26	5	2	39	2	8	7	0	17	3	35	8	2	48	119
03:30 PM	6	7	3	0	16	2	22	3	0	27	1	8	6	4	19	3	44	4	2	53	115
Total Volume	28	24	25	6	83	16	128	19	7	170	25	47	53	34	159	17	165	28	17	227	639
% App. Total	33.7	28.9	30.1	7.2		9.4	75.3	11.2	4.1		15.7	29.6	33.3	21.4		7.5	72.7	12.3	7.5		
PHF	.875	.857	.521	.375	.741	.667	.727	.679	.583	.733	.391	.470	.379	.283	.375	.607	.665	.778	.327	.624	.589
Cars	28	24	25	6	83	16	128	18	7	169	25	47	52	34	158	17	165	28	17	227	637
% Cars	100	100	100	100	100	100	100	94.7	100	99.4	100	100	98.1	100	99.4	100	100	100	100	100	99.7
Bus	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	2
% Bus	0	0	0	0	0	0	0	5.3	0	0.6	0	0	1.9	0	0.6	0	0	0	0	0	0.3
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Patton Harris Rust & Associates
14532 Lee Road
Chantilly, VA 20151
Engineers, Surveyors, Planners, Landscape Architects

Park Avenue & N Oak Street
Location: City of Falls Church, VA
Time: Weekday PM Peak
Analyst: PHR+A

File Name : Park Avenue & N Oak Street_PM
Site Code : 1076780
Start Date : 12/1/2010
Page No : 1

Groups Printed- Cars - Bus - Trucks

	N Oak Street Southbound					Park Avenue Westbound					N Oak Street Northbound					Park Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	7	3	0	2	12	4	26	5	1	36	0	2	5	0	7	3	37	7	0	47	102
04:15 PM	7	6	2	0	15	9	24	1	3	37	3	2	5	1	11	4	51	3	1	59	122
04:30 PM	10	9	0	0	19	6	33	8	1	48	2	7	4	1	14	3	41	8	2	54	135
04:45 PM	10	6	2	0	18	3	31	6	1	41	3	6	11	0	20	3	37	9	4	53	132
Total	34	24	4	2	64	22	114	20	6	162	8	17	25	2	52	13	166	27	7	213	491
05:00 PM	7	2	4	1	14	4	49	5	4	62	2	8	10	0	20	3	48	5	0	56	152
05:15 PM	9	8	5	0	22	4	40	3	1	48	2	6	8	0	16	5	41	11	1	58	144
05:30 PM	9	8	0	0	17	6	53	0	1	60	2	7	9	0	18	6	62	12	1	81	176
05:45 PM	12	8	2	2	24	2	24	3	3	32	0	8	1	0	9	3	46	4	2	55	120
Total	37	26	11	3	77	16	166	11	9	202	6	29	28	0	63	17	197	32	4	250	592
06:00 PM	5	4	0	0	9	3	25	7	0	35	3	4	2	0	9	2	47	4	2	55	108
06:15 PM	9	11	1	0	21	6	26	5	1	38	0	0	1	1	2	1	38	4	1	44	105
Grand Total	85	65	16	5	171	47	331	43	16	437	17	50	56	3	126	33	448	67	14	562	1296
Apprch %	49.7	38	9.4	2.9		10.8	75.7	9.8	3.7		13.5	39.7	44.4	2.4		5.9	79.7	11.9	2.5		
Total %	6.6	5	1.2	0.4	13.2	3.6	25.5	3.3	1.2	33.7	1.3	3.9	4.3	0.2	9.7	2.5	34.6	5.2	1.1	43.4	
Cars	85	64	16	5	170	47	331	43	16	437	17	50	55	3	125	33	448	67	14	562	1294
% Cars	100	98.5	100	100	99.4	100	100	100	100	100	100	100	98.2	100	99.2	100	100	100	100	100	99.8
Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
% Trucks	0	1.5	0	0	0.6	0	0	0	0	0	0	0	1.8	0	0.8	0	0	0	0	0	0.2

	N Oak Street Southbound					Park Avenue Westbound					N Oak Street Northbound					Park Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	10	6	2	0	18	3	31	6	1	41	3	6	11	0	20	3	37	9	4	53	132
05:00 PM	7	2	4	1	14	4	49	5	4	62	2	8	10	0	20	3	48	5	0	56	152
05:15 PM	9	8	5	0	22	4	40	3	1	48	2	6	8	0	16	5	41	11	1	58	144
05:30 PM	9	8	0	0	17	6	53	0	1	60	2	7	9	0	18	6	62	12	1	81	176
Total Volume	35	24	11	1	71	17	173	14	7	211	9	27	38	0	74	17	188	37	6	248	604
% App. Total	49.3	33.8	15.5	1.4		8.1	82	6.6	3.3		12.2	36.5	51.4	0		6.9	75.8	14.9	2.4		
PHF	.875	.750	.550	.250	.807	.708	.816	.583	.438	.851	.750	.844	.864	.000	.925	.708	.758	.771	.375	.765	.858
Cars	35	24	11	1	71	17	173	14	7	211	9	27	38	0	74	17	188	37	6	248	604
% Cars	100	100	100	100	100	100	100	100	100	100	100	100	100	0	100	100	100	100	100	100	100
Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

14532 Lee Road
Chantilly, VA 20151
Engineers, Surveyors, Planners, Landscape Architects

W Broad Street & N/S Oak Street
Location: City of Falls Church, VA
Time: Weekday AM Peak
Analyst: PHR+A

File Name : Route 7 & N Oak Street_AM
Site Code : 1076780
Start Date : 11/30/2010
Page No : 1

Groups Printed- Cars - Bus - Trucks

	N Oak Street Southbound					W Broad Street (Route 7) Westbound					S Oak Street Northbound					W Broad Street (Route 7) Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:30 AM	0	0	0	0	0	0	108	0	2	110	2	0	1	1	4	3	151	0	0	154	268
06:45 AM	0	0	2	0	2	3	163	2	0	168	6	0	4	0	10	4	157	3	0	164	344
Total	0	0	2	0	2	3	271	2	2	278	8	0	5	1	14	7	308	3	0	318	612
07:00 AM	0	0	6	0	6	0	174	3	0	177	6	3	5	0	14	0	176	1	0	177	374
07:15 AM	1	0	4	0	5	4	181	5	1	191	6	3	8	1	18	7	216	3	2	228	442
07:30 AM	0	1	18	1	20	3	244	7	0	254	9	5	3	0	17	8	243	4	0	255	546
07:45 AM	3	1	39	0	43	0	255	35	1	291	13	4	7	0	24	20	241	2	1	264	622
Total	4	2	67	1	74	7	854	50	2	913	34	15	23	1	73	35	876	10	3	924	1984
08:00 AM	0	0	13	1	14	4	254	4	1	263	5	1	5	0	11	4	219	3	1	227	515
08:15 AM	1	1	6	0	8	8	262	6	1	277	2	2	4	0	8	6	253	2	1	262	555
08:30 AM	0	0	6	0	6	7	265	11	3	286	4	2	5	1	12	7	231	1	3	242	546
08:45 AM	2	1	10	0	13	6	285	3	1	295	2	2	4	0	8	6	232	11	1	250	566
Total	3	2	35	1	41	25	1066	24	6	1121	13	7	18	1	39	23	935	17	6	981	2182
Grand Total	7	4	104	2	117	35	2191	76	10	2312	55	22	46	3	126	65	2119	30	9	2223	4778
Apprch %	6	3.4	88.9	1.7		1.5	94.8	3.3	0.4		43.7	17.5	36.5	2.4		2.9	95.3	1.3	0.4		
Total %	0.1	0.1	2.2	0	2.4	0.7	45.9	1.6	0.2	48.4	1.2	0.5	1	0.1	2.6	1.4	44.3	0.6	0.2	46.5	
Cars	7	4	104	2	117	35	2154	76	10	2275	55	22	46	3	126	64	2085	27	9	2185	4703
% Cars	100	100	100	100	100	100	98.3	100	100	98.4	100	100	100	100	100	98.5	98.4	90	100	98.3	98.4
Bus	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	1	20	3	0	24	49
% Bus	0	0	0	0	0	0	1.1	0	0	1.1	0	0	0	0	0	1.5	0.9	10	0	1.1	1
Trucks	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	14	0	0	14	26
% Trucks	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0	0.7	0	0	0.6	0.5

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14532 Lee Road
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W Broad Street & N/S Oak Street
Location: City of Falls Church, VA
Time: Weekday AM Peak
Analyst: PHR+A

File Name : Route 7 & N Oak Street_AM
Site Code : 1076780
Start Date : 11/30/2010
Page No : 2

	N Oak Street Southbound					W Broad Street (Route 7) Westbound					S Oak Street Northbound					W Broad Street (Route 7) Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	1	18	1	20	3	244	7	0	254	9	5	3	0	17	8	243	4	0	255	546
07:45 AM	3	1	39	0	43	0	255	35	1	291	13	4	7	0	24	20	241	2	1	264	622
08:00 AM	0	0	13	1	14	4	254	4	1	263	5	1	5	0	11	4	219	3	1	227	515
08:15 AM	1	1	6	0	8	8	262	6	1	277	2	2	4	0	8	6	253	2	1	262	555
Total Volume	4	3	76	2	85	15	1015	52	3	1085	29	12	19	0	60	38	956	11	3	1008	2238
% App. Total	4.7	3.5	89.4	2.4		1.4	93.5	4.8	0.3		48.3	20	31.7	0		3.8	94.8	1.1	0.3		
PHF	.333	.750	.487	.500	.494	.469	.969	.371	.750	.932	.558	.600	.679	.000	.625	.475	.945	.688	.750	.955	.900
Cars	4	3	76	2	85	15	993	52	3	1063	29	12	19	0	60	38	939	10	3	990	2198
% Cars	100	100	100	100	100	100	97.8	100	100	98.0	100	100	100	0	100	100	98.2	90.9	100	98.2	98.2
Bus	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	10	1	0	11	24
% Bus	0	0	0	0	0	0	1.3	0	0	1.2	0	0	0	0	0	0	1.0	9.1	0	1.1	1.1
Trucks	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	7	0	0	7	16
% Trucks	0	0	0	0	0	0	0.9	0	0	0.8	0	0	0	0	0	0	0.7	0	0	0.7	0.7

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W Broad Street & N/S Oak Street
Location: City of Falls Church, VA
Time: Weekday 2.00 - 4.00 PM
Analyst: PHR+A

File Name : Route 7 & N Oak Street_Mid-day
Site Code : 1076780
Start Date : 11/30/2010
Page No : 1

Groups Printed- Cars - Bus - Trucks

	N Oak Street Southbound					W Broad Street (Route 7) Westbound					S Oak Street Northbound					W Broad Street (Route 7) Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
02:00 PM	2	0	9	2	13	2	176	4	1	183	5	1	6	0	12	6	180	3	1	190	398
02:15 PM	4	1	8	1	14	5	205	3	3	216	3	2	6	2	13	5	213	10	2	230	473
02:30 PM	1	1	8	0	10	3	202	16	1	222	7	3	7	0	17	4	214	11	0	229	478
02:45 PM	2	0	13	0	15	7	256	15	5	283	6	1	4	0	11	16	192	8	0	216	525
Total	9	2	38	3	52	17	839	38	10	904	21	7	23	2	53	31	799	32	3	865	1874
03:00 PM	0	5	56	0	61	5	257	4	4	270	5	1	11	0	17	6	208	7	3	224	572
03:15 PM	5	2	15	3	25	3	279	8	2	292	7	1	4	0	12	8	235	7	1	251	580
03:30 PM	4	0	13	1	18	6	288	3	3	300	3	1	6	0	10	13	225	7	8	253	581
03:45 PM	2	2	13	0	17	3	272	2	2	279	8	0	10	0	18	6	238	6	3	253	567
Total	11	9	97	4	121	17	1096	17	11	1141	23	3	31	0	57	33	906	27	15	981	2300
Grand Total	20	11	135	7	173	34	1935	55	21	2045	44	10	54	2	110	64	1705	59	18	1846	4174
Apprch %	11.6	6.4	78	4		1.7	94.6	2.7	1		40	9.1	49.1	1.8		3.5	92.4	3.2	1		
Total %	0.5	0.3	3.2	0.2	4.1	0.8	46.4	1.3	0.5	49	1.1	0.2	1.3	0	2.6	1.5	40.8	1.4	0.4	44.2	
Cars	20	11	135	7	173	34	1916	54	21	2025	44	10	53	2	109	64	1692	57	18	1831	4138
% Cars	100	100	100	100	100	100	99	98.2	100	99	100	100	98.1	100	99.1	100	99.2	96.6	100	99.2	99.1
Bus	0	0	0	0	0	0	8	1	0	9	0	0	1	0	1	0	8	2	0	10	20
% Bus	0	0	0	0	0	0	0.4	1.8	0	0.4	0	0	1.9	0	0.9	0	0.5	3.4	0	0.5	0.5
Trucks	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	5	0	0	5	16
% Trucks	0	0	0	0	0	0	0.6	0	0	0.5	0	0	0	0	0	0	0.3	0	0	0.3	0.4

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W Broad Street & N/S Oak Street
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Analyst: PHR+A

File Name : Route 7 & N Oak Street_Mid-day
Site Code : 1076780
Start Date : 11/30/2010
Page No : 2

	N Oak Street Southbound					W Broad Street (Route 7) Westbound					S Oak Street Northbound					W Broad Street (Route 7) Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	5	56	0	61	5	257	4	4	270	5	1	11	0	17	6	208	7	3	224	572
03:15 PM	5	2	15	3	25	3	279	8	2	292	7	1	4	0	12	8	235	7	1	251	580
03:30 PM	4	0	13	1	18	6	288	3	3	300	3	1	6	0	10	13	225	7	8	253	581
03:45 PM	2	2	13	0	17	3	272	2	2	279	8	0	10	0	18	6	238	6	3	253	567
Total Volume	11	9	97	4	121	17	1096	17	11	1141	23	3	31	0	57	33	906	27	15	981	2300
% App. Total	9.1	7.4	80.2	3.3		1.5	96.1	1.5	1		40.4	5.3	54.4	0		3.4	92.4	2.8	1.5		
PHF	.550	.450	.433	.333	.496	.708	.951	.531	.688	.951	.719	.750	.705	.000	.792	.635	.952	.964	.469	.969	.990
Cars	11	9	97	4	121	17	1086	16	11	1130	23	3	30	0	56	33	897	25	15	970	2277
% Cars	100	100	100	100	100	100	99.1	94.1	100	99.0	100	100	96.8	0	98.2	100	99.0	92.6	100	98.9	99.0
Bus	0	0	0	0	0	0	2	1	0	3	0	0	1	0	1	0	6	2	0	8	12
% Bus	0	0	0	0	0	0	0.2	5.9	0	0.3	0	0	3.2	0	1.8	0	0.7	7.4	0	0.8	0.5
Trucks	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	3	0	0	3	11
% Trucks	0	0	0	0	0	0	0.7	0	0	0.7	0	0	0	0	0	0	0.3	0	0	0.3	0.5

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W Broad Street & N/S Oak Street
Location: City of Falls Church, VA
Time: Weekday PM Peak
Analyst: PHR+A

File Name : Route 7 & N Oak Street_PM
Site Code : 1076780
Start Date : 12/1/2010
Page No : 1

Groups Printed- Cars - Bus - Trucks

	N Oak Street Southbound					W Broad Street (Route 7) Westbound					S Oak Street Northbound					W Broad Street (Route 7) Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	2	1	15	0	18	10	208	2	1	221	4	0	4	0	8	5	221	8	2	236	483
04:15 PM	2	0	17	0	19	9	230	2	2	243	4	0	0	0	4	5	209	10	3	227	493
04:30 PM	4	0	20	0	24	6	257	2	3	268	3	0	7	0	10	5	237	11	8	261	563
04:45 PM	2	2	14	0	18	12	213	2	1	228	4	0	7	0	11	4	246	11	3	264	521
Total	10	3	66	0	79	37	908	8	7	960	15	0	18	0	33	19	913	40	16	988	2060
05:00 PM	2	1	18	0	21	5	245	5	6	261	0	1	7	0	8	7	284	6	4	301	591
05:15 PM	3	0	12	0	15	6	265	2	2	275	5	0	13	0	18	8	273	7	6	294	602
05:30 PM	2	2	24	0	28	9	218	3	1	231	1	1	7	0	9	4	291	6	4	305	573
05:45 PM	3	2	17	0	22	8	239	4	7	258	4	0	8	0	12	7	287	12	1	307	599
Total	10	5	71	0	86	28	967	14	16	1025	10	2	35	0	47	26	1135	31	15	1207	2365
06:00 PM	0	0	19	0	19	6	232	1	2	241	1	2	7	1	11	2	297	5	1	305	576
06:15 PM	1	1	12	1	15	4	196	1	3	204	3	1	3	0	7	4	269	7	3	283	509
Grand Total	21	9	168	1	199	75	2303	24	28	2430	29	5	63	1	98	51	2614	83	35	2783	5510
Apprch %	10.6	4.5	84.4	0.5		3.1	94.8	1	1.2		29.6	5.1	64.3	1		1.8	93.9	3	1.3		
Total %	0.4	0.2	3	0	3.6	1.4	41.8	0.4	0.5	44.1	0.5	0.1	1.1	0	1.8	0.9	47.4	1.5	0.6	50.5	
Cars	21	9	168	1	199	75	2288	24	28	2415	29	5	63	1	98	51	2590	83	35	2759	5471
% Cars	100	100	100	100	100	100	99.3	100	100	99.4	100	100	100	100	100	100	99.1	100	100	99.1	99.3
Bus	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	18	0	0	18	27
% Bus	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0	0.7	0	0	0.6	0.5
Trucks	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	12
% Trucks	0	0	0	0	0	0	0.3	0	0	0.2	0	0	0	0	0	0	0.2	0	0	0.2	0.2

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Analyst: PHR+A

File Name : Route 7 & N Oak Street_PM
Site Code : 1076780
Start Date : 12/1/2010

	N Oak Street Southbound					W Broad Street (Route 7) Westbound					S Oak Street Northbound					W Broad Street (Route 7) Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	2	1	18	0	21	5	245	5	6	261	0	1	7	0	8	7	284	6	4	301	591
05:15 PM	3	0	12	0	15	6	265	2	2	275	5	0	13	0	18	8	273	7	6	294	602
05:30 PM	2	2	24	0	28	9	218	3	1	231	1	1	7	0	9	4	291	6	4	305	573
05:45 PM	3	2	17	0	22	8	239	4	7	258	4	0	8	0	12	7	287	12	1	307	599
Total Volume	10	5	71	0	86	28	967	14	16	1025	10	2	35	0	47	26	1135	31	15	1207	2365
% App. Total	11.6	5.8	82.6	0		2.7	94.3	1.4	1.6		21.3	4.3	74.5	0		2.2	94	2.6	1.2		
PHF	.833	.625	.740	.000	.768	.778	.912	.700	.571	.932	.500	.500	.673	.000	.653	.813	.975	.646	.625	.983	.982
Cars	10	5	71	0	86	28	960	14	16	1018	10	2	35	0	47	26	1126	31	15	1198	2349
% Cars	100	100	100	0	100	100	99.3	100	100	99.3	100	100	100	0	100	100	99.2	100	100	99.3	99.3
Bus	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	10
% Bus	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0	0.5	0	0	0.5	0.4
Trucks	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
% Trucks	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0	0.3	0	0	0.2	0.3

Appendix D

Existing Conditions Synchro Analysis

Queues
1: Route 7 & N West St.

4/15/2015

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	253	1044	36	1049	254	345	155	160
v/c Ratio	0.99	0.65	0.15	0.75	0.72	0.93	0.52	0.33
Control Delay	70.3	23.1	20.1	40.2	57.0	79.6	50.5	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.3	23.1	20.1	40.2	57.0	79.6	50.5	15.2
Queue Length 50th (ft)	~135	358	15	0	184	261	105	35
Queue Length 95th (ft)	#300	454	m27	527	260	#400	161	80
Internal Link Dist (ft)		1468		871		431	199	
Turn Bay Length (ft)	175		165		250			
Base Capacity (vph)	255	1605	291	1403	356	372	370	484
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.65	0.12	0.75	0.71	0.93	0.42	0.33

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	233	906	54	33	906	48	216	260	33	37	94	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	5.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1711	3238		1710	3237		1711	1767			1775	1531
Flt Permitted	0.12	1.00		0.17	1.00		0.95	1.00			0.99	1.00
Satd. Flow (perm)	214	3238		309	3237		1711	1767			1775	1531
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	253	985	59	36	996	53	254	306	39	44	111	160
RTOR Reduction (vph)	0	3	0	0	3	0	0	4	0	0	0	71
Lane Group Flow (vph)	253	1041	0	36	1046	0	254	341	0	0	155	89
Confl. Peds. (#/hr)	8		2	2		8	7		2	2		7
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt			pm+pt			Split			Split		pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases	2			6								
Actuated Green, G (s)	62.9	54.5		52.8	48.9		22.8	22.8			18.3	32.8
Effective Green, g (s)	64.4	57.5		55.8	51.9		24.8	24.8			20.3	32.8
Actuated g/C Ratio	0.54	0.48		0.46	0.43		0.21	0.21			0.17	0.27
Clearance Time (s)	4.5	6.0		4.5	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	252	1552		207	1400		354	365			300	418
v/s Ratio Prot	c0.09	0.32		0.01	0.32		0.15	c0.19			c0.09	0.06
v/s Ratio Perm	c0.45			0.07								
v/c Ratio	1.00	0.67		0.17	0.75		0.72	0.93			0.52	0.21
Uniform Delay, d1	27.0	24.0		19.1	28.6		44.3	46.8			45.4	33.6
Progression Factor	0.72	0.85		1.29	1.23		1.00	1.00			1.00	1.00
Incremental Delay, d2	53.2	2.0		0.1	3.1		5.7	30.3			0.6	0.1
Delay (s)	72.7	22.4		24.8	38.4		50.0	77.1			46.0	33.7
Level of Service	E	C		C	D		D	E			D	C
Approach Delay (s)		32.2			37.9			65.6			39.8	
Approach LOS		C			D			E			D	

Intersection Summary			
HCM Average Control Delay	40.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	62	22	9	485	246	55
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.89	0.89	0.88	0.88
Hourly flow rate (vph)	73	26	10	545	280	62
Pedestrians				1		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				4.0		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				279	784	
pX, platoon unblocked	0.75					
vC, conflicting volume	876	172	342			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	665	172	342			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	75	97	99			
cM capacity (veh/h)	291	841	1214			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	99	555	186	156
Volume Left	73	10	0	0
Volume Right	26	0	0	62
cSH	352	1214	1700	1700
Volume to Capacity	0.28	0.01	0.11	0.09
Queue Length 95th (ft)	28	1	0	0
Control Delay (s)	19.2	0.2	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	19.2	0.2	0.0	
Approach LOS	C			

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	172	33	450	126	27	158
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.90	0.90	0.85	0.85
Hourly flow rate (vph)	202	39	500	140	32	186
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			580			483
pX, platoon unblocked	0.80	0.80			0.80	
vC, conflicting volume	821	572			642	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	650	338			426	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	39	93			96	
cM capacity (veh/h)	334	561			904	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	241	640	218
Volume Left	202	0	32
Volume Right	39	140	0
cSH	357	1700	904
Volume to Capacity	0.68	0.38	0.04
Queue Length 95th (ft)	118	0	3
Control Delay (s)	33.7	0.0	1.6
Lane LOS	D		A
Approach Delay (s)	33.7	0.0	1.6
Approach LOS	D		

Intersection Summary			
Average Delay	7.7		
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBT
Lane Group Flow (vph)	1105	1228	120
v/c Ratio	0.53	0.55	0.27
Control Delay	15.3	6.8	16.5
Queue Delay	0.0	0.0	0.0
Total Delay	15.3	6.8	16.5
Queue Length 50th (ft)	419	77	32
Queue Length 95th (ft)	m508	174	56
Internal Link Dist (ft)	871	625	201
Turn Bay Length (ft)			
Base Capacity (vph)	2099	2227	638
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.53	0.55	0.19

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	949	22	14	985	45	15	68	19	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	12	15	12	12	12	12
Total Lost time (s)		3.0			3.0			3.0				
Lane Util. Factor		0.95			0.95			1.00				
Frpb, ped/bikes		1.00			1.00			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.99			0.98				
Flt Protected		1.00			1.00			0.99				
Satd. Flow (prot)		3252			3243			1970				
Flt Permitted		0.88			0.94			0.99				
Satd. Flow (perm)		2868			3038			1970				
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.85	0.85	0.85	0.92	0.92	0.92
Adj. Flow (vph)	38	1043	24	16	1159	53	18	80	22	0	0	0
RTOR Reduction (vph)	0	2	0	0	4	0	0	16	0	0	0	0
Lane Group Flow (vph)	0	1103	0	0	1224	0	0	104	0	0	0	0
Confl. Peds. (#/hr)	10		13	13		10	15		9	9		15
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	4	0	0	0	0	0	0
Turn Type	Perm			Perm			Perm					
Protected Phases		2			2			4				
Permitted Phases	2			2			4					
Actuated Green, G (s)		39.1			39.1			8.9				
Effective Green, g (s)		42.1			42.1			11.9				
Actuated g/C Ratio		0.70			0.70			0.20				
Clearance Time (s)		6.0			6.0			6.0				
Vehicle Extension (s)		1.5			1.5			2.0				
Lane Grp Cap (vph)		2012			2132			391				
v/s Ratio Prot												
v/s Ratio Perm		0.38			c0.40			0.05				
v/c Ratio		0.55			0.57			0.27				
Uniform Delay, d1		4.3			4.5			20.4				
Progression Factor		2.76			1.00			1.00				
Incremental Delay, d2		0.8			1.1			0.1				
Delay (s)		12.8			5.6			20.5				
Level of Service		B			A			C				
Approach Delay (s)		12.8			5.6			20.5			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	9.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	128	0	0	191	30	19	43	95	20	0	18
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	16	151	0	0	225	35	22	51	112	24	0	21

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	167	260	185	45
Volume Left (vph)	16	0	22	24
Volume Right (vph)	0	35	112	21
Hadj (s)	0.05	-0.05	-0.30	-0.14
Departure Headway (s)	4.8	4.6	4.7	5.1
Degree Utilization, x	0.22	0.34	0.24	0.06
Capacity (veh/h)	692	735	707	632
Control Delay (s)	9.3	10.0	9.2	8.4
Approach Delay (s)	9.3	10.0	9.2	8.4
Approach LOS	A	A	A	A

Intersection Summary			
Delay	9.4		
HCM Level of Service	A		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	14	65	314	211	159
v/c Ratio	0.09	0.31	0.20	0.16	0.11
Control Delay	29.6	39.4	3.7	1.1	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	39.4	3.7	1.1	3.5
Queue Length 50th (ft)	4	34	31	0	14
Queue Length 95th (ft)	21	68	115	23	59
Internal Link Dist (ft)	413	1025	252		266
Turn Bay Length (ft)				150	
Base Capacity (vph)	361	533	1536	1283	1491
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.12	0.20	0.16	0.11

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	5	7	44	4	7	1	288	194	11	134	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0	3.0		3.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frpb, ped/bikes		0.96			1.00			1.00	0.97		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.92			0.98			1.00	0.85		1.00	
Flt Protected		1.00			0.96			1.00	1.00		1.00	
Satd. Flow (prot)		1657			1761			1862	1530		1853	
Flt Permitted		1.00			0.96			1.00	1.00		0.97	
Satd. Flow (perm)		1657			1761			1862	1530		1810	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	6	8	52	5	8	1	313	211	12	146	1
RTOR Reduction (vph)	0	8	0	0	6	0	0	0	51	0	0	0
Lane Group Flow (vph)	0	6	0	0	59	0	0	314	160	0	159	0
Confl. Peds. (#/hr)			4	4			12		21	21		12
Turn Type	Split			Split			Perm		Perm	Perm		
Protected Phases	1	1		3	3			2			2	
Permitted Phases							2		2	2		
Actuated Green, G (s)		1.5			7.7			72.8	72.8		72.8	
Effective Green, g (s)		4.5			10.7			75.8	75.8		75.8	
Actuated g/C Ratio		0.04			0.11			0.76	0.76		0.76	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		75			188			1411	1160		1372	
v/s Ratio Prot		c0.00			c0.03							
v/s Ratio Perm								0.17	0.10		0.09	
v/c Ratio		0.08			0.31			0.22	0.14		0.12	
Uniform Delay, d1		45.8			41.3			3.5	3.3		3.2	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.5			1.0			0.4	0.2		0.2	
Delay (s)		46.3			42.2			3.9	3.5		3.4	
Level of Service		D			D			A	A		A	
Approach Delay (s)		46.3			42.2			3.7			3.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	64	0	0	84	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	70	0	0	91	0
Pedestrians								25			31	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								2			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	192	161	116	186	161	101	91			70		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	192	161	116	186	161	101	91			70		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	748	731	916	759	731	930	1504			1531		

Direction, Lane #	NB 1	SB 1
Volume Total	70	91
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.04	0.05
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	7.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	483	0	0	185	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	525	0	0	201	0
Pedestrians								27			32	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								2			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								731			332	
pX, platoon unblocked	0.99	0.99		0.99	0.99	0.99				0.99		
vC, conflicting volume	758	726	228	753	726	557	201			525		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	747	714	228	742	714	543	201			510		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	316	351	793	319	351	518	1371			1039		

Direction, Lane #	NB 1	SB 1
Volume Total	525	201
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.31	0.12
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	28.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	88	1487	1481	111
v/c Ratio	0.30	0.56	0.63	0.40
Control Delay	6.1	6.2	9.8	38.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.1	6.2	9.8	38.9
Queue Length 50th (ft)	15	235	487	59
Queue Length 95th (ft)	27	256	506	109
Internal Link Dist (ft)		310	1468	305
Turn Bay Length (ft)	300			
Base Capacity (vph)	333	2665	2338	369
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.56	0.63	0.30

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	75	1264	1201	58	61	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.99		0.95	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1770	3347	3353		1689	
Flt Permitted	0.12	1.00	1.00		0.97	
Satd. Flow (perm)	224	3347	3353		1689	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.87	0.87
Adj. Flow (vph)	88	1487	1413	68	70	41
RTOR Reduction (vph)	0	0	2	0	19	0
Lane Group Flow (vph)	88	1487	1479	0	92	0
Confl. Peds. (#/hr)	4			4	3	18
Heavy Vehicles (%)	2%	7%	7%	2%	2%	2%
Bus Blockages (#/hr)	0	4	0	0	0	0
Turn Type	pm+pt					
Protected Phases	5	2	6		4	
Permitted Phases	2					
Actuated Green, G (s)	92.6	92.6	80.6		15.4	
Effective Green, g (s)	95.6	95.6	83.6		18.4	
Actuated g/C Ratio	0.80	0.80	0.70		0.15	
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	294	2666	2336		259	
v/s Ratio Prot	0.02	c0.44	c0.44		c0.05	
v/s Ratio Perm	0.22					
v/c Ratio	0.30	0.56	0.63		0.36	
Uniform Delay, d1	7.0	4.5	9.9		45.5	
Progression Factor	1.00	1.00	0.78		1.00	
Incremental Delay, d2	0.2	0.8	1.0		0.3	
Delay (s)	7.2	5.3	8.7		45.8	
Level of Service	A	A	A		D	
Approach Delay (s)		5.4	8.7		45.8	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	8.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	38	1026	11	15	1055	63	29	14	19	4	3	76
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.85	0.85	0.92	0.92	0.92	0.85	0.92	0.85
Hourly flow rate (vph)	42	1127	12	16	1241	74	32	15	21	5	3	89
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		705										
pX, platoon unblocked				0.90			0.90	0.90	0.90	0.90	0.90	
vC, conflicting volume	1315			1139			1961	2565	570	1986	2534	658
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1315			937			1848	2517	305	1876	2483	658
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			98			0	32	97	71	86	78
cM capacity (veh/h)	522			656			27	22	623	16	24	407

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	605	576	637	695	67	97
Volume Left	42	0	16	0	32	5
Volume Right	0	12	0	74	21	89
cSH	522	1700	656	1700	36	150
Volume to Capacity	0.08	0.34	0.02	0.41	1.89	0.65
Queue Length 95th (ft)	6	0	2	0	185	90
Control Delay (s)	2.3	0.0	0.7	0.0	662.0	65.4
Lane LOS	A		A		F	F
Approach Delay (s)	1.2		0.3		662.0	65.4
Approach LOS					F	F

Intersection Summary			
Average Delay	19.7		
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	32	187	49	13	132	11	46	48	34	17	13	68
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	38	220	58	15	155	13	54	56	40	20	15	80

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	315	184	151	115
Volume Left (vph)	38	15	54	20
Volume Right (vph)	58	13	40	80
Hadj (s)	-0.05	0.01	-0.05	-0.35
Departure Headway (s)	4.8	5.0	5.3	5.0
Degree Utilization, x	0.42	0.26	0.22	0.16
Capacity (veh/h)	706	662	609	632
Control Delay (s)	11.3	9.8	9.7	9.0
Approach Delay (s)	11.3	9.8	9.7	9.0
Approach LOS	B	A	A	A

Intersection Summary			
Delay	10.3		
HCM Level of Service	B		
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 5: Park Ave. & N Spring St.

Movement	EB	WB	NB	SB
Directions Served	LT	TR	LTR	LR
Maximum Queue (ft)	99	91	75	55
Average Queue (ft)	41	45	46	25
95th Queue (ft)	71	72	69	46
Link Distance (ft)	113	530	202	303
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Park Ave. & N Oak St.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	125	82	75	67
Average Queue (ft)	52	41	41	33
95th Queue (ft)	88	63	65	54
Link Distance (ft)	530	228	203	262
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	248	1218	96	996	160	244	422	239
v/c Ratio	0.90	0.82	0.48	0.70	0.54	0.78	1.18	0.50
Control Delay	61.6	30.9	29.5	30.5	55.0	66.0	150.8	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	30.9	29.5	30.5	55.0	66.0	150.8	11.9
Queue Length 50th (ft)	0	482	40	283	121	185	~425	16
Queue Length 95th (ft)	#287	#638	86	307	192	278	#632	94
Internal Link Dist (ft)		1468		871		431	199	
Turn Bay Length (ft)	175		165		250			
Base Capacity (vph)	277	1491	231	1427	342	355	358	475
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.82	0.42	0.70	0.47	0.69	1.18	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	228	1027	94	82	831	15	147	168	56	48	340	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1711	3233		1711	3255		1711	1726			1790	1510
Flt Permitted	0.14	1.00		0.09	1.00		0.95	1.00			0.99	1.00
Satd. Flow (perm)	253	3233		168	3255		1711	1726			1790	1510
Peak-hour factor, PHF	0.92	0.92	0.92	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	248	1116	102	96	978	18	160	183	61	52	370	239
RTOR Reduction (vph)	0	5	0	0	1	0	0	10	0	0	0	173
Lane Group Flow (vph)	248	1213	0	96	995	0	160	234	0	0	422	66
Confl. Peds. (#/hr)							1		2	2		1
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt			pm+pt			Split			Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	67.6	56.8		62.0	54.0		20.7	20.7			24.0	24.0
Effective Green, g (s)	70.6	59.8		65.0	57.0		22.7	22.7			26.0	26.0
Actuated g/C Ratio	0.54	0.46		0.50	0.44		0.17	0.17			0.20	0.20
Clearance Time (s)	4.5	6.0		4.5	6.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	275	1487		197	1427		299	301			358	302
v/s Ratio Prot	c0.09	0.38		0.04	0.31		0.09	c0.14			c0.24	
v/s Ratio Perm	c0.40			0.21								0.04
v/c Ratio	0.90	0.82		0.49	0.70		0.54	0.78			1.18	0.22
Uniform Delay, d1	22.4	30.3		22.7	29.5		48.8	51.2			52.0	43.5
Progression Factor	1.73	0.84		1.44	0.92		1.00	1.00			1.00	1.00
Incremental Delay, d2	26.0	4.3		0.6	2.5		0.9	10.9			105.7	0.1
Delay (s)	64.8	29.6		33.2	29.5		49.8	62.2			157.7	43.6
Level of Service	E	C		C	C		D	E			F	D
Approach Delay (s)		35.6			29.8			57.3			116.4	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM Average Control Delay	51.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	83	22	33	365	570	51
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.89	0.89
Hourly flow rate (vph)	90	24	36	397	640	57
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				279	784	
pX, platoon unblocked	0.81					
vC, conflicting volume	1141	349	698			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1056	349	698			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	47	96	96			
cM capacity (veh/h)	171	647	894			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	114	433	427	271
Volume Left	90	36	0	0
Volume Right	24	0	0	57
cSH	202	894	1700	1700
Volume to Capacity	0.56	0.04	0.25	0.16
Queue Length 95th (ft)	76	3	0	0
Control Delay (s)	43.7	1.2	0.0	0.0
Lane LOS	E	A		
Approach Delay (s)	43.7	1.2	0.0	
Approach LOS	E			

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	159	29	349	121	41	474
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	187	34	379	132	45	515
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			580			483
pX, platoon unblocked	0.89	0.90			0.90	
vC, conflicting volume	1052	448			514	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	740	329			402	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	43	95			96	
cM capacity (veh/h)	326	638			1036	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	221	511	560
Volume Left	187	0	45
Volume Right	34	132	0
cSH	353	1700	1036
Volume to Capacity	0.63	0.30	0.04
Queue Length 95th (ft)	101	0	3
Control Delay (s)	30.9	0.0	1.2
Lane LOS	D		A
Approach Delay (s)	30.9	0.0	1.2
Approach LOS	D		

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBT
Lane Group Flow (vph)	1301	1232	48
v/c Ratio	0.52	0.52	0.21
Control Delay	2.1	4.0	30.9
Queue Delay	0.0	0.0	0.0
Total Delay	2.1	4.0	30.9
Queue Length 50th (ft)	23	147	17
Queue Length 95th (ft)	m27	180	51
Internal Link Dist (ft)	871	625	201
Turn Bay Length (ft)			
Base Capacity (vph)	2521	2356	449
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.52	0.52	0.11

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	1160	11	37	1021	38	10	9	21	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	12	15	12	12	12	12
Total Lost time (s)		3.0			3.0			3.0				
Lane Util. Factor		0.95			0.95			1.00				
Frpb, ped/bikes		1.00			1.00			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.99			0.93				
Flt Protected		1.00			1.00			0.99				
Satd. Flow (prot)		3257			3246			1860				
Flt Permitted		0.89			0.84			0.99				
Satd. Flow (perm)		2914			2722			1860				
Peak-hour factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89	0.85	0.85	0.85	0.92	0.92	0.92
Adj. Flow (vph)	28	1261	12	42	1147	43	12	11	25	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	0	0	22	0	0	0	0
Lane Group Flow (vph)	0	1301	0	0	1231	0	0	26	0	0	0	0
Confl. Peds. (#/hr)	1		6	6		1	2		3	3		2
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	4	0	0	0	0	0	0
Turn Type	Perm			Perm			Perm					
Protected Phases		2			2			4				
Permitted Phases	2			2			4					
Actuated Green, G (s)		107.6			107.6			10.4				
Effective Green, g (s)		110.6			110.6			13.4				
Actuated g/C Ratio		0.85			0.85			0.10				
Clearance Time (s)		6.0			6.0			6.0				
Vehicle Extension (s)		1.5			1.5			2.0				
Lane Grp Cap (vph)		2479			2316			192				
v/s Ratio Prot												
v/s Ratio Perm		0.45			c0.45			0.01				
v/c Ratio		0.52			0.53			0.13				
Uniform Delay, d1		2.6			2.6			53.0				
Progression Factor		0.53			1.00			1.00				
Incremental Delay, d2		0.5			0.9			0.1				
Delay (s)		1.9			3.5			53.1				
Level of Service		A			A			D				
Approach Delay (s)		1.9			3.5			53.1			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM Average Control Delay	3.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	18	162	0	0	178	9	13	18	36	20	0	18
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.86	0.86	0.86
Hourly flow rate (vph)	21	191	0	0	209	11	15	21	42	23	0	21

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	212	220	79	44
Volume Left (vph)	21	0	15	23
Volume Right (vph)	0	11	42	21
Hadj (s)	0.05	0.01	-0.25	-0.14
Departure Headway (s)	4.5	4.5	4.7	4.9
Degree Utilization, x	0.27	0.27	0.10	0.06
Capacity (veh/h)	771	774	696	665
Control Delay (s)	9.1	9.1	8.2	8.2
Approach Delay (s)	9.1	9.1	8.2	8.2
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.9		
HCM Level of Service	A		
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	27	199	276	140	397
v/c Ratio	0.08	0.34	0.40	0.21	0.57
Control Delay	22.8	27.0	24.7	4.4	28.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	27.0	24.7	4.4	28.6
Queue Length 50th (ft)	8	94	126	0	198
Queue Length 95th (ft)	29	153	197	38	295
Internal Link Dist (ft)	413	1025	252		266
Turn Bay Length (ft)				150	
Base Capacity (vph)	354	587	698	672	691
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.34	0.40	0.21	0.57

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	13	10	160	11	6	8	243	127	19	345	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0	3.0		3.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frpb, ped/bikes		0.98			1.00			1.00	0.97		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.94			1.00			1.00	0.85		1.00	
Flt Protected		1.00			0.96			1.00	1.00		1.00	
Satd. Flow (prot)		1720			1774			1860	1539		1857	
Flt Permitted		1.00			0.96			0.99	1.00		0.98	
Satd. Flow (perm)		1720			1774			1836	1539		1816	
Peak-hour factor, PHF	0.85	0.85	0.85	0.89	0.89	0.89	0.91	0.91	0.91	0.92	0.92	0.92
Adj. Flow (vph)	0	15	12	180	12	7	9	267	140	21	375	1
RTOR Reduction (vph)	0	10	0	0	1	0	0	0	87	0	0	0
Lane Group Flow (vph)	0	17	0	0	198	0	0	276	53	0	397	0
Confl. Peds. (#/hr)			8	8					6	6		
Turn Type	Split			Split			Perm		Perm	Perm		
Protected Phases	1	1		3	3			2			2	
Permitted Phases							2		2	2		
Actuated Green, G (s)		17.5			30.5			35.5	35.5		35.5	
Effective Green, g (s)		20.0			33.0			38.0	38.0		38.0	
Actuated g/C Ratio		0.20			0.33			0.38	0.38		0.38	
Clearance Time (s)		5.5			5.5			5.5	5.5		5.5	
Lane Grp Cap (vph)		344			585			698	585		690	
v/s Ratio Prot		c0.01			c0.11							
v/s Ratio Perm								0.15	0.03		c0.22	
v/c Ratio		0.05			0.34			0.40	0.09		0.58	
Uniform Delay, d1		32.3			25.3			22.6	19.9		24.6	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.3			1.6			1.7	0.3		3.5	
Delay (s)		32.6			26.8			24.3	20.2		28.1	
Level of Service		C			C			C	C		C	
Approach Delay (s)		32.6			26.8			22.9			28.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	84	0	0	105	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	91	0	0	114	0
Pedestrians								2			5	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	210	205	116	207	205	96	114			91		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	210	205	116	207	205	96	114			91		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	744	691	935	749	691	956	1475			1504		

Direction, Lane #	NB 1	SB 1
Volume Total	91	114
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.05	0.07
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	8.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	378	0	0	515	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	411	0	0	560	0
Pedestrians								3			3	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								731			332	
pX, platoon unblocked	0.84	0.84	0.84	0.84	0.84		0.84					
vC, conflicting volume	974	971	563	974	971	414	560			411		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	870	866	378	870	866	414	374			411		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	227	243	557	227	243	637	989			1148		

Direction, Lane #	NB 1	SB 1
Volume Total	411	560
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.24	0.33
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	30.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	103	1484	1180	209
v/c Ratio	0.28	0.57	0.51	0.68
Control Delay	5.8	7.2	20.2	55.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.8	7.2	20.2	55.4
Queue Length 50th (ft)	18	234	360	147
Queue Length 95th (ft)	39	343	470	206
Internal Link Dist (ft)		310	1468	305
Turn Bay Length (ft)	300			
Base Capacity (vph)	455	2619	2307	447
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.23	0.57	0.51	0.47

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	95	1365	1044	41	111	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.99		0.95	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1770	3347	3356		1697	
Flt Permitted	0.18	1.00	1.00		0.97	
Satd. Flow (perm)	342	3347	3356		1697	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.85	0.85
Adj. Flow (vph)	103	1484	1135	45	131	78
RTOR Reduction (vph)	0	0	2	0	18	0
Lane Group Flow (vph)	103	1484	1178	0	191	0
Confl. Peds. (#/hr)	4			4		9
Heavy Vehicles (%)	2%	7%	7%	2%	2%	2%
Bus Blockages (#/hr)	0	4	0	0	0	0
Turn Type	pm+pt					
Protected Phases	5	2	6		4	
Permitted Phases	2					
Actuated Green, G (s)	98.7	98.7	86.3		19.3	
Effective Green, g (s)	101.7	101.7	89.3		22.3	
Actuated g/C Ratio	0.78	0.78	0.69		0.17	
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	371	2618	2305		291	
v/s Ratio Prot	0.02	c0.44	0.35		c0.11	
v/s Ratio Perm	0.20					
v/c Ratio	0.28	0.57	0.51		0.66	
Uniform Delay, d1	5.6	5.5	9.8		50.3	
Progression Factor	1.00	1.00	1.82		1.00	
Incremental Delay, d2	0.1	0.9	0.6		4.0	
Delay (s)	5.7	6.4	18.5		54.3	
Level of Service	A	A	B		D	
Approach Delay (s)		6.4	18.5		54.3	
Approach LOS		A	B		D	

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	1255	31	28	1137	35	10	6	35	10	5	71
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.89	0.89	0.92	0.92	0.92	0.85	0.92	0.85
Hourly flow rate (vph)	28	1364	34	30	1278	39	11	7	38	12	5	84
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		705										
pX, platoon unblocked				0.91			0.91	0.91	0.91	0.91	0.91	
vC, conflicting volume	1317			1398			2223	2815	699	2138	2812	658
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1317			1239			2147	2797	471	2053	2794	658
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			94			16	56	92	28	63	79
cM capacity (veh/h)	521			508			13	15	490	16	15	407

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	710	716	669	678	55	101
Volume Left	28	0	30	0	11	12
Volume Right	0	34	0	39	38	84
cSH	521	1700	508	1700	41	78
Volume to Capacity	0.05	0.42	0.06	0.40	1.36	1.30
Queue Length 95th (ft)	4	0	5	0	139	194
Control Delay (s)	1.6	0.0	1.7	0.0	420.0	295.4
Lane LOS	A		A		F	F
Approach Delay (s)	0.8		0.9		420.0	295.4
Approach LOS					F	F

Intersection Summary			
Average Delay	18.9		
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	17	188	37	17	188	14	9	27	38	35	24	11
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.86	0.86	0.86
Hourly flow rate (vph)	20	221	44	20	221	16	11	32	45	41	28	13

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	285	258	87	81
Volume Left (vph)	20	20	11	41
Volume Right (vph)	44	16	45	13
Hadj (s)	-0.04	0.01	-0.25	0.04
Departure Headway (s)	4.6	4.7	5.1	5.4
Degree Utilization, x	0.37	0.34	0.12	0.12
Capacity (veh/h)	738	727	622	597
Control Delay (s)	10.3	10.1	8.8	9.1
Approach Delay (s)	10.3	10.1	8.8	9.1
Approach LOS	B	B	A	A

Intersection Summary			
Delay	9.9		
HCM Level of Service	A		
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 5: Park Ave. & N Spring St.

Movement	EB	WB	NB	SB
Directions Served	LT	TR	LTR	LR
Maximum Queue (ft)	77	90	52	52
Average Queue (ft)	47	39	26	21
95th Queue (ft)	80	64	47	48
Link Distance (ft)	113	530	202	303
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Park Ave. & N Oak St.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	98	147	56	56
Average Queue (ft)	49	58	34	27
95th Queue (ft)	74	97	49	49
Link Distance (ft)	530	228	203	262
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Appendix E

Descriptions of Level of Service

Level of Service for Signalized Intersections

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average stopped delay per vehicle for a 15-min analysis period. The criteria are given in Exhibit 16-2. Delay may be measured in the field or estimated using procedures presented later in this chapter. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the *v/c* ratio for the lane group in question.

LOS A describes operations with very low delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

LOS B describes operations with delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.

Exhibit 16-2. Level-of-Service Criteria for Signalized Intersections

LEVEL OF SERVICE	STOPPED DELAY PER VEHICLE (SEC)
A	≤10.0
B	> 10.0 and ≤20.0
C	> 20.0 and ≤ 35.0
D	> 35.0 and ≤ 55.0
E	> 55.0 and ≤ 80.0
F	>80.0

LOS C describes operations with delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LOS D describes operations with delay greater than 35 and up to 55 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with delay greater than 55 and up to 80 sec per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high *v/c* ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: Highway Capacity Manual, 2000. Transportation Research Board, National Research Council

Level of Service Criteria for Stop Sign Controlled Intersections

The level of service criteria are given in Table 17-2. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in queue.

The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. . . .

Table 17-2. Level of Service Criteria for TWSC Intersections

LEVEL OF SERVICE	AVERAGE CONTROL DELAY (sec/veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Average total delay less than 10 sec/veh is defined as Level of Service (LOS) A. Follow-up times of less than 5 sec have been measured when there is no conflicting traffic for a minor street movement, so control delays of less than 10 sec/veh are appropriate for low flow conditions. To remain consistent with the AWSC intersection analysis procedure described later in this chapter, a total delay of 50 sec/veh is assumed as the break point between LOS E and F.

The proposed level of service criteria for TWSC intersections are somewhat different from the criteria used in Chapter 16 for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, several driver behavior considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, where drivers on the minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized than signalized intersections. For these reasons, it is considered that the total delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection. . . .

LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queueing on the minor approaches. The method, however, is based on a constant critical gap size - that is, the critical gap remains constant, no matter how long the side street motorist waits. LOS F may also appear in the form of side street vehicles' selecting smaller-than-usual gaps. In such cases, safety may be a problem and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior. The latter is more difficult to observe on the field than queueing, which is more obvious.

Source: Highway Capacity Manual, 2000. Transportation Research Board, National Research Council

Appendix F

Individual Pipeline Development Trip Assignments

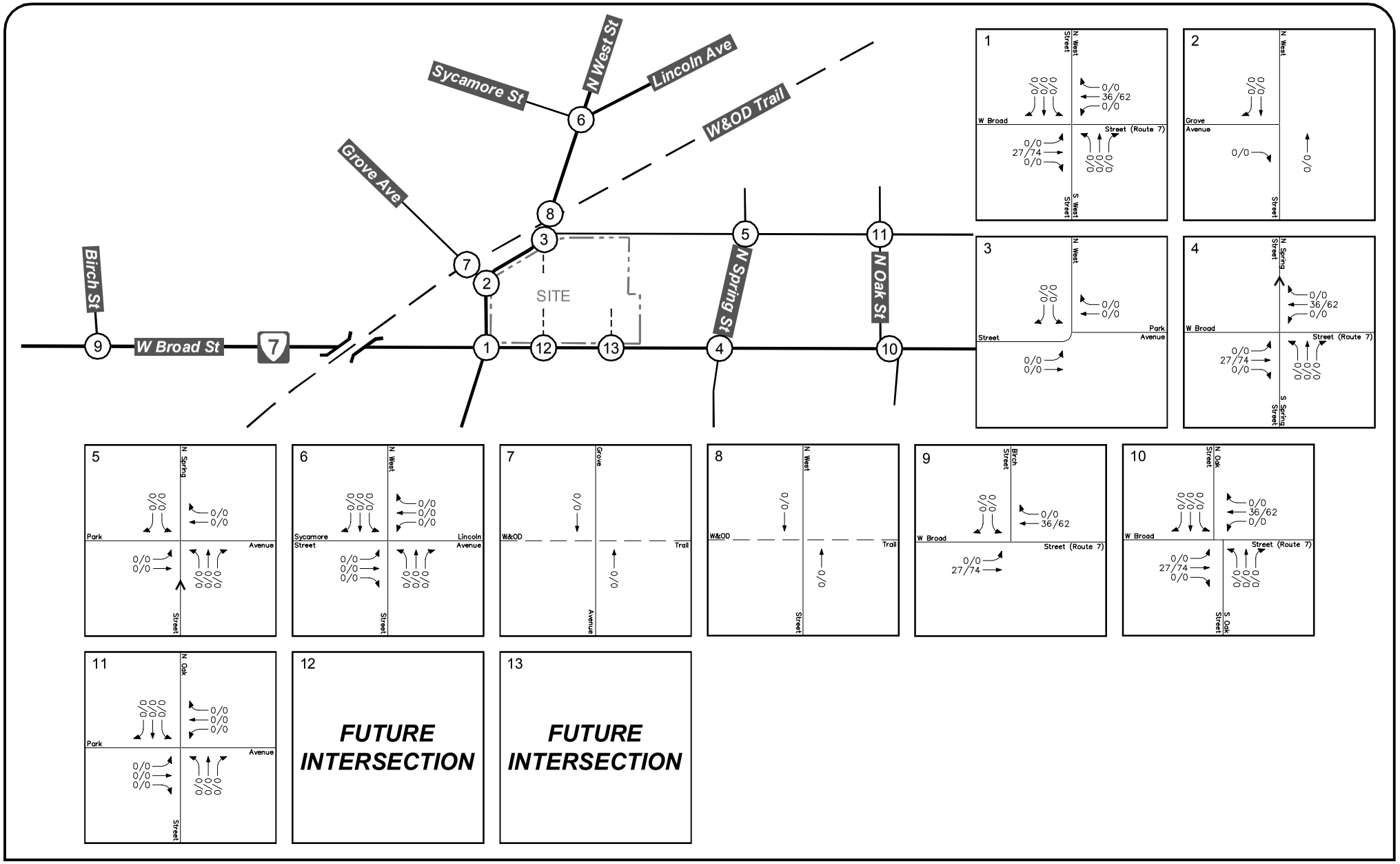

Figure F–1
301 W Broad Street Pipeline Trip Assignments

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

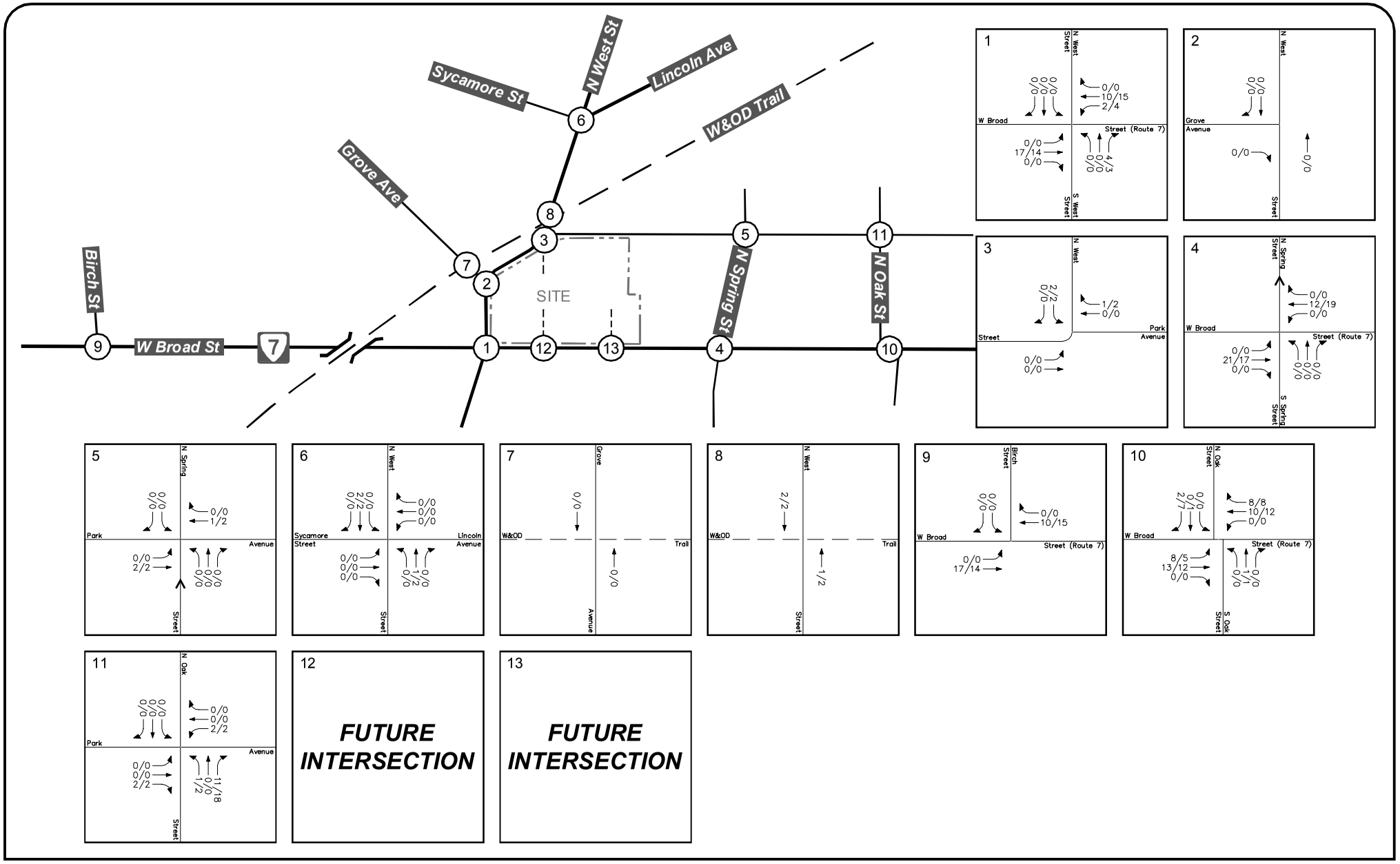

Figure F–2
706 W Broad Street/707 Park Avenue Pipeline Trip Assignments

AM PEAK HOUR
PM PEAK HOUR
000/000

North

Mason Row
City of Falls Church, Virginia

Wells + Associates, Inc.

Appendix G

Background Future Conditions Synchro Analysis

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	268	1155	40	1151	249	342	151	157
v/c Ratio	1.17	0.74	0.20	0.82	0.71	0.93	0.50	0.33
Control Delay	132.5	26.7	20.8	42.9	56.4	78.9	50.1	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	132.5	26.7	20.8	42.9	56.4	78.9	50.1	15.6
Queue Length 50th (ft)	~199	417	17	501	180	258	102	35
Queue Length 95th (ft)	#366	526	m30	#591	274	#438	168	90
Internal Link Dist (ft)		1468		871		431	199	
Turn Bay Length (ft)	175		165		250			
Base Capacity (vph)	229	1554	254	1408	356	372	370	480
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.17	0.74	0.16	0.82	0.70	0.92	0.41	0.33

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	247	1006	57	37	1008	51	229	276	39	39	100	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	5.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1711	3239		1711	3239		1711	1764			1776	1531
Flt Permitted	0.09	1.00		0.13	1.00		0.95	1.00			0.99	1.00
Satd. Flow (perm)	159	3239		225	3239		1711	1764			1776	1531
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	268	1093	62	40	1096	55	249	300	42	42	109	157
RTOR Reduction (vph)	0	3	0	0	3	0	0	4	0	0	0	68
Lane Group Flow (vph)	268	1152	0	40	1148	0	249	338	0	0	151	89
Confl. Peds. (#/hr)	8		2	2		8	7		2	2		7
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt			pm+pt			Split			Split		pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases	2			6								
Actuated Green, G (s)	63.1	53.6		54.1	49.1		22.7	22.7			18.2	32.7
Effective Green, g (s)	64.6	56.6		57.1	52.1		24.7	24.7			20.2	32.7
Actuated g/C Ratio	0.54	0.47		0.48	0.43		0.21	0.21			0.17	0.27
Clearance Time (s)	4.5	6.0		4.5	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	228	1528		188	1406		352	363			299	417
v/s Ratio Prot	c0.11	0.36		0.01	0.35		0.15	c0.19			c0.09	0.06
v/s Ratio Perm	c0.53			0.09								
v/c Ratio	1.18	0.75		0.21	0.82		0.71	0.93			0.51	0.21
Uniform Delay, d1	32.6	26.0		19.7	29.8		44.3	46.8			45.4	33.7
Progression Factor	0.79	0.86		1.30	1.23		1.00	1.00			1.00	1.00
Incremental Delay, d2	110.7	3.0		0.2	4.5		5.2	29.9			0.5	0.1
Delay (s)	136.4	25.3		25.7	41.2		49.5	76.7			45.8	33.8
Level of Service	F	C		C	D		D	E			D	C
Approach Delay (s)		46.2			40.6			65.2			39.7	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM Average Control Delay	46.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	62	22	9	515	261	55
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	67	24	10	560	284	60
Pedestrians				1		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				4.0		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				279	784	
pX, platoon unblocked	0.74					
vC, conflicting volume	893	173	343			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	680	173	343			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	76	97	99			
cM capacity (veh/h)	282	840	1212			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	91	570	189	154
Volume Left	67	10	0	0
Volume Right	24	0	0	60
cSH	342	1212	1700	1700
Volume to Capacity	0.27	0.01	0.11	0.09
Queue Length 95th (ft)	26	1	0	0
Control Delay (s)	19.3	0.2	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	19.3	0.2	0.0	
Approach LOS	C			

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	172	34	478	126	29	168
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	187	37	520	137	32	183
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			580			483
pX, platoon unblocked	0.79	0.79			0.79	
vC, conflicting volume	836	590			659	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	658	347			434	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	43	93			96	
cM capacity (veh/h)	326	548			887	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	224	657	214
Volume Left	187	0	32
Volume Right	37	137	0
cSH	349	1700	887
Volume to Capacity	0.64	0.39	0.04
Queue Length 95th (ft)	106	0	3
Control Delay (s)	32.0	0.0	1.7
Lane LOS	D		A
Approach Delay (s)	32.0	0.0	1.7
Approach LOS	D		

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBT
Lane Group Flow (vph)	1209	1253	111
v/c Ratio	0.57	0.56	0.25
Control Delay	17.8	6.9	16.3
Queue Delay	0.0	0.0	0.0
Total Delay	17.8	6.9	16.3
Queue Length 50th (ft)	484	78	29
Queue Length 95th (ft)	m561	202	56
Internal Link Dist (ft)	871	625	201
Turn Bay Length (ft)			
Base Capacity (vph)	2111	2229	637
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.57	0.56	0.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	1055	22	14	1094	45	15	68	19	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	12	15	12	12	12	12
Total Lost time (s)		3.0			3.0			3.0				
Lane Util. Factor		0.95			0.95			1.00				
Frpb, ped/bikes		1.00			1.00			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.99			0.97				
Flt Protected		1.00			1.00			0.99				
Satd. Flow (prot)		3252			3245			1969				
Flt Permitted		0.88			0.94			0.99				
Satd. Flow (perm)		2878			3039			1969				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	1147	24	15	1189	49	16	74	21	0	0	0
RTOR Reduction (vph)	0	2	0	0	4	0	0	16	0	0	0	0
Lane Group Flow (vph)	0	1207	0	0	1249	0	0	95	0	0	0	0
Confl. Peds. (#/hr)	10		13	13		10	15		9	9		15
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	4	0	0	0	0	0	0
Turn Type	Perm			Perm			Perm					
Protected Phases		2			2			4				
Permitted Phases	2			2			4					
Actuated Green, G (s)		39.2			39.2			8.8				
Effective Green, g (s)		42.2			42.2			11.8				
Actuated g/C Ratio		0.70			0.70			0.20				
Clearance Time (s)		6.0			6.0			6.0				
Vehicle Extension (s)		1.5			1.5			2.0				
Lane Grp Cap (vph)		2024			2137			387				
v/s Ratio Prot												
v/s Ratio Perm		c0.42			0.41			0.05				
v/c Ratio		0.60			0.58			0.25				
Uniform Delay, d1		4.5			4.5			20.3				
Progression Factor		3.05			1.00			1.00				
Incremental Delay, d2		0.9			1.2			0.1				
Delay (s)		14.8			5.7			20.5				
Level of Service		B			A			C				
Approach Delay (s)		14.8			5.7			20.5			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	10.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	130	0	0	192	30	19	43	95	20	0	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	141	0	0	209	33	21	47	103	22	0	20

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	157	241	171	41
Volume Left (vph)	15	0	21	22
Volume Right (vph)	0	33	103	20
Hadj (s)	0.05	-0.05	-0.30	-0.14
Departure Headway (s)	4.8	4.6	4.6	4.9
Degree Utilization, x	0.21	0.31	0.22	0.06
Capacity (veh/h)	706	747	724	651
Control Delay (s)	9.0	9.6	8.9	8.2
Approach Delay (s)	9.0	9.6	8.9	8.2
Approach LOS	A	A	A	A

Intersection Summary			
Delay	9.1		
HCM Level of Service	A		
Intersection Capacity Utilization	35.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	13	63	335	224	171
v/c Ratio	0.08	0.30	0.22	0.17	0.11
Control Delay	28.8	39.3	3.8	1.0	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	39.3	3.8	1.0	3.4
Queue Length 50th (ft)	3	33	33	0	15
Queue Length 95th (ft)	21	71	122	24	63
Internal Link Dist (ft)	413	1025	252		266
Turn Bay Length (ft)				150	
Base Capacity (vph)	358	533	1538	1286	1490
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.12	0.22	0.17	0.11

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	5	7	47	4	7	1	307	206	12	144	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0	3.0		3.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frpb, ped/bikes		0.96			1.00			1.00	0.97		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.92			0.98			1.00	0.85		1.00	
Flt Protected		1.00			0.96			1.00	1.00		1.00	
Satd. Flow (prot)		1641			1760			1862	1530		1853	
Flt Permitted		1.00			0.96			1.00	1.00		0.97	
Satd. Flow (perm)		1641			1760			1862	1530		1806	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	5	8	51	4	8	1	334	224	13	157	1
RTOR Reduction (vph)	0	8	0	0	6	0	0	0	54	0	0	0
Lane Group Flow (vph)	0	5	0	0	57	0	0	335	170	0	171	0
Confl. Peds. (#/hr)			4	4			12		21	21		12
Turn Type	Split			Split			Perm		Perm	Perm		
Protected Phases	1	1		3	3			2			2	
Permitted Phases							2		2	2		
Actuated Green, G (s)		1.5			7.6			72.9	72.9		72.9	
Effective Green, g (s)		4.5			10.6			75.9	75.9		75.9	
Actuated g/C Ratio		0.04			0.11			0.76	0.76		0.76	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		74			187			1413	1161		1371	
v/s Ratio Prot		c0.00			c0.03							
v/s Ratio Perm								0.18	0.11		0.09	
v/c Ratio		0.07			0.30			0.24	0.15		0.12	
Uniform Delay, d1		45.8			41.3			3.5	3.3		3.2	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.4			0.9			0.4	0.3		0.2	
Delay (s)		46.2			42.2			3.9	3.5		3.4	
Level of Service		D			D			A	A		A	
Approach Delay (s)		46.2			42.2			3.8			3.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	64	0	0	84	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	70	0	0	91	0
Pedestrians								25			31	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								2			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	192	161	116	186	161	101	91			70		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	192	161	116	186	161	101	91			70		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	748	731	916	759	731	930	1504			1531		

Direction, Lane #	NB 1	SB 1
Volume Total	70	91
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.04	0.05
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	7.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	484	0	0	187	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	526	0	0	203	0
Pedestrians								27			32	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								2			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								731			332	
pX, platoon unblocked												
vC, conflicting volume	761	729	230	756	729	558	203			526		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	761	729	230	756	729	558	203			526		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	313	350	791	317	350	515	1368			1041		

Direction, Lane #	NB 1	SB 1
Volume Total	526	203
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.31	0.12
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	28.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	82	1507	1499	105
v/c Ratio	0.28	0.56	0.62	0.38
Control Delay	5.9	6.3	8.4	37.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.9	6.3	8.4	37.9
Queue Length 50th (ft)	14	241	508	55
Queue Length 95th (ft)	27	293	575	107
Internal Link Dist (ft)		310	1468	305
Turn Bay Length (ft)	300			
Base Capacity (vph)	332	2669	2408	370
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.56	0.62	0.28

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	75	1386	1321	58	61	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.99		0.95	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1770	3347	3355		1689	
Flt Permitted	0.12	1.00	1.00		0.97	
Satd. Flow (perm)	222	3347	3355		1689	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	1507	1436	63	66	39
RTOR Reduction (vph)	0	0	2	0	19	0
Lane Group Flow (vph)	82	1507	1497	0	86	0
Confl. Peds. (#/hr)	4			4	3	18
Heavy Vehicles (%)	2%	7%	7%	2%	2%	2%
Bus Blockages (#/hr)	0	4	0	0	0	0
Turn Type	pm+pt					
Protected Phases	5	2	6		4	
Permitted Phases	2					
Actuated Green, G (s)	92.7	92.7	81.8		15.3	
Effective Green, g (s)	95.7	95.7	84.8		18.3	
Actuated g/C Ratio	0.80	0.80	0.71		0.15	
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	279	2669	2371		258	
v/s Ratio Prot	0.02	c0.45	c0.45		c0.05	
v/s Ratio Perm	0.21					
v/c Ratio	0.29	0.56	0.63		0.33	
Uniform Delay, d1	6.8	4.5	9.3		45.4	
Progression Factor	1.00	1.00	0.71		1.00	
Incremental Delay, d2	0.2	0.9	0.8		0.3	
Delay (s)	7.0	5.3	7.4		45.7	
Level of Service	A	A	A		D	
Approach Delay (s)		5.4	7.4		45.7	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	46	1129	11	15	1166	71	29	15	19	4	3	78
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	50	1227	12	16	1267	77	32	16	21	4	3	85
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		705										
pX, platoon unblocked				0.87			0.87	0.87	0.87	0.87	0.87	
vC, conflicting volume	1345			1239			2086	2710	620	2081	2678	672
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1345			969			1945	2666	254	1940	2628	672
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			97			0	3	97	0	82	79
cM capacity (veh/h)	508			613			21	17	646	4	18	398

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	664	626	650	711	68	92
Volume Left	50	0	16	0	32	4
Volume Right	0	12	0	77	21	85
cSH	508	1700	613	1700	27	58
Volume to Capacity	0.10	0.37	0.03	0.42	2.52	1.60
Queue Length 95th (ft)	8	0	2	0	207	211
Control Delay (s)	2.8	0.0	0.7	0.0	997.0	451.3
Lane LOS	A		A		F	F
Approach Delay (s)	1.4		0.4		997.0	451.3
Approach LOS					F	F

Intersection Summary			
Average Delay	40.0		
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	32	187	51	15	132	11	47	48	45	17	13	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	203	55	16	143	12	51	52	49	18	14	74

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	293	172	152	107
Volume Left (vph)	35	16	51	18
Volume Right (vph)	55	12	49	74
Hadj (s)	-0.06	0.01	-0.09	-0.35
Departure Headway (s)	4.8	5.0	5.1	4.9
Degree Utilization, x	0.39	0.24	0.22	0.15
Capacity (veh/h)	714	672	640	648
Control Delay (s)	10.7	9.5	9.5	8.8
Approach Delay (s)	10.7	9.5	9.5	8.8
Approach LOS	B	A	A	A

Intersection Summary			
Delay	9.9		
HCM Level of Service	A		
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 5: Park Ave. & N Spring St.

Movement	EB	WB	NB	SB
Directions Served	LT	TR	LTR	LR
Maximum Queue (ft)	128	91	67	55
Average Queue (ft)	49	43	43	26
95th Queue (ft)	90	69	63	48
Link Distance (ft)	113	530	202	303
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Park Ave. & N Oak St.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	124	101	75	67
Average Queue (ft)	53	43	40	34
95th Queue (ft)	85	69	63	57
Link Distance (ft)	530	228	203	262
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Queues
1: Route 7 & N West St.

4/15/2015

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	263	1389	99	1059	170	260	447	254
v/c Ratio	1.02	0.94	0.54	0.75	0.55	0.82	1.25	0.53
Control Delay	94.6	40.5	35.8	32.9	55.4	68.8	176.0	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.6	40.5	35.8	32.9	55.4	68.8	176.0	13.8
Queue Length 50th (ft)	~161	599	49	301	129	200	~469	27
Queue Length 95th (ft)	#350	#800	109	361	204	#305	#679	110
Internal Link Dist (ft)		1468		871		431	199	
Turn Bay Length (ft)	175		165		250			
Base Capacity (vph)	257	1474	215	1414	342	354	358	475
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.94	0.46	0.75	0.50	0.73	1.25	0.53

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	242	1178	100	91	959	16	156	178	62	51	361	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1711	3235		1711	3256		1711	1724			1790	1510
Flt Permitted	0.12	1.00		0.07	1.00		0.95	1.00			0.99	1.00
Satd. Flow (perm)	210	3235		131	3256		1711	1724			1790	1510
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	263	1280	109	99	1042	17	170	193	67	55	392	254
RTOR Reduction (vph)	0	4	0	0	1	0	0	10	0	0	0	173
Lane Group Flow (vph)	263	1385	0	99	1058	0	170	250	0	0	447	81
Confl. Peds. (#/hr)							1		2	2		1
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt			pm+pt			Split			Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	66.9	56.1		61.5	53.4		21.3	21.3			24.0	24.0
Effective Green, g (s)	69.9	59.1		64.5	56.4		23.3	23.3			26.0	26.0
Actuated g/C Ratio	0.54	0.45		0.50	0.43		0.18	0.18			0.20	0.20
Clearance Time (s)	4.5	6.0		4.5	6.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	255	1471		182	1413		307	309			358	302
v/s Ratio Prot	c0.10	0.43		0.04	0.33		0.10	c0.15			c0.25	
v/s Ratio Perm	c0.46			0.23								0.05
v/c Ratio	1.03	0.94		0.54	0.75		0.55	0.81			1.25	0.27
Uniform Delay, d1	30.1	33.8		26.0	30.9		48.6	51.2			52.0	44.0
Progression Factor	1.67	0.84		1.37	0.94		1.00	1.00			1.00	1.00
Incremental Delay, d2	58.3	10.9		1.5	3.1		1.2	13.7			133.1	0.2
Delay (s)	108.5	39.2		37.0	32.0		49.8	64.9			185.1	44.1
Level of Service	F	D		D	C		D	E			F	D
Approach Delay (s)		50.2			32.4			58.9			134.0	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM Average Control Delay	60.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	83	22	33	387	605	51
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	90	24	36	421	658	55
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				279	784	
pX, platoon unblocked	0.79					
vC, conflicting volume	1181	357	713			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1097	357	713			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	43	96	96			
cM capacity (veh/h)	157	640	883			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	114	457	438	275
Volume Left	90	36	0	0
Volume Right	24	0	0	55
cSH	187	883	1700	1700
Volume to Capacity	0.61	0.04	0.26	0.16
Queue Length 95th (ft)	86	3	0	0
Control Delay (s)	50.6	1.2	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	50.6	1.2	0.0	
Approach LOS	F			

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	159	31	370	121	43	503
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	173	34	402	132	47	547
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			580			483
pX, platoon unblocked	0.89	0.88			0.88	
vC, conflicting volume	1111	471			537	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	758	330			405	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	46	95			95	
cM capacity (veh/h)	317	624			1012	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	207	534	593
Volume Left	173	0	47
Volume Right	34	132	0
cSH	345	1700	1012
Volume to Capacity	0.60	0.31	0.05
Queue Length 95th (ft)	92	0	4
Control Delay (s)	29.9	0.0	1.2
Lane LOS	D		A
Approach Delay (s)	29.9	0.0	1.2
Approach LOS	D		

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBT
Lane Group Flow (vph)	1477	1347	44
v/c Ratio	0.59	0.58	0.19
Control Delay	3.7	4.5	30.8
Queue Delay	0.0	0.0	0.0
Total Delay	3.7	4.5	30.8
Queue Length 50th (ft)	28	175	16
Queue Length 95th (ft)	m83	220	52
Internal Link Dist (ft)	871	625	201
Turn Bay Length (ft)			
Base Capacity (vph)	2515	2341	447
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.59	0.58	0.10

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	1322	11	37	1165	38	10	9	21	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	12	15	12	12	12	12
Total Lost time (s)		3.0			3.0			3.0				
Lane Util. Factor		0.95			0.95			1.00				
Frpb, ped/bikes		1.00			1.00			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			1.00			0.93				
Flt Protected		1.00			1.00			0.99				
Satd. Flow (prot)		3257			3248			1859				
Flt Permitted		0.89			0.83			0.99				
Satd. Flow (perm)		2909			2706			1859				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	1437	12	40	1266	41	11	10	23	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	0	0	21	0	0	0	0
Lane Group Flow (vph)	0	1477	0	0	1346	0	0	23	0	0	0	0
Confl. Peds. (#/hr)	1		6	6		1	2		3	3		2
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	4	0	0	0	0	0	0
Turn Type	Perm			Perm			Perm					
Protected Phases		2			2			4				
Permitted Phases	2			2			4					
Actuated Green, G (s)		107.6			107.6			10.4				
Effective Green, g (s)		110.6			110.6			13.4				
Actuated g/C Ratio		0.85			0.85			0.10				
Clearance Time (s)		6.0			6.0			6.0				
Vehicle Extension (s)		1.5			1.5			2.0				
Lane Grp Cap (vph)		2475			2302			192				
v/s Ratio Prot												
v/s Ratio Perm		c0.51			0.50			0.01				
v/c Ratio		0.60			0.58			0.12				
Uniform Delay, d1		2.9			2.9			53.0				
Progression Factor		0.92			1.00			1.00				
Incremental Delay, d2		0.5			1.1			0.1				
Delay (s)		3.2			4.0			53.1				
Level of Service		A			A			D				
Approach Delay (s)		3.2			4.0			53.1			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM Average Control Delay	4.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	18	164	0	0	180	9	13	18	36	20	0	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	178	0	0	196	10	14	20	39	22	0	20

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	198	205	73	41
Volume Left (vph)	20	0	14	22
Volume Right (vph)	0	10	39	20
Hadj (s)	0.05	0.01	-0.25	-0.14
Departure Headway (s)	4.5	4.4	4.6	4.8
Degree Utilization, x	0.25	0.25	0.09	0.05
Capacity (veh/h)	780	783	710	680
Control Delay (s)	8.9	8.9	8.1	8.1
Approach Delay (s)	8.9	8.9	8.1	8.1
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.7		
HCM Level of Service	A		
Intersection Capacity Utilization	35.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	25	204	292	147	423
v/c Ratio	0.07	0.35	0.42	0.22	0.61
Control Delay	23.2	27.2	25.2	4.4	29.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	27.2	25.2	4.4	29.7
Queue Length 50th (ft)	7	97	135	0	215
Queue Length 95th (ft)	30	159	209	39	317
Internal Link Dist (ft)	413	1025	252		266
Turn Bay Length (ft)				150	
Base Capacity (vph)	353	587	698	676	690
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.35	0.42	0.22	0.61

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	13	10	170	11	6	8	260	135	20	368	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0	3.0		3.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frpb, ped/bikes		0.98			1.00			1.00	0.97		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.94			1.00			1.00	0.85		1.00	
Flt Protected		1.00			0.96			1.00	1.00		1.00	
Satd. Flow (prot)		1722			1774			1860	1539		1857	
Flt Permitted		1.00			0.96			0.99	1.00		0.97	
Satd. Flow (perm)		1722			1774			1836	1539		1815	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	14	11	185	12	7	9	283	147	22	400	1
RTOR Reduction (vph)	0	9	0	0	1	0	0	0	91	0	0	0
Lane Group Flow (vph)	0	16	0	0	203	0	0	292	56	0	423	0
Confl. Peds. (#/hr)			8	8					6	6		
Turn Type	Split			Split			Perm		Perm	Perm		
Protected Phases	1	1		3	3			2			2	
Permitted Phases							2		2	2		
Actuated Green, G (s)		17.5			30.5			35.5	35.5		35.5	
Effective Green, g (s)		20.0			33.0			38.0	38.0		38.0	
Actuated g/C Ratio		0.20			0.33			0.38	0.38		0.38	
Clearance Time (s)		5.5			5.5			5.5	5.5		5.5	
Lane Grp Cap (vph)		344			585			698	585		690	
v/s Ratio Prot		c0.01			c0.11							
v/s Ratio Perm								0.16	0.04		c0.23	
v/c Ratio		0.05			0.35			0.42	0.10		0.61	
Uniform Delay, d1		32.3			25.3			22.9	19.9		25.1	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.3			1.6			1.8	0.3		4.0	
Delay (s)		32.6			27.0			24.7	20.3		29.1	
Level of Service		C			C			C	C		C	
Approach Delay (s)		32.6			27.0			23.2			29.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	84	0	0	105	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	91	0	0	114	0
Pedestrians								2			5	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	210	205	116	207	205	96	114			91		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	210	205	116	207	205	96	114			91		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	744	691	935	749	691	956	1475			1504		

Direction, Lane #	NB 1	SB 1
Volume Total	91	114
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.05	0.07
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	8.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	380	0	0	517	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	413	0	0	562	0
Pedestrians								3			3	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								731			332	
pX, platoon unblocked	0.83	0.83	0.83	0.83	0.83		0.83					
vC, conflicting volume	978	975	565	978	975	416	562			413		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	867	864	367	867	864	416	363			413		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	225	241	558	225	241	635	986			1146		

Direction, Lane #	NB 1	SB 1
Volume Total	413	562
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.24	0.33
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	103	1671	1333	193
v/c Ratio	0.31	0.63	0.57	0.65
Control Delay	6.2	7.8	21.7	54.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.2	7.8	21.7	54.4
Queue Length 50th (ft)	18	293	422	133
Queue Length 95th (ft)	37	408	542	207
Internal Link Dist (ft)		310	1468	305
Turn Bay Length (ft)	300			
Base Capacity (vph)	415	2642	2333	447
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.63	0.57	0.43

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	95	1537	1185	41	111	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.99		0.95	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1770	3347	3358		1697	
Flt Permitted	0.15	1.00	1.00		0.97	
Satd. Flow (perm)	279	3347	3358		1697	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	1671	1288	45	121	72
RTOR Reduction (vph)	0	0	1	0	18	0
Lane Group Flow (vph)	103	1671	1332	0	175	0
Confl. Peds. (#/hr)	4			4		9
Heavy Vehicles (%)	2%	7%	7%	2%	2%	2%
Bus Blockages (#/hr)	0	4	0	0	0	0
Turn Type	pm+pt					
Protected Phases	5	2	6		4	
Permitted Phases	2					
Actuated Green, G (s)	99.6	99.6	87.3		18.4	
Effective Green, g (s)	102.6	102.6	90.3		21.4	
Actuated g/C Ratio	0.79	0.79	0.69		0.16	
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	327	2642	2333		279	
v/s Ratio Prot	0.02	c0.50	0.40		c0.10	
v/s Ratio Perm	0.23					
v/c Ratio	0.31	0.63	0.57		0.63	
Uniform Delay, d1	6.5	5.8	10.0		50.6	
Progression Factor	1.00	1.00	1.90		1.00	
Incremental Delay, d2	0.2	1.2	0.7		3.1	
Delay (s)	6.7	6.9	19.8		53.7	
Level of Service	A	A	B		D	
Approach Delay (s)		6.9	19.8		53.7	
Approach LOS		A	B		D	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	31	1418	31	28	1281	43	10	7	35	10	6	78
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	1541	34	30	1392	47	11	8	38	11	7	85
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		705										
pX, platoon unblocked				0.87			0.87	0.87	0.87	0.87	0.87	
vC, conflicting volume	1439			1575			2471	3126	788	2357	3119	720
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1439			1371			2395	3143	471	2265	3136	720
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			93			0	6	92	0	20	77
cM capacity (veh/h)	467			434			4	8	472	3	8	371

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	804	804	727	743	57	102
Volume Left	34	0	30	0	11	11
Volume Right	0	34	0	47	38	85
cSH	467	1700	434	1700	14	20
Volume to Capacity	0.07	0.47	0.07	0.44	3.97	4.99
Queue Length 95th (ft)	6	0	6	0	Err	Err
Control Delay (s)	2.2	0.0	2.2	0.0	Err	Err
Lane LOS	A		A		F	F
Approach Delay (s)	1.1		1.1		Err	Err
Approach LOS					F	F

Intersection Summary			
Average Delay	491.3		
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	17	188	39	19	188	14	11	27	56	35	24	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	204	42	21	204	15	12	29	61	38	26	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	265	240	102	76
Volume Left (vph)	18	21	12	38
Volume Right (vph)	42	15	61	12
Hadj (s)	-0.05	0.01	-0.30	0.04
Departure Headway (s)	4.6	4.7	4.9	5.3
Degree Utilization, x	0.34	0.31	0.14	0.11
Capacity (veh/h)	737	726	656	606
Control Delay (s)	10.0	9.8	8.7	9.0
Approach Delay (s)	10.0	9.8	8.7	9.0
Approach LOS	A	A	A	A

Intersection Summary			
Delay	9.6		
HCM Level of Service	A		
Intersection Capacity Utilization	33.7%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 5: Park Ave. & N Spring St.

Movement	EB	WB	NB	SB
Directions Served	LT	TR	LTR	LR
Maximum Queue (ft)	77	78	28	52
Average Queue (ft)	45	37	25	24
95th Queue (ft)	75	57	38	48
Link Distance (ft)	113	530	202	303
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Park Ave. & N Oak St.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	75	103	101	55
Average Queue (ft)	43	52	39	27
95th Queue (ft)	65	81	66	51
Link Distance (ft)	530	228	203	262
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Appendix H

Existing Site Driveway Traffic Counts

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	Site Driveway - A
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	0
INTERSECTION:	W. Broad St. & Driveway A	**WEATHER:**	clear	**WESTBOUND ROAD:**	West Broad Street - 7
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Eduvina	**EASTBOUND ROAD:**	West Broad Street - 7
		INPUTED BY:	agan		

Time	Southbound Site Driveway - A					Westbound West Broad Street - 7					Northbound 0					Eastbound West Broad Street - 7					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM																							
6:15 AM - 6:30 AM																							
6:30 AM - 6:45 AM																							
6:45 AM - 7:00 AM																							
7:00 AM - 7:15 AM																							
7:15 AM - 7:30 AM	1			1		1			1									2	2		1	3	4
7:30 AM - 7:45 AM	3		1	4														3	3		4	3	7
7:45 AM - 8:00 AM																							
8:00 AM - 8:15 AM																							
8:15 AM - 8:30 AM																							
8:30 AM - 8:45 AM																		2	2			2	2
8:45 AM - 9:00 AM						1			1									2	2			3	3
2:30 PM - 2:45 PM	5		1	6		2			2												6	2	8
2:45 PM - 3:00 PM	9		1	10														1	1		10	1	11
3:00 PM - 3:15 PM	1			1		4			4												1	4	5
3:15 PM - 3:30 PM	3			3														1	1		3	1	4
3:30 PM - 3:45 PM	1			1		1			1												1	1	2
3:45 PM - 4:00 PM	3		1	4		1			1									2	2		4	3	7
4:00 PM - 4:15 PM	3			3		1			1									3	3		3	4	7
4:15 PM - 4:30 PM	1			1		1			1									1	1		1	2	3
4:30 PM - 4:45 PM	2			2														1	1		2	1	3
4:45 PM - 5:00 PM	1			1		2			2												1	2	3
5:00 PM - 5:15 PM						2			2													2	2
5:15 PM - 5:30 PM	5			5																	5		5
5:30 PM - 5:45 PM	1			1		1			1												1	1	2
5:45 PM - 6:00 PM	2			2		2			2												2	2	4
6:00 PM - 6:15 PM	1			1		1			1												1	1	2
6:15 PM - 6:30 PM						1			1													1	1
6:30 PM - 6:45 PM	3		1	4		3			3												4	3	7
6:45 PM - 7:00 PM	3			3		1			1									2	2		3	3	6
Total	48	0	5	53		25	0	0	25		0	0	0	0		0	0	20	20		53	45	98
One Hour Volumes																							
6:00 AM - 7:00 AM																							
6:15 AM - 7:15 AM																							
6:30 AM - 7:30 AM	1			1	0.25	1			1	0.25								2	2	0.25	1	3	4
6:45 AM - 7:45 AM	4		1	5	0.3125	1			1	0.25								5	5	0.4167	5	6	11
7:00 AM - 8:00 AM	4		1	5	0.3125	1			1	0.25								5	5	0.4167	5	6	11
7:15 AM - 8:15 AM	4		1	5	0.3125	1			1	0.25								5	5	0.4167	5	6	11
7:30 AM - 8:30 AM	3		1	4	0.25													3	3	0.25	4	3	7
7:45 AM - 8:45 AM																		2	2	0.25		2	2
8:00 AM - 9:00 AM						1			1	0.25								4	4	0.5		5	5
2:30 PM - 3:30 PM	18		2	20	0.5	6			6	0.375								2	2	0.5	20	8	28
2:45 PM - 3:45 PM	14		1	15	0.375	5			5	0.3125								2	2	0.5	15	7	22
3:00 PM - 4:00 PM	8		1	9	0.5625	6			6	0.375								3	3	0.375	9	9	18
3:15 PM - 4:15 PM	10		1	11	0.6875	3			3	0.75								6	6	0.5	11	9	20
3:30 PM - 4:30 PM	8		1	9	0.5625	4			4	1								6	6	0.5	9	10	19
3:45 PM - 4:45 PM	9		1	10	0.625	3			3	0.75								7	7	0.5833	10	10	20
4:00 PM - 5:00 PM	7			7	0.5833	4			4	0.5								5	5	0.4167	7	9	16
4:15 PM - 5:15 PM	4			4	0.5	5			5	0.625								2	2	0.5	4	7	11
4:30 PM - 5:30 PM	8			8	0.4	4			4	0.5								1	1	0.25	8	5	13
4:45 PM - 5:45 PM	7			7	0.35	5			5	0.625											7	5	12
5:00 PM - 6:00 PM	8			8	0.4	5			5	0.625											8	5	13
5:15 PM - 6:15 PM	9			9	0.45	4			4	0.5											9	4	13
5:30 PM - 6:30 PM	4			4	0.5	5			5	0.625											4	5	9
5:45 PM - 6:45 PM	6		1	7	0.4375	7			7	0.5833											7	7	14
6:00 PM - 7:00 PM	7		1	8	0.5	6			6	0.5								2	2	0.25	8	8	16
-																							

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	Site Driveway - B
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	0
INTERSECTION:	W. Broad St. & Driveway B	**WEATHER:**	clear	**WESTBOUND ROAD:**	West Broad Street - 7
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Eduvina	**EASTBOUND ROAD:**	West Broad Street - 7
		INPUTED BY:	agan		

Time	Southbound Site Driveway - B					Westbound West Broad Street - 7					Northbound 0					Eastbound West Broad Street - 7					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM						1			1													1	1
6:15 AM - 6:30 AM																							
6:30 AM - 6:45 AM																							
6:45 AM - 7:00 AM																							
7:00 AM - 7:15 AM																							
7:15 AM - 7:30 AM																							
7:30 AM - 7:45 AM																							
7:45 AM - 8:00 AM																							
8:00 AM - 8:15 AM																							
8:15 AM - 8:30 AM																							
8:30 AM - 8:45 AM						2			2													2	2
8:45 AM - 9:00 AM																							
2:30 PM - 2:45 PM																		1	1			1	1
2:45 PM - 3:00 PM																							
3:00 PM - 3:15 PM	1			1																	1		1
3:15 PM - 3:30 PM																							
3:30 PM - 3:45 PM																							
3:45 PM - 4:00 PM																							
4:00 PM - 4:15 PM						2			2													2	2
4:15 PM - 4:30 PM			1	1		2			2												1	2	3
4:30 PM - 4:45 PM																							
4:45 PM - 5:00 PM						3			3													3	3
5:00 PM - 5:15 PM	1			1																	1		1
5:15 PM - 5:30 PM			1	1																	1		1
5:30 PM - 5:45 PM																							
5:45 PM - 6:00 PM																							
6:00 PM - 6:15 PM			1	1		1			1												1	1	2
6:15 PM - 6:30 PM			1	1		1			1												1	1	2
6:30 PM - 6:45 PM	1			1		3			3												1	3	4
6:45 PM - 7:00 PM																							
Total	3	0	4	7		15	0	0	15		0	0	0	0		0	0	1	1		7	16	23
One Hour Volumes																							
6:00 AM - 7:00 AM						1			1	0.25												1	1
6:15 AM - 7:15 AM																							
6:30 AM - 7:30 AM																							
6:45 AM - 7:45 AM																							
7:00 AM - 8:00 AM																							
7:15 AM - 8:15 AM																							
7:30 AM - 8:30 AM																							
7:45 AM - 8:45 AM						2			2	0.25												2	2
8:00 AM - 9:00 AM						2			2	0.25												2	2
2:30 PM - 3:30 PM	1			1	0.25													1	1	0.25	1	1	2
2:45 PM - 3:45 PM	1			1	0.25																1		1
3:00 PM - 4:00 PM	1			1	0.25																1		1
3:15 PM - 4:15 PM						2			2	0.25												2	2
3:30 PM - 4:30 PM			1	1	0.25	4			4	0.5											1	4	5
3:45 PM - 4:45 PM			1	1	0.25	4			4	0.5											1	4	5
4:00 PM - 5:00 PM			1	1	0.25	7			7	0.5833											1	7	8
4:15 PM - 5:15 PM	1		1	2	0.5	5			5	0.4167											2	5	7
4:30 PM - 5:30 PM	1		1	2	0.5	3			3	0.25											2	3	5
4:45 PM - 5:45 PM	1		1	2	0.5	3			3	0.25											2	3	5
5:00 PM - 6:00 PM	1		1	2	0.5																2		2
5:15 PM - 6:15 PM			2	2	0.5	1			1	0.25											2	1	3
5:30 PM - 6:30 PM			2	2	0.5	2			2	0.5											2	2	4
5:45 PM - 6:45 PM	1		2	3	0.75	5			5	0.4167											3	5	8
6:00 PM - 7:00 PM	1		2	3	0.75	5			5	0.4167											3	5	8
-																							

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	Site Driveway - C
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	0
INTERSECTION:	W. Broad St. & Driveway C	**WEATHER:**	clear	**WESTBOUND ROAD:**	West Broad Street - 7
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Victor	**EASTBOUND ROAD:**	West Broad Street - 7
		INPUTED BY:	agan		

Time Period	Southbound Site Driveway - C					Westbound West Broad Street - 7					Northbound 0					Eastbound West Broad Street - 7					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM						1			1													1	1
6:15 AM - 6:30 AM																							
6:30 AM - 6:45 AM	1			1		1			1												1	1	2
6:45 AM - 7:00 AM																							
7:00 AM - 7:15 AM	2			2		1			1												2	1	3
7:15 AM - 7:30 AM						1			1													1	1
7:30 AM - 7:45 AM	1			1																	1		1
7:45 AM - 8:00 AM	1			1																	1		1
8:00 AM - 8:15 AM																							
8:15 AM - 8:30 AM																							
8:30 AM - 8:45 AM																							
8:45 AM - 9:00 AM																							
2:30 PM - 2:45 PM						1			1													1	1
2:45 PM - 3:00 PM																							
3:00 PM - 3:15 PM																							
3:15 PM - 3:30 PM						1			1													1	1
3:30 PM - 3:45 PM																							
3:45 PM - 4:00 PM						1			1													1	1
4:00 PM - 4:15 PM	1			1																	1		1
4:15 PM - 4:30 PM																							
4:30 PM - 4:45 PM	1			1																	1		1
4:45 PM - 5:00 PM																							
5:00 PM - 5:15 PM																							
5:15 PM - 5:30 PM																							
5:30 PM - 5:45 PM																							
5:45 PM - 6:00 PM																							
6:00 PM - 6:15 PM																							
6:15 PM - 6:30 PM																							
6:30 PM - 6:45 PM																							
6:45 PM - 7:00 PM						1			1													1	1
Total	7	0	0	7		8	0	0	8		0	0	0	0		0	0	0	0		7	8	15
One Hour Volumes																							
6:00 AM - 7:00 AM	1			1	0.25	2			2	0.5											1	2	3
6:15 AM - 7:15 AM	3			3	0.375	2			2	0.5											3	2	5
6:30 AM - 7:30 AM	3			3	0.375	3			3	0.75											3	3	6
6:45 AM - 7:45 AM	3			3	0.375	2			2	0.5											3	2	5
7:00 AM - 8:00 AM	4			4	0.5	2			2	0.5											4	2	6
7:15 AM - 8:15 AM	2			2	0.5	1			1	0.25											2	1	3
7:30 AM - 8:30 AM	2			2	0.5																2		2
7:45 AM - 8:45 AM	1			1	0.25																1		1
8:00 AM - 9:00 AM																							
2:30 PM - 3:30 PM						2			2	0.5												2	2
2:45 PM - 3:45 PM						1			1	0.25												1	1
3:00 PM - 4:00 PM						2			2	0.5												2	2
3:15 PM - 4:15 PM	1			1	0.25	2			2	0.5											1	2	3
3:30 PM - 4:30 PM	1			1	0.25	1			1	0.25											1	1	2
3:45 PM - 4:45 PM	2			2	0.5	1			1	0.25											2	1	3
4:00 PM - 5:00 PM	2			2	0.5																2		2
4:15 PM - 5:15 PM	1			1	0.25																1		1
4:30 PM - 5:30 PM	1			1	0.25																1		1
4:45 PM - 5:45 PM																							
5:00 PM - 6:00 PM																							
5:15 PM - 6:15 PM																							
5:30 PM - 6:30 PM																							
5:45 PM - 6:45 PM																							
6:00 PM - 7:00 PM						1			1	0.25												1	1
-																							

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	Site Driveway - D
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	0
INTERSECTION:	W. Broad St. & Driveway D	**WEATHER:**	clear	**WESTBOUND ROAD:**	West Broad Street - 7
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Victor	**EASTBOUND ROAD:**	West Broad Street - 7
		INPUTED BY:	agan		

Time	Southbound Site Driveway - D					Westbound West Broad Street - 7					Northbound 0					Eastbound West Broad Street - 7					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM																							
6:15 AM - 6:30 AM																							
6:30 AM - 6:45 AM						1			1													1	1
6:45 AM - 7:00 AM						1			1													1	1
7:00 AM - 7:15 AM						4			4													4	4
7:15 AM - 7:30 AM																							
7:30 AM - 7:45 AM						2			2													2	2
7:45 AM - 8:00 AM						7			7													7	7
8:00 AM - 8:15 AM	1			1		1			1												1	1	2
8:15 AM - 8:30 AM	1			1																	1		1
8:30 AM - 8:45 AM	2			2																	2		2
8:45 AM - 9:00 AM						2			2													2	2
2:30 PM - 2:45 PM	2			2		1			1												2	1	3
2:45 PM - 3:00 PM						1			1													1	1
3:00 PM - 3:15 PM	1			1																	1		1
3:15 PM - 3:30 PM																							
3:30 PM - 3:45 PM	1			1		1			1												1	1	2
3:45 PM - 4:00 PM						2			2													2	2
4:00 PM - 4:15 PM	1			1		5			5												1	5	6
4:15 PM - 4:30 PM						1			1													1	1
4:30 PM - 4:45 PM	1			1																	1		1
4:45 PM - 5:00 PM						1			1													1	1
5:00 PM - 5:15 PM	1			1		1			1												1	1	2
5:15 PM - 5:30 PM	3			3		1			1												3	1	4
5:30 PM - 5:45 PM	1			1																	1		1
5:45 PM - 6:00 PM						1			1													1	1
6:00 PM - 6:15 PM						3			3													3	3
6:15 PM - 6:30 PM						1			1													1	1
6:30 PM - 6:45 PM	3			3																	3		3
6:45 PM - 7:00 PM																							
Total	18	0	0	18		37	0	0	37		0	0	0	0		0	0	0	0		18	37	55
One Hour Volumes																							
6:00 AM - 7:00 AM						2			2	0.5												2	2
6:15 AM - 7:15 AM						6			6	0.375												6	6
6:30 AM - 7:30 AM						6			6	0.375												6	6
6:45 AM - 7:45 AM						7			7	0.4375												7	7
7:00 AM - 8:00 AM						13			13	0.4643												13	13
7:15 AM - 8:15 AM	1			1	0.25	10			10	0.3571											1	10	11
7:30 AM - 8:30 AM	2			2	0.5	10			10	0.3571											2	10	12
7:45 AM - 8:45 AM	4			4	0.5	8			8	0.2857											4	8	12
8:00 AM - 9:00 AM	4			4	0.5	3			3	0.375											4	3	7
2:30 PM - 3:30 PM	3			3	0.375	2			2	0.5											3	2	5
2:45 PM - 3:45 PM	2			2	0.5	2			2	0.5											2	2	4
3:00 PM - 4:00 PM	2			2	0.5	3			3	0.375											2	3	5
3:15 PM - 4:15 PM	2			2	0.5	8			8	0.4											2	8	10
3:30 PM - 4:30 PM	2			2	0.5	9			9	0.45											2	9	11
3:45 PM - 4:45 PM	2			2	0.5	8			8	0.4											2	8	10
4:00 PM - 5:00 PM	2			2	0.5	7			7	0.35											2	7	9
4:15 PM - 5:15 PM	2			2	0.5	3			3	0.75											2	3	5
4:30 PM - 5:30 PM	5			5	0.4167	3			3	0.75											5	3	8
4:45 PM - 5:45 PM	5			5	0.4167	3			3	0.75											5	3	8
5:00 PM - 6:00 PM	5			5	0.4167	3			3	0.75											5	3	8
5:15 PM - 6:15 PM	4			4	0.3333	5			5	0.4167											4	5	9
5:30 PM - 6:30 PM	1			1	0.25	5			5	0.4167											1	5	6
5:45 PM - 6:45 PM	3			3	0.25	5			5	0.4167											3	5	8
6:00 PM - 7:00 PM	3			3	0.25	4			4	0.3333											3	4	7
-																							

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	North West Street
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	North West Street
INTERSECTION:	N. West St. & Driveway E	**WEATHER:**	clear	**WESTBOUND ROAD:**	Site Driveway E
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Roberto	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

Time	Southbound North West Street					Westbound Site Driveway E					Northbound North West Street					Eastbound 0					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM																							
6:15 AM - 6:30 AM					`			1	1		1			1							1	1	2
6:30 AM - 6:45 AM											1			1							1		1
6:45 AM - 7:00 AM											2			2							2		2
7:00 AM - 7:15 AM											1			1							1		1
7:15 AM - 7:30 AM											1			1							1		1
7:30 AM - 7:45 AM											1			1							1		1
7:45 AM - 8:00 AM											1			1							1		1
8:00 AM - 8:15 AM								1	1		3			3							3	1	4
8:15 AM - 8:30 AM						1			1													1	1
8:30 AM - 8:45 AM											4			4							4		4
8:45 AM - 9:00 AM											2			2							2		2
2:30 PM - 2:45 PM											1			1							1		1
2:45 PM - 3:00 PM																							
3:00 PM - 3:15 PM						1			1		2			2							2	1	3
3:15 PM - 3:30 PM											1			1							1		1
3:30 PM - 3:45 PM								1	1		1			1							1	1	2
3:45 PM - 4:00 PM																							
4:00 PM - 4:15 PM											1			1							1		1
4:15 PM - 4:30 PM																							
4:30 PM - 4:45 PM																							
4:45 PM - 5:00 PM						1		1	2													2	2
5:00 PM - 5:15 PM						2			2		2			2							2	2	4
5:15 PM - 5:30 PM						1			1		4			4							4	1	5
5:30 PM - 5:45 PM						1			1		1			1							1	1	2
5:45 PM - 6:00 PM																							
6:00 PM - 6:15 PM						3			3		2			2							2	3	5
6:15 PM - 6:30 PM								1	1													1	1
6:30 PM - 6:45 PM											1			1							1		1
6:45 PM - 7:00 PM											1			1							1		1
Total	0	0	0	0		10	0	5	15		34	0	0	34		0	0	0	0		34	15	49
One Hour Volumes																							
6:00 AM - 7:00 AM								1	1	0.25	4			4	0.5						4	1	5
6:15 AM - 7:15 AM								1	1	0.25	5			5	0.625						5	1	6
6:30 AM - 7:30 AM											5			5	0.625						5		5
6:45 AM - 7:45 AM											5			5	0.625						5		5
7:00 AM - 8:00 AM											4			4	1						4		4
7:15 AM - 8:15 AM								1	1	0.25	6			6	0.5						6	1	7
7:30 AM - 8:30 AM						1		1	2	0.5	5			5	0.4167						5	2	7
7:45 AM - 8:45 AM						1		1	2	0.5	8			8	0.5						8	2	10
8:00 AM - 9:00 AM						1		1	2	0.5	9			9	0.5625						9	2	11
2:30 PM - 3:30 PM						1			1	0.25	4			4	0.5						4	1	5
2:45 PM - 3:45 PM						1		1	2	0.5	4			4	0.5						4	2	6
3:00 PM - 4:00 PM						1		1	2	0.5	4			4	0.5						4	2	6
3:15 PM - 4:15 PM								1	1	0.25	3			3	0.75						3	1	4
3:30 PM - 4:30 PM								1	1	0.25	2			2	0.5						2	1	3
3:45 PM - 4:45 PM											1			1	0.25						1		1
4:00 PM - 5:00 PM						1		1	2	0.25	1			1	0.25						1	2	3
4:15 PM - 5:15 PM						3		1	4	0.5	2			2	0.25						2	4	6
4:30 PM - 5:30 PM						4		1	5	0.625	6			6	0.375						6	5	11
4:45 PM - 5:45 PM						5		1	6	0.75	7			7	0.4375						7	6	13
5:00 PM - 6:00 PM						4			4	0.5	7			7	0.4375						7	4	11
5:15 PM - 6:15 PM						5			5	0.4167	7			7	0.4375						7	5	12
5:30 PM - 6:30 PM						4		1	5	0.4167	3			3	0.375						3	5	8
5:45 PM - 6:45 PM						3		1	4	0.3333	3			3	0.375						3	4	7
6:00 PM - 7:00 PM						3		1	4	0.3333	4			4	0.5						4	4	8
-																							

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	North West Street
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	North West Street
INTERSECTION:	N. West St. & Driveway F	**WEATHER:**	clear	**WESTBOUND ROAD:**	Site Driveway F
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Roberto	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

Time	Southbound North West Street					Westbound Site Driveway F					Northbound North West Street					Eastbound 0					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM																							
6:15 AM - 6:30 AM					`			1	1													1	1
6:30 AM - 6:45 AM						3		2	5		2			2							2	5	7
6:45 AM - 7:00 AM						2		2	4													4	4
7:00 AM - 7:15 AM						2		1	3													3	3
7:15 AM - 7:30 AM						2			2													2	2
7:30 AM - 7:45 AM			1	1		2		3	5		1			1							2	5	7
7:45 AM - 8:00 AM			2	2		2		4	6		1			1							3	6	9
8:00 AM - 8:15 AM						2		1	3		3			3							3	3	6
8:15 AM - 8:30 AM			2	2		3		1	4												2	4	6
8:30 AM - 8:45 AM			1	1		5			5		1			1							2	5	7
8:45 AM - 9:00 AM			2	2		3		3	6												2	6	8
2:30 PM - 2:45 PM																							
2:45 PM - 3:00 PM						1			1		1			1							1	1	2
3:00 PM - 3:15 PM																							
3:15 PM - 3:30 PM																							
3:30 PM - 3:45 PM								1	1		2			2							2	1	3
3:45 PM - 4:00 PM						2			2													2	2
4:00 PM - 4:15 PM																							
4:15 PM - 4:30 PM																							
4:30 PM - 4:45 PM																							
4:45 PM - 5:00 PM																							
5:00 PM - 5:15 PM			1	1																	1		1
5:15 PM - 5:30 PM																							
5:30 PM - 5:45 PM			1	1																	1		1
5:45 PM - 6:00 PM																							
6:00 PM - 6:15 PM						1		1	2													2	2
6:15 PM - 6:30 PM						1			1													1	1
6:30 PM - 6:45 PM																							
6:45 PM - 7:00 PM											1			1							1		1
Total	0	0	10	10		31	0	20	51		12	0	0	12		0	0	0	0		22	51	73
One Hour Volumes																							
6:00 AM - 7:00 AM						5		5	10	0.5	2			2	0.25						2	10	12
6:15 AM - 7:15 AM						7		6	13	0.65	2			2	0.25						2	13	15
6:30 AM - 7:30 AM						9		5	14	0.7	2			2	0.25						2	14	16
6:45 AM - 7:45 AM			1	1	0.25	8		6	14	0.7	1			1	0.25						2	14	16
7:00 AM - 8:00 AM			3	3	0.375	8		8	16	0.6667	2			2	0.5						5	16	21
7:15 AM - 8:15 AM			3	3	0.375	8		8	16	0.6667	5			5	0.4167						8	16	24
7:30 AM - 8:30 AM			5	5	0.625	9		9	18	0.75	5			5	0.4167						10	18	28
7:45 AM - 8:45 AM			5	5	0.625	12		6	18	0.75	5			5	0.4167						10	18	28
8:00 AM - 9:00 AM			5	5	0.625	13		5	18	0.75	4			4	0.3333						9	18	27
2:30 PM - 3:30 PM						1			1	0.25	1			1	0.25						1	1	2
2:45 PM - 3:45 PM						1		1	2	0.5	3			3	0.375						3	2	5
3:00 PM - 4:00 PM						2		1	3	0.375	2			2	0.25						2	3	5
3:15 PM - 4:15 PM						2		1	3	0.375	2			2	0.25						2	3	5
3:30 PM - 4:30 PM						2		1	3	0.375	2			2	0.25						2	3	5
3:45 PM - 4:45 PM						2			2	0.25												2	2
4:00 PM - 5:00 PM																							
4:15 PM - 5:15 PM			1	1	0.25																1		1
4:30 PM - 5:30 PM			1	1	0.25																1		1
4:45 PM - 5:45 PM			2	2	0.5																2		2
5:00 PM - 6:00 PM			2	2	0.5																2		2
5:15 PM - 6:15 PM			1	1	0.25	1		1	2	0.25											1	2	3
5:30 PM - 6:30 PM			1	1	0.25	2		1	3	0.375											1	3	4
5:45 PM - 6:45 PM						2		1	3	0.375												3	3
6:00 PM - 7:00 PM						2		1	3	0.375	1			1	0.25						1	3	4
-																							

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: North West & West Broad
W+A JOB NO: 5897
INTERSECTION: N. West St. & Driveway G
LOCATION: Fairfax County,VA

DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Roberto
INPUTED BY: agan

SOUTHBOUND ROAD: North West Street
NORTHBOUND ROAD: North West Street
WESTBOUND ROAD: Site Driveway G
EASTBOUND ROAD: 0

Time	Southbound North West Street					Westbound Site Driveway G					Northbound North West Street					Eastbound 0					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM			1	1		3		6	9		13			13							14	9	23
6:15 AM - 6:30 AM								4	4		9			9							9	4	13
6:30 AM - 6:45 AM			2	2				1	1		10			10							12	1	13
6:45 AM - 7:00 AM			2	2				5	5		12			12							14	5	19
7:00 AM - 7:15 AM			1	1				2	2		8			8							9	2	11
7:15 AM - 7:30 AM			3	3		1		4	5		19			19							22	5	27
7:30 AM - 7:45 AM			3	3				1	1		22			22							25	1	26
7:45 AM - 8:00 AM			2	2		3		3	6		14			14							16	6	22
8:00 AM - 8:15 AM			2	2		1		2	3		9			9							11	3	14
8:15 AM - 8:30 AM			4	4		1		2	3		10			10							14	3	17
8:30 AM - 8:45 AM			9	9							11			11							20		20
8:45 AM - 9:00 AM			5	5		2		2	4		8			8							13	4	17
2:30 PM - 2:45 PM			3	3		6		8	14		8			8							11	14	25
2:45 PM - 3:00 PM			6	6		6		5	11		5			5							11	11	22
3:00 PM - 3:15 PM						3		2	5		4			4							4	5	9
3:15 PM - 3:30 PM			5	5		5		2	7		5			5							10	7	17
3:30 PM - 3:45 PM			2	2				2	2		1			1							3	2	5
3:45 PM - 4:00 PM			2	2		4		2	6		1			1							3	6	9
4:00 PM - 4:15 PM			3	3		2		2	4		2			2							5	4	9
4:15 PM - 4:30 PM								1	1		2			2							2	1	3
4:30 PM - 4:45 PM						2		1	3		2			2							2	3	5
4:45 PM - 5:00 PM			6	6		2		1	3		2			2							8	3	11
5:00 PM - 5:15 PM			2	2		2		6	8		1			1							3	8	11
5:15 PM - 5:30 PM								1	1		1			1							1	1	2
5:30 PM - 5:45 PM						2		3	5		3			3							3	5	8
5:45 PM - 6:00 PM						3			3		4			4							4	3	7
6:00 PM - 6:15 PM			1	1		1		1	2												1	2	3
6:15 PM - 6:30 PM											1			1							1		1
6:30 PM - 6:45 PM			2	2		3			3		3			3							5	3	8
6:45 PM - 7:00 PM			2	2		2		1	3		2			2							4	3	7
Total	0	0	68	68		54	0	70	124		192	0	0	192		0	0	0	0		260	124	384
One Hour Volumes																							
6:00 AM - 7:00 AM			5	5	0.625	3		16	19	0.5278	44			44	0.8462						49	19	68
6:15 AM - 7:15 AM			5	5	0.625			12	12	0.6	39			39	0.8125						44	12	56
6:30 AM - 7:30 AM			8	8	0.6667	1		12	13	0.65	49			49	0.6447						57	13	70
6:45 AM - 7:45 AM			9	9	0.75	1		12	13	0.65	61			61	0.6932						70	13	83
7:00 AM - 8:00 AM			9	9	0.75	4		10	14	0.5833	63			63	0.7159						72	14	86
7:15 AM - 8:15 AM			10	10	0.8333	5		10	15	0.625	64			64	0.7273						74	15	89
7:30 AM - 8:30 AM			11	11	0.6875	5		8	13	0.5417	55			55	0.625						66	13	79
7:45 AM - 8:45 AM			17	17	0.4722	5		7	12	0.5	44			44	0.7857						61	12	73
8:00 AM - 9:00 AM			20	20	0.5556	4		6	10	0.625	38			38	0.8636						58	10	68
2:30 PM - 3:30 PM			14	14	0.5833	20		17	37	0.6607	22			22	0.6875						36	37	73
2:45 PM - 3:45 PM			13	13	0.5417	14		11	25	0.5682	15			15	0.75						28	25	53
3:00 PM - 4:00 PM			9	9	0.45	12		8	20	0.7143	11			11	0.55						20	20	40
3:15 PM - 4:15 PM			12	12	0.6	11		8	19	0.6786	9			9	0.45						21	19	40
3:30 PM - 4:30 PM			7	7	0.5833	6		7	13	0.5417	6			6	0.75						13	13	26
3:45 PM - 4:45 PM			5	5	0.4167	8		6	14	0.5833	7			7	0.875						12	14	26
4:00 PM - 5:00 PM			9	9	0.375	6		5	11	0.6875	8			8	1						17	11	28
4:15 PM - 5:15 PM			8	8	0.3333	6		9	15	0.4688	7			7	0.875						15	15	30
4:30 PM - 5:30 PM			8	8	0.3333	6		9	15	0.4688	6			6	0.75						14	15	29
4:45 PM - 5:45 PM			8	8	0.3333	6		11	17	0.5313	7			7	0.5833						15	17	32
5:00 PM - 6:00 PM			2	2	0.25	7		10	17	0.5313	9			9	0.5625						11	17	28
5:15 PM - 6:15 PM			1	1	0.25	6		5	11	0.55	8			8	0.5						9	11	20
5:30 PM - 6:30 PM			1	1	0.25	6		4	10	0.5	8			8	0.5						9	10	19
5:45 PM - 6:45 PM			3	3	0.375	7		1	8	0.6667	8			8	0.5						11	8	19
6:00 PM - 7:00 PM			5	5	0.625	6		2	8	0.6667	6			6	0.5						11	8	19
-																							

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	North West Street
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	North West Street
INTERSECTION:	N. West St. & Driveway H	**WEATHER:**	clear	**WESTBOUND ROAD:**	Site Driveway H
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Austin	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

Time	Southbound North West Street					Westbound Site Driveway H					Northbound North West Street					Eastbound 0					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM								1	1		4			4							4	1	5
6:15 AM - 6:30 AM								1	1		6		3	9							9	1	10
6:30 AM - 6:45 AM								1	1		4		3	7		1			1		7	2	9
6:45 AM - 7:00 AM								3	3		10		6	16							16	3	19
7:00 AM - 7:15 AM								3	3		6		6	12							12	3	15
7:15 AM - 7:30 AM								2	2		10		6	16		1			1		16	3	19
7:30 AM - 7:45 AM								1	1		9		13	22							22	1	23
7:45 AM - 8:00 AM								3	3		8		6	14							14	3	17
8:00 AM - 8:15 AM								1	1		4		4	8							8	1	9
8:15 AM - 8:30 AM								2	2		7		10	17		1			1		17	3	20
8:30 AM - 8:45 AM								3	3		13		11	24		1			1		24	4	28
8:45 AM - 9:00 AM								1	1		8		2	10							10	1	11
2:30 PM - 2:45 PM								1	1		3		2	5		1			1		5	2	7
2:45 PM - 3:00 PM											5		3	8							8		8
3:00 PM - 3:15 PM								1	1		4			4							4	1	5
3:15 PM - 3:30 PM								2	2		2		3	5							5	2	7
3:30 PM - 3:45 PM								3	3		4		2	6		2			2		6	5	11
3:45 PM - 4:00 PM								2	2		4		2	6		1			1		6	3	9
4:00 PM - 4:15 PM								5	5		5		4	9							9	5	14
4:15 PM - 4:30 PM								6	6		9		5	14							14	6	20
4:30 PM - 4:45 PM								2	2		7		4	11		2			2		11	4	15
4:45 PM - 5:00 PM											10		4	14							14		14
5:00 PM - 5:15 PM								3	3		6		2	8							8	3	11
5:15 PM - 5:30 PM								2	2		2		2	4		1			1		4	3	7
5:30 PM - 5:45 PM								5	5		5		1	6							6	5	11
5:45 PM - 6:00 PM								1	1		9		3	12		1			1		12	2	14
6:00 PM - 6:15 PM											3		2	5							5		5
6:15 PM - 6:30 PM								2	2		5		2	7							7	2	9
6:30 PM - 6:45 PM								2	2		7		3	10							10	2	12
6:45 PM - 7:00 PM											5		2	7		1			1		7	1	8
Total	0	0	0	0		0	0	59	59		184	0	116	300		13	0	0	13		300	72	372
One Hour Volumes																							
6:00 AM - 7:00 AM								6	6	0.5	24		12	36	0.5625	1			1	0.25	36	7	43
6:15 AM - 7:15 AM								8	8	0.6667	26		18	44	0.6875	1			1	0.25	44	9	53
6:30 AM - 7:30 AM								9	9	0.75	30		21	51	0.7969	2			2	0.5	51	11	62
6:45 AM - 7:45 AM								9	9	0.75	35		31	66	0.75	1			1	0.25	66	10	76
7:00 AM - 8:00 AM								9	9	0.75	33		31	64	0.7273	1			1	0.25	64	10	74
7:15 AM - 8:15 AM								7	7	0.5833	31		29	60	0.6818	1			1	0.25	60	8	68
7:30 AM - 8:30 AM								7	7	0.5833	28		33	61	0.6932	1			1	0.25	61	8	69
7:45 AM - 8:45 AM								9	9	0.75	32		31	63	0.6563	2			2	0.5	63	11	74
8:00 AM - 9:00 AM								7	7	0.5833	32		27	59	0.6146	2			2	0.5	59	9	68
2:30 PM - 3:30 PM								4	4	0.5	14		8	22	0.6875	1			1	0.25	22	5	27
2:45 PM - 3:45 PM								6	6	0.5	15		8	23	0.7188	2			2	0.25	23	8	31
3:00 PM - 4:00 PM								8	8	0.6667	14		7	21	0.875	3			3	0.375	21	11	32
3:15 PM - 4:15 PM								12	12	0.6	15		11	26	0.7222	3			3	0.375	26	15	41
3:30 PM - 4:30 PM								16	16	0.6667	22		13	35	0.625	3			3	0.375	35	19	54
3:45 PM - 4:45 PM								15	15	0.625	25		15	40	0.7143	3			3	0.375	40	18	58
4:00 PM - 5:00 PM								13	13	0.5417	31		17	48	0.8571	2			2	0.25	48	15	63
4:15 PM - 5:15 PM								11	11	0.4583	32		15	47	0.8393	2			2	0.25	47	13	60
4:30 PM - 5:30 PM								7	7	0.5833	25		12	37	0.6607	3			3	0.375	37	10	47
4:45 PM - 5:45 PM								10	10	0.5	23		9	32	0.5714	1			1	0.25	32	11	43
5:00 PM - 6:00 PM								11	11	0.55	22		8	30	0.625	2			2	0.5	30	13	43
5:15 PM - 6:15 PM								8	8	0.4	19		8	27	0.5625	2			2	0.5	27	10	37
5:30 PM - 6:30 PM								8	8	0.4	22		8	30	0.625	1			1	0.25	30	9	39
5:45 PM - 6:45 PM								5	5	0.625	24		10	34	0.7083	1			1	0.25	34	6	40
6:00 PM - 7:00 PM								4	4	0.5	20		9	29	0.725	1			1	0.25	29	5	34
-																							

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: North West & West Broad
W+A JOB NO: 5897
INTERSECTION: N. West St. & Driveway 1
LOCATION: Fairfax County,VA

DATE: 9/12/2013
DAY: Thursday
WEATHER: clear
COUNTED BY: Austin
INPUTED BY: agan

SOUTHBOUND ROAD: North West Street
NORTHBOUND ROAD: North West Street
WESTBOUND ROAD: Site Driveway 1
EASTBOUND ROAD: 0

Time Period	Southbound North West Street					Westbound Site Driveway 1					Northbound North West Street					Eastbound 0					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM								1	1													1	1
6:15 AM - 6:30 AM																							
6:30 AM - 6:45 AM																3			3			3	3
6:45 AM - 7:00 AM																4			4			4	4
7:00 AM - 7:15 AM																							
7:15 AM - 7:30 AM											1		1	2		1			1		2	1	3
7:30 AM - 7:45 AM											3		1	4							4		4
7:45 AM - 8:00 AM								1	1							1			1			2	2
8:00 AM - 8:15 AM											1		1	2		1			1		2	1	3
8:15 AM - 8:30 AM													1	1							1		1
8:30 AM - 8:45 AM																							
8:45 AM - 9:00 AM													1	1							1		1
2:30 PM - 2:45 PM								1	1							2			2			3	3
2:45 PM - 3:00 PM													1	1							1		1
3:00 PM - 3:15 PM								1	1							2			2			3	3
3:15 PM - 3:30 PM								1	1				3	3		1			1		3	2	5
3:30 PM - 3:45 PM											1			1							1		1
3:45 PM - 4:00 PM								1	1		1		1	2		1			1		2	2	4
4:00 PM - 4:15 PM													1	1		1			1		1	1	2
4:15 PM - 4:30 PM																							
4:30 PM - 4:45 PM																2			2			2	2
4:45 PM - 5:00 PM								3	3				1	1							1	3	4
5:00 PM - 5:15 PM											2		1	3							3		3
5:15 PM - 5:30 PM											1		1	2							2		2
5:30 PM - 5:45 PM													1	1							1		1
5:45 PM - 6:00 PM													1	1		1			1		1	1	2
6:00 PM - 6:15 PM													2	2		1			1		2	1	3
6:15 PM - 6:30 PM																							
6:30 PM - 6:45 PM																1			1			1	1
6:45 PM - 7:00 PM													1	1							1		1
Total	0	0	0	0		0	0	9	9		10	0	19	29		22	0	0	22		29	31	60
One Hour Volumes																							
6:00 AM - 7:00 AM								1	1	0.25						7			7	0.4375		8	8
6:15 AM - 7:15 AM																7			7	0.4375		7	7
6:30 AM - 7:30 AM											1		1	2	0.25	8			8	0.5	2	8	10
6:45 AM - 7:45 AM											4		2	6	0.375	5			5	0.3125	6	5	11
7:00 AM - 8:00 AM								1	1	0.25	4		2	6	0.375	2			2	0.5	6	3	9
7:15 AM - 8:15 AM								1	1	0.25	5		3	8	0.5	3			3	0.75	8	4	12
7:30 AM - 8:30 AM								1	1	0.25	4		3	7	0.4375	2			2	0.5	7	3	10
7:45 AM - 8:45 AM								1	1	0.25	1		2	3	0.375	2			2	0.5	3	3	6
8:00 AM - 9:00 AM											1		3	4	0.5	1			1	0.25	4	1	5
2:30 PM - 3:30 PM								3	3	0.75			4	4	0.3333	5			5	0.625	4	8	12
2:45 PM - 3:45 PM								2	2	0.5	1		4	5	0.4167	3			3	0.375	5	5	10
3:00 PM - 4:00 PM								3	3	0.75	2		4	6	0.5	4			4	0.5	6	7	13
3:15 PM - 4:15 PM								2	2	0.5	2		5	7	0.5833	3			3	0.75	7	5	12
3:30 PM - 4:30 PM								1	1	0.25	2		2	4	0.5	2			2	0.5	4	3	7
3:45 PM - 4:45 PM								1	1	0.25	1		2	3	0.375	4			4	0.5	3	5	8
4:00 PM - 5:00 PM								3	3	0.25			2	2	0.5	3			3	0.375	2	6	8
4:15 PM - 5:15 PM								3	3	0.25	2		2	4	0.3333	2			2	0.25	4	5	9
4:30 PM - 5:30 PM								3	3	0.25	3		3	6	0.5	2			2	0.25	6	5	11
4:45 PM - 5:45 PM								3	3	0.25	3		4	7	0.5833						7	3	10
5:00 PM - 6:00 PM											3		4	7	0.5833	1			1	0.25	7	1	8
5:15 PM - 6:15 PM											1		5	6	0.75	2			2	0.5	6	2	8
5:30 PM - 6:30 PM													4	4	0.5	2			2	0.5	4	2	6
5:45 PM - 6:45 PM													3	3	0.375	3			3	0.75	3	3	6
6:00 PM - 7:00 PM													3	3	0.375	2			2	0.5	3	2	5
-																							

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	0
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	Site Driveway J
INTERSECTION:	Park Ave. & Driveway J	**WEATHER:**	clear	**WESTBOUND ROAD:**	Park Avenue
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Carmen	**EASTBOUND ROAD:**	Park Avenue
		INPUTED BY:	agan		

Time	Southbound 0					Westbound Park Avenue					Northbound Site Driveway J					Eastbound Park Avenue					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM											1			1							1		1
6:15 AM - 6:30 AM																							
6:30 AM - 6:45 AM																							
6:45 AM - 7:00 AM																							
7:00 AM - 7:15 AM																							
7:15 AM - 7:30 AM																							
7:30 AM - 7:45 AM																							
7:45 AM - 8:00 AM																							
8:00 AM - 8:15 AM																1			1			1	1
8:15 AM - 8:30 AM																							
8:30 AM - 8:45 AM																							
8:45 AM - 9:00 AM																							
2:30 PM - 2:45 PM													1	1							1		1
2:45 PM - 3:00 PM								1	1		1			1							1	1	2
3:00 PM - 3:15 PM								1	1							1			1			2	2
3:15 PM - 3:30 PM											1			1							1		1
3:30 PM - 3:45 PM																							
3:45 PM - 4:00 PM																							
4:00 PM - 4:15 PM																							
4:15 PM - 4:30 PM																							
4:30 PM - 4:45 PM																							
4:45 PM - 5:00 PM																							
5:00 PM - 5:15 PM													1	1							1		1
5:15 PM - 5:30 PM													1	1							1		1
5:30 PM - 5:45 PM													2	2							2		2
5:45 PM - 6:00 PM																							
6:00 PM - 6:15 PM								1	1		1			1		1			1		1	2	3
6:15 PM - 6:30 PM																							
6:30 PM - 6:45 PM								1	1													1	1
6:45 PM - 7:00 PM											1			1							1		1
Total	0	0	0	0		0	0	4	4		5	0	5	10		3	0	0	3		10	7	17
One Hour Volumes																							
6:00 AM - 7:00 AM											1			1	0.25						1		1
6:15 AM - 7:15 AM																							
6:30 AM - 7:30 AM																							
6:45 AM - 7:45 AM																							
7:00 AM - 8:00 AM																							
7:15 AM - 8:15 AM																1			1	0.25		1	1
7:30 AM - 8:30 AM																1			1	0.25		1	1
7:45 AM - 8:45 AM																1			1	0.25		1	1
8:00 AM - 9:00 AM																1			1	0.25		1	1
2:30 PM - 3:30 PM								2	2	0.5	2		1	3	0.75	1			1	0.25	3	3	6
2:45 PM - 3:45 PM								2	2	0.5	2			2	0.5	1			1	0.25	2	3	5
3:00 PM - 4:00 PM								1	1	0.25	1			1	0.25	1			1	0.25	1	2	3
3:15 PM - 4:15 PM											1			1	0.25						1		1
3:30 PM - 4:30 PM																							
3:45 PM - 4:45 PM																							
4:00 PM - 5:00 PM																							
4:15 PM - 5:15 PM													1	1	0.25						1		1
4:30 PM - 5:30 PM													2	2	0.5						2		2
4:45 PM - 5:45 PM													4	4	0.5						4		4
5:00 PM - 6:00 PM													4	4	0.5						4		4
5:15 PM - 6:15 PM								1	1	0.25	1		3	4	0.5	1			1	0.25	4	2	6
5:30 PM - 6:30 PM								1	1	0.25	1		2	3	0.375	1			1	0.25	3	2	5
5:45 PM - 6:45 PM								2	2	0.5	1			1	0.25	1			1	0.25	1	3	4
6:00 PM - 7:00 PM								2	2	0.5	2			2	0.5	1			1	0.25	2	3	5
-																							

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	0
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	Site Driveway K
INTERSECTION:	Park Ave. & Driveway K	**WEATHER:**	clear	**WESTBOUND ROAD:**	Park Avenue
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Carmen	**EASTBOUND ROAD:**	Park Avenue
		INPUTED BY:	agan		

Time	Southbound 0					Westbound Park Avenue					Northbound Site Driveway K					Eastbound Park Avenue					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM																							
6:15 AM - 6:30 AM																							
6:30 AM - 6:45 AM																							
6:45 AM - 7:00 AM																							
7:00 AM - 7:15 AM																							
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8:00 AM - 8:15 AM																							
8:15 AM - 8:30 AM																							
8:30 AM - 8:45 AM																							
8:45 AM - 9:00 AM																							
2:30 PM - 2:45 PM																							
2:45 PM - 3:00 PM																							
3:00 PM - 3:15 PM																							
3:15 PM - 3:30 PM																							
3:30 PM - 3:45 PM																							
3:45 PM - 4:00 PM																							
4:00 PM - 4:15 PM																							
4:15 PM - 4:30 PM													1	1							1		1
4:30 PM - 4:45 PM																							
4:45 PM - 5:00 PM																							
5:00 PM - 5:15 PM																							
5:15 PM - 5:30 PM											1			1							1		1
5:30 PM - 5:45 PM																							
5:45 PM - 6:00 PM																							
6:00 PM - 6:15 PM																							
6:15 PM - 6:30 PM																							
6:30 PM - 6:45 PM																							
6:45 PM - 7:00 PM																							
Total	0	0	0	0		0	0	0	0		1	0	1	2		0	0	0	0		2	0	2
One Hour Volumes																							
6:00 AM - 7:00 AM																							
6:15 AM - 7:15 AM																							
6:30 AM - 7:30 AM																							
6:45 AM - 7:45 AM																							
7:00 AM - 8:00 AM																							
7:15 AM - 8:15 AM																							
7:30 AM - 8:30 AM																							
7:45 AM - 8:45 AM																							
8:00 AM - 9:00 AM																							
2:30 PM - 3:30 PM																							
2:45 PM - 3:45 PM																							
3:00 PM - 4:00 PM																							
3:15 PM - 4:15 PM																							
3:30 PM - 4:30 PM													1	1	0.25						1		1
3:45 PM - 4:45 PM													1	1	0.25						1		1
4:00 PM - 5:00 PM													1	1	0.25						1		1
4:15 PM - 5:15 PM													1	1	0.25						1		1
4:30 PM - 5:30 PM											1			1	0.25						1		1
4:45 PM - 5:45 PM											1			1	0.25						1		1
5:00 PM - 6:00 PM											1			1	0.25						1		1
5:15 PM - 6:15 PM											1			1	0.25						1		1
5:30 PM - 6:30 PM																							
5:45 PM - 6:45 PM																							
6:00 PM - 7:00 PM																							
-																							

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	0
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	Site Driveway L
INTERSECTION:	Park Ave. & Driveway L	**WEATHER:**	clear	**WESTBOUND ROAD:**	Park Avenue
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Carmen	**EASTBOUND ROAD:**	Park Avenue
		INPUTED BY:	agan		

Time	Southbound 0					Westbound Park Avenue					Northbound Site Driveway L					Eastbound Park Avenue					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM																							
6:15 AM - 6:30 AM																							
6:30 AM - 6:45 AM																							
6:45 AM - 7:00 AM																							
7:00 AM - 7:15 AM																							
7:15 AM - 7:30 AM																							
7:30 AM - 7:45 AM																							
7:45 AM - 8:00 AM																							
8:00 AM - 8:15 AM																							
8:15 AM - 8:30 AM													1	1							1		1
8:30 AM - 8:45 AM																							
8:45 AM - 9:00 AM																							
2:30 PM - 2:45 PM																							
2:45 PM - 3:00 PM																							
3:00 PM - 3:15 PM																							
3:15 PM - 3:30 PM																							
3:30 PM - 3:45 PM																							
3:45 PM - 4:00 PM																							
4:00 PM - 4:15 PM																							
4:15 PM - 4:30 PM																							
4:30 PM - 4:45 PM																							
4:45 PM - 5:00 PM																							
5:00 PM - 5:15 PM																							
5:15 PM - 5:30 PM																							
5:30 PM - 5:45 PM																							
5:45 PM - 6:00 PM													1	1							1		1
6:00 PM - 6:15 PM																1			1			1	1
6:15 PM - 6:30 PM																							
6:30 PM - 6:45 PM																							
6:45 PM - 7:00 PM																							
Total	0	0	0	0		0	0	0	0		0	0	2	2		1	0	0	1		2	1	3
One Hour Volumes																							
6:00 AM - 7:00 AM																							
6:15 AM - 7:15 AM																							
6:30 AM - 7:30 AM																							
6:45 AM - 7:45 AM																							
7:00 AM - 8:00 AM																							
7:15 AM - 8:15 AM																							
7:30 AM - 8:30 AM													1	1	0.25						1		1
7:45 AM - 8:45 AM													1	1	0.25						1		1
8:00 AM - 9:00 AM													1	1	0.25						1		1
2:30 PM - 3:30 PM																							
2:45 PM - 3:45 PM																							
3:00 PM - 4:00 PM																							
3:15 PM - 4:15 PM																							
3:30 PM - 4:30 PM																							
3:45 PM - 4:45 PM																							
4:00 PM - 5:00 PM																							
4:15 PM - 5:15 PM																							
4:30 PM - 5:30 PM																							
4:45 PM - 5:45 PM																							
5:00 PM - 6:00 PM													1	1	0.25						1		1
5:15 PM - 6:15 PM													1	1	0.25	1			1	0.25	1	1	2
5:30 PM - 6:30 PM													1	1	0.25	1			1	0.25	1	1	2
5:45 PM - 6:45 PM													1	1	0.25	1			1	0.25	1	1	2
6:00 PM - 7:00 PM																1			1	0.25		1	1
-																							

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	North West & West Broad	**DATE:**	9/12/2013	**SOUTHBOUND ROAD:**	0
W+A JOB NO:	5897	**DAY:**	Thursday	**NORTHBOUND ROAD:**	Site Driveway M
INTERSECTION:	Park Ave. & Driveway M	**WEATHER:**	clear	**WESTBOUND ROAD:**	Park Avenue
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Carmen	**EASTBOUND ROAD:**	Park Avenue
		INPUTED BY:	agan		

Time	Southbound 0					Westbound Park Avenue					Northbound Site Driveway M					Eastbound Park Avenue					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM																							
6:15 AM - 6:30 AM																							
6:30 AM - 6:45 AM																							
6:45 AM - 7:00 AM																							
7:00 AM - 7:15 AM																							
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8:15 AM - 8:30 AM																							
8:30 AM - 8:45 AM																							
8:45 AM - 9:00 AM																							
2:30 PM - 2:45 PM																							
2:45 PM - 3:00 PM																							
3:00 PM - 3:15 PM																							
3:15 PM - 3:30 PM																1			1			1	1
3:30 PM - 3:45 PM																							
3:45 PM - 4:00 PM																							
4:00 PM - 4:15 PM																							
4:15 PM - 4:30 PM																							
4:30 PM - 4:45 PM													1	1		1			1		1	1	2
4:45 PM - 5:00 PM																							
5:00 PM - 5:15 PM																							
5:15 PM - 5:30 PM																							
5:30 PM - 5:45 PM																							
5:45 PM - 6:00 PM																							
6:00 PM - 6:15 PM																							
6:15 PM - 6:30 PM																							
6:30 PM - 6:45 PM																							
6:45 PM - 7:00 PM											1			1							1		1
Total	0	0	0	0		0	0	0	0		1	0	1	2		2	0	0	2		2	2	4
One Hour Volumes																							
6:00 AM - 7:00 AM																							
6:15 AM - 7:15 AM																							
6:30 AM - 7:30 AM																							
6:45 AM - 7:45 AM																							
7:00 AM - 8:00 AM																							
7:15 AM - 8:15 AM																							
7:30 AM - 8:30 AM																							
7:45 AM - 8:45 AM																							
8:00 AM - 9:00 AM																							
2:30 PM - 3:30 PM																1			1	0.25		1	1
2:45 PM - 3:45 PM																1			1	0.25		1	1
3:00 PM - 4:00 PM																1			1	0.25		1	1
3:15 PM - 4:15 PM																1			1	0.25		1	1
3:30 PM - 4:30 PM																							
3:45 PM - 4:45 PM													1	1	0.25	1			1	0.25	1	1	2
4:00 PM - 5:00 PM													1	1	0.25	1			1	0.25	1	1	2
4:15 PM - 5:15 PM													1	1	0.25	1			1	0.25	1	1	2
4:30 PM - 5:30 PM													1	1	0.25	1			1	0.25	1	1	2
4:45 PM - 5:45 PM																							
5:00 PM - 6:00 PM																							
5:15 PM - 6:15 PM																							
5:30 PM - 6:30 PM																							
5:45 PM - 6:45 PM																							
6:00 PM - 7:00 PM											1			1	0.25						1		1
-																							

Appendix I

Total Future Conditions Synchro Analysis

Queues
1: Route 7 & N West St.

4/16/2015

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	254	1198	52	1198	249	350	152	125
v/c Ratio	1.17	0.78	0.27	0.85	0.70	0.94	0.51	0.26
Control Delay	134.5	28.4	22.1	44.5	55.7	81.0	50.2	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	134.5	28.4	22.1	44.5	55.7	81.0	50.2	12.1
Queue Length 50th (ft)	~192	445	22	520	180	265	103	19
Queue Length 95th (ft)	#358	#598	m38	#630	274	#452	169	65
Internal Link Dist (ft)		1468		175		431	110	
Turn Bay Length (ft)	175		165		250			
Base Capacity (vph)	218	1535	239	1403	356	371	370	477
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.17	0.78	0.22	0.85	0.70	0.94	0.41	0.26

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	234	1045	57	48	1077	25	229	278	44	40	100	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	5.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1711	3240		1711	3251		1711	1760			1776	1531
Flt Permitted	0.08	1.00		0.11	1.00		0.95	1.00			0.99	1.00
Satd. Flow (perm)	135	3240		191	3251		1711	1760			1776	1531
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	254	1136	62	52	1171	27	249	302	48	43	109	125
RTOR Reduction (vph)	0	3	0	0	1	0	0	5	0	0	0	65
Lane Group Flow (vph)	254	1195	0	52	1197	0	249	345	0	0	152	60
Confl. Peds. (#/hr)	8		2	2		8	7		2	2		7
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt			pm+pt			Split			Split		pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases	2			6								
Actuated Green, G (s)	62.3	52.8		54.1	48.7		23.0	23.0			18.3	32.8
Effective Green, g (s)	64.2	55.8		57.1	51.7		25.0	25.0			20.3	32.8
Actuated g/C Ratio	0.54	0.46		0.48	0.43		0.21	0.21			0.17	0.27
Clearance Time (s)	4.5	6.0		4.5	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	217	1507		178	1401		356	367			300	418
v/s Ratio Prot	c0.11	0.37		0.02	0.37		0.15	c0.20			c0.09	0.04
v/s Ratio Perm	c0.52			0.12								
v/c Ratio	1.17	0.79		0.29	0.85		0.70	0.94			0.51	0.14
Uniform Delay, d1	35.3	27.2		20.6	30.8		44.0	46.8			45.3	33.0
Progression Factor	0.81	0.86		1.30	1.21		1.00	1.00			1.00	1.00
Incremental Delay, d2	109.9	3.7		0.3	6.0		4.8	31.7			0.5	0.1
Delay (s)	138.5	27.1		27.1	43.1		48.8	78.5			45.8	33.0
Level of Service	F	C		C	D		D	E			D	C
Approach Delay (s)		46.6			42.4			66.2			40.0	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM Average Control Delay	47.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	66	19	9	528	239	58
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	72	21	10	574	260	63
Pedestrians				1		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				4.0		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				279		
pX, platoon unblocked	0.73					
vC, conflicting volume	885	292	323			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	656	292	323			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	77	97	99			
cM capacity (veh/h)	311	746	1237			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	92	584	323
Volume Left	72	10	0
Volume Right	21	0	63
cSH	358	1237	1700
Volume to Capacity	0.26	0.01	0.19
Queue Length 95th (ft)	25	1	0
Control Delay (s)	18.5	0.2	0.0
Lane LOS	C	A	
Approach Delay (s)	18.5	0.2	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	448	110	31	17	167	34	32	26	43	28	18	150
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	487	120	34	18	182	37	35	28	47	30	20	163

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	487	153	237	110	213
Volume Left (vph)	487	0	18	35	30
Volume Right (vph)	0	34	37	47	163
Hadj (s)	0.53	-0.12	-0.04	-0.16	-0.40
Departure Headway (s)	6.4	5.8	6.0	6.6	6.1
Degree Utilization, x	0.87	0.25	0.39	0.20	0.36
Capacity (veh/h)	549	609	552	501	552
Control Delay (s)	37.3	9.5	12.8	11.2	12.4
Approach Delay (s)	30.6		12.8	11.2	12.4
Approach LOS	D		B	B	B

Intersection Summary			
Delay	22.1		
HCM Level of Service	C		
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBT
Lane Group Flow (vph)	1275	1275	111
v/c Ratio	0.60	0.57	0.25
Control Delay	17.6	7.0	16.3
Queue Delay	0.0	0.0	0.0
Total Delay	17.6	7.0	16.3
Queue Length 50th (ft)	494	81	29
Queue Length 95th (ft)	m576	208	56
Internal Link Dist (ft)	385	625	201
Turn Bay Length (ft)			
Base Capacity (vph)	2113	2227	637
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.60	0.57	0.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	1116	22	14	1114	45	15	68	19	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	12	15	12	12	12	12
Total Lost time (s)		3.0			3.0			3.0				
Lane Util. Factor		0.95			0.95			1.00				
Frpb, ped/bikes		1.00			1.00			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.99			0.97				
Flt Protected		1.00			1.00			0.99				
Satd. Flow (prot)		3253			3245			1969				
Flt Permitted		0.88			0.93			0.99				
Satd. Flow (perm)		2882			3035			1969				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	1213	24	15	1211	49	16	74	21	0	0	0
RTOR Reduction (vph)	0	1	0	0	3	0	0	16	0	0	0	0
Lane Group Flow (vph)	0	1274	0	0	1272	0	0	95	0	0	0	0
Confl. Peds. (#/hr)	10		13	13		10	15		9	9		15
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	4	0	0	0	0	0	0
Turn Type	Perm			Perm			Perm					
Protected Phases		2			2			4				
Permitted Phases	2			2			4					
Actuated Green, G (s)		39.2			39.2			8.8				
Effective Green, g (s)		42.2			42.2			11.8				
Actuated g/C Ratio		0.70			0.70			0.20				
Clearance Time (s)		6.0			6.0			6.0				
Vehicle Extension (s)		1.5			1.5			2.0				
Lane Grp Cap (vph)		2027			2135			387				
v/s Ratio Prot												
v/s Ratio Perm		c0.44			0.42			0.05				
v/c Ratio		0.63			0.60			0.25				
Uniform Delay, d1		4.7			4.5			20.3				
Progression Factor		2.86			1.00			1.00				
Incremental Delay, d2		1.0			1.2			0.1				
Delay (s)		14.6			5.8			20.5				
Level of Service		B			A			C				
Approach Delay (s)		14.6			5.8			20.5			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	10.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	157	0	0	205	30	19	43	95	20	0	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	171	0	0	223	33	21	47	103	22	0	20

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	186	255	171	41
Volume Left (vph)	15	0	21	22
Volume Right (vph)	0	33	103	20
Hadj (s)	0.05	-0.04	-0.30	-0.14
Departure Headway (s)	4.8	4.6	4.7	5.1
Degree Utilization, x	0.25	0.33	0.22	0.06
Capacity (veh/h)	703	738	702	630
Control Delay (s)	9.4	9.9	9.1	8.4
Approach Delay (s)	9.4	9.9	9.1	8.4
Approach LOS	A	A	A	A

Intersection Summary			
Delay	9.4		
HCM Level of Service	A		
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	13	63	330	224	169
v/c Ratio	0.08	0.30	0.21	0.17	0.11
Control Delay	28.8	39.3	3.7	1.0	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	39.3	3.7	1.0	3.4
Queue Length 50th (ft)	3	33	32	0	15
Queue Length 95th (ft)	21	71	120	24	62
Internal Link Dist (ft)	413	1025	252		266
Turn Bay Length (ft)				150	
Base Capacity (vph)	358	533	1538	1286	1490
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.12	0.21	0.17	0.11

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	5	7	47	4	7	1	303	206	12	143	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0	3.0		3.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frpb, ped/bikes		0.96			1.00			1.00	0.97		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.92			0.98			1.00	0.85		1.00	
Flt Protected		1.00			0.96			1.00	1.00		1.00	
Satd. Flow (prot)		1641			1760			1862	1530		1853	
Flt Permitted		1.00			0.96			1.00	1.00		0.97	
Satd. Flow (perm)		1641			1760			1862	1530		1806	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	5	8	51	4	8	1	329	224	13	155	1
RTOR Reduction (vph)	0	8	0	0	6	0	0	0	54	0	0	0
Lane Group Flow (vph)	0	5	0	0	57	0	0	330	170	0	169	0
Confl. Peds. (#/hr)			4	4			12		21	21		12
Turn Type	Split			Split			Perm		Perm	Perm		
Protected Phases	1	1		3	3			2			2	
Permitted Phases							2		2	2		
Actuated Green, G (s)		1.5			7.6			72.9	72.9		72.9	
Effective Green, g (s)		4.5			10.6			75.9	75.9		75.9	
Actuated g/C Ratio		0.04			0.11			0.76	0.76		0.76	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		74			187			1413	1161		1371	
v/s Ratio Prot		c0.00			c0.03							
v/s Ratio Perm								0.18	0.11		0.09	
v/c Ratio		0.07			0.30			0.23	0.15		0.12	
Uniform Delay, d1		45.8			41.3			3.5	3.3		3.2	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.4			0.9			0.4	0.3		0.2	
Delay (s)		46.2			42.2			3.9	3.5		3.4	
Level of Service		D			D			A	A		A	
Approach Delay (s)		46.2			42.2			3.8			3.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	67	0	0	85	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	73	0	0	92	0
Pedestrians											56	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											5	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	221	165	92	165	165	129	92			73		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	221	165	92	165	165	129	92			73		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	700	727	965	799	727	878	1502			1527		

Direction, Lane #	NB 1	SB 1
Volume Total	73	92
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.04	0.05
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	7.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	480	0	0	186	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	522	0	0	202	0
Pedestrians											59	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											5	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											332	
pX, platoon unblocked												
vC, conflicting volume	783	724	202	724	724	581	202			522		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	783	724	202	724	724	581	202			522		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	296	352	839	341	352	488	1370			1045		

Direction, Lane #	NB 1	SB 1
Volume Total	522	202
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.31	0.12
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	82	1534	1543	105
v/c Ratio	0.29	0.57	0.64	0.38
Control Delay	6.1	6.4	9.2	37.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.1	6.4	9.2	37.9
Queue Length 50th (ft)	14	248	541	55
Queue Length 95th (ft)	27	302	628	107
Internal Link Dist (ft)		310	1468	305
Turn Bay Length (ft)	300			
Base Capacity (vph)	322	2669	2407	370
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.57	0.64	0.28

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	75	1411	1364	55	61	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.99		0.95	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1770	3347	3356		1689	
Flt Permitted	0.11	1.00	1.00		0.97	
Satd. Flow (perm)	207	3347	3356		1689	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	1534	1483	60	66	39
RTOR Reduction (vph)	0	0	2	0	19	0
Lane Group Flow (vph)	82	1534	1541	0	86	0
Confl. Peds. (#/hr)	4			4	3	18
Heavy Vehicles (%)	2%	7%	7%	2%	2%	2%
Bus Blockages (#/hr)	0	4	0	0	0	0
Turn Type	pm+pt					
Protected Phases	5	2	6		4	
Permitted Phases	2					
Actuated Green, G (s)	92.7	92.7	81.8		15.3	
Effective Green, g (s)	95.7	95.7	84.8		18.3	
Actuated g/C Ratio	0.80	0.80	0.71		0.15	
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	268	2669	2372		258	
v/s Ratio Prot	0.02	c0.46	c0.46		c0.05	
v/s Ratio Perm	0.22					
v/c Ratio	0.31	0.57	0.65		0.33	
Uniform Delay, d1	7.3	4.5	9.5		45.4	
Progression Factor	1.00	1.00	0.76		1.00	
Incremental Delay, d2	0.2	0.9	0.8		0.3	
Delay (s)	7.6	5.4	8.1		45.7	
Level of Service	A	A	A		D	
Approach Delay (s)		5.6	8.1		45.7	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	8.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	46	1190	11	15	1186	71	29	15	19	22	3	78
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	50	1293	12	16	1289	77	32	16	21	24	3	85
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		705										
pX, platoon unblocked				0.84			0.84	0.84	0.84	0.84	0.84	
vC, conflicting volume	1366			1305			2163	2798	653	2136	2766	683
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1366			989			2007	2761	215	1975	2722	683
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			97			0	0	97	0	78	78
cM capacity (veh/h)	499			585			17	14	666	0	15	392

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	697	659	661	722	68	112
Volume Left	50	0	16	0	32	24
Volume Right	0	12	0	77	21	85
cSH	499	1700	585	1700	23	0
Volume to Capacity	0.10	0.39	0.03	0.42	2.99	Err
Queue Length 95th (ft)	8	0	2	0	217	Err
Control Delay (s)	2.9	0.0	0.8	0.0	1253.7	Err
Lane LOS	A		A		F	F
Approach Delay (s)	1.5		0.4		1253.7	Err
Approach LOS					F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	32	197	69	15	145	11	47	48	45	17	13	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	214	75	16	158	12	51	52	49	18	14	74

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	324	186	152	107
Volume Left (vph)	35	16	51	18
Volume Right (vph)	75	12	49	74
Hadj (s)	-0.08	0.01	-0.09	-0.35
Departure Headway (s)	4.8	5.0	5.2	5.1
Degree Utilization, x	0.43	0.26	0.22	0.15
Capacity (veh/h)	714	664	613	628
Control Delay (s)	11.3	9.8	9.7	8.9
Approach Delay (s)	11.3	9.8	9.7	8.9
Approach LOS	B	A	A	A

Intersection Summary			
Delay	10.3		
HCM Level of Service	B		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1163	1111	19	0	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1264	1208	21	0	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		255	696			
pX, platoon unblocked	0.86				0.76	0.86
vC, conflicting volume	1228				1850	614
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	948				675	237
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	93
cM capacity (veh/h)	621				294	660

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	632	632	805	423	43
Volume Left	0	0	0	0	0
Volume Right	0	0	0	21	43
cSH	1700	1700	1700	1700	660
Volume to Capacity	0.37	0.37	0.47	0.25	0.07
Queue Length 95th (ft)	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	10.8
Lane LOS					B
Approach Delay (s)	0.0		0.0		10.8
Approach LOS					B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	56	1107	1080	51	70	61
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	1203	1174	55	76	66
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		486	465			
pX, platoon unblocked	0.82				0.78	0.82
vC, conflicting volume	1229				1925	615
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	850				611	104
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				75	91
cM capacity (veh/h)	646				301	766

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	462	802	783	447	142
Volume Left	61	0	0	0	76
Volume Right	0	0	0	55	66
cSH	646	1700	1700	1700	420
Volume to Capacity	0.09	0.47	0.46	0.26	0.34
Queue Length 95th (ft)	8	0	0	0	37
Control Delay (s)	2.7	0.0	0.0	0.0	17.9
Lane LOS	A				C
Approach Delay (s)	1.0		0.0		17.9
Approach LOS					C

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		

Intersection: 3: N West St. & Park Ave.

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	LTR	LTR	LTR
Maximum Queue (ft)	125	284	176	77	146
Average Queue (ft)	91	76	60	38	53
95th Queue (ft)	139	193	116	68	100
Link Distance (ft)		268	740	131	77
Upstream Blk Time (%)		1			2
Queuing Penalty (veh)		0			0
Storage Bay Dist (ft)	100				
Storage Blk Time (%)	16				
Queuing Penalty (veh)	23				

Intersection: 5: Park Ave. & N Spring St.

Movement	EB	WB	NB	SB
Directions Served	LT	TR	LTR	LR
Maximum Queue (ft)	54	77	73	31
Average Queue (ft)	37	41	41	21
95th Queue (ft)	56	62	63	44
Link Distance (ft)	740	530	201	303
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Park Ave. & N Oak St.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	56	57	72	55
Average Queue (ft)	46	42	41	33
95th Queue (ft)	64	62	65	49
Link Distance (ft)	530	228	203	262
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 23

Queues
1: Route 7 & N West St.

4/16/2015

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	254	1198	52	1198	249	350	43	109	125
v/c Ratio	0.97	0.77	0.27	0.90	0.70	0.94	0.15	0.37	0.25
Control Delay	71.7	26.9	13.0	37.4	55.7	81.0	41.5	46.5	11.1
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	71.7	26.9	13.0	37.5	55.7	81.0	41.5	46.5	11.1
Queue Length 50th (ft)	153	443	0	~524	180	265	27	72	18
Queue Length 95th (ft)	#323	544	m32	#633	274	#452	60	126	63
Internal Link Dist (ft)		1468		171		431		110	
Turn Bay Length (ft)	175		165		250		70		
Base Capacity (vph)	261	1566	198	1335	356	371	356	375	508
Starvation Cap Reductn	0	0	0	4	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.77	0.26	0.90	0.70	0.94	0.12	0.29	0.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	234	1045	57	48	1077	25	229	278	44	40	100	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	5.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1711	3240		1711	3251		1711	1760		1711	1801	1531
Flt Permitted	0.08	1.00		0.12	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	142	3240		218	3251		1711	1760		1711	1801	1531
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	254	1136	62	52	1171	27	249	302	48	43	109	125
RTOR Reduction (vph)	0	3	0	0	1	0	0	5	0	0	0	64
Lane Group Flow (vph)	254	1195	0	52	1197	0	249	345	0	43	109	61
Confl. Peds. (#/hr)	8		2	2		8	7		2	2		7
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt			pm+pt			Split			Split		pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases	2			6								
Actuated Green, G (s)	63.2	54.0		50.9	46.2		23.0	23.0		17.8	17.8	35.3
Effective Green, g (s)	64.7	57.0		53.9	49.2		25.0	25.0		19.8	19.8	35.3
Actuated g/C Ratio	0.54	0.48		0.45	0.41		0.21	0.21		0.17	0.17	0.29
Clearance Time (s)	4.5	6.0		4.5	6.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	260	1539		175	1333		356	367		282	297	450
v/s Ratio Prot	c0.11	0.37		0.02	0.37		0.15	c0.20		0.03	c0.06	0.04
v/s Ratio Perm	c0.41			0.12								
v/c Ratio	0.98	0.78		0.30	0.90		0.70	0.94		0.15	0.37	0.14
Uniform Delay, d1	36.6	26.2		21.3	33.1		44.0	46.8		42.9	44.5	31.1
Progression Factor	0.81	0.85		0.67	0.82		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	44.1	3.3		0.3	8.4		4.8	31.7		0.1	0.3	0.1
Delay (s)	73.7	25.7		14.6	35.6		48.8	78.5		43.0	44.8	31.2
Level of Service	E	C		B	D		D	E		D	D	C
Approach Delay (s)		34.1			34.7			66.2			38.4	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM Average Control Delay	40.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	487	154	237	110	213
v/c Ratio	0.75	0.14	0.68	0.20	0.33
Control Delay	34.5	5.9	46.1	20.3	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	5.9	46.1	20.3	6.9
Queue Length 50th (ft)	266	30	134	34	5
Queue Length 95th (ft)	330	40	218	87	31
Internal Link Dist (ft)		221	207	84	71
Turn Bay Length (ft)	100				
Base Capacity (vph)	850	1306	366	539	643
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.57	0.12	0.65	0.20	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	448	110	31	17	167	34	32	26	43	28	18	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0			3.0			3.0			3.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			0.97			0.99			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.97			0.98			0.94			0.90	
Flt Protected	0.95	1.00			1.00			0.98			0.99	
Satd. Flow (prot)	1770	1801			1760			1709			1658	
Flt Permitted	0.95	1.00			0.97			0.87			0.95	
Satd. Flow (perm)	1770	1801			1714			1510			1590	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	487	120	34	18	182	37	35	28	47	30	20	163
RTOR Reduction (vph)	0	14	0	0	6	0	0	22	0	0	99	0
Lane Group Flow (vph)	487	140	0	0	231	0	0	88	0	0	114	0
Confl. Peds. (#/hr)	59					59			2	2		
Turn Type	Prot			Perm			Perm			Perm		
Protected Phases	3	8			4			2			6	
Permitted Phases				4			2			6		
Actuated Green, G (s)	33.8	56.8			17.0			31.2			31.2	
Effective Green, g (s)	36.8	59.8			20.0			34.2			34.2	
Actuated g/C Ratio	0.37	0.60			0.20			0.34			0.34	
Clearance Time (s)	6.0	6.0			6.0			6.0			6.0	
Vehicle Extension (s)	3.0	5.0			5.0			3.0			3.0	
Lane Grp Cap (vph)	651	1077			343			516			544	
v/s Ratio Prot	c0.28	0.08										
v/s Ratio Perm					c0.13			0.06			c0.07	
v/c Ratio	0.75	0.13			0.67			0.17			0.21	
Uniform Delay, d1	27.6	8.8			37.0			23.0			23.3	
Progression Factor	1.00	1.00			1.00			1.00			0.56	
Incremental Delay, d2	4.7	0.1			6.6			0.7			0.2	
Delay (s)	32.3	8.9			43.6			23.7			13.2	
Level of Service	C	A			D			C			B	
Approach Delay (s)		26.6			43.6			23.7			13.2	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM Average Control Delay	27.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	1264	1229	142
v/c Ratio	0.74	0.60	0.24
Control Delay	13.9	17.0	10.1
Queue Delay	0.0	0.5	0.0
Total Delay	13.9	17.5	10.1
Queue Length 50th (ft)	157	200	19
Queue Length 95th (ft)	m573	326	55
Internal Link Dist (ft)	155	385	51
Turn Bay Length (ft)			
Base Capacity (vph)	1697	2055	583
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	367	6
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.74	0.73	0.25

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	56	1107	1080	51	70	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.99		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		3531	3515		1700	
Flt Permitted		0.82	1.00		0.97	
Satd. Flow (perm)		2911	3515		1700	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	1203	1174	55	76	66
RTOR Reduction (vph)	0	0	5	0	45	0
Lane Group Flow (vph)	0	1264	1224	0	97	0
Turn Type	Perm					
Protected Phases		4	8		6	
Permitted Phases	4					
Actuated Green, G (s)		32.0	32.0		16.0	
Effective Green, g (s)		35.0	35.0		19.0	
Actuated g/C Ratio		0.58	0.58		0.32	
Clearance Time (s)		6.0	6.0		6.0	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1698	2050		538	
v/s Ratio Prot			0.35		c0.06	
v/s Ratio Perm		c0.43				
v/c Ratio		0.74	0.60		0.18	
Uniform Delay, d1		9.2	8.0		14.9	
Progression Factor		1.26	1.96		1.00	
Incremental Delay, d2		2.0	1.1		0.2	
Delay (s)		13.6	16.8		15.0	
Level of Service		B	B		B	
Approach Delay (s)		13.6	16.8		15.0	
Approach LOS		B	B		B	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	277	1493	107	1122	170	288	463	250
v/c Ratio	1.18	1.04	0.57	0.81	0.53	0.86	1.29	0.45
Control Delay	147.4	61.8	36.6	36.9	53.8	73.4	192.9	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	147.4	61.8	36.6	36.9	53.8	73.4	192.9	18.9
Queue Length 50th (ft)	~224	~731	54	325	128	224	~498	73
Queue Length 95th (ft)	#413	#883	m111	446	204	#368	#709	154
Internal Link Dist (ft)		1468		165		431	110	
Turn Bay Length (ft)	175		165		250			
Base Capacity (vph)	235	1440	215	1386	342	354	358	558
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	1.04	0.50	0.81	0.50	0.81	1.29	0.45

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	255	1273	100	98	1021	11	156	193	72	58	368	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	5.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1711	3237		1711	3258		1711	1720			1788	1531
Flt Permitted	0.09	1.00		0.07	1.00		0.95	1.00			0.99	1.00
Satd. Flow (perm)	166	3237		134	3258		1711	1720			1788	1531
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	277	1384	109	107	1110	12	170	210	78	63	400	250
RTOR Reduction (vph)	0	4	0	0	1	0	0	11	0	0	0	94
Lane Group Flow (vph)	277	1489	0	107	1121	0	170	277	0	0	463	156
Confl. Peds. (#/hr)							1		2	2		1
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt			pm+pt			Split			Split		pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases	2			6								
Actuated Green, G (s)	65.4	54.6		60.8	52.3		22.4	22.4			24.0	39.8
Effective Green, g (s)	68.4	57.6		63.8	55.3		24.4	24.4			26.0	39.8
Actuated g/C Ratio	0.53	0.44		0.49	0.43		0.19	0.19			0.20	0.31
Clearance Time (s)	4.5	6.0		4.5	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	234	1434		187	1386		321	323			358	469
v/s Ratio Prot	c0.11	0.46		0.04	0.34		0.10	c0.16			c0.26	0.10
v/s Ratio Perm	c0.51			0.24								
v/c Ratio	1.18	1.04		0.57	0.81		0.53	0.86			1.29	0.33
Uniform Delay, d1	35.1	36.2		28.1	32.7		47.6	51.1			52.0	34.8
Progression Factor	1.54	0.84		1.28	0.97		1.00	1.00			1.00	1.00
Incremental Delay, d2	110.3	31.1		2.2	4.3		0.7	19.1			151.3	0.2
Delay (s)	164.2	61.6		38.3	36.1		48.4	70.2			203.3	35.0
Level of Service	F	E		D	D		D	E			F	C
Approach Delay (s)		77.6			36.3			62.1			144.3	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM Average Control Delay	75.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	89	22	33	414	621	55
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	24	36	450	675	60
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				279		
pX, platoon unblocked	0.77					
vC, conflicting volume	1230	705	735			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1149	705	735			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	40	95	96			
cM capacity (veh/h)	162	436	870			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	121	486	735
Volume Left	97	36	0
Volume Right	24	0	60
cSH	185	870	1700
Volume to Capacity	0.65	0.04	0.43
Queue Length 95th (ft)	96	3	0
Control Delay (s)	55.2	1.2	0.0
Lane LOS	F	A	
Approach Delay (s)	55.2	1.2	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	346	109	48	34	150	30	43	28	50	43	36	491
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	376	118	52	37	163	33	47	30	54	47	39	534

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	376	171	233	132	620
Volume Left (vph)	376	0	37	47	47
Volume Right (vph)	0	52	33	54	534
Hadj (s)	0.53	-0.18	-0.02	-0.14	-0.47
Departure Headway (s)	8.0	7.3	7.6	7.8	6.3
Degree Utilization, x	0.83	0.34	0.49	0.29	1.08
Capacity (veh/h)	445	490	450	421	556
Control Delay (s)	38.4	12.8	17.7	13.9	87.0
Approach Delay (s)	30.4		17.7	13.9	87.0
Approach LOS	D		C	B	F

Intersection Summary			
Delay	50.0		
HCM Level of Service	E		
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBT
Lane Group Flow (vph)	1545	1458	44
v/c Ratio	0.62	0.62	0.19
Control Delay	3.9	5.1	30.8
Queue Delay	0.0	0.0	0.0
Total Delay	3.9	5.1	30.8
Queue Length 50th (ft)	41	207	16
Queue Length 95th (ft)	m45	261	52
Internal Link Dist (ft)	385	625	201
Turn Bay Length (ft)			
Base Capacity (vph)	2500	2340	447
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.62	0.62	0.10

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	1385	11	37	1267	38	10	9	21	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	12	15	12	12	12	12
Total Lost time (s)		3.0			3.0			3.0				
Lane Util. Factor		0.95			0.95			1.00				
Frpb, ped/bikes		1.00			1.00			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			1.00			0.93				
Flt Protected		1.00			1.00			0.99				
Satd. Flow (prot)		3257			3249			1859				
Flt Permitted		0.89			0.83			0.99				
Satd. Flow (perm)		2891			2703			1859				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	1505	12	40	1377	41	11	10	23	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	0	0	21	0	0	0	0
Lane Group Flow (vph)	0	1545	0	0	1457	0	0	23	0	0	0	0
Confl. Peds. (#/hr)	1		6	6		1	2		3	3		2
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	4	0	0	0	0	0	0
Turn Type	Perm			Perm			Perm					
Protected Phases		2			2			4				
Permitted Phases	2			2			4					
Actuated Green, G (s)		107.6			107.6			10.4				
Effective Green, g (s)		110.6			110.6			13.4				
Actuated g/C Ratio		0.85			0.85			0.10				
Clearance Time (s)		6.0			6.0			6.0				
Vehicle Extension (s)		1.5			1.5			2.0				
Lane Grp Cap (vph)		2460			2300			192				
v/s Ratio Prot												
v/s Ratio Perm		0.53			c0.54			0.01				
v/c Ratio		0.63			0.63			0.12				
Uniform Delay, d1		3.1			3.1			53.0				
Progression Factor		0.93			1.00			1.00				
Incremental Delay, d2		0.4			1.3			0.1				
Delay (s)		3.3			4.5			53.1				
Level of Service		A			A			D				
Approach Delay (s)		3.3			4.5			53.1			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM Average Control Delay	4.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	18	201	0	0	209	9	13	18	36	20	0	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	218	0	0	227	10	14	20	39	22	0	20

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	238	237	73	41
Volume Left (vph)	20	0	14	22
Volume Right (vph)	0	10	39	20
Hadj (s)	0.05	0.01	-0.25	-0.14
Departure Headway (s)	4.5	4.5	4.8	4.9
Degree Utilization, x	0.30	0.29	0.10	0.06
Capacity (veh/h)	773	773	677	648
Control Delay (s)	9.4	9.3	8.3	8.2
Approach Delay (s)	9.4	9.3	8.3	8.2
Approach LOS	A	A	A	A

Intersection Summary			
Delay	9.2		
HCM Level of Service	A		
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	25	204	295	147	449
v/c Ratio	0.07	0.35	0.42	0.22	0.65
Control Delay	23.2	27.2	25.3	4.4	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	27.2	25.3	4.4	30.9
Queue Length 50th (ft)	7	97	137	0	232
Queue Length 95th (ft)	30	159	211	39	341
Internal Link Dist (ft)	413	1025	252		266
Turn Bay Length (ft)				150	
Base Capacity (vph)	353	587	697	676	691
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.35	0.42	0.22	0.65

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	13	10	170	11	6	8	263	135	20	392	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0	3.0		3.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frpb, ped/bikes		0.98			1.00			1.00	0.97		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.94			1.00			1.00	0.85		1.00	
Flt Protected		1.00			0.96			1.00	1.00		1.00	
Satd. Flow (prot)		1722			1774			1860	1539		1857	
Flt Permitted		1.00			0.96			0.99	1.00		0.98	
Satd. Flow (perm)		1722			1774			1835	1539		1817	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	14	11	185	12	7	9	286	147	22	426	1
RTOR Reduction (vph)	0	9	0	0	1	0	0	0	91	0	0	0
Lane Group Flow (vph)	0	16	0	0	203	0	0	295	56	0	449	0
Confl. Peds. (#/hr)			8	8					6	6		
Turn Type	Split			Split			Perm		Perm	Perm		
Protected Phases	1	1		3	3			2			2	
Permitted Phases							2		2	2		
Actuated Green, G (s)		17.5			30.5			35.5	35.5		35.5	
Effective Green, g (s)		20.0			33.0			38.0	38.0		38.0	
Actuated g/C Ratio		0.20			0.33			0.38	0.38		0.38	
Clearance Time (s)		5.5			5.5			5.5	5.5		5.5	
Lane Grp Cap (vph)		344			585			697	585		690	
v/s Ratio Prot		c0.01			c0.11							
v/s Ratio Perm								0.16	0.04		c0.25	
v/c Ratio		0.05			0.35			0.42	0.10		0.65	
Uniform Delay, d1		32.3			25.3			22.9	19.9		25.5	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.3			1.6			1.9	0.3		4.7	
Delay (s)		32.6			27.0			24.8	20.3		30.3	
Level of Service		C			C			C	C		C	
Approach Delay (s)		32.6			27.0			23.3			30.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	88	0	0	111	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	96	0	0	121	0
Pedestrians											7	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	223	216	121	216	216	103	121			96		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	223	216	121	216	216	103	121			96		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	728	682	931	740	682	947	1467			1498		

Direction, Lane #	NB 1	SB 1
Volume Total	96	121
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.06	0.07
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	9.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	383	0	0	541	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	416	0	0	588	0
Pedestrians											6	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											332	
pX, platoon unblocked	0.81	0.81	0.81	0.81	0.81		0.81					
vC, conflicting volume	1010	1004	588	1004	1004	422	588			416		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	895	887	373	887	887	422	373			416		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	211	229	545	214	229	628	959			1143		

Direction, Lane #	NB 1	SB 1
Volume Total	416	588
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.24	0.35
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	31.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	103	1788	1394	193
v/c Ratio	0.33	0.68	0.60	0.65
Control Delay	6.6	8.5	23.4	54.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.6	8.5	23.4	54.4
Queue Length 50th (ft)	18	337	442	133
Queue Length 95th (ft)	37	470	572	207
Internal Link Dist (ft)		310	1468	305
Turn Bay Length (ft)	300			
Base Capacity (vph)	398	2642	2330	447
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.68	0.60	0.43

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	95	1645	1244	39	111	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.95	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1770	3347	3360		1697	
Flt Permitted	0.14	1.00	1.00		0.97	
Satd. Flow (perm)	254	3347	3360		1697	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	1788	1352	42	121	72
RTOR Reduction (vph)	0	0	1	0	18	0
Lane Group Flow (vph)	103	1788	1393	0	175	0
Confl. Peds. (#/hr)	4			4		9
Heavy Vehicles (%)	2%	7%	7%	2%	2%	2%
Bus Blockages (#/hr)	0	4	0	0	0	0
Turn Type	pm+pt					
Protected Phases	5	2	6		4	
Permitted Phases	2					
Actuated Green, G (s)	99.6	99.6	87.2		18.4	
Effective Green, g (s)	102.6	102.6	90.2		21.4	
Actuated g/C Ratio	0.79	0.79	0.69		0.16	
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	310	2642	2331		279	
v/s Ratio Prot	0.02	c0.53	0.41		c0.10	
v/s Ratio Perm	0.24					
v/c Ratio	0.33	0.68	0.60		0.63	
Uniform Delay, d1	7.1	6.2	10.4		50.6	
Progression Factor	1.00	1.00	1.96		1.00	
Incremental Delay, d2	0.2	1.4	0.8		3.1	
Delay (s)	7.3	7.6	21.1		53.7	
Level of Service	A	A	C		D	
Approach Delay (s)		7.6	21.1		53.7	
Approach LOS		A	C		D	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	31	1481	31	28	1383	43	10	7	35	34	6	78
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	1610	34	30	1503	47	11	8	38	37	7	85
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		705										
pX, platoon unblocked				0.86			0.86	0.86	0.86	0.86	0.86	
vC, conflicting volume	1550			1643			2595	3305	822	2502	3298	775
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1550			1422			2528	3355	465	2420	3347	775
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			93			0	0	92	0	0	75
cM capacity (veh/h)	424			408			0	6	467	0	6	341

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	839	839	782	798	57	128
Volume Left	34	0	30	0	11	37
Volume Right	0	34	0	47	38	85
cSH	424	1700	408	1700	0	0
Volume to Capacity	0.08	0.49	0.07	0.47	Err	Err
Queue Length 95th (ft)	6	0	6	0	Err	Err
Control Delay (s)	2.6	0.0	2.4	0.0	Err	Err
Lane LOS	A		A		F	F
Approach Delay (s)	1.3		1.2		Err	Err
Approach LOS					F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	17	201	63	19	217	14	11	27	56	35	24	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	218	68	21	236	15	12	29	61	38	26	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	305	272	102	76
Volume Left (vph)	18	21	12	38
Volume Right (vph)	68	15	61	12
Hadj (s)	-0.09	0.02	-0.30	0.04
Departure Headway (s)	4.6	4.8	5.1	5.5
Degree Utilization, x	0.39	0.36	0.14	0.12
Capacity (veh/h)	736	717	618	579
Control Delay (s)	10.6	10.4	9.0	9.2
Approach Delay (s)	10.6	10.4	9.0	9.2
Approach LOS	B	B	A	A

Intersection Summary			
Delay	10.2		
HCM Level of Service	B		
Intersection Capacity Utilization	36.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1474	1189	23	0	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1602	1292	25	0	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		245	706			
pX, platoon unblocked	0.91				0.61	0.91
vC, conflicting volume	1317				2106	659
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1141				848	413
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	92
cM capacity (veh/h)	550				184	532

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	801	801	862	456	43
Volume Left	0	0	0	0	0
Volume Right	0	0	0	25	43
cSH	1700	1700	1700	1700	532
Volume to Capacity	0.47	0.47	0.51	0.27	0.08
Queue Length 95th (ft)	0	0	0	0	7
Control Delay (s)	0.0	0.0	0.0	0.0	12.4
Lane LOS					B
Approach Delay (s)	0.0		0.0		12.4
Approach LOS					B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	110	1364	1177	100	61	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	1483	1279	109	66	57
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		486	465			
pX, platoon unblocked	0.88				0.63	0.88
vC, conflicting volume	1388				2314	694
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1170				1071	382
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	77				37	90
cM capacity (veh/h)	522				105	542

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	614	988	853	535	123
Volume Left	120	0	0	0	66
Volume Right	0	0	0	109	57
cSH	522	1700	1700	1700	167
Volume to Capacity	0.23	0.58	0.50	0.31	0.73
Queue Length 95th (ft)	22	0	0	0	114
Control Delay (s)	6.3	0.0	0.0	0.0	70.0
Lane LOS	A				F
Approach Delay (s)	2.4		0.0		70.0
Approach LOS					F

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		

Intersection: 3: N West St. & Park Ave.

Movement	EB	EB	WB	NB	SB	B8
Directions Served	L	TR	LTR	LTR	LTR	T
Maximum Queue (ft)	124	284	97	69	169	608
Average Queue (ft)	65	54	49	40	143	164
95th Queue (ft)	104	129	84	62	180	445
Link Distance (ft)		268	740	131	77	996
Upstream Blk Time (%)		0			73	
Queuing Penalty (veh)		0			0	
Storage Bay Dist (ft)	100					
Storage Blk Time (%)	2	0				
Queuing Penalty (veh)	3	0				

Intersection: 5: Park Ave. & N Spring St.

Movement	EB	WB	NB	SB
Directions Served	LT	TR	LTR	LR
Maximum Queue (ft)	88	90	51	54
Average Queue (ft)	40	40	26	20
95th Queue (ft)	63	64	44	46
Link Distance (ft)	740	530	201	303
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Park Ave. & N Oak St.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	56	102	67	55
Average Queue (ft)	47	52	36	32
95th Queue (ft)	65	81	58	47
Link Distance (ft)	530	228	203	262
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 3

Queues
1: Route 7 & N West St.

4/16/2015

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	277	1493	107	1122	170	288	63	400	250
v/c Ratio	0.92	0.94	0.69	0.85	0.62	1.00	0.18	1.11	0.42
Control Delay	76.6	36.1	42.9	54.4	61.4	105.1	44.9	128.3	21.5
Queue Delay	0.0	37.1	0.0	63.5	0.0	646.0	2.1	0.0	0.0
Total Delay	76.6	73.2	42.9	118.0	61.4	751.1	47.1	128.3	21.5
Queue Length 50th (ft)	194	618	61	513	135	~237	45	~385	95
Queue Length 95th (ft)	#352	#330	#125	587	214	#428	87	#588	172
Internal Link Dist (ft)		1468		171		431		110	
Turn Bay Length (ft)	175		165		250		70		
Base Capacity (vph)	309	1586	156	1318	276	288	342	360	604
Starvation Cap Reductn	0	0	0	331	0	0	0	0	0
Spillback Cap Reductn	0	207	0	0	0	280	190	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	1.08	0.69	1.14	0.62	36.00	0.41	1.11	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	255	1273	100	98	1021	11	156	193	72	58	368	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	5.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1711	3237		1711	3258		1711	1720		1711	1801	1531
Flt Permitted	0.08	1.00		0.08	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	138	3237		141	3258		1711	1720		1711	1801	1531
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	277	1384	109	107	1110	12	170	210	78	63	400	250
RTOR Reduction (vph)	0	5	0	0	1	0	0	10	0	0	0	62
Lane Group Flow (vph)	277	1488	0	107	1121	0	170	278	0	63	400	188
Confl. Peds. (#/hr)							1		2	2		1
Heavy Vehicles (%)	2%	7%	2%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt			pm+pt			Split			Split		pt+ov
Protected Phases	5	2		1	6		3	3		4	4	4 5
Permitted Phases	2			6								
Actuated Green, G (s)	71.0	60.5		55.6	49.6		19.0	19.0		24.0	24.0	45.9
Effective Green, g (s)	72.5	63.5		58.6	52.6		21.0	21.0		26.0	26.0	45.9
Actuated g/C Ratio	0.56	0.49		0.45	0.40		0.16	0.16		0.20	0.20	0.35
Clearance Time (s)	4.5	6.0		4.5	6.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	300	1581		154	1318		276	278		342	360	541
v/s Ratio Prot	c0.13	c0.46		0.04	0.34		0.10	c0.16		0.04	c0.22	0.12
v/s Ratio Perm	0.39			0.27								
v/c Ratio	0.92	0.94		0.69	0.85		0.62	1.00		0.18	1.11	0.35
Uniform Delay, d1	39.6	31.5		27.7	35.1		50.7	54.5		43.2	52.0	31.0
Progression Factor	1.43	0.82		0.95	1.35		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	26.2	9.9		9.4	6.4		2.9	53.4		0.1	80.9	0.1
Delay (s)	82.7	35.7		35.8	53.7		53.6	107.9		43.3	132.9	31.1
Level of Service	F	D		D	D		D	F		D	F	C
Approach Delay (s)		43.0			52.2			87.8			89.3	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM Average Control Delay	58.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	376	170	233	131	620
v/c Ratio	0.70	0.17	0.68	0.26	0.76
Control Delay	37.3	7.3	46.3	19.1	17.8
Queue Delay	0.0	0.0	0.0	0.0	1.4
Total Delay	37.3	7.3	46.3	19.1	19.2
Queue Length 50th (ft)	211	35	132	41	77
Queue Length 95th (ft)	273	53	215	100	#456
Internal Link Dist (ft)		221	207	78	71
Turn Bay Length (ft)	100				
Base Capacity (vph)	850	1294	360	495	818
Starvation Cap Reductn	0	0	0	0	72
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.13	0.65	0.26	0.83

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	346	109	48	34	150	30	43	28	50	43	36	491
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0			3.0			3.0			3.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			0.99			0.99			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.95			0.98			0.94			0.88	
Flt Protected	0.95	1.00			0.99			0.98			1.00	
Satd. Flow (prot)	1770	1777			1803			1707			1639	
Flt Permitted	0.95	1.00			0.93			0.67			0.97	
Satd. Flow (perm)	1770	1777			1683			1171			1594	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	376	118	52	37	163	33	47	30	54	47	39	534
RTOR Reduction (vph)	0	24	0	0	6	0	0	19	0	0	170	0
Lane Group Flow (vph)	376	146	0	0	227	0	0	112	0	0	450	0
Confl. Peds. (#/hr)	6					6			3	3		
Turn Type	Prot			Perm			Perm			Perm		
Protected Phases	3	8			4			2			6	
Permitted Phases				4			2			6		
Actuated Green, G (s)	27.4	50.4			17.0			37.6			37.6	
Effective Green, g (s)	30.4	53.4			20.0			40.6			40.6	
Actuated g/C Ratio	0.30	0.53			0.20			0.41			0.41	
Clearance Time (s)	6.0	6.0			6.0			6.0			6.0	
Vehicle Extension (s)	3.0	5.0			5.0			3.0			3.0	
Lane Grp Cap (vph)	538	949			337			475			647	
v/s Ratio Prot	c0.21	0.08										
v/s Ratio Perm					c0.13			0.10			c0.28	
v/c Ratio	0.70	0.15			0.67			0.24			0.69	
Uniform Delay, d1	30.8	11.8			37.0			19.5			24.6	
Progression Factor	1.00	1.00			1.00			1.00			0.74	
Incremental Delay, d2	4.0	0.2			6.8			1.2			2.8	
Delay (s)	34.7	12.0			43.7			20.7			21.0	
Level of Service	C	B			D			C			C	
Approach Delay (s)		27.6			43.7			20.7			21.0	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	1603	1388	123
v/c Ratio	0.90	0.50	0.43
Control Delay	33.3	7.7	43.5
Queue Delay	56.9	1.4	0.1
Total Delay	90.2	9.1	43.6
Queue Length 50th (ft)	544	286	73
Queue Length 95th (ft)	m556	346	137
Internal Link Dist (ft)	155	385	51
Turn Bay Length (ft)			
Base Capacity (vph)	1784	2802	285
Starvation Cap Reductn	359	992	0
Spillback Cap Reductn	51	1131	9
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	1.12	0.83	0.45

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	110	1364	1177	100	61	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.99		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		3526	3498		1701	
Flt Permitted		0.63	1.00		0.97	
Satd. Flow (perm)		2228	3498		1701	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	1483	1279	109	66	57
RTOR Reduction (vph)	0	0	5	0	24	0
Lane Group Flow (vph)	0	1603	1383	0	99	0
Turn Type	Perm					
Protected Phases		4	8		6	
Permitted Phases	4					
Actuated Green, G (s)		101.0	101.0		17.0	
Effective Green, g (s)		104.0	104.0		20.0	
Actuated g/C Ratio		0.80	0.80		0.15	
Clearance Time (s)		6.0	6.0		6.0	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1782	2798		262	
v/s Ratio Prot			0.40		c0.06	
v/s Ratio Perm		c0.72				
v/c Ratio		0.90	0.49		0.38	
Uniform Delay, d1		9.3	4.3		49.4	
Progression Factor		2.98	1.69		1.00	
Incremental Delay, d2		3.9	0.5		0.9	
Delay (s)		31.5	7.8		50.3	
Level of Service		C	A		D	
Approach Delay (s)		31.5	7.8		50.3	
Approach LOS		C	A		D	

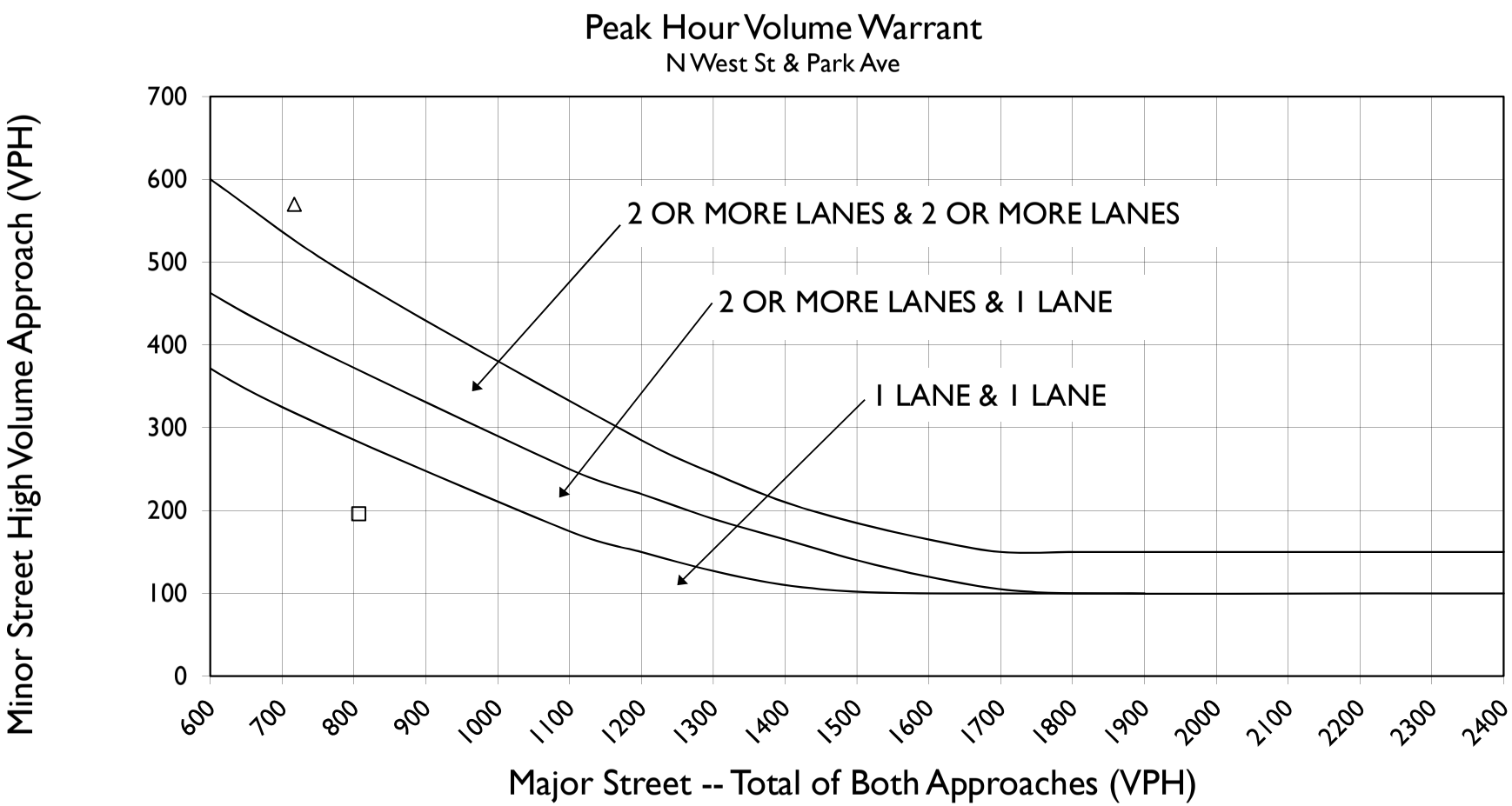
Intersection Summary			
HCM Average Control Delay	21.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Appendix J

Peak Hour Signal Warrant Analysis
Manual of Uniform Traffic Control Devices (MUTCD)

INPUT VOLUMES

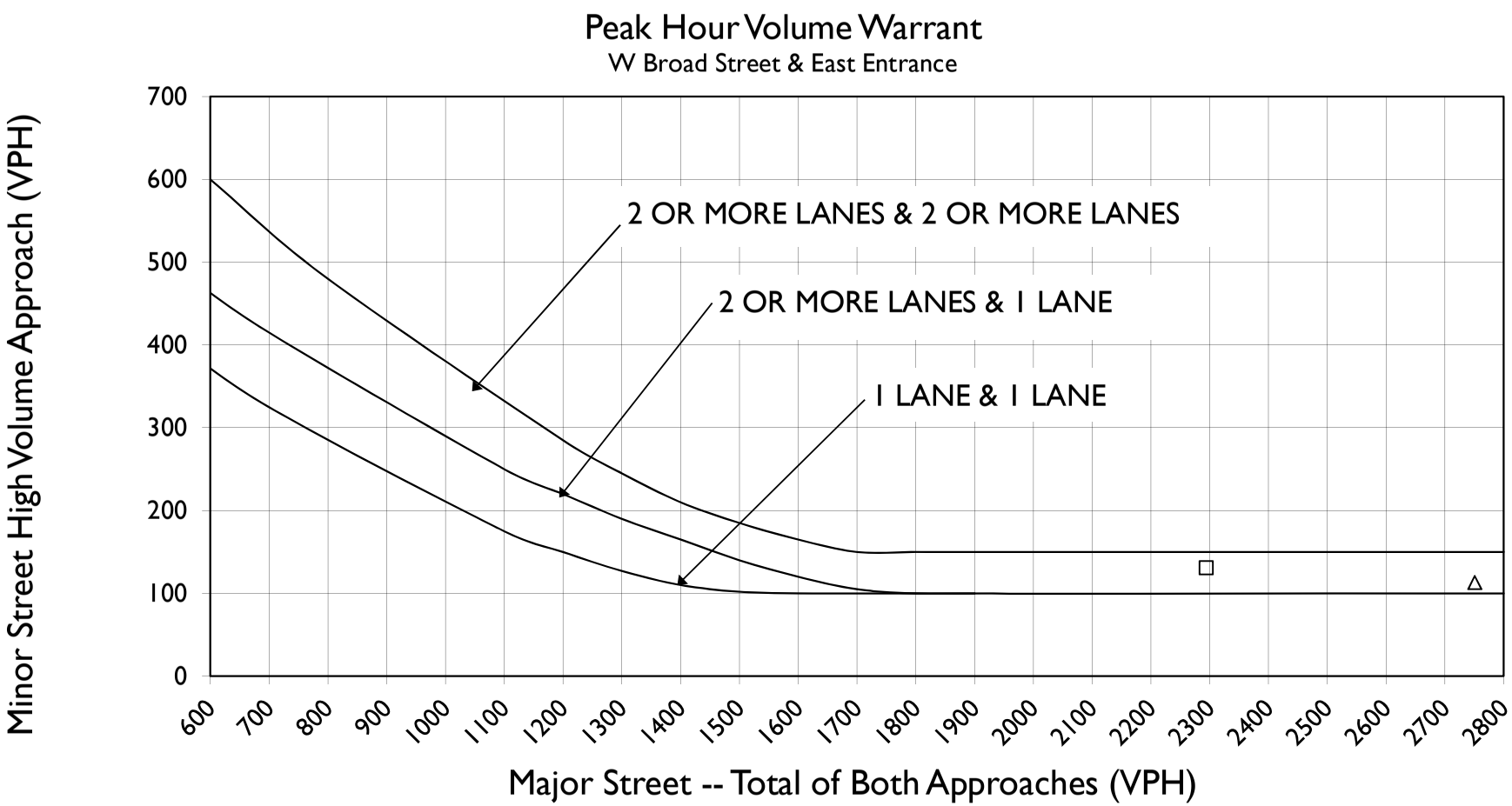
Condition	major street (total of both approaches)	minor street (high volume approach)	Lane Configuration	Yes/No Warrant Met
□ TF AM Peak Hour	807	196	1 & 1	YES
△ TF PM Peak Hour	717	570	1 & 1	YES



Source: Manual on Uniform Traffic Control Devices 2009 Edition

INPUT VOLUMES

Condition	major street (total of both approaches)	minor street (high volume approach)	Lane Configuration	Yes/No Warrant Met
□ TF AM Peak Hour	2294	131	2 & 1	YES
△ TF PM Peak Hour	2751	113	2 & 1	YES



Source: Manual on Uniform Traffic Control Devices 2009 Edition