

Arlington WPCP Non-expansion Capital

Category: Stormwater/Sewer Utility

Department Lead: Public Works

Type: Ongoing Project

Project Description, Benefit, and Schedule

The City of Falls Church is a wholesale customer of the Arlington Wastewater Pollution Control Plant (WPCP). As an Inter-Jurisdictional (IJ) partner, the City contributes to Capital Improvements on a cost-share basis according to the City's reserved capacity at the Plant (0.80 MGD). The City attends IJ meetings to discuss required plant improvements and upgrades, which are needed to maintain a state required level of operation and effluent discharge. The City's portion (based on reserved capacity / total plant capacity) of the improvements is 2.0% of the total costs. The WPCP is currently in need of:

- Building improvements to Eads Street
- Technology enhancements
- Secondary clarifier rehab/replacement
- Solids management planning
- Capital master planning



Capital Funding Plan

Funding Source	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027-30	10-YR Total
Local (Debt)	\$ 313,000	\$ 392,000	\$ 420,000	\$ 658,000	\$ 1,069,000	\$ 816,000	\$ 446,000	\$ 4,114,000
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total:	\$ 313,000	\$ 392,000	\$ 420,000	\$ 658,000	\$ 1,069,000	\$ 816,000	\$ 446,000	\$ 4,114,000

Funding Notes: Projects thought to begin in prior fiscal years, such as biosolids and secondary clarifiers, were delayed into FY2019, FY2020, and FY2021. The numbers above are based on Arlington's FY2019 plan.

GKY & Asso. is currently completing a sewer rate study update that will include this information in determining revenue requirements.

**if no activity per City Charter (Section 6.19) in 3 years note as re-appropriation action*

Impact on Operating Costs

Conformity with Comprehensive Plan and Council Strategic Plan

The upgrade of the Arlington Water Pollution Control Plant meets goals of the Comprehensive Plan's "Community Facilities, Public Utilities and Government Services" chapter such as:

- Ensure that a sufficient level of public facilities utilities services are available to meet the needs of the community
- Identify and prioritize facilities that require upgrading
- Ensure the most efficient and effective management of sanitary sewer systems

Alexandria Wastewater Treatment Upgrades

Category: Stormwater/Sewer Utility

Department Lead: Public Works

Type: Ongoing Project

Project Description, Benefit, and Schedule

The City of Falls Church is a wholesale customer of the Alexandria Renew Wastewater Treatment Plant. When improvements to the treatment process are required to maintain the level of service specified by the plant's discharge permit the City is responsible for its share of the costs based on the City's reserved capacity at the plant. The City currently has 1.0 million gallons per day reserved, which equates to a 1.8% share of the cost to improvements. The City attends IJ meetings to discuss required plant improvements and upgrades.

The proposed CIP includes estimated costs to:

- Complete the nitrogen and phosphorus removal upgrades (SANUP)
- Implement a wet weather management strategy
- Upgrade UV disinfection system and scum system
- Replace blower system for biological reactor and settling basins



Capital Funding Plan

Funding Source	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027-30	10-YR Total
Local (Debt)	\$ 392,188	\$ 366,725	\$ 461,065	\$ 350,586	\$ 306,015	\$ 260,741	\$ 498,537	\$ 2,635,857
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total:	\$ 392,188	\$ 366,725	\$ 461,065	\$ 350,586	\$ 306,015	\$ 260,741	\$ 498,537	\$ 2,635,857

Funding Notes: Project cost estimates and expenditure schedule were provided by Fairfax County on January 23, 2020.

GKY & Asso. is currently completing a sewer rate study update that will include this information in determining revenue requirements.

**if no activity per City Charter (Section 6.19) in 3 years note as re-appropriation action*

Impact on Operating Costs

Conformity with Comprehensive Plan and Council Strategic Plan

The upgrade of the Alexandria Wastewater Plant meets goals of the Comprehensive Plan's "Community Facilities, Public Utilities and Government Services" chapter such as:

- Ensure that a sufficient level of public facilities utilities services are available to meet the needs of the community
- Identify and prioritize facilities that require upgrading
- Ensure the most efficient and effective management of sanitary sewer systems

Alexandria Wastewater Treatment Plant Capacity

Category: Stormwater/Sewer Utility

Department Lead: Public Works

Type: Ongoing Project

Project Description, Benefit, and Schedule

The City currently has 1.0 MGD sanitary sewer treatment capacity from Fairfax County for use of the Alexandria Renew Wastewater Treatment Plant (sewage flows into Fairfax County and eventually to the plant in Alexandria). The projected flows from future development within the City will exceed the current capacity, estimated as follows:

FY 21	Current Capacity Overage:	0.350 mgd
	Founders Row Discharge:	0.133 mgd
	Little City Commons - Phase I	<u>0.278 mgd</u>
	Total Current Requirement:	0.761 mgd
FY 22	Little City Commons - Phase II	0.100 mgd
FY 23	Future Development	0.200 mgd



Fairfax County has quoted the rate for additional treatment capacity as \$13,300,000 per mgd, which is the basis for the cost of additional capacity to be added over the next three years based on the flow estimates above.

Capital Funding Plan

Funding Source	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027-30	10-YR Total
Local (Debt)	\$ -	\$ 10,120,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,120,000
Sewer Availability Fees	\$ -	\$ 1,330,000	\$ 2,660,000	\$ -	\$ -	\$ -	\$ -	\$ 3,990,000
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total:	\$ -	\$ 11,450,000	\$ 2,660,000	\$ -	\$ -	\$ -	\$ -	\$ 14,110,000

Funding Notes: Cost estimate based on correspondence with Fairfax County staff.

This projection does not include additional sewer conveyance capacity that may be needed to transport additional flow to the AlexRenew WWTF. The City's I/I reduction program may affect the capacity requirements in FY2022 and beyond. Staff is reviewing City-wide sewer modeling and projected development to refine future treatment and conveyance capacity requirements.

GKY & Asso. is currently completing a sewer rate study update that will include this information in determining revenue requirements.

**if no activity per City Charter (Section 6.19) in 3 years note as re-appropriation action*

Impact on Operating Costs

Associated O&M costs will increase.

Conformity with Comprehensive Plan and Council Strategic Plan

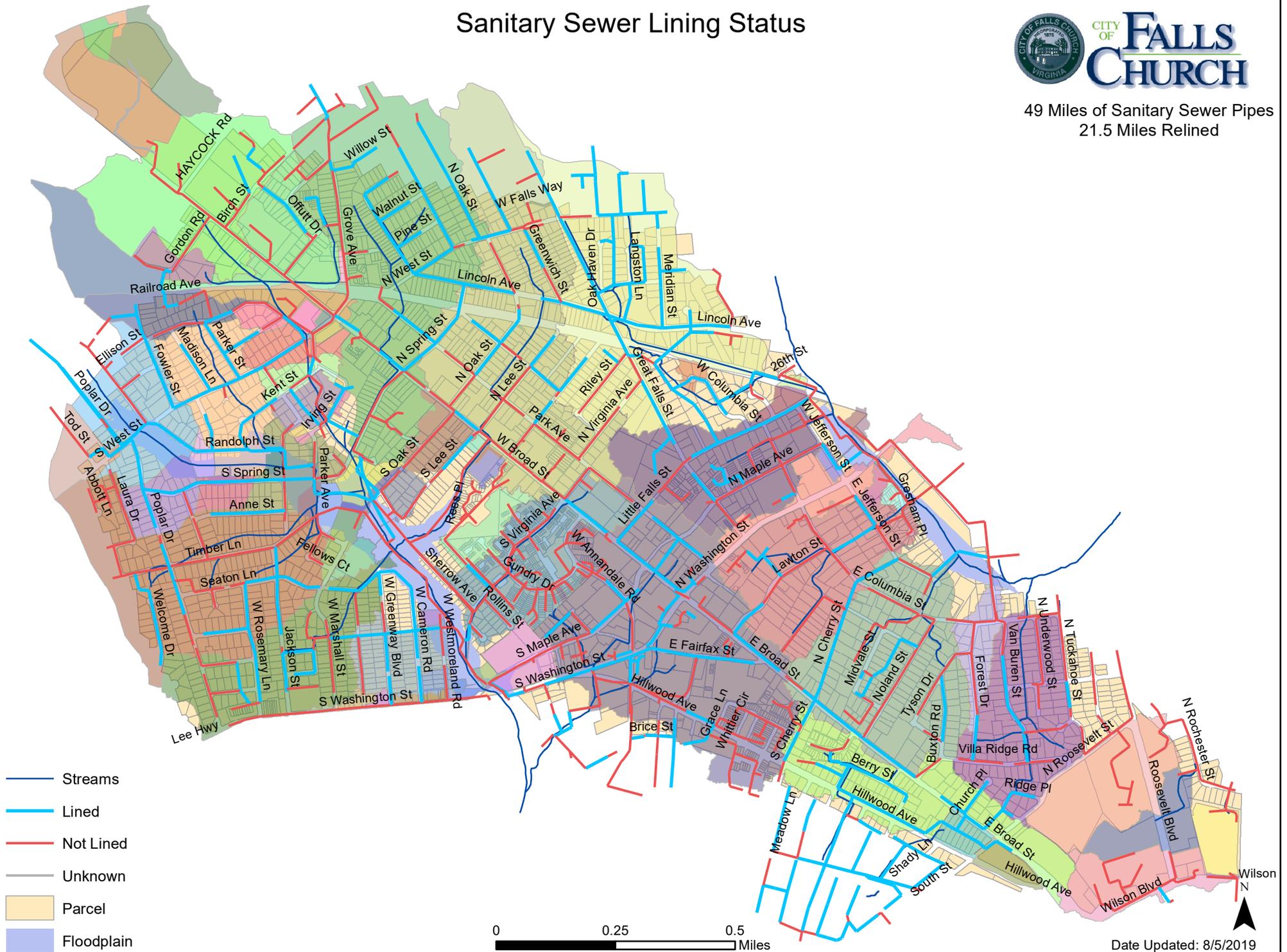
The upgrade of the Alexandria Wastewater Plant meets goals of the Comprehensive Plan's "Community Facilities, Public Utilities and Government Services" chapter such as:

- Ensure that a sufficient level of public facilities utilities services are available to meet the needs of the community
- Identify and prioritize facilities that require upgrading
- Ensure the most efficient and effective management of sanitary sewer systems

Sanitary Sewer Lining Status



49 Miles of Sanitary Sewer Pipes
21.5 Miles Relined



0 0.25 0.5 Miles

Date Updated: 8/5/2019

Sanitary Sewer Rehabilitation

Category: Stormwater/Sewer Utility

Department Lead: Public Works

Type: Ongoing Project

Project Description, Benefit, and Schedule

A systematic approach to sewer line rehabilitation is being pursued throughout the City’s sanitary sewer system. Based on consultant recommendations, a 30-year program has been developed. This is an on-going project to rehabilitate pipes with a process for reconstructing aged, damaged and deteriorated sewer lines. A new cured-in place pipe is formed inside of the existing sewer pipe by using water pressure to install a flexible tube saturated with a liquid thermosetting resin. The water is then heated to harden the resin. This process increases the sewer capacity (due to the smoothness of the new interior surface). It also results in a continuous, tight fitting, pipe-within-a-pipe and reduces infiltration and inflow (I&I). This is a relatively non-invasive and cost-effective process because there is little excavation required. This on-going project, begun in FY2004, will continue until the entire system is rehabilitated. Smoke testing and video inspection are performed to guide the decision process for selecting sewer mains for rehabilitation. In some cases a new sewer main may be a proposed solution to a localized capacity issue. Over the last 15 years, the City has relined 21.5 miles of our total system length of 49 miles (43%) at a total cost of \$3,500,000. (See map on following page). The capital plan below would complete the sewer relining program within the 6-year CIP period.



In addition to treatment capacity, Falls Church needs to add about 0.5 mgd conveyance capacity to transport wastewater to Fairfax's AlexRenew WWTF or, alternatively, reduce flow to the WWTF by that amount. This project includes funding in FY2022 through FY 2030 for evaluation and implementation of options for reducing wastewater flow to Fairfax County's AlexRenew WWTF through I/I reduction (either in public sewers or private laterals) and/or increasing wastewater conveyance capacity to the AlexRenew WWTF through construction of new sewers or increasing the capacity of existing sewers.

Capital Funding Plan

Funding Source	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027-30	10-YR Total
Local (PAYGO)	\$ 750,000	\$ 850,000	\$ 950,000	\$ 1,050,000	\$ 1,150,000	\$ 400,000	\$ 1,600,000	\$ 6,750,000
Sewer Availability Fees	\$ -	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 2,000,000	\$ 4,500,000
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total:	\$ 750,000	\$ 1,350,000	\$ 1,450,000	\$ 1,550,000	\$ 1,650,000	\$ 900,000	\$ 3,600,000	\$ 11,250,000

Funding Notes: GKY & Asso. is currently completing a sewer rate study update that will include this information in determining revenue requirements.

**if no activity per City Charter (Section 6.19) in 3 years note as re-appropriation action*

Impact on Operating Costs

The impact on the sewer reserve fund balance will be offset by programmed sewer rate increases. Purposes of program are 1. Long-term cost savings in maintenance of pipe network and, 2. Reduced treatment costs due to reduction of infiltration.

Conformity with Comprehensive Plan and Council Strategic Plan

The continued needed maintenance of the sewer system meets goals of the Comprehensive Plan’s “Community Facilities, Public Utilities and Government Services” chapter such as:

- Ensure that a sufficient level of public facilities utilities services are available to meet the needs of the community
- Identify and prioritize facilities that require upgrading
- Explore new technology to update and operate the City’s utilities system

West End Sewer Capacity Expansion

Category: Stormwater/Sewer Utility

Department Lead: Public Works

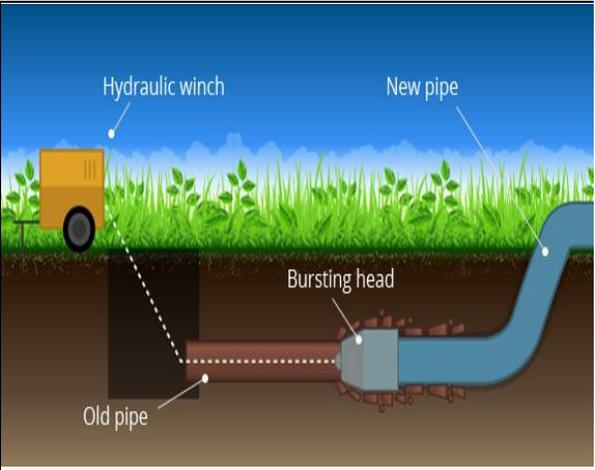
Type: Ongoing Project

Project Description, Benefit, and Schedule

This project will provide additional sanitary sewer capacity for the West End of the City for the new GMHS, 10 acre development and downstream infrastructure. An analysis of the existing conditions of the sewer main in this area indicated under capacity. A combination of methods to increase capacity will be utilized. One technique called pipe bursting to increase sewer capacity by over 25% will be performed for the downstream section. Pipe bursting is a less costly and less invasive construction method for increasing pipe diameters than a complete remove and replace of the existing pipe by excavation or installation of a new pipe. The other method will be new pipe installed by directional drilling, which will accommodate greater depths, allowing for gravity pipes to be maintained.

Since Public Works took over the sanitary sewer system in 2014 they have been developing a City-wide model to identify current capacity concern as well as forecast areas where new development may have significant impacts on sewer capacity. The model been developed for the City's entire sanitary sewer system, including all current Small Area Plans. The model has determined sections of pipe, which are insufficient to carry the full build-out of the City. This lack of capacity has also determined the future needs for projects for the City. The West end of the City will require approximately 5500 feet of pipe bursting to provide the capacity.

The funds required for FY2021 have been reduced to reflect the Availability Fees to be paid in FY 2020 for the Founders Row residential and commercial development. Additional Tap Fees from later phases of Founders Row and Little City Commons will accrue after completion of the current pipe bursting - sewer expansion project.



Capital Funding Plan

Funding Source	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027-30	10-YR Total
Local (Debt)	\$ 1,083,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,083,400
Sewer Availability Fees	\$ 3,116,600	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,116,600
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total:	\$ 4,200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,200,000

Funding Notes: The City collects sewer availability fees for each new connection to the sewer system. These funds are set aside for capacity expansion projects.

GKY & Asso. is currently completing a sewer rate study update that will include this information in determining revenue requirements.

**if no activity per City Charter (Section 6.19) in 3 years note as re-appropriation action*

Impact on Operating Costs

Long-term cost savings in maintenance of pipe network, reduced treatment costs due to less infiltration, and reduced emergency response requests due to overflowing sewers and flooded basements.

Conformity with Comprehensive Plan and Council Strategic Plan

The continued needed maintenance of the sewer system meets goals of the Comprehensive Plan's "Community Facilities, Public Utilities and Government Services" chapter such as:

- Ensure that a sufficient level of public facilities utilities services are available to meet the needs of the community
- Identify and prioritize facilities that require upgrading
- Explore new technology to update and operate the City's utilities system

Stormwater Flooding Remediation

Category: Stormwater/Sewer Utility

Department Lead: Public Works

Type: Ongoing Project

Project Description, Benefit, and Schedule

The Department of Public Works maintains over 140,000 linear feet of storm lines and approximately 1,400 storm inlets and other appurtenant facilities. On April 22, 2013 the City of Falls Church City Council adopted the Stormwater Fund, an enterprise fund with a revenue stream from the Stormwater Utility Fee. The purpose of this dedicated fund is to provide a stable and adequate source of funding to meet the City’s current and long-term stormwater management needs as identified in the Watershed Management Plan. The City Council also adopted the Stormwater Credit Program to provide an incentive and relief for property owners with stormwater management facilities. On July 1, 2013 the Stormwater Utility officially became active for Fiscal Year 2014. Prior to the program’s adoption stormwater activities were paid for out of the City’s General Fund.



In response to severe flooding in a number of neighborhoods throughout the City from major storm events over the last two years the City convened in late 2019 a Stormwater Task Force to evaluate flood remediation options, prioritize flood mitigation projects and make recommendations to the City Council for implementation of a flooding remediation program. This initiative is built upon the existing Stormwater Utility, using the same enterprise fund for operations and capital improvements. The City staff and Task Force have identified 6-8 first priority projects that will be undertaken starting with the FY2021 CIP. The final priority among these projects, the implementation schedule and funding allocations will be the bases of recommendations to the City Council in June 2020. Additional projects will be added over the 10 year planning period as analyses is completed and funding is provided.

Capital Funding Plan

Funding Source	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027-30	10-YR Total
Local (Debt)	\$ 1,286,600	\$ 1,350,900	\$ 4,648,500	\$ 3,921,500	\$ 972,400	\$ 2,093,100	\$ 3,637,900	\$ 17,910,900
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total:	\$ 1,286,600	\$ 1,350,900	\$ 4,648,500	\$ 3,921,500	\$ 972,400	\$ 2,093,100	\$ 3,637,900	\$ 17,910,900

GKY & Asso. is currently completing a rate study update for the City's Stormwater Utility that will include this information in determining revenue requirements.

**if no activity per City Charter (Section 6.19) in 3 years note as re-appropriation action*

Impact on Operating Costs

Operating costs will increase due maintenance on new stormwater infrastructure

Conformity with Comprehensive Plan and Council Strategic Plan

The continued needed maintenance of the sewer system meets goals of the Comprehensive Plan’s “Community Facilities, Public Utilities and Government Services” chapter such as:

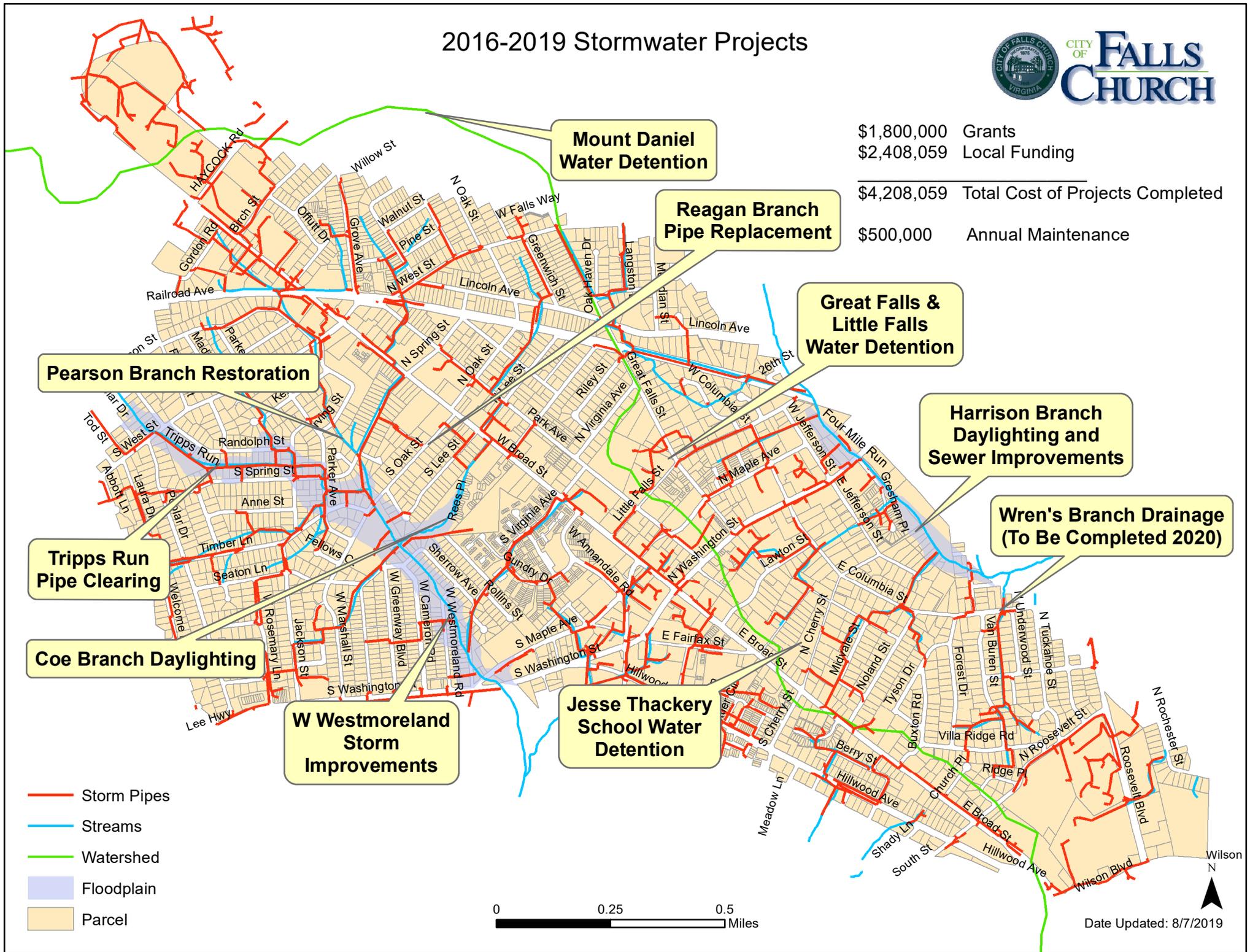
- Ensure that a sufficient level of public facilities utilities services are available to meet the needs of the community
- Identify and prioritize facilities that require upgrading
- Explore new technology to update and operate the City’s utilities system

2016-2019 Stormwater Projects



\$1,800,000 Grants
 \$2,408,059 Local Funding

 \$4,208,059 Total Cost of Projects Completed
 \$500,000 Annual Maintenance



Pearson Branch Restoration

Mount Daniel Water Detention

Reagan Branch Pipe Replacement

Great Falls & Little Falls Water Detention

Harrison Branch Daylighting and Sewer Improvements

Wren's Branch Drainage (To Be Completed 2020)

Jesse Thackery School Water Detention

W Westmoreland Storm Improvements

Tripps Run Pipe Clearing

Coe Branch Daylighting

- Storm Pipes
- Streams
- Watershed
- Floodplain
- Parcel



Date Updated: 8/7/2019



Four Mile Run Restoration

Category: Stormwater/Sewer Utility

Department Lead: Public Works

Type: New Project

Project Description, Benefit, and Schedule

On June 11, 2012, the City Council adopted the North Washington Street Small Area Plan. The Plan calls for redevelopment and rejuvenation of the City's North Washington Street Planning Opportunity Area. The Area follows N. Washington Street from the City/County boundary to Great Falls Street.

A major component of the Plan is restoring Four Mile Run and opening up the stream adjacent land as public open space. The restoration of the stream would convert the stream from an eyesore to a community asset. The streamside park and trail would be an amenity used by city residents, nearby office workers, and visitors. The restored stream would serve as a gateway feature at the entrance to the City.

Planning for the stream restoration is supported by an action report prepared by Virginia Tech students that compared similar situations and project in other area jurisdictions.

The planning level \$10M cost estimate breakdown: \$5M for land acquisition, \$4M for stream restoration, \$1M for park development.



Capital Funding Plan

Funding Source	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027-30	10-YR Total
Grant (pending)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	10,000,000	\$ 10,000,000
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	\$ -
Total:	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	10,000,000	\$ 10,000,000

Funding Notes: Provide info on estimated cost and funding sources as needed.

**if no activity per City Charter (Section 6.19) in 3 years note as re-appropriation action*

Impact on Operating Costs

Conformity with Comprehensive Plan and Council Strategic Plan

Developing Four Mile Run is called for in the City's Parks for People Plan, the Parks, Open Space, and Recreation Chapter of the Comprehensive Plan. Restoring Four Mile Run is also called for in the City's North Washington Street Small Area Plan, which is adopted pursuant to the Comprehensive Plan as a guide for redevelopment and investment in the area.