2024-2033

CAPITAL IMPROVEMENT PLAN

LOUDOUN WATER

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Capital Improvement Plan 2024-2033

Contents

Capital Improvement Plan

The Capital Improvement Plan (CIP) is a key planning and budgeting process for Loudoun Water. The plan provides a 10-year roadmap for creating, maintaining, upgrading, or replacing immediate and long-term capital and infrastructure needs. Capital water and wastewater improvements are often complex, interrelated and require a great deal of planning over many years to define their extent, location, and cost. The CIP presents Loudoun Water's strategy related to the expansion, rehabilitation and acquisition of long-lived facilities and infrastructure.

Introduction

Loudoun Water's mission is to work to ensure a healthy environment and high quality of life through effective and sustainable management of resources entrusted to our care. Loudoun Water is committed to providing excellent water, wastewater, and reclaimed water services for all our customers in a dynamic county that continues to grow and evolve at a rapid pace. Loudoun Water is preparing for the future; one of continued county expansion, economic growth, adaptable technologies, and enhanced public health and safety. With sustained regional growth, major investments in utility infrastructure, and deployment of advanced operational and informational technologies, Loudoun Water remains a proactive resource and partner in our vibrant county.

Authority

Loudoun Water was created on May 27, 1959, by action of the Board of Supervisors of Loudoun County, Virginia, as a public body politic and corporate under the provisions of the Virginia Water and Waste Authorities Act. Loudoun Water is chartered by the State Corporation Commission and is responsible for providing water and wastewater service to the unincorporated areas of Loudoun County. User fees from customers or availability fees from developers provide all income. Loudoun Water is not a department of Loudoun County and receives no tax money.

The Authority is governed by a Board consisting of nine members appointed by the Board of Supervisors. The Board appoints the General Manager, who is responsible for the daily management of the Authority.

Service Area

Loudoun County is a rapidly developing jurisdiction located in the northern tip of the Commonwealth of Virginia approximately 25 miles northwest of Washington, D.C. Loudoun County contains 517 square miles, making it one of the largest counties in the region. According to the Metropolitan Washington Council of Governments regional forecasts, the County is expected to continue to have one of the highest population and employment growth rates in the entire region over the next 20 years.

Most Loudoun Water customers are in the suburban, eastern portion of the county with a service population of over 330,000 residents. Central water, wastewater and reclaimed water systems serve the suburban portion of the county. The western portion of Loudoun County is more rural, bordered by the Blue Ridge Mountains and the Potomac River, and contains small towns and villages surrounded by farmland and open spaces. Loudoun Water operates many community systems spread across the western portion of the county. The community systems are typically communal wells and wastewater collection systems serving small residential subdivisions. Most properties in the rural areas continue to be served through individual well and septic systems managed by the property owners.

Services

Loudoun Water owns and operates multiple water and wastewater treatment facilities. Major Loudoun Water facilities serving the central service area include the 10 mgd (million gallons per day) Broad Run Water Reclamation Facility, the 20 mgd Trap Rock Water Treatment Facility, Goose Creek and Beaverdam Creek Reservoirs, multiple storage tanks, pump stations, and administrative and operations buildings. In addition, Loudoun Water has purchased capacity for wholesale water supply from Fairfax Water and wastewater treatment from DC Water.

Sustainable practices developed using a triple bottom line approach balancing financial, environmental, and social impacts have been a hallmark throughout Loudoun Water's history and its future planning. That sustainable approach is highlighted through initiatives such as ensuring water supply for generations to come, promoting the value of water through community education, and offering reclaimed water service to our customers.

Loudoun Water maintains over 1,400 miles of water distribution pipelines, over 1,200 miles of wastewater collection system pipelines and a growing reclaimed non-potable water system. The associated valves, hydrants, storage tanks and pump stations are designed for safe reliable service.

Community water and wastewater systems are freestanding water and wastewater systems whereby water may be supplied to a rural village or hamlet by its own community well and wastewater may be treated in a packaged treatment facility. In the western region of Loudoun County, Loudoun Water currently owns and/or operates over 40 smaller water and wastewater treatment systems. These include systems Loudoun County has sponsored due to health hazard conditions, developer-initiated systems and contract operations at systems throughout the County.

Mission, Vision and Values

Loudoun Water is on an exciting path forward to plan for and deliver advanced water and wastewater technologies that will support our growing community for generations to come. As the region undergoes rapid transformation, Loudoun Water's Capital Improvement Plan aligns with the 2020-2024 Loudoun Water Strategic Plan, and advances the Mission, Vision and Values.

The dedication, collaboration, vision, focus on customers and our aim to be resilient in all we do, is reflected in the projects and programs developed in the planning process.

This common understanding helps to establish a shared vision for organizing, planning, implementing and managing these programs. The CIP supports Loudoun Water's Mission and Vision and serves as a solid foundation to support planning and strategies for implementing water supply, water treatment, wastewater treatment, water reclamation and water conservation initiatives.

Capital Improvement Plan – General

The Capital Improvement Plan (CIP) is the foundation of the one-year Capital Spending Plan, informs the 5-year plan of spending and provides a 10-year roadmap for creating, maintaining, upgrading or replacing immediate and long-term capital and infrastructure needs.

The underlying strategy of the CIP is to plan for facilities necessary for the safe and efficient delivery of water, wastewater and reclaimed water services in accordance with policies, goals and objectives adopted by Loudoun Water. A critical element of a balanced CIP is to preserve and enhance existing facilities as well as provide new assets to respond to growth of the community and changing service needs. The projects presented in the CIP are developed on a programmatic basis to facilitate alignment with strategic planning and provide inputs necessary for implementation. The CIP is not a fixed, rigid approach and projects may be deleted, delayed, modified or new projects may be proposed and authorized at any time.

Planning Goals

A solid planning platform is the foundation of Loudoun Water's CIP. The effective use of the CIP process provides Loudoun Water with considerable advanced project identification, planning, evaluation, scope definition, design, public discussion, cost estimating, and financial planning. Throughout, Loudoun Water seeks to optimize current resources and to ensure continuous adequacy of such resources to meet future needs and to provide efficient services to its customers. The capital planning process is consistent with and complementary to the objectives of Loudoun Water through the strategic and business plans.

The capital planning process results in the 10-year CIP and represents considerable work by all divisions to evaluate and recommend capital projects. The projects are developed to ensure regulatory compliance, meet the future growth needs of Loudoun County, and provide reinvestment in existing infrastructure sufficient to safely and reliably operate and maintain the system. The mission, vision and values of Loudoun Water are enveloped in the guiding principles and goals of the CIP:

- Ensure that Loudoun Water's approved Capital Spending Plan and 10-year CIP are affordable and finances only necessary capital expenditures.
- Enable informed capital investment decisions according to a fair, open and objective process.
- Emphasize the requirement for long-term planning.
- Enhance the linkage between the capital and operating budgets.
- Avoid the need to impose "crisis" rate increases.

Planning Coordination

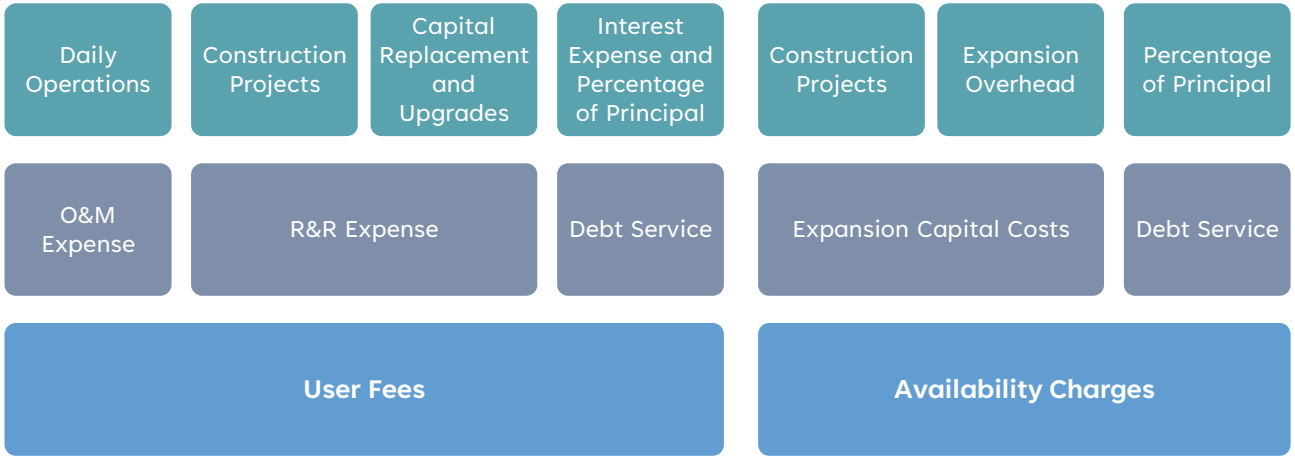
Loudoun Water maintains close coordination with neighboring jurisdictions and active involvement with national, regional, and local organizations and professional societies to keep up to date on industry issues and changing regulations. To facilitate county planning Loudoun Water serves as a technical resource to Loudoun County on matters related to water and wastewater services.

The goals and policies of the 2019 Loudoun County Comprehensive Plan, guide Loudoun Water's planning efforts. Loudoun Water uses information developed and approved by Loudoun County to project growth and service needs. Comprehensive water, wastewater and reclaimed water master plans are developed, and are regularly reviewed, updated, and incorporated into Loudoun Water's daily business. Complementary to these master plans, Loudoun Water also prepares detailed local area facility plans and studies to facilitate and refine capital improvement projects.

Support to Finance

The 10-year CIP serves as a financial planning tool to identify needed capital expenditures and to coordinate the financing of improvements in a way that maximizes the return to the customers and supports Loudoun Water's financial plan. The CIP is not the same as the Capital Spending Plan and is not an approval or appropriation of funds for individual projects. The Capital Spending Plan represents the projects and/or programs for an individual year that once approved by the Board, authorizes specific projects and appropriates, where applicable, specific funding for those projects.

The CIP and Operating Budget are two primary financial forecasts. Although they are developed independently, planned capital projects in the CIP often have operating impacts that need to be integrated into the annual Operating Budget, and programmatic changes in the Operating Budget sometimes impact the Capital Spending Plan. Loudoun Water's Financial Plan includes a comprehensive review of the user fees and availability fees required to fund capital improvements and other expenses.



Capital Improvement Plan – Process

Schedule

The capital planning process extends throughout the year and is intended to encourage the flow of ideas and allow for advanced planning. The formal preparation of the Capital Improvement Plan (CIP) begins each year in August and culminates with the Board's approval of the Annual Budget in December. During this period, staff members review existing design and construction status, maintenance records, performing master planning efforts, reviewing the conditions of assets, and undertaking any other necessary planning efforts.

PRIORITIZATION & CRITERIA

Capital planning involves a comprehensive and systematic effort to develop and prioritize immediate and long-terms needs. The prioritization process guides funding and resource allocations across all Loudoun Water divisions. Objective evaluation and prioritization through a formalized method is needed when numerous projects compete for limited resources. Loudoun Water created criteria and guidelines to manage this process.

All capital projects are evaluated against common criteria shown in the table below. The evaluation questions provided below are a few examples intended to assist in the application of the scoring criteria and guide decisions. A scoring review committee comprised of a cross-section of Loudoun Water senior management meets on several occasions to provide input on the scoring and to ensure consistency in applying the criteria. Using the project scoring and management input, an assessment of Loudoun Water resources is conducted to verify that the proposed Capital Spending Plan can be implemented. Staff resources are a key constraint to ensure projects will be completed with adequate planning, design and oversight. The result is a prioritized CIP to help focus funding and resources.

Prioritization & Criteria Table

Regulatory or mandated requirements	• Does this project address a safety issue or a public health need? • Is this project necessary for compliance with a regulatory requirement? • Is this project necessary to comply with a Loudoun Water Board directive or Board of Supervisors request? • Is this project based on an agreement with another water or wastewater utility? (i.e., Fairfax Water or DC Water)
Level of Service	• Does this project increase the overall reliability of a system? • Does this project reduce or eliminate existing or potential shortages? • Does this project increase water quality or reduce overflow potential?
Implication of Deferring the Project	• If this project is deferred, will there be an increase in the risk of a permit violation and regulatory non-compliance? • Are there any cost savings in doing the project now? • If this project is deferred, will it negatively impact other projects?
Alignment	• Is this project in support of Loudoun Water's Strategic Plan? • Is this project consistent with the master plans or asset management plans? • Does this project align with regional cooperation goals?
Funding Opportunities	• Can this project be funded with non-enterprise (non-Loudoun Water) sources?

CAPITAL IMPROVEMENT PLAN – MAJOR INITIATIVES

MILESTONE RESERVOIR (QUARRY A) – POTOMAC WATER SUPPLY

The Potomac Water Supply Program initiated production of finished water for distribution to Loudoun Water customers in September 2018. The 20 mgd Trap Rock Water Treatment Facility and the 40 mgd Raw Water Intake and Potomac River Pump Station are fully complete and operational. Loudoun Water is currently providing about 12 million gallons per day or about 40% of Loudoun Water's daily demand of potable water from these state-of-the-art facilities to our customers!

The development of Milestone Reservoir (formerly referenced as "Quarry A") for raw water storage is currently approaching the start of construction and is the next major component of the Potomac Water Supply Program. The water banking and water supply management of over 1.0 billion gallons of off-river water storage will allow Loudoun Water to suspend withdrawals from the Potomac River during drought or periods of adverse water quality conditions. The development of Milestone Reservoir includes large-diameter raw water transmission mains, a deep shaft pump station, tunneling and other geo-technical improvements.

Broad Run Water Reclamation Facility

The Broad Run Water Reclamation Facility (WRF) is currently constructing an expansion to 16.5 mgd to serve growth in the Loudoun Water service area while meeting the stringent regulatory requirements associated with the Dulles Area Watershed Policy and Chesapeake Bay protection goals. The current work at BRWRF involves:

- Construction of new primary/preliminary treatment trains to expand treatment capacity.
- Modifying the existing secondary treatment system to increase treatment capacity by 50% in the existing footprint.
- Construction of additional onsite wastewater storage to increase the plant resiliency to more extreme wet weather events.
- Various improvements to Influent Pumping, Tertiary Treatment, Solids Handling, Septage Receiving, Odor Control, Chemical Delivery, and Electrical Systems.
- Expanding the delivery of reclaimed water to support integrated water reuse strategies in the service area.

Design for the next expansion, Phase 3, of the BRWRF is currently underway to meet continued growth of the Central Service Area. Phase 3 Expansion will increase capacity of the BRWRF to 30 mgd to serve the County for many years to come. Design and construction of the Phase 3 Expansion is estimated to take approximately 10-15 years.

Reservoir Park

Loudoun Water, in partnership with NOVA Parks, is constructing a sustainable and innovative new park, Reservoir Park, along the Beaverdam Reservoir. The park is based on a community-supported concept plan.

Loudoun Water views the park as an extension of our educational efforts and an opportunity to ensure that the focus of Beaverdam Reservoir remains primarily as a drinking water resource, but with an ability to sustainably manage public access through important community partnerships. Bringing this vision to life will provide a highly visible asset and treasured resource for the community.

CAPITAL IMPROVEMENT PLAN – ORGANIZATION

The Capital Improvement Plan (CIP) is organized to present a comprehensive summary of projects and programs. The preceding outline of the history, process and criteria is included to provide context and to document the structure of the CIP. The following summary charts and tables are organized to provide an overview of the projects by managing division, priority and funding schedule. Individual project sheets are organized by managing division in the sections that follow.

The project sheets include full project identification and summary information including:

CIP Project #: Project identifier linked to SAP.

Program: The responsible program.

ADM - Administration
BRW - Broad Run Water Reclamation Facility
COM - Community Systems
FIN - Finance
PWS - Potomac Water Supply
REC - Reclaimed Water
WST - Wastewater
WTR - Water

Project Name: Descriptive name for the project. If applicable, the facility name is used in the title.

Requesting Department: The department that identified the need for the project and is responsible for completing the project documentation form.

Managing Department: The department that will be responsible for executing the project.

Project Manager: An individual who will manage the execution of the project.

Project Description/Project Driver/Additional Comments: As much information as possible to provide project documentation including references to existing plans, connected projects, regulatory issues, management directives or other pertinent information.

Estimate Method: Information on how the estimate was developed; Industry Metrics, Feasibility or Study, Design Phase Estimate, Detailed/Bid Estimate, Firm Price/Quote or Other.

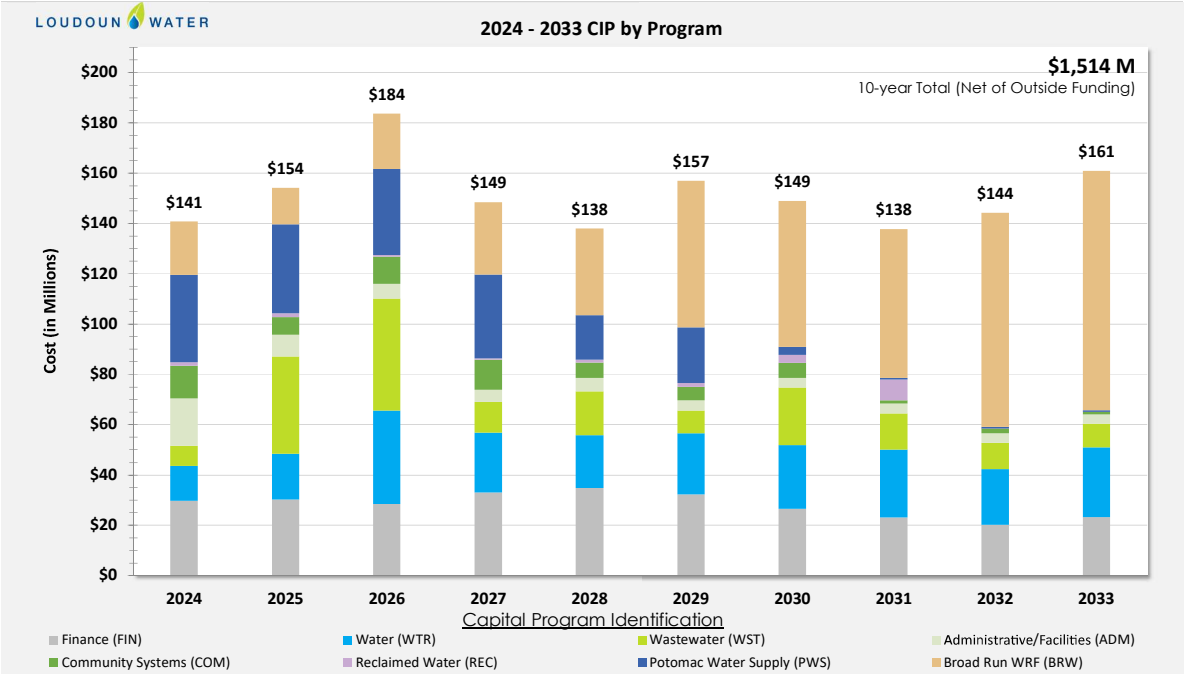
Project Prioritization: All projects are rated based on the best of known information for five criteria (as listed on the sheet). The scoring is reviewed by the committee to adjust as necessary and build consensus regarding the priority of projects.

10-year Capital Expenditures: Projected costs are input for each planning year and assigned to the type of spending: Planning, Design, Construction, Land/Easements, Equip/Other Costs and Reimbursement.

2024 Capital Expenditures: Projected monthly spending for 2024 projects.

PROJECT LIST – COSTS ARE NET OF OUTSIDE FUNDING

Program	Number of Projects	2024	2025	2026	2027	2028	2029-2033	Total
Administration (ADM)	40	$18,850	$8,500	$5,630	$4,780	$5,230	$19,110	**$62,100**
Broad Run Water Reclamation Facility (BRW)	16	$21,190	$14,600	$22,070	$28,810	$34,350	$355,760	**$476,780**
Community Systems (COM)	20	$13,050	$7,150	$10,950	$11,950	$6,290	$15,730	**$65,120**
Finance (FIN)	11	$29,650	$30,260	$28,480	$33,030	$34,890	$125,290	**$281,600**
Potomac Water Supply (PWS)	6	$34,750	$35,390	$34,130	$33,340	$17,790	$27,330	**$182,730**
Reclaimed Water (REC)	7	$1,400	$1,430	$570	$560	$1,060	$12,810	**$17,830**
Wastewater (WST)	43	$7,940	$38,820	$44,660	$12,220	$17,560	$66,290	**$187,490**
Water (WTR)	69	$13,950	$18,140	$37,150	$23,820	$20,840	$126,590	**$240,490**
Total	**212**	**$140,780**	**$154,290**	**$183,640**	**$148,510**	**$138,010**	**$748,910**	**$1,514,140**



2024 - 2033 Capital Improvement Plan - Project List

(Costs in $000's – shown as full project expenditure, no outside funding shown)

Project Number	Project Name	Managing Dept*	2024 Spending	1st Five Years 2024-28	2nd Five Years 2029-33	Ten-year CIP 2024-2033
ADM00008	Loudoun Water Educational Features	COMM	$300	$600	$0	$600
ADM00009	Data Center-Network Hardware Updates	IT BS	$150	$750	$750	$1,500
ADM00013	SAP Enhancements	IT BS	$20	$340	$400	$740
ADM00015	Computer-AV Equip Upgrades and New	IT BS	$170	$970	$1,000	$1,970
ADM00016	Vehicles	GEN SERV	$800	$4,550	$4,150	$8,700
ADM00017	Equipment-Minor Capital	GEN SERV	$750	$3,500	$3,500	$7,000
ADM00020	Supplemental Plan Review	LAND DEV	$50	$250	$250	$500
ADM00022	Records Management Solution	IT BS	$80	$180	$0	$180
ADM00025	General Security System Upgrades	GEN SERV	$600	$3,700	$2,000	$5,700
ADM00026	Onsite Water and Sewer Projects	FIN	$20	$100	$100	$200
ADM00031	On-Call Modeling Support	PLANNING	$40	$200	$200	$400
ADM00036	Facilities Expansion Study	GEN SERV	$0	$100	$0	$100
ADM00048	SCADA - Network Hardware Upgrade	OT	$230	$530	$100	$630
ADM00057	Facilities Campus Improvements	GEN SERV	$600	$2,100	$2,650	$4,750
ADM00058	SCADA-Instrumentation Improvements	OT	$380	$880	$400	$1,280
ADM00061	DCH & O&M HVAC Renewal	GEN SERV	$160	$710	$890	$1,600
ADM00064	Facility Fencing Replacement-Upgrades	GEN SERV	$570	$850	$0	$850
ADM00066	Remote Facilities Communications	IT BS	$380	$570	$0	$570
ADM00069	Cybersecurity Assessment - Improvements	IT BS	$150	$270	$370	$640
ADM00072	LW Connect-Customer Portal Improvements	COMM	$40	$180	$160	$340
ADM00083	OT - BRWRF Building O UPS Upgrade	O-WST	$210	$210	$0	$210
ADM00085	Meter Test Bench	GEN SERV	$80	$560	$0	$560
ADM00086	Developer Portal	LAND DEV	$0	$400	$0	$400
ADM00087	Ashburn Campus Paving Replacement	GEN SERV	$450	$1,750	$600	$2,350
ADM00091	Mobile Field App. - Phase 2	IT BS	$50	$200	$0	$200
ADM00092	Mass Meter Replacement	IT BS	$640	$640	$0	$640

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Project Number	Project Name	Managing Dept*	2024 Spending	1st Five Years 2024-28	2nd Five Years 2029-33	Ten-year CIP 2024-2033
ADM00093	Capital Engineering Services	CAP PROGRAMS	$40	$200	$200	$400
ADM00094	O&M Warehouse Storage Solution	O-PROGRAMS	$0	$230	$0	$230
ADM00096	Cellular Booster Enhancements	IT BS	$50	$50	$0	$50
ADM00097	Capital Research Studies	WTR RES	$760	$1,760	$1,250	$3,010
ADM00098	Aerial Photo Acquisition	IT BS	$60	$180	$140	$320
ADM00099	PSO Support Services	PSO	$150	$300	$0	$300
ADM00100	GIS Enhancements	IT BS	$50	$50	$0	$50
ADM00101	IT Service Management	IT BS	$10	$10	$0	$10
ADM00102	OT Switch Modernization Program	OT	$240	$1,000	$0	$1,000
ADM00104	Project Management Info System (PMIS)	PSO	$350	$500	$0	$500
ADM00105	Easement Mapping	IT BS	$200	$1,300	$0	$1,300
ADM00106	Inventory Application Enhancements	IT BS	$20	$120	$0	$120
ADM00107	New Inventory Warehouse Design	CAP PROGRAMS	$0	$200	$0	$200
ADM00108	SAP S4HANA Upgrade	IT BS	$10,000	$12,000	$0	$12,000
BRW00002	BRWRF Liquids Treatment Expansion	O-WST	$8,960	$10,260	$0	$10,260
BRW00023	BRWRF - General Improvements	MNT-PL	$1,300	$5,300	$5,000	$10,300
BRW00028	BRWRF Lab HVAC Replacement	CAP PROGRAMS	$610	$1,600	$0	$1,600
BRW00032	BRWRF Phase 3 Expansion	O-WST	$8,000	$91,100	$300,000	$391,100
BRW00033	BRWRF Roof Replacements	O-WST	$50	$1,510	$0	$1,510
BRW00034	Spare Parts BRW	FIN	$100	$500	$500	$1,000
BRW00037	Pretreatment Local Limits Evaluation	O-WST	$0	$250	$250	$500
BRW00039	BRWRF Regulatory Requirements	O-WST	$0	$0	$17,860	$17,860
BRW00040	BRWRF Structural Assessment and Repairs	O-WST	$550	$1,550	$1,250	$2,800
BRW00041	BRWRF Membrane Cassette Replacements	O-WST	$1,380	$1,380	$10,500	$11,880
BRW00042	BRWRF Electrical Condition Assessments and Repairs	O-WST	$0	$630	$950	$1,580
BRW00043	BRWRF Flow Equalization Improvements	O-WST	$80	$1,590	$0	$1,590

2024 - 2033 Capital Improvement Plan - Project List

(Costs in $000's – shown as full project expenditure, no outside funding shown)

Project Number	Project Name	Managing Dept*	2024 Spending	1st Five Years 2024-28	2nd Five Years 2029-33	Ten-year CIP 2024-2033
BRW00044	BRWRF GAC Underdrains	O-WST	$0	$50	$9,500	$9,550
BRW00045	BRWRF HVAC Condition Assessment and Repairs	O-WST	$160	$2,370	$2,550	$4,920
BRW00046	BRWRF Preliminary Treatment Improvements	O-WST	$0	$2,680	$0	$2,680
BRW00047	BRWRF Primary Treatment Improvements	O-WST	$0	$250	$7,400	$7,650
COM00015	GCIP WWTP SPS/JLMA East, S1A & S1B-E	CAP PROGRAMS	$10,080	$13,600	$0	$13,600
COM00046	Creighton WWTP Connect to Central	PLANNING	$0	$0	$100	$100
COM00049	Comm. System - General Improvements	O-COMSYS	$160	$840	$990	$1,830
COM00060	ComSys Ammonia Removal Evaluation	O-WST	$0	$500	$12,300	$12,800
COM00061	Paeonian Springs Water & Sewer (County)	CAP PROGRAMS	$650	$2,110	$0	$2,110
COM00062	Rokeby WTP Generator Upgrades	CAP PROGRAMS	$0	$0	$1,150	$1,150
COM00063	Waterford Water System (County)	CAP PROGRAMS	$190	$1,000	$0	$1,000
COM00066	Com Sys Risk Assessment	O-PROGRAMS	$0	$0	$150	$150
COM00069	Spare Parts COM	FIN	$20	$100	$100	$200
COM00070	Howardsville WWTP (County)	CAP PROGRAMS	$90	$1,310	$0	$1,310
COM00071	Willisville WWTP Improvements	O-WST	$100	$180	$0	$180
COM00072	St Louis Water Study (County)	PLANNING	$60	$150	$0	$150
COM00074	Lucketts ES WWTP (County)	O-WST	$70	$780	$0	$780
COM00075	Beacon Hill Water Line Encasement Project	CAP PROGRAMS	$0	$0	$850	$850
COM00076	ComSys Ammonia Removal PDB	O-WST	$2,250	$29,310	$0	$29,310
COM00077	ComSys Source Water Review	O-Remote Fac	$100	$100	$0	$100
COM00078	Rokeby to Central (Water)	PLANNING	$0	$0	$90	$90
COM00079	Beacon Hill New Water Production Well	CAP PROGRAMS	$190	$4,500	$0	$4,500
COM00080	Raspberry Falls WRF Generator Replacement	O-COMSYS	$150	$150	$0	$150
COM00081	Selma WTP Membrane Replacement	O-COMSYS	$0	$110	$0	$110
FIN00001	Debt Service	FIN	$9,290	$50,930	$48,550	$99,480
FIN00002	DC Water Capital Improvements	FIN	$10,800	$72,580	$45,690	$118,270

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(Costs in $000's – shown as full project expenditure, no outside funding shown)

Project Number	Project Name	Managing Dept*	2024 Spending	1st Five Years 2024-28	2nd Five Years 2029-33	Ten-year CIP 2024-2033
FIN00003	Reimbursement to Developers - Water	LAND DEV	$2,500	$4,500	$3,750	$8,250
FIN00004	Reimbursement to Developers - Sewer	LAND DEV	$250	$1,250	$2,750	$4,000
FIN00005	Capital Proj - Construction-in-Process	FIN	$5,900	$21,900	$20,000	$41,900
FIN00007	Fairfax Water-Corbalis Phase III (WSA 5)	FIN	$220	$1,100	$1,100	$2,200
FIN00008	Fairfax Water-Trans. Capacity-Fox Mill/Centerville	FIN	$210	$1,050	$1,050	$2,100
FIN00009	FC UOSA - Conveyance-Treatment Capacity	FIN	$80	$650	$400	$1,050
FIN00011	Record Drawings and GIS Data Program	IT BS	$300	$1,500	$1,500	$3,000
FIN00014	Capital Imp Projects Legal Support	FIN	$100	$500	$500	$1,000
FIN00015	Reimbursement to Developers - Reclaimed	LAND DEV	$0	$350	$0	$350
PWS00006	PWS - Quarry A, Milestone Reservoir	CAP PROGRAMS	$37,210	$152,140	$7,540	$159,680
PWS00007	TRWTF - Phase IA (30 MGD) Expansion	O-WTR	$300	$7,570	$16,540	$24,110
PWS00009	PRWPS - General Improvements	O-WTR	$50	$1,250	$1,750	$3,000
PWS00012	TRWTF - General Improvements	O-WTR	$100	$1,000	$1,000	$2,000
PWS00016	Spare Parts PWS	FIN	$100	$500	$500	$1,000
PWS00017	TRWTF Standby Generator	O-WTR	$500	$2,270	$0	$2,270
REC00009	One Water Strategic Planning	WTR RES	$50	$330	$80	$410
REC00010	Equinix Property Reclaimed Main	CAP PROGRAMS	$350	$1,580	$0	$1,580
REC00011	Beaumeade Circle Gap Closures	CAP PROGRAMS	$0	$1,000	$0	$1,000
REC00013	Reclaimed Water Program Support	WTR RES	$40	$200	$200	$400
REC00017	RWPS Upgrades	CAP PROGRAMS	$960	$960	$0	$960
REC00018	Reclaimed Distribution Storage Tank	CAP PROGRAMS	$0	$670	$11,530	$12,200
REC00019	RWPS Surge Tank	O-WST	$0	$280	$1,000	$1,280
WST00001	Wastewater System Planning Studies	PLANNING	$0	$300	$900	$1,200
WST00005	Upper Foley SPS Odor Control System	O-Remote Fac	$0	$0	$420	$420
WST00013	W-WW Needs Assessment Studies (County)	PLANNING	$0	$460	$540	$1,000
WST00022	Sys Capacity Upgrades - Sewer Mains	PLANNING	$0	$0	$12,100	$12,100

2024 - 2033 Capital Improvement Plan - Project List

(Costs in $000's – shown as full project expenditure, no outside funding shown)

Project Number	Project Name	Managing Dept*	2024 Spending	1st Five Years 2024-28	2nd Five Years 2029-33	Ten-year CIP 2024-2033
WST00023	Sys Capacity Upgrades - Pump Stations	PLANNING	$0	$0	$12,200	$12,200
WST00024	Russell Br SPS JLMA East, S2A-E & S2B-E	CAP PROGRAMS	$800	$25,120	$0	$25,120
WST00027	Temporary Flow Monitoring	O-PROGRAMS	$100	$350	$250	$600
WST00029	Sewer Master Plan Modeling Update	PLANNING	$0	$100	$200	$300
WST00032	Grinder Pump Replacement Program	MNT-LINE	$120	$600	$600	$1,200
WST00033	Elklick Run SPS Phase 3 Upgrades	CAP PROGRAMS	$220	$220	$0	$220
WST00035	Lansdowne SPS Reliability Upgrades	CAP PROGRAMS	$1,940	$3,360	$0	$3,360
WST00038	Sewer Meter Vault Replacements	O-WST	$280	$2,250	$0	$2,250
WST00039	UBRI Manhole Improvements	CAP PROGRAMS	$200	$4,740	$0	$4,740
WST00040	Waxpool SPS General Improvements	CAP PROGRAMS	$0	$100	$1,020	$1,120
WST00042	Sanitary Sewer Rehab Program	O-PROGRAMS	$0	$2,090	$5,150	$7,240
WST00046	E Beech Rd 10in Sewer Replacement	CAP PROGRAMS	$350	$350	$0	$350
WST00050	Wastewater Facility Improvements	O-Remote Fac	$210	$1,120	$1,290	$2,410
WST00055	Grinder Pump Control Panel Replacement	O-PROGRAMS	$80	$400	$0	$400
WST00057	JLMA East, S4-E (GCIP to Crosstrail Blvd) [R]	LAND DEV	$1,200	$12,000	$0	$12,000
WST00058	JLMA West, S2 & S3A (Sycolin to RT 267)	CAP PROGRAMS	$1,090	$12,620	$0	$12,620
WST00059	Wastewater Risk Assessment	O-PROGRAMS	$0	$100	$30	$130
WST00062	Spare Parts WST	FIN	$100	$500	$500	$1,000
WST00064	Central Sewer CIPP Lining - P2	CAP PROGRAMS	$420	$700	$0	$700
WST00066	Digital Dulles Sewer Extension [R]	LAND DEV	$0	$12,000	$1,000	$13,000
WST00068	JLMA East Sewer PS and Forcemain (Phase 2)	CAP PROGRAMS	$160	$3,030	$20,000	$23,030
WST00069	JLMA West, S3B-W (Shreve South) [R]	CAP PROGRAMS	$0	$4,730	$0	$4,730
WST00070	JLMA West SPS, S1A-W & S1B-W [R]	CAP PROGRAMS	$50	$23,330	$5,920	$29,250
WST00071	JLMA West, S-4-W NLS SPS Upgrades	CAP PROGRAMS	$250	$4,070	$660	$4,730
WST00072	Sewer Replacement Shep/Blkwd/Caragana	CAP PROGRAMS	$220	$360	$0	$360
WST00073	Wastewater Infrastructure Improvements	MNT-LINE	$0	$0	$700	$700

2024 - 2033 Capital Improvement Plan - Project List

(Costs in $000's – shown as full project expenditure, no outside funding shown)

Project Number	Project Name	Managing Dept*	2024 Spending	1st Five Years 2024-28	2nd Five Years 2029-33	Ten-year CIP 2024-2033
WST00074	Cabin Branch Lateral Lining Project	CAP PROGRAMS	$320	$2,080	$0	$2,080
WST00075	Connect Dulles Trade SPS to Gravity Sewer	CAP PROGRAMS	$0	$2,180	$0	$2,180
WST00076	Force Main Condition Assess & Inspect	O-PROGRAMS	$50	$250	$250	$500
WST00077	Horsepen Run AFP	PLANNING	$80	$80	$0	$80
WST00078	Red Cedar 2 SPS Capacity Review	O-Remote Fac	$100	$100	$1,850	$1,950
WST00079	Red Hill Road AFP	PLANNING	$30	$30	$0	$30
WST00080	Western CSA AFP	PLANNING	$80	$260	$0	$260
WST00081	WW Collection Sys Master Plan	PLANNING	$290	$500	$0	$500
WST00082	Courtland WWPS Generator Replacement	CAP PROGRAMS	$0	$80	$250	$330
WST00083	Grinder Chamber Replacement Program	MNT-LINE	$150	$750	$750	$1,500
WST00084	Large Diameter Sewer Rehabilitation	CAP PROGRAMS	$0	$1,100	$0	$1,100
WST00085	Lateral Grouting - Annual Program	O-PROGRAMS	$50	$250	$250	$500
WST00086	Sanitary Sewer Lining Phase 3	CAP PROGRAMS	$0	$750	$0	$750
WTR00001	Water System Planning Studies	PLANNING	$0	$200	$900	$1,100
WTR00005	Rt 7-Rt 28 24in Main	CAP PROGRAMS	$0	$0	$850	$850
WTR00011	Rt7 36in Main	PLANNING	$0	$0	$7,900	$7,900
WTR00020	Rt 50 - 30in Parallel Main	CAP PROGRAMS	$0	$2,360	$7,800	$10,160
WTR00025	Dulles North Permanent Pump Station	CAP PROGRAMS	$0	$0	$19,660	$19,660
WTR00046	Goose Creek Reservoir Dredging	WTR RES	$100	$670	$10,800	$11,470
WTR00056	Transmission - Hydraulic Surge Analysis	PLANNING	$0	$150	$0	$150
WTR00062	Former COF Properties VRP Enrollment	WTR RES	$50	$50	$0	$50
WTR00075	Brambleton Fire Pumps	O-Remote Fac	$0	$0	$690	$690
WTR00078	Distribution Sys Improvement Analysis	PLANNING	$150	$650	$600	$1,250
WTR00082	Dulles North IWBPS Improvements	PLANNING	$0	$400	$3,000	$3,400
WTR00086	Rt 659-Belmont 36in Main Upsize	CAP PROGRAMS	$260	$8,610	$0	$8,610
WTR00087	Rt 50-Fleetwood 24in Main	CAP PROGRAMS	$0	$0	$300	$300

2024 - 2033 Capital Improvement Plan - Project List

(Costs in $000's – shown as full project expenditure, no outside funding shown)

Project Number	Project Name	Managing Dept*	2024 Spending	1st Five Years 2024-28	2nd Five Years 2029-33	Ten-year CIP 2024-2033
WTR00091	Water Distribution Looping-Gap Closures	PLANNING	$0	$0	$400	$400
WTR00100	Beaverdam Reservoir Park Phase 1	CAP PROGRAMS	$2,820	$2,820	$0	$2,820
WTR00104	Rt 50-Hiddenwood Lane 24in Main [R]	LAND DEV	$0	$2,000	$0	$2,000
WTR00106	Linear Pipe Replacement Program	O-PROGRAMS	$0	$17,800	$51,500	$69,300
WTR00107	W Beech-Concord-Colonial Pipe Rplcmnt	CAP PROGRAMS	$160	$2,680	$0	$2,680
WTR00108	Hall Road 16in Gap Closure	CAP PROGRAMS	$0	$0	$400	$400
WTR00112	Landfill Booster Station Improvements	CAP PROGRAMS	$0	$0	$570	$570
WTR00119	Pipeline Corrosion Control Program	O-PROGRAMS	$200	$700	$100	$800
WTR00120	Viasystems Meter Vault Replacement	CAP PROGRAMS	$150	$150	$0	$150
WTR00123	Large Dia. Water Meter Assessment and Rehab	GEN SERV	$270	$900	$0	$900
WTR00124	Sterling Standpipe Improvements	O-Remote Fac	$150	$150	$890	$1,040
WTR00126	Acoustic Listening Devices	O-PROGRAMS	$100	$500	$500	$1,000
WTR00127	Goose Creek Dam Improvements	O-WTR	$40	$240	$250	$490
WTR00128	Reservoir Sampling Study	WTR RES	$50	$50	$0	$50
WTR00130	Water Facility General Improvements	O-Remote Fac	$100	$530	$620	$1,150
WTR00131	Water Supply Model	WTR RES	$70	$190	$0	$190
WTR00135	AMI Lid Replacement Project	GEN SERV	$360	$360	$0	$360
WTR00138	Broad Run Farms Waterline Ext. (County)	CAP PROGRAMS	$860	$9,400	$0	$9,400
WTR00139	East Maple Ave Watermain	CAP PROGRAMS	$450	$450	$0	$450
WTR00143	Waterside - Old Ox Rd 16" Watermain	LAND DEV	$0	$0	$500	$500
WTR00145	30" Water Ruritan Rd to Rt 28 Crossing	CAP PROGRAMS	$150	$2,150	$0	$2,150
WTR00146	Pacific Blvd Connection & Control Valve	CAP PROGRAMS	$500	$500	$0	$500
WTR00149	Water Resources Planning Studies	WTR RES	$180	$660	$0	$660
WTR00150	Route 50 600 Zone Connection	CAP PROGRAMS	$2,720	$3,000	$0	$3,000
WTR00151	Dulles South WBS Upgrade	CAP PROGRAMS	$480	$2,000	$0	$2,000
WTR00152	Brambleton 600 WBS Upgrade	CAP PROGRAMS	$330	$3,350	$0	$3,350

2024 - 2033 Capital Improvement Plan - Project List

(Costs in $000's – shown as full project expenditure, no outside funding shown)

Project Number	Project Name	Managing Dept*	2024 Spending	1st Five Years 2024-28	2nd Five Years 2029-33	Ten-year CIP 2024-2033
WTR00153	MV VFD Vibration Mon Upgrade	O-WTR	$300	$300	$0	$300
WTR00154	JLMA/TPA - Water (Phase 2)	CAP PROGRAMS	$0	$300	$3,700	$4,000
WTR00155	JLMA East, W1, W2 & W3-E [R]	CAP PROGRAMS	$950	$13,650	$6,750	$20,400
WTR00157	Meter Crock Rehabilitation	GEN SERV	$450	$1,830	$630	$2,460
WTR00158	Mt. Sterling WBPS [R]	LAND DEV	$300	$2,400	$1,400	$3,800
WTR00160	Beaumeade PRV Vault Rehabilitation	O-Remote Fac	$0	$50	$150	$200
WTR00161	Pacific Broad Run 16-inch watermain	CAP PROGRAMS	$0	$0	$850	$850
WTR00162	LCParkway-Lockridge 16-inch water [R]	LAND DEV	$0	$1,200	$0	$1,200
WTR00163	Spare Parts WTR	FIN	$100	$500	$500	$1,000
WTR00164	JLMA West, W2A & W7 (Sycolin to RT 267)	CAP PROGRAMS	$750	$8,620	$0	$8,620
WTR00165	JLMA West, W2B-W Shreve South [R]	CAP PROGRAMS	$0	$3,740	$0	$3,740
WTR00166	Broadlands Tank 1 Rehabilitation	O-WST	$920	$920	$0	$920
WTR00169	Dulles West Blvd 16-inch Watermain [R]	LAND DEV	$0	$3,000	$0	$3,000
WTR00172	JLMA West, W1A-W [R]	CAP PROGRAMS	$500	$1,200	$0	$1,200
WTR00174	Willard Road 30-in Watermain Extension [R]	LAND DEV	$0	$1,500	$0	$1,500
WTR00175	Reservoir Water Quality Model	WTR RES	$0	$210	$0	$210
WTR00176	Water Infrastructure Improvements	MNT-LINE	$0	$0	$600	$600
WTR00177	Beaverdam Dam Repairs	O-WTR	$0	$200	$250	$450
WTR00178	Woodstone 1 & 2 Improvements	CAP PROGRAMS	$0	$100	$1,000	$1,100
WTR00179	Brambleton Tank 1 Rehabilitation	O-WST	$70	$1,370	$0	$1,370
WTR00180	Oakdale, Lindenwood & W Ash Pipe Replacement	CAP PROGRAMS	$120	$2,670	$0	$2,670
WTR00181	Central System Valve Replacements 01	CAP PROGRAMS	$80	$1,080	$0	$1,080
WTR00182	Valve Replacement Program (Annual)	CAP PROGRAMS	$0	$950	$2,250	$3,200
WTR00184	Water Storage Tank Process Upgrades	O-Remote Fac	$0	$400	$250	$650
WTR00185	16" WM Innovation Ave to Old Ox	CAP PROGRAMS	$0	$2,890	$0	$2,890
WTR00186	LCRR Compliance Projects	O-PROGRAMS	$250	$250	$0	$250

2024 - 2033 Capital Improvement Plan - Project List

(Costs in $000's – shown as full project expenditure, no outside funding shown)

Project Number	Project Name	Managing Dept*	2024 Spending	1st Five Years 2024-28	2nd Five Years 2029-33	Ten-year CIP 2024-2033
WTR00187	Central Water Risk Assessment	O-PROGRAMS	$20	$30	$30	$60
WTR00188	Dulles South Storage Tanks Modifications	O-WST	$0	$1,520	$0	$1,520
WTR00189	Sterling Park Water Main Replacement	CAP PROGRAMS	$50	$10,500	$0	$10,500
WTR00190	Water System Master Plan	PLANNING	$60	$500	$0	$500
Total Projects	**212**		**$148,020**	**$793,770**	**$749,450**	**$1,543,220**

*****Managing Department

CAP PROGRAMS	Capital Programs	MNT-PL	Maintenance - Plant	PLANNING	Planning
COMM	Communications	O-COMSYS	O&M Community Systems	PSO	Project Support Office
FIN	Finance	O-PROGRAMS	O&M Programs	WTR RES	Water Resources
GEN SERV	General Services	O-Remote Fac	O&M Remote Facilities		
IT BS	Information Tech / Business Solutions	OT	Operations Technology		
LAND DEV	Land Development	O-WST	Operations - Wastewater		
MNT-LINE	Maintenance - Line	O-WTR	Operations - Water		

ADMINISTRATION & FACILITIES

(ADM)

2024 - 2033 CIP Section Index

Project Number	Project Name	Managing Division	2024 Budget	2024-2033 Total
ADM00008	Loudoun Water Educational Features	COMM	$300,000	$600,000
ADM00009	Data Center-Network Hardware Updates	IT BS	$150,000	$1,500,000
ADM00013	SAP Enhancements	IT BS	$20,000	$740,000
ADM00015	Computer-AV Equip Upgrades and New	IT BS	$170,000	$1,970,000
ADM00016	Vehicles	GEN SERV	$800,000	$8,700,000
ADM00017	Equipment-Minor Capital	GEN SERV	$750,000	$7,000,000
ADM00020	Supplemental Plan Review	LAND DEV	$50,000	$500,000
ADM00022	Records Management Solution	IT BS	$80,000	$180,000
ADM00025	General Security System Upgrades	GEN SERV	$600,000	$5,700,000
ADM00026	Onsite Water and Sewer Projects	FIN	$20,000	$200,000
ADM00031	On-Call Modeling Support	PLANNING	$40,000	$400,000
ADM00036	Facilities Expansion Study	GEN SERV	$0	$100,000
ADM00048	SCADA - Network Hardware Upgrade	OT	$230,000	$630,000
ADM00057	Facilities Campus Improvements	GEN SERV	$600,000	$4,750,000
ADM00058	SCADA-Instrumentation Improvements	OT	$380,000	$1,280,000
ADM00061	DCH & O&M HVAC Renewal	GEN SERV	$160,000	$1,600,000
ADM00064	Facility Fencing Replacement-Upgrades	GEN SERV	$570,000	$850,000
ADM00066	Remote Facilities Communications	IT BS	$380,000	$570,000
ADM00069	Cybersecurity Assessment - Improvements	IT BS	$150,000	$640,000
ADM00072	LW Connect-Customer Portal Improvements	COMM	$40,000	$340,000
ADM00083	OT - BRWRF Building O UPS Upgrade	O-WST	$210,000	$210,000
ADM00085	Meter Test Bench	GEN SERV	$80,000	$560,000
ADM00086	Developer Portal	LAND DEV	$0	$400,000

2024 - 2033 CIP Section Index

Project Number	Project Name	Managing Division	2024 Budget	2024-2033 Total
ADM00087	Ashburn Campus Paving Replacement	GEN SERV	$450,000	$2,350,000
ADM00091	Mobile Field App. - Phase 2	IT BS	$50,000	$200,000
ADM00092	Mass Meter Replacement	IT BS	$640,000	$640,000
ADM00093	Capital Engineering Services	CAP PROGRAMS	$40,000	$400,000
ADM00094	O&M Warehouse Storage Solution	O-PROGRAMS	$0	$230,000
ADM00096	Cellular Booster Enhancements	IT BS	$50,000	$50,000
ADM00097	Capital Research Studies	WTR RES	$760,000	$3,010,000
ADM00098	Aerial Photo Acquisition	IT BS	$60,000	$320,000
ADM00099	PSO Support Services	PSO	$150,000	$300,000
ADM00100	GIS Enhancements	IT BS	$50,000	$50,000
ADM00101	IT Service Management	IT BS	$10,000	$10,000
ADM00102	OT Switch Modernization Program	OT	$240,000	$1,000,000
ADM00104	Project Management Info System (PMIS)	PSO	$350,000	$500,000
ADM00105	Easement Mapping	IT BS	$200,000	$1,300,000
ADM00106	Inventory Application Enhancements	IT BS	$20,000	$120,000
ADM00107	New Inventory Warehouse Design	CAP PROGRAMS	$0	$200,000
ADM00108	SAP S4HANA Upgrade	IT BS	$10,000,000	$12,000,000
ADM	**Sub-Total**		**$18,850,000**	**$62,100,000**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Loudoun Water Educational Features
CIP Project #:	ADM00008
Program:	ADM Administrative/Facilities

Requesting Dept:	COMM
Managing Dept.:	COMM
Project Manager:	Crosby, Sue
Sheet Completed by:	Crosby, Sue

LOUDOUN WATER

Project Description

The overall experience at Reservoir Park will include an interpretive component aimed at educating visitors about our mission to protect the natural resources entrusted to our care. The interpretive narrative focuses on bringing visibility and life to the journey that water takes from source to reservoir. This narrative focuses on sustainable, best management practices and how they work in concert with natural processes. To complement the educational themes at Reservoir Park, the Aquiary will be updated, including a focus on drinking

Project Driver

A major component of Beaverdam Reservoir Park is Loudoun Water's educational presence. The educational exhibits will be constructed in alignment with the construction of the Park. Exhibit features and content will align with the outreach and education master plan, consistent with the outreach and communication goals and ongoing partnership with our stakeholders.

Additional Comments

With the Reservoir Park educational exhibit project to be completed in 2024, we will turn our attention in 2025 to DCH Aquairy upgrades and renovations.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	1	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.9**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design		100									**100**
Construction	300		200								**500**
Land/Easements											
Equip/Other											
Subtotal	**300**	**100**	**200**								**600**
Outside Funding											
Net Cost	**300**	**100**	**200**								**600**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
100	**150**	**50**										**300**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Data Center-Network Hardware Updates	Requesting Dept:	IT BS
CIP Project #:	ADM00009	Managing Dept.:	IT BS
Program:	ADM Administrative/Facilities	Project Manager:	Matykowski, Janet
		Sheet Completed by:	Beardslee, Mike

LOUDOUN WATER

Project Description

This project includes the replacement of IT equipment and back-office software including servers, network appliances, routers, switches, firewalls, databases, operating systems, and Network/Operations solutions when these items reach end-of-life. Replacements enhance performance, manageability and reliability of data center/network infrastructure.

Project Driver

The driver for this project is the need to refresh technology in order to continue to meet service level expectations as well as evolving business demands and technology requirements. Also needed to mitigate evolving security threats.

Additional Comments

2024 purchases will include backup solution refresh ($65k),FortiMail solution (25k), DMZ switches (5K), server rack UPS (20k), KVM (5K), new ATT Security solution (20K), and other EOL infrastructure (10K) for a total $150k.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.25**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	150	150	150	150	150	150	150	150	150	150	**1,500**
Subtotal	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**1,500**
Outside Funding											
Net Cost	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**1,500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		50			**50**			**50**				**150**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	SAP Enhancements
CIP Project #:	ADM00013
Program:	ADM Administrative/Facilities

Requesting Dept:	IT BS
Managing Dept.:	IT BS
Project Manager:	Guanco, Mark
Sheet Completed by:	Beardslee, Mike

LOUDOUN WATER

Project Description

This project includes continued enhancements to our enterprise SAP software to augment capabilities and ensure that the solution continues to remain current and support our evolving business processes. Specific allocations include forms software to automate business processes, new SAP Fiori interfaces, and additional reports, interfaces, enhancements, forms, and workflows.

Project Driver

This project is needed to ensure that our core business system, SAP, remains up-to-date, secure, and capable of supporting our evolving business processes.

Additional Comments

In 2024 this project includes $80k for software to integrate external forms to SAP, and minor enhancements. This project previously included $9M for a major SAP S4HANA software upgrade. This funding has been spun off to a separate, new CIP project.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.3**	(100%)

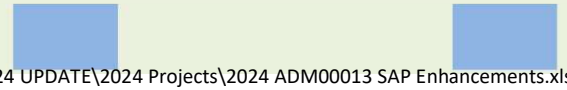
Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	20	80	80	80	80	80	80	80	80	80	**740**
Subtotal	**20**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**740**
Outside Funding											
Net Cost	**20**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**740**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		10			**10**							**20**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Computer-AV Equip Upgrades and New	Requesting Dept:	IT BS
CIP Project #:	ADM00015	Managing Dept.:	IT BS
Program:	ADM Administrative/Facilities	Project Manager:	Jones, Abdul
		Sheet Completed by:	Beardslee, Mike

LOUDOUN WATER

Project Description

This project provides for new and replacement IT user equipment, primarily focused on desktops, laptops, monitors, phones, and AV equipment.

Project Driver

The driver for this project is the need to refresh technology in order to meet evolving business demands and technology requirements, as well as mitigate evolving security threats.

Additional Comments

In 2024 this project includes annual laptop and monitor replacements ($135k), in addition to AV equipment and new equipment for existing and new employees ($45k).

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.25**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	170	200	200	200	200	200	200	200	200	200	**1,970**
Subtotal	**170**	**200**	**200**	**200**	**200**	**200**	**200**	**200**	**200**	**200**	**1,970**
Outside Funding											
Net Cost	**170**	**200**	**200**	**200**	**200**	**200**	**200**	**200**	**200**	**200**	**1,970**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	40			**50**			**40**			**40**		**170**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Vehicles
CIP Project #:	ADM00016
Program:	ADM Administrative/Facilities

Requesting Dept:	GEN SERV
Managing Dept.:	GEN SERV
Project Manager:	Robinson, Scott
Sheet Completed by:	Robinson, Scott

LOUDOUN WATER

Project Description

This project represents the dollar value of new vehicles requested for 2024. Amounts after 2024 are based on Loudoun Water's vehicle replacement program and historic trends. Vehicles are requested during the annual budget preparation process and are identified as new or replacement.

Project Driver

New vehicles to accommodate additional staff or replacement vehicles based on criteria identified in Loudoun Water's vehicle replacement program.

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.1**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	800	750	800	800	1,400	800	800	850	850	850	**8,700**
Subtotal	**800**	**750**	**800**	**800**	**1,400**	**800**	**800**	**850**	**850**	**850**	**8,700**
Outside Funding											
Net Cost	**800**	**750**	**800**	**800**	**1,400**	**800**	**800**	**850**	**850**	**850**	**8,700**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
					100	**100**	**150**	**150**	**50**	**50**	**200**	**800**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Equipment-Minor Capital
CIP Project #:	ADM00017
Program:	ADM Administrative/Facilities

Requesting Dept:	GEN SERV
Managing Dept.:	GEN SERV
Project Manager:	Robinson, Scott
Sheet Completed by:	Robinson, Scott

LOUDOUN WATER

Project Description

This project is for the purchase of new machinery, and equipment requested for 2024.

Project Driver

Both new and replacement items such as furniture, machinery, and equipment fall into this category required to operate and maintain new and existing facilities.

Additional Comments

Some of the larger purchases for 2024 include a new flush truck for additional flushing for preventative maintenance of lines, and upgrading lab equipment.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.8**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	750	750	600	600	800	700	700	700	700	700	**7,000**
Subtotal	**750**	**750**	**600**	**600**	**800**	**700**	**700**	**700**	**700**	**700**	**7,000**
Outside Funding											
Net Cost	**750**	**750**	**600**	**600**	**800**	**700**	**700**	**700**	**700**	**700**	**7,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
			50	**100**						**550**	**50**	**750**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Supplemental Plan Review	Requesting Dept:	LAND DEV
CIP Project #:	ADM00020	Managing Dept.:	LAND DEV
Program:	ADM Administrative/Facilities	Project Manager:	Tran, Huy
		Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

This project includes supplemental consulting engineering services in support of Land Development, such as plan review, drafting/editing standard Engineering Design Manual details in AutoCAD, miscellaneous plats and exhibits, etc. through the use of an on-call (basic ordering agreement) consultant.

Project Driver

These supplemental professional services are needed due to the highly variable and unpredictable Land Development plan review workload and in order to meet the development industry's demands and County mandated time-frames (Fast Track). This allows Land Development to balance workload and land development staff resourcing, since the workload for LD is so unpredictable and this mechanism allows LD to meet review deadlines in the event of a large influx of plans or internal staff changes.

Additional Comments

It also allows other departments outside of Land Development to utilize small, specialized on-call task orders (such as Utility Protection, etc.) for blasting guidance, etc. that engineering does not have the expertise in-house.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.55**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	50	50	50	50	50	50	50	50	50	50	**500**
Construction											
Land/Easements											
Equip/Other											
Subtotal	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**500**
Outside Funding											
Net Cost	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
5	**5**	**5**	**5**	**5**	**5**			**5**	**5**	**5**	**5**	**50**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Records Management Solution	Requesting Dept:	IT BS
CIP Project #:	ADM00022	Managing Dept.:	IT BS
Program:	ADM Administrative/Facilities	Project Manager:	Lees, Craig
		Sheet Completed by:	Lees, Craig

LOUDOUN WATER

Project Description

This project entails improving the governance of records/documents, as well as the enhancement or replacement of Loudoun Water's existing Record/Document Management system with a document and records management solution that fits Loudoun Water's business and performance requirements, and integrates with SAP to facilitate information storage, retrieval, and management. Work in 2024 will focus on implementing SharePoint as the preferred solution.

Project Driver

The current document/records management software application and associated processes suffers from significant deficiencies and does not integrate well with SAP. Loudoun Water requires a document and records management platform to manage and store unstructured data records, and to meet VA records retention requirements.

Additional Comments

The first phase of this project from 2020-2022 addressing the root causes by reengineering and improving governance, policies, and processes related to document/records management. The 2nd phase focused on a Trim software upgrade (total $36k) in 2022. Future phases (2023-2026) include architecture and implementation of an improved document/records management platform.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

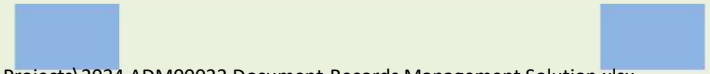
1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.15**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	80	50	50								**180**
Subtotal	**80**	**50**	**50**								**180**
Outside Funding											
Net Cost	**80**	**50**	**50**								**180**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
			40				**40**					**80**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	General Security System Upgrades
CIP Project #:	ADM00025
Program:	ADM Administrative/Facilities

Requesting Dept:	GEN SERV
Managing Dept.:	GEN SERV
Project Manager:	Chunta, Tom
Sheet Completed by:	McDonald, Lenny

LOUDOUN WATER

Project Description

This project includes performing an assessment of Loudoun Water's overall security program including physical, hard and soft security measures, and related policies and procedures. The Security Master Plan guides the entire security program with recommendations and schedule for implementation. The construction phase will execute upgrades. With construction now nearly complete and work beginning on optimization of the system, in this plan the next organization wide security study is planned in 2026.

Project Driver

Security technology deployed at Loudoun Water facilities was nearing the end of its service life due to limited replacement parts and limited software upgrades in 2016. A comprehensive security study was performed by CH2M Hill that included recommendation of a new electronic security network. This network is required for the safety of employees, security of our drinking water assets for our customers and critical infrastructure protection.

Additional Comments

Years 2017-2020 were slated as build out for main campus and primary assets while years 2020-2023 provide for installation of the Access Control and Video Surveillance systems throughout the Central and Community Systems with prioritization to those assets associated with drinking water production, water storage and finally wastewater conveyance.
ADM00052 may generate additional future work.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.75**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning			300								**300**
Design											
Construction	600	500	350	1,200	750	600	350	350	350	350	**5,400**
Land/Easements											
Equip/Other											
Subtotal	**600**	**500**	**650**	**1,200**	**750**	**600**	**350**	**350**	**350**	**350**	**5,700**
Outside Funding											
Net Cost	**600**	**500**	**650**	**1,200**	**750**	**600**	**350**	**350**	**350**	**350**	**5,700**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
37	**24**	**38**	**54**	**71**	**83**	**83**	**73**	**56**	**39**	**25**	**17**	**600**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Onsite Water and Sewer Projects
CIP Project #:	ADM00026
Program:	ADM Administrative/Facilities
Requesting Dept:	FIN
Managing Dept.:	FIN
Project Manager:	Carnes, Brian
Sheet Completed by:	Dehler, Sally

LOUDOUN WATER

Project Description

ADM00026 is a placeholder to allow accounting of and transfer of Loudoun Water labor and expenses related to capital projects. Small funding amount applied for non-specific capital project work.

Project Driver

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

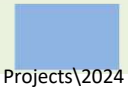
1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	1	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	1	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	20	20	20	20	20	20	20	20	20	20	**200**
Subtotal	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**200**
Outside Funding											
Net Cost	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**200**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
			10				**10**					**20**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	On-Call Modeling Support
CIP Project #:	ADM00031
Program:	ADM Administrative/Facilities
Requesting Dept:	PLANNING
Managing Dept.:	PLANNING
Project Manager:	Geldert, Darrin
Sheet Completed by:	Geldert, Darrin

LOUDOUN WATER

Project Description

This project includes supplemental consulting engineering services; includes on-call water modeling support for VDH certifications (regulatory requirement) and periodic model updates to support development and capital projects.

Project Driver

Planning anticipates having the need to supplement capabilities to meet short term demands. This includes on-call water modeling support.

Additional Comments

Land Development team may use this directly.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.5**	(100%)

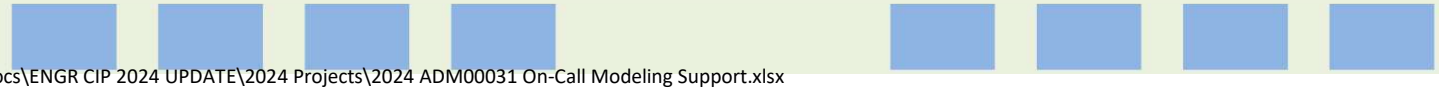
Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	40	40	40	40	40	40	40	40	40	40	**400**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**400**
Outside Funding											
Net Cost	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**400**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	5	**5**	**5**	**5**			**5**	**5**	**5**	**5**		**40**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Facilities Expansion Study
CIP Project #:	ADM00036
Program:	ADM Administrative/Facilities

Requesting Dept:	GEN SERV
Managing Dept.:	GEN SERV
Project Manager:	Robinson, Scott
Sheet Completed by:	Robinson, Scott

LOUDOUN WATER

Project Description

This project includes a comprehensive study to determine facility requirements to best serve Loudoun Water over the next 20 years, including the prospect of developing a maintenance/service center in the southern portion of the Central Service Area. The study will incorporate reviews of personnel space, equipment storage and movement of personnel, equipment and inventory to serve the Central Service Area and community systems.

Project Driver

Continued service area growth and the need for additional personnel and equipment storage present an opportunity to review facility locations to best support future needs. This will support the Strategic Plan to proactively manage resources, evaluate environmental impacts, optimize asset management and provide financial analysis.

Additional Comments

This study will incorporate existing planning for the treatment facilities, space planning for upgrades to LW facilities including options for a Southern O&M facility. Related: prior ADM00005 Outside Equipment Storage Building for O&M; prior BRW00006 Broad Run WRF Inventory & Equipment Storage Building; ADM00080 Goose Creek Area Plan; New in 2024, ADMXXXXX New Inventory Warehouse

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.65**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design		100									**100**
Construction											
Land/Easements											
Equip/Other											
Subtotal		**100**									**100**
Outside Funding											
Net Cost		**100**									**100**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	SCADA - Network Hardware Upgrade
CIP Project #:	ADM00048
Program:	ADM Administrative/Facilities

Requesting Dept:	OT
Managing Dept.:	OT
Project Manager:	Krapf, Andy
Sheet Completed by:	Krapf, Andy

LOUDOUN WATER

Project Description

This project provides for the replacement and/or upgrade of OT related equipment including servers, network appliances, routers, switches, firewalls, communications, and associated software when the equipment is no longer under warranty or is end-of-life.

Project Driver

The driver for this project is the need to refresh technology in order to continue to meet service level expectations as well as evolving business demands and technology requirements.

Additional Comments

This is a commodity purchase. Hardware in future years will include servers, possible modifications to communications infrastructure, network cabinets, and cyber security appliances. Replacement cycle is 3 years for workstations, 5 years for servers, and 5-8 years for other networked devices.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

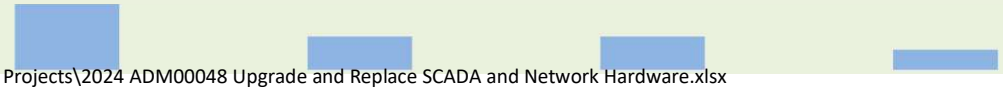
1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.75**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	230		100	100	100		100				**630**
Subtotal	**230**		**100**	**100**	**100**		**100**				**630**
Outside Funding											
Net Cost	**230**		**100**	**100**	**100**		**100**				**630**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
			100		**50**		**50**		**30**			**230**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Facilities Campus Improvements
CIP Project #:	ADM00057
Program:	ADM Administrative/Facilities

Requesting Dept:	GEN SERV
Managing Dept.:	GEN SERV
Project Manager:	Clark, Austin
Sheet Completed by:	Clark, Austin

LOUDOUN WATER

Project Description

This project includes upgrades to the buildings and grounds at the Ashburn Campus & Trap Rock Administration Building and Grounds to include DCH, O&M, & BRWRF (Lab, Maintenance, & Operations) and TRWTF.

Project Driver

The existing buildings and campus must be maintained in a satisfactory condition to support business activities.

Additional Comments

The upgrades included in this project are additional work stations in the DCH open area and Engineering area. DCH Kitchenette replacement, CCTV/Field Services/ Locker room upgrades. O&M exterior upgrade which was originally scheduled for 2023. O&M & BRWRF solar/anti-intrusion window film.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.4**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	600	300	300	300	400	400	500	500	500	500	**4,300**
Land/Easements											
Equip/Other		50	50	50	50	50	50	50	50	50	**450**
Subtotal	**600**	**350**	**350**	**350**	**450**	**450**	**550**	**550**	**550**	**550**	**4,750**
Outside Funding											
Net Cost	**600**	**350**	**350**	**350**	**450**	**450**	**550**	**550**	**550**	**550**	**4,750**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	18	**17**	**32**	**55**	**83**	**104**	**104**	**83**	**55**	**32**	**17**	**600**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	SCADA-Instrumentation Improvements
CIP Project #:	ADM00058
Program:	ADM Administrative/Facilities

Requesting Dept:	OT
Managing Dept.:	OT
Project Manager:	Krapf, Andy
Sheet Completed by:	Krapf, Andy

LOUDOUN WATER

Project Description

This project includes replacement of existing instrumentation and SCADA hardware as required. Specific items include obsolete sensors, drives, communication hardware, PLC processors and network cards, and computer hardware.

Project Driver

Manufacturers regularly update their process control technology. In order for Loudoun Water to remain free of obsolete or vulnerable equipment, it must be refreshed on a timely basis. Most process related technology is updated around 10 - 12 year cycles.

Additional Comments

Currently there are 25 remote facilities that will require PLC upgrades due to current controllers being phased out by manufacturer. These sites include most sewer pump stations, water tanks, and water booster stations. Additionally, other analytical equipment will be upgraded as the current product lines are no longer being manufactured by the vendor.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

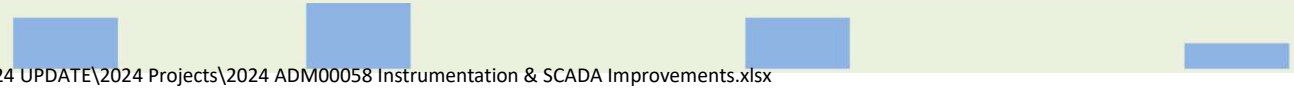
1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.25**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	380	150	150	100	100	100	100	100	100		**1,280**
Subtotal	**380**	**150**	**150**	**100**	**100**	**100**	**100**	**100**	**100**		**1,280**
Outside Funding											
Net Cost	**380**	**150**	**150**	**100**	**100**	**100**	**100**	**100**	**100**		**1,280**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		100		**130**			**100**			**50**		**380**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	DCH & O&M HVAC Renewal
CIP Project #:	ADM00061
Program:	ADM Administrative/Facilities

Requesting Dept:	GEN SERV
Managing Dept.:	GEN SERV
Project Manager:	Clark, Austin
Sheet Completed by:	Clark, Austin

LOUDOUN WATER

Project Description

This project includes the capital cost associated with replacing HVAC units and controls within the DCH, and the O&M Facility.

Project Driver

As existing HVAC equipment approaches the end of their useful life, replacing them with more efficient units will be more cost effective than repairing them. This project will cover all HVAC unit replacements at both DCH & O&M.

Additional Comments

2024- Replacing 5 tube heaters in the O&M CCTV Bay. Replacing 1 CRAC Unit in the DCH Data Center. Replacing one RTU on the O&M Grout Building

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.55**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	160	100	100	150	200	200	150	180	180	180	**1,600**
Land/Easements											
Equip/Other											
Subtotal	**160**	**100**	**100**	**150**	**200**	**200**	**150**	**180**	**180**	**180**	**1,600**
Outside Funding											
Net Cost	**160**	**100**	**100**	**150**	**200**	**200**	**150**	**180**	**180**	**180**	**1,600**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	30	**22**	**28**	**29**	**23**	**15**	**9**	**4**				**160**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Facility Fencing Replacement-Upgrades	Requesting Dept:	GEN SERV
CIP Project #:	ADM00064	Managing Dept.:	GEN SERV
Program:	ADM Administrative/Facilities	Project Manager:	McDonald, Lenny
		Sheet Completed by:	McDonald, Lenny

LOUDOUN WATER

Project Description

This project will fund replacement and upgrade of fencing and gates at select facilities Loudoun Water Main Campuses, Central System Facilities and Community Systems. New fencing and gates will be based on the current Loudoun Water standards for fencing and gates.

Project Driver

Fencing and gates at select facilities do not meet the current Loudoun Water standards. Inadequate fencing and gates create an unsafe environment for employees and ease breach of Loudoun Water facilities for those intending to disrupt service or vandalize property.

Additional Comments

Fence replacement sites include St. Louis WTF and Waterford WTF (rescheduled for 2024 pending CIP projects at both facilities). Gate replacement sites include all those remote sites that have received access control upgrades through CIP ADM 25. Updated cost includes addition of new fencing at O&M Parking Lot not previously identified.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

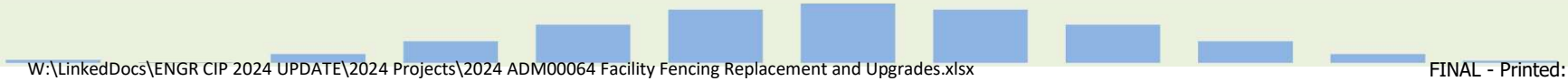
1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.25**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	570	180	100								**850**
Land/Easements											
Equip/Other											
Subtotal	**570**	**180**	**100**								**850**
Outside Funding											
Net Cost	**570**	**180**	**100**								**850**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
17	**14**	**25**	**42**	**64**	**84**	**93**	**84**	**64**	**42**	**25**	**16**	**570**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Remote Facilities Communications	Requesting Dept:	IT BS
CIP Project #:	ADM00066	Managing Dept.:	IT BS
Program:	ADM Administrative/Facilities	Project Manager:	Lara Bowers
		Sheet Completed by:	Beardslee, Mike

LOUDOUN WATER

Project Description

This project will deliver high speed network connectivity to our remote facilities.

Project Driver

Our remote facilities have become increasingly reliant on services that are delivered over corporate, SCADA, security, and voice networks. Sufficient bandwidth at these locations is often not available without construction by telecom carriers.

Additional Comments

A private Verizon fiber network was implemented at all major remote facilities from 2022 through 2023, completing in September of 2023. Remaining payments to Verizon are structured over 3 years, with some minor additional costs for ancillary equipment and wireless backup switches and modems.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.65**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	380	190									**570**
Subtotal	**380**	**190**									**570**
Outside Funding											
Net Cost	**380**	**190**									**570**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
50	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**380**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Cybersecurity Assessment - Improvements
CIP Project #:	ADM00069
Program:	ADM Administrative/Facilities
Requesting Dept:	IT BS
Managing Dept.:	IT BS
Project Manager:	Beardslee, Mike
Sheet Completed by:	Beardslee, Mike

LOUDOUN WATER

Project Description

This project entails the continued assessment and implementation of a multi-faceted cybersecurity program, including a cybersecurity master plan, cybersecurity awareness training, COOP planning and exercises, cybersecurity policies and procedures, intrusion detection and prevention technology, data loss prevention technology, and advanced persistent threat detection.

Project Driver

Cybersecurity threats and attacks continue to escalate in sophistication, frequency, and ability to disrupt our business. Additional investments in this area are required to safeguard our digital assets and minimize risk.

Additional Comments

Our cybersecurity program continues to mature. Cybersecurity assessments are planned for 2024 and 2029.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

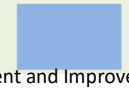
1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.65**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	150	30	30	30	30	250	30	30	30	30	**640**
Subtotal	**150**	**30**	**30**	**30**	**30**	**250**	**30**	**30**	**30**	**30**	**640**
Outside Funding											
Net Cost	**150**	**30**	**30**	**30**	**30**	**250**	**30**	**30**	**30**	**30**	**640**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
						100			**50**			**150**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	LW Connect-Customer Portal Improvements
CIP Project #:	ADM00072
Program:	ADM Administrative/Facilities
Requesting Dept:	COMM
Managing Dept.:	COMM
Project Manager:	Crosby, Sue
Sheet Completed by:	Beardslee, Mike

LOUDOUN WATER

Project Description

This project includes continued enhancements and improvements to Loudoun Water's online customer portal "LW Connect". These improvements generally include capabilities for customers to see additional meter and cost information, changes to presentation and layout to improve usability, including usability on mobile devices, improved and automated business process functionality, and security improvements to ensure the integrity of our customer's data.

Project Driver

Our customer portal was implemented in 2015 and is critical to our interactions with our customers. Our customers expect a fully functional online experience, and they expect their data to remain secure. This project provides for continued enhancements to our customer portal "LW Connect" to ensure it remains up-to-date and useful for our customers.

Additional Comments

Allocations in 2024 include improvements to meter data usage and consumption alerts, plus minor cosmetic changes.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.55**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	40	20	20	20	80	20	20	20	20	80	**340**
Subtotal	**40**	**20**	**20**	**20**	**80**	**20**	**20**	**20**	**20**	**80**	**340**
Outside Funding											
Net Cost	**40**	**20**	**20**	**20**	**80**	**20**	**20**	**20**	**20**	**80**	**340**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		20				**20**						**40**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	OT - BRWRF Building O UPS Upgrade	Requesting Dept:	OT
CIP Project #:	ADM00083	Managing Dept.:	O-WST
Program:	ADM Administrative/Facilities	Project Manager:	Fugaro, Nick
		Sheet Completed by:	Fugaro, Nick

LOUDOUN WATER

Project Description

This project includes replacement of existing 15 kVA Uninterruptable Power Supply (UPS) in the BRWRF Operations Building with an updated unit. Items may include UPS unit, battery packs, bypass switch, and supply transformer. Installation to be completed by a licensed contractor.

Project Driver

The original UPS supplied with the construction of the plant is 15+ years old. The current load on this UPS is approaching 60% and OT is looking to proactively replace this unit. Future expansion of equipment within the BRWRF datacenter will add load to this unit.

Additional Comments

This was not considered as part of the current expansion project. Will require an electrical review to ensure the supply transformer and associated power distribution is adequate for a replacement UPS. Deferred from 2021

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.25**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	210										**210**
Land/Easements											
Equip/Other											
Subtotal	**210**										**210**
Outside Funding											
Net Cost	**210**										**210**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
4	**7**	**17**	**36**	**55**	**55**	**36**						**210**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Meter Test Bench	Requesting Dept:	GEN SERV
CIP Project #:	ADM00085	Managing Dept.:	GEN SERV
Program:	ADM Administrative/Facilities	Project Manager:	_General Services
		Sheet Completed by:	Rowe, Michael

LOUDOUN WATER

Project Description

Loudoun Water Field Services is continuing to improve and increase testing to maintain the performance of it's water meters through this project to install a new meter test bench. This project will start with a space evaluation and equipment review to determine project requirements.

Project Driver

Current Loudoun Water water meter test bench is over 20 years old and outdated. Current and future metering technologies require more advanced and more accurate testing equipment to not only maintain accuracy but also maintain customer confidence.

Additional Comments

Additional goal of project is to bring new test bench and meter shop into DCH. Goal is have Field Services report to one location instead of multiple, freeing up O&M vehicle bays.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

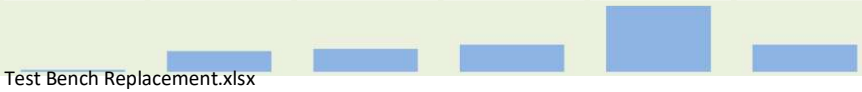
1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.1**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	20										**20**
Construction	60										**60**
Land/Easements											
Equip/Other		480									**480**
Subtotal	**80**	**480**									**560**
Outside Funding											
Net Cost	**80**	**480**									**560**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
					1	**10**	**11**	**13**	**32**	**13**		**80**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Developer Portal
CIP Project #:	ADM00086
Program:	ADM Administrative/Facilities

Requesting Dept:	LAND DEV
Managing Dept.:	LAND DEV
Project Manager:	Tran, Huy
Sheet Completed by:	Jadryev, Jack

LOUDOUN WATER

Project Description

The Developer Portal project will create an interactive portal for use by the external Land Development community. Developers will be able to review project information and interact with Loudoun Water, including requesting documentation, providing notification to Loudoun Water during the Land development process, and paying Land Development invoices online. The portal will replace current functionality from our website, and provide additional interactive functionality for our development community stakeholders.

Project Driver

Due to the Pandemic, interactions with the development community have been forced to transition from in-person to online. Currently, the Loudoun Water website is used to manage all the Land Development processes, however there are limitations in terms of their capabilities. The developer portal will streamline the process of interacting with SAP and Developers, saving time and effort for both internal staff and external stakeholders.

Additional Comments

Due to SAP S4 Hana project this project is Deferred to 2026-2027, until after the S4 implementations is complete.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.95**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other			150	150	100						**400**
Subtotal			**150**	**150**	**100**						**400**
Outside Funding											
Net Cost			**150**	**150**	**100**						**400**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Ashburn Campus Paving Replacement
CIP Project #:	ADM00087
Program:	ADM Administrative/Facilities
Requesting Dept:	GEN SERV
Managing Dept.:	GEN SERV
Project Manager:	Clark, Austin
Sheet Completed by:	Clark, Austin

LOUDOUN WATER

Project Description

This project consist of milling and paving various lots and roadways that incorporate the Ashburn campus including BRWRF.

Project Driver

Sealing and regular maintenance is provided annually for all lots and roadways as needed however eventually the asphalt must be replaced. In order to keep the Ashburn campus roadways and lots in sound operating shape, over the next 10 years many areas will need paved.

Additional Comments

2024 - Mill & pave BRWRF front & rear parking lots. Mill & pave the main roads and L, M and O building parking lots as future construction allows. Mill & pave Loudoun Water way and Aquairy way.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	1	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.45**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	450	400	400	300	200	100	100	200	100	100	**2,350**
Land/Easements											
Equip/Other											
Subtotal	**450**	**400**	**400**	**300**	**200**	**100**	**100**	**200**	**100**	**100**	**2,350**
Outside Funding											
Net Cost	**450**	**400**	**400**	**300**	**200**	**100**	**100**	**200**	**100**	**100**	**2,350**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
						14	**436**					**450**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Mobile Field App. - Phase 2
CIP Project #:	ADM00091
Program:	ADM Administrative/Facilities

Requesting Dept:	O-CONVEY
Managing Dept.:	IT BS
Project Manager:	Peterson, Lori
Sheet Completed by:	Peterson, Lori

LOUDOUN WATER

Project Description

This project is for the implementation of additional mobile field applications to support our field workers. Loudoun Water has over 100 field workers and plant operators that require access to a variety of information sources, databases, and applications in order to perform their job functions. Field tasks include responding to work orders to fix facilities, visiting customers and meters, inspecting new construction, and controlling w/ww operations.

Project Driver

Currently some work tasks are mobilized and automated through the use of mobile devices and applications such as the Trimble Unity and SCADA. However, some work activities such as easement mowing still require the use of spreadsheets and manual data capture methods to manage information.

Additional Comments

In 2024 Trimble Unity will be enhanced to display SAP attachments to the Unity user allowing them visibility of information such as O&M manuals or photographs of equipment damage.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.75**	(100%)

Estimate Method: Design Phase Estimate

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	50	70	80								**200**
Subtotal	**50**	**70**	**80**								**200**
Outside Funding											
Net Cost	**50**	**70**	**80**								**200**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
			50									**50**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Mass Meter Replacement	Requesting Dept:	GEN SERV
CIP Project #:	ADM00092	Managing Dept.:	IT BS
Program:	ADM Administrative/Facilities	Project Manager:	Bowers, Lara
		Sheet Completed by:	Bowers, Lara

LOUDOUN WATER

Project Description

This project is to replace approximately 55,000 water meters. Approximately 30,000 metal meter crock lids will be replaced with plastic lids. The Sensus meter reading antennas and the Sensus software will also be upgraded as part of this project.

Project Driver

These meters are being replaced because of an issue that has the potential to shorten the life of the meters. The new meters have an improved design. Loudoun Water has negotiated a favorable arrangement with Sensus as part of this replacement effort that significantly extends the life of our meters and meter reading system.

Additional Comments

Related project; WTR.00135 Meter Lid Replacement
Joint Field Services, IT project.
Scheduled for 2024 completion, should stay under budget.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	4	(10%)
Total score	**4**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	640										**640**
Land/Easements											
Equip/Other											
Subtotal	**640**										**640**
Outside Funding											
Net Cost	**640**										**640**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
80	**80**	**80**	**80**	**80**	**80**	**80**	**80**					**640**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Capital Engineering Services	Requesting Dept:	CAP PROGRAMS
CIP Project #:	ADM00093	Managing Dept.:	CAP PROGRAMS
Program:	ADM Administrative/Facilities	Project Manager:	Schlesinger, Savita
		Sheet Completed by:	Poudel, Amulya

LOUDOUN WATER

Project Description

ADM00093 is a placeholder project to allow for miscellaneous, small, on-call engineering efforts related to capital projects.

Project Driver

Small tasks to be assigned as needed.

Additional Comments

Estimate Method: Other

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.5**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	20	20	20	20	20	20	20	20	20	20	**200**
Construction	20	20	20	20	20	20	20	20	20	20	**200**
Land/Easements											
Equip/Other											
Subtotal	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**400**
Outside Funding											
Net Cost	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**400**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2	**2**	**2**	**2**	**4**	**6**	**6**	**6**	**4**	**2**	**2**	**2**	**40**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	O&M Warehouse Storage Solution
CIP Project #:	ADM00094
Program:	ADM Administrative/Facilities

Requesting Dept:	O-PROGRAMS
Managing Dept.:	O-PROGRAMS
Project Manager:	Harvey, Ken
Sheet Completed by:	Harvey, Ken

LOUDOUN WATER

Project Description

O&M Warehouse Storage Capability Expansion. This project is to install a storage solution(s) to increase capacity in the O&M warehouse.

Project Driver

In 2008 the 3,000sf O&M warehouse was built to support line maintenance, and now supports all divisions & has increased storage of materials. Capacity review in 2015 produced recommendations that were implemented, increasing capacity by optimizing space usage. We are again approaching 85% capacity, which is the maximum operating level; 15% of space is always waiting for ordered materials to be delivered and put back. This is a safety issue during deliveries and prior to final storage.

Additional Comments

The storage solution will be finalized based on the results of the Warehouse Space Study in Fall 2023.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.9**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other		230									**230**
Subtotal		**230**									**230**
Outside Funding											
Net Cost		**230**									**230**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Cellular Booster Enhancements
CIP Project #:	ADM00096
Program:	ADM Administrative/Facilities
Requesting Dept:	IT BS
Managing Dept.:	IT BS
Project Manager:	Lara Bowers
Sheet Completed by:	Lara Bowers

LOUDOUN WATER

Project Description

A third party vendor has installed cellular phone signal booster systems in several Loudoun Water buildings at DCH,OM, BRWRF, and Trap Rock. We will be continuing to enhancing our system to support FirstNet bands, and also adding new locations identified as safety concerns by various business leaders at all locations.

Project Driver

Boosting cellular signals improves our ability to communicate from inside our buildings. A lack of cellular signal inside of a building is a potential emergency/safely issue. Cellular signals are periodically tested and improved for increased performance.

Additional Comments

This has been a multi-year/ongoing project. Targeted improvements in 2024 include additional boosters at remote sites (tanks), as well as enhancements to BRWRF buildings.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.2**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	50										**50**
Land/Easements											
Equip/Other											
Subtotal	**50**										**50**
Outside Funding											
Net Cost	**50**										**50**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
10	**10**	**10**						**10**	**10**			**50**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Capital Research Studies
CIP Project #:	ADM00097
Program:	ADM Administrative/Facilities

Requesting Dept:	WTR RES
Managing Dept.:	WTR RES
Project Manager:	Schmitz, Bradley
Sheet Completed by:	Schmitz, Bradley

LOUDOUN WATER

Project Description

Research program development and projects necessary to support operations and compliance. Projects may include improve current treatment efficiency, increase reliable production capacity, pilot new technologies/practices under consideration. Collaborative funding opportunities in research projects provide high value to the organization.

Project Driver

Research is necessary to improve the baseline performance of our current systems, as well as test new technologies and operational procedures that are under consideration to address future needs for expansions, regulations, and treatment/production improvements. Data and results from research projects are utilized to inform future planning, monitoring and permitting needs. Research projects are applied to all of our water quality assets. (i.e., BRWRF, TRWTF, Reservoirs, Community Systems, etc.).

Additional Comments

Mission Critical Research Roadmap ($100K)
(Microplastics) ICPRB; DWSPP, Rutgers ($25K)
PFAS source water sampling (WRF, OWML) ($50K)
Sampling & Climate Change (Opportunistic) ($20K)
PFAS instrumentation ($500K)
WRF funds (RFP, TC, etc.) ($15K)

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	4	(10%)
Total score	**4.4**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	760	250	250	250	250	250	250	250	250	250	**3,010**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**760**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**3,010**
Outside Funding											
Net Cost	**760**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**3,010**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
23	**19**	**34**	**56**	**85**	**112**	**124**	**112**	**85**	**56**	**34**	**20**	**760**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Aerial Photo Acquisition
CIP Project #:	ADM00098
Program:	ADM Administrative/Facilities
Requesting Dept:	IT BS
Managing Dept.:	IT BS
Project Manager:	Lees, Craig
Sheet Completed by:	Lees, Craig

LOUDOUN WATER

Project Description

The purpose of this project is to secure necessary funding for the procurement of high-resolution aerial photography. We will load this imagery to our GIS for the company to access and use to support daily decision making. To contain costs, the imagery is focused on the Central System and few Community Systems are included. We are able to access lower resolution imagery from the County or State free of charge; these funds will be used to pay for an upgrade.

Project Driver

We purchased high-resolution imagery in 2017, 2020, and 2022, and have proven the business value of having high resolution imagery to support our asset management program.

Additional Comments

The project assumes the State will continue to offer the ability to purchase these enhanced imagery products as it would be significantly more expensive to acquire imagery without leveraging the existing State contract vehicle.
This project has the endorsement of the GIS Steering Committee.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	4	(10%)
Total score	**2.6**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	60		60		60		70		70		**320**
Subtotal	**60**		**60**		**60**		**70**		**70**		**320**
Outside Funding											
Net Cost	**60**		**60**		**60**		**70**		**70**		**320**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	30										**30**	**60**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	PSO Support Services	Requesting Dept:	PSO
CIP Project #:	ADM00099	Managing Dept.:	PSO
Program:	ADM Administrative/Facilities	Project Manager:	Kolapalli, Sree
		Sheet Completed by:	Kolapalli, Sree

LOUDOUN WATER

Project Description

The proposed project will develop project management and CIP execution guidance documents, cost management guidelines, and business case analyses for various design phases of capital projects. These guidelines will help the project managers and design consultants how to define project scopes and tasks and what is expected at each phase of project execution. The work also includes working out parametric costs for a few project types under implementation and it will be taken for reference for future capital planning.

Project Driver

The proposed project is based on the work plan items identified for the project support office and focuses on identifying processes to implement projects and define uniform standards for project deliverables in the design project cycle, and identify business cases for undertaking capital projects.

Additional Comments

The project will promote operational excellence as identified from the Loudoun Water's Strategic Plan.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	1	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.2**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	150	150									**300**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**150**	**150**									**300**
Outside Funding											
Net Cost	**150**	**150**									**300**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	15	**25**	**25**	**10**		**10**	**25**	**25**	**15**			**150**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	GIS Enhancements	Requesting Dept:	IT BS
CIP Project #:	ADM00100	Managing Dept.:	IT BS
Program:	ADM Administrative/Facilities	Project Manager:	Yang, Celine
		Sheet Completed by:	Song, Yiman

LOUDOUN WATER

Project Description

The field service team uses the mapping tool for SAP, Spatialitics Asset Mapper (SAM) for 90% of their workflow. They have requested features to be enhanced in this tool to further streamline their processes. This project will also include an upgrade to the GIS and migration to a new schema.

Project Driver

This project is needed to streamline and improve certain business processes for the field service team.

Additional Comments

This project included $30k for the SAM enhancement and $20k for the GIS upgrade.

Estimate Method: Other

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.3**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	50										**50**
Subtotal	**50**										**50**
Outside Funding											
Net Cost	**50**										**50**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		30					**20**					**50**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	IT Service Management
CIP Project #:	ADM00101
Program:	ADM Administrative/Facilities
Requesting Dept:	IT BS
Managing Dept.:	IT BS
Project Manager:	Song, Yiman
Sheet Completed by:	Song, Yiman

LOUDOUN WATER

Project Description

This project entails the implementation of an IT Service Management technology solution to track IT and OT incidents, problems, service requests, and change requests, and perform asset management and change management for all technology assets and systems. It will also include functionality for technology test management.

Project Driver

This project is required because our current IT service management solution in SAP will no longer be supported when we transition to SAP's next version (S4HANA), so a replacement technology is needed.

Additional Comments

This project entails the purchase of a SaaS subscription, with capitalized implementation costs. Most costs were incurred in 2023.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.95**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	10										**10**
Subtotal	**10**										**10**
Outside Funding											
Net Cost	**10**										**10**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		10										**10**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	OT Switch Modernization Program
CIP Project #:	ADM00102
Program:	ADM Administrative/Facilities

Requesting Dept:	OT
Managing Dept.:	OT
Project Manager:	Krapf, Andy
Sheet Completed by:	Krapf, Andy

LOUDOUN WATER

Project Description

This project will include design and phased construction to modernize the complex and extensive process control and building automation networks at Trap Rock and Broad Run. Planned improvements will allow Loudoun Water to leverage security practices and future proofing concepts such as high speed fiber infrastructure, Software Defined Networking, Zero Trust, etc.

Project Driver

Current switch infrastructure at TRWTF is based on obsolete 2015 technology. The BRWRF Building Automation network switch infrastructure is obsolete and no longer supported by Cisco. Other switches at BRWRF are considered mature in their lifecycle and will be 6+ years old by the time they will be scheduled for replacement. After the planned upgrades advanced network security features will be readily deployable.

Additional Comments

Construction and implementation phasing is proposed as Phase 1 -TRWTF; Phase 2 - BRWRF Building Automation; Phase 3 - BRWRF Process Control; Phase 4 - Advanced Features (informed by the design). Pending the Consultant design, advanced features could be implemented early.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.7**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	20	40	10								**70**
Land/Easements											
Equip/Other	220	280	150	150	130						**930**
Subtotal	**240**	**320**	**160**	**150**	**130**						**1,000**
Outside Funding											
Net Cost	**240**	**320**	**160**	**150**	**130**						**1,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
3	**1**	**101**	**1**	**1**	**101**	**1**	**2**	**22**	**2**	**2**	**3**	**240**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Project Management Info System (PMIS)	Requesting Dept:	PSO
CIP Project #:	ADM00104	Managing Dept.:	PSO
Program:	ADM Administrative/Facilities	Project Manager:	Kolapalli, Sree
		Sheet Completed by:	Kolapalli, Sree

LOUDOUN WATER

Project Description

This project aims to identify and implement a PMIS to collect, store, review, analyze, and present project-related information including cost, schedule, documentation, scope, resources, and contract administration information, and provide project status reporting including financial information. In the first year (2023), the PSO worked with stakeholders to develop detailed requirements for the PMIS and issued RFI to vendors. In this second year, a phased delivery plan for PMIS capabilities will be prepared and the solution will be deployed.

Project Driver

The proposed project is based on the work plan items identified for the Project Support Office (PSO) and focuses on implementing project management system processes to streamline project management activities across the organization. This proposed PMIS will also be used to track and report project progress through identified project control measures.

Additional Comments

The project will promote operational excellence as identified in the Loudoun Water Strategic Plan.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.5**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	150										**150**
Design											
Construction											
Land/Easements											
Equip/Other	200	150									**350**
Subtotal	**350**	**150**									**500**
Outside Funding											
Net Cost	**350**	**150**									**500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		25	**50**	**50**	**50**	**50**	**50**	**50**	**25**			**350**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Easement Mapping
CIP Project #:	ADM00105
Program:	ADM Administrative/Facilities

Requesting Dept:	IT BS
Managing Dept.:	IT BS
Project Manager:	Lees, Craig
Sheet Completed by:	Lees, Craig

LOUDOUN WATER

Project Description

The purpose of this project is to identify and map all easements, leases and license agreements (ELLA) where Loudoun Water is a signatory and develop a business process for managing future ELLA. A digital copy of all ELLA will be obtained from the County and our records and the geographic area representing the ELLA will be digitized in the GIS. This polygon will be attributed to describe important characteristics and hyperlink to the underlying deed/plat.

Project Driver

This project is needed because we do not currently have a complete list of all our ELLAs leading to confusion, mistakes and missed opportunities. Multiple business processes are negatively impacted by having an incomplete inventory.

Additional Comments

2024-5 funding will be used primarily to support the historical ELLA research and subsequent GIS data creation. 2026 funds are programmed to support the creation of easement maintenance polygons which will be derived from the easement polygons and used to support a digital/mobile workflow for routine easement maintenance (bushhogging). A pilot will be used to refine costs.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

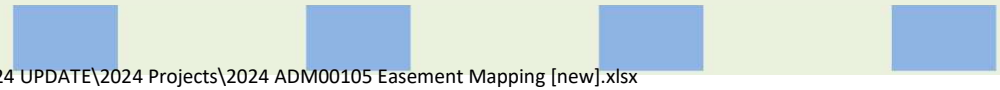
1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	200	500	600								**1,300**
Subtotal	**200**	**500**	**600**								**1,300**
Outside Funding											
Net Cost	**200**	**500**	**600**								**1,300**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		50		**50**		**50**		**50**				**200**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Inventory Application Enhancements
CIP Project #:	ADM00106
Program:	ADM Administrative/Facilities
Requesting Dept:	O-PROGRAMS
Managing Dept.:	IT BS
Project Manager:	Peterson, Lori
Sheet Completed by:	Peterson, Lori

LOUDOUN WATER

Project Description

This project is for the implementation of two future upgrades to our warehouse/inventory application, "Innovative inventory", which is used to track and manage the inventory in our warehouse locations. This application was deployed in 2018 and upgraded in 2021.

Project Driver

This application requires updates to be compatible with SAP S4HANA - this patch will implemented in early 2024.
It is expected that Innovapptive will move mInventory to the cloud in late 2024 and that will be our next full upgrade in 2025 which will allow us to receive routine upgrades as they are released rather than managing a costly and time consuming project for each upgrade.

Additional Comments

Estimate Method: Design Phase Estimate

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.7**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	20	100									**120**
Subtotal	**20**	**100**									**120**
Outside Funding											
Net Cost	**20**	**100**									**120**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
			20									**20**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	New Inventory Warehouse Design
CIP Project #:	ADM00107
Program:	ADM Administrative/Facilities

Requesting Dept:	O-PROGRAMS
Managing Dept.:	CAP PROGRAMS
Project Manager:	TBD
Sheet Completed by:	Harvey, Ken

LOUDOUN WATER

Project Description

Site selection, plan, and design a new building for inventory warehouse to be finalized pending Consultant report and input from Loudoun Water Operations.

Project Driver

The existing warehouse is at 85% of capacity. Safety of staff and maintaining effecient operations are primary drivers to expand facilities. Temporary storage of deliveries, including large pallets can no longer be managed without comprimising safety. The 3000 sq ft O&M warehouse was built in 2008. Since 2014, the O&M warehouse has increased its storage of materials from 1189 SKUs to 5279, a 77% increase. Warehouse staff and engineering reviewed our capacity in 2015 with all recommendations implemented.

Additional Comments

Currently, there is a related warehouse space study project that is expected to be completed in January 2024 with a report stating how to fix our immediate storage requirements as well as recommending a centralized warehouse for Loudoun Water's future requirements, 5-10 years.
Related Project: ADM00036 Facilities Expansion Study

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.2**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design			200								**200**
Construction											
Land/Easements											
Equip/Other											
Subtotal			**200**								**200**
Outside Funding											
Net Cost			**200**								**200**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	SAP S4HANA Upgrade
CIP Project #:	ADM00108
Program:	ADM Administrative/Facilities

Requesting Dept:	IT BS
Managing Dept.:	IT BS
Project Manager:	Bowers, Lara
Sheet Completed by:	Bowers, Lara

LOUDOUN WATER

Project Description

This project entails the upgrade of our current enterprise SAP software platform from the current "ECC" legacy version to the new SAP S/4HANA technology. It includes upgrades to all SAP components such as Customer Service, Finance, HR, Asset Management, etc., as well as a migration to the SAP software-as-a-service cloud.

Project Driver

This project is driven by end of support dates announced by Microsoft for our SAP database and operating system in 2026 and 2027 respectively, and end of mainstream support for our legacy SAP ECC software platform in 2027.

Additional Comments

This is a new project spun off from the CIP ADM00013 "SAP Enhancements" project. Funding was moved from the ADM00013 project to this new project. A phased implementation is contemplated, although a single go-live may be adopted if advantageous. This project is expected to kick off in Q2 of 2024 and conclude in 2025. The budget has been adjusted for inflation and uses updated estimates.

Estimate Method: Feasibility or Study

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.45**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	10,000	2,000									**12,000**
Subtotal	**10,000**	**2,000**									**12,000**
Outside Funding											
Net Cost	**10,000**	**2,000**									**12,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
				500	**500**	**2,000**		**2,000**		**2,000**	**3,000**	**10,000**

BROAD RUN WATER RECLAMATION FACILITY

(BRW)

2024 - 2033 CIP Section Index

Project Number	Project Name	Managing Division	2024 Budget	2024-2033 Total
BRW00002	BRWRF Liquids Treatment Expansion	O-WST	$8,960,000	$10,260,000
BRW00023	BRWRF - General Improvements	MNT-PL	$1,300,000	$10,300,000
BRW00028	BRWRF Lab HVAC Replacement	CAP PROGRAMS	$610,000	$1,600,000
BRW00032	BRWRF Phase 3 Expansion	O-WST	$8,000,000	$391,100,000
BRW00033	BRWRF Roof Replacements	O-WST	$50,000	$1,510,000
BRW00034	Spare Parts BRW	FIN	$100,000	$1,000,000
BRW00037	Pretreatment Local Limits Evaluation	O-WST	$0	$500,000
BRW00039	BRWRF Regulatory Requirements	O-WST	$0	$17,860,000
BRW00040	BRWRF Structural Assessment and Repairs	O-WST	$550,000	$2,800,000
BRW00041	BRWRF Membrane Cassette Replacements	O-WST	$1,380,000	$11,880,000
BRW00042	BRWRF Electrical Condition Assessments and Repairs	O-WST	$0	$1,580,000
BRW00043	BRWRF Flow Equalization Improvements	O-WST	$80,000	$1,590,000
BRW00044	BRWRF GAC Underdrains	O-WST	$0	$9,550,000
BRW00045	BRWRF HVAC Condition Assessment and Repairs	O-WST	$160,000	$4,920,000
BRW00046	BRWRF Preliminary Treatment Improvements	O-WST	$0	$2,680,000
BRW00047	BRWRF Primary Treatment Improvements	O-WST	$0	$7,650,000
BRW	**Sub-Total**		**$21,190,000**	**$476,780,000**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF Liquids Treatment Expansion	Requesting Dept:	O-WST
CIP Project #:	BRW00002	Managing Dept.:	O-WST
Program:	BRW Broad Run WRF	Project Manager:	Zaepfel, Rick
		Sheet Completed by:	Zaepfel, Rick

LOUDOUN WATER

Project Description

This project includes construction of the 16.5 MGD capacity expansion and upgrades at the Broad Run Water Reclamation Facility (BRWRF).

Project Driver

Loudoun Water's service area continues to experience high paced residential and commercial growth increasing the wastewater flows in the system. Loudoun Water's 2017 BRWRF Master Plan identified the need for additional wastewater treatment capacity by approximately 2023.

Additional Comments

The 16.5 MGD Expansion Project (2020-2024) as bid construction cost is $76M and the approved CA services budget is $11M. The favorable bid price of the current project has prompted consideration for additional easily implemented scope items. These items represent a construction cost increase to the project of ~13M. The annual spending forecast is based on contractor, consultant and LW data.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.1**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	8,960	1,300									**10,260**
Land/Easements											
Equip/Other											
Subtotal	**8,960**	**1,300**									**10,260**
Outside Funding											
Net Cost	**8,960**	**1,300**									**10,260**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1,580	**1,390**	**1,280**	**1,030**	**870**	**700**	**570**	**530**	**500**	**200**	**160**	**150**	**8,960**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF - General Improvements	Requesting Dept:	MNT-PL
CIP Project #:	BRW00023	Managing Dept.:	MNT-PL
Program:	BRW Broad Run WRF	Project Manager:	Moore, Curt
		Sheet Completed by:	Fugaro, Nick

LOUDOUN WATER

Project Description

This project includes design, construction and materials for miscellaneous improvements and major R&R at the BRWRF.

Project Driver

Replacement of materials and equipment due to normal exhaustion and wear as required to extend the life of the asset.

Additional Comments

Regular review of Asset Management data is used to update and inform replacement schedules.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.5**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	1,300	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	**10,300**
Land/Easements											
Equip/Other											
Subtotal	**1,300**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**10,300**
Outside Funding											
Net Cost	**1,300**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**10,300**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	50	**100**	**100**	**100**	**150**	**250**	**150**	**100**	**100**	**100**	**100**	**1,300**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF Lab HVAC Replacement	Requesting Dept:	WQ-LAB
CIP Project #:	BRW00028	Managing Dept.:	CAP PROGRAMS
Program:	BRW Broad Run WRF	Project Manager:	Osiecki, Matt
		Sheet Completed by:	Osiecki, Matt

LOUDOUN WATER

Project Description

This project includes the construction of HVAC improvements to remedy humidity and temperature issues in the L Building at the BRWRF. A study was developed to determine the cause and solution to the issue and a subsequent design was completed to address the deficiencies.

Project Driver

The Laboratory HVAC system has shown a pattern of failure to reduce ambient humidity and temperature levels to an acceptable range during the summer months.

Additional Comments

Bidding expected in Q4 2023

Estimate Method: Detailed/Bid Estimate

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.25**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	610	990									**1,600**
Land/Easements											
Equip/Other											
Subtotal	**610**	**990**									**1,600**
Outside Funding											
Net Cost	**610**	**990**									**1,600**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		26	**13**	**18**	**26**	**38**	**53**	**72**	**96**	**122**	**146**	**610**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF Phase 3 Expansion
CIP Project #:	BRW00032
Program:	BRW Broad Run WRF
Requesting Dept:	O-WST
Managing Dept.:	O-WST
Project Manager:	Kaberline, Jen
Sheet Completed by:	Kaberline, Jen

LOUDOUN WATER

Project Description

This Program includes design and construction to expand the capacity of the BRWRF from 15 MGD to 30 MGD. A new biosolids treatment process (thermal drying) will be provided enhance the quality of the finished solids product, increase flexibility of end use, and reduce the total volume of solids produced.

Project Driver

Additional capacity is required to treat increasing flows and loads due to increased wet weather through climate change, strengthening of wastewater due to water efficiency, and continued development in the county. It is also necessary to provide additional capacity for unanticipated changes in wastewater flows to ensure that Loudoun Water is positioned to serve the community in the future.

Additional Comments

Costs are expected to extend past 2035.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.85**	(100%)

Estimate Method: Design Phase Estimate

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	8,000	7,500	10,000								**25,500**
Construction		2,900	7,700	25,000	30,000	50,000	50,000	50,000	75,000	75,000	**365,600**
Land/Easements											
Equip/Other											
Subtotal	**8,000**	**10,400**	**17,700**	**25,000**	**30,000**	**50,000**	**50,000**	**50,000**	**75,000**	**75,000**	**391,100**
Outside Funding											
Net Cost	**8,000**	**10,400**	**17,700**	**25,000**	**30,000**	**50,000**	**50,000**	**50,000**	**75,000**	**75,000**	**391,100**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
480	**560**	**640**	**800**	**880**	**960**	**480**	**480**	**560**	**640**	**720**	**800**	**8,000**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF Roof Replacements	Requesting Dept:	O-WST
CIP Project #:	BRW00033	Managing Dept.:	O-WST
Program:	BRW Broad Run WRF	Project Manager:	Fugaro, Nick
		Sheet Completed by:	Fugaro, Nick

LOUDOUN WATER

Project Description

This project includes the ongoing efforts to continue with roof replacements through the Broad Run Water Reclamation Facility.

Project Driver

These roofs have shown signs of excessive deterioration and resulting in numerous leaks. These roofs are nearing their end of life cycle and are out of warranty Replacement is needed in order to keep the building system in proper functioning condition.

Additional Comments

The current project includes a roof and skylight replacement on BRWRF Buildings 27, 32, 40 & 50. After a recent roofing inspection it was determined that the roofs for Building 30, 31, and 81 will need to be replaced. Currently we anticipate these roofs will need to be replaced in 2026 with the design starting in late 2025.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.8**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design		20	70	90							**180**
Construction	50		400	480	400						**1,330**
Land/Easements											
Equip/Other											
Subtotal	**50**	**20**	**470**	**570**	**400**						**1,510**
Outside Funding											
Net Cost	**50**	**20**	**470**	**570**	**400**						**1,510**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
40	**10**											**50**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Spare Parts BRW	Requesting Dept:	O-WST
CIP Project #:	BRW00034	Managing Dept.:	FIN
Program:	BRW Broad Run WRF	Project Manager:	Dehler, Sally
		Sheet Completed by:	Dehler, Sally

LOUDOUN WATER

Project Description

Place holder for SAP tracking of Spare Parts.

Project Driver

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	1	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.2**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	100	100	100	100	100	100	100	100	100	100	**1,000**
Subtotal	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1,000**
Outside Funding											
Net Cost	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		25			**25**			**25**			**25**	**100**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Pretreatment Local Limits Evaluation
CIP Project #:	BRW00037
Program:	BRW Broad Run WRF
Requesting Dept:	O-WST
Managing Dept.:	O-WST
Project Manager:	Sveum, Kendra
Sheet Completed by:	Sveum, Kendra

LOUDOUN WATER

Project Description

This project is a study to determine the non-residential discharge concentration limits allowable to the Broad Run Water Reclamation Facility. The Local Limits are a part of the DEQ required pretreatment program for the BRWRF VPDES Permit. The study will also evaluate new approaches to local limits and best management practices that may assist the Pretreatment Program in protecting the BRWRF treatment system.

Project Driver

This project is directly required by the BRWRF VPDES permit pretreatment program requirements to perform a local limits evaluation. Increased industrial user discharge flows drive the need to evaluate the allowable industrial loading contribution the BRWRF treatment system can safely accept.

Additional Comments

BRWRF will continue to need period updates to the Pretreatment Local Limits as plant expansions are completed and flows into the plant increase.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.5**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning			50		200		50			200	**500**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal			**50**		**200**		**50**			**200**	**500**
Outside Funding											
Net Cost			**50**		**200**		**50**			**200**	**500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF Regulatory Requirements	Requesting Dept:	O-WST
CIP Project #:	BRW00039	Managing Dept.:	O-WST
Program:	BRW Broad Run WRF	Project Manager:	Kaberline, Jen
		Sheet Completed by:	Kaberline, Jen

LOUDOUN WATER

Project Description

This project includes planning, design and construction of new unit processes at the BRWRF to achieve potential future regulatory requirements related to nutrient removal and PFAS. It is assumed that Ozone and Biologically Activated Filters (BAF) will be required to meet liquids stream nutrient removal limits, and Gasification/Pyrolysis will be required to treat PFAS in biosolids.

Project Driver

As flows increase to BRWRF, the fixed Wasteload Allocation (WLA) will require that Loudoun Water treat to increasingly stringent limits. Regulations regarding PFAS removal from biosolids are also expected.

Additional Comments

LW is working with regulators to determine the future WLA for BRWRF and the outcome of this coordination will determine needs for liquids stream nutrient removal. LW is tracking PFAS regulations and the technologies that have potential to reduce/remove PFAS. Costs are expected to extend beyond 2032.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.1**	(100%)

Estimate Method: Feasibility or Study

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning						430	430				**860**
Design								5,440	5,950	5,610	**17,000**
Construction											
Land/Easements											
Equip/Other											
Subtotal						**430**	**430**	**5,440**	**5,950**	**5,610**	**17,860**
Outside Funding											
Net Cost						**430**	**430**	**5,440**	**5,950**	**5,610**	**17,860**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF Structural Assessment and Repairs	Requesting Dept:	O-WST
CIP Project #:	BRW00040	Managing Dept.:	O-WST
Program:	BRW Broad Run WRF	Project Manager:	Fugaro, Nick
		Sheet Completed by:	Fugaro, Nick

LOUDOUN WATER

Project Description

This work will include inspection, rehabilitation, and coating of existing structures at BRWRF.

Project Driver

Recent work inside tanks has shown significant concrete deterioration. Repair and coating of these structures will extend the useful life of the assets.

Additional Comments

2024 includes having a condition assessment performed on existing structures, completing the structural repairs in BRB 3 and Fine Screens Building. Additionally this project will coordinate with the Preliminary and Primary Treatment R&R.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.2**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	150	50	50	50	50	50	50	50	50	50	**600**
Construction	400	200	200	200	200	200	200	200	200	200	**2,200**
Land/Easements											
Equip/Other											
Subtotal	**550**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**2,800**
Outside Funding											
Net Cost	**550**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**2,800**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	180	**105**	**105**	**105**	**55**							**550**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF Membrane Cassette Replacements	Requesting Dept:	O-WST
CIP Project #:	BRW00041	Managing Dept.:	O-WST
Program:	BRW Broad Run WRF	Project Manager:	Fugaro, Nick
		Sheet Completed by:	Fugaro, Nick

LOUDOUN WATER

Project Description

This project includes the replacement of existing membrane filtration cassettes for the remaining cassettes at BRWRF.

Project Driver

After the completion of the BRWRF Phase 2 Expansion 8 of the 12 membrane filtration trains will receive upgrades membrane cassettes. The remaining 4 trains will consistent of repurposed membrane cassettes nearing the end of their useful life. This project is needed to replacement the remaining four membrane trains with the same membrane cassettes installed under the Phase 2 project and have all membrane cassettes on the same life cycle. Expected useful life of membrane cassettes is approximately 10 years.

Additional Comments

2023-2024 includes the replacement of Membrane Trains 9-12. 2032 commences replacement of membrane cassettes for Membrane Trains 1-8.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.85**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	1,380									10,500	**11,880**
Land/Easements											
Equip/Other											
Subtotal	**1,380**									**10,500**	**11,880**
Outside Funding											
Net Cost	**1,380**									**10,500**	**11,880**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
				690	**690**							**1,380**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF Electrical Condition Assessments and Re	Requesting Dept:	MNT-PL
CIP Project #:	BRW00042	Managing Dept.:	O-WST
Program:	BRW Broad Run WRF	Project Manager:	Fugaro, Nick
		Sheet Completed by:	Fugaro, Nick

LOUDOUN WATER

Project Description

This project will include performing condition assessments, design, and construction for the necessary upgrades to the electrical system at BRWRF.

Project Driver

Several pieces of major electrical equipment at Broad Run Water Reclamation Facility are beginning to show signs or repair and replacement.

Additional Comments

This project will start condition assessments of the existing emergency generators and site transformers.

Estimate Method: N/A

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design		60	60	60	60	60	60	60	60	60	**540**
Construction			130	130	130	130	130	130	130	130	**1,040**
Land/Easements											
Equip/Other											
Subtotal		**60**	**190**	**190**	**190**	**190**	**190**	**190**	**190**	**190**	**1,580**
Outside Funding											
Net Cost		**60**	**190**	**190**	**190**	**190**	**190**	**190**	**190**	**190**	**1,580**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF Flow Equalization Improvements	Requesting Dept:	O-WST
CIP Project #:	BRW00043	Managing Dept.:	O-WST
Program:	BRW Broad Run WRF	Project Manager:	Kaberline, Jen
		Sheet Completed by:	Kaberline, Jen

LOUDOUN WATER

Project Description

Project includes modifications to the EQ valve actuators, installation of a segment of piping to allow for simultaneous fill and draw of EQ 3, and installation of two flowmeters.

Project Driver

Improve operations and rehabilitate aging equipment.

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

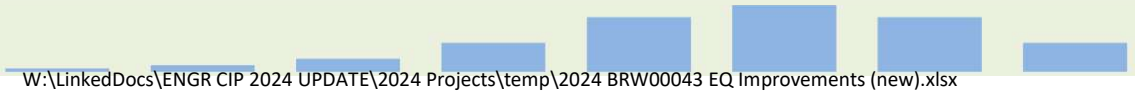
1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.8**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	80										**80**
Construction		280	1,230								**1,510**
Land/Easements											
Equip/Other											
Subtotal	**80**	**280**	**1,230**								**1,590**
Outside Funding											
Net Cost	**80**	**280**	**1,230**								**1,590**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	**2**	**4**	**9**	**17**	**21**	**17**	**9**					**80**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF GAC Underdrains
CIP Project #:	BRW00044
Program:	BRW Broad Run WRF
Requesting Dept:	O-WST
Managing Dept.:	O-WST
Project Manager:	Kaberline, Jen
Sheet Completed by:	Kaberline, Jen

LOUDOUN WATER

Project Description

Project includes condition assessment of GAC contactor underdrains and rehabilitation and/or replacement of the underdrains according to findings from the assessment.

Project Driver

The underdrains are 15 years old and warrant assessment to determine if repair and/or replacement is needed. The GACs are critical for meeting permit requirements.

Additional Comments

The underdrain repair and/or replacement work will occur at the time of regularly scheduled media replacement. Currently, media replacement occurs once per year for one contactor, so construction spending is spread out over the course of six years. Construction on one contactor is assumed outside of the 10-year window.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.65**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design			50			30	30	30	30	30	**200**
Construction						1,870	1,870	1,870	1,870	1,870	**9,350**
Land/Easements											
Equip/Other											
Subtotal			**50**			**1,900**	**1,900**	**1,900**	**1,900**	**1,900**	**9,550**
Outside Funding											
Net Cost			**50**			**1,900**	**1,900**	**1,900**	**1,900**	**1,900**	**9,550**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF HVAC Condition Assessment and Repairs	Requesting Dept:	MNT-PL
CIP Project #:	BRW00045	Managing Dept.:	O-WST
Program:	BRW Broad Run WRF	Project Manager:	Fugaro, Nick
		Sheet Completed by:	Fugaro, Nick

LOUDOUN WATER

Project Description

This work will include condition assessments, design, and construction of existing HVAC equipment at BRWRF.

Project Driver

The existing chiller system that serves Building L, M, and O is nearing its end of useful and replacement equipment and parts for the system are being discontinued within the next several years.

Additional Comments

2024 include costs for initial site condition assessments and kick-off of design.

Estimate Method: N/A

Project Prioritization; Criteria - Rating (5 High, 1 Low)

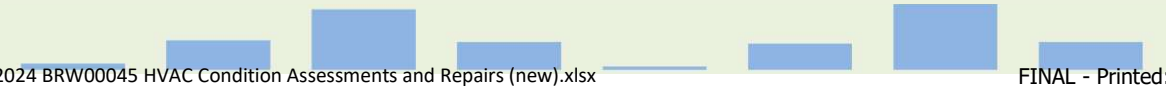
1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	80										**80**
Design	80	200	50	50	50	50	50	50	50	50	**680**
Construction			800	360	700	300	700	300	700	300	**4,160**
Land/Easements											
Equip/Other											
Subtotal	**160**	**200**	**850**	**410**	**750**	**350**	**750**	**350**	**750**	**350**	**4,920**
Outside Funding											
Net Cost	**160**	**200**	**850**	**410**	**750**	**350**	**750**	**350**	**750**	**350**	**4,920**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
				4	**19**	**39**	**18**	**2**	**17**	**43**	**18**	**160**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF Preliminary Treatment Improvements
CIP Project #:	BRW00046
Program:	BRW Broad Run WRF

Requesting Dept:	O-WST
Managing Dept.:	O-WST
Project Manager:	Kaberline, Jen
Sheet Completed by:	Kaberline, Jen

LOUDOUN WATER

Project Description

Project includes retrofitting the existing coarse screens with an improved cleaning system, modifying the connections between the screens and washer/compactors to accommodate the new cleaning system, and replacing the screenings conveyors.

Project Driver

The existing screens are approximately 15 years of age, and the washing system that is integral to the screen is not functioning properly. This causes carryover of inert material which ultimately ends up in the digesters, causing clogging in the heat exchangers and mixing system.

Additional Comments

Project will be linked to BRW00040.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.25**	(100%)

Estimate Method: Design Phase Estimate

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design			180								**180**
Construction				1,290	1,210						**2,500**
Land/Easements											
Equip/Other											
Subtotal			**180**	**1,290**	**1,210**						**2,680**
Outside Funding											
Net Cost			**180**	**1,290**	**1,210**						**2,680**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	BRWRF Primary Treatment Improvements	Requesting Dept:	O-WST
CIP Project #:	BRW00047	Managing Dept.:	O-WST
Program:	BRW Broad Run WRF	Project Manager:	Kaberline, Jen
		Sheet Completed by:	Kaberline, Jen

LOUDOUN WATER

Project Description

Project includes outfitting Primary Clarifier No. 5, replacing the Primary Clarifier No. 1-3 internal equipment, and replacing the Primary Sludge flowmeters.

Project Driver

Equipment age and condition.

Additional Comments

Project is tied to BRW00040.

Estimate Method: Design Phase Estimate

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.25**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design					250						**250**
Construction						3,950	3,450				**7,400**
Land/Easements											
Equip/Other											
Subtotal					**250**	**3,950**	**3,450**				**7,650**
Outside Funding											
Net Cost					**250**	**3,950**	**3,450**				**7,650**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

COMMUNITY SYSTEMS

(COM)

2024 - 2033 CIP Section Index

Project Number	Project Name	Managing Division	2024 Budget	2024-2033 Total
COM00015	GCIP WWTP SPS/JLMA East, S1A & S1B-E	CAP PROGRAMS	$10,080,000	$13,600,000
COM00046	Creighton WWTP Connect to Central	PLANNING	$0	$100,000
COM00049	Comm. System - General Improvements	O-COMSYS	$160,000	$1,830,000
COM00060	ComSys Ammonia Removal Evaluation	O-WST	$0	$12,800,000
COM00061	Paeonian Springs Water & Sewer (County)	CAP PROGRAMS	$650,000	$2,110,000
COM00062	Rokeby WTP Generator Upgrades	CAP PROGRAMS	$0	$1,150,000
COM00063	Waterford Water System (County)	CAP PROGRAMS	$190,000	$1,000,000
COM00066	Com Sys Risk Assessment	O-PROGRAMS	$0	$150,000
COM00069	Spare Parts COM	FIN	$20,000	$200,000
COM00070	Howardsville WWTP (County)	CAP PROGRAMS	$90,000	$1,310,000
COM00071	Willisville WWTP Improvements	O-WST	$100,000	$180,000
COM00072	St Louis Water Study (County)	PLANNING	$60,000	$150,000
COM00074	Lucketts ES WWTP (County)	O-WST	$70,000	$780,000
COM00075	Beacon Hill Water Line Encasement Project	CAP PROGRAMS	$0	$850,000
COM00076	ComSys Ammonia Removal PDB	O-WST	$2,250,000	$29,310,000
COM00077	ComSys Source Water Review	O-Remote Fac	$100,000	$100,000
COM00078	Rokeby to Central (Water)	PLANNING	$0	$90,000
COM00079	Beacon Hill New Water Production Well	CAP PROGRAMS	$190,000	$4,500,000
COM00080	Raspberry Falls WRF Generator Replacement	O-COMSYS	$150,000	$150,000
COM00081	Selma WTP Membrane Replacement	O-COMSYS	$0	$110,000
COM	**Sub-Total**		**$14,110,000**	**$70,470,000**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	GCIP WWTP SPS/JLMA East, S1A & S1B-E	Requesting Dept:	CAP PROGRAMS
CIP Project #:	COM00015	Managing Dept.:	CAP PROGRAMS
Program:	COM Community Systems	Project Manager:	Osiecki, Matt
		Sheet Completed by:	Osiecki, Matt

LOUDOUN WATER

Project Description

This project includes the construction of a wastewater pump station and forcemain connected to LW's central service area. The proposed pump station and alignment are based on a basis of design and forcemain routing analysis prepared by consultant.

Project Driver

Loudoun Water plans to connect the existing community system to the central service area to eliminate a high maintenance treatment plant which is beyond its useful life, as well as serve the newly adopted JLMA service area. The O&M division has committed to DEQ the following dates for the transition from treatment to conveyance: CTC 1Q2023, CTO 2Q2025. These commitments were made to avoid the implementation of additional ground water monitoring on the treatment site.

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.1**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	10,080	3,520									**13,600**
Land/Easements											
Equip/Other											
Subtotal	**10,080**	**3,520**									**13,600**
Outside Funding											
Net Cost	**10,080**	**3,520**									**13,600**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
371	**182**	**266**	**383**	**538**	**732**	**955**	**1,177**	**1,354**	**1,441**	**1,410**	**1,271**	**10,080**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Creighton WWTP Connect to Central	Requesting Dept:	O-COMSYS
CIP Project #:	COM00046	Managing Dept.:	PLANNING
Program:	COM Community Systems	Project Manager:	TBD
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

This project includes a feasibility study to identify facilities, issues and costs associated with connecting the Creighton Farms wastewater treatment facility to the central wastewater collection system. Design and construction of required improvements to follow if recommended.

Project Driver

Loudoun Water is reviewing options for alternative configurations for wastewater service; connecting the facility to the central wastewater system is assumed to be a more economical option in the long term.

Additional Comments

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.35**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning									50	50	**100**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal									**50**	**50**	**100**
Outside Funding											
Net Cost									**50**	**50**	**100**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Comm. System - General Improvements	Requesting Dept:	O-COMSYS
CIP Project #:	COM00049	Managing Dept.:	O-COMSYS
Program:	COM Community Systems	Project Manager:	Zimmerman, Ann
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

This project includes design, construction and materials for miscellaneous improvements and repair & replacement projects at various community system facilities.

Project Driver

As systems age upgrades are required to replace equipment at the end of its service life and to allow maintenance on discontinued or no longer supported equipment.

Additional Comments

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.5**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	160	160	170	170	180	190	190	200	200	210	**1,830**
Subtotal	**160**	**160**	**170**	**170**	**180**	**190**	**190**	**200**	**200**	**210**	**1,830**
Outside Funding											
Net Cost	**160**	**160**	**170**	**170**	**180**	**190**	**190**	**200**	**200**	**210**	**1,830**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
10	**10**	**15**	**15**	**15**	**15**	**15**	**15**	**15**	**15**	**10**	**10**	**160**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	ComSys Ammonia Removal Evaluation	Requesting Dept:	O-Remote Fac
CIP Project #:	COM00060	Managing Dept.:	O-WST
Program:	COM Community Systems	Project Manager:	TBD
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

This project provides upgrades to the Aldie and Raspberry Fall WWTPs to meet more stringent forthcoming ammonia effluent standards.

Project Driver

DEQ is planning to issue ammonia removal regulations for surface water discharge plants with a capacity less than 0.5 MGD starting with the 2023 permit renewal cycle. Improvements are required at five of Loudoun Water's Community WWTPs. Aldie and Raspberry Falls permit renewals will occur on a similar schedule and are grouped as this single project for efficient delivery.

Additional Comments

This project combines prior COM00037, COM00053, COM00055 and COM00057 to design and construct upgrades based on permit renewal dates and assuming a minimal grace period from DEQ. Waterford, St. Louis and Elysian Heights WWTPs will be required to comply with the ammonia removal regulations within a similar time period, and the work was grouped to a single project to be delivered via Progressive Design Build COM00076.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design					500	100	200				**800**
Construction						5,000	5,000	500	1,500		**12,000**
Land/Easements											
Equip/Other											
Subtotal					**500**	**5,100**	**5,200**	**500**	**1,500**		**12,800**
Outside Funding											
Net Cost					**500**	**5,100**	**5,200**	**500**	**1,500**		**12,800**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Paeonian Springs Water & Sewer (County)	Requesting Dept:	CAP PROGRAMS
CIP Project #:	COM00061	Managing Dept.:	CAP PROGRAMS
Program:	COM Community Systems	Project Manager:	Poudel, Amulya
		Sheet Completed by:	Poudel, Amulya

LOUDOUN WATER

Project Description

Design and Construction (as requested by the County) of a new community water and sewer system for the Paeonian Springs area. The project will include the creation of a new service area and associated water and wastewater facilities.

Project Driver

The feasibility study confirmed the need for a public water and wastewater system in the Paeonian Springs area to address public health concerns and community viability concerns due to groundwater yield/quality issues and on-site sewer disposal issues. The County BOS decided to extend public water and wastewater service to the community and funded the design phase of the project in 2023.

Additional Comments

This project is in accordance with the agreement between the Loudoun County W/WW program and Loudoun Water. The County will reimburse design costs, construction costs, and Loudoun Water staff efforts. Related project - COM00051 (Completed 2019)

Estimate Method: Feasibility or Study

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	5	(10%)
Total score	**3.85**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	650	800	660								**2,110**
Construction											
Land/Easements											
Equip/Other											
Subtotal	**650**	**800**	**660**								**2,110**
Outside Funding	650	800	660								**2,110**
Net Cost											

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
228	**25**	**27**	**30**	**32**	**35**	**38**	**41**	**44**	**47**	**50**	**53**	**650**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Rokeby WTP Generator Upgrades	Requesting Dept:	O-COMSYS
CIP Project #:	COM00062	Managing Dept.:	CAP PROGRAMS
Program:	COM Community Systems	Project Manager:	TBD
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

This project is the replacement of the existing emergency generator with a unit capable of powering the entire facility.

Project Driver

The existing emergency generator is not sized to operate the entire WTP. During an emergency, staff must decide what components to power. For example, they have to navigate between powering the local well or distribution system booster pump.

Additional Comments

Project schedule will be revisited to incorporate findings from COM00065 ComSys Water Master Plan, which is scheduled to be completed in 4Q2022. Project costs reflect a larger electrical and controls upgrade.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.65**	(100%)

Estimate Method: Feasibility or Study

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design						150					**150**
Construction							500	500			**1,000**
Land/Easements											
Equip/Other											
Subtotal						**150**	**500**	**500**			**1,150**
Outside Funding											
Net Cost						**150**	**500**	**500**			**1,150**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Waterford Water System (County)	Requesting Dept:	CAP PROGRAMS
CIP Project #:	COM00063	Managing Dept.:	CAP PROGRAMS
Program:	COM Community Systems	Project Manager:	Poudel, Amulya
		Sheet Completed by:	Poudel, Amulya

LOUDOUN WATER

Project Description

Design (as requested by the County) of a new community water system for the Village of Waterford. The project will install groundwater wells and extend water mains to the village to serve the properties that are within the existing sewer service area.

Project Driver

The feasibility study confirmed the need for a public water system in the Village of Waterford to address public health concerns and community viability concerns due to groundwater yield/quality issues. The County BOS decided to extend public water service to the community and funded the design phase of the project in 2023.

Additional Comments

This project is initially funded by Loudoun Water and reimbursed by Loudoun County.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	5	(10%)
Total score	**3.85**	(100%)

Estimate Method: Feasibility or Study

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	190	490	320								**1,000**
Construction											
Land/Easements											
Equip/Other											
Subtotal	**190**	**490**	**320**								**1,000**
Outside Funding	190	490	320								**1,000**
Net Cost											

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
33	**6**	**7**	**8**	**10**	**11**	**13**	**15**	**18**	**20**	**23**	**26**	**190**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Com Sys Risk Assessment
CIP Project #:	COM00066
Program:	COM Community Systems

Requesting Dept:	O-COMSYS
Managing Dept.:	O-PROGRAMS
Project Manager:	TBD
Sheet Completed by:	Whitten, Kathleen

LOUDOUN WATER

Project Description

Risk Assessment for the community systems similar to the water risk and resiliency assessment that was completed in 2020. This will include scoring and analyzing likelihood and consequence of failure on critical water and wastewater assets and providing a risk score. Threats analyzed will include both natural hazards and malevolent acts. Ideas for mitigation of risk will also be included.

Project Driver

As part of the strategic plan, Loudoun Water committed to providing risk assessments on all critical infrastructure. Loudoun Water completed the central system water risk assessment in 2020 and developed a framework for future risk assessments to adhere to. This framework will be used to create the community systems risk assessment.

Additional Comments

It is assumed that risk assessments will be completed only for Loudoun Water owned sites, not for contract operate sites. It is assumed two or three communities risk assessments will be performed per year.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.55**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning							60	90			**150**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal							**60**	**90**			**150**
Outside Funding											
Net Cost							**60**	**90**			**150**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Spare Parts COM	Requesting Dept:	COMM
CIP Project #:	COM00069	Managing Dept.:	FIN
Program:	COM Community Systems	Project Manager:	Dehler, Sally
		Sheet Completed by:	Dehler, Sally

LOUDOUN WATER

Project Description

Place holder for SAP tracking of Spare Parts.

Project Driver

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	1	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.2**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	20	20	20	20	20	20	20	20	20	20	**200**
Subtotal	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**200**
Outside Funding											
Net Cost	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**200**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
					10						**10**	**20**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Howardsville WWTP (County)	Requesting Dept:	O-Remote Fac
CIP Project #:	COM00070	Managing Dept.:	CAP PROGRAMS
Program:	COM Community Systems	Project Manager:	TBD
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

This project includes the evaluation, design and construction of the Howardsville WWTP and drainfield disposal system. This project follows construction of the collection system in 2022.

Project Driver

Loudoun County identified Howardsville as a community at risk and in need of a community wastewater treatment solution in the County's capital needs assessment.

Additional Comments

This project is 100% reimbursed by Loudoun County funds. Loudoun Water is working with the County to provide a suitable solution.

Estimate Method: Feasibility or Study

Project Prioritization; Criteria - Rating (5 High, 1 Low)

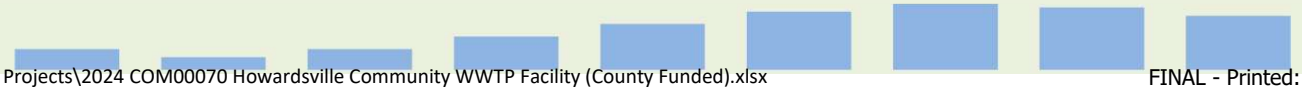
1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.1**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	90	20									**110**
Construction			1,200								**1,200**
Land/Easements											
Equip/Other											
Subtotal	**90**	**20**	**1,200**								**1,310**
Outside Funding	90	20	1,200								**1,310**
Net Cost											

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
			5	**3**	**5**	**8**	**11**	**14**	**16**	**15**	**13**	**90**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Willisville WWTP Improvements	Requesting Dept:	O-COMSYS
CIP Project #:	COM00071	Managing Dept.:	O-WST
Program:	COM Community Systems	Project Manager:	Zimmerman, Ann
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

Project will design and construct new treatment tankage and processes equipment. Equipment will be sized to increase facility resiliency to varying influent flows and loads.

Project Driver

Variable flows and loads require upgrades to increase the reliability of the Willisville WWTP and maintain level-of-service standards.

Additional Comments

Design started in FY2023.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.25**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	30										**30**
Construction	70	80									**150**
Land/Easements											
Equip/Other											
Subtotal	**100**	**80**									**180**
Outside Funding											
Net Cost	**100**	**80**									**180**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	**6**	**16**	**7**			**8**	**5**	**8**	**12**	**17**	**20**	**100**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	St Louis Water Study (County)
CIP Project #:	COM00072
Program:	COM Community Systems
Requesting Dept:	PLANNING
Managing Dept.:	PLANNING
Project Manager:	Beatty, Andrew
Sheet Completed by:	Beatty, Andrew

LOUDOUN WATER

Project Description

Planning for the design and construction of a new water distribution and treatment solution for the community of St Louis.

Project Driver

Loudoun Water is assisting Loudoun County as a part of the County's needs assessment program.

Additional Comments

This project is initially funded by Loudoun Water and reimbursed by Loudoun County. This may lead to a construction project in future years.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	1	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	5	(10%)
Total score	**3.35**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	60	90									**150**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**60**	**90**									**150**
Outside Funding	60	90									**150**
Net Cost											

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
								16	**10**	**15**	**19**	**60**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Lucketts ES WWTP (County)
CIP Project #:	COM00074
Program:	COM Community Systems
Requesting Dept:	O-Remote Fac
Managing Dept.:	O-WST
Project Manager:	TBD
Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

Evaluation of an existing WWTP and its associated collection system.

Project Driver

Loudoun Water is assisting Loudoun County to determine if the Lucketts ES WWTP and collection system should be owned and operated by Loudoun Water due to the number and type of service connections.

Additional Comments

This project is initially funded by Loudoun Water and reimbursed by Loudoun County. Project costs were derived in Lucketts Elementary School Wastewater Treatment Facility Evaluation TM1 (April 2023).

Estimate Method: Feasibility or Study

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	5	(10%)
Total score	**3.7**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	70	50									**120**
Construction			330	330							**660**
Land/Easements											
Equip/Other											
Subtotal	**70**	**50**	**330**	**330**							**780**
Outside Funding	70	50	330	330							**780**
Net Cost											

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
					3	**3**	**5**	**8**	**13**	**18**	**20**	**70**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Beacon Hill Water Line Encasement Project	Requesting Dept:	O-COMSYS
CIP Project #:	COM00075	Managing Dept.:	CAP PROGRAMS
Program:	COM Community Systems	Project Manager:	_Capital Programs
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

Design and construction of water system improvements that include profile adjustments and concrete encasements at creek crossings and steep slopes. This will protect the pipe from future erosion events.

Project Driver

This will increase the reliability of the Beacon Hill Water System and strengthen the system by improving existing pipeline protection located in problematic areas.

Additional Comments

0

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.45**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning									100		**100**
Design											
Construction										750	**750**
Land/Easements											
Equip/Other											
Subtotal									**100**	**750**	**850**
Outside Funding											
Net Cost									**100**	**750**	**850**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	ComSys Ammonia Removal PDB
CIP Project #:	COM00076
Program:	COM Community Systems
Requesting Dept:	O-COMSYS
Managing Dept.:	O-WST
Project Manager:	Kaberline, Jen
Sheet Completed by:	Kaberline, Jen

LOUDOUN WATER

Project Description

This project provides upgrades to the Elysian Heights, Waterford, and St. Louis WWTPs to meet pending ammonia removal regulations. The project will be delivered via Progressive Design Build (PDB).

Project Driver

This project is required for regulatory compliance with pending ammonia removal standards for small WWTPs (less than 0.5 mgd capacity) that discharge to surface waters. Standards will start with 2023 permit renewal cycles, with a five year compliance schedule expected from the time of permit renewal.

Additional Comments

Improvements to Raspberry Falls and Aldie WWTPs for regulatory compliance with ammonia removal standards will be delivered under COM00060.

Estimate Method: Feasibility or Study

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	2,250	1,570									**3,820**
Construction		1,490	10,010	9,010	4,980						**25,490**
Land/Easements											
Equip/Other											
Subtotal	**2,250**	**3,060**	**10,010**	**9,010**	**4,980**						**29,310**
Outside Funding											
Net Cost	**2,250**	**3,060**	**10,010**	**9,010**	**4,980**						**29,310**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
56	**48**	**85**	**144**	**226**	**310**	**340**	**325**	**282**	**194**	**130**	**110**	**2,250**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	ComSys Source Water Review	Requesting Dept:	O-COMSYS
CIP Project #:	COM00077	Managing Dept.:	O-Remote Fac
Program:	COM Community Systems	Project Manager:	Downes, Kinsey
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

Planning level effort to understand potential raw water sources and locations for various community systems.

Project Driver

Community System Water Master (draft) plan recommends source water evaluation. Resiliency in ground water systems requires periodic review of potential future sources due to long lead time required to develop a new source.

Additional Comments

Project includes understanding climate change stressors such as extreme drought and/or excessive rain events. 2024 Costs include review of Creighton Farms sources.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.2**	(100%)

Estimate Method: Feasibility or Study

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	100										**100**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**100**										**100**
Outside Funding											
Net Cost	**100**										**100**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
			3	**5**	**11**	**20**	**25**	**20**	**11**	**5**		**100**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Rokeby to Central (Water)
CIP Project #:	COM00078
Program:	COM Community Systems
Requesting Dept:	O-Remote Fac
Managing Dept.:	PLANNING
Project Manager:	TBD
Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

Planning level evaluation for connecting the Rokeby Water System to Loudoun Water's Central System.

Project Driver

Rokeby is adjacent to the Landfill Service District and the closest community system to our Central distribution system. There would be an operational benefit connecting it to the Central System and eliminating a Community System; cost saving and improved reliability.

Additional Comments

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning						90					**90**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal						**90**					**90**
Outside Funding											
Net Cost						**90**					**90**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Beacon Hill New Water Production Well	Requesting Dept:	O-Remote Fac
CIP Project #:	COM00079	Managing Dept.:	CAP PROGRAMS
Program:	COM Community Systems	Project Manager:	TBD
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

This project includes the permitting, development, and system upgrades required to connect a new groundwater well to the system.

Project Driver

Source water resiliency.

Additional Comments

Project was identified through the Groundwater Monitoring Program and COM00077 - Source Water Review.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	2	(10%)
Total score	**4**	(100%)

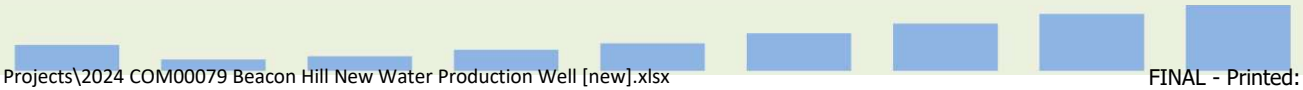
Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	190	310									**500**
Construction			750	2,750	500						**4,000**
Land/Easements											
Equip/Other											
Subtotal	**190**	**310**	**750**	**2,750**	**500**						**4,500**
Outside Funding											
Net Cost	**190**	**310**	**750**	**2,750**	**500**						**4,500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
			16	**7**	**9**	**13**	**17**	**23**	**29**	**35**	**41**	**190**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Raspberry Falls WRF Generator Replacement	Requesting Dept:	O-COMSYS
CIP Project #:	COM00080	Managing Dept.:	O-COMSYS
Program:	COM Community Systems	Project Manager:	TBD
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

The Raspberry Falls WRF Emergency Power Generator is nearing the end of its useful life. Spare parts are no longer manufactured and are difficult to locate. This project is for the procurement of a towable generator that will be deployed to the site until facility upgrades occur.

Project Driver

Facility operation during electrical power outages.

Additional Comments

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.6**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	150										**150**
Subtotal	**150**										**150**
Outside Funding											
Net Cost	**150**										**150**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
									150			**150**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Selma WTP Membrane Replacement	Requesting Dept:	O-COMSYS
CIP Project #:	COM00081	Managing Dept.:	O-COMSYS
Program:	COM Community Systems	Project Manager:	TBD
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

Selma WTP membrane modules have a life expectancy of 7-10 years. This project is the replacement of the existing modules to keep the system compliant.

Project Driver

Process R&R to keep the facility operational.

Additional Comments

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.45**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other					110						**110**
Subtotal					**110**						**110**
Outside Funding											
Net Cost					**110**						**110**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

FINANCE

(FIN)

2024 - 2033 CIP Section Index

Project Number	Project Name	Managing Division	2024 Budget	2024-2033 Total
FIN00001	Debt Service	FIN	$9,290,000	$99,480,000
FIN00002	DC Water Capital Improvements	FIN	$10,800,000	$118,270,000
FIN00003	Reimbursement to Developers - Water	LAND DEV	$2,500,000	$8,250,000
FIN00004	Reimbursement to Developers - Sewer	LAND DEV	$250,000	$4,000,000
FIN00005	Capital Proj - Construction-in-Process	FIN	$5,900,000	$41,900,000
FIN00007	Fairfax Water-Corbalis Phase III (WSA 5)	FIN	$220,000	$2,200,000
FIN00008	Fairfax Water-Trans. Capacity-Fox Mill/Centerville	FIN	$210,000	$2,100,000
FIN00009	FC UOSA - Conveyance-Treatment Capacity	FIN	$80,000	$1,050,000
FIN00011	Record Drawings and GIS Data Program	IT BS	$300,000	$3,000,000
FIN00014	Capital Imp Projects Legal Support	FIN	$100,000	$1,000,000
FIN00015	Reimbursement to Developers - Reclaimed	LAND DEV	$0	$350,000
FIN	**Sub-Total**		**$29,650,000**	**$281,600,000**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Debt Service	Requesting Dept:	FIN
CIP Project #:	FIN00001	Managing Dept.:	FIN
Program:	FIN Finance	Project Manager:	Carnes, Brian
		Sheet Completed by:	Dehler, Sally

LOUDOUN WATER

Project Description

This project represents the principal on revenue bonds that is allocated to new (future) customers.

Project Driver

Loudoun Water's service area continues to experience high paced residential and commercial growth driving the need for expansion of the systems. Funding of CIP projects needed to accommodate the growth requires Loudoun Water to issue additional debt (revenue bonds). These bonds are secured by the revenues generated from future connections to the systems.

Additional Comments

For 2023, the allocation is 80% of the principal. Existing customers continue to pay 100% of the interest on debt and 20% of principal. Loudoun Water anticipates the issuance of $35M in revenue bonds in 2026 per the 5-year plan of finance approved by the Board of Directors.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.6**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	9,290	9,750	10,170	10,600	11,120	11,670	8,660	9,040	9,400	9,780	**99,480**
Subtotal	**9,290**	**9,750**	**10,170**	**10,600**	**11,120**	**11,670**	**8,660**	**9,040**	**9,400**	**9,780**	**99,480**
Outside Funding											
Net Cost	**9,290**	**9,750**	**10,170**	**10,600**	**11,120**	**11,670**	**8,660**	**9,040**	**9,400**	**9,780**	**99,480**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
774	**774**	**775**	**774**	**774**	**774**	**774**	**774**	**774**	**774**	**774**	**775**	**9,290**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	DC Water Capital Improvements	Requesting Dept:	FIN
CIP Project #:	FIN00002	Managing Dept.:	FIN
Program:	FIN Finance	Project Manager:	Carnes, Brian
		Sheet Completed by:	Dehler, Sally

LOUDOUN WATER

Project Description

This project includes Loudoun Water's contribution to DC Water for capital improvements planned at DC Water's Blue Plain's AWWTP, along the Potomac Interceptor (PI) sewer, and at other Multi-Jurisdictional Use Facilities (MJUFs). The contribution from Loudoun Water in-turn funds planning, design and construction of related capital projects at the DC Water facilities as identified in their CIP.

Project Driver

Loudoun Water purchased 13.8 MGD capacity at the Blue Plains AWWTP which is conveyed through the Potomac Interceptor (PI) sewer. The contribution is based on Loudoun Water's proportional share of capacity purchased at Blue Plains AWWTP, in the PI, and in other MJUFs. Loudoun Water's long-term plan is to continue using the capacity purchased from DC Water.

Additional Comments

DC Water has numerous projects planned that include a cost share by Loudoun Water based on its proportion of capacity in DC Water's system. Projections for 2024-2032 are based on DC Water's latest 10 year projections.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.6**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	10,800	14,400	12,550	16,720	18,110	14,900	12,240	8,350	5,200	5,000	**118,270**
Subtotal	**10,800**	**14,400**	**12,550**	**16,720**	**18,110**	**14,900**	**12,240**	**8,350**	**5,200**	**5,000**	**118,270**
Outside Funding											
Net Cost	**10,800**	**14,400**	**12,550**	**16,720**	**18,110**	**14,900**	**12,240**	**8,350**	**5,200**	**5,000**	**118,270**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	2,700			**2,700**			**2,700**			**2,700**		**10,800**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Reimbursement to Developers - Water	Requesting Dept:	LAND DEV
CIP Project #:	FIN00003	Managing Dept.:	LAND DEV
Program:	FIN Finance	Project Manager:	Tran, Huy
		Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

This project funds reimbursements to developers for the design and construction of water extensions that are beyond the scope of the local facilities needed to serve the individual development. Reimbursement applies for water mains to certain incidental system enhancements such as stubs for future connections, and requested upsizing of pipes.

Project Driver

The reimbursement program enables the implementation of the water system master plan, while keeping Loudoun Water's capital construction contracts from the critical path of land development projects. The schedules and magnitude of the work are driven by the progress of land development projects. There are some cost savings inherent to having developers put in infrastructure while the site is not developed.

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.1**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	2,500	500	500	500	500	500	500	500	500	1,750	**8,250**
Subtotal	**2,500**	**500**	**500**	**500**	**500**	**500**	**500**	**500**	**500**	**1,750**	**8,250**
Outside Funding											
Net Cost	**2,500**	**500**	**500**	**500**	**500**	**500**	**500**	**500**	**500**	**1,750**	**8,250**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		2,500										**2,500**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Reimbursement to Developers - Sewer	Requesting Dept:	LAND DEV
CIP Project #:	FIN00004	Managing Dept.:	LAND DEV
Program:	FIN Finance	Project Manager:	Tran, Huy
		Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

This project funds reimbursements to developers for the design and construction of water extensions that are beyond the scope of the local facilities needed to serve the individual development. Reimbursement applies for mains of 16-inch and larger diameters (over 10 year period), to certain incidental system enhancements such as stubs for future connections, and requested upsizing of pipes.

Project Driver

The reimbursement program enables the implementation of the water system master plan, while keeping Loudoun Water's capital construction contracts from the critical path of land development projects. The schedules and magnitude of the work are driven by the progress of land development projects. There are some cost savings inherent to having developers put in infrastructure while the site is not developed.

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.1**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	250	250	250	250	250	250	250	250	250	1,750	**4,000**
Subtotal	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**1,750**	**4,000**
Outside Funding											
Net Cost	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**1,750**	**4,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		250										**250**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Capital Proj - Construction-in-Process	Requesting Dept:	FIN
CIP Project #:	FIN00005	Managing Dept.:	FIN
Program:	FIN Finance	Project Manager:	Carnes, Brian
		Sheet Completed by:	Dehler, Sally

LOUDOUN WATER

Project Description

This project includes the portion of the personnel budget allocated to capital projects. Generally, a percentage of personnel expenses for engineering, construction inspection, community relations and information technology are included. Labor costs realized on a capital project are charged to that project and are eventually recorded in the total cost of the asset.

Project Driver

Loudoun Water's service area continues to experience high paced residential and commercial growth driving the need for expansion of the systems. Funding of capital improvement projects is needed to expand the systems to accommodate the growth.

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.6**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	5,900	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	**41,900**
Subtotal	**5,900**	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**	**41,900**
Outside Funding											
Net Cost	**5,900**	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**	**41,900**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
400	**400**	**400**	**500**	**500**	**600**	**600**	**600**	**500**	**500**	**500**	**400**	**5,900**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Fairfax Water-Corbalis Phase III (WSA 5)	Requesting Dept:	FIN
CIP Project #:	FIN00007	Managing Dept.:	FIN
Program:	FIN Finance	Project Manager:	Carnes, Brian
		Sheet Completed by:	Dehler, Sally

LOUDOUN WATER

Project Description

This project includes Loudoun Water's contribution to Fairfax Water for 30 mgd purchased capacity at the Corbalis Water Treatment Plant (WTP) and 10 mgd transmission capacity from Corbalis WTP to the Fox Mill Road Pumping Station. The contribution in-turn funds planning, design and construction of related capital projects as identified in Fairfax Water's CIP.

Project Driver

Loudoun Water's service area continues to experience high growth and additional treatment capacity is needed for future water demands. In 2004 Loudoun Water entered into Water Service Agreement No. 5 with Fairfax Water for additional treatment and transmission capacity. The contribution is based on Loudoun Water's proportional share of capacity purchased.

Additional Comments

Capital payments for the capacity are paid monthly in arrears to Fairfax Water based upon annual determination of prior year's actual project costs.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.6**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	220	220	220	220	220	220	220	220	220	220	**2,200**
Subtotal	**220**	**220**	**220**	**220**	**220**	**220**	**220**	**220**	**220**	**220**	**2,200**
Outside Funding											
Net Cost	**220**	**220**	**220**	**220**	**220**	**220**	**220**	**220**	**220**	**220**	**2,200**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
18	**18**	**19**	**18**	**18**	**19**	**18**	**18**	**19**	**18**	**18**	**19**	**220**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Fairfax Water-Trans. Capacity-Fox Mill/Centervill	Requesting Dept:	FIN
CIP Project #:	FIN00008	Managing Dept.:	FIN
Program:	FIN Finance	Project Manager:	Carnes, Brian
		Sheet Completed by:	Dehler, Sally

LOUDOUN WATER

Project Description

This project includes Loudoun Water's contribution to Fairfax Water for 15 mgd purchased transmission capacity from the Corbalis Water Treatment Plant (WTP). Capacity purchased is in Fairfax Water's transmission system from Corbalis WTP to the Fox Mill Road Pumping Station and in the Fox Mill-Centerville WM (to intersection of Route 28/50). The contribution in-turn funds planning, design and construction of related capital projects in Fairfax Water's CIP.

Project Driver

In 1989 Loudoun Water entered into Water Service Agreement No. 2 with Fairfax Water for the purchase of 15 mgd of transmission capacity from the Corbalis WTP. The contribution is based on Loudoun Water's proportional share of capacity purchased.

Additional Comments

0

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.6**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	210	210	210	210	210	210	210	210	210	210	**2,100**
Subtotal	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**2,100**
Outside Funding											
Net Cost	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**2,100**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
17	**17**	**18**	**17**	**18**	**18**	**17**	**17**	**18**	**17**	**18**	**18**	**210**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	FC UOSA - Conveyance-Treatment Capacity
CIP Project #:	FIN00009
Program:	FIN Finance

Requesting Dept:	FIN
Managing Dept.:	FIN
Project Manager:	Carnes, Brian
Sheet Completed by:	Dehler, Sally

LOUDOUN WATER

Project Description

This project includes Loudoun Water's contribution to Fairfax County for 1 mgd purchased conveyance capacity in the Fairfax County sewer system (including 1 mgd of treatment capacity at the UOSA wastewater treatment plant). The contribution in-turn funds planning, design and construction of related capital projects as identified in Fairfax County's CIP.

Project Driver

In 2002 Loudoun Water entered into a sewer service agreement with Fairfax County for conveyance (and treatment) capacity in the Fairfax County sewer system. The agreement requires Loudoun Water to pay a proportionate share of treatment facility and sewer system upgrades that are considered over and above normal and customary repairs.

Additional Comments

For CIP planning purposes, Fairfax County provides to Loudoun Water an estimate of capital expenditures over a 10-year period.

In late 2025, Loudoun Water expects to be invoiced for rehab work on the Champs Branch ($160K) and Sand Branch ($88K) flumes. Estimates are based on 70% design.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.6**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	80	330	80	80	80	80	80	80	80	80	**1,050**
Subtotal	**80**	**330**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**1,050**
Outside Funding											
Net Cost	**80**	**330**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**1,050**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		20			**20**			**20**			**20**	**80**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Record Drawings and GIS Data Program
CIP Project #:	FIN00011
Program:	FIN Finance

Requesting Dept:	LAND DEV
Managing Dept.:	IT BS
Project Manager:	Lees, Craig
Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

Loudoun Water hires BOA consultants to produce record drawings and capture geographic information systems (GIS) data for its potable water, reclaimed water, and wastewater systems. This includes projects built by developers and our Capital Programs projects. This CIP task enables Loudoun Water to pay the BOA consultants for their monthly efforts to field survey newly constructed water, wastewater and reclaimed water assets, creation of as-builts, and creation of digital data for inclusion in our GIS.

Project Driver

This is Loudoun Water's established process for capturing information (as-builts and GIS data) about the location and characteristics of newly constructed water, reclaimed water and wastewater assets to support subsequent management of the systems.

Additional Comments

Fees are collected from developers to help offset some of the costs associated with this program but other projects are not able to be captured - such as from Capital Projects, VDOT, Loudoun County, and Loudoun County Public Schools.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.3**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	300	300	300	300	300	300	300	300	300	300	**3,000**
Land/Easements											
Equip/Other											
Subtotal	**300**	**300**	**300**	**300**	**300**	**300**	**300**	**300**	**300**	**300**	**3,000**
Outside Funding											
Net Cost	**300**	**300**	**300**	**300**	**300**	**300**	**300**	**300**	**300**	**300**	**3,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
25	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**300**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Capital Imp Projects Legal Support	Requesting Dept:	FIN
CIP Project #:	FIN00014	Managing Dept.:	FIN
Program:	FIN Finance	Project Manager:	Carnes, Brian
		Sheet Completed by:	Dehler, Sally

LOUDOUN WATER

Project Description

This project includes the portion of all legal support services allocated to capital projects. Generally, legal support is provided in all phases (planning, design and construction) of capital projects. Legal support fees realized on a capital project are charged to that project and are eventually recorded in the total cost of the asset.

Project Driver

Loudoun Water's service area continues to experience high paced residential and commercial growth driving the need for expansion of the systems. Funding of legal support for capital improvement projects is needed to expand the systems to accommodate the growth.

Additional Comments

0

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.6**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	100	100	100	100	100	100	100	100	100	100	**1,000**
Subtotal	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1,000**
Outside Funding											
Net Cost	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		25			**25**			**25**			**25**	**100**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Reimbursement to Developers - Reclaimed
CIP Project #:	FIN00015
Program:	FIN Finance

Requesting Dept:	LAND DEV
Managing Dept.:	LAND DEV
Project Manager:	Tran, Huy
Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

This project funds reimbursements to developers for the design and construction of reclaimed water extensions that are beyond the scope of the local facilities needed to serve the individual development. Reimbursement applies to mains 16-inch and larger diameters (over 10 year period), to certain incidental system enhancements such as stubs for future connections, and requested upsizing of pipes.

Project Driver

The reimbursement program enables growth in the reclaimed water distribution system, while keeping Loudoun Water's capital construction contracts from the critical path of land development projects. Upsizing the reclaimed water main associated with this project positions Loudoun Water to improve levels of service in Data Center Alley.

Additional Comments

0

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.1**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other		200	100	50							**350**
Subtotal		**200**	**100**	**50**							**350**
Outside Funding											
Net Cost		**200**	**100**	**50**							**350**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

POTOMAC WATER SUPPLY

(PWS)

2024 - 2033 CIP Section Index

Project Number	Project Name	Managing Division	2024 Budget	2024-2033 Total
PWS00006	PWS - Quarry A, Milestone Reservoir	CAP PROGRAMS	$37,210,000	$159,680,000
PWS00007	TRWTF - Phase IA (30 MGD) Expansion	O-WTR	$300,000	$24,110,000
PWS00009	PRWPS - General Improvements	O-WTR	$50,000	$3,000,000
PWS00012	TRWTF - General Improvements	O-WTR	$100,000	$2,000,000
PWS00016	Spare Parts PWS	FIN	$100,000	$1,000,000
PWS00017	TRWTF Standby Generator	O-WTR	$500,000	$2,270,000
PWS	**Sub-Total**		**$38,260,000**	**$192,060,000**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	PWS - Quarry A, Milestone Reservoir	Requesting Dept:	CAP PROGRAMS
CIP Project #:	PWS00006	Managing Dept.:	CAP PROGRAMS
Program:	PWS Potomac Water Supply	Project Manager:	Flores, Sam
		Sheet Completed by:	Flores, Sam

LOUDOUN WATER

Project Description

This project includes the design and construction to convert a rock quarry "Quarry A" to a water reservoir "Milestone Reservoir" and the associated raw water pump station and transmission mains. Milestone Reservoir will provide approximately 1.3 billion gallons of reservoir storage. The project will be delivered via Construction Management at Risk (CMAR).

Project Driver

Loudoun Water's service area continues to experience high paced residential and commercial growth increasing the overall system's water demand. Loudoun Water's master planning identified the need for additional water supply, system resiliency and treatment capacity. Milestone Reservoir adds additional raw water storage to support Phase I of the PWSP.

Additional Comments

Loudoun Water has been awarded a Pre-Disaster Mitigation grant from FEMA. Award is 12.65% of the construction value up to $10 million.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.35**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	200										**200**
Construction	37,010	35,340	35,180	32,100	12,310	7,540					**159,480**
Land/Easements											
Equip/Other											
Subtotal	**37,210**	**35,340**	**35,180**	**32,100**	**12,310**	**7,540**					**159,680**
Outside Funding	3,110	3,500	2,320								**8,930**
Net Cost	**34,100**	**31,840**	**32,860**	**32,100**	**12,310**	**7,540**					**150,750**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
842	**893**	**1,650**	**2,100**	**4,350**	**4,125**	**4,000**	**4,000**	**4,000**	**3,750**	**3,750**	**3,750**	**37,210**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	TRWTF - Phase IA (30 MGD) Expansion	Requesting Dept:	O-WTR
CIP Project #:	PWS00007	Managing Dept.:	O-WTR
Program:	PWS Potomac Water Supply	Project Manager:	Castaneda, Gerardo
		Sheet Completed by:	Castaneda, Gerardo

LOUDOUN WATER

Project Description

This project includes the design and construction of Phase IA of the water treatment plant (Trap Rock) for the Potomac Water Supply Program (PWSP). Phase IA will increase treatment capacity from 20 mgd to 32 mgd, and will focus on increased pump capacity. The work may also include concrete lining the emergency basin, new sulfuric acid facilities, solids dewatering, and miscellaneous HVAC improvements.

Project Driver

Loudoun Water's service area continues to experience high paced residential and commercial growth increasing the overall system's water demand. Master planning identified the need for additional water treatment capacity. Phase IA of the PWSP adds treatment capacity to meet increased demand and provide reliability and redundancy for Loudoun Water customers.

Additional Comments

LW has added an interim step to increase TRWTF to 32 MGD, the future upgrade to 40 mgd is not required in the 10 year planning horizon. The goal is to have this increase capacity by the time the Milestone quarry comes online. The Phase 1A expansion will likely first add the ancillary equipment needed to increase capacity and later install dewatering facilities as separate projects.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

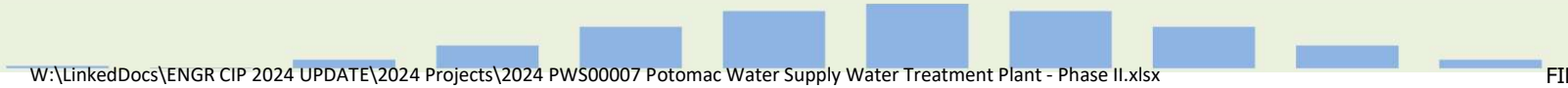
1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.5**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	300										**300**
Design		1,030	770								**1,800**
Construction				490	4,980	14,010	2,530				**22,010**
Land/Easements											
Equip/Other											
Subtotal	**300**	**1,030**	**770**	**490**	**4,980**	**14,010**	**2,530**				**24,110**
Outside Funding											
Net Cost	**300**	**1,030**	**770**	**490**	**4,980**	**14,010**	**2,530**				**24,110**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
9	**8**	**13**	**22**	**34**	**44**	**49**	**44**	**34**	**22**	**13**	**8**	**300**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	PRWPS - General Improvements	Requesting Dept:	O-WTR
CIP Project #:	PWS00009	Managing Dept.:	O-WTR
Program:	PWS Potomac Water Supply	Project Manager:	Castaneda, Gerardo
		Sheet Completed by:	Castaneda, Gerardo

LOUDOUN WATER

Project Description

The project includes the design, construction, and materials for miscellaneous improvements at the Potomac Raw Water Pump Station (PRWPS).

Project Driver

Improvements at PRWPS to improve reliability and ease of O&M.

Additional Comments

Improvements to pumps or pump equipment, potential future expenditures to include the repair of one pump per year.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

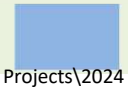
1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.5**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	50	300	300	300	300	350	350	350	350	350	**3,000**
Subtotal	**50**	**300**	**300**	**300**	**300**	**350**	**350**	**350**	**350**	**350**	**3,000**
Outside Funding											
Net Cost	**50**	**300**	**300**	**300**	**300**	**350**	**350**	**350**	**350**	**350**	**3,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
			25				**25**					**50**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	TRWTF - General Improvements	Requesting Dept:	O-WTR
CIP Project #:	PWS00012	Managing Dept.:	O-WTR
Program:	PWS Potomac Water Supply	Project Manager:	Castaneda, Gerardo
		Sheet Completed by:	Castaneda, Gerardo

LOUDOUN WATER

Project Description

The project includes a series of projects identified during the construction of the TRWTF and as operational improvements. It includes the design, construction, and materials for miscellaneous improvements.

Project Driver

Projects at the TRWTF to improve reliability and ease of O&M.

Additional Comments

The 2024-2026 budget includes money to repair hypo tanks, 1/yr. The 2025 and 2027 budgets include replacing the media of 2-3 filters.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

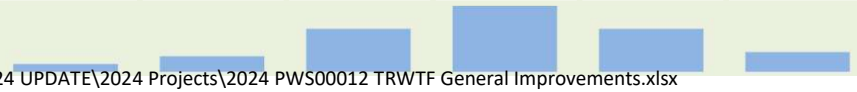
1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.5**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	100	350	100	350	100	200	200	200	200	200	**2,000**
Subtotal	**100**	**350**	**100**	**350**	**100**	**200**	**200**	**200**	**200**	**200**	**2,000**
Outside Funding											
Net Cost	**100**	**350**	**100**	**350**	**100**	**200**	**200**	**200**	**200**	**200**	**2,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		4	**8**	**22**	**34**	**22**	**10**					**100**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Spare Parts PWS	Requesting Dept:	O-WTR
CIP Project #:	PWS00016	Managing Dept.:	FIN
Program:	PWS Potomac Water Supply	Project Manager:	Carnes, Brian
		Sheet Completed by:	Dehler, Sally

LOUDOUN WATER

Project Description

Place holder for SAP tracking of Spare Parts.

Project Driver

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	1	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.2**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	100	100	100	100	100	100	100	100	100	100	**1,000**
Subtotal	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1,000**
Outside Funding											
Net Cost	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		25			**25**			**25**			**25**	**100**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	TRWTF Standby Generator
CIP Project #:	PWS00017
Program:	PWS Potomac Water Supply
Requesting Dept:	O-WTR
Managing Dept.:	O-WTR
Project Manager:	_Water Operations
Sheet Completed by:	Castaneda, Gerardo

LOUDOUN WATER

Project Description

Install a second 2500 kVA diesel generator at the Trap Rock Water Treatment Plant. The project may also include an additional fuel supply system.

Project Driver

Provides standby power capacity and redundancy to the TRWTF. The existing generator capacity was designed to sustain 10 mgd. More generator capacity is required to allow the plant to sustain more than 10 mgd during an emergency.

Additional Comments

Funds were negotiated with land purchase agreement (adjoining owner) to increase the TRWTF standby power capacity.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	5	(10%)
Total score	**3.2**	(100%)

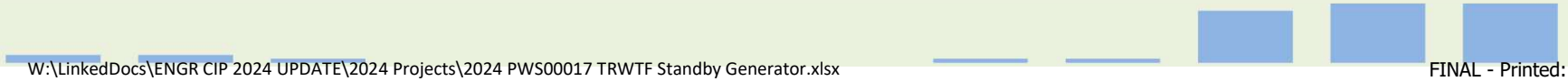
Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	70										**70**
Construction	430	1,770									**2,200**
Land/Easements											
Equip/Other											
Subtotal	**500**	**1,770**									**2,270**
Outside Funding	400										**400**
Net Cost	**100**	**1,770**									**1,870**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
20	**20**	**10**					**10**	**10**	**130**	**150**	**150**	**500**



RECLAIMED

(REC)

2024 - 2033 CIP Section Index

Project Number	Project Name	Managing Division	2024 Budget	2024-2033 Total
REC00009	One Water Strategic Planning	WTR RES	$50,000	$410,000
REC00010	Equinix Property Reclaimed Main	CAP PROGRAMS	$350,000	$1,580,000
REC00011	Beaumeade Circle Gap Closures	CAP PROGRAMS	$0	$1,000,000
REC00013	Reclaimed Water Program Support	WTR RES	$40,000	$400,000
REC00017	RWPS Upgrades	CAP PROGRAMS	$960,000	$960,000
REC00018	Reclaimed Distribution Storage Tank	CAP PROGRAMS	$0	$12,200,000
REC00019	RWPS Surge Tank	O-WST	$0	$1,280,000
REC	**Sub-Total**		**$1,400,000**	**$17,830,000**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	One Water Strategic Planning	Requesting Dept:	WTR RES
CIP Project #:	REC00009	Managing Dept.:	WTR RES
Program:	REC Reclaimed Water	Project Manager:	Schmitz, Bradley
		Sheet Completed by:	Schmitz, Bradley

LOUDOUN WATER

Project Description

This project includes foundational elements of One Water planning studies to enable LW to recognize vulnerabilities, establish risk protocols, conduct mass balances of contaminants across assets, and optimize operations. This will develop and advance the long-range vision of availability, uses and activities needed to support all of our systems. This will include adaptive planning scenario analyses, infrastructure and treatment considerations, policy and regulatory needs, and will define triggers for strategic implementation.

Project Driver

Project aligns with the Strategic Plan to develop an effective nutrient management strategy, develop additional sources of water, and manage customer demand. This will help identify the research, boundaries, proofs of concept, and opportunities to address future needs including potential needs and/or concerns for water reuse and augmentation. Developing a long-range view of One Water opportunities further enables LW's participation in local, regional, and national conversations about water resource management.

Additional Comments

2016 - Reclaimed Water Market Study
2020 - Reclaimed Water Distribution System Evaluation
2021 - Potable Reuse Alternatives Definitions Evaluation
2022 - LIFT SEE IT
2022/2023 - OneWater Monitoring List
2024 - OneWater Workshops ($50K)

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	2	(10%)
Total score	**3.3**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	50	60	70	70	80	80					**410**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**50**	**60**	**70**	**70**	**80**	**80**					**410**
Outside Funding											
Net Cost	**50**	**60**	**70**	**70**	**80**	**80**					**410**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2	**1**	**2**	**4**	**6**	**7**	**8**	**7**	**6**	**4**	**2**	**1**	**50**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Equinix Property Reclaimed Main	Requesting Dept:	REC
CIP Project #:	REC00010	Managing Dept.:	CAP PROGRAMS
Program:	REC Reclaimed Water	Project Manager:	Hollida, Jaron
		Sheet Completed by:	Hollida, Jaron

LOUDOUN WATER

Project Description

The project includes design and construction of approximately 1,000 feet of 16" diameter reclaimed main. The location will connect the east and west sides of the reclaimed water loop by boring under Loudoun County Parkway and connecting to the dead-end line in the Southern portion of Beaumeade Circle.

Project Driver

This connection will reinforce the reclaimed water distribution system by providing an additional loop which will increase reliability, redundancy and pressure.

Additional Comments

Loudoun Water will work with Digital Realty, the property owner of the Airbus site, for easements to install the transmission main.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.95**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	80										**80**
Construction	270	1,230									**1,500**
Land/Easements											
Equip/Other											
Subtotal	**350**	**1,230**									**1,580**
Outside Funding											
Net Cost	**350**	**1,230**									**1,580**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2	**7**	**18**	**28**	**18**	**7**		**24**	**21**	**39**	**69**	**117**	**350**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Beaumeade Circle Gap Closures	Requesting Dept:	REC
CIP Project #:	REC00011	Managing Dept.:	CAP PROGRAMS
Program:	REC Reclaimed Water	Project Manager:	_Capital Programs
		Sheet Completed by:	Vieux, Micah

LOUDOUN WATER

Project Description

This project includes the design and construction of approximately 3,000 lf of 12" dia. reclaimed water main to connect dead-ends within Beaumeade Circle in order to improve reliability and pressures to existing customers. Three gap closures are proposed.

Project Driver

Project aligns with the Strategic Plan to develop an effective nutrient management strategy, develop additional sources of water, and manage potable demand. This distribution main has the potential to serve additional commercial, industrial and data center space through planned development and retrofits. Positions Loudoun Water to maintain service levels for existing customers by closing 3 dead ends in the central and northern portions of Beaumeade Circle.

Additional Comments

This project may be built by developers and be reimbursed. Identified in REC00016 Distribution Analysis as beneficial.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.05**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning		30									**30**
Design		70									**70**
Construction			230	450	220						**900**
Land/Easements											
Equip/Other											
Subtotal		**100**	**230**	**450**	**220**						**1,000**
Outside Funding											
Net Cost		**100**	**230**	**450**	**220**						**1,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Reclaimed Water Program Support	Requesting Dept:	WTR RES
CIP Project #:	REC00013	Managing Dept.:	WTR RES
Program:	REC Reclaimed Water	Project Manager:	Schmitz, Bradley
		Sheet Completed by:	Schmitz, Bradley

LOUDOUN WATER

Project Description

Provides programmatic and planning support to explore and address risks and opportunities identified in the Reclaimed Water Market Study including infrastructure, water quality, sewershed management, policy alternatives and pricing.

Project Driver

Project aligns with the Strategic Plan to develop an effective reclaimed water program that contributes to Loudoun Water's nutrient management strategy, provides an additional source of water, and manages potable demand.

LW participated in the LIFT SEE IT program to visit other utilities that have mature reuse/reclaimed systems. Implementation of best practices and knowledge gained will be developed in this project.

Additional Comments

Positions Loudoun Water to act upon recommendations made by the reclaimed water distribution system evaluation (REC00016).

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3**	(100%)

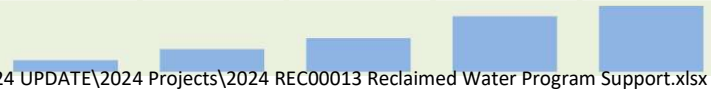
Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	40	40	40	40	40	40	40	40	40	40	**400**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**400**
Outside Funding											
Net Cost	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**400**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	**1**	**2**	**3**	**4**	**6**	**7**	**6**	**4**	**3**	**2**	**1**	**40**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	RWPS Upgrades
CIP Project #:	REC00017
Program:	REC Reclaimed Water

Requesting Dept:	O-PROGRAMS
Managing Dept.:	CAP PROGRAMS
Project Manager:	Fugaro, Nick
Sheet Completed by:	Fugaro, Nick

LOUDOUN WATER

Project Description

Design and construction of reclaimed water pump station upgrades. Upgrades will consist of adding four additional pumps, electrical upgrades, HVAC upgrades, replacement of discharge piping, and other miscellaneous modifications as required.

Project Driver

Project positions Loudoun Water to meet forecasted demand growth in the reclaimed water service area. By investing in upgrades at the RWPS, Loudoun Water can maximize the nutrient management benefits realized through the reclaimed water program. Project is supported by market analysis and independent study of the reclaimed water distribution system. Project will improve pressures for existing customers and position Loudoun Water to serve known future demands in the reclaimed water service area.

Additional Comments

Related project: REC00016 Reclaimed Distribution Study
Construction underway, expected completion in 2024.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.2**	(100%)

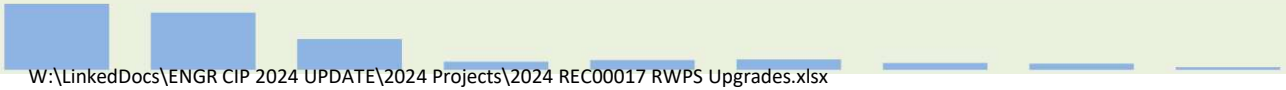
Estimate Method: Detailed/Bid Estimate

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	960										**960**
Land/Easements											
Equip/Other											
Subtotal	**960**										**960**
Outside Funding											
Net Cost	**960**										**960**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
322	**277**	**149**	**39**	**47**	**50**	**33**	**30**	**13**				**960**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Reclaimed Distribution Storage Tank	Requesting Dept:	O-WST
CIP Project #:	REC00018	Managing Dept.:	CAP PROGRAMS
Program:	REC Reclaimed Water	Project Manager:	Tenzin, Jigme
		Sheet Completed by:	Tenzin, Jigme

LOUDOUN WATER

Project Description

This project is to locate, design, and construct a storage tank in the Reclaimed Water Distribution System to enable LW to meet the minimum system pressure requirements in the reclaimed customer agreements at future peak flows. The first phase of this project would be a Tank Siting Study.

Project Driver

When the Reclaimed Water system reaches a max demand of 11 mgd, storage (optimally elevated storage) will be required to maintain minimum distribution system pressures. Based on the time required to locate, design and build it is estimated design of the tank should start when peak flows reach 7 mgd. System storage will also improve efficiency of the pumping system by creating an operational buffer volume to manage peak flows.

Additional Comments

Land costs are not currently included in this estimate.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.2**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning			200								**200**
Design					470	530					**1,000**
Construction							2,860	8,140			**11,000**
Land/Easements											
Equip/Other											
Subtotal			**200**		**470**	**530**	**2,860**	**8,140**			**12,200**
Outside Funding											
Net Cost			**200**		**470**	**530**	**2,860**	**8,140**			**12,200**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	RWPS Surge Tank	Requesting Dept:	O-WST
CIP Project #:	REC00019	Managing Dept.:	O-WST
Program:	REC Reclaimed Water	Project Manager:	_Broad Run WRF
		Sheet Completed by:	Sveum, Kendra

LOUDOUN WATER

Project Description

This project is to size, design, and install a surge tank on the discharge of the RWPS to protect the Reclaimed Water Distribution Piping from breaks due to surge or cavitation during pumping interruptions. The first phase will be to coordinate and design a tee to be installed with the pump upgrade project.

Project Driver

As the pumping stations flows increase the risk of damaging the distribution system piping due to surge or cavitation increases particularly for portions of the distribution system with PVC piping and dead ends with no air/vacuum valves.

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.65**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning			30								**30**
Design					250						**250**
Construction						760	240				**1,000**
Land/Easements											
Equip/Other											
Subtotal			**30**		**250**	**760**	**240**				**1,280**
Outside Funding											
Net Cost			**30**		**250**	**760**	**240**				**1,280**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

WASTEWATER

(WAS)

2024 - 2033 CIP Section Index

Project Number	Project Name	Managing Division	2024 Budget	2024-2033 Total
WST00001	Wastewater System Planning Studies	PLANNING	$0	$1,200,000
WST00005	Upper Foley SPS Odor Control System	O-Remote Fac	$0	$420,000
WST00013	W-WW Needs Assessment Studies (County)	PLANNING	$0	$1,000,000
WST00022	Sys Capacity Upgrades - Sewer Mains	PLANNING	$0	$12,100,000
WST00023	Sys Capacity Upgrades - Pump Stations	PLANNING	$0	$12,200,000
WST00024	Russell Br SPS JLMA East, S2A-E & S2B-E	CAP PROGRAMS	$800,000	$25,120,000
WST00027	Temporary Flow Monitoring	O-PROGRAMS	$100,000	$600,000
WST00029	Sewer Master Plan Modeling Update	PLANNING	$0	$300,000
WST00032	Grinder Pump Replacement Program	MNT-LINE	$120,000	$1,200,000
WST00033	Elklick Run SPS Phase 3 Upgrades	CAP PROGRAMS	$220,000	$220,000
WST00035	Lansdowne SPS Reliability Upgrades	CAP PROGRAMS	$1,940,000	$3,360,000
WST00038	Sewer Meter Vault Replacements	O-WST	$280,000	$2,250,000
WST00039	UBRI Manhole Improvements	CAP PROGRAMS	$200,000	$4,740,000
WST00040	Waxpool SPS General Improvements	CAP PROGRAMS	$0	$1,120,000
WST00042	Sanitary Sewer Rehab Program	O-PROGRAMS	$0	$7,240,000
WST00046	E Beech Rd 10in Sewer Replacement	CAP PROGRAMS	$350,000	$350,000
WST00050	Wastewater Facility Improvements	O-Remote Fac	$210,000	$2,410,000
WST00055	Grinder Pump Control Panel Replacement	O-PROGRAMS	$80,000	$400,000
WST00057	JLMA East, S4-E (GCIP to Crosstrail Blvd) [R]	LAND DEV	$1,200,000	$12,000,000
WST00058	JLMA West, S2 & S3A (Sycolin to RT 267)	CAP PROGRAMS	$1,090,000	$12,620,000
WST00059	Wastewater Risk Assessment	O-PROGRAMS	$0	$130,000
WST00062	Spare Parts WST	FIN	$100,000	$1,000,000
WST00064	Central Sewer CIPP Lining - P2	CAP PROGRAMS	$420,000	$700,000

2024 - 2033 CIP Section Index

Project Number	Project Name	Managing Division	2024 Budget	2024-2033 Total
WST00066	Digital Dulles Sewer Extension [R]	LAND DEV	$0	$13,000,000
WST00068	JLMA East Sewer PS and Forcemain (Phase 2)	CAP PROGRAMS	$160,000	$23,030,000
WST00069	JLMA West, S3B-W (Shreve South) [R]	CAP PROGRAMS	$0	$4,730,000
WST00070	JLMA West SPS, S1A-W & S1B-W [R]	CAP PROGRAMS	$50,000	$29,250,000
WST00071	JLMA West, S-4-W NLS SPS Upgrades	CAP PROGRAMS	$250,000	$4,730,000
WST00072	Sewer Replacement Shep/Blkwd/Caragana	CAP PROGRAMS	$220,000	$360,000
WST00073	Wastewater Infrastructure Improvements	MNT-LINE	$0	$700,000
WST00074	Cabin Branch Lateral Lining Project	CAP PROGRAMS	$320,000	$2,080,000
WST00075	Connect Dulles Trade SPS to Gravity Sewer	CAP PROGRAMS	$0	$2,180,000
WST00076	Force Main Condition Assess & Inspect	O-PROGRAMS	$50,000	$500,000
WST00077	Horsepen Run AFP	PLANNING	$80,000	$80,000
WST00078	Red Cedar 2 SPS Capacity Review	O-Remote Fac	$100,000	$1,950,000
WST00079	Red Hill Road AFP	PLANNING	$30,000	$30,000
WST00080	Western CSA AFP	PLANNING	$80,000	$260,000
WST00081	WW Collection Sys Master Plan	PLANNING	$290,000	$500,000
WST00082	Courtland WWPS Generator Replacement	CAP PROGRAMS	$0	$330,000
WST00083	Grinder Chamber Replacement Program	MNT-LINE	$150,000	$1,500,000
WST00084	Large Diameter Sewer Rehabilitation	CAP PROGRAMS	$0	$1,100,000
WST00085	Lateral Grouting - Annual Program	O-PROGRAMS	$50,000	$500,000
WST00086	Sanitary Sewer Lining Phase 3	CAP PROGRAMS	$0	$750,000
WST	**Sub-Total**		**$8,940,000**	**$190,240,000**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Wastewater System Planning Studies	Requesting Dept:	PLANNING
CIP Project #:	WST00001	Managing Dept.:	PLANNING
Program:	WST Wastewater	Project Manager:	Beatty, Andrew
		Sheet Completed by:	Beatty, Andrew

LOUDOUN WATER

Project Description

This project includes system wide wastewater planning studies for the central system, such as: 1) Major overall updates to wastewater collection system master plan every 5 to 7 years; 2) Annual updates to the collection system master plan; 3) Area facility plans as needs arise; 4) Other minor wastewater system studies.

Project Driver

Loudoun Water's service area continues to experience high paced residential and commercial growth increasing the wastewater flows in the system. Continued analysis of the service area is necessary to assure adequate capacity is provided in the system for efficient delivery of wastewater services.

Additional Comments

WST00077, WST00078, WST00079, WST00080, WST00081 - AFP, evaluations and master planning to be completed in 2024, 2025

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.7**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning			100	100	100	100	100	300	300	100	**1,200**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal			**100**	**100**	**100**	**100**	**100**	**300**	**300**	**100**	**1,200**
Outside Funding											
Net Cost			**100**	**100**	**100**	**100**	**100**	**300**	**300**	**100**	**1,200**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Upper Foley SPS Odor Control System	Requesting Dept:	O-Remote Fac
CIP Project #:	WST00005	Managing Dept.:	O-Remote Fac
Program:	WST Wastewater	Project Manager:	Lanham, Petie
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

Project includes an evaluation of equipment that is reaching the end of its useful life and odor control measures that may be required due to housing development near SPS.

Project Driver

The pump station was built in a secluded portion of the sewershed. However, as future development encroaches on the pump station and influent flows increase, there is concern that odors from the facility will impact surrounding development.

Additional Comments

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.6**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning								50			**50**
Design									70		**70**
Construction										300	**300**
Land/Easements											
Equip/Other											
Subtotal								**50**	**70**	**300**	**420**
Outside Funding											
Net Cost								**50**	**70**	**300**	**420**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	W-WW Needs Assessment Studies (County)
CIP Project #:	WST00013
Program:	WST Wastewater
Requesting Dept:	PLANNING
Managing Dept.:	PLANNING
Project Manager:	Beatty, Andrew
Sheet Completed by:	Geldert, Darrin

LOUDOUN WATER

Project Description

This project includes studies (planning) of central water and sewer extensions to communities of need in the central service area or new facilities to service communities in the rural policy area. These projects would be forwarded by Loudoun County through the Needs Assessment community prioritization process.

Project Driver

Loudoun Water coordination with the County is essential to develop feasible long term solutions to health and safety issues related to water and sewer service in the County.

Additional Comments

Related projects: Paeonian Springs COM00061, Waterford COM00063, Unison COM00068 and St Louis is pending. As projects move to design individual project sheets will be created.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	1	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	5	(10%)
Total score	**3.2**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning		80	150	80	150	80	150	80	150	80	**1,000**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal		**80**	**150**	**80**	**150**	**80**	**150**	**80**	**150**	**80**	**1,000**
Outside Funding		80	150	80	150	80	150	80	150	80	**1,000**
Net Cost											

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Sys Capacity Upgrades - Sewer Mains
CIP Project #:	WST00022
Program:	WST Wastewater
Requesting Dept:	PLANNING
Managing Dept.:	PLANNING
Project Manager:	Beatty, Andrew
Sheet Completed by:	Beatty, Andrew

LOUDOUN WATER

Project Description

This project includes the planning, design and construction of new and upgraded sewer mains identified in the Wastewater Collection System Master Plan and other planning studies.

Project Driver

Loudoun Water's service area continues to experience high paced residential and commercial growth increasing sewage flows in the system. Continued need for capacity related expansions of the central and community systems in response to projected residential and commercial growth (development).

Additional Comments

The 2016 WWCSMP identified potential gravity upgrades with a total value of approximately $9M (2016 dollars). WST00081 will update and expand the WWCSMP and provide updated information in 2025.

Estimate Method: Feasibility or Study

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning						100					**100**
Design							1,000				**1,000**
Construction								3,500	4,000	3,500	**11,000**
Land/Easements											
Equip/Other											
Subtotal						**100**	**1,000**	**3,500**	**4,000**	**3,500**	**12,100**
Outside Funding											
Net Cost						**100**	**1,000**	**3,500**	**4,000**	**3,500**	**12,100**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Sys Capacity Upgrades - Pump Stations
CIP Project #:	WST00023
Program:	WST Wastewater
Requesting Dept:	PLANNING
Managing Dept.:	PLANNING
Project Manager:	Beatty, Andrew
Sheet Completed by:	Geldert, Darrin

LOUDOUN WATER

Project Description

This project includes the planning, design and construction of new and upgraded sewer pump stations identified in the Wastewater Collection System Master Plan and other planning studies.

Project Driver

Loudoun Water's service area continues to experience high paced residential and commercial growth increasing sewage flows in the system. Continued need for capacity related expansions of the central and community systems in response to projected residential and commercial growth (development).

Additional Comments

The 2016 WWCSMP identified 4 potential SPS upgrades with a total value of approximately $9M (2016 dollars). WST00081 will update and expand the WWCSMP and provide updated information in 2025.

Estimate Method: Feasibility or Study

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning						100	100				**200**
Design							500	500			**1,000**
Construction								3,500	4,000	3,500	**11,000**
Land/Easements											
Equip/Other											
Subtotal						**100**	**600**	**4,000**	**4,000**	**3,500**	**12,200**
Outside Funding											
Net Cost						**100**	**600**	**4,000**	**4,000**	**3,500**	**12,200**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Russell Br SPS JLMA East, S2A-E & S2B-E	Requesting Dept:	CAP PROGRAMS
CIP Project #:	WST00024	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	_Capital Programs
		Sheet Completed by:	Buswell, Scott

LOUDOUN WATER

Project Description

Design, permitting and construction of a new permanent pump station to replace the existing Belmont Ridge Interim Sewer Pump Station. This will include the associated gravity sewer, force main and water mains needed to serve the facility.

Project Driver

The existing interim station is approximately 15 years old and requires significant improvements to meet current reliability and redundancy standards. In addition, growth in system flows is anticipated to exceed existing capacity in approximately 5 years.

Additional Comments

Developer will be constructing the force mains, gravity sewer, and water main and will be reimbursed following substantial completion of those linear assets.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.65**	(100%)

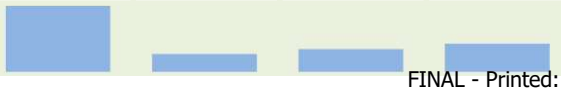
Estimate Method: Design Phase Estimate

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	800	8,770	14,690	860							**25,120**
Land/Easements											
Equip/Other											
Subtotal	**800**	**8,770**	**14,690**	**860**							**25,120**
Outside Funding											
Net Cost	**800**	**8,770**	**14,690**	**860**							**25,120**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
								394	**105**	**134**	**167**	**800**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Temporary Flow Monitoring
CIP Project #:	WST00027
Program:	WST Wastewater

Requesting Dept:	O-PROGRAMS
Managing Dept.:	O-PROGRAMS
Project Manager:	Whitten, Kathleen
Sheet Completed by:	Whitten, Kathleen

LOUDOUN WATER

Project Description

Study to further develop understanding of known or potential areas of concern with regards to capacity within the collection system. The project will develop a baseline condition for the monitoring period and provide recommendations for any future follow up monitoring or improvements.

Project Driver

Further understanding of flows within various areas of the Central Service Area collection system will allow for improved future flow projections and ultimately inform potential CIP projects.

Additional Comments

Ongoing monitoring will supplement Master Planning, Area Facility Plans, BRWRF expansion, I&I Studies and linear asset management.

2024 Focus Area: Cabin Branch (Before and after lateral lining project)
2025 Focus Area: Indian Creek
2026 and 2027 Focus Area: JLMA

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

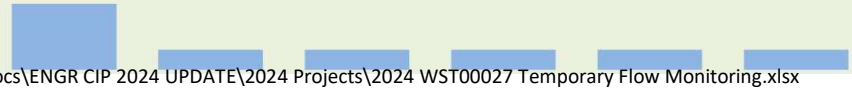
1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.3**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	100	100	50	50	50	50	50	50	50	50	**600**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**100**	**100**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**600**
Outside Funding											
Net Cost	**100**	**100**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**600**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	40	**12**	**12**	**12**	**12**	**12**						**100**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Sewer Master Plan Modeling Update	Requesting Dept:	PLANNING
CIP Project #:	WST00029	Managing Dept.:	PLANNING
Program:	WST Wastewater	Project Manager:	Beatty, Andrew
		Sheet Completed by:	Beatty, Andrew

LOUDOUN WATER

Project Description

Update to the sanitary sewer model developed in the Wastewater Collection System Master Plan. Develop additional model results from future state flow analyses on a system-wide basis, as well as on an individual sewershed basis as deemed necessary.

Project Driver

New population and employment projections from the County, as well as land use changes that have occurred/been approved since the previous sewer model was developed, will impact model assumptions and results requiring additional analysis and evaluation. Current ongoing studies, and Loudoun County's 2019 Comprehensive Plan, will also have an impact. Other areas of focus include the Western Lands and Horsepen sewershed.

Additional Comments

Informative related projects: WST00018, BRW00019, ADM00076

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.15**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning					100		100		100		**300**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal					**100**		**100**		**100**		**300**
Outside Funding											
Net Cost					**100**		**100**		**100**		**300**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Grinder Pump Replacement Program
CIP Project #:	WST00032
Program:	WST Wastewater

Requesting Dept:	O-PROGRAMS
Managing Dept.:	MNT-LINE
Project Manager:	Bussard, Bubba
Sheet Completed by:	Loveless, Brittany

LOUDOUN WATER

Project Description

This project includes funding to procure and replace wastewater grinder pumps on a 10-year cycle or 30 per year as part of our Asset Management program. We have approximately 400 grinder pump customers and grinder pumps typically have an expected useful life of 10-12 years.

Project Driver

The large percentage of our grinder pump customers are located in Broad Run Farms. This low pressure system and grinder pumps were installed in the late 1990's; many are close to 18 years old and are beyond their expected useful life. Replacing the older pumps over time will reduce the likelihood of SSOs, improve our level of service and reduce maintenance costs.

Additional Comments

Average pump cost is $3800 - this price takes into account an increase in our contractor pricing. 113 Pumps are greater than twenty years old.

Plan to replace 30 in 2024

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.65**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	120	120	120	120	120	120	120	120	120	120	**1,200**
Subtotal	**120**	**120**	**120**	**120**	**120**	**120**	**120**	**120**	**120**	**120**	**1,200**
Outside Funding											
Net Cost	**120**	**120**	**120**	**120**	**120**	**120**	**120**	**120**	**120**	**120**	**1,200**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
4	**3**	**5**	**9**	**13**	**18**	**20**	**18**	**13**	**9**	**5**	**3**	**120**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Elklick Run SPS Phase 3 Upgrades	Requesting Dept:	O-Remote Fac
CIP Project #:	WST00033	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	TBD
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

Project includes a study to evaluate of the pump station as a whole and whether a new station is needed. Project will also evaluate equipment that is reaching the end of useful life.

Project Driver

Elklick Run SPS is an older type SPS and the original systems need to be evaluated for upgrade due to age and improved technologies.

Additional Comments

NPRC identified the need for a facility evaluation with recommended upgrades that may include a new facility location.

Note: If project is delayed - we'll need to address Cathodic Protection on the steel capsule in 2024 as the anodes are depleted per August 2020 Assessment.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.5**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	220										**220**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**220**										**220**
Outside Funding											
Net Cost	**220**										**220**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
7	**7**	**14**	**25**	**38**	**44**	**38**	**25**	**14**	**8**			**220**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Lansdowne SPS Reliability Upgrades	Requesting Dept:	O-Remote Fac
CIP Project #:	WST00035	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	Watkins, Doug
		Sheet Completed by:	Watkins, Doug

LOUDOUN WATER

Project Description

This project includes design and construction of sewer pump station reliability upgrades including emergency overflow storage, pumps, sewage grinder, flow meter, electrical and control upgrades, control building modifications, and other general improvements.

Project Driver

The facility is in need of numerous upgrades that are necessary to provide the reliability and redundancy required of a sanitary sewer pump station per Loudoun Water and DEQ standards.

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.45**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	1,940	1,420									**3,360**
Land/Easements											
Equip/Other											
Subtotal	**1,940**	**1,420**									**3,360**
Outside Funding											
Net Cost	**1,940**	**1,420**									**3,360**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
40	**53**	**70**	**90**	**115**	**143**	**175**	**207**	**237**	**260**	**274**	**276**	**1,940**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Sewer Meter Vault Replacements
CIP Project #:	WST00038
Program:	WST Wastewater
Requesting Dept:	O-Remote Fac
Managing Dept.:	O-WST
Project Manager:	Mantha, Anurag
Sheet Completed by:	Mantha, Anurag

LOUDOUN WATER

Project Description

This project involves the structural assessment of Loudoun Water's sewer meter vaults, design for improvements or replacement, and construction.

Project Driver

Following Loudoun Water's risk assessment in 2018, nine sewer meter vaults are structurally deficient and in need of replacement. These are needed for increased safety for personnel accessing the vaults.

Additional Comments

High Priority Vaults that potentially need replacement are: Country Side 2C, S-17, PI Sewer / Horsepen, Potomac Lakes Northern Vault, S-61 Siphon. Medium Priority Vaults that potentially need replacement are: Country Side 1, Great Falls 1 & 2.
Project also includes lower-priority coating and metals replacement work at several vaults in 2023 and 2024.

Estimate Method: Feasibility or Study

Project Prioritization; Criteria - Rating (5 High, 1 Low)

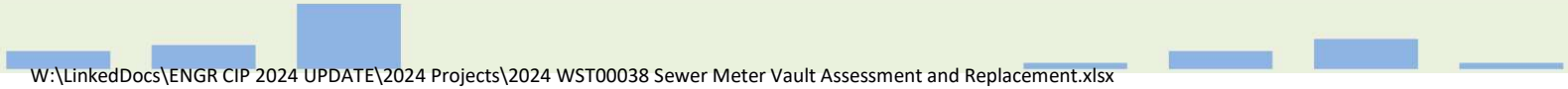
1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.5**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	180										**180**
Construction	100	990	980								**2,070**
Land/Easements											
Equip/Other											
Subtotal	**280**	**990**	**980**								**2,250**
Outside Funding											
Net Cost	**280**	**990**	**980**								**2,250**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
30	**40**	**110**					**10**	**30**	**50**	**10**		**280**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	UBRI Manhole Improvements	Requesting Dept:	MNT-LINE
CIP Project #:	WST00039	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	Hollida, Jaron
		Sheet Completed by:	Hollida, Jaron

LOUDOUN WATER

Project Description

This project includes the design and construction associated with improving the condition of the force main discharge vault and 24 downstream manholes on the 30"/36" Upper Broad Run Interceptor downstream of Elklick SPS. Sewer improvement work will mostly involve the replacement of manholes.

Project Driver

The liners, benches/channels, and access rim and lids of the vault and downstream manholes are deteriorating and are in need of improvement for proper operation and safety.

Additional Comments

A study to evaluate sewer condition and improvement options were completed as planning phase TO under this CIP project in 2022.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

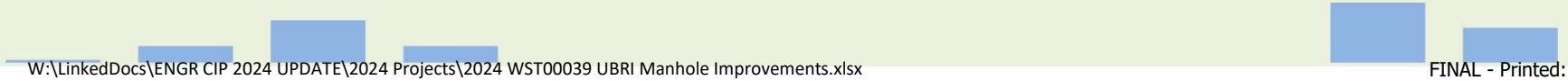
1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.45**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	90										**90**
Construction	110	4,150	390								**4,650**
Land/Easements											
Equip/Other											
Subtotal	**200**	**4,150**	**390**								**4,740**
Outside Funding											
Net Cost	**200**	**4,150**	**390**								**4,740**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
3	**19**	**49**	**19**							**70**	**40**	**200**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Waxpool SPS General Improvements	Requesting Dept:	O-Remote Fac
CIP Project #:	WST00040	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	TBD
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

This project includes the design and construction related to the installation of a new motor control center and pump control panel. Additionally, a manual transfer switch will be installed at the pump station for a portable generator connection.

Project Driver

Safety concerns related to high voltage and low voltage equipment being housed in the same pump control panel. Occupational health and safety and reliability of the pump station.

Additional Comments

0

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.3**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning				100							**100**
Design						120					**120**
Construction							900				**900**
Land/Easements											
Equip/Other											
Subtotal				**100**		**120**	**900**				**1,120**
Outside Funding											
Net Cost				**100**		**120**	**900**				**1,120**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Sanitary Sewer Rehab Program
CIP Project #:	WST00042
Program:	WST Wastewater

Requesting Dept:	O-PROGRAMS
Managing Dept.:	O-PROGRAMS
Project Manager:	Whitten, Kathleen
Sheet Completed by:	Whitten, Kathleen

LOUDOUN WATER

Project Description

Various deficiencies have been identified, documented, and are in need of repair. These include patches, slip lines, point repairs, manhole issues, and sewer lateral connection repairs. This project serves as a budgetary placeholder for sewer rehab projects per the long-term R&R planning initiative.

Project Driver

Over time sanitary sewers will deteriorate and may have severe infiltration due to tree roots and other penetrations. This will cause excessive flows during rain events that overloads the sanitary sewer system.

The project is intended to reduce leakage, corrosion and restore a portion of design life to the system.

Additional Comments

Related Projects:
WST00054 - Sewer Lining Phase 1 (2023 Project)
WST00064 - Sewer Lining Phase 2
WST00074 - Cabin Branch Lateral Lining Project
WSTXXXXX - Sewer Lining Phase 3
WSTXXXXX - Large Diameter Sewer Rehab

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.85**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design			30	30	30	30	30	30	30	30	**240**
Construction				1,000	1,000	1,000	1,000	1,000	1,000	1,000	**7,000**
Land/Easements											
Equip/Other											
Subtotal			**30**	**1,030**	**1,030**	**1,030**	**1,030**	**1,030**	**1,030**	**1,030**	**7,240**
Outside Funding											
Net Cost			**30**	**1,030**	**1,030**	**1,030**	**1,030**	**1,030**	**1,030**	**1,030**	**7,240**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	E Beech Rd 10in Sewer Replacement	Requesting Dept:	MNT-LINE
CIP Project #:	WST00046	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	Tenzin, Jigme
		Sheet Completed by:	Tenzin, Jigme

LOUDOUN WATER

Project Description

This project includes design and construction to relocate approximately 200 feet of 10" asbestos cement sewer line between manhole ID 1000043706 to manhole ID 1000043692, installing five new manholes, and concrete encasement beneath the stream channel.

Project Driver

The existing sewer line crosses a creek tributary to Muddy Branch at a sharp skew angle. The line is concrete encased at the crossing, but has become exposed past the encasement due to erosion and meandering of the creek. There are also large trees along the sides of the creek that are within Loudoun Water's easement and need to be removed.

Additional Comments

Tree roots are growing around the exposed sewer main and this section of pipe has three repair bands found during a recent CCTV inspection. Further, there was a pipe patch in August of 2015 due to a hole in the bottom of the exposed sewer line, which resulted in an SSO. The construction notice to proceed (NTP) was issued on May 1, 2023, with a substantial completion date of April 24, 2024.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.35**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	350										**350**
Land/Easements											
Equip/Other											
Subtotal	**350**										**350**
Outside Funding											
Net Cost	**350**										**350**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
44	**74**	**111**	**84**	**37**								**350**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Wastewater Facility Improvements
CIP Project #:	WST00050
Program:	WST Wastewater

Requesting Dept:	O-Remote Fac
Managing Dept.:	O-Remote Fac
Project Manager:	Lanham, Petie
Sheet Completed by:	Lanham, Petie

LOUDOUN WATER

Project Description

Project covers capital expenses for repairing or replacing equipment that reaches the end of service life. Project covers all central system wastewater conveyance facilities including pump stations, siphons, and sewer meter and valve vaults.

Project Driver

Ongoing O&M of facilities (asset management) to provide expected level of service to customers.

Additional Comments

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

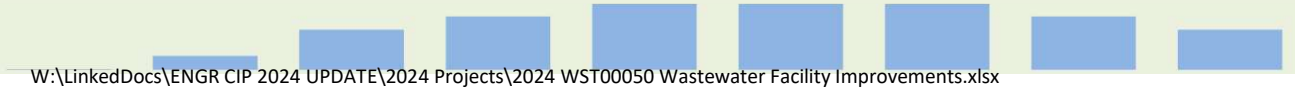
1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.5**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	210	220	220	230	240	240	250	260	270	270	**2,410**
Subtotal	**210**	**220**	**220**	**230**	**240**	**240**	**250**	**260**	**270**	**270**	**2,410**
Outside Funding											
Net Cost	**210**	**220**	**220**	**230**	**240**	**240**	**250**	**260**	**270**	**270**	**2,410**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
5	**10**	**20**	**25**	**30**	**30**	**30**	**25**	**20**	**5**	**5**	**5**	**210**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Grinder Pump Control Panel Replacement
CIP Project #:	WST00055
Program:	WST Wastewater
Requesting Dept:	O-PROGRAMS
Managing Dept.:	O-PROGRAMS
Project Manager:	Loveless, Brittany
Sheet Completed by:	Loveless, Brittany

LOUDOUN WATER

Project Description

Replace aging control pump panels throughout our grinder pump service areas.

Project Driver

The majority of control panels are twenty years or older. Replacing control panels will allow for the opportunity to remotely monitor pump performance. Replacing panels will improve performance, reduce control panel and pump failures, and reduce repair costs. Remote monitoring provides the opportunity to identify issues such as excessive runtimes, power source issues, failing parts, etc. which can lead to premature pump failure and higher treatment cost.

Additional Comments

Control panel replacement cost is approximately $1700 each which includes installation. We expect to replace about 45 a year for the next 5 years.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.05**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	80	80	80	80	80						**400**
Land/Easements											
Equip/Other											
Subtotal	**80**	**80**	**80**	**80**	**80**						**400**
Outside Funding											
Net Cost	**80**	**80**	**80**	**80**	**80**						**400**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		27			**27**			**26**				**80**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	JLMA East, S4-E (GCIP to Crosstrail Blvd) [R]	Requesting Dept:	CAP PROGRAMS
CIP Project #:	WST00057	Managing Dept.:	LAND DEV
Program:	WST Wastewater	Project Manager:	Osiecki, Matt
		Sheet Completed by:	Osiecki, Matt

LOUDOUN WATER

Project Description

Design and construction of 24" diameter to 16" diameter sanitary sewer upsizing and extension from the existing GCIP WWTP to the southern edge of Crosstrail Blvd. This upsizing and new sewer will serve the JLMA east area.

Project Driver

In 2019 the County named Loudoun Water the presumed water and sewer utility in the Leesburg JLMA. The GMO has committed Loudoun Water to initiate design and construction in coordination with development to extend service to these areas. This project is intended to provide major infrastructure in accordance with on-going planning studies to the JLMA East service area.

Additional Comments

Currently the planned Tuscarora Crossing Development is designing this project with their engineer. The spending listed in this sheet relate to the reimbursement of this project to the developer over a multi year time period. Final agreements may alter spending schedule.
Downstream projects to this project include COM.00015 and WST.00068 (JLMA East SPS).

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

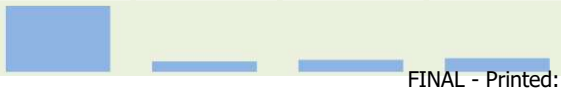
1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	2	(10%)
Total score	**4**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	1,200	4,270	6,530								**12,000**
Land/Easements											
Equip/Other											
Subtotal	**1,200**	**4,270**	**6,530**								**12,000**
Outside Funding	1,000	750									**1,750**
Net Cost	**200**	**3,520**	**6,530**								**10,250**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
								778	**122**	**140**	**160**	**1,200**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	JLMA West, S2 & S3A (Sycolin to RT 267)	Requesting Dept:	PLANNING
CIP Project #:	WST00058	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	Tenzin, Jigme
		Sheet Completed by:	Tenzin, Jigme

LOUDOUN WATER

Project Description

Design and construction of approximately 6,500 LF of 20" to 36" diameter gravity sewer in the area included in the West JLMA planning, generally located southwest of Bolen Park. This portion of the gravity sewer (also referenced as West Sewer S2 and S3A) will extend from the new JLMA West SPS, cross under Sycolin Creek and then cross the Dulles Greenway to extend service to the Transition Policy Area.

Project Driver

The County has named Loudoun Water the preferred water and sewer utility in the Leesburg JLMA and expanded our Central Service Area in 2019. The GMO committed LW to initiate design and construction in coordination with development to extend service to the western half of the new JLMA service area and provide sewer for the new TPA portion of the Central Service Area west of the Dulles Greenway.

Additional Comments

Connected on the north end to WST00070 (S1A-W) - JLMA West SPS.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	2	(10%)
Total score	**4**	(100%)

Estimate Method: Design Phase Estimate

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	20										**20**
Construction	1,070	5,140	6,390								**12,600**
Land/Easements											
Equip/Other											
Subtotal	**1,090**	**5,140**	**6,390**								**12,620**
Outside Funding											
Net Cost	**1,090**	**5,140**	**6,390**								**12,620**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	**4**	**11**	**4**				**530**	**104**	**122**	**144**	**170**	**1,090**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Wastewater Risk Assessment	Requesting Dept:	O-PROGRAMS
CIP Project #:	WST00059	Managing Dept.:	O-PROGRAMS
Program:	WST Wastewater	Project Manager:	TBD
		Sheet Completed by:	Whitten, Kathleen

LOUDOUN WATER

Project Description

Risk Assessment for the central wastewater system and reclaimed system, similar to the water risk and resiliency assessment that was completed in 2020. This will include scoring and analyzing likelihood and consequence of failure on critical wastewater assets and providing a risk score. Threats analyzed will include both natural hazards and malevolent acts. Ideas for mitigation of risk will also be included.

Project Driver

As part of the strategic plan, Loudoun Water committed to providing risk assessments on all critical infrastructure. Loudoun Water completed the central system water risk assessment in 2020 and developed a framework for future risk assessments to adhere to. This framework will be used to create the wastewater risk assessment.

Additional Comments

Water Central System Risk Assessment in will need to be revised in 2024 for re-certification in 2025. The goal is to revisit the wastewater assessment every five years to mirror the water risk assessment.

Related project: COM.00066

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.3**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning		40	60				30				**130**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal		**40**	**60**				**30**				**130**
Outside Funding											
Net Cost		**40**	**60**				**30**				**130**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Spare Parts WST	Requesting Dept:	O-WST
CIP Project #:	WST00062	Managing Dept.:	FIN
Program:	WST Wastewater	Project Manager:	Carnes, Brian
		Sheet Completed by:	Dehler, Sally

LOUDOUN WATER

Project Description

Place holder for SAP tracking of Spare Parts.

Project Driver

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	1	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.2**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	100	100	100	100	100	100	100	100	100	100	**1,000**
Subtotal	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1,000**
Outside Funding											
Net Cost	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		25			**25**			**25**			**25**	**100**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Central Sewer CIPP Lining - P2	Requesting Dept:	O-PROGRAMS
CIP Project #:	WST00064	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	_Capital Programs
		Sheet Completed by:	Poudel, Amulya

LOUDOUN WATER

Project Description

This project is for the gravity sewer lining of over 5,000 feet of 8" diameter sewer in the Hughes and Bridges Branch sewer sheds. All main lines will have T-liners installed for every lateral along the main.

Project Driver

This project is required to rehab multiple sewer main segments that have various NASSCO PACP defined pipe defects and issues with infiltration identified by the CCTV team and are beyond the capabilities of internal Loudoun Water equipment and resources to fix.

Additional Comments

The project is intended to reduce leakage, corrosion and restore a portion of design life to the system. Using relining techniques, the project is intended to reduce the costs of full replacement of pipe(s) within the main and the connection of laterals.

Pricing based on riding the Fairfax AMLiner contract.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.85**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	420	280									**700**
Land/Easements											
Equip/Other											
Subtotal	**420**	**280**									**700**
Outside Funding											
Net Cost	**420**	**280**									**700**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
					57	**29**	**41**	**56**	**70**	**81**	**86**	**420**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Digital Dulles Sewer Extension [R]	Requesting Dept:	LAND DEV
CIP Project #:	WST00066	Managing Dept.:	LAND DEV
Program:	WST Wastewater	Project Manager:	Tran, Huy
		Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

Extension of gravity sanitary sewer from Digital Dulles data center campus on the Dulles western lands through MWAA property. The trunk sewer will be 24-inch diameter and allow for the collection of flows from future MWAA development. The outfall is to Loudoun Water's Horsepen sanitary sewer.

Project Driver

This project will allow for gravity sewer and eliminate the need of another small potential additional pump station on the Digital Dulles Site. It will also provide Dulles airport with sanitary sewer access and the opportunity to decommission the existing Dulles West PS.

Additional Comments

Digital Dulles Project LD# 20200074; Current cost estimate from Patriot Construction is $13M. Includes areas of depths of up to 30 feet in all rock, plus multiple trenchless crossings of environmental sensitive areas and tunnelling under Horsepen.; Reimbursement will be paid out system wide connection ~ $4M/year [$9241 (2023) x2,000 connections/year x 0.85 x 0.25]

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.95**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other			4,000	4,000	4,000	1,000					**13,000**
Subtotal			**4,000**	**4,000**	**4,000**	**1,000**					**13,000**
Outside Funding											
Net Cost			**4,000**	**4,000**	**4,000**	**1,000**					**13,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	JLMA East Sewer PS and Forcemain (Phase 2)	Requesting Dept:	CAP PROGRAMS
CIP Project #:	WST00068	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	TBD
		Sheet Completed by:	Osiecki, Matt

LOUDOUN WATER

Project Description

Design and Construction of permanent 3.5 MGD JLMA East Sewer Pump Station on the existing GCIP WWTP site. It also includes the associated forcemain design towards the Russell Branch SPS.

Project Driver

Growth in the JLMA will drive size and timing of the permanent SPS. Current planning figures show the interim station becoming over capacity in between 2029 & 2030. Transitioning the pumping of interim SPS flow through the permanent forcemain may extend the life of the interim station by a few years. Design funds for the permanent forcemain are included in 2024 under this sheet.

Additional Comments

Related: WST00052 JLMA East Sewer Plan, ADM00076 JLMA Planning, COM00015 GCIP Connection to Central

Gravity outfall to which forcemain will tie in is to be built by developers

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.1**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	160	20		700	400						**1,280**
Construction			1,750			1,440	13,880	4,680			**21,750**
Land/Easements											
Equip/Other											
Subtotal	**160**	**20**	**1,750**	**700**	**400**	**1,440**	**13,880**	**4,680**			**23,030**
Outside Funding											
Net Cost	**160**	**20**	**1,750**	**700**	**400**	**1,440**	**13,880**	**4,680**			**23,030**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		10	**6**	**10**	**14**	**19**	**22**	**24**	**22**	**19**	**14**	**160**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	JLMA West, S3B-W (Shreve South) [R]	Requesting Dept:	PLANNING
CIP Project #:	WST00069	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	TBD
		Sheet Completed by:	Poudel, Amulya

LOUDOUN WATER

Project Description

Design and construction of approximately 1,200 LF of 24" diameter gravity sewer in the area included in the West JLMA planning, generally located southwest of Bolen Park. This portion of the gravity sewer (also known as West Sewer 3B) will likely cross under Sycolin Creek, extend south of Shreve Mill Road, and then cross the Dulles Greenway to extend service to the TPA portion of the LW Central Service Area.

Project Driver

The County has named Loudoun Water the presumed water and sewer utility in the Leesburg JLMA and expanded our Central Service Area in 2019. The GMO committed LW to initiate design and construction in coordination with development to extend service to the western half of the new JLMA service area and provide sewer for the new TPA portion of the Central Service Area west of the Greenway.

Additional Comments

Connected on the north end to WST00058 (S2 & S3A).

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	2	(10%)
Total score	**3.4**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design		120	310								**430**
Construction				850	3,450						**4,300**
Land/Easements											
Equip/Other											
Subtotal		**120**	**310**	**850**	**3,450**						**4,730**
Outside Funding											
Net Cost		**120**	**310**	**850**	**3,450**						**4,730**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	JLMA West SPS, S1A-W & S1B-W [R]	Requesting Dept:	CAP PROGRAMS
CIP Project #:	WST00070	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	Watkins, Doug
		Sheet Completed by:	Watkins, Doug

LOUDOUN WATER

Project Description

This project (S1A-W & S1B-W) will be developer led and includes the design and construction of the 1.5 MGD JLMA West SPS, associated force main (~4,900 LF), and gravity sewer (~1,800 LF). The pump station will be designed to be upgraded to an ultimate capacity near 4 MGD.

Project Driver

This project is required in order to meet the wastewater needs of several proposed data centers as well as future developments in the new service area and far western potion of the Central Service Area. In 2019 the County named Loudoun Water the presumed water and sewer utility in the Leesburg JLMA and expanded our Central Service Area.

Additional Comments

Project will be partially reimbursed based on agreement with developer.
Project is underway in 2022.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.9**	(100%)

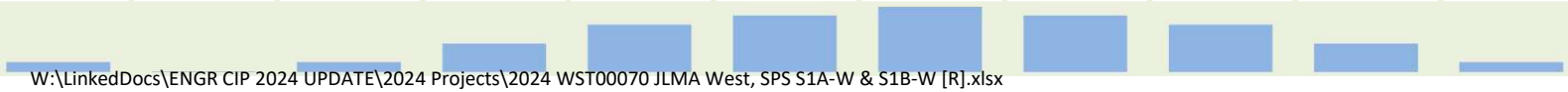
Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	50	10,000	4,400								**14,450**
Land/Easements											
Equip/Other			2,960	2,960	2,960	2,960	2,960				**14,800**
Subtotal	**50**	**10,000**	**7,360**	**2,960**	**2,960**	**2,960**	**2,960**				**29,250**
Outside Funding											
Net Cost	**50**	**10,000**	**7,360**	**2,960**	**2,960**	**2,960**	**2,960**				**29,250**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2	**1**	**2**	**4**	**6**	**7**	**8**	**7**	**6**	**4**	**2**	**1**	**50**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	JLMA West, S-4-W NLS SPS Upgrades	Requesting Dept:	PLANNING
CIP Project #:	WST00071	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	_Capital Programs
		Sheet Completed by:	Buswell, Scott

LOUDOUN WATER

Project Description

Design and Construction of upgrades necessary to serve the JLMA West and new TPA area at the North Lower Sycolin Sewer Pump Station. This upgrade will likely include emergency storage, larger pumps and possibly a new forcemain.

Project Driver

In 2019 the County named Loudoun Water the presumed water and sewer utility in the Leesburg JLMA and expanded our Central Service Area. The GMO has committed Loudoun Water to initiate design and construction in coordination with development to extend service to these areas. This project is intended to provide major infrastructure in accordance with on-going planning studies to the JLMA West and new TPA areas.

Additional Comments

This project includes S4-W.
Projects upstream of this project include WST.00058 and the JLMA West SPS.
Phase 1 would increase the pump station capacity to approximately 4 MGD.
Phase 2 would increase the pump station capacity to approximately 7 MGD.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.1**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	180										**180**
Design	70	80		240	160						**550**
Construction		500	500		2,340	660					**4,000**
Land/Easements											
Equip/Other											
Subtotal	**250**	**580**	**500**	**240**	**2,500**	**660**					**4,730**
Outside Funding											
Net Cost	**250**	**580**	**500**	**240**	**2,500**	**660**					**4,730**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
5	**7**	**15**	**27**	**38**	**38**	**27**	**15**	**38**	**30**	**10**		**250**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Sewer Replacement Shep/Blkwd/Caragana	Requesting Dept:	MNT-LINE
CIP Project #:	WST00072	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	_Capital Programs
		Sheet Completed by:	Buswell, Scott

LOUDOUN WATER

Project Description

Three sections of sewer pipe replacement.
Shepard/Davis: Replace ~ 300 ft of 8" AC pipe with PVC. Requires AC pipe removal.
Blackwood Ct: Remove and Replace 15-ft of 8-in PVC sanitary line.
Caragana Ct: Replace 330 LF of 8" AC sewer with PVC. Requires AC pipe removal and construction between four homes.

Project Driver

Inspections indicate multiple problems that may lead to pipe failure.
Shepard/Davis and Blackwood: This is sewer back up prevention due to existing bulge in pipe. If the object breaks through the pipe there is a great chance of a blockage/Back-up/SSO to happen.
The low spots on Caragana collect debris that may create a backup/SSO.

Additional Comments

Shepard/Davis line is close to 24" water transmission main and 8" distribution main. Consult with contractor whether it makes sense to replace pipe section into the invert of the manhole.

Projects will require traffic control, bypass pumping.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.25**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	10										**10**
Construction	210	140									**350**
Land/Easements											
Equip/Other											
Subtotal	**220**	**140**									**360**
Outside Funding											
Net Cost	**220**	**140**									**360**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	1	**2**	**3**	**2**	**13**	**9**	**16**	**26**	**39**	**52**	**57**	**220**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Wastewater Infrastructure Improvements
CIP Project #:	WST00073
Program:	WST Wastewater

Requesting Dept:	MNT-LINE
Managing Dept.:	MNT-LINE
Project Manager:	Bussard, Bubba
Sheet Completed by:	Bussard, Bubba

LOUDOUN WATER

Project Description

Project covers capital expenses for repairing or replacing buried infrastructure that reaches the end of service life. Project covers all central system wastewater conveyance facilities including manholes, forcemains, and gravity sewers.

Project Driver

Ongoing O&M of facilities (asset management) to provide expected level of service to customers.

Additional Comments

Project is a budget placeholder for future annual projects.

Estimating one manhole per year for replacement. The last manhole replacement 12/2021 cost $138,755.00

Estimate Method: N/A

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.15**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction						140	140	140	140	140	**700**
Land/Easements											
Equip/Other											
Subtotal						**140**	**140**	**140**	**140**	**140**	**700**
Outside Funding											
Net Cost						**140**	**140**	**140**	**140**	**140**	**700**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Cabin Branch Lateral Lining Project	Requesting Dept:	MNT-LINE
CIP Project #:	WST00074	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	Hollida, Jaron
		Sheet Completed by:	Hollida, Jaron

LOUDOUN WATER

Project Description

Install a T-Liner in every lateral in the initial phase 1 lining area of the Cabin Branch sewer shed. There are approximately 500 laterals in this area of Sterling Park.

Project Driver

Consistent breaks and after hours calls on laterals in this area have caused concern as well as continued I&I during rainfall events. The lateral lining standards developed under the Sanitary Rehab Program will inform how far up the lateral we will line.

Additional Comments

The phase 2 lining section of Cabin Branch laterals should also occur in the future and is included in the lining program, WST.00042.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.25**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	50										**50**
Construction	270	1,760									**2,030**
Land/Easements											
Equip/Other											
Subtotal	**320**	**1,760**									**2,080**
Outside Funding											
Net Cost	**320**	**1,760**									**2,080**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		2	**4**	**11**	**17**	**11**	**5**				**270**	**320**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Connect Dulles Trade SPS to Gravity Sewer	Requesting Dept:	O-Remote Fac
CIP Project #:	WST00075	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	_Capital Programs
		Sheet Completed by:	Whitten, Kathleen

LOUDOUN WATER

Project Description

Planning, Design, and Construction of a 2,000 foot gravity sewer outfall to connect the existing Dulles Trade Center West sewer pump station flows to the proposed Digital Dulles gravity sewer outfall.

Project Driver

The Dulles Trade Center West sewer pump station is one of the smallest in the central system and is not positioned in the lowest point of the sewer shed. Removing the pump station entirely by constructing this gravity sewer outfall will save maintenance and operational expense.

Additional Comments

Digital Dulles in the Western Lands of the airport has submitted a sewer outfall plan (LW project ID 20220077) that will drain to the Horsepen Run sewer. This new gravity sewer will be able to provide a point low enough to tie in the Dulles Trade Center West sewer pump station flows. The gravity sewer outfall plan was approved in September of 2023, construction is expected to take place in 2024.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.85**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning			30								**30**
Design				150							**150**
Construction					2,000						**2,000**
Land/Easements											
Equip/Other											
Subtotal			**30**	**150**	**2,000**						**2,180**
Outside Funding											
Net Cost			**30**	**150**	**2,000**						**2,180**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Force Main Condition Assess & Inspect
CIP Project #:	WST00076
Program:	WST Wastewater
Requesting Dept:	O-PROGRAMS
Managing Dept.:	O-PROGRAMS
Project Manager:	Loveless, Brittany
Sheet Completed by:	Loveless, Brittany

LOUDOUN WATER

Project Description

This project is to further explore and inspect the physical condition of sewer force mains and potential technologies and services needed to do so.

Project Driver

The Force Main Desktop Assessment developed by AM in 2023 will serve as a tool for prioritizing the physical inspections of force mains. Further inspections will provide guidance for planning rehabilitation and replacement projects for force mains.

Additional Comments

The expected technical memorandum from Dewberry, as part of the desktop assessment peer review project, will provide next steps and methods for physical inspections, as well as current technologies Loudoun Water may choose to utilize to complete these inspections. Inspection costs of $50k per year is an estimate.

Estimate Method: Other

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.55**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	50	50	50	50	50	50	50	50	50	50	**500**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**500**
Outside Funding											
Net Cost	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		2	**24**	**24**								**50**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Horsepen Run AFP	Requesting Dept:	PLANNING
CIP Project #:	WST00077	Managing Dept.:	PLANNING
Program:	WST Wastewater	Project Manager:	_Planning
		Sheet Completed by:	Beatty, Andrew

LOUDOUN WATER

Project Description

Study to ascertain potential flows and demands and determine infrastructure requirements to serve the Horsepen Run Sewershed. Study will review previous infrastructure planning and provide recommendations based on new development potential due to extension of the Silver Line Metro.

Project Driver

New development potential requires review of existing planning in alignment Master Planning and level-of-service requirements.

Additional Comments

Study will address both water and wastewater needs. This is considered planned spending; funding for Area Facility Plans is carried in WST00001 and WTR00001 to address periodic needs to review the Loudoun Water system.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.2**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	80										**80**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**80**										**80**
Outside Funding											
Net Cost	**80**										**80**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
7	**6**	**10**	**14**	**15**	**14**	**10**	**4**					**80**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Red Cedar 2 SPS Capacity Review	Requesting Dept:	O-Remote Fac
CIP Project #:	WST00078	Managing Dept.:	O-Remote Fac
Program:	WST Wastewater	Project Manager:	Downes, Kinsey
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

Project will review sewer shed development and flows to define upgrades required to account for new development with a focus on resiliency planning related to emergency storage.

Project Driver

New emergency storage infrastructure will provide adequate emergency response time for staff to implement and deploy proper corrective actions prior to a potential Sanitary Sewer Overflow (SSO).

Additional Comments

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.05**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	100										**100**
Design						350					**350**
Construction							1,500				**1,500**
Land/Easements											
Equip/Other											
Subtotal	**100**					**350**	**1,500**				**1,950**
Outside Funding											
Net Cost	**100**					**350**	**1,500**				**1,950**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		3	**3**	**7**	**12**	**17**	**20**	**17**	**12**	**7**	**2**	**100**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Red Hill Road AFP	Requesting Dept:	PLANNING
CIP Project #:	WST00079	Managing Dept.:	PLANNING
Program:	WST Wastewater	Project Manager:	_Planning
		Sheet Completed by:	Beatty, Andrew

LOUDOUN WATER

Project Description

Study to ascertain potential flows and demands and determine infrastructure requirements to serve the Red Hill Road Community. Loudoun County Board of Supervisors approved moving this area from the Rural Policy Area (RPA) to the Transition Policy Area (TPA) in 2023.

Project Driver

This is a new area, not previously included in Loudoun Water Service Area. This project is required to review water and wastewater service.

Additional Comments

Project NTP in Sept 2023. Expected to finish in early 2024.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.2**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	30										**30**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**30**										**30**
Outside Funding											
Net Cost	**30**										**30**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
11	**9**	**6**	**4**									**30**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Western CSA AFP
CIP Project #:	WST00080
Program:	WST Wastewater
Requesting Dept:	PLANNING
Managing Dept.:	PLANNING
Project Manager:	_Planning
Sheet Completed by:	Geldert, Darrin

LOUDOUN WATER

Project Description

This project will study and develop Area Facility Plan (AFP) for service to the areas in the western edge of the Central Service Area (CSA). This includes the area around and west of Trap Rock WTP including the new TPA, Potomac Energy, industrial data center development and Leesburg JLMA areas that were added as part the 2019 Loudoun County General Plan.

Project Driver

Continued rezoning and potential development of these areas requires updated Area Facility Plan (AFP).

Additional Comments

Will build on work completed in 2023 and is likely to continue. Study will address both water and wastewater needs. This is considered planned spending; funding for Area Facility Plans is carried in WST00001 and WTR00001 to address periodic needs to review the Loudoun Water system.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.2**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	80		80		100						**260**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**80**		**80**		**100**						**260**
Outside Funding											
Net Cost	**80**		**80**		**100**						**260**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
					7	**9**	**17**	**21**	**17**	**9**		**80**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	WW Collection Sys Master Plan	Requesting Dept:	PLANNING
CIP Project #:	WST00081	Managing Dept.:	PLANNING
Program:	WST Wastewater	Project Manager:	_Planning
		Sheet Completed by:	Beatty, Andrew

LOUDOUN WATER

Project Description

This project will be completed in two primary phases. Phase one will update the model to include additional critical infrastructure, develop growth projections and recommend flow monitoring. Phase two will prepare comprehensive Master Plan incorporating flow data into the model, developing phased CIP and presenting in a digital format for use across LW departments. Sub-tasks to develop Technical Memoranda will support permitting and regional coordination.

Project Driver

2016 Master Plan requires update and revision to reflect new growth, expanded service area, incorporation of additional infrastructure, and updated flow information. The Master Plan is a tool required by Loudoun Water and industry best practice to update on a five to ten year cycle.

Additional Comments

Scoping underway, this is planned to start in 2023.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.9**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	290	210									**500**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**290**	**210**									**500**
Outside Funding											
Net Cost	**290**	**210**									**500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
28	**9**	**11**	**14**	**17**	**21**	**24**	**28**	**32**	**34**	**36**	**36**	**290**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Courtland WWPS Generator Replacement	Requesting Dept:	O-Remote Fac
CIP Project #:	WST00082	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	TBD
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

Courtland WWPS Emergency Electrical Generator is nearing the end of its useful life.

Project Driver

Facility operation during an electrical power outage.

Additional Comments

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.35**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design					80						**80**
Construction						250					**250**
Land/Easements											
Equip/Other											
Subtotal					**80**	**250**					**330**
Outside Funding											
Net Cost					**80**	**250**					**330**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Grinder Chamber Replacement Program	Requesting Dept:	O-PROGRAMS
CIP Project #:	WST00083	Managing Dept.:	MNT-LINE
Program:	WST Wastewater	Project Manager:	Loveless, Brittany
		Sheet Completed by:	Loveless, Brittany

LOUDOUN WATER

Project Description

This program is to replace grinder pump chambers. The chambers to be replaced will be identified through the newly developed Grinder Chamber Inspection Program, which will aim to identify high risk chambers or those damaged beyond repair.

Project Driver

Asset Management along with Line Maintenance will begin a grinder pump chamber inspection program in the Fall of 2023. With potential chamber issues, including housing corrosion and infiltration in ground, we are expecting to increase our frequency of replacements. Replacing broken or damaged chambers will reduce potential for sewer overflow as well reducing maintenance costs with our service contractor.

Additional Comments

Asset Management will work in coordination with Line Maintenance to determine which chambers will be replaced.
We are estimating 5 per year @ $30K each (costs include new chamber, excavation, installation, labor)

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.65**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	150	150	150	150	150	150	150	150	150	150	**1,500**
Land/Easements											
Equip/Other											
Subtotal	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**1,500**
Outside Funding											
Net Cost	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**1,500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
				5	**12**	**34**	**52**	**34**	**13**			**150**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Large Diameter Sewer Rehabilitation	Requesting Dept:	O-PROGRAMS
CIP Project #:	WST00084	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	_Capital Programs
		Sheet Completed by:	Whitten, Kathleen

LOUDOUN WATER

Project Description

Rehabilitation of 15" to 42" diameter gravity sewer mains within the central system. The sewer will either be lined, or replaced to fix the defects noted in the most recent CCTV. We will rehabilitate between 2,400 and 4,000 feet of mains.

Project Driver

In fixing the defects that are currently recorded in the system, we hope to reduce the amount of I&I that flows to either BRWRF or Blue Plains. The greater reduction in I&I flows in the sanitary sewer the lower the cost to treat will become.

Additional Comments

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.25**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design		100									**100**
Construction			600	400							**1,000**
Land/Easements											
Equip/Other											
Subtotal		**100**	**600**	**400**							**1,100**
Outside Funding											
Net Cost		**100**	**600**	**400**							**1,100**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Lateral Grouting - Annual Program
CIP Project #:	WST00085
Program:	WST Wastewater

Requesting Dept:	O-PROGRAMS
Managing Dept.:	O-PROGRAMS
Project Manager:	Whitten, Kathleen
Sheet Completed by:	Whitten, Kathleen

LOUDOUN WATER

Project Description

Contract to grout laterals with defects.

Project Driver

In fixing the defects that are currently recorded in the system, we hope to reduce the amount of I&I that flows to either BRWRF or Blue Plains. The greater reduction in I&I flows in the sanitary sewer the lower the cost to treat will become.

Additional Comments

Asset Management team will solicit and manage a contract to focus on grouting laterals that exhibit significant defects.

This will extend the life of the laterals and reduce O&M costs in anticipation for full rehab/slip lining.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.35**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	50	50	50	50	50	50	50	50	50	50	**500**
Land/Easements											
Equip/Other											
Subtotal	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**500**
Outside Funding											
Net Cost	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2	**1**	**2**	**4**	**6**	**7**	**8**	**7**	**6**	**4**	**2**	**1**	**50**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Sanitary Sewer Lining Phase 3	Requesting Dept:	O-PROGRAMS
CIP Project #:	WST00086	Managing Dept.:	CAP PROGRAMS
Program:	WST Wastewater	Project Manager:	_Capital Programs
		Sheet Completed by:	Whitten, Kathleen

LOUDOUN WATER

Project Description

This project includes the lining of 8" diameter sewer mains and accompanying laterals within the Countryside 2 and Triple Seven Sewer sheds. We anticipate lining about 4,800 feet of gravity sewer main.

Project Driver

In fixing the defects that are currently recorded in the system, we hope to reduce the amount of I&I that flows to either BRWRF or Blue Plains. The greater reduction in I&I flows in the sanitary sewer the lower the cost to treat will become.

Additional Comments

Moved some of the Countryside 2 lines out of the Phase 2 project WST.00064.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.85**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction		710	40								**750**
Land/Easements											
Equip/Other											
Subtotal		**710**	**40**								**750**
Outside Funding											
Net Cost		**710**	**40**								**750**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

WATER

(WAT)

2024 - 2033 CIP Section Index

Project Number	Project Name	Managing Division	2024 Budget	2024-2033 Total
WTR00001	Water System Planning Studies	PLANNING	$0	$1,100,000
WTR00005	Rt 7-Rt 28 24in Main	CAP PROGRAMS	$0	$850,000
WTR00011	Rt7 36in Main	PLANNING	$0	$7,900,000
WTR00020	Rt 50 - 30in Parallel Main	CAP PROGRAMS	$0	$10,160,000
WTR00025	Dulles North Permanent Pump Station	CAP PROGRAMS	$0	$19,660,000
WTR00046	Goose Creek Reservoir Dredging	WTR RES	$100,000	$11,470,000
WTR00056	Transmission - Hydraulic Surge Analysis	PLANNING	$0	$150,000
WTR00062	Former COF Properties VRP Enrollment	WTR RES	$50,000	$50,000
WTR00075	Brambleton Fire Pumps	O-Remote Fac	$0	$690,000
WTR00078	Distribution Sys Improvement Analysis	PLANNING	$150,000	$1,250,000
WTR00082	Dulles North IWBPS Improvements	PLANNING	$0	$3,400,000
WTR00086	Rt 659-Belmont 36in Main Upsize	CAP PROGRAMS	$260,000	$8,610,000
WTR00087	Rt 50-Fleetwood 24in Main	CAP PROGRAMS	$0	$300,000
WTR00091	Water Distribution Looping-Gap Closures	PLANNING	$0	$400,000
WTR00100	Beaverdam Reservoir Park Phase 1	CAP PROGRAMS	$2,820,000	$2,820,000
WTR00104	Rt 50-Hiddenwood Lane 24in Main [R]	LAND DEV	$0	$2,000,000
WTR00106	Linear Pipe Replacement Program	O-PROGRAMS	$0	$69,300,000
WTR00107	W Beech-Concord-Colonial Pipe Rplcmnt	CAP PROGRAMS	$160,000	$2,680,000
WTR00108	Hall Road 16in Gap Closure	CAP PROGRAMS	$0	$400,000
WTR00112	Landfill Booster Station Improvements	CAP PROGRAMS	$0	$570,000
WTR00119	Pipeline Corrosion Control Program	O-PROGRAMS	$200,000	$800,000
WTR00120	Viasystems Meter Vault Replacement	CAP PROGRAMS	$150,000	$150,000
WTR00123	Large Dia. Water Meter Assessment and Rehab	GEN SERV	$270,000	$900,000

2024 - 2033 CIP Section Index

Project Number	Project Name	Managing Division	2024 Budget	2024-2033 Total
WTR00124	Sterling Standpipe Improvements	O-Remote Fac	$150,000	$1,040,000
WTR00126	Acoustic Listening Devices	O-PROGRAMS	$100,000	$1,000,000
WTR00127	Goose Creek Dam Improvements	O-WTR	$40,000	$490,000
WTR00128	Reservoir Sampling Study	WTR RES	$50,000	$50,000
WTR00130	Water Facility General Improvements	O-Remote Fac	$100,000	$1,150,000
WTR00131	Water Supply Model	WTR RES	$70,000	$190,000
WTR00135	AMI Lid Replacement Project	GEN SERV	$360,000	$360,000
WTR00138	Broad Run Farms Waterline Ext. (County)	CAP PROGRAMS	$860,000	$9,400,000
WTR00139	East Maple Ave Watermain	CAP PROGRAMS	$450,000	$450,000
WTR00143	Waterside - Old Ox Rd 16" Watermain	LAND DEV	$0	$500,000
WTR00145	30" Water Ruritan Rd to Rt 28 Crossing	CAP PROGRAMS	$150,000	$2,150,000
WTR00146	Pacific Blvd Connection & Control Valve	CAP PROGRAMS	$500,000	$500,000
WTR00149	Water Resources Planning Studies	WTR RES	$180,000	$660,000
WTR00150	Route 50 600 Zone Connection	CAP PROGRAMS	$2,720,000	$3,000,000
WTR00151	Dulles South WBS Upgrade	CAP PROGRAMS	$480,000	$2,000,000
WTR00152	Brambleton 600 WBS Upgrade	CAP PROGRAMS	$330,000	$3,350,000
WTR00153	MV VFD Vibration Mon Upgrade	O-WTR	$300,000	$300,000
WTR00154	JLMA/TPA - Water (Phase 2)	CAP PROGRAMS	$0	$4,000,000
WTR00155	JLMA East, W1, W2 & W3-E [R]	CAP PROGRAMS	$950,000	$20,400,000
WTR00157	Meter Crock Rehabilitation	GEN SERV	$450,000	$2,460,000
WTR00158	Mt. Sterling WBPS [R]	LAND DEV	$300,000	$3,800,000
WTR00160	Beaumeade PRV Vault Rehabilitation	O-Remote Fac	$0	$200,000
WTR00161	Pacific Broad Run 16-inch watermain	CAP PROGRAMS	$0	$850,000
WTR00162	LCParkway-Lockridge 16-inch water [R]	LAND DEV	$0	$1,200,000
WTR00163	Spare Parts WTR	FIN	$100,000	$1,000,000
WTR00164	JLMA West, W2A & W7 (Sycolin to RT 267)	CAP PROGRAMS	$750,000	$8,620,000

2024 - 2033 CIP Section Index

Project Number	Project Name	Managing Division	2024 Budget	2024-2033 Total
WTR00165	JLMA West, W2B-W Shreve South [R]	CAP PROGRAMS	$0	$3,740,000
WTR00166	Broadlands Tank 1 Rehabilitation	O-WST	$920,000	$920,000
WTR00169	Dulles West Blvd 16-inch Watermain [R]	LAND DEV	$0	$3,000,000
WTR00172	JLMA West, W1A-W [R]	CAP PROGRAMS	$500,000	$1,200,000
WTR00174	Willard Road 30-in Watermain Extension [R]	LAND DEV	$0	$1,500,000
WTR00175	Reservoir Water Quality Model	WTR RES	$0	$210,000
WTR00176	Water Infrastructure Improvements	MNT-LINE	$0	$600,000
WTR00177	Beaverdam Dam Repairs	O-WTR	$0	$450,000
WTR00178	Woodstone 1 & 2 Improvements	CAP PROGRAMS	$0	$1,100,000
WTR00179	Brambleton Tank 1 Rehabilitation	O-WST	$70,000	$1,370,000
WTR00180	Oakdale, Lindenwood & W Ash Pipe Replacement	CAP PROGRAMS	$120,000	$2,670,000
WTR00181	Central System Valve Replacements 01	CAP PROGRAMS	$80,000	$1,080,000
WTR00182	Valve Replacement Program (Annual)	CAP PROGRAMS	$0	$3,200,000
WTR00184	Water Storage Tank Process Upgrades	O-Remote Fac	$0	$650,000
WTR00185	16" WM Innovation Ave to Old Ox	CAP PROGRAMS	$0	$2,890,000
WTR00186	LCRR Compliance Projects	O-PROGRAMS	$250,000	$250,000
WTR00187	Central Water Risk Assessment	O-PROGRAMS	$20,000	$60,000
WTR00188	Dulles South Storage Tanks Modifications	O-WST	$0	$1,520,000
WTR00189	Sterling Park Water Main Replacement	CAP PROGRAMS	$50,000	$10,500,000
WTR00190	Water System Master Plan	PLANNING	$60,000	$500,000
WTR	**Sub-Total**		**$15,620,000**	**$252,140,000**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Water System Planning Studies	Requesting Dept:	PLANNING
CIP Project #:	WTR00001	Managing Dept.:	PLANNING
Program:	WTR Water	Project Manager:	Geldert, Darrin
		Sheet Completed by:	Geldert, Darrin

LOUDOUN WATER

Project Description

This project includes system-wide water planning studies for the central system, such as: 1) Major overall updates to the water distribution system master plan every 5 years; 2) Minor annual updates to the water master plan; 3) Area facility plans (AFP) as needs arise; 4) Minor water system studies.

Project Driver

Loudoun Water's service area continues to experience high paced residential and commercial growth increasing the water demands in the system. Continued need for expansion of the central water system in response to projected residential and commercial growth (development) in the central service area.

Additional Comments

AFP and Master Planning scheduled in separate CIP projects for 2024, 2025, 2026.

Major Master Planning in 2031, 2032.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.7**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning				100	100	100	100	300	300	100	**1,100**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal				**100**	**100**	**100**	**100**	**300**	**300**	**100**	**1,100**
Outside Funding											
Net Cost				**100**	**100**	**100**	**100**	**300**	**300**	**100**	**1,100**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Rt 7-Rt 28 24in Main	Requesting Dept:	PLANNING
CIP Project #:	WTR00005	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	_Capital Programs
		Sheet Completed by:	Geldert, Darrin

LOUDOUN WATER

Project Description

This project includes the design and construction of 800 lf. of 24" dia. watermain crossing Route 7, just east of the Route 28 intersection. Currently a 12" dia. watermain crossing exists at this location and will be replaced or parallel installation will be proposed.

Project Driver

Currently a 12" dia. watermain crossing exists at this location and additional capacity is required to increase system reliability. Identified in 2012 Master Plan as an area of increased headloss, but removed from 2018 MP. The potential connection between the High Pressure 510 Transmission Main and the 538 W&OD main at Paragon Park make this a redundancy project.

Additional Comments

Limited new development potential in this area; likely a capital project.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.1**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design						150					**150**
Construction							700				**700**
Land/Easements											
Equip/Other											
Subtotal						**150**	**700**				**850**
Outside Funding											
Net Cost						**150**	**700**				**850**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Rt7 36in Main	Requesting Dept:	PLANNING
CIP Project #:	WTR00011	Managing Dept.:	PLANNING
Program:	WTR Water	Project Manager:	_Planning
		Sheet Completed by:	Geldert, Darrin

LOUDOUN WATER

Project Description

This project includes design and construction of approximately 3 miles of 36-inch water transmission main along Route 7. The project extends from Route 659 to Lexington Drive, and includes significant road crossings that will require trenchless construction.

Project Driver

This project was envisioned in the 2012 Master Plan and would help hydraulically balance operations within the Central Water Service Area and meet emergency demands in the eastern portion of the Service Area should service from Fairfax be disrupted.

Additional Comments

Project needs to be reviewed in next round of master planning, to confirm need in correlation with 24-inch W&OD transmission main. Project funding is reduced to fund approx. 1 mile, pending the study planned in association with future 2024/5 Water Master Plan.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design							760	240			**1,000**
Construction								3,600	3,300		**6,900**
Land/Easements											
Equip/Other											
Subtotal							**760**	**3,840**	**3,300**		**7,900**
Outside Funding											
Net Cost							**760**	**3,840**	**3,300**		**7,900**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Rt 50 - 30in Parallel Main	Requesting Dept:	O-WTR
CIP Project #:	WTR00020	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	_Capital Programs
		Sheet Completed by:	Geldert, Darrin

LOUDOUN WATER

Project Description

This project includes the construction of approximately 12,500 lf of 30" dia. water main along Willard Rd. and then along Dulles Airport perimeter road to Loudoun County Parkway (Rte. 606). Project is needed to increase transmission main capacity from Route 50 WBPS to the southwestern part of the central system.

Project Driver

Need for expansion of the central water system in response to projected demand increases due to growth (development) in the central service area. Project identified in interim water supply strategy and water system master planning.

Additional Comments

Design completed, easements acquired; project need delayed in correspondence with revised growth projections.
Development along Willard Road (WTR00174) will provide opportunity to construct the easterly N-S section; assumed as oversizing reimbursement.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.35**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning			50								**50**
Design				100							**100**
Construction					2,210	5,530	2,270				**10,010**
Land/Easements											
Equip/Other											
Subtotal			**50**	**100**	**2,210**	**5,530**	**2,270**				**10,160**
Outside Funding											
Net Cost			**50**	**100**	**2,210**	**5,530**	**2,270**				**10,160**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Dulles North Permanent Pump Station	Requesting Dept:	PLANNING
CIP Project #:	WTR00025	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	TBD
		Sheet Completed by:	Geldert, Darrin

LOUDOUN WATER

Project Description

This project includes design and construction of the permanent Dulles North Water Booster Pump Station. The permanent pump station will replace the current interim booster pump station. The pump station will be sized for 30 MGD and will be one of the three water supply points into the central water system.

Project Driver

Loudoun Water currently has an interim booster pump station serving the Dulles North supply connection. A permanent booster station will provide necessary HGL for proper operation of water system once the interim facility needs replaced.

Additional Comments

Coordination with Fairfax Water regarding available supply HGL range is required. Land easement - purchase should be considered as area develops. To be reviewed in next round of MP.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.35**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning						100					**100**
Design							760	240			**1,000**
Construction									5,300	13,260	**18,560**
Land/Easements											
Equip/Other											
Subtotal						**100**	**760**	**240**	**5,300**	**13,260**	**19,660**
Outside Funding											
Net Cost						**100**	**760**	**240**	**5,300**	**13,260**	**19,660**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Goose Creek Reservoir Dredging	Requesting Dept:	WTR RES
CIP Project #:	WTR00046	Managing Dept.:	WTR RES
Program:	WTR Water	Project Manager:	Schmitz, Bradley
		Sheet Completed by:	Schmitz, Bradley

LOUDOUN WATER

Project Description

The project involves the dredging of sediment from the Goose Creek Reservoir to maintain and protect the existing dam and intake. The initial planning work will be to develop sampling and permitting plan.

Project Driver

The Goose Creek Reservoir was initially designed with a storage capacity of 325 million gallons (MG); however, the most recent bathymetric survey (2018) indicated that the storage capacity has been reduced to approximately 125 MG due to sedimentation (a loss of approximately 60% of reservoir storage capacity).This source is most useful during emergencies. With the noted drought susceptibility of this supply source, removal of sediment is an important consideration to ensure the reliability and usability of this supply.

Additional Comments

Timeline
2019/2020 - Goose Creek Sedimentation Study
2021 - Preliminary Dredging Plan
2024 - sediment sampling, disposal options, permitting
2025 - Feasibility and design for dredging in Goose Creek

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

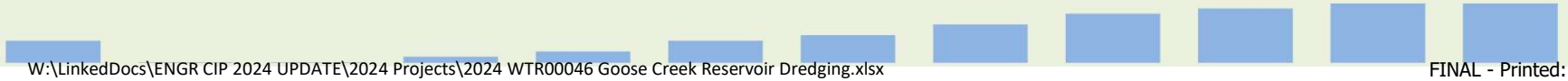
1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.6**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	100	70									**170**
Design			250	250							**500**
Construction											
Land/Easements						3,200	4,400	3,200			**10,800**
Equip/Other											
Subtotal	**100**	**70**	**250**	**250**		**3,200**	**4,400**	**3,200**			**11,470**
Outside Funding											
Net Cost	**100**	**70**	**250**	**250**		**3,200**	**4,400**	**3,200**			**11,470**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
7	**3**	**3**	**4**	**5**	**7**	**8**	**10**	**12**	**13**	**14**	**14**	**100**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Transmission - Hydraulic Surge Analysis	Requesting Dept:	PLANNING
CIP Project #:	WTR00056	Managing Dept.:	PLANNING
Program:	WTR Water	Project Manager:	Geldert, Darrin
		Sheet Completed by:	Geldert, Darrin

LOUDOUN WATER

Project Description

This project includes the study of future hydraulic operating conditions of the Trap Rock WTP, Route 50 WBPS and with respect to pressure surges and study the likelihood, magnitude and impacts of pressure transients on the transmission mains.

Project Driver

Changing the hydraulic operating conditions on the central water system due to future growth demands may negatively impact the pipe system in the event of a hydraulic surge (pressure transient) caused by a power failure.

Additional Comments

Planned upon completion of Water Master Plan (2025/6).

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.35**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning				150							**150**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal				**150**							**150**
Outside Funding											
Net Cost				**150**							**150**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Former COF Properties VRP Enrollment	Requesting Dept:	WTR RES
CIP Project #:	WTR00062	Managing Dept.:	WTR RES
Program:	WTR Water	Project Manager:	Schmitz, Bradley
		Sheet Completed by:	Schmitz, Bradley

LOUDOUN WATER

Project Description

Loudoun Water applied to, and was accepted by, the DEQ Voluntary Remediation Program in 2014 to mitigate existing environmental issues at the Beaverdam Reservoir C&D Landfill site and the Goose Creek Dredge Spoils site. The process requires coordination with DEQ and a "roadmap" for any necessary remedial actions.

Project Driver

Enrollment in the VRP allows Loudoun Water to work with DEQ to appropriately remediate the sites and make them appropriate for a range of future uses.

Additional Comments

Dredge Spoils Site Characterization Report and Risk Assessments were submitted to DEQ in September 2022. Feedback was received and final reports were resubmitted and accepted. Next steps are to determine how to finalize final recommended actions from DEQ.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.45**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	50										**50**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**50**										**50**
Outside Funding											
Net Cost	**50**										**50**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2	**1**	**2**	**4**	**6**	**7**	**8**	**7**	**6**	**4**	**2**	**1**	**50**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Brambleton Fire Pumps
CIP Project #:	WTR00075
Program:	WTR Water

Requesting Dept:	O-Remote Fac
Managing Dept.:	O-Remote Fac
Project Manager:	TBD
Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

Temporary pumps were installed and put into operation in July 2016 at the Brambleton Tanks site. Now that the 600 Zone Tank is online, these pumps are less critical however, until the 600 Zone supply from Brambleton and Dulles South is studied to address 600 Zone tank maintenance with the tank offline (diminished fire flow), these pumps should remain in place and available for use.

Project Driver

Fire flow capacity when the Tank is out of service.

Additional Comments

When the pumps are no longer required to provide fire flow for the 600 Zone. Remaining tasks for this project consist disassembly of the existing pump/pipe configuration, identifying the best use of the procured pumps, and relocation/retrofitting the procured pumps.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	1	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.8**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design						90					**90**
Construction							600				**600**
Land/Easements											
Equip/Other											
Subtotal						**90**	**600**				**690**
Outside Funding											
Net Cost						**90**	**600**				**690**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Distribution Sys Improvement Analysis	Requesting Dept:	O-WTR
CIP Project #:	WTR00078	Managing Dept.:	PLANNING
Program:	WTR Water	Project Manager:	Geldert, Darrin
		Sheet Completed by:	Geldert, Darrin

LOUDOUN WATER

Project Description

The distribution model will analyze, optimize, audit and review water system operations, improvements, outages, and associated efforts to efficiently deliver high quality water. Scope includes semi-annual model updates incorporating new infrastructure and detailed operational settings (pumping, sources, PRV settings, water quality, tank turnover, etc.). Deliverables may include model files, technical memos, operational SOPs and capital upgrade recommendations.

Project Driver

Ongoing changes to the water system create opportunities and challenges in managing water delivery and maintaining water quality. This project aligns with Loudoun Water's mission and vision to sustainably manage water resources and provide high quality water. Multiple objectives are incorporated; Trap Rock supply options, Water Audits are a tool referenced in credit reporting, AWIA recommended outage analysis, and Land Development & Inspections support.

Additional Comments

Annual support for Optimization efforts in coordination with Water Operations. Current Task Order started in 2022.
Investigations will review PowerBI, GIS and Digital Twin (SCADA, AMI, SAP) resources to better utilize and realize full potential of hydraulic modeling.
2024 focus is infrastructure update and outage analysis

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	150	100	150	100	150	100	150	100	150	100	**1,250**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**150**	**100**	**150**	**100**	**150**	**100**	**150**	**100**	**150**	**100**	**1,250**
Outside Funding											
Net Cost	**150**	**100**	**150**	**100**	**150**	**100**	**150**	**100**	**150**	**100**	**1,250**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		7	**8**	**14**	**22**	**28**	**28**	**22**	**14**	**7**		**150**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Dulles North IWBPS Improvements
CIP Project #:	WTR00082
Program:	WTR Water

Requesting Dept:	O-WTR
Managing Dept.:	PLANNING
Project Manager:	Geldert, Darrin
Sheet Completed by:	Geldert, Darrin

LOUDOUN WATER

Project Description

This project includes study, design and construction of hydraulic improvements to the Dulles North transmission main and booster pump station. These improvements are envisioned to include DPRVs for pressure control on the suction side of the pump station, and surge control at the station (includes review of power loss scenarios).

Project Driver

Hydraulic surge modeling of transmission main indicates possibility of negative pressures developing during power failure at Corbalis. The supply side pressures at the pump station are very high and do not allow for the pumps and generator to be operated fully. When the pumps shut-off, the pressure at the pump station increases significantly (160 PSI+). This may be a source of main breaks.

Additional Comments

This project will follow surge analysis for the transmission main and system; WTR00056 & WTR00026, and Master Planning. Condition to be assessed after completion of Paragon Park PRV and transmission main loop.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.55**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning				100							**100**
Design					300						**300**
Construction						1,500	1,500				**3,000**
Land/Easements											
Equip/Other											
Subtotal				**100**	**300**	**1,500**	**1,500**				**3,400**
Outside Funding											
Net Cost				**100**	**300**	**1,500**	**1,500**				**3,400**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Rt 659-Belmont 36in Main Upsize	Requesting Dept:	PLANNING
CIP Project #:	WTR00086	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	Hollida, Jaron
		Sheet Completed by:	Hollida, Jaron

LOUDOUN WATER

Project Description

Work entails design and construction of two segments of 36" dia. water transmission main along Belmont Ridge Road (Route 659), as replacement for or reinforcement of existing 20" main. Segment 1 is approx. 2,200 LF from Route 7 to the existing 36" south of the PRV. Segment 2 is 7,600 LF from Builders Lane to the Goose Creek WTF, to be built first.

Project Driver

There is hydraulic need to increase transmission capacity along Rt 659 to serve the existing CSA, JLMA and the 510 area to the north if providing additional TOL demands. The upgrade timing is in review and associated with Phase 2 expansion of Trap Rock to 30 mgd and development of the JLMA. Additional project information is identified in Master Plan; 2,200 LF in North as projects TM-09-35-64-36, TM-13-35-64-36, and 6,400 LF as project TM-14-35-64-36.

Additional Comments

Two small segments of easement needed on Belmont to join to 510/538 control valve. Remainder of work is in public right of way. Design has been done to establish a corridor in right of way. Original project was been planned and designed in conjunction with design of the adjoining upsizing, currently being done with the Rte.7/Rte. 659 highway interchange.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.7**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	260	740									**1,000**
Construction		510	6,590	510							**7,610**
Land/Easements											
Equip/Other											
Subtotal	**260**	**1,250**	**6,590**	**510**							**8,610**
Outside Funding											
Net Cost	**260**	**1,250**	**6,590**	**510**							**8,610**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
					11	**8**	**14**	**25**	**41**	**65**	**96**	**260**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Rt 50-Fleetwood 24in Main
CIP Project #:	WTR00087
Program:	WTR Water
Requesting Dept:	PLANNING
Managing Dept.:	CAP PROGRAMS
Project Manager:	_Capital Programs
Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

This project includes the extension of approx. 860 LF of 24-inch waterline including boring under Fleetwood Drive, easement acquisition, utility investigation, design, permitting, and construction.

Project Driver

There is a gap in the 24-inch transmission main along Route 50 of 860 feet, west of Fleetwood Rd. Closing the gap will improve the transmission capacity and water quality in the area.

Additional Comments

Potential to have a developer construct this portion is very low, due to the cost and there isn't much development potential left on the remaining parcels.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.35**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design							100				**100**
Construction							200				**200**
Land/Easements											
Equip/Other											
Subtotal							**300**				**300**
Outside Funding											
Net Cost							**300**				**300**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Water Distribution Looping-Gap Closures
CIP Project #:	WTR00091
Program:	WTR Water
Requesting Dept:	LAND DEV
Managing Dept.:	PLANNING
Project Manager:	_Capital Programs
Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

Reinforce areas of the system that are fed with only one source of water. Areas chosen for reinforcement will include places where development has occurred and left long dead ends or stubs near one another. Requires easement acquisition, design, permitting, and construction.

Project Driver

Provide a redundant second water feed and to improve water quality and reliability.

Additional Comments

This project is meant to be a funding placeholder. May be able to address these projects alongside watermain replacement projects but do not want to hold up progress on more urgent needs. Locations that may be included in this project include: Route 50, Ridgetop Road and Smith Switch. Detailed costs estimates have not been developed.

Estimate Method: Feasibility or Study

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.35**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning										50	**50**
Design										100	**100**
Construction										200	**200**
Land/Easements										50	**50**
Equip/Other											
Subtotal										**400**	**400**
Outside Funding											
Net Cost										**400**	**400**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Beaverdam Reservoir Park Phase 1
CIP Project #:	WTR00100
Program:	WTR Water

Requesting Dept:	CAP PROGRAMS
Managing Dept.:	CAP PROGRAMS
Project Manager:	Parkinson, Paul
Sheet Completed by:	Morriss, Ryan

LOUDOUN WATER

Project Description

This project involves the design and construction of a park southeast of the Beaverdam Creek Reservoir. The park will include trails, boardwalks, stream and wetland gardens, picnic shelters, interpretive and educational areas, boat storage and launching, administrative space, roads, and parking.

Project Driver

Following completion of the Beaverdam Creek Dam Modifications project to bring the dam into compliance with DCR regulations, the reservoir was reopened to the public in 2020. This project aims to construct a park to allow the community to make full use of the reservoir.

Additional Comments

Project coordinated with NOVA Parks, and ADM00008 Loudoun Educational Features. NTP in 2022.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	3	(10%)
Total score	**3.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	2,820										**2,820**
Land/Easements											
Equip/Other											
Subtotal	**2,820**										**2,820**
Outside Funding											
Net Cost	**2,820**										**2,820**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1,020	**750**	**300**	**350**	**200**	**200**							**2,820**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Rt 50-Hiddenwood Lane 24in Main [R]
CIP Project #:	WTR00104
Program:	WTR Water

Requesting Dept:	LAND DEV
Managing Dept.:	LAND DEV
Project Manager:	Tran, Huy
Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

This project includes the design and construction of 3,500 linear feet of 24-inch waterline with a crossing of South Fork Broad Run, plus wetlands, floodplain, tree save, steep slopes, and environmental issues. There is an existing gap between the 24-inch from the Dulles South Tanks crossing Route 50 and going up Youngwood Lane and the west side of Stone Springs Blvd. Completion of the 24" transmission main along "Route 50", currently terminating west of Stone Springs Blvd., to the 24-inch line at Racefield Parkway.

Project Driver

Need for reinforcement of redundant water supply to critical infrastructure in the County (Stone Springs hospital) and expansion of the central water system in response to projected demand increases due to growth (development) in the central service area. Project identified in interim water supply strategy and water system master planning.

Additional Comments

Portions of this 24-inch will be constructed by the County road project (Dulles West Blvd Extension) and also the data center.
Corresponds to Master Plan Project TM-02-35-64-24

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.5**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other			2,000								**2,000**
Subtotal			**2,000**								**2,000**
Outside Funding											
Net Cost			**2,000**								**2,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Linear Pipe Replacement Program
CIP Project #:	WTR00106
Program:	WTR Water

Requesting Dept:	O-PROGRAMS
Managing Dept.:	O-PROGRAMS
Project Manager:	Whitten, Kathleen
Sheet Completed by:	Whitten, Kathleen

LOUDOUN WATER

Project Description

Water main replacement program. This project includes system-wide replacement of water mains that have been identified through a systematic program that reviews break history, customer impacts, pipeline condition assessment and coordination with VDOT paving schedules.

Project Driver

Aging infrastructure requires regular replacement to maintain level of service to customers.

Additional Comments

Planning to replace five miles of cast iron pipe per year from years 2025 - 2033.
This means we will have replaced 47 of 62 miles of cast iron main by 2033.
2023 project: WTR.00107 - W Beech, Concord & Colonial
2024 project: WTR.00180 - Oakdale, Lindenwood & Ash
2025 Project: WTR.XXXXX - Sterling Park Section 1

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.65**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design			500	500	500	500	500	500	500	500	**4,000**
Construction				5,000	11,300	9,500	9,000	10,500	9,000	11,000	**65,300**
Land/Easements											
Equip/Other											
Subtotal			**500**	**5,500**	**11,800**	**10,000**	**9,500**	**11,000**	**9,500**	**11,500**	**69,300**
Outside Funding											
Net Cost			**500**	**5,500**	**11,800**	**10,000**	**9,500**	**11,000**	**9,500**	**11,500**	**69,300**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	W Beech-Concord-Colonial Pipe Rplcmnt	Requesting Dept:	MNT-LINE
CIP Project #:	WTR00107	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	Tenzin, Jigme
		Sheet Completed by:	Tenzin, Jigme

LOUDOUN WATER

Project Description

Replace the existing approximate 4000 LF of 6" CI/DI pipe within W Beech Road, N Dogwood, N Fir, N Joshua, S Concord Ct and Colonial Ave in Sterling area installed in 1960s with new 8" DIP, service lines and valves. Add extra valving to limit the number of customers that are affected by a break.

Project Driver

W Beech Road has had 50 water main breaks over it's 55 year lifetime and 3 within the past 5 years. The almost 50 customers on this segment of pipe have disruption of service at least once a year. S Concord Ct and Colonial Ave are roads that service townhouses. Every time a break occurs on this segment of pipe over 100 customers have a disruption of service.

Additional Comments

Estimate Method: Feasibility or Study

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	80										**80**
Construction	80	2,400	120								**2,600**
Land/Easements											
Equip/Other											
Subtotal	**160**	**2,400**	**120**								**2,680**
Outside Funding											
Net Cost	**160**	**2,400**	**120**								**2,680**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2	**7**	**18**	**28**	**18**	**7**						**80**	**160**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Hall Road 16in Gap Closure	Requesting Dept:	LAND DEV
CIP Project #:	WTR00108	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	_Capital Programs
		Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

This project includes the construction of approximately 750 lf of 16" dia. water main along the north side of Hall Road, between Oak Grove Rd and Transdulles Plaza. Project is needed to reinforce our water system in this area for Waterside Development to the northeast part of the central system.

Project Driver

Need for redundant supply and expansion of the central water system in response to projected demand increases due to growth (development) in the central service area. This line needs to be in place prior to the Waterside development

Additional Comments

Project is a placeholder in the event development does not self-construct.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.65**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design						100					**100**
Construction						300					**300**
Land/Easements											
Equip/Other											
Subtotal						**400**					**400**
Outside Funding											
Net Cost						**400**					**400**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Landfill Booster Station Improvements
CIP Project #:	WTR00112
Program:	WTR Water

Requesting Dept:	O-CONVEY
Managing Dept.:	CAP PROGRAMS
Project Manager:	TBD
Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

This project includes initial rehabilitation to maintain and upgrade reliability. Future study will include potential options, design and construction of improvements to the landfill booster pump station. These improvements include installation of a permanent generator and automatic transfer switch, upgraded HVAC, new flow meter, installation on new control panels and other electrical components, and upgraded instrumentation equipment.

Project Driver

The pump station is aging and in need of repairs to keep the facility operating properly and to improve reliability.

Additional Comments

Planning related to the TPA/JLMA may impact design requirements. CIP Sheet schedule reflects the JLMA process with upgrades occurring in FY2028 as service in the JLMA is extended.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.4**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design						120					**120**
Construction							450				**450**
Land/Easements											
Equip/Other											
Subtotal						**120**	**450**				**570**
Outside Funding											
Net Cost						**120**	**450**				**570**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Pipeline Corrosion Control Program	Requesting Dept:	MNT-LINE
CIP Project #:	WTR00119	Managing Dept.:	O-PROGRAMS
Program:	WTR Water	Project Manager:	Whitten, Kathleen
		Sheet Completed by:	Whitten, Kathleen

LOUDOUN WATER

Project Description

Repair program for pipeline corrosion control. Project includes design and construction for replacement of anodes. There are currently 107 test stations that have anodes at the end of their useful life that need to be replaced.

Project Driver

There are over 700 corrosion test stations and cathodic protection installations in the central water system, including on the Potomac Raw Water Transmission Main, where components must be replaced when they reach the end of service life in order to keep the pipe protected.

Additional Comments

We are testing and inspecting approximately 200 test stations per year within the central system in addition to the 175 on the raw water transmission main. When this inspection is completed, necessary repairs are documented and will be completed under this project.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.55**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	200	200	200		100					100	**800**
Land/Easements											
Equip/Other											
Subtotal	**200**	**200**	**200**		**100**					**100**	**800**
Outside Funding											
Net Cost	**200**	**200**	**200**		**100**					**100**	**800**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
					6	**16**	**46**	**69**	**46**	**17**		**200**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Viasystems Meter Vault Replacement	Requesting Dept:	GEN SERV
CIP Project #:	WTR00120	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	Morriss, Ryan
		Sheet Completed by:	Poudel, Amulya

LOUDOUN WATER

Project Description

TTM Technologies (formerly, Viasystems Technologies Corp., LLC) operates a PCB manufacturing facility in Sterling. The facility is one of Loudoun Water's largest consumers of potable water. This project involves replacement of the facility's deteriorated water meter vault.

Project Driver

The existing water meter vault is severely deteriorated and certain mechanical components within the vault are in need of replacement. Entry into the vault by field service staff poses a health and safety risk. Failure of the vault or its associated mechanical equipment has the potential to interrupt water supply to one of Loudoun Water's largest customers.

Additional Comments

Prior No: RAR00039; Project was reviewed internally in 2018; Project was reviewed in 2020 but postponed due to COVID-19; Possible need to review reimbursement of customers cost of moving meter inside of property and abandoning vault completely. Reviewed scope of project with Viasystems Team in February 2022; Cost reflect relocating water meter to Building mechanical room, then demolishing the external meter vault

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

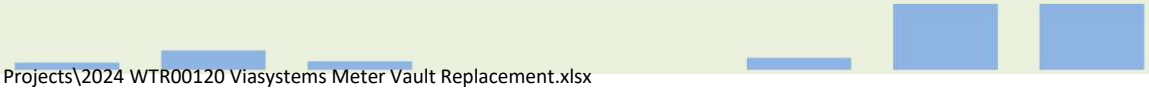
1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.75**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	30										**30**
Construction	120										**120**
Land/Easements											
Equip/Other											
Subtotal	**150**										**150**
Outside Funding											
Net Cost	**150**										**150**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		1	**6**	**16**	**7**			**10**	**55**	**55**		**150**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Large Dia. Water Meter Assessment and Rehab	Requesting Dept:	GEN SERV
CIP Project #:	WTR00123	Managing Dept.:	GEN SERV
Program:	WTR Water	Project Manager:	_Capital Programs
		Sheet Completed by:	Rowe, Michael

LOUDOUN WATER

Project Description

Program to assess and replace deteriorating large diameter meters, 60" crocks and meter vaults within the central service area. Assessment will entail meter replacement, testing and repairing to assure meter accuracy in accordance with AWWA standards. Performing an assessment and replacement (as needed) will increase maintainability for the Field Service Department. This project will first replace known faulty meters, then assessments and repairs (as needed) the following years.

Project Driver

Many of Loudoun Water's large diameter water services are now several decades old. The meter vaults for many of these older services are severely deteriorated, have limited access for repairs, do not have bypasses, and have non-functioning isolation valves. Over two-thirds of LW's large diameter meters are beyond their life expectancy and need to be replaced and/or repaired. LW has recognized former applications of 60" meter does not meet the serviceability requirements for maintenance and need to be reconfigured.

Additional Comments

Large dia. meters typically serve businesses, condominiums, schools, or other critical customers. A lack of reliability within the meter vaults and 60" meter crocks creates level of service issues within Loudoun Water's system.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.35**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	80	30									**110**
Construction		130	130								**260**
Land/Easements											
Equip/Other	190	190	150								**530**
Subtotal	**270**	**350**	**280**								**900**
Outside Funding											
Net Cost	**270**	**350**	**280**								**900**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		18	**2**	**21**	**23**	**41**	**60**	**45**	**45**	**9**	**6**	**270**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Sterling Standpipe Improvements
CIP Project #:	WTR00124
Program:	WTR Water

Requesting Dept:	O-Remote Fac
Managing Dept.:	O-Remote Fac
Project Manager:	Downes, Kinsey
Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

This project involves the evaluation, design and construction of several upgrades at the Sterling Standpipe site. These include replacing the roof on the pump vault, pump motors, PLC, installing a generator and ATS, upgrading electric panels, installing a Pax Water Quality System, and installing a flow meter.

Project Driver

The facility is aging and does not have any backup power. These upgrades are needed to improve the safety and reliability of the facility.

Additional Comments

NPRC recommended a facility evaluation to confirm PS/Tank capacities, OT requirements, safety setbacks, and site layout. Future spending will be dictated by the results of the proposed evaluation.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.5**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	150										**150**
Design						80	60				**140**
Construction								450	300		**750**
Land/Easements											
Equip/Other											
Subtotal	**150**					**80**	**60**	**450**	**300**		**1,040**
Outside Funding											
Net Cost	**150**					**80**	**60**	**450**	**300**		**1,040**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		5	**12**	**34**	**52**	**34**	**13**					**150**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Acoustic Listening Devices	Requesting Dept:	MNT-LINE
CIP Project #:	WTR00126	Managing Dept.:	O-PROGRAMS
Program:	WTR Water	Project Manager:	Whitten, Kathleen
		Sheet Completed by:	Maazouz Ayoub

LOUDOUN WATER

Project Description

Program is to install remote leak detection nodes throughout the water distribution system in areas experiencing break/leak history, having older pipe material, and areas of high pressure.

Project Driver

This project is an effort to identify water main breaks that do not surface immediately and to reduce our unaccounted water usage. Unless the break is catastrophic, undetected leaks can cause pipe damage, soil erosion or road damage before our Loudoun Water staff is notified. Currently, leaks are often identified by customers after water has reached the ground surface or by our leak detection contractor. By utilizing this technology our response time is reduced saving time, damage, and money.

Additional Comments

2024 Budget for about 80 nodes

In 2021-22 this leak detection technology solution was piloted and deemed successful. This listening device (node) replaces the large fire hydrant nozzle cap. Loudoun Water intends to continue to install these devices in areas of need each year.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

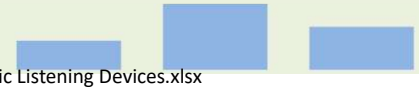
1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.8**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	100	100	100	100	100	100	100	100	100	100	**1,000**
Land/Easements											
Equip/Other											
Subtotal	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1,000**
Outside Funding											
Net Cost	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
					21	**48**	**31**					**100**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Goose Creek Dam Improvements
CIP Project #:	WTR00127
Program:	WTR Water
Requesting Dept:	O-WTR
Managing Dept.:	O-WTR
Project Manager:	_Water Operations
Sheet Completed by:	Castaneda, Gerardo

LOUDOUN WATER

Project Description

Continuous improvements and enhancements to the dam

Project Driver

A preliminary study by Gannett Fleming indicated the need for further investigation to confirm the structural integrity of the high-hazard dam during large storms/floods as impacted by climate change.

Additional Comments

New dam safety regulations may drive the need for a low-level drain.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	40										**40**
Design											
Construction											
Land/Easements											
Equip/Other		50	50	50	50	50	50	50	50	50	**450**
Subtotal	**40**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**490**
Outside Funding											
Net Cost	**40**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**490**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	**1**	**2**	**3**	**4**	**6**	**7**	**6**	**4**	**3**	**2**	**1**	**40**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Reservoir Sampling Study	Requesting Dept:	WTR RES
CIP Project #:	WTR00128	Managing Dept.:	WTR RES
Program:	WTR Water	Project Manager:	Schmitz, Bradley
		Sheet Completed by:	Schmitz, Bradley

LOUDOUN WATER

Project Description

Short-term monitoring study of Beaverdam Reservoir to examine the differences in water quality between nearshore areas where small tributaries enter the reservoir and the main channel of the reservoir. This study will identify appropriate monitoring locations, sampling approach and recommend long-term monitoring program modifications.

Project Driver

Recommendation from the HAB Monitoring and Management Plans. Typically sampling is conducted from the central portions of the reservoir, usually representative of the water body as a whole. However, parameters of concern may appear in nearshore areas of the reservoir prior to being observed in the main body.
Water quality plan/monitoring is needed with the opening of Beaverdam Reservoir park.

Additional Comments

Gathering data in the near future (2024/2025) would provide additional data to inform projections for how the reservoir will be impacted by Climate Change. These data can be used to forecast how water quality may be impacted under anticipated climate scenarios.
Coordination timing with construction and opening of Beaverdam Reservoir Park.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.35**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	50										**50**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**50**										**50**
Outside Funding											
Net Cost	**50**										**50**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2	**1**	**2**	**4**	**6**	**7**	**8**	**7**	**6**	**4**	**2**	**1**	**50**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Water Facility General Improvements	Requesting Dept:	O-Remote Fac
CIP Project #:	WTR00130	Managing Dept.:	O-Remote Fac
Program:	WTR Water	Project Manager:	Lanham, Petie
		Sheet Completed by:	Lanham, Petie

LOUDOUN WATER

Project Description

Project covers capital expenses for repairing or replacing equipment that reaches the end of service life. Project covers all central system water conveyance including pump stations, valve vaults, new valves, and pipes.

Project Driver

Ongoing water system improvements (asset management) to provide expected level of service to customers.

Additional Comments

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.5**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	100	100	110	110	110	120	120	120	130	130	**1,150**
Subtotal	**100**	**100**	**110**	**110**	**110**	**120**	**120**	**120**	**130**	**130**	**1,150**
Outside Funding											
Net Cost	**100**	**100**	**110**	**110**	**110**	**120**	**120**	**120**	**130**	**130**	**1,150**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
5	**5**	**10**	**10**	**10**	**15**	**10**	**10**	**10**	**5**	**5**	**5**	**100**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Water Supply Model	Requesting Dept:	WTR RES
CIP Project #:	WTR00131	Managing Dept.:	WTR RES
Program:	WTR Water	Project Manager:	Minke, Amanda
		Sheet Completed by:	Minke, Amanda

LOUDOUN WATER

Project Description

Develop a raw water supply model that represents Loudoun Water's raw water assets; Goose Creek Reservoir, Beaverdam Reservoir, the Potomac River and the quarry reservoirs. Use the model to simulate actual and potential water supply scenarios for current and future planning years.

Project Driver

The model will be configured for use in simulating daily, seasonal and emergency operations. The model will be used to inform the use of individual raw water assets and to optimize system operations. The modeling tool can be used for emergency response planning, climate change assessment and drought planning. Once developed, the model will serve as a platform to support future planning and permitting needs.

Additional Comments

Consultants constructed the OASIS model and Power BI dashboards. This project provides:
1. 'as-needed' services to optimize/update the model, fix issues, troubleshooting, and advise on scenarios.
2. Develop a "Modeling Plan" for use in planning and operational purposes.
3. Run scenarios, simulations, an position analysis with consultant support
4. Coordinate with WTR000149 to support VWP Permit.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	70	50	40	30							**190**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**70**	**50**	**40**	**30**							**190**
Outside Funding											
Net Cost	**70**	**50**	**40**	**30**							**190**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2	**2**	**3**	**5**	**8**	**10**	**11**	**10**	**8**	**5**	**3**	**3**	**70**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	AMI Lid Replacement Project
CIP Project #:	WTR00135
Program:	WTR Water

Requesting Dept:	GEN SERV
Managing Dept.:	GEN SERV
Project Manager:	Rowe, Michael
Sheet Completed by:	Rowe, Michael

LOUDOUN WATER

Project Description

Program to protect Loudoun Water's metering assets by replacing current metal lids, with recessed high grade plastic lids. This will provide better protection to our transmitters over time and provide better meter reading coverage for our customers.

Project Driver

Since January 2018 until August 2019, Field Services has replaced 1,024 transmitters due to physical damage. This has been caused by lawn mowers, snow plows, and other physical distress. Each transmitter replaced is through Loudoun Water's inventory and damaged transmitters are not subject to RMA or warranty standards. The total inventory cost during this time has been $129,525. This is the cost of replacement of 1,024 transmitters and 1,830 plastic lids.

Additional Comments

Loudoun Water's investment in the Sensus AMI solution has given our business and customers advanced abilities in regards to monitoring water usage. Current and future projects which rely on accurate meter readings depend on protected and reliable assets. This lid replacement project will be in conjunction with replacing "unpotted" and defective Sensus iPerl meters.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.9**	(100%)

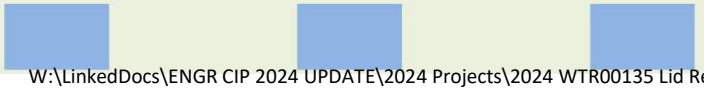
Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	360										**360**
Subtotal	**360**										**360**
Outside Funding											
Net Cost	**360**										**360**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
120		**120**		**120**								**360**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Broad Run Farms Waterline Ext. (County)	Requesting Dept:	CAP PROGRAMS
CIP Project #:	WTR00138	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	Hollida, Jaron
		Sheet Completed by:	Hollida, Jaron

LOUDOUN WATER

Project Description

Design and construction of a new water distribution system connecting the Broad Run Farms community to the central system.

Project Driver

The EPA is extending the water distribution system into Broad Run Farms to address groundwater contamination from the adjacent Hidden Lane Landfill. The EPA waterline extension will serve a portion of the community. Loudoun County has committed to extending service to the remainder of the community. The County asked Loudoun Water to manage the design and construction of the project on their behalf.

Additional Comments

This project is initially funded by Loudoun Water and reimbursed by Loudoun County.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	5	(10%)
Total score	**4.1**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	100										**100**
Construction	760	5,660	2,880								**9,300**
Land/Easements											
Equip/Other											
Subtotal	**860**	**5,660**	**2,880**								**9,400**
Outside Funding	860	5,660	2,880								**9,400**
Net Cost											

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
3	**8**	**23**	**35**	**23**	**8**				**466**	**130**	**164**	**860**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	East Maple Ave Watermain	Requesting Dept:	MNT-LINE
CIP Project #:	WTR00139	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	Tenzin, Jigme
		Sheet Completed by:	Tenzin, Jigme

LOUDOUN WATER

Project Description

Design and construction of relocation of approximately 600 LF of 10" CI pipe from its existing location near the buildings at 1000 East Maple Ave and 600 Circle Drive to a new location (in the right of way). The relocation will eliminate potential of future damages to the customer's homes.

Project Driver

In March 2019, a customer on E Maple Ave complained about water leaking in the basement. LW has a 10" water main on the customer's property and testing determined there was a leak on the main. Loudoun Water locators determined the water main was approximately 3' from the house foundation. The property also has a 70' gas easement with 2 - 26" natural gas mains that parallels Loudoun Water easement . It was also determined the water main is close to a house foundation on Circle Drive.

Additional Comments

The construction notice to proceed (NTP) was issued on May 1, 2023, with a substantial completion date of April 24, 2024.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.9**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	450										**450**
Land/Easements											
Equip/Other											
Subtotal	**450**										**450**
Outside Funding											
Net Cost	**450**										**450**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
13	**125**	**254**	**58**									**450**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Waterside - Old Ox Rd 16" Watermain	Requesting Dept:	LAND DEV
CIP Project #:	WTR00143	Managing Dept.:	LAND DEV
Program:	WTR Water	Project Manager:	Tran, Huy
		Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

Developer built improvements to Rt. 606 between Shaw Road and Oakgrove Road to support future Waterside development. Requested betterments include approximately 2,000 LF of 16-inch watermain to account for future Waterside demand and 1,000 LF of upsizing from 12-inch to 16-inch to provide a consistent 16-inch line from Davis Drive to Shaw Road.

Project Driver

Future hydraulic need. Main will provide needed flows and pressures to meet future demands.

Additional Comments

Land Development project #20190010 and 20200023; Project on hold.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other										500	**500**
Subtotal										**500**	**500**
Outside Funding											
Net Cost										**500**	**500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	30" Water Ruritan Rd to Rt 28 Crossing	Requesting Dept:	PLANNING
CIP Project #:	WTR00145	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	TBD
		Sheet Completed by:	Poudel, Amulya

LOUDOUN WATER

Project Description

The project will extend the existing 30" high-pressure transmission main from Ruritan Road to the existing 30" diameter main just east of Route 28 to close the gap in the transmission main.

Project Driver

The main will replace the one removed with the Guilford Station project and provide the level of redundancy on the east transmission main feed that we had before that main was removed. This is a critical hydraulic improvement in addition to redundancy - resiliency benefit.

Additional Comments

The easement along Route 28 on the BF Saul property was secured with project WTR.00129

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.4**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	150	100									**250**
Construction		440	1,360								**1,800**
Land/Easements		100									**100**
Equip/Other											
Subtotal	**150**	**640**	**1,360**								**2,150**
Outside Funding											
Net Cost	**150**	**640**	**1,360**								**2,150**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
					8	**6**	**11**	**19**	**28**	**37**	**41**	**150**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Pacific Blvd Connection & Control Valve	Requesting Dept:	O-CONVEY
CIP Project #:	WTR00146	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	Osiecki, Matt
		Sheet Completed by:	Osiecki, Matt

LOUDOUN WATER

Project Description

The Project includes a connection between the 24" W&OD main to the 30" transmission main, including an automated control valve(s), vault, and controls. Construction of the project is currently underway.

Project Driver

A prolonged supply or transmission outage from the Corbalis plant could result in the northeastern 510 Zone having a reduced pressure/flow on high demand days. Currently water flows from TRWTF (538 Zone) along the W&OD main through a single PRV; an automated control valve would allow water to flow from TRWTF to the eastern 510 Zone transmission system, greatly improving water distribution. The control valve would also facilitate water flow to the 538 Zone if TRWTF suffered an extended outage.

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.65**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	500										**500**
Land/Easements											
Equip/Other											
Subtotal	**500**										**500**
Outside Funding											
Net Cost	**500**										**500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
141	**95**	**103**	**82**	**51**	**28**							**500**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Water Resources Planning Studies
CIP Project #:	WTR00149
Program:	WTR Water

Requesting Dept:	WTR RES
Managing Dept.:	WTR RES
Project Manager:	Schmitz, Bradley
Sheet Completed by:	Schmitz, Bradley

LOUDOUN WATER

Project Description

This includes water resources planning studies detailing evaluations needed over the short- and long-term to comply with the Virginia Water Protection Permit with the Potomac River supply (VWP-10-2020). This incorporates various studies for the central system related to the Potomac River supply, as well as emergency supplies in the Goose Creek/ Beaverdam Reservoir system and Milestone Reservoir.

Project Driver

The Potomac River VWP permit requires completion of a comprehensive source evaluation by November 2026. A plan for conducting the evaluation was submitted to DEQ with annual updates thereafter. This project includes a series of technical planning memos that culminate in a comprehensive view of the system to support the new permit application in 2027. Tasks include evaluation of climate change risks/impacts, system demand analysis, storage supplies, standard operating parameters/procedures, etc.

Additional Comments

Reference VWP 10-2020 Special Conditions, Part I.K.24. Projects to be considered: (1) Climate Change Analysis (2022-ongoing), (2) VWP Permit Project (2024-2025), (3) Storage Supplies (2025), (4) Standard operating parameters for water supply (2025?)
* System Demand Analysis incorporated in WST00081

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.1**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	180	180	150	150							**660**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**180**	**180**	**150**	**150**							**660**
Outside Funding											
Net Cost	**180**	**180**	**150**	**150**							**660**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
5	**5**	**8**	**13**	**20**	**27**	**29**	**27**	**20**	**13**	**8**	**5**	**180**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Route 50 600 Zone Connection
CIP Project #:	WTR00150
Program:	WTR Water

Requesting Dept:	PLANNING
Managing Dept.:	CAP PROGRAMS
Project Manager:	Tenzin, Jigme
Sheet Completed by:	Tenzin, Jigme

LOUDOUN WATER

Project Description

This project includes the design and construction of approximately 500 LF of 16-inch main north of Route 50 generally along Lenah Farm Ln, 800 LF of 24-inch along Route 50 coordinated with the developments Lenah Circle Center and Lenah Circle West, and 1100 LF of 24-inch crossing Route 50 south to connect to the existing 24-inch stub on Lenah Run HOA property.

Project Driver

This project is identified in the 2018 Water Master Plan and in the 600 Zone Capacity Analysis as a critical connection needed to be completed by 2024 to strengthen the north-south transmission. This is critical for capacity and redundancy.

Additional Comments

This replaces WTR00140 and WTR00141.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.1**	(100%)

Estimate Method: Design Phase Estimate

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	2,720	280									**3,000**
Land/Easements											
Equip/Other											
Subtotal	**2,720**	**280**									**3,000**
Outside Funding											
Net Cost	**2,720**	**280**									**3,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
										1,420	**1,300**	**2,720**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Dulles South WBS Upgrade	Requesting Dept:	O-WTR
CIP Project #:	WTR00151	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	_Capital Programs
		Sheet Completed by:	Buswell, Scott

LOUDOUN WATER

Project Description

This project will include the study, design, and construction necessary to upgrade the pumping capacity at the Dulles South Water Booster Station to address ongoing operational issues, increase capacity to meet future needs, and enhance the level of service.

Project Driver

Operations have recorded extended pump run times and the inability to meet pressure set points during high demand. With the continued high rate of growth in this area, the ability to maintain the desired level of service requires attention. The 2021 600 Zone Capacity Analysis and the 2018 Water Master Plan identified the upgrade needs for various scenarios including the near-term need, buildout need, and buildout emergency need.

Additional Comments

Upgrades are based on the WTR00137 - 600 Zone Capacity Analysis study recommendations.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.65**	(100%)

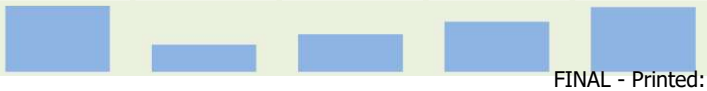
Estimate Method: Design Phase Estimate

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	480	1,520									**2,000**
Land/Easements											
Equip/Other											
Subtotal	**480**	**1,520**									**2,000**
Outside Funding											
Net Cost	**480**	**1,520**									**2,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
							130	**53**	**73**	**98**	**126**	**480**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Brambleton 600 WBS Upgrade	Requesting Dept:	O-WTR
CIP Project #:	WTR00152	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	_Capital Programs
		Sheet Completed by:	Buswell, Scott

LOUDOUN WATER

Project Description

This project will develop a Preliminary Engineering Report, design documentation and construct upgraded pumping capacity at the Brambleton 600 Zone Water Booster Station. Additionally, this project will include operational technology upgrades to address obsolescence and include process improvements to address operations and maintenance deficiencies.

Project Driver

Operations has recorded extended pump run times and inability to meet pressure set points during high demand. With continued high rate growth in this area, the ability to maintain the desired level of service requires attention.

Additional Comments

Upgrades are based on the WTR00137 - 600 Zone Capacity Analysis study recommendations. Added work from WTR00122 - General Brambleton Tank improvements, to this project. Added work from WTR00184 - Water Storage Tank Process Upgrades

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

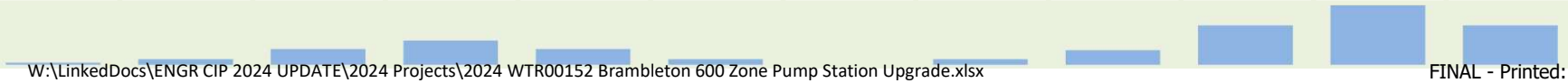
1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.65**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	100										**100**
Design	230	20									**250**
Construction		860	2,140								**3,000**
Land/Easements											
Equip/Other											
Subtotal	**330**	**880**	**2,140**								**3,350**
Outside Funding											
Net Cost	**330**	**880**	**2,140**								**3,350**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
3	**8**	**23**	**35**	**23**	**8**		**8**	**21**	**57**	**87**	**57**	**330**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	MV VFD Vibration Mon Upgrade	Requesting Dept:	O-WTR
CIP Project #:	WTR00153	Managing Dept.:	O-WTR
Program:	WTR Water	Project Manager:	Castaneda, Gerardo
		Sheet Completed by:	Castaneda, Gerardo

LOUDOUN WATER

Project Description

This project is to upgrade the vibration monitoring systems associated with the medium voltage (MV) variable frequency drives (VFD) located at the Trap Rock Raw Water Pump Station. Project includes all required engineering, parts, installations. The project assumes that a large percentage of the work will be installed by Loudoun Water.

Project Driver

The Raw Water Pump station is a critical part of the LW supply system. Vibration monitoring for this asset is necessary to identify problems and extend the life of the asset. Installing this vibration monitoring system is key to protecting the pumps.

Additional Comments

Project will evaluate the approach to vibration monitoring to determine if a standalone system is a viable alternative to the current system located within each VFD.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	2	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.2**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	300										**300**
Land/Easements											
Equip/Other											
Subtotal	**300**										**300**
Outside Funding											
Net Cost	**300**										**300**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
9	**8**	**13**	**22**	**34**	**44**	**49**	**44**	**34**	**22**	**13**	**8**	**300**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	JLMA/TPA - Water (Phase 2)	Requesting Dept:	PLANNING
CIP Project #:	WTR00154	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	_Capital Programs
		Sheet Completed by:	Beatty, Andrew

LOUDOUN WATER

Project Description

Design and construction of Phase 2 watermains in the new transition policy area and JLMA service areas.

Project Driver

In 2019 the County named Loudoun Water the presumed water and sewer utility in the Leesburg JLMA and expanded our Central Service Area. This project is reinforce the water system and increase reliability to this new service area in accordance with area facility planning.

Additional Comments

Timing, sizing and alignments will be coordinated with development.
Price based on 16" Evergreen Mills Road main only.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.95**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design					300	100					**400**
Construction							800	1,980	820		**3,600**
Land/Easements											
Equip/Other											
Subtotal					**300**	**100**	**800**	**1,980**	**820**		**4,000**
Outside Funding											
Net Cost					**300**	**100**	**800**	**1,980**	**820**		**4,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	JLMA East, W1, W2 & W3-E [R]	Requesting Dept:	CAP PROGRAMS
CIP Project #:	WTR00155	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	Osiecki, Matt
		Sheet Completed by:	Osiecki, Matt

LOUDOUN WATER

Project Description

Design and construction of 24" and 16" diameter transmission mains and associated appurtenances to serve the JLMA east area. This project will connect to the existing 36" diameter transmission main in Belmont Ridge Road, cross the Goose Creek, and extend the 24" main along Cochran Mill Road to the intersection of Samuel's Mill Road. At that location it will transition to a 16" diameter main and head north to Crosstrail Blvd.

Project Driver

In 2019 the County named Loudoun Water the presumed water and sewer utility in the Leesburg JLMA and expanded our Central Service Area. The GMO has committed Loudoun Water to initiate design and construction in coordination with development to extend service to these areas. This project is intended to provide the major water backbone to the JLMA East area.

Additional Comments

The design is currently underway and being run by Tuscarora Crossing development with Christopher Consultants as the engineer. The project will be reimbursed per pending developer agreement. This project includes projects identified as W1-E, W2-E, and W3-E in the planning phase. W4 is included and assumed to be a future (2030) Loudoun Water design/construction project to connect the JLMA East to the JLMA West.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	2	(10%)
Total score	**4**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design							500				**500**
Construction	300	2,910	8,090	1,700				4,860	1,390		**19,250**
Land/Easements											
Equip/Other	650										**650**
Subtotal	**950**	**2,910**	**8,090**	**1,700**			**500**	**4,860**	**1,390**		**20,400**
Outside Funding	750	1,000									**1,750**
Net Cost	**200**	**1,910**	**8,090**	**1,700**			**500**	**4,860**	**1,390**		**18,650**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
								155	**692**	**46**	**57**	**950**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Meter Crock Rehabilitation
CIP Project #:	WTR00157
Program:	WTR Water

Requesting Dept:	MNT-LINE
Managing Dept.:	GEN SERV
Project Manager:	Rowe, Michael
Sheet Completed by:	Rowe, Michael

LOUDOUN WATER

Project Description

Loudoun Water is working to address and rehabilitate distressed and exposed meter crocks in the Central Service Area and Community Systems. Loudoun Water plans to repair and replace at least 80 meter crocks a year for the first five years and 60 crocks a year for the next five years or until majority of repairs have been made.

Project Driver

Addressing aged out, damaged and exposed meter crocks and components will allow Loudoun Water to continue to maintain safe and secure meter crock locations for extended periods of time.

Additional Comments

This is an ongoing project, Loudoun Water contracted out work to complete meter crock and frame replacements starting in Summer of 2022.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.25**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	450	450	380	300	250	230	200	100	50	50	**2,460**
Subtotal	**450**	**450**	**380**	**300**	**250**	**230**	**200**	**100**	**50**	**50**	**2,460**
Outside Funding											
Net Cost	**450**	**450**	**380**	**300**	**250**	**230**	**200**	**100**	**50**	**50**	**2,460**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
			75		**75**		**150**		**150**			**450**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Mt. Sterling WBPS [R]	Requesting Dept:	LAND DEV
CIP Project #:	WTR00158	Managing Dept.:	LAND DEV
Program:	WTR Water	Project Manager:	Powers, Dominic
		Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

This project includes funds for the design and construction (reimbursement) of a Water Booster Pump Station (BPS) near the Mt. Sterling development.

Project Driver

A development is being planned for the Mt. Sterling area. Due to site elevations, a water booster pump station is required in order to meet minimum pressures and flows. This project includes funds for the partial design of the pump station.

Additional Comments

Developer is designing and constructing Phase 1 of the booster pump station, which includes PRV values and isolation valves. Booster pump station will be expandable to Phase 2 to meet required fire flows for future developments.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	5	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**4.15**	(100%)

Estimate Method: Design Phase Estimate

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	300										**300**
Construction											
Land/Easements											
Equip/Other			700	700	700	700	700				**3,500**
Subtotal	**300**		**700**	**700**	**700**	**700**	**700**				**3,800**
Outside Funding											
Net Cost	**300**		**700**	**700**	**700**	**700**	**700**				**3,800**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
300												**300**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Beaumeade PRV Vault Rehabilitation
CIP Project #:	WTR00160
Program:	WTR Water
Requesting Dept:	O-CONVEY
Managing Dept.:	O-Remote Fac
Project Manager:	TBD
Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

This project includes planning, design and construction of improvements needed to develop options and rehab the Beaumeade PRV vault, if required. The improvements would consist of replacing piping, valves, PRV, all electrical components and structural issues. Also install psi transmitters, mag meter and other OT instrumentation to have the capability to communicate with SCADA to make operational changes.

Project Driver

Beaumeade PRV Vault is connected to the 24-in W&OD transmission main that supplies water from western portion (538 zone) to the eastern portion (510 zone) of the central system. Beaumeade Vault has the capability to supply water into the 510 zone in the Beaumeade area. Beaumeade vault has been out of service since 2018 due to age and functionality, and will need replacement to be able to put back in service.

Additional Comments

NPRC recommended evaluating the need for this vault as well as others including the Ashburn PRV. Internal investigations can be supported by consultant support or by use of the on-call water distribution modeling contract.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.85**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design					50						**50**
Construction						150					**150**
Land/Easements											
Equip/Other											
Subtotal					**50**	**150**					**200**
Outside Funding											
Net Cost					**50**	**150**					**200**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Pacific Broad Run 16-inch watermain	Requesting Dept:	PLANNING
CIP Project #:	WTR00161	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	_Capital Programs
		Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

Project includes design and construction of approximately 2,400 LF of 16-inch waterline. The project is located where Russell Branch Parkway transitions to become Pacific Boulevard, at the southwest corner of Route 7 - Harry Bird Hwy and Route 28, including a crossing of Broad Run.

Project Driver

Extension of the waterline in Russell Branch Parkway would result in a long dead-end, resulting in water quality issues and constant flushing. On the other side, connection to Kincora, a 300+ acre mixed-use development, would add additional redundancy and reliability to that development.

Additional Comments

Likely capital project, with possible developer involvement.
Corresponds to Master Plan Project TM-04-35-64-16
12” or 16" water extension across Broad Run for the dead end at Kincora. Development on the north side of Broad Run and Russell Branch Parkway is compromised of small parcels and potential there is low. Crossing of Broad Run will most likely need to be a Capital project. Schedule will be driven by internal drivers such as WQ, looping, etc. and not necessarily external

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.7**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design										100	**100**
Construction										750	**750**
Land/Easements											
Equip/Other											
Subtotal										**850**	**850**
Outside Funding											
Net Cost										**850**	**850**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	LCParkway-Lockridge 16-inch water [R]
CIP Project #:	WTR00162
Program:	WTR Water

Requesting Dept:	LAND DEV
Managing Dept.:	LAND DEV
Project Manager:	Tran, Huy
Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

Extension of approximately 3,550 linear feet of 16-inch watermain from Bullpen Drive and the Dulles Greenway to Lockridge Road.

Project Driver

The project interconnects the existing 16-inch mains between Loudoun County Parkway and Lockridge Road. Project will provide increased supply in the area to support large developments planned in the area. Watermain identified as part of masterplan.

Additional Comments

Developer is currently planning to design and construct and be reimbursed by Loudoun Water. Loudoun Water Project ID 20220082 Shellhorn Road Watermain

Estimate Method: Design Phase Estimate

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other				1,200							**1,200**
Subtotal				**1,200**							**1,200**
Outside Funding											
Net Cost				**1,200**							**1,200**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Spare Parts WTR	Requesting Dept:	O-WTR
CIP Project #:	WTR00163	Managing Dept.:	FIN
Program:	WTR Water	Project Manager:	Carnes, Brian
		Sheet Completed by:	Dehler, Sally

LOUDOUN WATER

Project Description

Place holder for SAP tracking of Spare Parts.

Project Driver

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	1	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.2**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other	100	100	100	100	100	100	100	100	100	100	**1,000**
Subtotal	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1,000**
Outside Funding											
Net Cost	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		25			**25**			**25**			**25**	**100**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	JLMA West, W2A & W7 (Sycolin to RT 267)	Requesting Dept:	PLANNING
CIP Project #:	WTR00164	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	Tenzin, Jigme
		Sheet Completed by:	Tenzin, Jigme

LOUDOUN WATER

Project Description

Design and construction of approximately 6,100 LF of 24" diameter water transmission main in the area included in the West JLMA planning, generally located southwest of Bolen Park. This portion of the transmission main (also referenced as West Water 2A and 7) will extend from Shreve Mill Road, cross under Sycolin Creek, and then cross the Dulles Greenway to extend service to the TPA portion of the LW Central Service Area.

Project Driver

The County has named Loudoun Water the preferred water and sewer utility in the Leesburg JLMA and expanded our Central Service Area in 2019. The GMO committed LW to initiate design and construction in coordination with development to extend service to the western half of the new JLMA service area and provide water for the new TPA portion of the Central Service Area west of the Dulles Greenway.

Additional Comments

Connected on the south end (intersection of Sycolin Rd and Shreve Mill Rd) to WTR00173 (W1B-W), a developer-led design and construction of a 24-inch extension.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.9**	(100%)

Estimate Method: Design Phase Estimate

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	20										**20**
Construction	730	3,510	4,360								**8,600**
Land/Easements											
Equip/Other											
Subtotal	**750**	**3,510**	**4,360**								**8,620**
Outside Funding											
Net Cost	**750**	**3,510**	**4,360**								**8,620**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	**4**	**11**	**4**				**362**	**70**	**83**	**99**	**116**	**750**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	JLMA West, W2B-W Shreve South [R]	Requesting Dept:	PLANNING
CIP Project #:	WTR00165	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	TBD
		Sheet Completed by:	Poudel, Amulya

LOUDOUN WATER

Project Description

Design and construction of approximately 1,200 LF of 24" diameter transmission main in the area included in the West JLMA planning, generally located southwest of Bolen Park. This portion of the transmission main (also known as West Water 2B) will likely cross under Sycolin Creek, extend south of Shreve Mill Road, and then cross the Dulles Greenway to extend service to the TPA portion of the LW Central Service Area.

Project Driver

The County has named Loudoun Water the preferred water and sewer utility in the Leesburg JLMA and expanded our Central Service Area in 2019. The GMO committed LW to initiate design and construction in coordination with development to extend service to the western half of the new JLMA service area and provide water for the new TPA portion of the Central Service Area west of the Greenway.

Additional Comments

Connected on the north end to WTR00164 (W2A-W & W7-W).

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	1	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.3**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design		90	250								**340**
Construction				670	2,730						**3,400**
Land/Easements											
Equip/Other											
Subtotal		**90**	**250**	**670**	**2,730**						**3,740**
Outside Funding											
Net Cost		**90**	**250**	**670**	**2,730**						**3,740**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Broadlands Tank 1 Rehabilitation	Requesting Dept:	O-Remote Fac
CIP Project #:	WTR00166	Managing Dept.:	O-WST
Program:	WTR Water	Project Manager:	Mantha, Anurag
		Sheet Completed by:	Mantha, Anurag

LOUDOUN WATER

Project Description

Broadlands Water Storage Tank 1 painting and structural improvements. This project consists of external and internal tank pressure cleaning and painting, replacement of deteriorating manway hatches, tank ceiling panels, and supports.

Project Driver

This project was identified through the Steel Tank Maintenance Program, and includes typical tasks required to maintain and extend the useful life of the facility.

Additional Comments

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.8**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	920										**920**
Land/Easements											
Equip/Other											
Subtotal	**920**										**920**
Outside Funding											
Net Cost	**920**										**920**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
260	**303**	**250**	**107**									**920**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Dulles West Blvd 16-inch Watermain [R]	Requesting Dept:	LAND DEV
CIP Project #:	WTR00169	Managing Dept.:	LAND DEV
Program:	WTR Water	Project Manager:	TBD
		Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

Extension of 4,650 lf of 16-inch watermain along Dulles West Blvd from Arcola Boulevard to Racefield Drive.

Project Driver

Loudoun County DTCI is constructing Dulles West Blvd along this alignment. The water master plan calls for a 16-inch main along this corridor.

Additional Comments

County Betterment Reimbursement

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other				3,000							**3,000**
Subtotal				**3,000**							**3,000**
Outside Funding											
Net Cost				**3,000**							**3,000**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	JLMA West, W1A-W [R]	Requesting Dept:	CAP PROGRAMS
CIP Project #:	WTR00172	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	Poudel, Amulya
		Sheet Completed by:	Poudel, Amulya

LOUDOUN WATER

Project Description

This project (W1A-W) will be developer led and includes the design and construction of approximately 3,300 LF of 24-inch watermain extending along Sycolin Rd. to Shreve Mill Road East.

Project Driver

This project is required in order to meet the water needs of several proposed data centers as well as future developments. In 2019 the County named Loudoun Water the presumed water and sewer utility in the Leesburg JLMA and expanded our Central Service Area.

Additional Comments

Project is reimbursement for oversizing, as part of the Celtics Development Project.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	2	(10%)
Total score	**4**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction	500	200	200	200	100						**1,200**
Land/Easements											
Equip/Other											
Subtotal	**500**	**200**	**200**	**200**	**100**						**1,200**
Outside Funding											
Net Cost	**500**	**200**	**200**	**200**	**100**						**1,200**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
											500	**500**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Willard Road 30-in Watermain Extension [R]
CIP Project #:	WTR00174
Program:	WTR Water
Requesting Dept:	LAND DEV
Managing Dept.:	LAND DEV
Project Manager:	Tran, Huy
Sheet Completed by:	Tran, Huy

LOUDOUN WATER

Project Description

Extension of approximately 3,000 lf of 30-inch watermain along Willard Road to MWAA property. The project is a segment of the future planned 30-inch redundant feed along Route 50. The currently planned data centers on the H&M property proposes to bring a main up Willard Road to serve the data center parcel. This project would seek to have the development extend the main as part of their project.

Project Driver

Watermain is part of the masterplan to bring a 30-inch redundant water transmission main along Route 50 between Willard Road and Loudoun County Parkway.

Additional Comments

Land Development #20200101-105. H&M Property

Estimate Method: Design Phase Estimate

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.9**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other				1,500							**1,500**
Subtotal				**1,500**							**1,500**
Outside Funding											
Net Cost				**1,500**							**1,500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Reservoir Water Quality Model	Requesting Dept:	WTR RES
CIP Project #:	WTR00175	Managing Dept.:	WTR RES
Program:	WTR Water	Project Manager:	Schmitz, Bradley
		Sheet Completed by:	Schmitz, Bradley

LOUDOUN WATER

Project Description

Develop a CE-QUAL-W2 model for reservoir water quality modeling. These models will develop multi-dimensional hydrodynamic and water quality models for Goose Creek, Beaverdam, and Milestone Reservoir that can be used to simulate potential and actual water quality. Information can be used for reservoir planning, management, and monitoring.

Project Driver

The modeling tool can be used for simulating and monitoring numerous parameters for water quality in reservoirs. The model will be used to inform reservoir planning and design, as well as simulate water quality to determine water quality and optimize operations.

Additional Comments

Project will correlate with Milestone Reservoir / Quarry projects.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.2**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning		120	90								**210**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal		**120**	**90**								**210**
Outside Funding											
Net Cost		**120**	**90**								**210**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Water Infrastructure Improvements
CIP Project #:	WTR00176
Program:	WTR Water

Requesting Dept:	MNT-LINE
Managing Dept.:	MNT-LINE
Project Manager:	Bussard, Bubba
Sheet Completed by:	Bussard, Bubba

LOUDOUN WATER

Project Description

Project covers capital expenses for repairing or replacing equipment that reaches the end of service life. Project covers all central system water distribution components such as pipes, valves, ARVs, and associated buried structures.

Project Driver

Ongoing water system improvements (asset management) to provide expected level of service to customers.

Additional Comments

Project is a budget placeholder for future annual projects.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.15**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction						120	120	120	120	120	**600**
Land/Easements											
Equip/Other											
Subtotal						**120**	**120**	**120**	**120**	**120**	**600**
Outside Funding											
Net Cost						**120**	**120**	**120**	**120**	**120**	**600**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Beaverdam Dam Repairs
CIP Project #:	WTR00177
Program:	WTR Water
Requesting Dept:	O-WTR
Managing Dept.:	O-WTR
Project Manager:	Castaneda, Gerardo
Sheet Completed by:	Castaneda, Gerardo

LOUDOUN WATER

Project Description

The following is a reoccurring project to capture improvements and enhancements to the Beaverdam.

Project Driver

The project is required for the longevity of the dam and meet regulatory requirements for maintaining the dam.

Additional Comments

Project initiated in 2022. In 2023, the budget includes an evaluation of the access roads for truck traffic to Beaverdam. Staff also want to add HVAC to the electrical building.

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design											
Construction											
Land/Easements											
Equip/Other		50	50	50	50	50	50	50	50	50	**450**
Subtotal		**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**450**
Outside Funding											
Net Cost		**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**450**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Woodstone 1 & 2 Improvements
CIP Project #:	WTR00178
Program:	WTR Water

Requesting Dept:	O-Remote Fac
Managing Dept.:	CAP PROGRAMS
Project Manager:	TBD
Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

This project will design and construct upgrades to Woodstone PRV Vault 1 and Woodstone PRV Vault 2 to address issues due to age, corrosion, and code changes including OT and operational updates.

Project Driver

Extending the useful life of critical assets originally constructed in 1992 and 2000. These vaults are one of two primary interconnects with the Fairfax Water supply system and critical to Loudoun Water supply.

Additional Comments

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design		100									**100**
Construction						500	500				**1,000**
Land/Easements											
Equip/Other											
Subtotal		**100**				**500**	**500**				**1,100**
Outside Funding											
Net Cost		**100**				**500**	**500**				**1,100**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Brambleton Tank 1 Rehabilitation
CIP Project #:	WTR00179
Program:	WTR Water

Requesting Dept:	O-Remote Fac
Managing Dept.:	O-WST
Project Manager:	Mantha, Anurag
Sheet Completed by:	Mantha, Anurag

LOUDOUN WATER

Project Description

Brambleton Water Storage Tank 1 painting and component improvements. This project consists of external and internal tank pressure cleaning and painting, replacement of deteriorating manway hatches, tank ceiling panels, and supports.

Project Driver

This project was identified through and in alignment with the Steel Tank Maintenance Program. Storage is a key asset for Loudoun Water distribution and requires regular maintenance to maintain and extend useful life.

Additional Comments

0

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.8**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	70										**70**
Construction		1,300									**1,300**
Land/Easements											
Equip/Other											
Subtotal	**70**	**1,300**									**1,370**
Outside Funding											
Net Cost	**70**	**1,300**									**1,370**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
30	**20**	**9**	**2**	**2**	**7**							**70**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Oakdale, Lindenwood & W Ash Pipe Replacemen	Requesting Dept:	O-PROGRAMS
CIP Project #:	WTR00180	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	_Capital Programs
		Sheet Completed by:	Parkinson, Paul

LOUDOUN WATER

Project Description

Replace approximately 3,000 LF of existing 6" and 8" main in Oakdale and Lindenwood Courts and W Ash Road and N Ash Court with new 8" DIP, service lines, hydrants, and valves.

Project Driver

The watermain in Oakdale Court was installed in 1981 but has experienced 3 breaks due to corrosion in the last two years. When repairing the breaks, extensive corrosion made it difficult to find smooth pipe to band with new pipe. Lindenwood was installed at the same time and is believed to have a similar problem. W Ash Road and N Ash Court have had more than 30 breaks on it in the past, with 5 in the last 10 years.

Additional Comments

Related: WTR00106 Pipe Replacement Program.

May be able to coordinate paving with VDOT to save costs.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.9**	(100%)

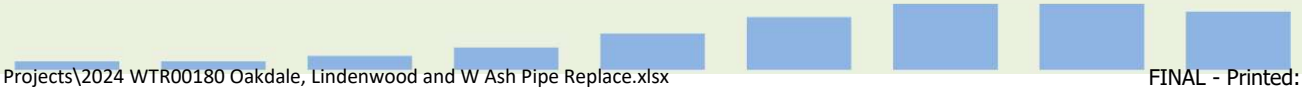
Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	120	30									**150**
Construction		310	2,210								**2,520**
Land/Easements											
Equip/Other											
Subtotal	**120**	**340**	**2,210**								**2,670**
Outside Funding											
Net Cost	**120**	**340**	**2,210**								**2,670**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
			3	**3**	**5**	**8**	**13**	**19**	**24**	**24**	**21**	**120**



2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Central System Valve Replacements 01	Requesting Dept:	MNT-LINE
CIP Project #:	WTR00181	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	Morriss, Ryan
		Sheet Completed by:	Morriss, Ryan

LOUDOUN WATER

Project Description

This project will permit, design and construct valve replacements of approximately 35 waterline valves; 2 valves off Belmont Ridge, one valve off Route 7, one valve at Ashburn Rd & Hay Rd, and 31 valves along Sterling Blvd. Valves are larger or located in roadways that require traffic control and the work cannot be performed in-house. In addition, two manholes along the site at N Sterling Blvd and E Beech Rd need to be evaluated for potential decommissioning.

Project Driver

Several water valves in the oldest area of the system with high risk of main breaks are aging and in poor condition. These need to be replaced to ensure pipes can be isolated in the event of a water main repair. The location of these valves in the roadway present a greater risk of significant damage to roadway as well as personal property and public safety. Note: 2024 DTCI project may affect site near WOD Trail (may be willing to work together).

Additional Comments

Valve replacement was identified through annual valve exercising program in locations noted as deteriorating, leaking during operation, and will not close properly. Safety concerns include placement of valves in relation to intersections and ability to safely operate such valves during repairs or preventive maintenance work.
This project was merged with WTR00136 Belmont Ridge 36" Valve Replacement Project.

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.45**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	80										**80**
Construction		1,000									**1,000**
Land/Easements											
Equip/Other											
Subtotal	**80**	**1,000**									**1,080**
Outside Funding											
Net Cost	**80**	**1,000**									**1,080**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
9	**14**	**17**	**16**	**11**	**7**	**3**	**3**					**80**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Valve Replacement Program (Annual)
CIP Project #:	WTR00182
Program:	WTR Water

Requesting Dept:	O-PROGRAMS
Managing Dept.:	CAP PROGRAMS
Project Manager:	_Capital Programs
Sheet Completed by:	Whitten, Kathleen

LOUDOUN WATER

Project Description

Loudoun Water's line maintenance team performs valve exercise and condition assessment activities throughout year. Through this preventive maintenance program, many valves are flagged for replacement due to not functioning properly. Valves that are not able to be replaced with in house staff and/or require permitting and/or extensive construction are budgeted for in this annual CIP project.

Project Driver

Valves in poor condition need to be replaced to ensure pipe can be isolated in the event of a water main repair or replacement. This project will ensure as few customers as possible experience service disruptions.

Additional Comments

Annual Valve Replacement priorities are budgeted in stand-alone CIP project sheets for implementation.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.45**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design			50	50	50	50	50	50	50	50	**400**
Construction				400	400	400	400	400	400	400	**2,800**
Land/Easements											
Equip/Other											
Subtotal			**50**	**450**	**450**	**450**	**450**	**450**	**450**	**450**	**3,200**
Outside Funding											
Net Cost			**50**	**450**	**450**	**450**	**450**	**450**	**450**	**450**	**3,200**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Water Storage Tank Process Upgrades	Requesting Dept:	O-Remote Fac
CIP Project #:	WTR00184	Managing Dept.:	O-Remote Fac
Program:	WTR Water	Project Manager:	TBD
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

This project involves the design and construction of improvements at Broadlands and Brambleton Water Storage Tanks. These improvements include upgrading the existing check valve, lighting, exhaust fans, along with installing new PSI transmitters, motorized valves, Pax Water Quality System and PLCs in each tank.

Project Driver

These upgrades are needed to improve the reliability and efficiency of the water storage tanks. The existing PLCs have no more space for future upgrades.

Additional Comments

Replaces FY22 CIP Projects WTR00121 and WTR00122. This project includes the electrical and OT component replacement due to aged or obsolete equipment. Project updated to reflect Broadlands only (Brambleton covered under PS Upgrades).

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	3	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	3	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**2.8**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning			50								**50**
Design				100							**100**
Construction					250	250					**500**
Land/Easements											
Equip/Other											
Subtotal			**50**	**100**	**250**	**250**					**650**
Outside Funding											
Net Cost			**50**	**100**	**250**	**250**					**650**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	16" WM Innovation Ave to Old Ox	Requesting Dept:	LAND DEV
CIP Project #:	WTR00185	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	_Capital Programs
		Sheet Completed by:	Morriss, Ryan

LOUDOUN WATER

Project Description

This project will follow the Horsepen AFP. Design and construction of approximately 5,000 feet of 16-inch diameter watermain between Old Ox Road and Innovation Avenue is anticipated to follow. The first phase will be pre-design effort to determine capacity constraints and solutions in coordination with all stakeholders, considering alignments, development plans, and existing agreements.

Project Driver

Multiple developments are proposed along Innovation Avenue, and growth in the system is driving the need for this water main loop. The area is currently served by a single 16-inch main. This is insufficient to meet future level-of-service standards for flow and pressure. This project will also provide required redundancy with a second feed to the area, and improve water quality.

Additional Comments

The water project was identified in the 2018 Water Master Plan as a future main dependent on development. Land Development coordination will be required.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.65**	(100%)

Estimate Method: Industry Metrics

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design		350	30								**380**
Construction			410	1,860	240						**2,510**
Land/Easements											
Equip/Other											
Subtotal		**350**	**440**	**1,860**	**240**						**2,890**
Outside Funding											
Net Cost		**350**	**440**	**1,860**	**240**						**2,890**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	LCRR Compliance Projects
CIP Project #:	WTR00186
Program:	WTR Water

Requesting Dept:	O-PROGRAMS
Managing Dept.:	O-PROGRAMS
Project Manager:	Dzara, Jessica
Sheet Completed by:	Dzara, Jessica

LOUDOUN WATER

Project Description

Task Order to assist LW in verifying unknown customer side service lines. The Work will involve data acquisition, physical inspections, and predictive modeling. Loudoun Water's PM and vendor's engineer will lead discussions with VDH to inform and educate them on our predictive modeling approach and address any questions or concerns that they may have in order to accept predictive modeling as a method for the LW's service line inventory development to comply with LCRR.

Project Driver

Loudoun Water must comply with the EPA Lead and Copper Rule Revisions (LCRR) requirements by October 16, 2024. Activities that reduce the number of "unknowns" in our lead service line inventory will reduce the amount of required communications with customers and potential additional sampling requirements, saving the organization time, expense, and maintaining positive public perception of the utility.

Additional Comments

$250K Grant Awarded from VDH.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	1	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	4	(10%)
Total score	**2.65**	(100%)

Estimate Method: Firm Price/Quote

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	250										**250**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**250**										**250**
Outside Funding											
Net Cost	**250**										**250**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
8	**242**											**250**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Central Water Risk Assessment
CIP Project #:	WTR00187
Program:	WTR Water

Requesting Dept:	O-PROGRAMS
Managing Dept.:	O-PROGRAMS
Project Manager:	Whitten, Kathleen
Sheet Completed by:	Whitten, Kathleen

LOUDOUN WATER

Project Description

This project includes updating Loudoun Water's risk and resiliency assessment of water facilities as required by America's Water Infrastructure Act of 2018. This assessment shall be for all natural and malevolent hazards.

Project Driver

America's Water Infrastructure Act of 2018 requires that a risk and resilience assessment study be conducted for each water system serving 3,300 people or more. The first Central Water System assessment was completed in 2020 and must be updated once every five years (Next deadline March 2025).

Additional Comments

This project includes a resiliency assessment of the central water system. Risk assessments for the technology, community systems, wastewater system, and reclaimed water system are identified as separate projects.

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	5	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.6**	(100%)

Estimate Method: Other

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	20	10				20	10				**60**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**20**	**10**				**20**	**10**				**60**
Outside Funding											
Net Cost	**20**	**10**				**20**	**10**				**60**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
										6	**14**	**20**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Dulles South Storage Tanks Modifications	Requesting Dept:	O-Remote Fac
CIP Project #:	WTR00188	Managing Dept.:	O-WST
Program:	WTR Water	Project Manager:	Mantha, Anurag
		Sheet Completed by:	Downes, Kinsey

LOUDOUN WATER

Project Description

Dulles South Water Storage tanks painting and metal modifications. This project consists of external tank pressure washing and painting and modify tank to include fall protection and handholds.

Project Driver

This project was identified through and in alignment with the Steel Tank Maintenance Program. Water storage tanks are a key asset for Loudoun Water distribution and requires regular maintenance to extend useful life.

Additional Comments

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	1	(25%)
2. Level of Service	2	(25%)
3. Implication of Deferring	2	(20%)
4. Alignment	2	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**1.65**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design			120								**120**
Construction				700	700						**1,400**
Land/Easements											
Equip/Other											
Subtotal			**120**	**700**	**700**						**1,520**
Outside Funding											
Net Cost			**120**	**700**	**700**						**1,520**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Sterling Park Water Main Replacement	Requesting Dept:	O-PROGRAMS
CIP Project #:	WTR00189	Managing Dept.:	CAP PROGRAMS
Program:	WTR Water	Project Manager:	_Capital Programs
		Sheet Completed by:	Whitten, Kathleen

LOUDOUN WATER

Project Description

Replacement of five miles of watermain within Sterling Park section 1 and W Church Road. The pipe to be removed ranges in size from 3" to 12" in diameter. All of the pipe to be removed is cast iron. The project will replace these pipes along with hydrants, valves, and water services with ductile iron pipe meeting the standards in the Engineering Design Manual.

Project Driver

Sterling Park section one is the oldest section of pipe in Loudoun Water's system and was installed prior to Loudoun Water having formal design standards. A quarter of all breaks occur within this section of pipe. Replacing the old cast iron with new ductile iron should drastically reduce emergency water main breaks in the central system.

Additional Comments

Associated projects include:
WTR.00106 - Water Main Replacement Program
WTR.00107 - W Beech, Concord, Colonial
WTR.00180 - Oakdale, Lindenwood, and W Ash
WTR.00181 - Sterling Blvd Valve Replacement

Estimate Method: Industry Metrics

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	3	(25%)
2. Level of Service	5	(25%)
3. Implication of Deferring	4	(20%)
4. Alignment	4	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.7**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning											
Design	50	440	10								**500**
Construction			5,960	4,040							**10,000**
Land/Easements											
Equip/Other											
Subtotal	**50**	**440**	**5,970**	**4,040**							**10,500**
Outside Funding											
Net Cost	**50**	**440**	**5,970**	**4,040**							**10,500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
									23	**11**	**16**	**50**

2024 - 2033 Loudoun Water Capital Improvement Plan

Project Name:	Water System Master Plan	Requesting Dept:	PLANNING
CIP Project #:	WTR00190	Managing Dept.:	PLANNING
Program:	WTR Water	Project Manager:	Geldert, Darrin
		Sheet Completed by:	Geldert, Darrin

LOUDOUN WATER

Project Description

Develop Water System Master Plan. Master plan will include updated projections, water modeling, calibration, scenario analysis, storage review, capital improvement needs with timing and cost estimates. Deliverables will include GIS, model, PowerBI and excel data for Loudoun Water use, in addition to a report.

Project Driver

Continued growth, including expanded service area and increasing industrial demands, requires regular review and planning maintain level-of-service requirements. The Master Plan is a tool VDH references to confirm system conformance with regulatory guidelines.

Additional Comments

Budget previously tracked in WTR.00001

Estimate Method: Firm Price/Quote

Project Prioritization; Criteria - Rating (5 High, 1 Low)

1. Regulatory/Safety Requirement	4	(25%)
2. Level of Service	4	(25%)
3. Implication of Deferring	3	(20%)
4. Alignment	5	(20%)
5. Funding/Other Opportunities	1	(10%)
Total score	**3.7**	(100%)

10-Year Capital Expenditures in Thousands (2024 dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Planning	60	330	110								**500**
Design											
Construction											
Land/Easements											
Equip/Other											
Subtotal	**60**	**330**	**110**								**500**
Outside Funding											
Net Cost	**60**	**330**	**110**								**500**

2024 Monthly Capital Expenditures in Thousands (2024 dollars)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
									37	**10**	**13**	**60**