

11.3 Storage Tanks

Perform routine inspections on the following items:

- Coating type and Conditions
 - Note interior coating condition, exterior coating condition, and logo condition
 - Take pictures to document condition of each
- Safety
 - Note any safety climbing devices and if they are properly secured
 - Note any deficiencies with access hatches
- Security
 - Ensure fence around the site is secure, the ladder gate/access door is locked, and the access hatch is locked and secure
 - Note any evidence of vandalism
- Structural
 - Inspect the foundation, legs, access ladders, column flanges, anchor bolts, riser pipe, riser rods, wind rods, balcony, interior ladders, roof, vents, overflow pipe, and welds and note any deficiencies such as corrosion or rust
 - Ensure connections are watertight and there are no visible leaks
 - Take pictures to document condition of each

Complete maintenance items on a rotating schedule:

- Recoating/repair interior and exterior
- Disinfect according to an approved AWWA method

11.4 Groundwater Wells

Utilize the Town Checklist for each inspection. This checklist should cover the following items:

- Record hours of running time from elapsed time meters at least once per month
- Inspect control panel switches for proper positioning at each well
- Test alarms
- Check valves for proper positioning (valve functioning, normally open valves are open, normally closed valves are closed)
- Check for unusual pump noise or vibration
- Check amperage readings and note variations from normal
- Check for leakage
- Note any rust or loose parts
- Check that piping and valves are not leaking and that bolts and nuts are tight
- Check control settings

Perform routine inspections on the following items:

- Daily inspection of pumps, auxiliary equipment, and grounds. Maintain log of hour meter readings, discharge pressure and flow rate, as applicable, and other pertinent data
- Inspection of pumps and other mechanical equipment, per manufacturer's schedule

Perform routine maintenance on the following items:

- Monthly valve exercise
- Monthly tests to ensure proper operation of alarms, telemetry, and auxiliary equipment
- Annual flow meter calibration
-

11.5 Valves

With the completion of the GIS system and the clear location of all system valves, we will begin performing annual inspections and exercise of each valve in the town system. Maintain log of date, asset identifier, location of valve, and general condition of valve. This is a new program to be implemented with the finalization of the Town GIS system.

11.6 Hydrants

Perform routine inspections or maintenance items:

- Annual inspections of each hydrant. Maintain log of date, asset identifier, location of hydrant, and general condition of hydrant
- Regular flushing of selected fire hydrants throughout the system, location and schedule determined by the flushing program. Maintain a log of date, hydrant location, duration of flushing, and approximate volume of water flushed

12 Capital Improvement Plan

12.1 Capital Costs

The Town Capital Improvement Plan (CIP) can be considered an index of projects that the Town staff has determined are needed to either maintain the viability of the Water and Wastewater systems, or are needed to recover the systems and their components to functionality in terms of safe and reliable operation or to comply with permitting requirements.

It is intended that the capital improvement cost includes the material cost and labor cost for the rehabilitation, replacement, or installation of a new or existing water or wastewater system asset. This cost can be determined for an asset with direct price quotes provided by a supplier or general cost estimates based on an evaluation of recent construction bids across North Carolina and the RSMeans Catalog. For the purposes of this project, a combination of direct price quotes and general cost estimates were used to determine unit costs for pump stations, water and sewer mains, valves, hydrant assemblies, and other system component for replacement or rehabilitation. As with any advance planning where specific details have not been determined study, inspection, or design or otherwise revealed, these estimates are for approximate cost planning and general scale of effort needed. Actual costs of executing these projects will vary.

12.2 Capital Improvement Projects

Based on input from the Town of Hertford Staff, Engineering consultants, and available supplier and contractor input, the results of the condition assessment, and the results of the criticality and risk analysis, summarized above, the following projects are recommended for inclusion in the CIP budget for the collection system over the next 10 years. These water and sewer projects are part of the Town's Comprehensive Capital Improvements Plan.

12.2.1 Sewer System Projects

1. Sewer Line replacements

Recurring repair/replacement of sewer lines not replaced as part of the 2024 Grant funded project. Previous slipping lining repair projects were stop gaps in that while inflow/infiltration was minimized, slumped grades of lines have led to sediment trapping and clogging. This in turn has led to the need for recurring cleaning of lines. Project anticipates repairing a portion of the remaining existing lines each year. The specific line amounts will be delineated

after or near the conclusion of the 2024 rehab work.

2. Sewer Line Clean outs

Due to the age of the infrastructure and the inconsistent standards over the many decades, sewer lines from businesses and residences rarely have a clean out located at the property line. With the nearest clean out located at the backs of houses, responsibilities for clogged lines in confusing. This project is a recurring project to gradually install clean-outs.

3. WWTP Operations Recovery and Rehabilitation

This project cleans out significant amounts of sediment build-up in the oxidation ditches from many years of a failed Headworks. Next, the extensive collection of rags/stringy waste build up in the digester will be removed and the damaged aerator heads replaced along with associated piping. Third, the slide gates and sluice gates in the O2 Ditches, Chlorine contact tanks, splitter boxes, and the telescoping valve on the hold tank will be replaced to working order.

4. Conversion from Chlorine Gas and controls to Solid application system

As reflected by the May 2023 Notice of Violation received from NCDEQ, the existing gas chlorine application system is in poor shape and subject to recurring failures. Additionally, the increasing shortage of gas cylinders is making it difficult to maintain an adequate supply onsite and with our suppliers. Lastly the gas form is significantly more risky to worker and public safety and the use of a solids application system would help address all these concerns.

5. Effluent System Recovery

This project removes and de-permits the effluent disc filtering system from the treatment train and makes the necessary piping and structural changes to maintain the stream flow, the consistently problematic effluent pumping system and controls are replaced with a SCADA ready system appropriate housing/casing to ensure reliable flow.

6. Replace/rebuilt Feed & Seed Pump station

The existing Feed & Seed pump station is an old duplex station with a wet-well/dry-well set-up that is consistently problematic, requiring daily in-depth checks and frequent interventions. This project would replace/rebuild this pump station to a more contemporary design such as a duplex submersible system.

7. Replace/rebuilt Cemetery Pump station

The existing Cemetery pump station is an old duplex station that contains a

manual bar screen that is cleaned daily with a wet-well/dry-well set-up that is consistently problematic, requiring daily in-depth checks and frequent interventions. This project would replace/rebuild this pump station to a more contemporary design such as a duplex submersible system.

8. Replace/rebuilt Willow Pump station

The existing Willow pump station is an old duplex station with a wet-well/dry-well set-up that is consistently problematic, requiring daily in-depth checks and frequent interventions. This station is subject to significant inflow which make the daily flow rates disproportionate to the number of households served. This project would replace/rebuild this pump station to a more contemporary design such as a duplex submersible system.

9. Operational Controls and Monitoring

Reconstruction of the WWTP Headworks slated for construction in 2024 will recover process operation. However, the remainder of the WWTP along with the headworks has virtually no remote monitoring capability in terms of process control. This project would install SCADA capable controls all the major system components and control points. This functionality will allow for significantly improved operator control and oversight of the WWTP. Previous Notices of Violation in December 2022 for WWTP operations, Notice of Violations in January 2023 for exceedance of suspended solids, Notice of Violation in June 2023 for exceedance of WWTP Effluent Chlorine content would be addressed in part by these controls/monitoring.

10. Wastewater Mechanical Operations Structure

The current WWTP has no structure for the storage/maintenance of related equipment such as the Vacuum truck, service tractor, Z-Mower, and all mechanical equipment (replacement pumps, motors, bearings, attachments are stored outside in the weather or partially exposed to the weather depending upon available space near the existing carport. This project closes in those spaces to prevent weather and provides electric power for lights and power accessories.

11. Third Clarifier Expansion

Long-term capacity of the WWTP, upon completion of headworks repairs, O2 Ditch and Digester rehabilitation and other repairs are completed, increasing plant capacity will be limited by the clarifier capability. This project would construction a third clarifier to increase overall WWTP capacity. Permit modifications and other considerations are involved.

12.2.2 Water System Projects

1. Fire Hydrant Replacement & Repair

Fire Hydrants have a dual purpose in the Water Distribution system. They serve as a readily available source of water for fire fighting and additionally they serve as easily accessible flushing points for the drinking water distribution system. The Town's hydrants, mostly installed more than 30 years ago, are consistently failing due to age and natural corrosion or have settled lower into the ground through natural subsidence of the ground, causing increasing failure. Currently 7 hydrants have failed and are being replaced as funds are available. Additionally, many hydrants have receded into the ground which will contribute to more future failures. This project aims to establish a significant repair and replacement program.

2. Replace existing water lines

The current 2024 water line replacement project will only address the most significant lines for replacement. This project establishes an initial recurring program to replace lines that are antiquated, violated Lead and copper rule requirements, are inadequately sized, or otherwise are a priority for removal.

3. Smart Water Meter installation

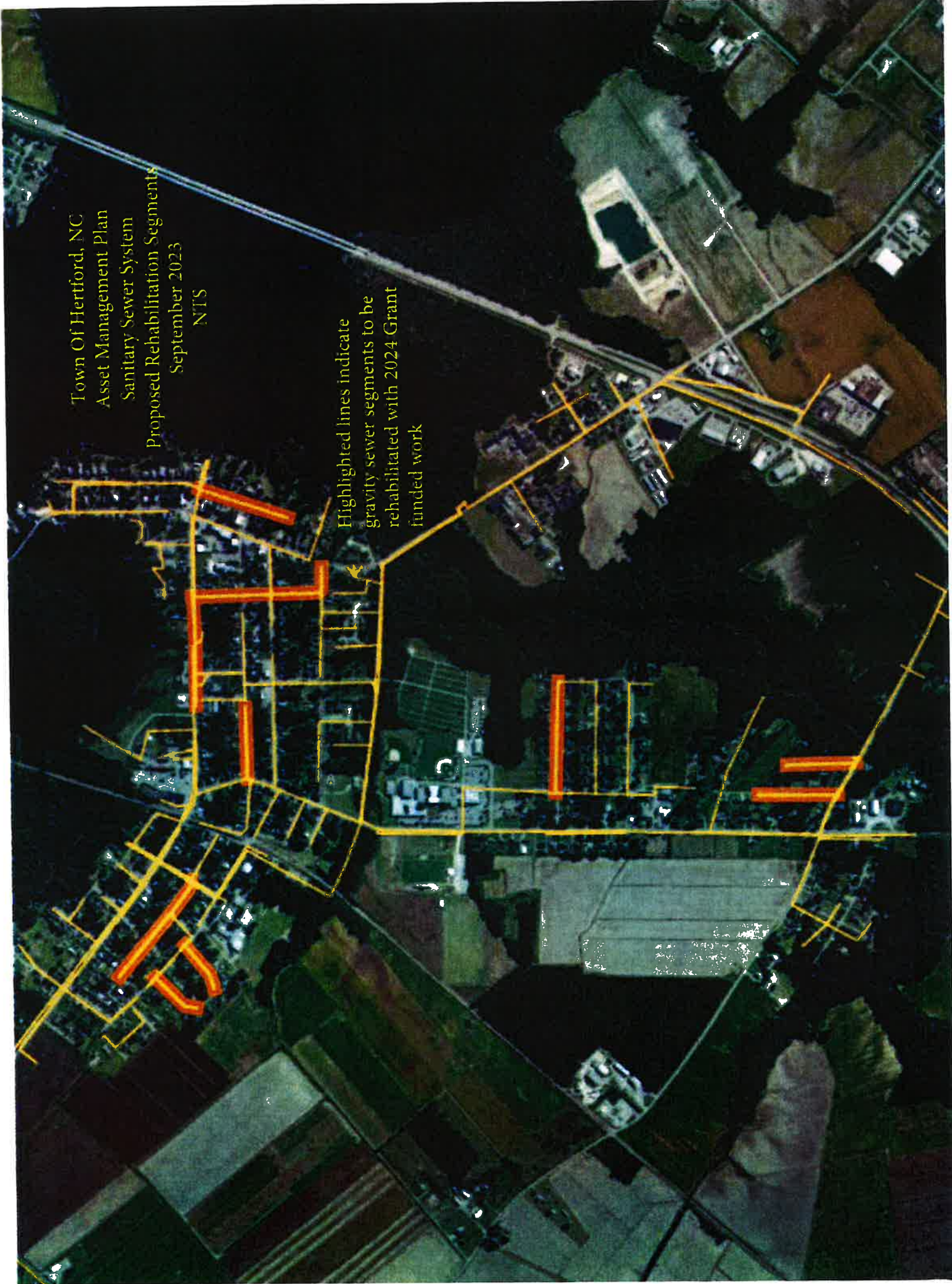
The existing, manually read water meters are labor intensive, subject to recurring and increased failure rates, and are of limited value in determining leaks, and breaks. The project is set to replace over a period of 4 years, the existing meters with remote read water meters.

The pay back in labor alone more than justifies the expense but the additional value from remote sensing and the granularity of the data will help in addressing customer concerns over billing, leaks, and long-term system compliance.

Appendix I

Town Of Hertford, NC
Asset Management Plan
Sanitary Sewer System
Proposed Rehabilitation Segments
September 2023
NTS

Highlighted lines indicate
gravity sewer segments to be
rehabilitated with 2024 Grant
funded work



Appendix II

Town of Herford, NC
Asset Management Plan
Water Distribution System
Proposed Rehabilitation Segments
September 2023
NTS

Yellow highlighted lines
indicate water lines to be
rehabilitated with 2024
Grand funded work



Appendix III

4



LEGEND

- TOWN LIMITS
- PEROUMANS RIVER
- SITTIMANS RIVER
- WATER MAIN
- WATER SERVICE LINE
- FIRE HYDRANT
- FIRE HYDRANT BOX
- FIRE HYDRANT NOT IN BOX

**WATER DISTRIBUTION SYSTEM
BASE MAP**
TOWN OF HERTFORD, NORTH CAROLINA
MARCH 2005



- ### Hydrants Numbers Not Inside Boxes were assigned numbers prior to 2005
- 140 Hydrant Numbers (<141) in Boxes were assigned Numbers circa 2015
- 141 Hydrant Numbers above 140 were assigned in 2023

GREEN ENGINEERING
WATER, WASTEWATER, SUPPLYING, PLANNING, PROJECT MANAGEMENT
303 H. GOLDBERG RD. P.O. BOX 808, HUNTER, NC 27846
TEL: 800-367-8888 FAX: 757-247-1988 OFFICE@GREENENGINEERING.COM

Appendix IV

Town of Hertford Waterlines - Next Priority

Ref #	Location	Priority	Current Line Length (Est. ft)	Replacement Line Length (Est. ft)	Est Connections	Comments	Map #	Alternative Scope Items				
								1- Add to Base Scope	2 - 1st Tier	3 - 2nd Tier	4 - 3rd Tier	5 - Deferred
Linear Footage Totals								1,227	4,369	5,462	6,197	6,115
1	Trailers and Residences between 1100 blocks of Don Juan Road and W Grubb Street	3	2362	2400	22	GIS map displays the 14" Asbestos Cement main on the north side of Don Juan Road, survey work shows this line is south of Don Juan. The quality and location of the water lines in this area are not well documented. Existing lines are believed to be 2". Optimization of the routing of the line placement pends understanding of utility right-of-ways, is expected to reduce the linear footage required.	1		2,400			
2	Gaither Street	2	361	361	3	2" Galvanized Steel	3	361				
3	Wingfield Street	2	338	338	4	2" Galvanized Steel	3	338				
4	100 and 200 Blocks of Woodland Street - Between Dobbs and Grubbs Street	3	623	623	4	6" - Condition Unknown	3		623			
5	100 Block of Perry Street - Between Dobbs and Pennsylvania	2	262	262	4	6" - Condition Unknown - Some Issues	3	262				
6	200 Block of Perry Street - Between Pennsylvania and Grub	3	328	328	6	6" - Condition Unknown	3		328			
7	500 Block of Pennsylvania Avenue	1	472	472	7	2" - Condition is very poor	3	472				
8	200 Block of West Railroad Ave - Between Pennsylvania and Grubb	1	308	230	4	2" - Condition is poor. 3 residences on railroad are not currently occupied. The residence to the north at the intersection of Railroad and Grubb Street should be connected directly to the main as meter is on the north side of the residence.	3		230			
9	300 Block of Woodland Street to cul-de-sac - North of W Grubb Street	2	400	400	7	2" Galvanized Steel	3		400			
10	400 Block of Market St between - E Railroad Ave and S Edenton Road Street	2	492	492	10	Believed to be 4" pipe, condition questionable	4		492			
11	100 Block of West Academy - Between Grubb and Market	1	449	0	5	Line is believed good, service connections are failing and need to be replaced.	5					
12	300 and 400 blocks of North Front Street - North of Punch Alley	2	400	400		Some or all of this line is 2" galvanized steel. Northern portion has some complexity in the piping layout. A 40' foot extension into Newby Street may not need to be replaced.	5		400			

Town of Hertford Waterlines for Consideration as Alternative Scope Items for SRFP Project

Ref #	Location	Priority	Current Line Length (Est. ft)	Replacement Line Length (Est. ft)	Est Connections	Comments	Map #	Alternative Scope Items							
								1- Add to Base Scope	2 - 1st Tier	3 - 2nd Tier	4 - 3rd Tier	5 - Deferred			
Linear Footage Totals											1,227	4,369	5,462	6,197	6,115
13	E Grubb Street -east of N Front Street	2	262	262	3	2" Line running under residences, should be replaced	5		262						
14	North Covenant Garden Street - North of Grub - to Reed Oil	4	269	269	2	2" Galvanized Steel	5					269			
15	Perquimans Street north of Grubb Street	4	213	213	3	2" Galvanized Steel	5						213		
16	Cypress Lane east of S Church Street	4	715	394	2	2" Galvanized Steel - possibly only a single residence	6							394	
17	Stokes St South of King Street	2	230	230	4	2" galvanized steel - serves some residences east of Stoke St in apartment complex	6		230						
18	Hyde Park Street south of King Street to the Cemetery	4	853	525	4	2" Galvanized Steel - Service to cemetery is not required, however water supply to the Cemetery pump station would be useful for operations.	6							525	
19	Brace Avenue - South of King Street	2	879	615	9	2" Galvanized Steel - Current line runs behind residences adjacent to Jennies Gut. Running this line in front of the residences would reduce the length of run and improve serviceability.	6		615						
20	Feed to Brace Avenue Apartments east of Brace Avenue.	2	200	200	7	2" Galvanized Steel serving apartments at 100 Brace Avenue	6		200						
21	300 Block of S Covenant Garden Street	2	374	374	7	2" Galvanized Steel	6		374						
22	Strip Mall East of US-17	2	434	434	7	2" Galvanized Steel	7		434						
23	Sewer Line parallel to US-17 on the West Side	3	890	890	1	1" PVC	7					890			
24	200 Block of Crescent Drive	4	1001	1001	18	Documentation is conflicting on this line - could be 6" Galvanized Steel but is more likely 2" Galvanized Steel.	8							1,001	
25	100 Block of Ballahack Rd	1	715	0	6	Scope of work would be to abandon 218 ft of 2" Galvanized Steel pipe and tied in directly to 6" main that runs parallel to the old line	9								
26	800 block of S Edenton Road Street	3	499	499	3	Replace 2" Galvanized Steel line and install hydrant for flushing and fire protection at end of Town of Hertford Service Area.	9						499		
27	700 Block of Whedbee Dr	1	525	525	7	2" Galvanized Steel - The sewer in this street is in the scope of the SRFP sewer grant projects, so the incremental cost of this work is very small.	10		525						

Town of Hertford Waterlines for Consideration as Alternative Scope Items for SRFP Project

Ref #	Location	Priority	Current Line Length (Est. ft)	Replacement Line Length (Est. ft)	Est Connections	Comments	Map #	Alternative Scope Items				
								1- Add to Base Scope	2 - 1st Tier	3 - 2nd Tier	4 - 3rd Tier	5 - Deferred
Linear Footage Totals			26334	23369				1,227	4,369	5,462	6,197	6,115
28	Dogwood Mobile Home Park Lane	3	1312	722	10	The water line servicing the trailer park is undocumented and likely 2" or less. Current Length listed is an estimate	11			722		
29	Southern Barrows Alley north of Market Street	1	210	0		Move service connections to 6" main adjacent to 2" galvanized steel and move service connections to 6" line.	12					
30	Replacement of 14" AC Waterline Connecting Hertford's 2 Elevated Storage Tanks - Portion under W Grubb Street from WTP to Carolina Street	4	2985	2985		1930's vintage asbestos cement pipe. - Critical infrastructure connecting the Town's two elevated storage tanks.	14				2,985	
31	Replacement of 14" AC Waterline Connecting Hertford's 2 Elevated Storage Tanks - Portion under W Grubb Street From Meads Circle to Carolina Street	5	1950	1950		1930's vintage asbestos cement pipe. - Critical infrastructure connecting the Town's two elevated storage tanks.	14					1,950
32	Replacement of 14" AC Waterline Connecting Hertford's 2 Elevated Storage Tanks - Portion Under Meads Circle	5	1765	1765		1930's vintage asbestos cement pipe. - Critical infrastructure connecting the Town's two elevated storage tanks.	14					1,765
33	Replacement of 14" AC Main under southern Don Juan Road	5	2400	2400		1930's vintage asbestos cement pipe.	14					2,400
34	12" Main in 1100 Block of W Grubb Street between W Academy and Ice Plant Street	4	530	530		12" Primary water main to east Hertford. Believed to be 1930's vintage asbestos cement pipe	4				530	
35	Line Servicing Commercial Properties north of Intersection US-17 and Chruch Street	4	324	280		This line services commercial properties.	13					280
4												

Town of Hertford Waterlines for Consideration as Alternative Scope Items for SRFP Project

Ref #	Location	Priority	Current Line Length (Est. ft)	Replacement Line Length (Est. ft)	Est Connections	Comments	Map #	Alternative Scope Items				
								1- Add to Base Scope	2 - 1st Tier	3 - 2nd Tier	4 - 3rd Tier	5 - Deferred
	Linear Footage Totals							1,227	4,369	5,462	6,197	6,115
36	500 block of S Edenton Road Street - line servicing homes to the west.	In Current Scope	1362	1115	8	2" Galvanized Steel - The location of the line on the GIS map appears to be incorrect. The line is likely east of the S Edenton Road Street, as evidenced by hydrants on that side of the street. This will likely be confirmed by the survey.	8					

Appendix V

Hertford Wastewater Treatment Plant

Aerobic Digester

Headworks

Grit Removal

Influent Screen

Control Building

Sludge Holding Tank

Final Clarifiers

Chlorine Contact Tanks

Disk Filters

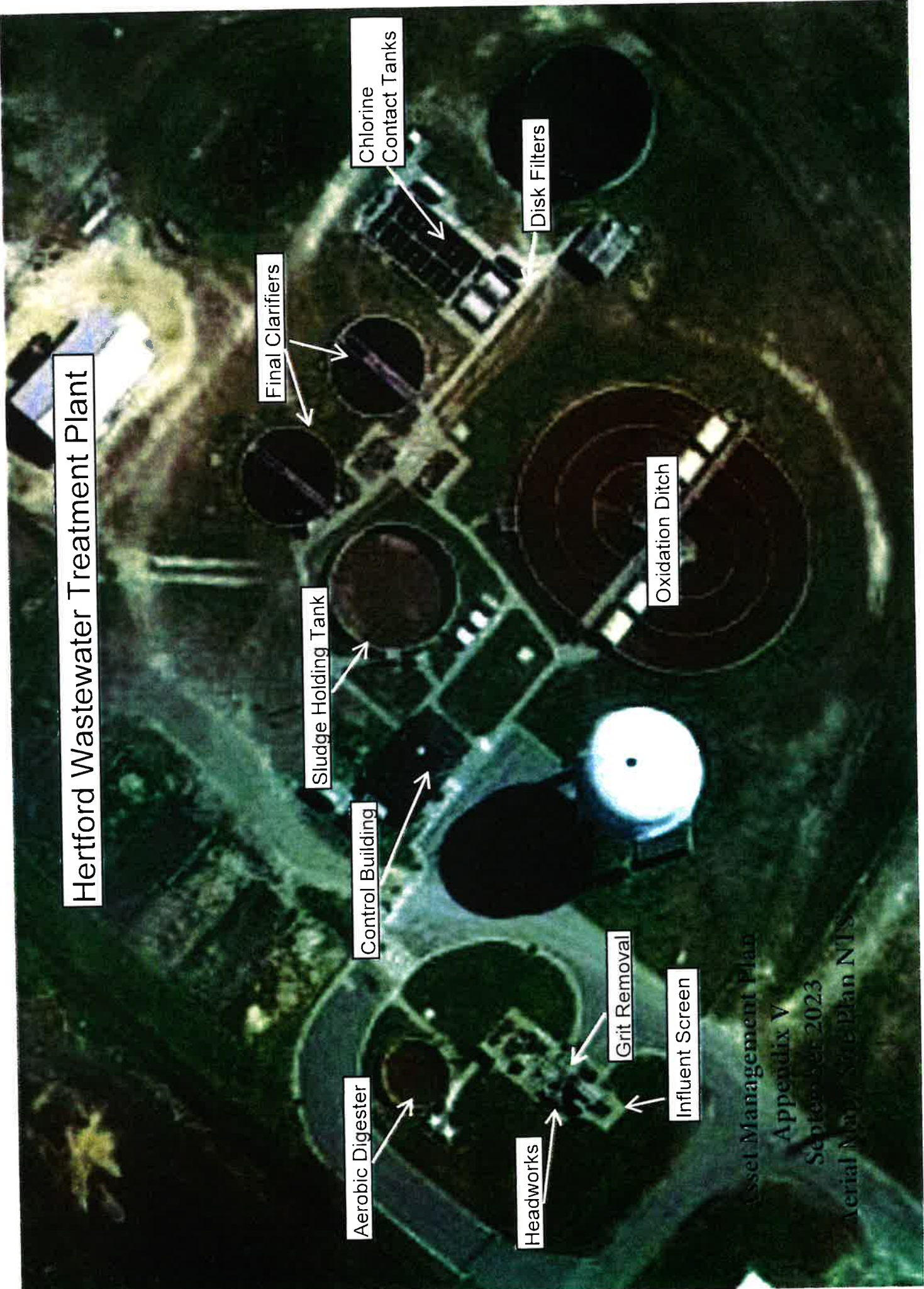
Oxidation Ditch

Asset Management Plan

Appendix V

September 2023

Aerial Map, Site Plan NIS



Appendix VI

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Town of Hertford, NC
 Capital Improvements Plan (CIP)
 September 2023
 Public Works &
 Water and Wastewater Components

Projects Summary

Tab #	Description	Total	AMP Priority
PW1	New Public Works Building Build out/Fit out	\$400,000	5
PW2	New Public Works Garage structure	\$300,000	16
PW3	New Public Works Compound Fencing, lighting, and Signage	\$220,000	15
WD1	Fire Hydrant Replacement and repair	\$140,000	1
WD2	Replacement of existing Water lines	\$500,000	4
WD3	Smart Water Meters	\$500,000	6
WWC1	Sewer line clean outs	\$1,750,000	14
WWC2	Replace/Upgrade Feed and Seed pump station	\$275,000	11
WWC3	Replace/Upgrade Cemetary pump station	\$510,000	8
WWC4	Replace/Upgrade Willow pump station	\$410,000	9
WWC5	Sewer line replacements	\$320,000	10
WWT1	Waste water Mechanical Operations structure	\$50,000	12
WWT2	WWTP Operational Controls and Monitoring repairs	\$720,000	13
WWT3	3rd Clarifier plant expansion	\$1,100,000	17
WWT4	WWTP Operations Recovery Rehabilitation	\$500,000	2
WWT5	WWTP Conversion of Gas to Solid Chlorination system	\$220,000	7
WWT6	WWTP Effluent System Recovery	\$700,000	3

**TOWN OF HERTFORD
CAPITAL IMPROVEMENT PROGRAM REQUEST
FISCAL YEARS 2024-2033**

Fund:	Combined Public Works Funds	Department	
Department:	All departments	Ranking:	5

Project Title:	New Public Works Building Build out/Fit out
Project Description:	Complete / Finish Construction of interior of New Public Works building to include structural, electrical, mechanical, Heating & Air, and then furnishings and fixtures.
Justification:	ARPA Direct funds available are able to provide the site construction and prep work along with the design and construction of the New Public Works building. Much of the buildout can be completed by staff, but not all. The new building will provide critical space for operation and storage for the Electric, Water, Wastewater, and Street service departments along with space for a WWTP lab and needed office space.

Capital Cost Breakdown			Capital Cost Per Year	
Cost Description	Funding Source	Amount	Fiscal Year	Amount
Planning, Design, and Engineering		\$ 25,000	Committed Prior To FY 2022-23	
Purchase		\$ 25,000	FY 2023-24	
Construction		\$ 350,000	FY 2024-25	\$ 100,000
Miscellaneous			FY 2025-26	\$ 100,000
Other			FY 2026-27	\$ 100,000
Other			FY 2027-28	\$ 100,000
Other			FY 2028-29	
Other			FY 2029-30	
Other			FY 2030-31	
Other			FY 2031-32	
Other			FY 2032-33	
Other			Future Years	
Total:			\$	400,000
			Total:	\$ 400,000

Project - PW1

**TOWN OF HERTFORD
CAPITAL IMPROVEMENT PROGRAM REQUEST
FISCAL YEARS 2024-2033**

Fund:	Public Works	Department	
Department:	All Departments	Ranking:	16

Project Title:	New Public Works Garage structure
Project Description:	Construction new 15 bay garage structure behind planned New Public Works building
Justification:	Relocation of the main Public Works office to Meads Circle street will shift the center of operations away from the current "IceFactory" location. This will allow for future revitalization or reconstruction of the Hertford Water front area. Development of the Ice Factory location will require the movement of the existing garage facilities from that area to the new Public Work office location.

Capital Cost Breakdown			Capital Cost Per Year	
Cost Description	Funding Source	Amount	Fiscal Year	Amount
Planning, Design, and Engineering		\$ 20,000	Committed Prior To FY 2022-23	
Purchase		\$ 180,000	FY 2023-24	
Construction		\$ 40,000	FY 2024-25	
Miscellaneous		\$ 60,000	FY 2025-26	
Other			FY 2026-27	
Other			FY 2027-28	
Other			FY 2028-29	
Other			FY 2029-30	
Other			FY 2030-31	
Other			FY 2031-32	
Other			FY 2032-33	
Other			Future Years	
Total:			Total:	\$ -

Project – PW2

**TOWN OF HERTFORD
CAPITAL IMPROVEMENT PROGRAM REQUEST
FISCAL YEARS 2024-2033**

Fund:	Public Works	Department	
Department:	All Departments	Ranking:	15

Project Title:	New Public Works Compound Fencing, lighting, and Security
Project Description:	Install fencing, automated fence gates, pole and building mounted lighting, and security cameras around new Public Works Compound
Justification:	The new Public Works building will initially only be an office and storage space. Once the garage facilities are moved to that location, fencing, lighting and security cameras will become a need to protect the vehicles and inventory that is located on the lot.

Capital Cost Breakdown			Capital Cost Per Year	
Cost Description	Funding Source	Amount	Fiscal Year	Amount
Planning, Design, and Engineering		\$ 25,000	Committed Prior To FY 2022-23	
Purchase		\$ 160,000	FY 2023-24	
Construction		\$ 25,000	FY 2024-25	
Miscellaneous		\$ 10,000	FY 2025-26	
Other			FY 2026-27	
Other			FY 2027-28	\$ 25,000
Other			FY 2028-29	
Other			FY 2029-30	
Other			FY 2030-31	
Other			FY 2031-32	
Other			FY 2032-33	
Other			Future Years	
Total:			Total:	\$ 25,000
		\$ 220,000		

Project – PW3

**TOWN OF HERTFORD
CAPITAL IMPROVEMENT PROGRAM REQUEST
FISCAL YEARS 2024-2033**

Fund:	Water Distribution	Department Ranking:	1
Department:	Water		

Project Title:	Fire Hydrant Replacement and repair
Project Description:	More than 20 fire hydrants are either non functional or sitting too low in the ground due to settlement.
Justification:	Fire Hydrants have a dual purpose in the Water Distribution system. They serve as a readily available source of water for fire fighting and additionally they serve as easily accessible flushing points for the drinking water distribution system. The Town's hydrants, mostly installed more than 30 years ago, are consistently failing due to age and natural corrosion or have settled lower into the ground through natural subsidence of the ground, causing increasing failure.

Capital Cost Breakdown			Capital Cost Per Year	
Cost Description	Funding Source	Amount	Fiscal Year	Amount
Planning, Design, and Engineering			Committed Prior To FY 2022-23	
Purchase		\$ 85,000	FY 2023-24	
Construction		\$ 40,000	FY 2024-25	\$ 35,000
Miscellaneous		\$ 15,000	FY 2025-26	\$ 35,000
Other			FY 2026-27	\$ 35,000
Other			FY 2027-28	\$ 35,000
Other			FY 2028-29	
Other			FY 2029-30	
Other			FY 2030-31	
Other			FY 2031-32	
Other			FY 2032-33	
Other			Future Years	
		Total: \$ 140,000	Total: \$	140,000

Project – WD1

**TOWN OF HERTFORD
CAPITAL IMPROVEMENT PROGRAM REQUEST
FISCAL YEARS 2024-2033**

Fund:	Waste Distribution	Department	
Department:	Water	Ranking:	4

Project Title:	Replacement of existing Water lines
Project Description:	This project will replace deteriorated segments of the systems in order of priority set based upon conditions and set standards and regulations
Justification:	Like the sewer system much of the water distribution system is old and built before 1950 of materials that are no longer acceptable or are minimally serveable. Constantly updated regulatory requirements and improvements in the science of drinking water production necessitate the periodic upgrade of the water distribution system. Additionally, gradual deterioration makes a systemic improvement program imperative.

Capital Cost Breakdown			Capital Cost Per Year	
Cost Description	Funding Source	Amount	Fiscal Year	Amount
Planning, Design, and Engineering		\$ 20,000	Committed Prior To FY 2022-23	
Purchase			FY 2023-24	
Construction		\$ 480,000	FY 2024-25	\$ 125,000
Miscellaneous			FY 2025-26	\$ 125,000
Other			FY 2026-27	\$ 125,000
Other			FY 2027-28	\$ 125,000
Other			FY 2028-29	
Other			FY 2029-30	
Other			FY 2030-31	
Other			FY 2031-32	
Other			FY 2032-33	
Other			Future Years	
Total:		\$ 500,000	Total: \$ 500,000	

Project – WD2

**TOWN OF HERTFORD
CAPITAL IMPROVEMENT PROGRAM REQUEST
FISCAL YEARS 2024-2033**

Fund:	Water Distribution	Department Ranking:	6
Department:	Water		

Project Title:	Smart Water Meters
Project Description:	Replace approximately 1000 manually read water meters with Smart meters
Justification:	The existing meter reading requires extensive monthly labor efforts to first collect then periodically re-read meters in order to supply data for the monthly billing of customers. All data collection is subject to errors and contributes to potential concerns by the public of the overall adequacy of the water system. For starting and stopping service and for non payment shut-offs additional labor is required.

Capital Cost Breakdown			Capital Cost Per Year	
Cost Description	Funding Source	Amount	Fiscal Year	Amount
Planning, Design, and Engineering			Committed Prior To FY 2022-23	
Purchase		\$ 450,000	FY 2023-24	
Construction		\$ 20,000	FY 2024-25	\$ 100,000
Miscellaneous		\$ 30,000	FY 2025-26	\$ 100,000
Other			FY 2026-27	\$ 100,000
Other			FY 2027-28	\$ 100,000
Other			FY 2028-29	
Other			FY 2029-30	
Other			FY 2030-31	
Other			FY 2031-32	
Other			FY 2032-33	
Other			Future Years	
		Total:		Total:
		\$ 500,000		

Project – WD3

**TOWN OF HERTFORD
CAPITAL IMPROVEMENT PROGRAM REQUEST
FISCAL YEARS 2024-2033**

Fund:	Waste water collections	Department	
Department:	Waste water	Ranking:	14

Project Title:	Sewer line clean outs
Project Description:	Install cleans out at the edge of the right of way or closest available location for sewer lines from homes into the Town collection system.
Justification:	The Town's sewer collection system is old and the individual sewer feed lines from homes and businesses don't have cleanouts near or at the point of entering the Town system. This lack of clean outs makes clearing cloggs and maintaining flow difficult and time consuming. It also leads to the expectation that the town will clean out individual customer service lines from their home all the way until it reaches the town system. This leads to a lack of responsibility and frequent flushing of line clogging materials and materials that are not acceptable

Capital Cost Breakdown			Capital Cost Per Year	
Cost Description	Funding Source	Amount	Fiscal Year	Amount
Planning, Design, and Engineering			Committed Prior To FY 2022-23	
Purchase			FY 2023-24	
Construction		\$ 1,750,000	FY 2024-25	
Miscellaneous			FY 2025-26	\$ 175,000
Other			FY 2026-27	\$ 175,000
Other			FY 2027-28	\$ 175,000
Other			FY 2028-29	\$ 175,000
Other			FY 2029-30	\$ 175,000
Other			FY 2030-31	\$ 175,000
Other			FY 2031-32	\$ 175,000
Other			FY 2032-33	\$ 175,000
Other			Future Years	\$ 350,000
Total:			\$	1,750,000
			Total:	\$ 1,750,000

Project – WWC1

**TOWN OF HERTFORD
CAPITAL IMPROVEMENT PROGRAM REQUEST
FISCAL YEARS 2024-2033**

Fund:	Waste water collections	Department	
Department:	Waste water	Ranking:	11

Project Title:	Replace/Upgrade Feed and Seed pump station
Project Description:	Remove existing wetwell/drywell pump station, equipment and controls and install new prefabricated submersible pump station with equipment and controls. Track mounted twin submersible pumps, level controls, and associated electronic necessary for inclusion into the Town SCADA system are included in this project. Utilize existing bldg to house necessary controls/electronics
Justification:	Built in the 1960s and equipped with very old technology, the pump station has exceeded its expected service life. Feed and Seed Pump station is an obsolete pump station that requires personnel to routinely climb down into the dry well for service and maintenance. The arrangement requires significant recurring operation and maintenance effort along with recurring monitoring to ensure the needed continuous operation.

Capital Cost Breakdown			Capital Cost Per Year	
Cost Description	Funding Source	Amount	Fiscal Year	Amount
Planning, Design, and Engineering		\$ 25,000	Committed Prior To FY 2022-23	
Purchase		\$ 75,000	FY 2023-24	
Construction		\$ 175,000	FY 2024-25	
Miscellaneous			FY 2025-26	
Other			FY 2026-27	
Other			FY 2027-28	
Other			FY 2028-29	
Other			FY 2029-30	
Other			FY 2030-31	
Other			FY 2031-32	
Other			FY 2032-33	
Other			Future Years	
Total:			Total:	\$ -

Project – WWC2

**TOWN OF HERTFORD
CAPITAL IMPROVEMENT PROGRAM REQUEST
FISCAL YEARS 2024-2033**

Fund:	Waste water collections	Department	
Department:	Waste water	Ranking:	8

Project Title:	Replace/Upgrade Cemetery pump station
Project Description:	Remove existing wetwell/drywell pump station, equipment and controls and install new prefabricated submersible pump station with equipment and controls. Arrangement will including automatic bar screen with disposal mechanism above ground surface. Track mounted twin submersible pumps, level controls, and associated electronic necessary for inclusion into the Town SCADA system are included in this project. Utilize
Justification:	Built in the 1960s and equipped with very old technology, the pump station has exceeded its expected service life. Cemetery Pump station is an obsolete pump station that requires personnel to routinely climb down into the dry well for service and maintenance. The arrangement requires significant recurring operation and maintenance effort along with recurring monitoring to ensure the needed continuous operation.

Capital Cost Breakdown			Capital Cost Per Year	
Cost Description	Funding Source	Amount	Fiscal Year	Amount
Planning, Design, and Engineering		\$ 60,000	Committed Prior To FY 2022-23	
Purchase		\$ 300,000	FY 2023-24	
Construction		\$ 150,000	FY 2024-25	
Miscellaneous			FY 2025-26	
Other			FY 2026-27	
Other			FY 2027-28	
Other			FY 2028-29	
Other			FY 2029-30	
Other			FY 2030-31	
Other			FY 2031-32	
Other			FY 2032-33	
Other			Future Years	
		Total: \$ 510,000	Total: \$	-

Project – WWC3

**TOWN OF HERTFORD
CAPITAL IMPROVEMENT PROGRAM REQUEST
FISCAL YEARS 2024-2033**

Fund:	Waste water collections	Department	
Department:	Waste water	Ranking:	9

Project Title:	Replace/Upgrade Willow pump station
Project Description:	Remove existing wetwell/drywell pump station, equipment and controls and install new prefabricated submersible pump station with equipment and controls. Track mounted twin submersible pumps, level controls, and associated electronic necessary for inclusion into the Town SCADA system are included in this project. Utilize existing bldg to house necessary controls/electronics
Justification:	Built in the 1960s and equipped with very old technology, the pump station has exceeded its expected service life. Feed and Seed Pump station is an obsolete pump station that requires personnel to routinely climb down into the dry well for service and maintenance. The arrangement requires significant recurring operation and maintenance effort along with recurring monitoring to ensure the needed continuous operation.

Cost Description	Capital Cost Breakdown		Capital Cost Per Year	
	Funding Source	Amount	Fiscal Year	Amount
Planning, Design, and Engineering		\$ 60,000	Committed Prior To FY 2022-23	
Purchase		\$ 200,000	FY 2023-24	
Construction		\$ 150,000	FY 2024-25	
Miscellaneous			FY 2025-26	
Other			FY 2026-27	
Other			FY 2027-28	
Other			FY 2028-29	
Other			FY 2029-30	
Other			FY 2030-31	
Other			FY 2031-32	
Other			FY 2032-33	
Other			Future Years	
Total:		\$ 410,000	Total:	\$ -

Project – WWC4

**TOWN OF HERTFORD
CAPITAL IMPROVEMENT PROGRAM REQUEST**

Fund:	Waste water collections	Department	
Department:	Waste water	Ranking:	10

Project Title:	Sewer Line replacements
Project Description:	Replace existing sewer lines
Justification:	Much of the Town's sewer lines were constructed prior to 1950 and are made from various

Capital Cost Breakdown			Capital Cost Per Year	
Cost Description	Funding Source	Amount	Fiscal Year	Amount
Planning, Design, and Engineering		\$ 20,000	Committed Prior To FY 2022-23	
Purchase			FY 2023-24	
Construction		\$ 300,000	FY 2024-25	\$ 80,000
Miscellaneous			FY 2025-26	\$ 80,000
Other			FY 2026-27	\$ 80,000
Other			FY 2027-28	\$ 80,000
Other			FY 2028-29	
Other			FY 2029-30	
Other			FY 2030-31	
Other			FY 2031-32	
Other			FY 2032-33	
Other			Future Years	
Total:		\$ 320,000	Total:	\$ 320,000

Project – WWC5

**TOWN OF HERTFORD
CAPITAL IMPROVEMENT PROGRAM REQUEST
FISCAL YEARS 2024-2033**

Fund:	Waste water treatment	Department	
Department:	Waste water treatment/Waste water collection (50/50)	Ranking:	12

Project Title:	Waste water Mechanical Operations structure
Project Description:	Close in the existing Carport structure and provide electrical service to the building. Vacuum truck, service tractor, Z-Mower, and all mechanical equipment (replacement pumps, motors, bearings, attachments are stored outside in the weather or partially exposed to the weather depending upon available space near the existing carport. This project closes in those spaces to prevent weather and provides electric power for lights and power accessories. It also allows for the vacuum truck, containing water to be more readily available for quick deployment for clogged sewers, water repairs and other reasons.
Justification:	

Capital Cost Breakdown			Capital Cost Per Year	
Cost Description	Funding Source	Amount	Fiscal Year	Amount
Planning, Design, and Engineering			Committed Prior To FY 2022-23	
Purchase		\$ 10,000	FY 2023-24	
Construction		\$ 40,000	FY 2024-25	\$ 50,000
Miscellaneous			FY 2025-26	
Other			FY 2026-27	
Other			FY 2027-28	
Other			FY 2028-29	
Other			FY 2029-30	
Other			FY 2030-31	
Other			FY 2031-32	
Other			FY 2032-33	
Other			Future Years	
		Total:	Total:	
		\$ 50,000	\$	50,000

Project – WWT1

**TOWN OF HERTFORD
CAPITAL IMPROVEMENT PROGRAM REQUEST
FISCAL YEARS 2024-2033**

Fund:	Waste water treatment	Department	
Department:	waste water	Ranking:	13

Project Title:	WWTP Operational Controls and Monitoring repairs
Project Description:	Replace and install new controls for all the WWTP processes and connect them to the SCADA system
Justification:	The WWTP is under going some reconstruction via funding from a grant. However, while key processes and equipment are being replaced most of the remainder of the plant functions via manual controls because the antiquated and failed controls do not function and therefore do not feed the SCADA system which prevents reasonable operations that are consistent with the the NPDES permit or prompt response in the event of plant failure. This has lead to Notices of Violation of our permit and fines.

Capital Cost Breakdown			Capital Cost Per Year	
Cost Description	Funding Source	Amount	Fiscal Year	Amount
Planning, Design, and Engineering		\$ 35,000	Committed Prior To FY 2022-23	
Purchase		\$ 600,000	FY 2023-24	
Construction		\$ 85,000	FY 2024-25	\$ 35,000
Miscellaneous			FY 2025-26	
Other			FY 2026-27	\$ 100,000
Other			FY 2027-28	\$ 100,000
Other			FY 2028-29	
Other			FY 2029-30	
Other			FY 2030-31	
Other			FY 2031-32	
Other			FY 2032-33	
Other			Future Years	
		Total: \$ 720,000	Total: \$	235,000

Project – WWT2