James River Treatment Plant

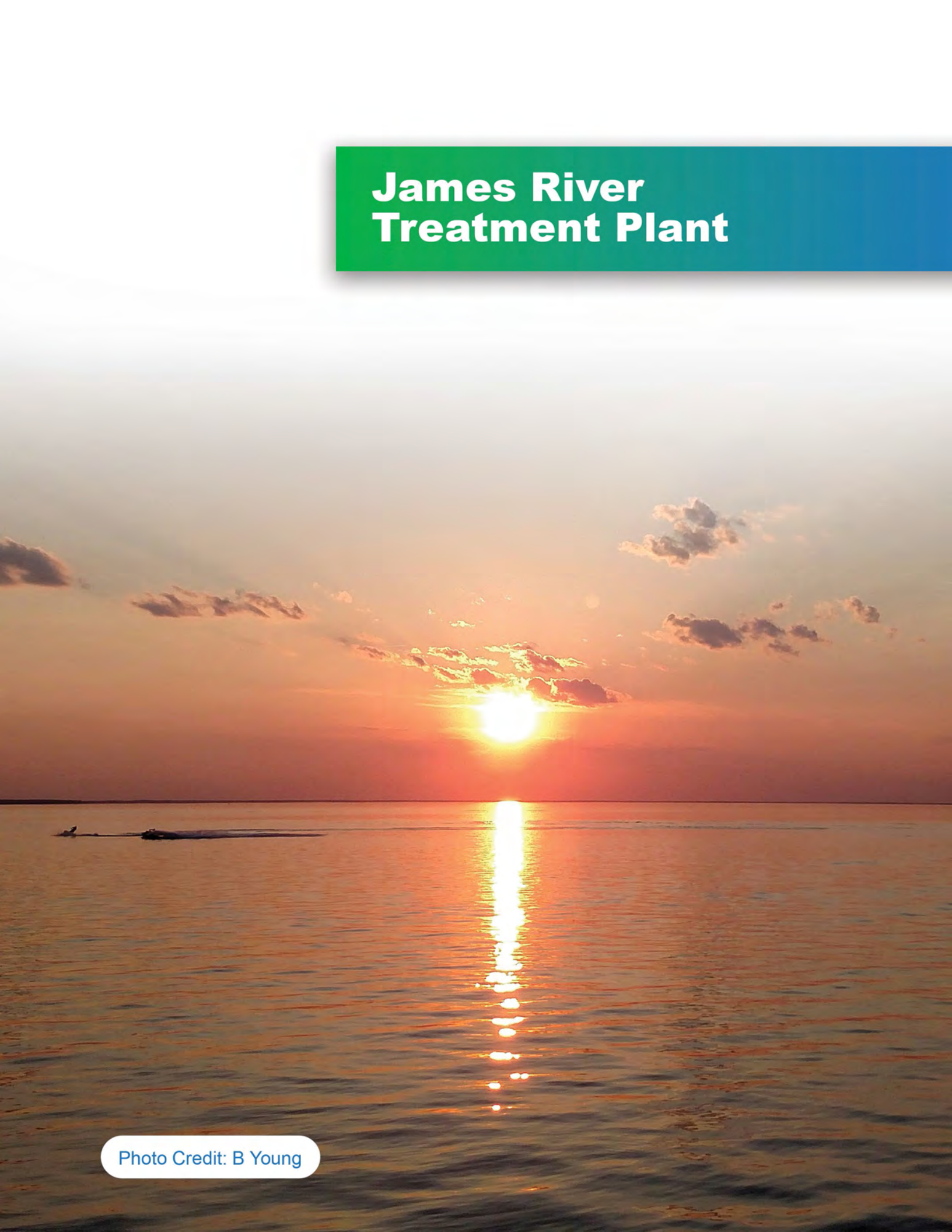
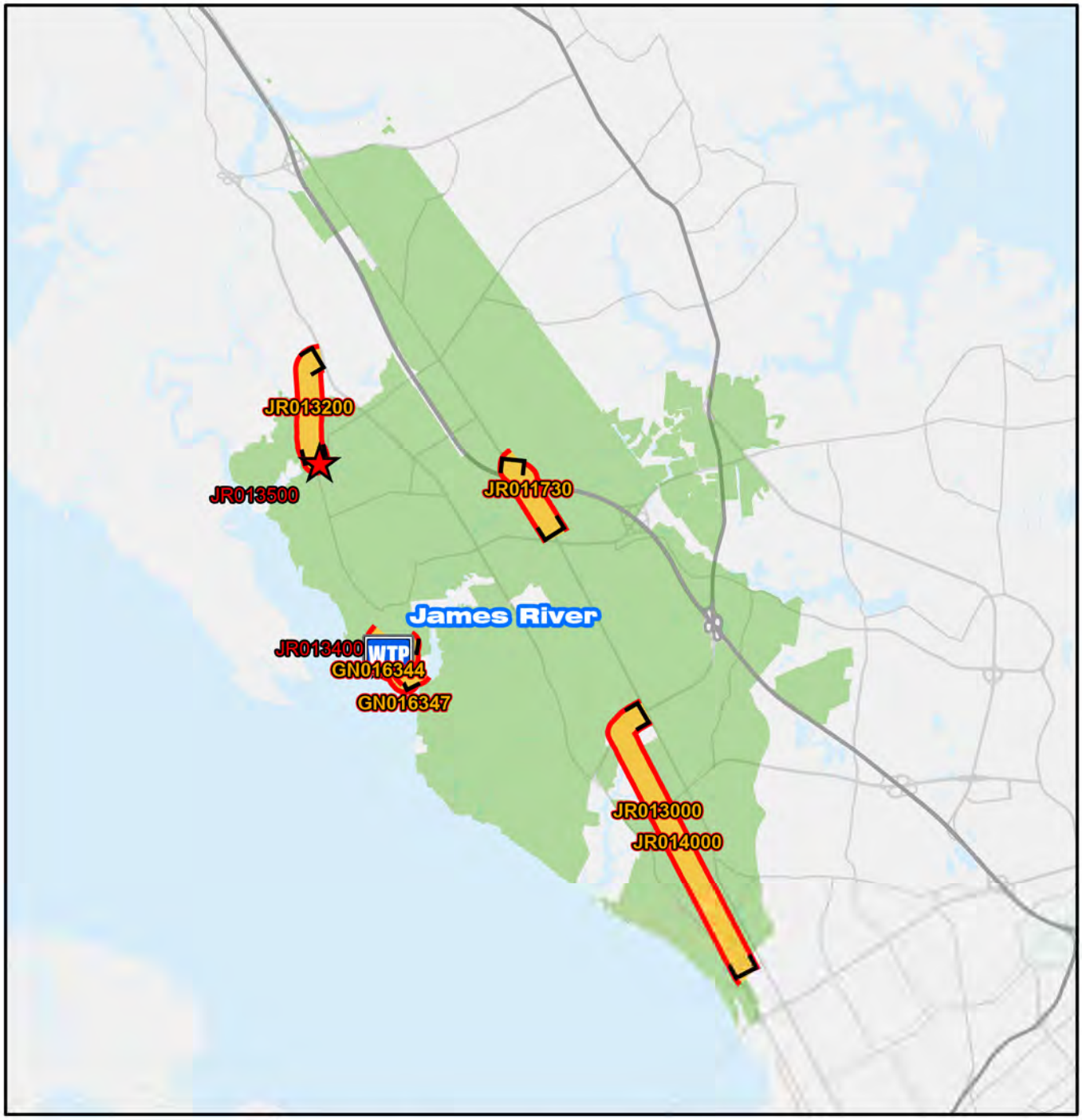


Photo Credit: B Young



Legend

- James River Treatment Plant
- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- Treatment Plant Service Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- HRSD Treatment Plant
- HRSD Pressure Reducing Station
- HRSD Pump Station

0 2,500 5,000 10,000 15,000 20,000 Feet

James River Treatment Plant Service Area CIP Projects

Treatment Plant Projects

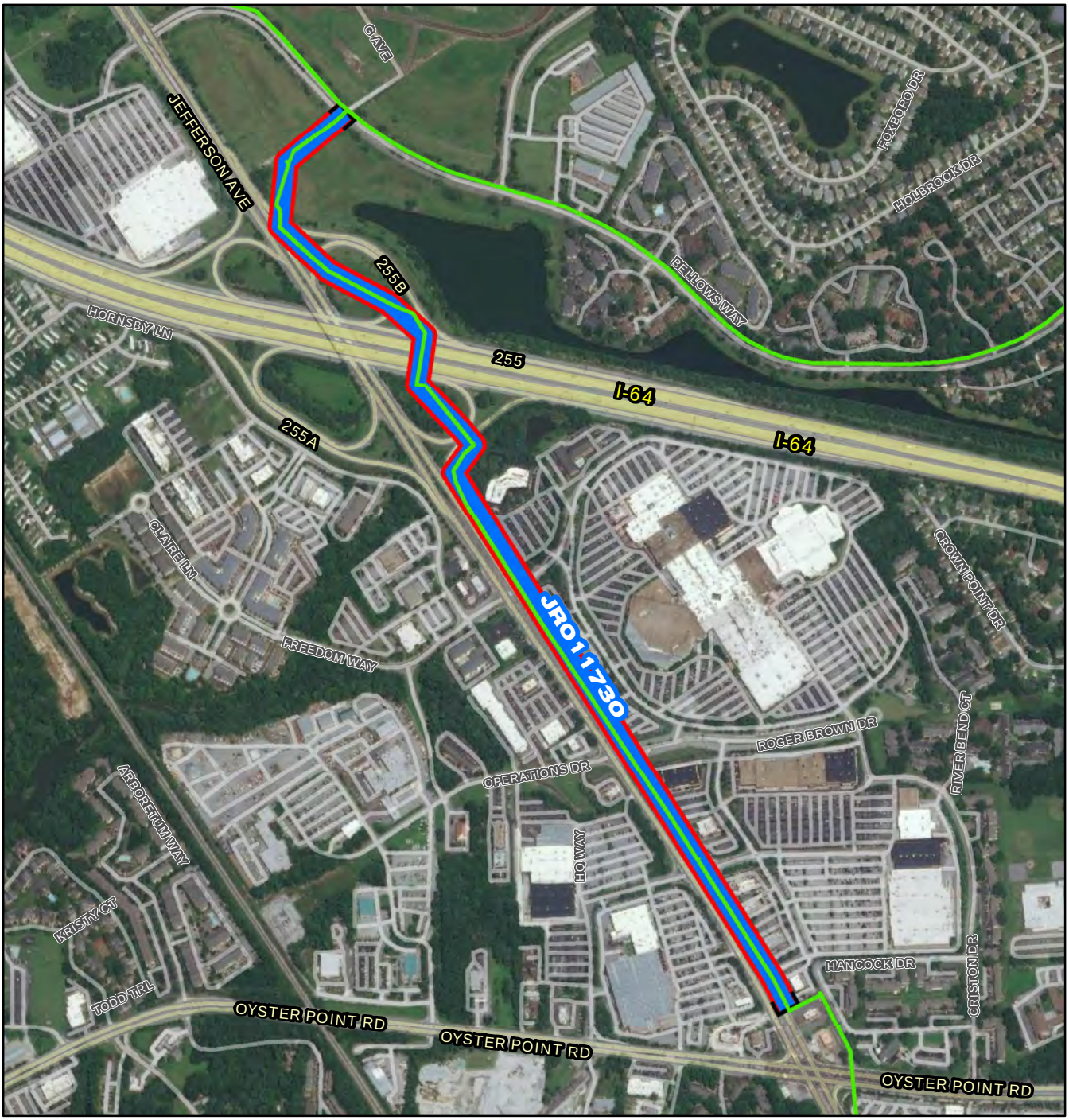
GN016344	GN016363	JR013800
GN016347	GN017400	
GN016360	JR013410	
GN016361	JR013610	
GN016362	JR013620	

HRSD

N

CIP Location

Service Area



JRO11730

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- WTP HRSD Treatment Plant
- PRS HRSD Pressure Reducing Station
- PS HRSD Pump Station

0 295 590 1,180 1,770 2,360 Feet

N W E S

CIP Location

JRO11730

Jefferson Avenue Interceptor Force Main Replacement Phase III

HRSD

Jefferson Avenue Interceptor Force Main Replacement Phase III

PR_JR011730

System: James River
Type: Pipelines

Driver Category: Capacity Improvements
Project Phase: Design
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
$18,654	$1,196	$9,970	$7,485	$3	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will replace approximately 9,000 linear feet (LF) of 12-inch, 14-inch and 16-inch HRSD force main (FM) (NF-020 and NF-021) from the intersection of Route 171 (Oyster Point Road) and Jefferson Avenue to the proposed Patrick Henry jumper. The proposed force main sizing (30-inch) was performed during the City Center HART Analysis.

PROJECT JUSTIFICATION

Preliminary hydraulic and capacity analysis show that pressures in the HRSD FM are hindering the City of Newport News' pump stations from entering the HRSD system during high flow conditions. Future development is planned for the service area, which will exacerbate the current problem. This FM segment will also provide additional capacity and system flexibility when combined with other proposed improvements.

FUNDING TYPE

Funding Type: VCWRLF

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Jeremiah Burford
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	02/01/2018
PER	03/01/2018
Design Delay	03/02/2019
Design	03/02/2019
Bid Delay	04/01/2022
PreConstruction	04/01/2022
Construction	07/01/2022
Closeout	04/01/2024

COST ESTIMATE

Cost Estimate Class:	**Class 2**
PrePlanning	$54,528
PER	$145,077
Design	$972,957
PreConstruction	$23,793
Construction	$17,448,054
Closeout	$10,000
Est. Program Cost	**$18,654,409**
Contingency Budget	$2,100,000
Est. Project Costs	**$20,754,409**

JRO13000

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- WTP HRSD Treatment Plant
- PRS HRSD Pressure Reducing Station
- PS HRSD Pump Station

0 65 130 260 390 520 Feet

JRO13000

Morrison Pump Station Discharge Force Main Replacement & Capacity Enhancements

HRSD

N
W E
S

CIP Location

Morrison Pump Station Discharge Force Main Replacement and Capacity Enhancements

PR_JR013000

System: James River
Type: Pipelines

Driver Category: Capacity Improvements
Project Phase: Pre Construction
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
$2,316	$1,754	$562	$0	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project involves replacing and rerouting approximately 850 linear feet (LF) of 12-inch Asbestos Cement (AC) Pipe with 16-inch pipe from Morrison Pump Station (PS) to the connection point at the main trunk across the CSX railroad.

PROJECT JUSTIFICATION

The 12-inch Asbestos Cement interconnect force main is designed to divert flows from the 12-inch Cast Iron force main to the 20-inch Asbestos Cement force main. Existing debris build up completely prevents flow through the pipe segment. There were several unsuccessful attempts to flush the pipe segment. The option to send flow from the Morrison PS to the James River Treatment Plant through the 20-inch AC pipe is critical in case of a break on the 12-inch Cast Iron pipe installed in 1967. The Morrison PS also has significant capacity issues. This replacement will improve capacity at this location.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

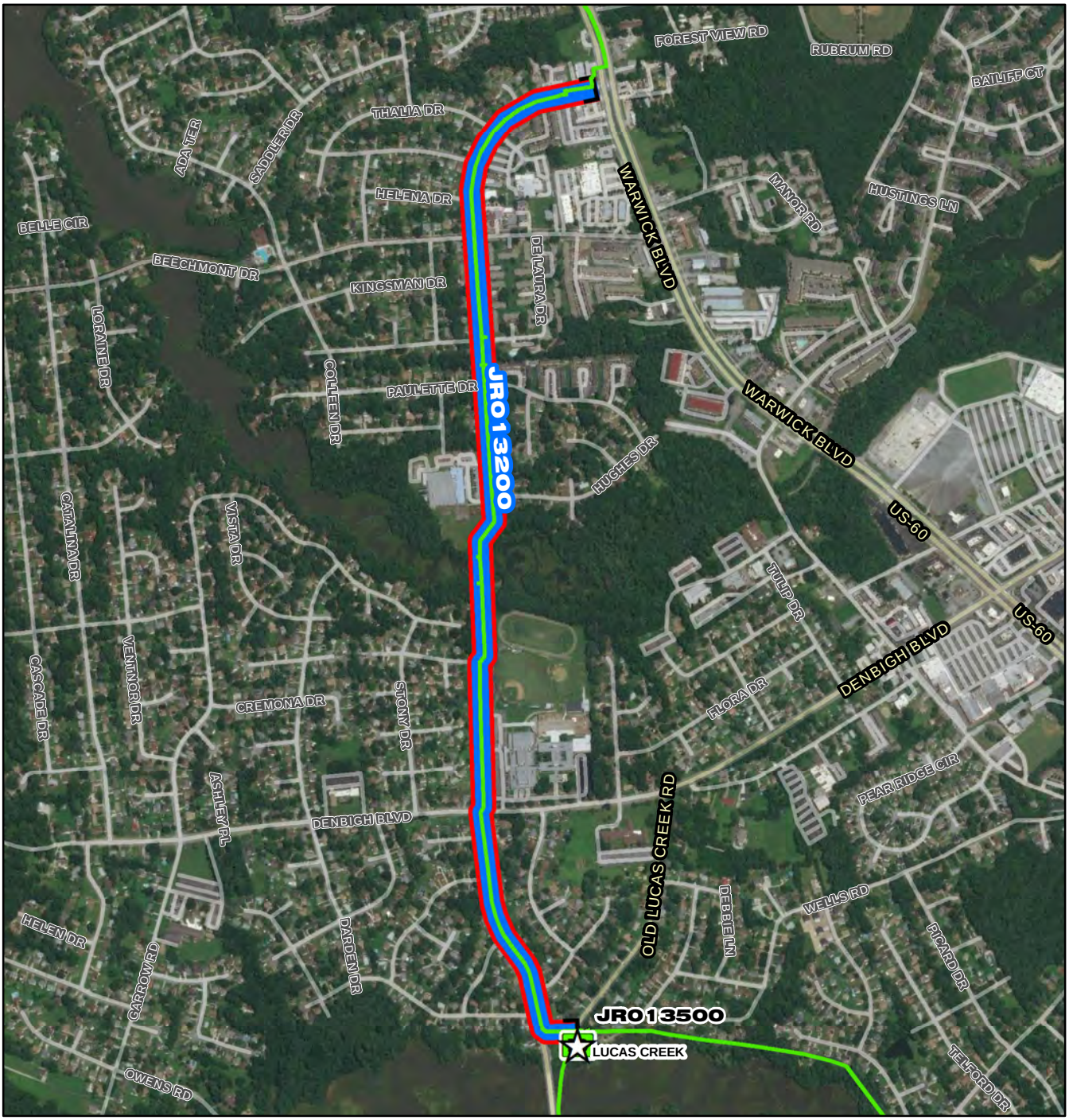
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Matt Poe
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/02/2018
PER	11/30/2018
Design Delay	04/01/2019
Design	04/01/2019
Bid Delay	01/01/2021
PreConstruction	03/01/2021
Construction	08/01/2021
Closeout	09/01/2022

COST ESTIMATE

Cost Estimate Class:	**Class 1**
PrePlanning	$0
PER	$47,300
Design	$263,329
PreConstruction	$10,363
Construction	$1,990,198
Closeout	$5,000
Est. Program Cost	**$2,316,189**
Contingency Budget	$450,000
Est. Project Costs	**$2,766,189**



JRO13200

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- WTP HRSD Treatment Plant
- PRS HRSD Pressure Reducing Station
- PS HRSD Pump Station

0 370 740 1,480 2,220 2,960 Feet

JRO13200

Lucas Creek-Woodhaven Interceptor Force Main Replacement Phase II

HRSD

N
W E
S

CIP Location

Lucas Creek-Woodhaven Interceptor Force Main Replacement Phase II

PR_JR013200

System: James River
Type: Pipelines

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: PER
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
$2,289	$253	$569	$1,457	$10	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project involves the replacement of approximately 1,500 linear feet (LF) of Ductile Iron (DI) pipe between Denbigh High School and Epes Elementary School. This section of pipe will be replaced with a 30-inch Horizontal Directional Drilled Polyethylene pipe underneath Stony Run.

PROJECT JUSTIFICATION

In 2014, two failures occurred on the Lucas Creek-Woodhaven Interceptor Force Main (NF-015) just south of Woodhaven Road within a 6 month period. These failures shared the same characteristics as the previous failures on the Prestressed Concrete Cylinder Pipe (PCCP) force main in 2007 that required the replacement of approximately 2 miles of HRSD force main. After the first failure (April 2014), several Broadband Electromagnetic (BEM) scans and Ultrasonic Thickness (UST) tests were performed along the force main from Woodhaven Road to Lucas Creek Road along Warwick Boulevard. The BEM and UST testing confirmed a loss of wall thickness along the bottom third of the pipe. pH sampling along NF-008 and NF-015 resulted in values ranging from 4.4-6.1. Due to the condition of the pipe immediately downstream of the repairs, a Prompt Repair Work Order has been issued for the replacement of approximately 1,200 LF of pipe from the intersection of Woodhaven Road and Warwick Boulevard to just north of the intersection of Thorncliff Drive and Warwick Boulevard. While no condition assessment has been performed along this section of force main from Warwick Boulevard and Lucas Creek Road to the Lucas Creek Pump Station (PS), it is anticipated that a loss of wall thickness has occurred along the bottom of the pipe. Additional condition assessment activities may be performed based on actual pipe condition obtained from the Prompt Repair work and the work to complete Phase I. This 1,500 LF of pipe to be replaced represents the most difficult section of forcemain to access and repair from Lucas Creek-Woodhaven Interceptor Force Main Replacement Phase I (JR013100) to Lucas Creek Pump Station. This portion of 1970 DI pipe lies between Denbigh High School and Epes Elementary School. This pipeline is installed under a salt marsh which, based on past experiences, is also at risk of severe external corrosion.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

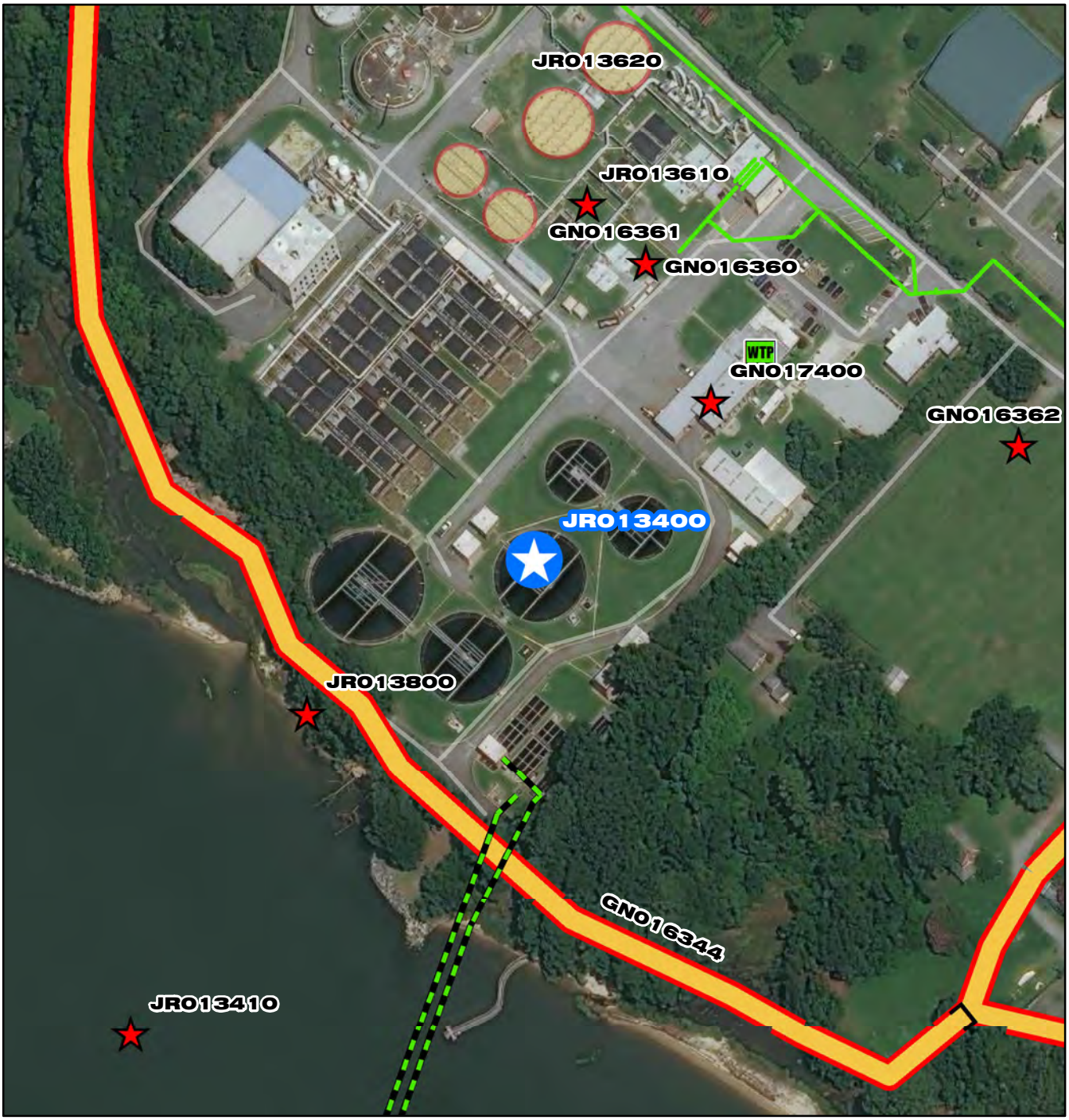
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Phil Hughes
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	04/01/2019
PER	11/05/2019
Design Delay	11/09/2020
Design	08/01/2021
Bid Delay	10/01/2022
PreConstruction	12/01/2022
Construction	03/02/2023
Closeout	07/10/2024

COST ESTIMATE

Cost Estimate Class:	**Class 3**
PrePlanning	$802
PER	$99,835
Design	$215,266
PreConstruction	$19,875
Construction	$1,943,000
Closeout	$10,000
Est. Program Cost	**$2,288,778**
Contingency Budget	$388,600
Est. Project Costs	**$2,677,378**



JR013400

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- WTP HRSD Treatment Plant
- PRS HRSD Pressure Reducing Station
- PS HRSD Pump Station

0 55 110 220 330 440 Feet

JR013400

James River Treatment Plant Advanced Nutrient Reduction Improvements

HRSD

N
W E
S

CIP Location

JRTP Advanced Nutrient Reduction Improvements

PR_JR013400

System: James River
Type: Nutrient Reduction

Driver Category: Performance Upgrades
Project Phase: Pre Planning
Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
$260,362	$27,083	$70,362	$88,255	$56,111	$17,843	$708	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project is for the design and construction of improvements to the secondary treatment process at the James River Treatment Plant. The scope includes equalization of primary effluent, modifications to the Integrated Fixed Film Activated Sludge (IFAS) system, increased IFAS media fill, demolition of existing secondary clarifiers (1, 2, and 3), replacement with new rectangular secondary clarifiers, conversion of clarifier 5 to a post denitrification moving bed bio-reactor (MBBR), chemical storage and feed systems, and all pumping, piping, instrumentation, and site work required. Current estimate does not include any upgrades to the treatment plant electrical system backbone.

PROJECT JUSTIFICATION

Advanced secondary treatment improvements, including nutrient reduction measures, will be required to provide stable source water quality that meets the influent requirements of the full scale SWIFT facility at James River Treatment Plant.

FUNDING TYPE

Funding Type: WIFIA

CONTACTS

Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Lauren Zuravnsky
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	08/01/2019
PER	07/01/2019
Design Delay	12/01/2020
Design	03/01/2021
Bid Delay	01/01/2023
PreConstruction	08/01/2019
Construction	02/01/2022
Closeout	08/01/2026

COST ESTIMATE

Cost Estimate Class:	
PrePlanning	$322,500
PER	$2,422,809
Design	$16,273,128
PreConstruction	$66,298
Construction	$241,277,474
Closeout	$0
Est. Program Cost	**$260,362,209**
Contingency Budget	$9,110,875
Est. Project Costs	**$269,473,084**

James River Treatment Plant MIFAS Conversion
Emergency

PR_JR013401

System: James River
Type: SWIFT

Driver Category: I&I Abatement-IP/RWWMP
Project Phase: Construction
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
$4,500	$3,007	$1,493	$0	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will modify IFAS basins 1,2,3,4,6,7,9 (7 tanks) by adding a second anoxic zone to achieve partial denitrification-annamox (PdNA). The installation in each tank should be identical to the demonstration tank (tank 5).

PROJECT JUSTIFICATION

PdNA MIFAS (moving media integrated fixed-film activated sludge) provides considerable operational cost savings, but more importantly, this is needed to meet nitrogen limits in the future for James River SWIFT and to meet new total nitrogen discharge requirements.

FUNDING TYPE

Funding Type: Cash

CONTACTS

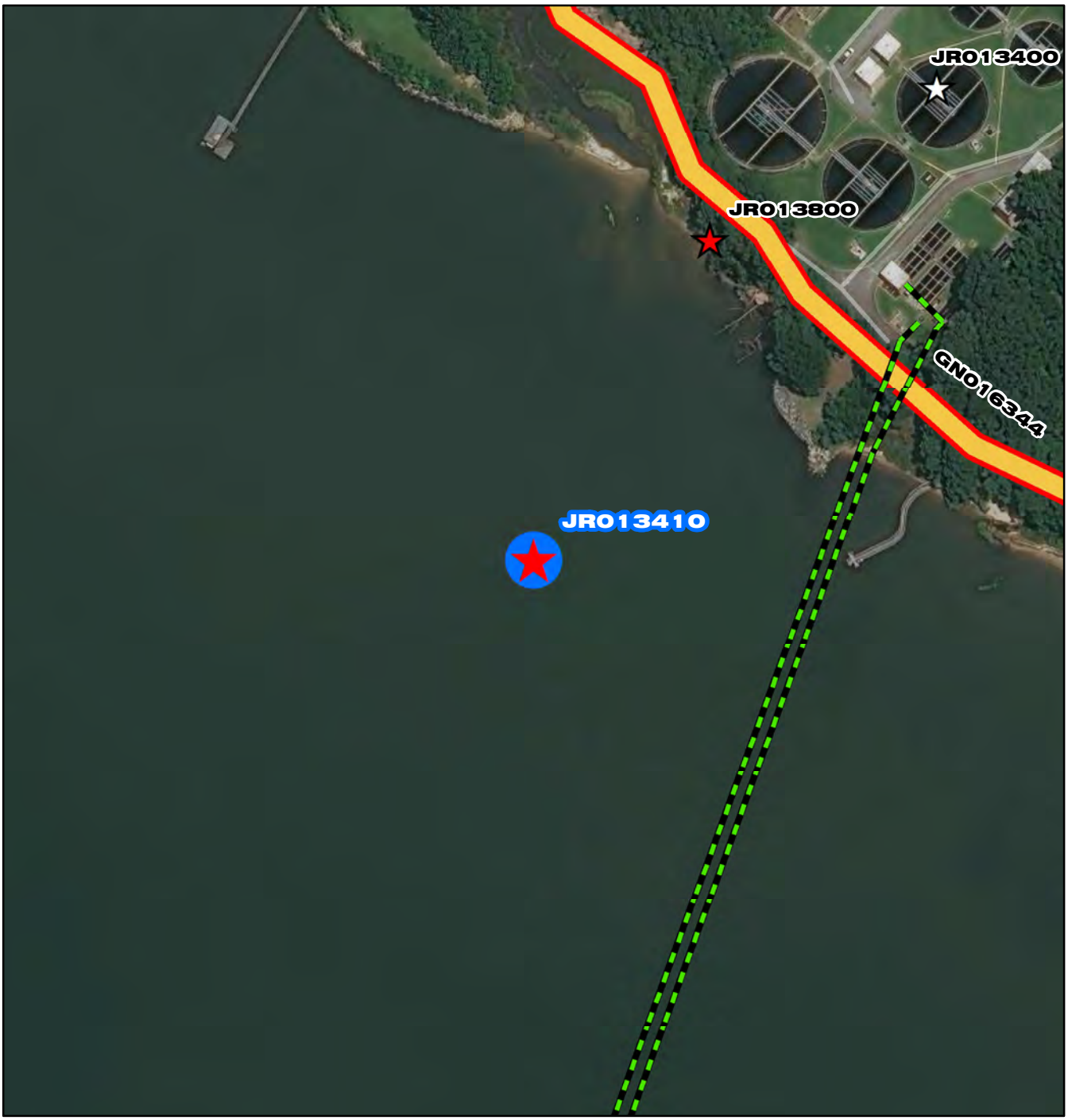
Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Matt Poe
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	
PER	
Design Delay	
Design	02/16/2022
Bid Delay	03/07/2022
PreConstruction	03/07/2022
Construction	03/07/2022
Closeout	

COST ESTIMATE

Cost Estimate Class:	**Class 5**
PrePlanning	$0
PER	$0
Design	$20,000
PreConstruction	$0
Construction	$4,480,000
Closeout	$0
Est. Program Cost	**$4,500,000**
Contingency Budget	$500,000
Est. Project Costs	**$5,000,000**



JRO13410

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- WTP HRSD Treatment Plant
- PRS HRSD Pressure Reducing Station
- PS HRSD Pump Station

0 55 110 220 330 440 Feet

JRO13410

James River Treatment Plant Outfall Modifications

HRSD

N
W E
S

CIP Location

James River Treatment Plant Outfall Modifications

PR_JR013410

System: James River
Type: SWIFT

Driver Category: I&I Abatement-IP/RWWMP
Project Phase: Proposed
Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
$1,350	$0	$0	$750	$189	$206	$206	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project includes design and construction of modifications to the two existing outfall diffuser pipes within the James River. The project area is approximately 4,000 feet from the James River Treatment Plant shoreline. The project will incorporate design elements appropriate for the installation of riser piping and duckbill-style valves on the existing reinforced concrete pipe (RCP) outfall diffuser pipes.

PROJECT JUSTIFICATION

The James River Treatment Plant outfall diffuser openings are located below the mudline allowing for sedimentation within the diffuser pipe, especially under low effluent flow conditions. This project will provide long term protection of existing assets necessary for operating James River Treatment Plant's outfall diffusers at low effluent flow rates, which will occur upon completion of the James River SWIFT project.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

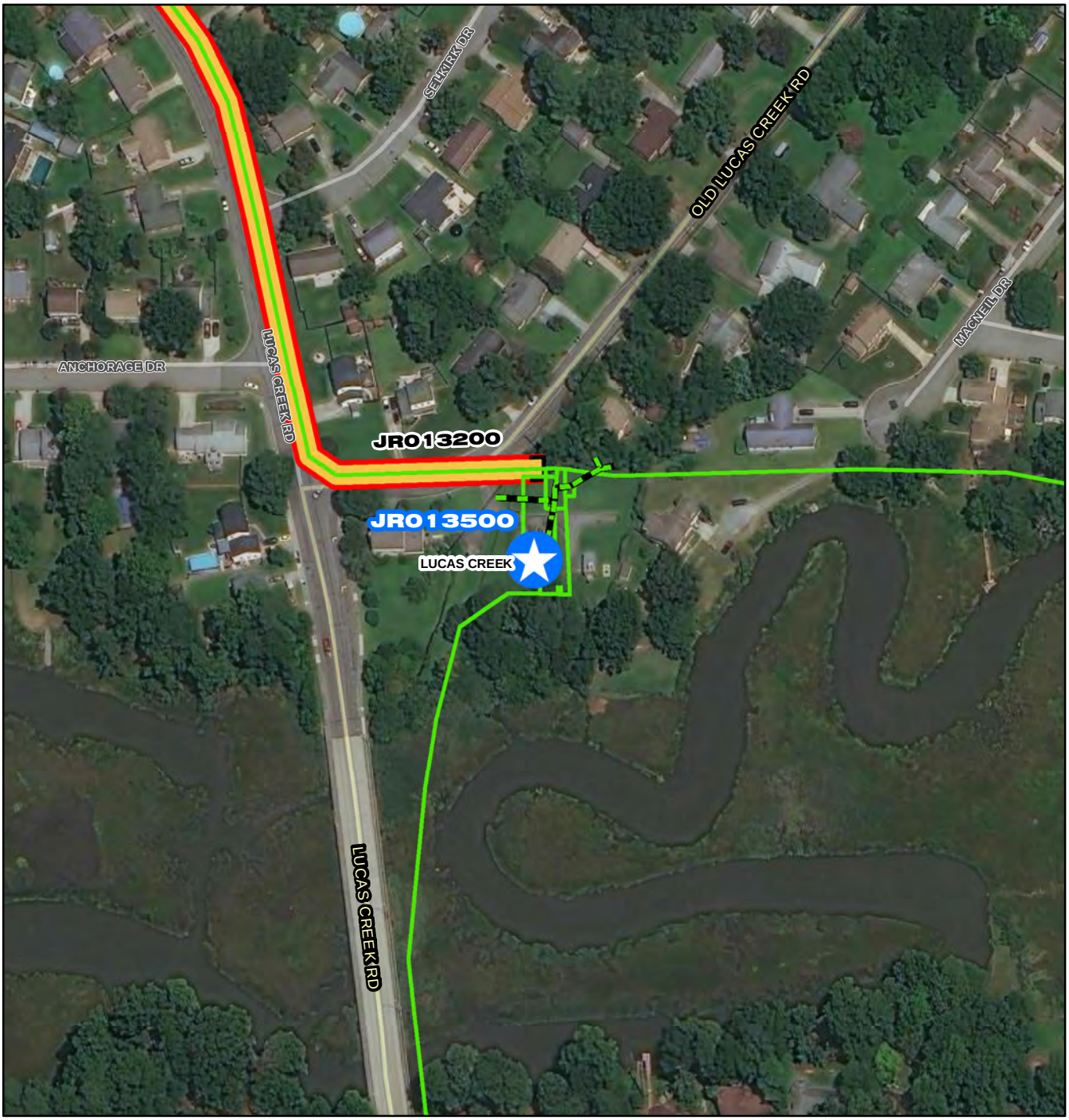
Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: Lauren Zuravnsky
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	
PER	
Design Delay	
Design	07/01/2023
Bid Delay	
PreConstruction	
Construction	08/01/2024
Closeout	

COST ESTIMATE

Cost Estimate Class:	**Class 5**
PrePlanning	$0
PER	$0
Design	$750,000
PreConstruction	$0
Construction	$600,000
Closeout	$0
Est. Program Cost	**$1,350,000**
Contingency Budget	$300,000
Est. Project Costs	**$1,650,000**



JR013500

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- WTP HRSD Treatment Plant
- PRS HRSD Pressure Reducing Station
- PS HRSD Pump Station

0 55 110 220 330 440 Feet

N
W E
S

CIP Location

JR013500

Lucas Creek Pump Station Replacement

HRSD

Lucas Creek Pump Station Replacement

PR_JR013500

System: James River
Type: Pump Stations

Driver Category: I&I Abatement-Rehabilitation Plan
Project Phase: Design
Regulatory: Rehab Plan Phase Two

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
$13,244	$1,710	$4,771	$4,771	$1,989	$2	$2	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project was initiated under JR010600 Lucas Creek Pump Station Upgrades project. A Preliminary Engineering Report was completed. After evaluating several alternatives and taking into consideration cost projections, it was determined that replacement of the pump station is the optimal solution to address conditional and operational issues. This new project includes the replacement of the existing Lucas Creek Pump Station to include all yard piping, and an addition of two flow meters and vaults. On May 26, 2020 Commission approved the purchase of the adjoining property (748 Old Lucas Creek Road, Newport News) to facilitate the construction of the new pump station.

PROJECT JUSTIFICATION

This project is required in order to provide expanded operational flexibility in the North Shore system. The new Kiln Creek Interceptor Force Main (IFM) and Route 171 IFM in conjunction with upgrades to Lucas Creek will reduce system pressures during wet weather events.

FUNDING TYPE

Funding Type: VCWRLF

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Jeremiah Burford
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	
PER	11/04/2020
Design Delay	02/17/2021
Design	10/01/2021
Bid Delay	04/01/2022
PreConstruction	04/01/2022
Construction	05/01/2022
Closeout	12/01/2024

COST ESTIMATE

Cost Estimate Class:	**Class 2**
PrePlanning	$0
PER	$0
Design	$899,459
PreConstruction	$15,000
Construction	$12,325,000
Closeout	$5,000
Est. Program Cost	**$13,244,459**
Contingency Budget	$672,541
Est. Project Costs	**$13,917,000**

JR013610

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- WTP HRSD Treatment Plant
- PRS HRSD Pressure Reducing Station
- PS HRSD Pump Station

0 55 110 220 330 440 Feet

JR013610

James River Treatment Plant Automation Improvements Phase I

HRSD

N
W E
S

CIP Location

James River Treatment Plant Primary Treatment and Automation Improvements

PR_JR013610

System: James River
Type: Wastewater Treatment

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Proposed
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
$4,570	$373	$1,643	$2,554	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will provide for automation and control of the James River Treatment Plant's (JRTP) treatment, solids thickening, anaerobic digestion, odor control and related systems.

PROJECT JUSTIFICATION

The treatment and solids handling sections of the JRTP exist now with minimal automation, and to allow the plant operator to best manage the future facility as a whole, the distributed control system must be enhanced to be consistent with the Advanced Nutrient Removal Improvements and SWIFT Projects.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

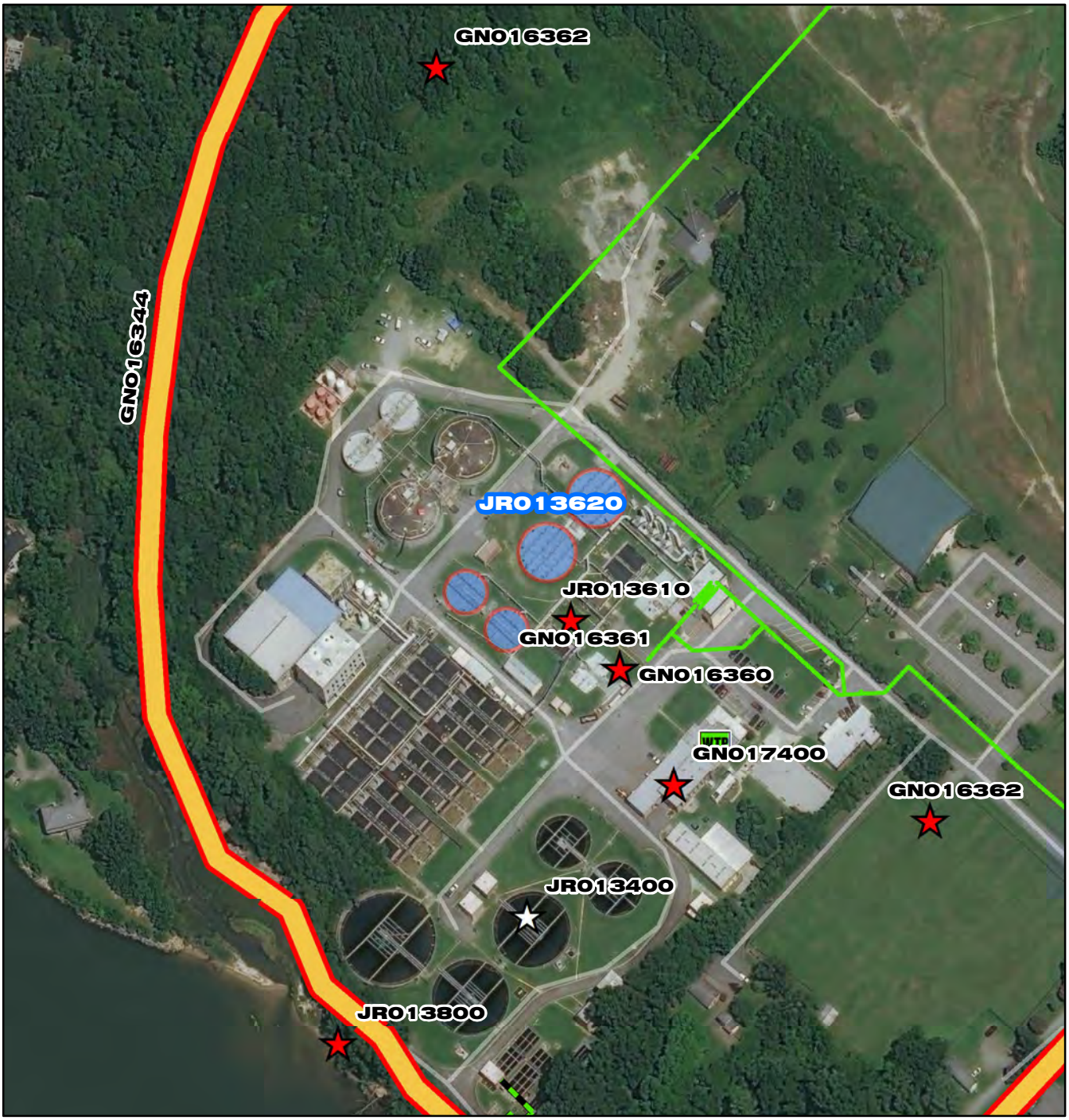
Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Matt Poe
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	
PER	
Design Delay	
Design	02/01/2022
Bid Delay	10/01/2022
PreConstruction	10/01/2022
Construction	02/01/2023
Closeout	04/01/2024

COST ESTIMATE

Cost Estimate Class:	**Class 4**
PrePlanning	$0
PER	$0
Design	$596,000
PreConstruction	$2,000
Construction	$3,970,000
Closeout	$2,000
Est. Program Cost	**$4,570,000**
Contingency Budget	$1,530,000
Est. Project Costs	**$6,100,000**



JR013620

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- WTP HRSD Treatment Plant
- PRS HRSD Pressure Reducing Station
- PS HRSD Pump Station

0 70 140 280 420 560 Feet

JR013620

James River Treatment Plant Primary Treatment and Automation Improvements Phase II

HRSD

N
W E
S

CIP Location

James River Treatment Plant Primary Treatment and Automation Improvements Ph II

PR_JR013620

System: James River
Type: Wastewater Treatment

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Proposed
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
$10,349	$0	$0	$0	$227	$830	$4,919	$4,373	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will replace the steel rake arm, peripheral feed baffle and effluent weirs on four primary clarifiers with stainless steel, scum removing rake arms, center feed piping, and peripheral weirs. A scum concentrator will be installed in a heated, odor-controlled building erected near the primary clarifiers to receive and concentrate pumped scum. This project will also provide for automation and control of the James River Treatment Plant's (JRTP) primary treatment and related systems.

PROJECT JUSTIFICATION

This project will extend the useful life of the JRTP primary clarifiers constructed in 1967 and 1973. Steel structures in the primary clarifiers are corroded and need to be replaced. Since steel structures require replacement, the clarifiers will be converted to a more efficient center feed, peripheral weir design with a scum removing rake arm. Currently, the scum removal process is labor intensive and with the aid of a vacuum truck estimated to cost $30,000 annually. Installation of a scum concentrator will provide for proper dewatering and concentrating of scum for disposal. The primary treatment of the JRTP exist now with minimal automation, and to allow the plant operator to best manage the future facility as a whole, the distributed control system must be enhanced to be consistent with the Advanced Nutrient Removal Improvements and SWIFT Projects.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Robert Rutherford
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	09/01/2024
PER	01/01/2025
Design Delay	07/01/2025
Design	07/01/2025
Bid Delay	07/01/2026
PreConstruction	07/01/2026
Construction	10/01/2026
Closeout	03/01/2028

COST ESTIMATE

Cost Estimate Class:	**Class 5**
PrePlanning	$0
PER	$226,800
Design	$829,764
PreConstruction	$2,160
Construction	$9,288,000
Closeout	$2,160
Est. Program Cost	**$10,348,884**
Contingency Budget	$3,106,836
Est. Project Costs	**$13,455,720**

High Priority Projects Round 2 Project 6

PR_JR013700

System: James River
Type: Pipelines

Driver Category: I&I Abatement-IP/RWWMP
Project Phase: Proposed
Regulatory: Integrated Plan-HPP 2

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

High Priority Project (HPP) Round 2 Project 6 consists of the following RWWMP Project ID and general description:
JR-RWWMP-11 Newport News Inflow and Infiltration (I&I) Reduction

PROJECT JUSTIFICATION

As part of the RWWMP submitted to the DEQ and EPA, HRSD developed an approach to recognize the highest-priority system improvements with the greatest relative environmental benefit. The result being the identification of High-Priority Projects (HPPs). The initial HPPs (Round 1) were identified in the RWWMP, submitted to EPA in September of 2017, and are scheduled to be constructed between plan approval and 2030. Further review of RWWMP projects was conducted in 2019 to find beneficial solutions to implement as a second set of HPPs (identified as Round 2). A prioritization methodology was used to identify improvements to minimize sanitary sewer overflow (SSO) volume.
Rounds 1 and 2 of High-Priority Projects were scheduled with consecutive 10-year implementation periods starting with Round 1 being completed between plan approval and 2030. Prior to commencement, HRSD will review the Round 2 projects to confirm that they are still expected to meet the desired result and confirm this in a check in with the EPA/DEQ. To modify the list of specific Round 2 HPP projects, HRSD will show that the revised set of projects will attain a minimum of the same percent reduction, or better.

FUNDING TYPE

Funding Type: Cash

CONTACTS

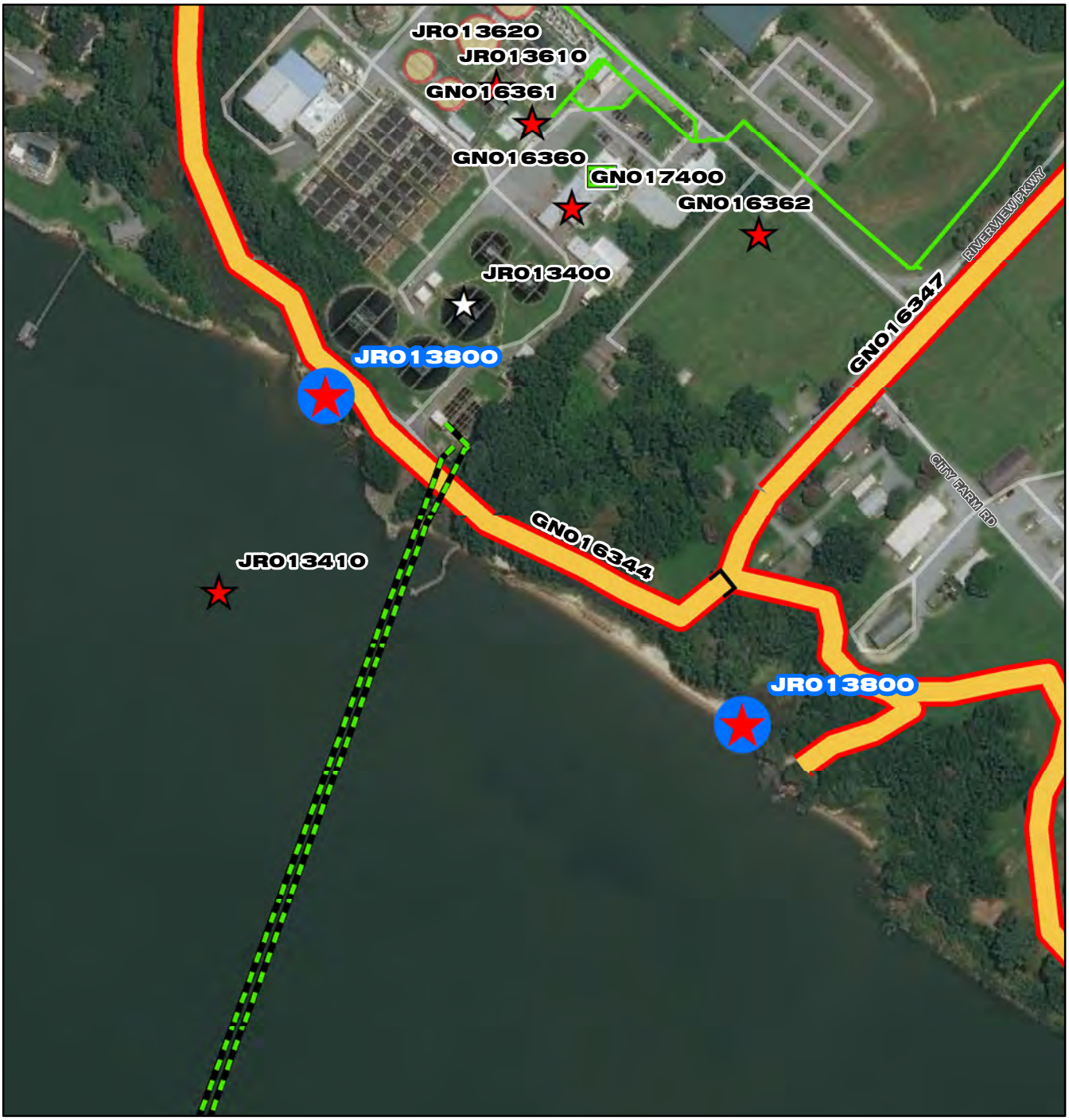
Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: John Dano
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2032
PER	07/29/2032
Design Delay	09/17/2032
Design	05/27/2033
Bid Delay	08/30/2033
PreConstruction	05/09/2034
Construction	06/19/2034
Closeout	04/16/2035

COST ESTIMATE

Cost Estimate Class:	
PrePlanning	$369,144
PER	$922,860
Design	$1,107,432
PreConstruction	$184,572
Construction	$15,688,620
Closeout	$184,572
Est. Program Cost	**$18,457,200**
Contingency Budget	$0
Est. Project Costs	**$18,457,200**



JRO13800

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- WTP HRSD Treatment Plant
- PRS HRSD Pressure Reducing Station
- PS HRSD Pump Station

0 95 190 380 570 760 Feet

JRO13800

James River Treatment Plant Shoreline Stabilization

N
W E
S

CIP Location

James River Treatment Plant Shoreline Stabilization

PR_JR013800

System: James River
Type: SWIFT

Driver Category: Performance Upgrades
Project Phase: Pre Planning
Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
$2,846	$650	$2,196	$0	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project includes stabilization of approximately 900 linear feet of eroding shoreline along the James River.
The project area is located along HRSD's property at the James River Treatment Plant (300 linear feet) and along the City of Newport News's property at the City Farm section of Riverview Farm Park (600 linear feet). The project will incorporate living and hardened shoreline design elements to stabilize the eroding banks.

PROJECT JUSTIFICATION

The James River Treatment Plant and City Farm shorelines are severe exposed soil embankments with heights of approximately 15 to 20 feet. This project's completion will provide long term protection of existing infrastructure assets necessary for operating James River Treatment Plant, protection of the City's infrastructure within City Farm, and will accommodate construction of a new park trail within HRSD's open space easement as committed to in the land purchase Agreement with the City.

FUNDING TYPE

Funding Type: Cash

CONTACTS

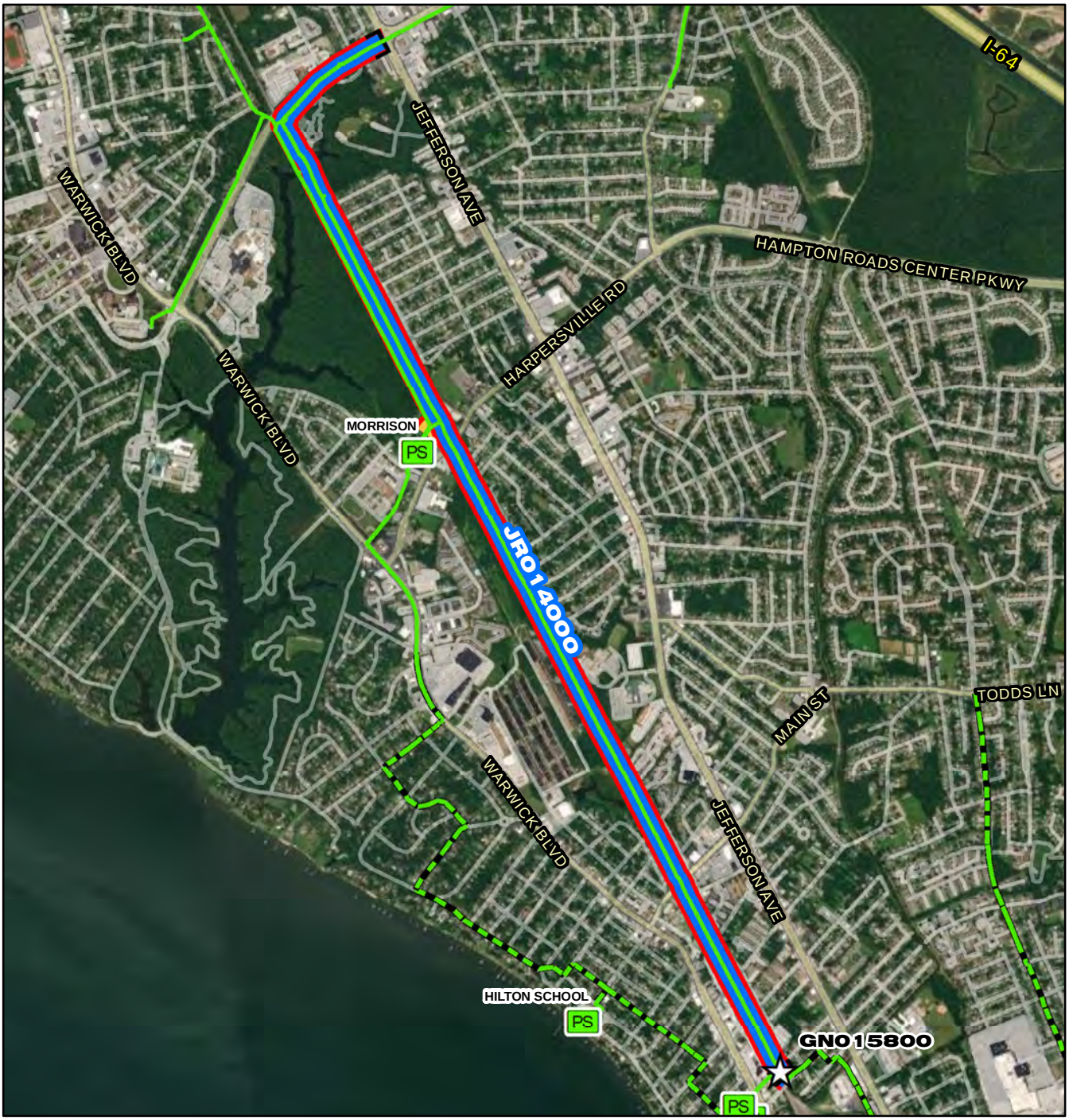
Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: Lauren Zuravnsky
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	02/01/2022
PER	04/01/2022
Design Delay	04/01/2022
Design	04/01/2022
Bid Delay	05/01/2022
PreConstruction	05/01/2022
Construction	06/01/2022
Closeout	06/01/2023

COST ESTIMATE

Cost Estimate Class:	**Class 3**
PrePlanning	$0
PER	$0
Design	$229,000
PreConstruction	$15,000
Construction	$2,437,336
Closeout	$0
Est. Program Cost	**$2,681,336**
Contingency Budget	$23,373
Est. Project Costs	**$2,704,709**



JRO14000

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- WTP HRSD Treatment Plant
- PRS HRSD Pressure Reducing Station
- PS HRSD Pump Station

0 850 1,700 3,400 5,100 6,800 Feet

N W E S

CIP Location

JRO14000

Center Avenue Force Main Replacement

HRSD

Center Avenue Force Main Replacement

PR_JR014000

System: James River
Type: Pipelines

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Proposed
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
$18,144	$0	$473	$314	$1,569	$5	$10,518	$5,264	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will replace 18,300 linear feet (LF) of 20-inch Asbestos Cement (AC) pipe from Center Avenue to NF-039 at the intersection of J. Clyde Morris Boulevard and Jefferson Avenue with 24-inch ductile iron pipe. This project will vacate the existing CSX Railroad right of way (ROW) and relocate the new force main down Jefferson Avenue or possibly another more appropriate alignment.

PROJECT JUSTIFICATION

The Center Avenue Force Main (NF-042) was installed in the mid-1970s. The force main follows the CSX railroad tracks from Center Avenue to J. Clyde Morris Boulevard and has extremely limited access across its entire run. The location of this force main also backs up directly behind residential areas with many privately owned encumbrances and encroachments. There have been two (2) emergency repairs completed on this pipeline since October of 2020 and both have involved failed full circle clamps that were used along this pipeline at unspecified locations. Both Spills were significant and had severe impacts on neighboring residential homes and properties.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Sam McAdoo
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2022
PER	11/01/2022
Design Delay	05/01/2023
Design	05/01/2024
Bid Delay	05/01/2025
PreConstruction	05/01/2026
Construction	07/01/2026
Closeout	01/01/2028

COST ESTIMATE

Cost Estimate Class:	**Class 5**
PrePlanning	$0
PER	$473,300
Design	$1,883,310
PreConstruction	$5,000
Construction	$15,777,300
Closeout	$5,000
Est. Program Cost	**$18,143,910**
Contingency Budget	$3,155,550
Est. Project Costs	**$21,299,460**