FEMA Resiliency Project Summary

NYC Wastewater Resiliency Program

Agenda

- Safety Moments
- About Us
- Project Schedule
- Facility Planning
  - Facility plan reports
  - BODR
- Drawings
- Risk Assessment Report
- Sustainability Management Plan
- Permitting
- Bluebeam

SAFETY MOMENT!

Avoid Phishing Scams

Stay vigilant in detecting phishing attempts

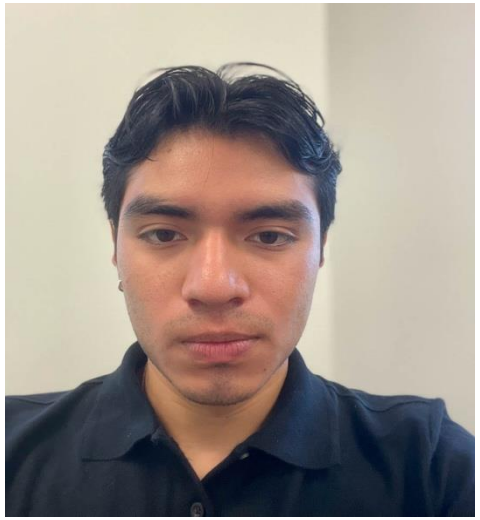
What to look for when identifying a phishing attempt:

- Improper spelling or grammar
- The hyperlinked URL is different from the one shown in the e-mail
- The email urges you to take immediate action
- The email requests for personal information
- The email says you've won a contest you haven't entered
- The email includes suspicious attachments

What to do when you have been phished:

- Contact IT
- Change passwords for your online logins, but do it from a phone or a different PC

About us - Fernando



I am a junior/senior at the Grove School Of Engineering working on my Earth System Science & Environmental Engineering degree

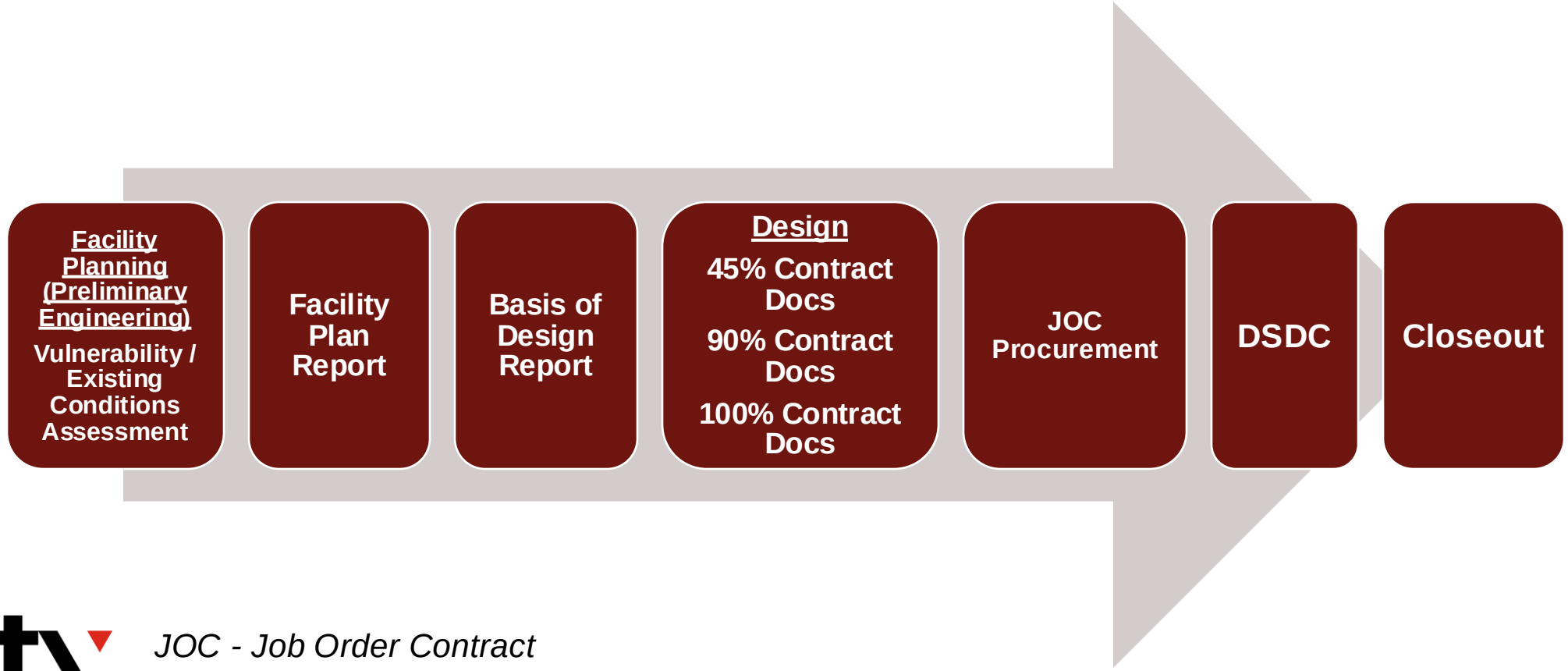
Outside of my studies I enjoy long walks, working out and designing clothes.

About us - Sarah

Sarah, a Junior Mechanical Engineering student at CCNY. Through my own academic career, I develop an interest in sustainable design in the field of energy and water resources.

In my free time, I also enjoy learning new skills such as coding, animation and doing art and craft!

Project Schedule



JOC - Job Order Contract

Project Schedule

Phase	Milestone	Finish Date
Facility Planning	Facility Plan Report	May 2023
	Basis of Design Report	September 2023
Design	45% Design Submittal	May 2024
	90% Design Submittal	July (BB& RH)/August 2024*
	100% Design Submittal	Sept. (BB& RH)/October 2024*
Construction Procurement	JOCs Awarded	October/November 2024*
DSDC Services	End of Construction	June 2026*
Closeout Services	Contract End	July 2026*

Facility Planning Key sections

Project Overview

- A narrative description of the area and scope of work, detailing the site's history and any relevant information to better understand the repairs or replacements within this project.

Existing Conditions

- Using reports from Greely and Hanson, we gain a better understanding of the site and conduct our own research to verify the damage that needs to be assessed.

Scope Of Work

- The scope of work determines what needs to be replaced or repaired, prioritizing tasks by their importance and addressing both major and minor issues.

Evaluation Of Alternatives

- Provides the contractor with various solutions, outlining their pros and cons to help select the best option based on constructability, maintenance, operation, and schedule/cost/risk.

Project Cost Estimate

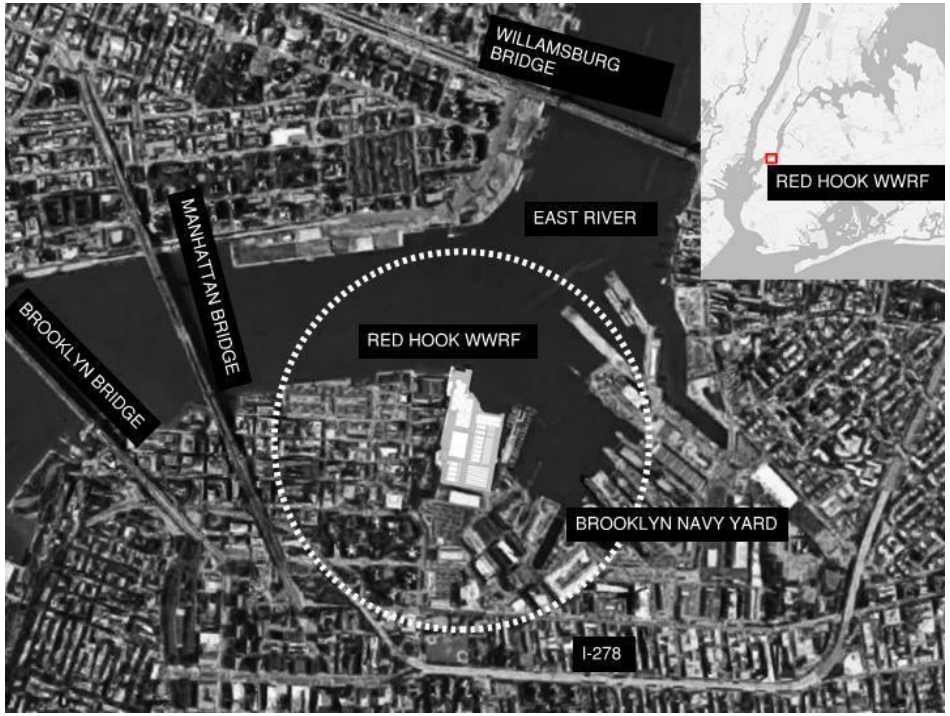
- A summary of the facility plan recommendation cost and includes a FEMA adaptation strategy, offering a general overview of the price.

Facility Plan Report Red Hook

The Red Hook WWRF serves a population of 192,000 residents in the northwest section of Brooklyn and Governor's Island.

The scope of work planned for the project at the Red Hook WRRF will focus primarily on the repair and replacement of electrical conduits and wires. FEMA Minor work includes installing 13 waterproof accessway covers and replace existing truck scale load cells within submersible cells

Total Cost
Mini-RFP Cost - $1,700,000
Facility Plan Recommendation Cost - $1,950,000



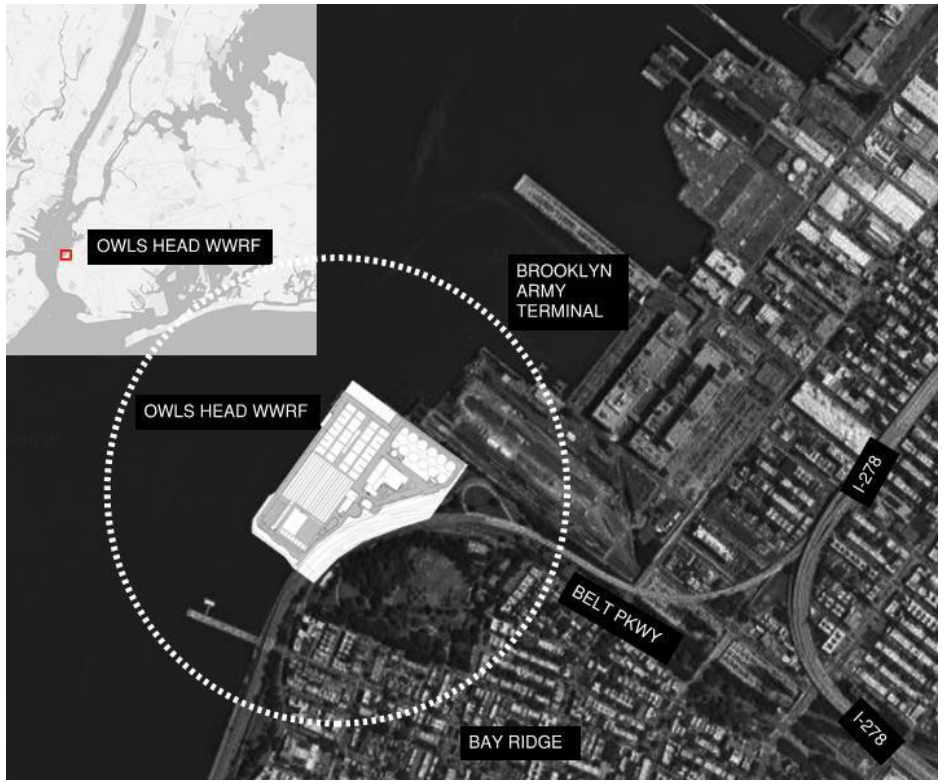
FEMA - *Federal Emergency Management Agency*
WWRF – Wastewater Recovery Facility

Facility Plan Report Owls Head

The Owls Head located adjacent to New York Bay serves a population of about 758,000 people. During the flood water flowed into the Chlorination Building damaging several pumps and flooded portions of the building

Scope of work includes mainly wire and conduit repairs as well as repairing several pumps.

Total Cost
Mini-RFP Cost - $5,000,000
Facility Plan Recommendation Cost - $9,500,000



FEMA - Federal Emergency Management Agency
WWRF – Wastewater Recovery Facility

Facility Plan Report Bowery Bay

The Bowery Bay WWRF is in the borough of Queens serving the community of East New York.

Scope of work includes mainly wire and conduit repairs and FEMA minor includes installation and replacement of windows and skylights.

Total cost
Mini-RFP Cost- $1,400,000
Facility Plan Recommendation Cost - $1,950,000

Chlorine Building, Building No.9, North Gallery, North Access Perimeter road, Administration Building, Service Building.

WWRF – Wastewater Recovery Facility
FEMA – Federal Emergency Management Agency

Facility Plan Report Coney Island

This site located in Brooklyn during experienced significant flooding in both the Thickener and Screening Buildings destroying the existing pumps, valve systems and electrical panels.

Based on this analysis, it's clear that extensive repairs are required for the conduit, wires, and pumps.

Mini-RFP Cost - $33,700,000
Facility Plan Recommendation Cost - $31,800,000

Red Hook (BODR)

Equipment Name	*Assessment Outcome*	*Equipment PW Run*	*FEMA 428/406 Scope of Work*	*Minor Scope Of work*	*Descoped Items*
Ferric Chloride Tanks Metering Pumps	Equipment, conduit, and wires require repair/mitigation/ replacement	29-37	Remove and replace conduit and wire called out in PW	None	Replacement of metering pumps
Electrical Distribution Access Way	Requires/repair/mitigation/ replacement	N/A	None	Provide and install total of 13 waterproof access way covers	None
Sludge Storage and Dewatering Building MCC-3-4	Equipment, conduit, and wires operating safe and secure	MCC-3-4 Bus B N/A	Equipment conduit and wire to remain in operation	None	None

FEMA - *Federal Emergency Management Agency*
WWRF – Wastewater Recovery Facility

FEMA Adaptation Strategy:*$1,700,000*
Basis of Design Recommendation Cost:*$1,873,000*

Owls Head (BODR)

Equipment Name	*Assessment Outcome*	*Equipment PW Run*	*FEMA 428/406 Scope of Work*	*SOGR Scope Of work*	*Descoped Items*
West Dock Conduit and Wire replacement	Possible Scope overlap with OH-91. BWT input requested to replace conduit and wires	48-51	None	None	Remove and replace conduit and wire called out in PW
Primary Settling Tank Gallery Primary Sludge and Grit Pump, Conduit and Wire Replacement	BWT input requested to replace equipment, conduit, and wires	Primary Sludge and Grit Pumps (2401, 2402, 2403, 2404, 2405, 2406) 1-34	Remove and replace conduit and wire in Gallery called out in PW	None	Replace Primary Sludge and Grit Pumps (2401, 2402, 2403, 2404, 2405, 2406)
Conduit and Wire replacement	Scope overlap with OH-91.BWT input requested to replace conduit and wires	35-41 167-169	Remove and replace conduit and wire called out in PW	None	N/A

FEMA - *Federal Emergency Management Agency*
WWRF – Wastewater Recovery Facility

FEMA Adaptation Strategy:*$5,000,000*
Basis of Design Recommendation Cost: *$8,401,000*

Bowery Bay (BODR)

Equipment Name	*Assessment Outcome*	*Equipment PW Run*	*FEMA 428/406 Scope of Work*	*FEMA 406 Minor Work*	*Descoped Items*
North Access Perimeter Road Conduit and Wire Replacement	Conduit and wires require repair/mitigation/ replacement.	Unit Substation C-1533, 10 - 16	Remove and replace conduit and wire called out in PW. Equipment to remain	None	None
Administration Building Feeders to MCC-1554	Conduit and wires require repair/mitigation/ replacement	MCC-1554, 10 - 12	Remove and replace feeders to MCC-1554	None	None
Building No. 9 Feeders to MCC-1560	Conduit and wires require Repair/mitigation/replacement	MCC-1560, 13 - 16	Remove and replace feeders to MCC-1560	None	Replacement of MCC 1560

FEMA - *Federal Emergency Management Agency*
WWRF – Wastewater Recovery Facility

FEMA Adaptation Strategy*: $1,400,000*
Basis of Design Recommendation Cost: *$1,665,000*

Coney Island (BODR)

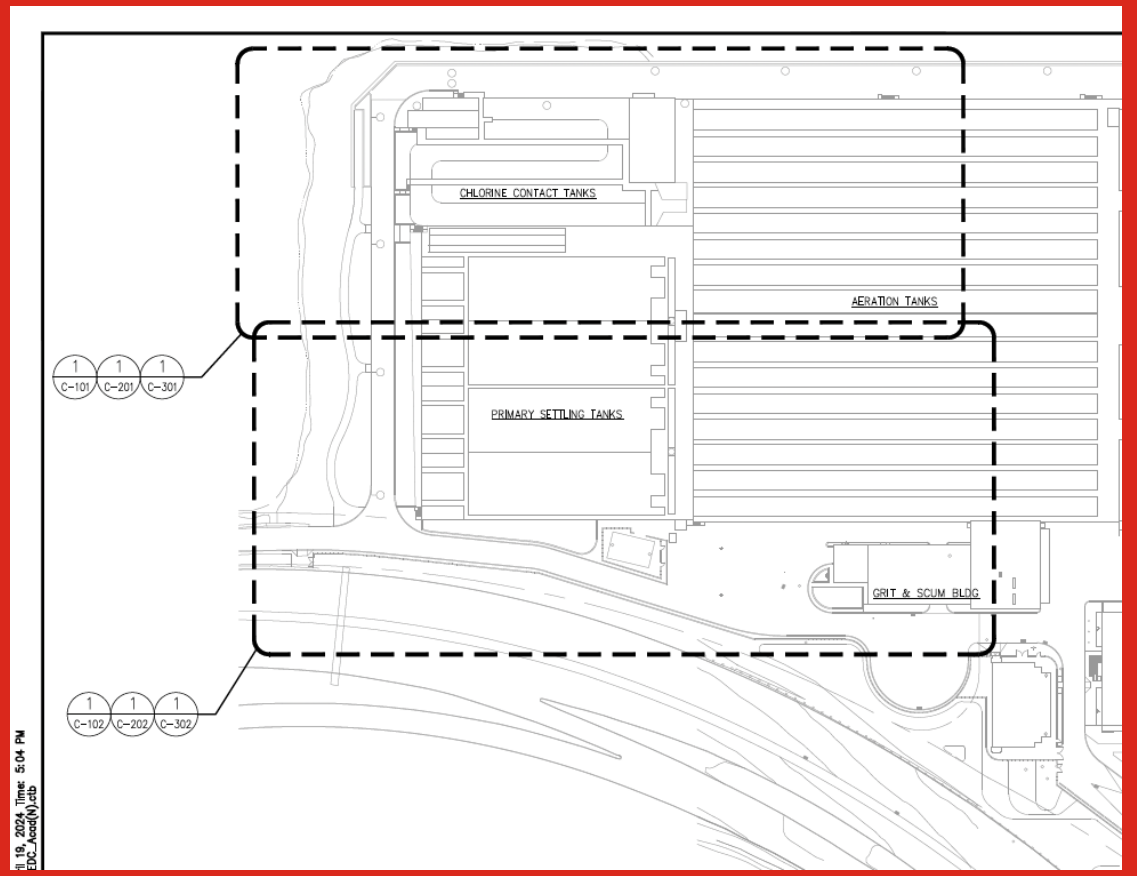
Equipment Name	*Assessment Outcome*	*Equipment PW Run*	*FEMA 428/406 Scope of work*	*SOGR Scope Of work*	*Descoped Items*
Screening Building EL. -12.00	Screening Building EL. -12.00 Equipment, conduit, and wires require repair/mitigation/ replacement	PW 67-124 Hydraulic Gate Central Control Panel feeder 58	Replace conduit and wires called out in PW	None	Replacement of Bar Screen Lighting Panel E
Thickener Building Seal Water Pumps	Equipment, conduit, and wires operating safe and secure	MCC-1 to Seal Water Pump 3, 297-298	No action/keep in operation	None	Replacement of Seal Water Pumps 3325 and 3326
Knapp Street Service Tunnel Conduit and Wire Replacement	PW conduit and wire runs were abandoned after Hurrican Sandy	PW 202-227	Replace conduit and wires called out in PW	None	Addition of Utility bridge over Knapp Street

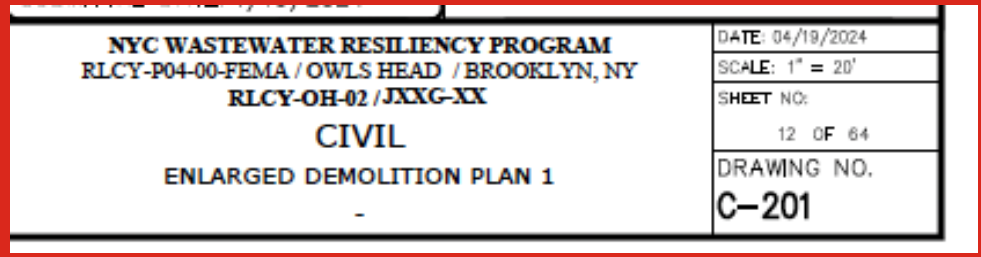
FEMA - *Federal Emergency Management Agency*
WWRF – Wastewater Recovery Facility

FEMA Adaptation Strategy*: $33,700,000*
Basis of Design Recommendation Cost:
$23,835,000

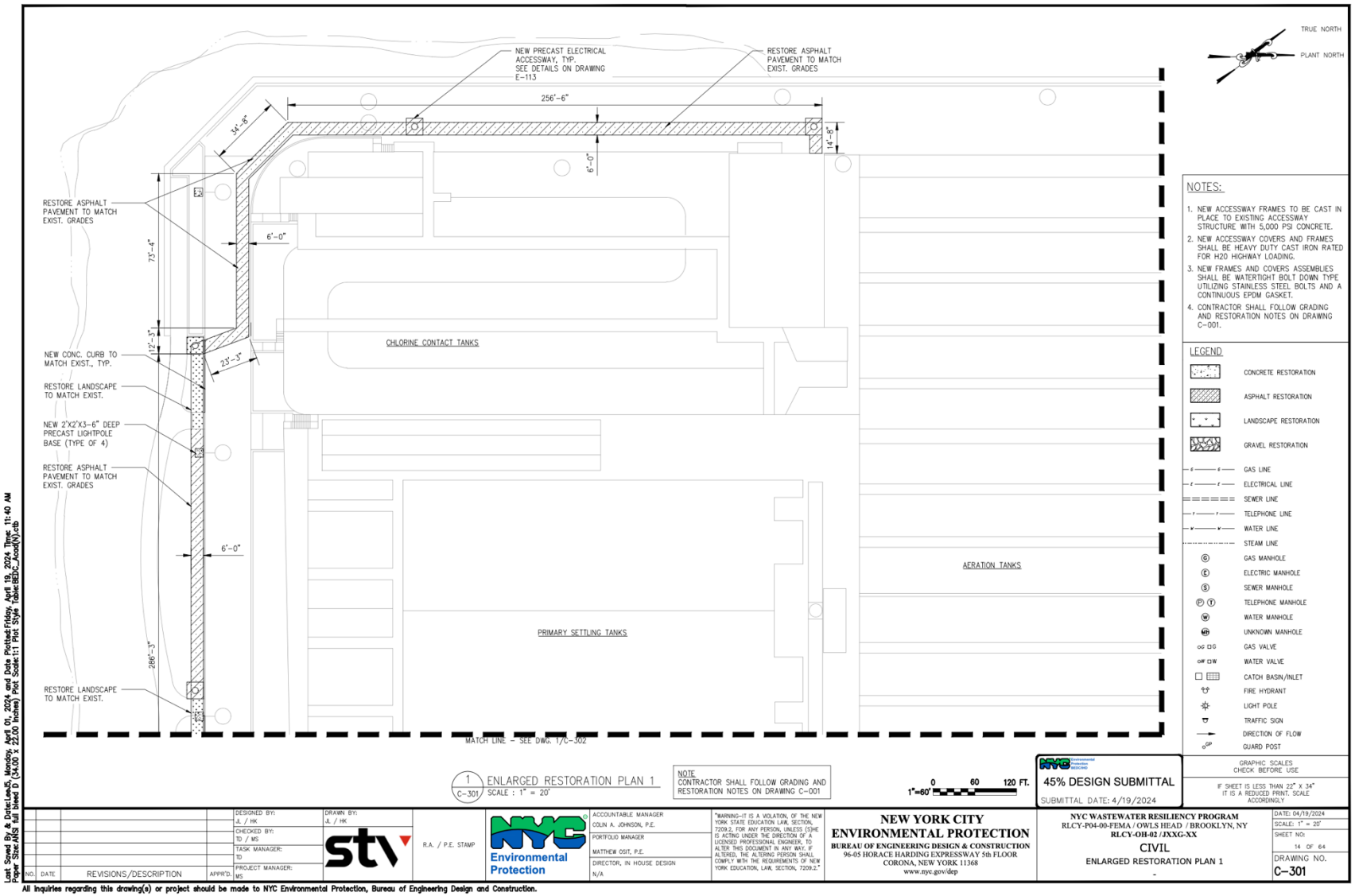
Drawings

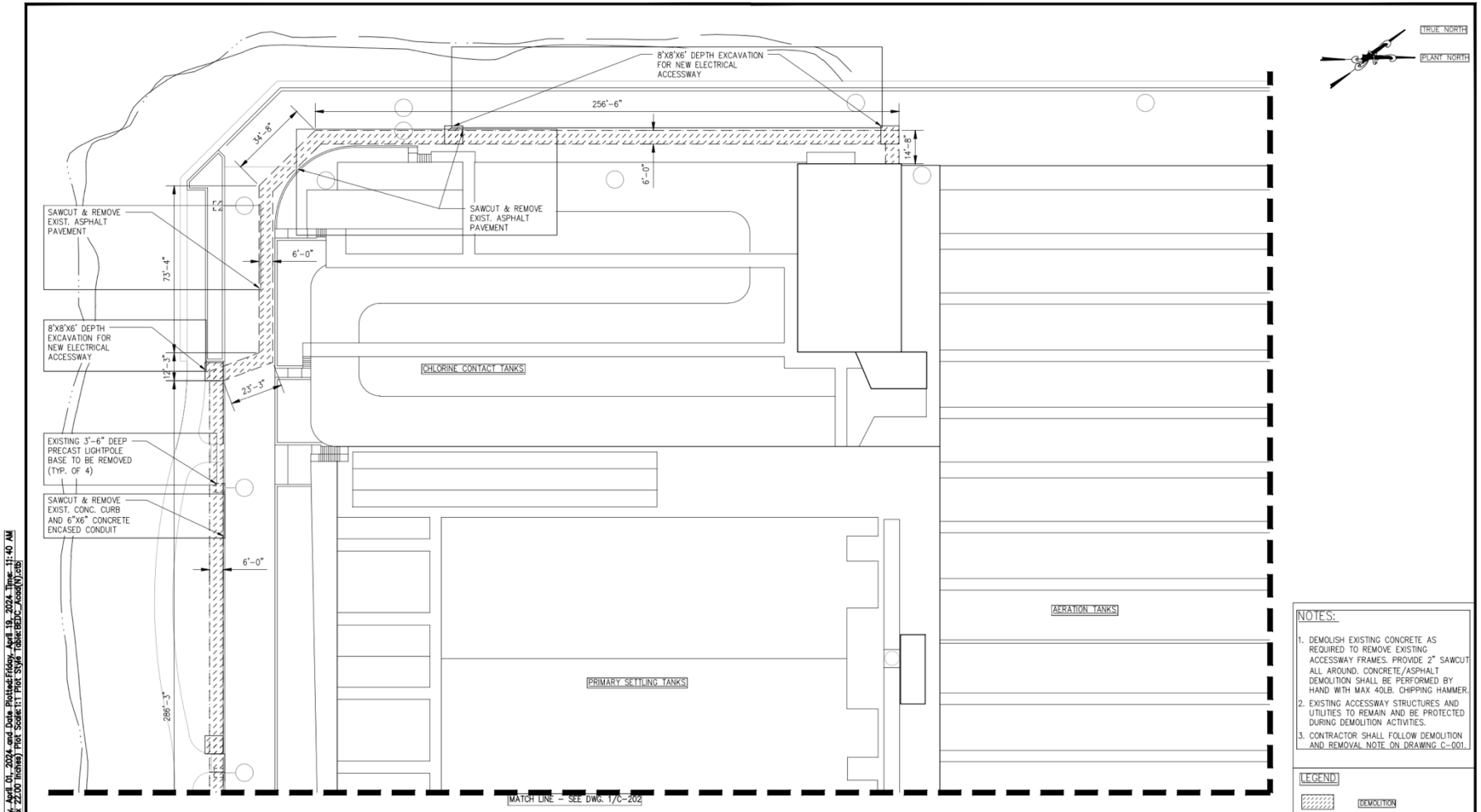
- General
- Civil
- Mechanical
- Electrical
- Architectural





45% Of Owls Head





1 C-201 ENLARGED DEMOLITION PLAN 1
SCALE : 1" = 20

NOTE
CONTRACTOR SHALL FOLLOW DEMOLITION AND REMOVAL NOTE ON DRAWING C-001

1"=20 0 20 40 FT.

45% DESIGN SUBMITTAL
SUBMITTAL DATE: 4/19/2024

NOTES:

1. DEMOLISH EXISTING CONCRETE AS REQUIRED TO REMOVE EXISTING ACCESSWAY FRAMES. PROVIDE 2" SAWCUT ALL AROUND. CONCRETE/ASPHALT DEMOLITION SHALL BE PERFORMED BY HAND WITH MAX 40LB. CHIPPING HAMMER.
2. EXISTING ACCESSWAY STRUCTURES AND UTILITIES TO REMAIN AND BE PROTECTED DURING DEMOLITION ACTIVITIES.
3. CONTRACTOR SHALL FOLLOW DEMOLITION AND REMOVAL NOTE ON DRAWING C-001.

LEGEND

DEMOLITION

GRAPHIC SCALES CHECK BEFORE USE

IF SHEET IS LESS THAN 22" X 34" IT IS A REDUCED PRINT. SCALE ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D

DESIGNED BY: JL / HK
DRAWN BY: JL / HK
CHECKED BY: TD / MS
TASK MANAGER: TD
PROJECT MANAGER: MS

R.A. / P.E. STAMP

ACCOUNTABLE MANAGER: COLIN A. JOHNSON, P.E.
PORTFOLIO MANAGER:
MATTHEW GOTT, P.E.
DIRECTOR, IN HOUSE DESIGN: N/A

"WARNING--IT IS A VIOLATION, OF THE NEW YORK STATE EDUCATION LAW, SECTION, 7209.2, FOR ANY PERSON, UNLESS (S)HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION, LAW, SECTION, 7209.2."

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BUREAU OF ENGINEERING DESIGN & CONSTRUCTION
96-05 HORACE HARDING EXPRESSWAY 5th FLOOR
CORONA, NEW YORK 11368
www.nyc.gov/dep

NYC WASTEWATER RESILIENCY PROGRAM
RLCY-P04-00-FEMA / OWLS HEAD / BROOKLYN, NY
RLCY-OH-02 /JXXG-XX
CIVIL
ENLARGED DEMOLITION PLAN 1
-

DATE: 04/19/2024
SCALES: 1" = 20'
SHEET NO.: 12 OF 64
DRAWING NO.: C-201

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

Last Saved By: & Date:Lee5, Monday, April 01, 2024 and Date Plotted:Friday, April 19, 2024 Time: 11:40 AM
Paper Size:ANSI full bleed D (34.00" x 22.00 Inches) Plot Scale:1:1 Plot Style Table:BEDC_Acad(N).ctb

Risk Registers

Identified by	Risk occurrence phase	Risk description	Probability	Impact	Risk Qualitative rating	Risk management strategy	Assigned to	Risk Response strategy	Actions undertaken	Risk status
STV	Design	Some equipment may be missing nameplate or other information describing controls, power. and other important information, this could be an issue in determining the exact existing equipment causing an increase in design scope and perhaps a schedule delay.	could happen	moderate effects	8	quantify and track risk	PM/CM, STV	Mitigate	if engineering data cannot be determined based on documentation, perform tests and/or calc to determine replacement criteria	active

Example from the Bowery Bay Risk register

Risk

- Cost Risks Mitigations
  - Applicable to the Coney Island and Owl Head locations, replacement of the pumps, feeders and equipment shutdown may occur
  - Coordinate with plant staff to mitigate any disturbances from a temporary shutdown. Prior planning to accommodate the shutdowns
- Schedule Risks Mitigations
  - Applicable to all sites, permit filing/acceptance could cause delay to project schedule
  - Risk mitigation include preparing PDC applications per examples and develop a permit schedule

Sustainability Management Plan

- Establishing the KPI developed from the SOP and meeting with the DEP to agree upon various marks to hit
- KPI helps to measure and track efforts in the project in meeting sustainability goals

KPI	RCLY-P04
Emissions	Selection of most efficient equipment available
Energy	Selection of most efficient equipment available
Climate Resiliency	Assess and adapt, following proper FEMA flood strategies
Waste Reduction	95%
Soil management	95%
Recycled materials	5%
Regional materials	95%
Sustainably Sourced Materials	50%
Embodied carbon	5%

SOP – Standard Operating Procedures
KPI – Key Performance Indicator

Permits

- Certain tasks may necessitate new permits. This requirement must be factored into both the cost and the schedule, as obtaining these permits often leads to delays in task completion.

- A prime example is the Coney Island site where workers would be operating on a busy public road.

- Important agency permits to adhere by through entire project includes CEQRA, SHPO, PDC, RCP, JDP.

CEQRA- *City Environmental Quality Review*
SHPO - *New York's State Historic Preservation Office*
PDC – Public Design and Commission
RCP- Regulatory compliance plan
JDP- Jurisdictional determination package

BlueBeam

Throughout this project, Bluebeam was consistently utilized, playing a critical role in daily operations.

Some of the main functions include:

- Creating and editing pdf documents as well as design drawings.
- Markup tools such as the callout function make it easier to communicate changes or feedback especially in the QA/QC review process.
- Measurement tool accurately measuring lengths, areas and volumes directly from pdf documents.

Thank you all