Technical Stakeholder Meeting RW-21 Area Remedial Design/ Remedial Action

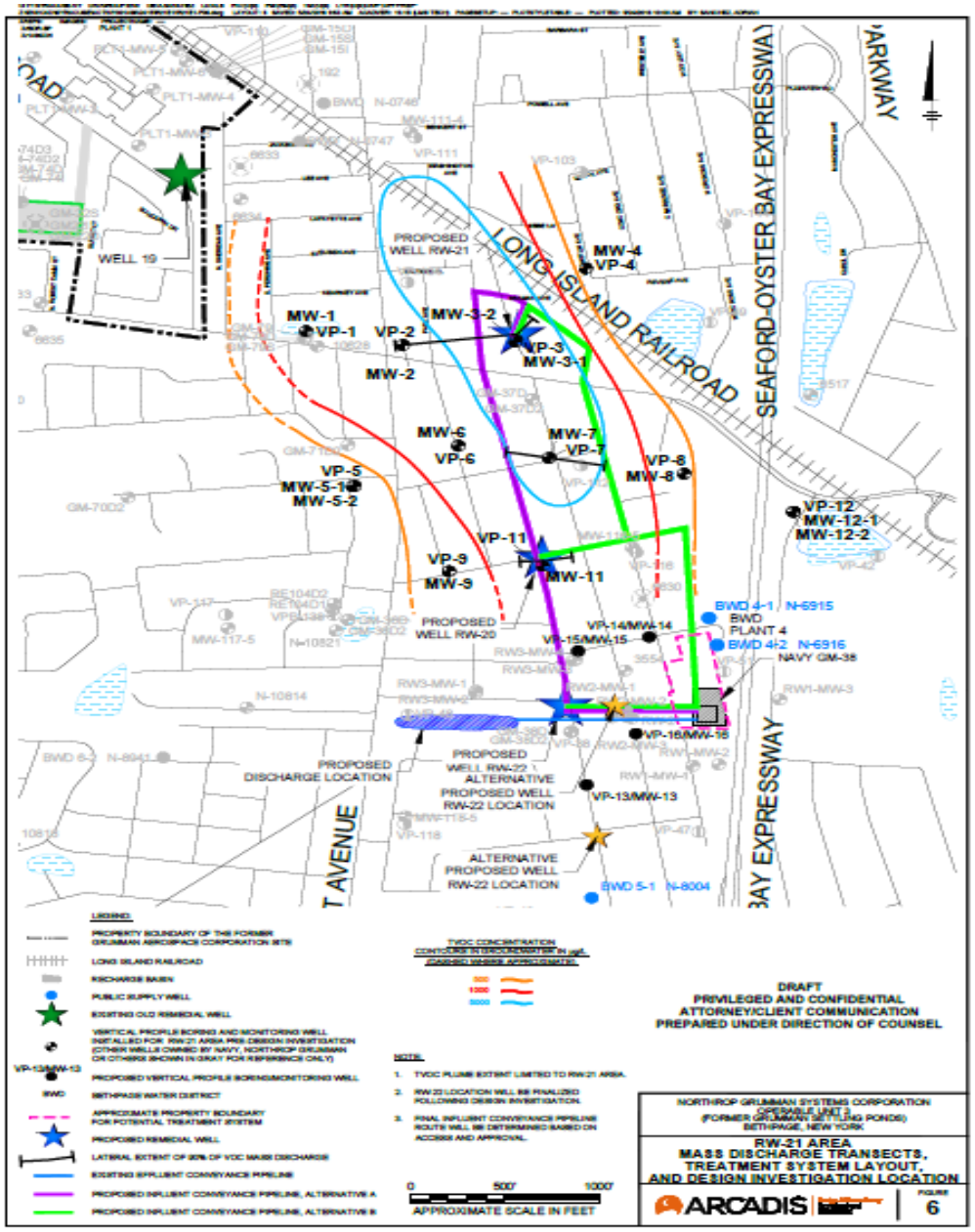
Operable Unit 3

Bethpage, New York

May 25, 2016

Agenda

- Project Overview/Opening Remarks
- Schedule
- Remedial Well Installation
- VPB and Monitoring Well Installation
- Requirements for Well Permit Approval
- Preliminary Pipe Installation Plan
- Town Points of Contact/Next Meeting Date



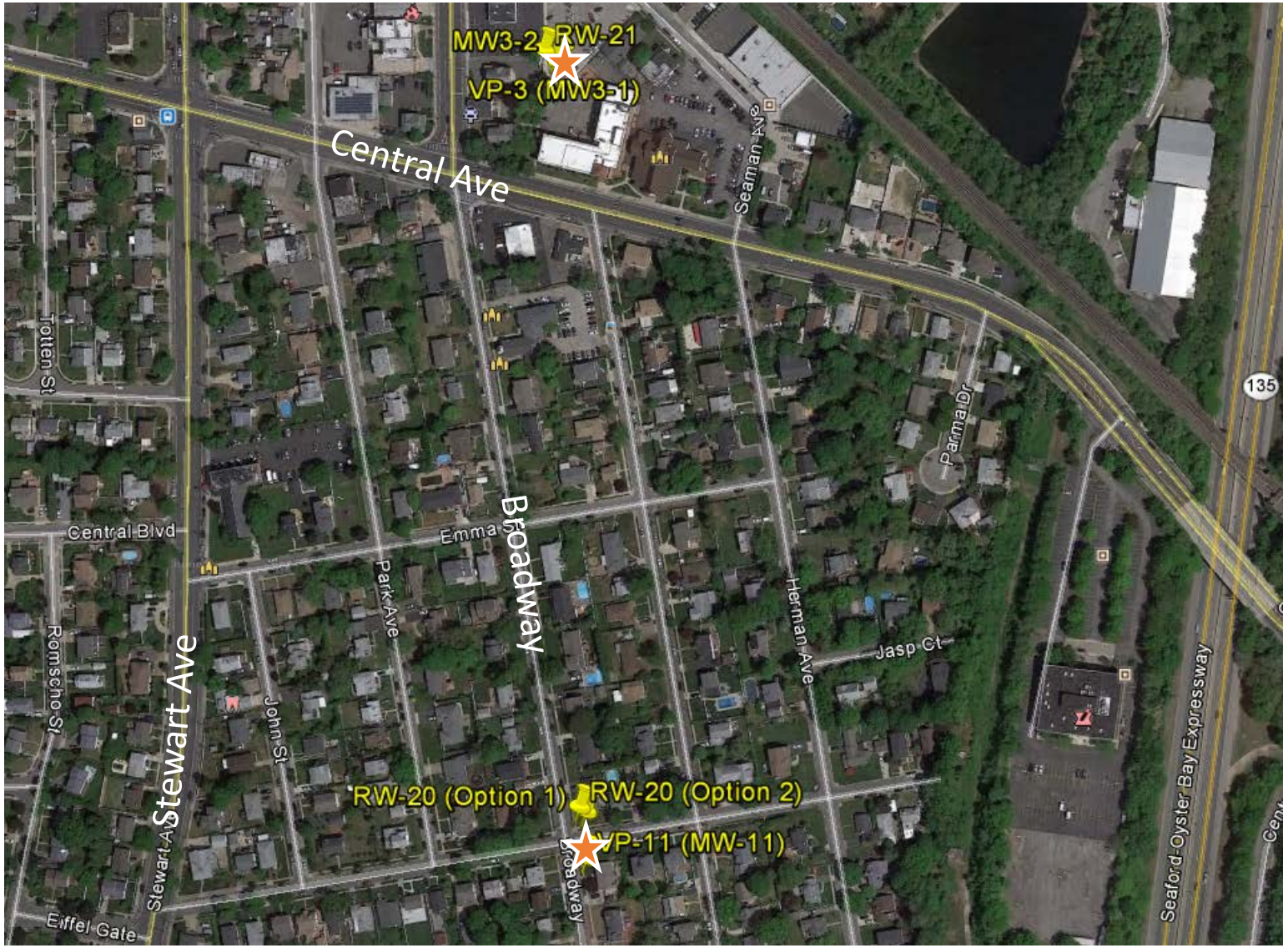
Project Overview

- Remedy developed in accordance with OU3 ROD on expedited schedule
- Remedial Design Work Plan being prepared
- NYSDEC approved the locations of the remedial wells
- Four VPBs/MWs anticipated to locate RW-22
- Treatment system and pipe plan are at the preliminary stages of development

Remedial Well Drilling Process

- Locations selected based on 2014-2015 results
- Well depths range from 620 to 680 feet
- First, a small-diameter pilot boring will be drilled to conduct groundwater and soil sampling
- Well will then be drilled by enlarging the pilot boring:
  - Well construction will be a continuous process
  - Flush mount vault will be installed

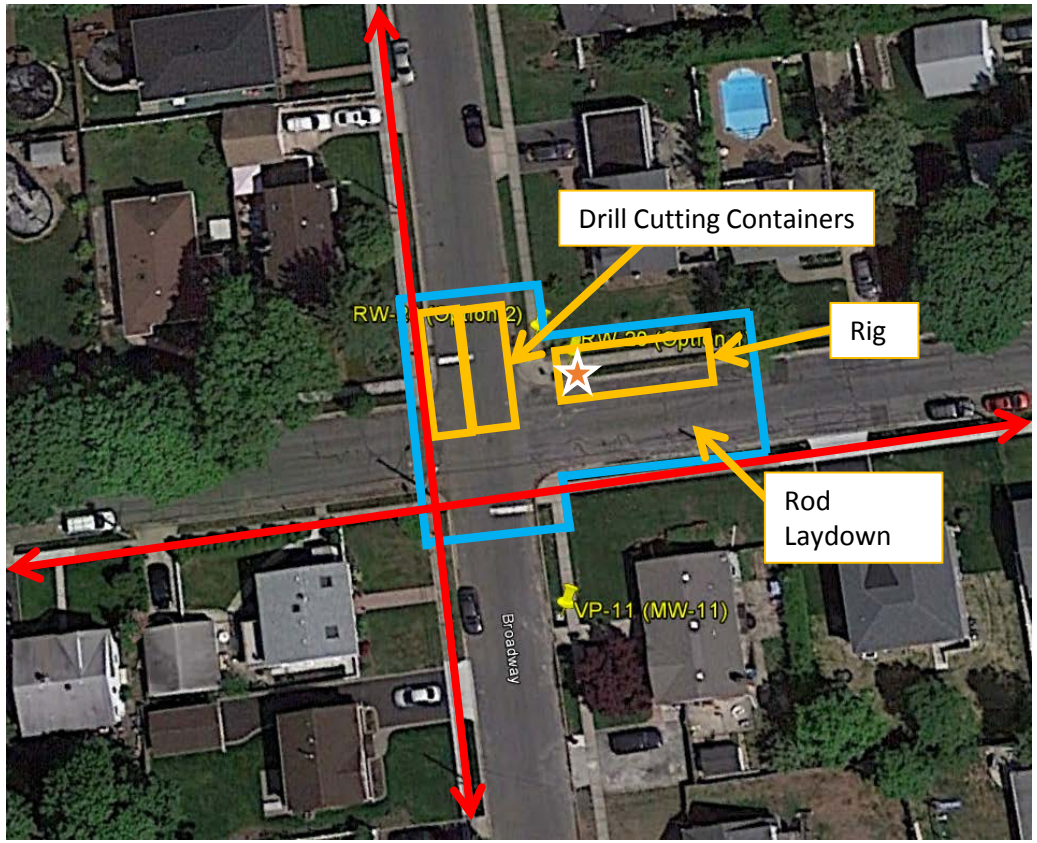
Potential RW-20 and RW-21 Locations



- One option available for RW-21
- Two options available for RW-20

★ Proposed Well

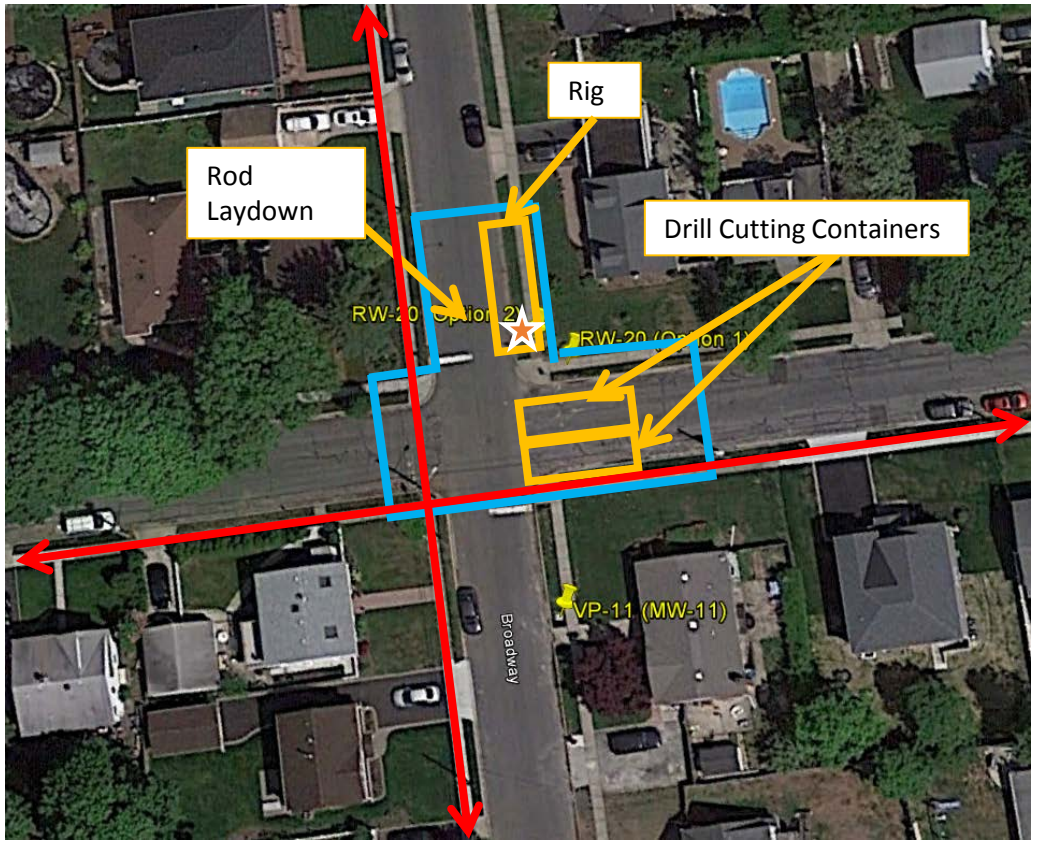
Potential RW-20 Locations



Overhead Utilities

Proposed Well

Limits of Proposed Work Zone

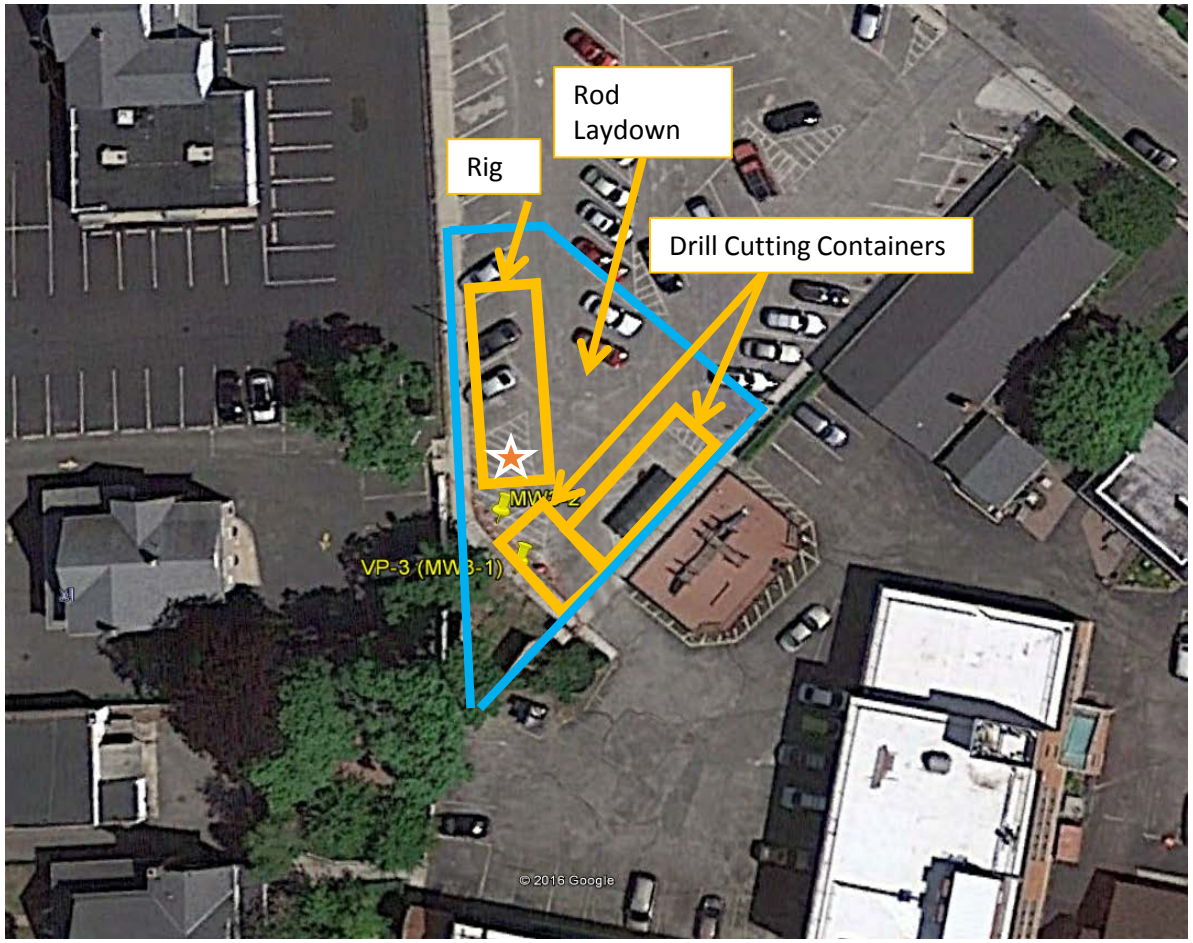


Temporary road closures needed during drilling and well installation

Potential RW-21 Location

Proposed Well

Limits of Proposed Work Zone



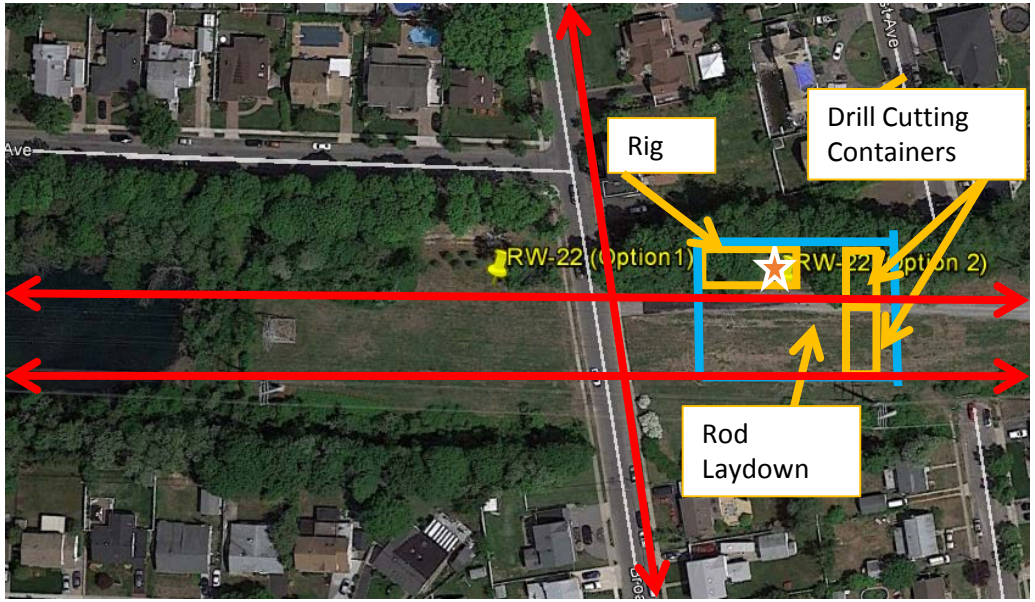
Potential RW-22 Locations

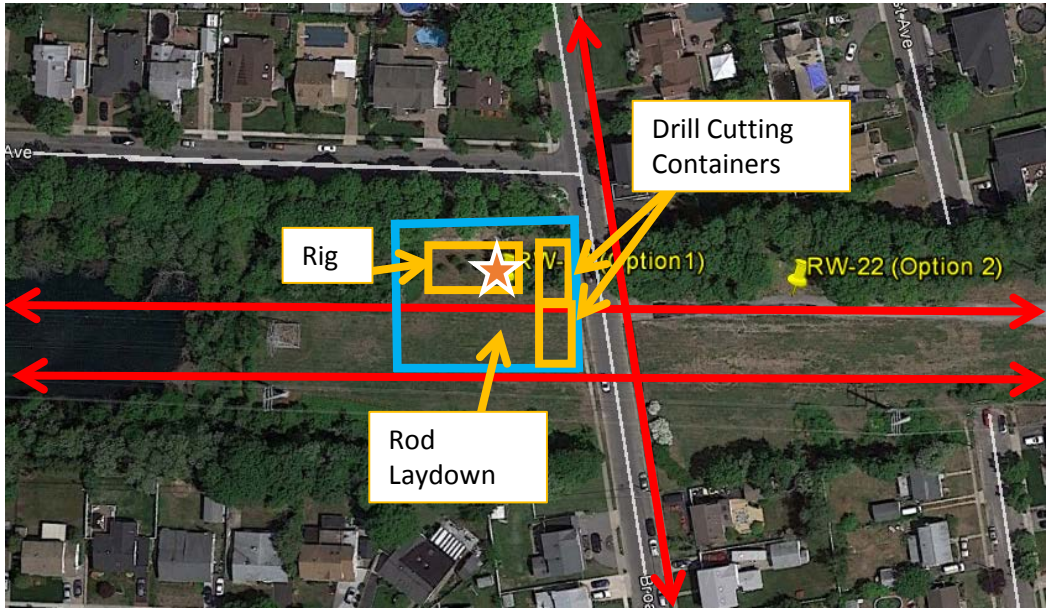
Potential RW-22 Locations

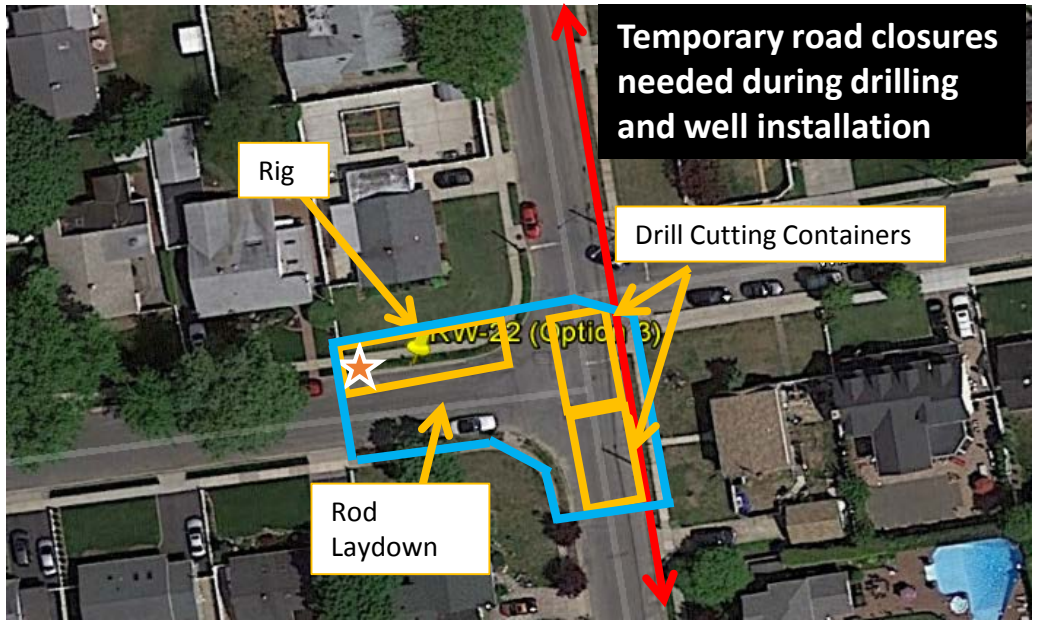
Overhead Utilities

Proposed Well

Limits of Proposed Work Zone







Preliminary Technical Package
RW-21 Area Pipe Installation Plan

- This plan provides two conceptual layouts (Options A and B) for the proposed influent pipes that will transmit water from the remedial wells (RW-20, RW-21, and RW-22) to the treatment plant
- Due to the densely populated area and limitations on suitable lands for drilling, the purpose of this plan is to identify potential locations and technical approach

Preliminary Technical Package
RW-21 Area Pipe Installation Plan

- Town of Oyster Bay properties or rights-of-way have been preliminarily identified for potential pipes.
- Conceptual plan is based on the following:
  - Utilities identified from NYSDEC-approved RW-21 Area pre-design investigation
  - Potential influent pipe routes (two options identified)
  - Identification of drill rigs, support equipment, required work areas, and potential contractors
  - Horizontal Directional Drilling (HDD) configurations combined with trenching
  - Pipe size requirements

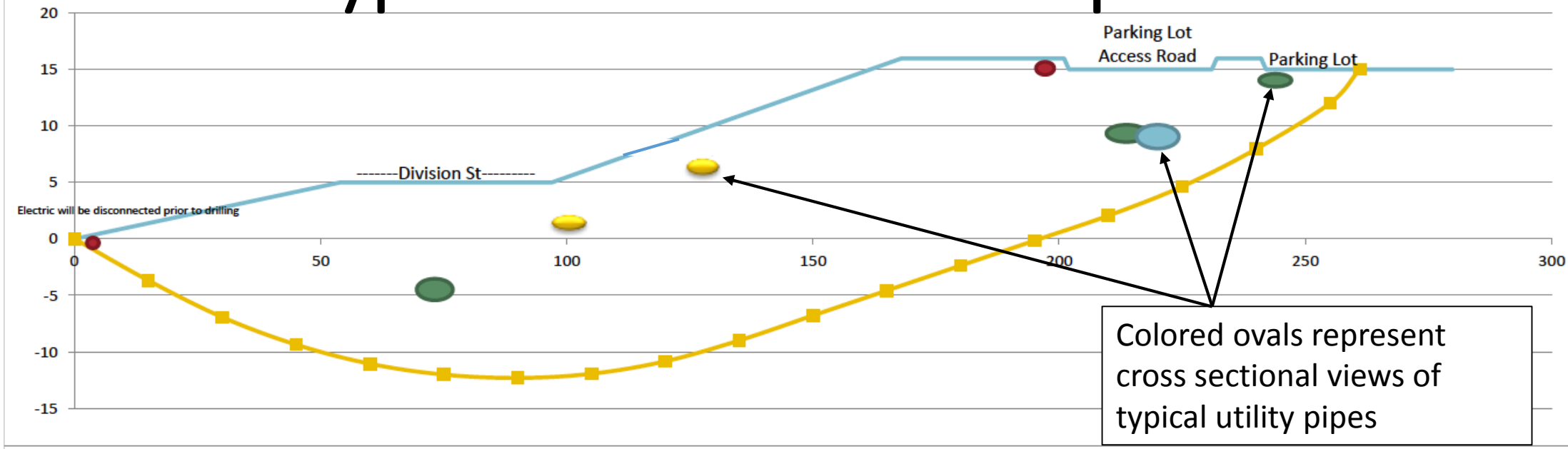
Preliminary Technical Package
RW-21 Area Pipe Installation Plan

- Typical HDD pipe installation work sequence:
  - Utility identification, clearance and site survey
  - Geotechnical investigation
  - Mobilization, exit/entry area work zone setup/excavations, and drill rig setup
  - Pilot hole drilling
  - Reverse reaming to full bore diameter
  - Setup of work zone for High-Density Polyethylene (HDPE) pipe laydown and fusing area
  - Fuse pipe and pull through HDD bore
    - RW-20 pipe (Option A) will likely require road closure

Preliminary Technical Package
RW-21 Area Pipe Installation Plan

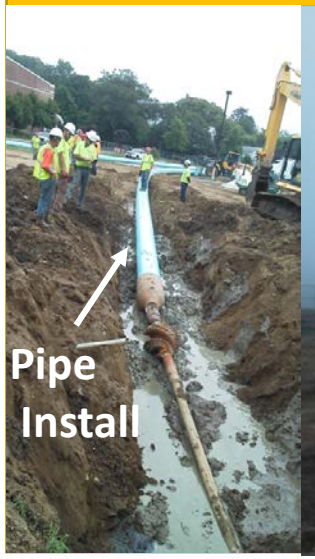
- Pipe installation will meet substantive permitting requirements of the Town of Oyster Bay as well as any other permits/equivalencies
- Next steps in the design:
  - Coordinate with Town of Oyster Bay to:
    - Schedule site walk with contractors
    - Obtain utility maps
  - Initiate design:
    - Utility markout survey
    - Site survey
    - Geotechnical soil borings
    - Structural calculations for influent pipe design
    - Develop plan, profile, and details for the HDD program

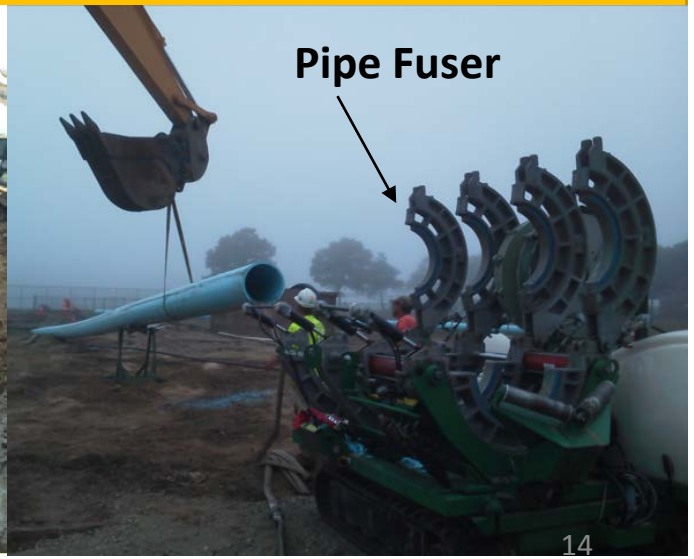
Typical Profile of HDD Pipe



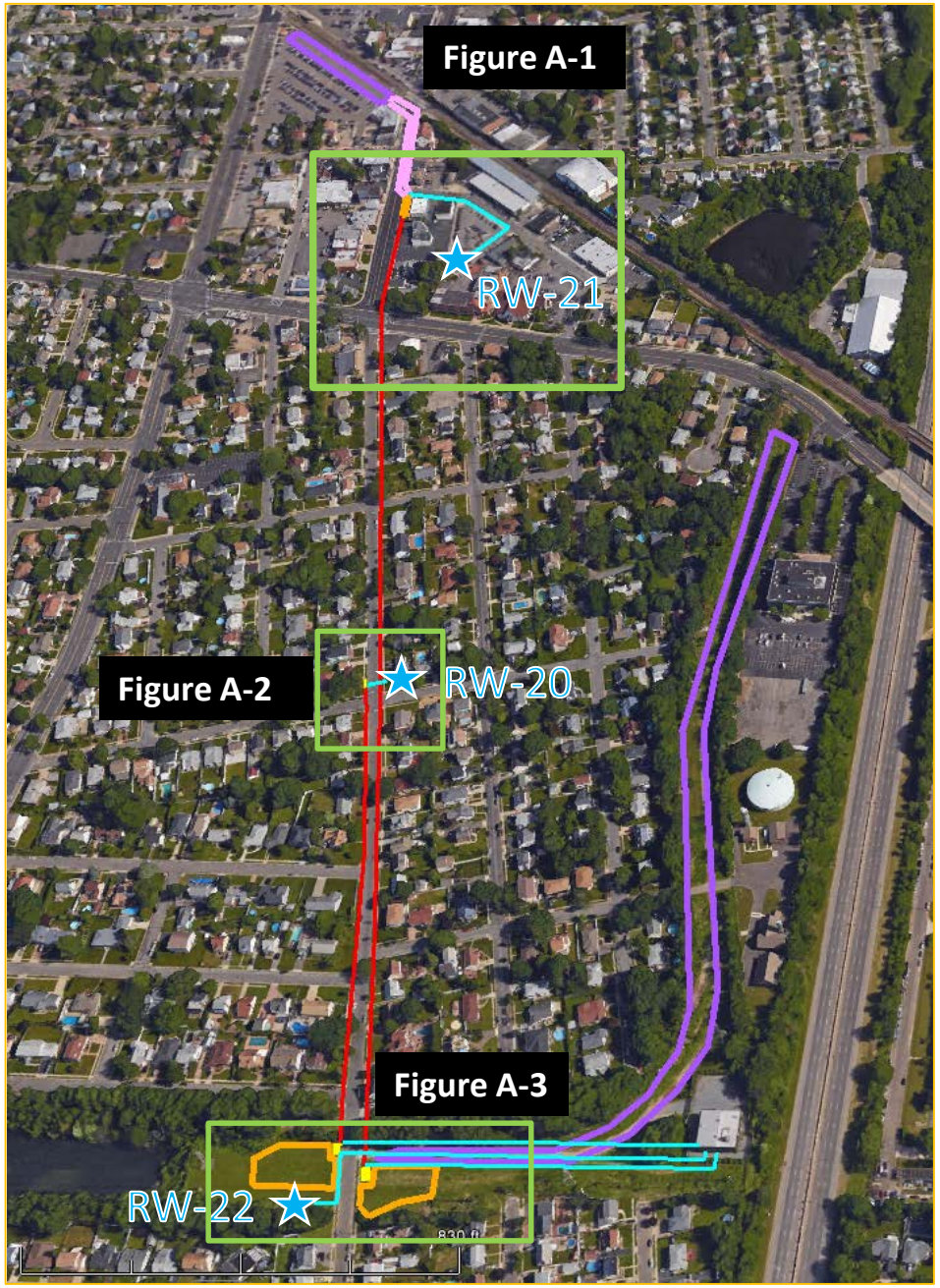
Photos of Entry Location

Photos of Exit Location

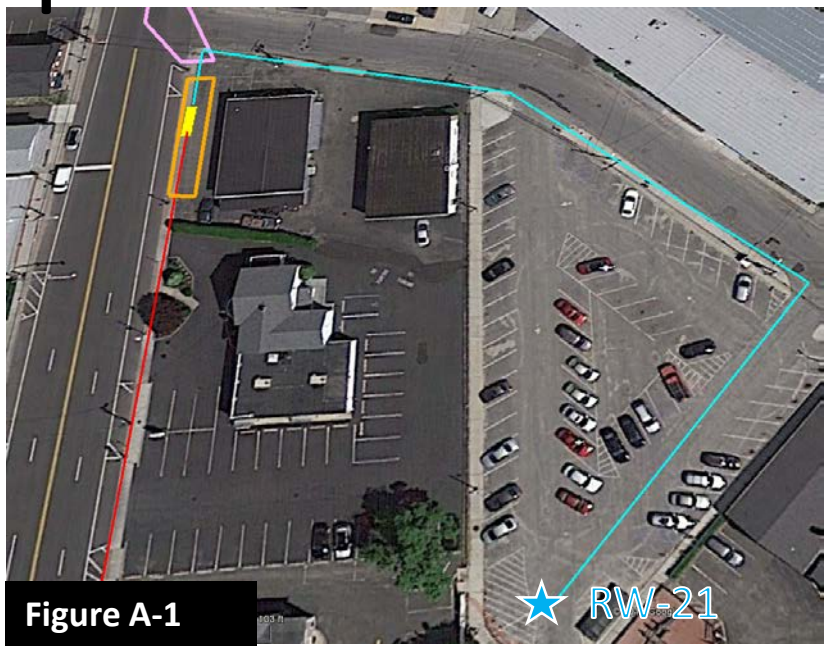


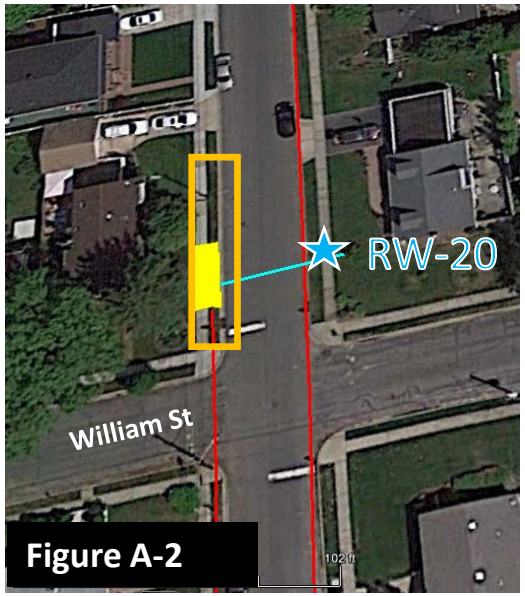


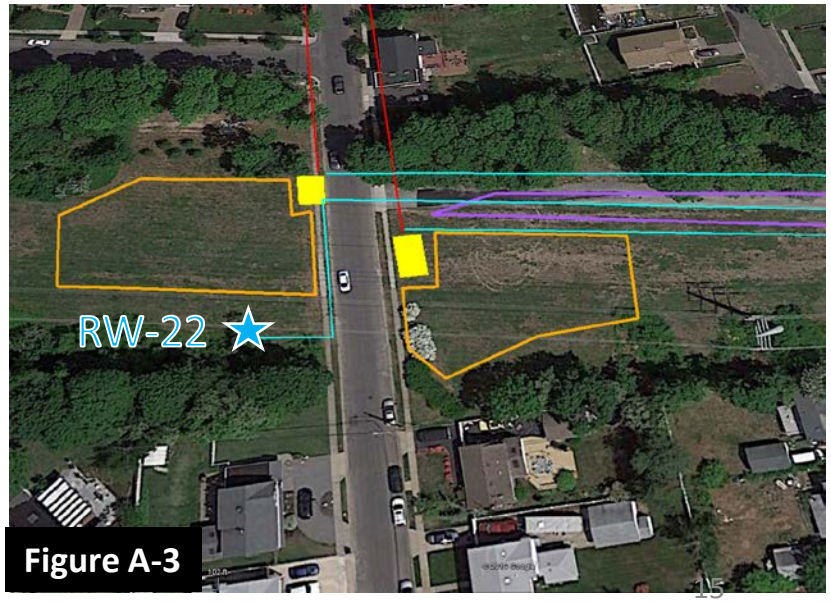
Pipe Route - Option A



- Trenching
- HDD
- Staging/Exclusion Area for rig/pit
- Exit/Entry Area for HDD
- HDPE Fusing Area
- Traffic Restricted Area

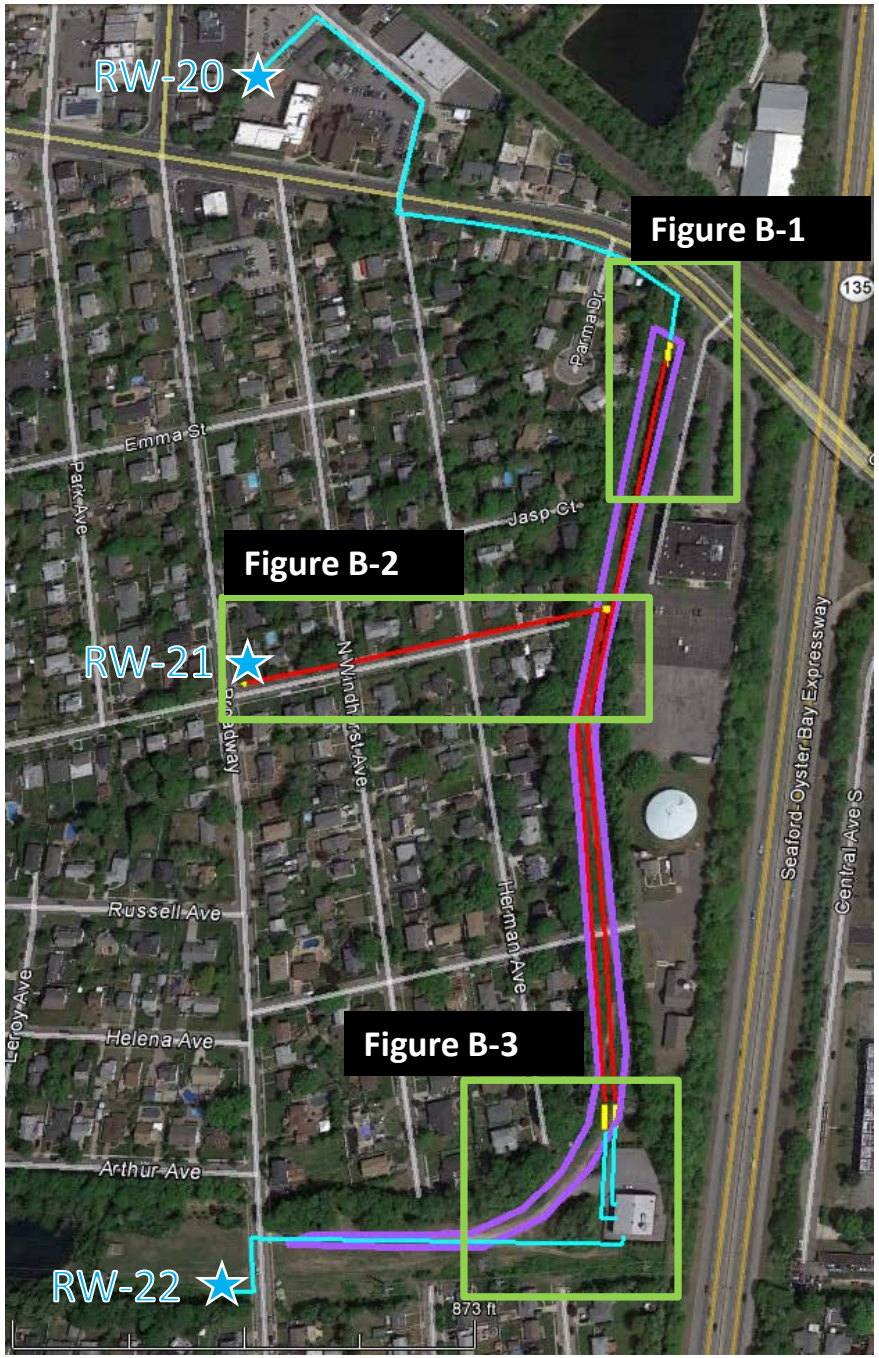


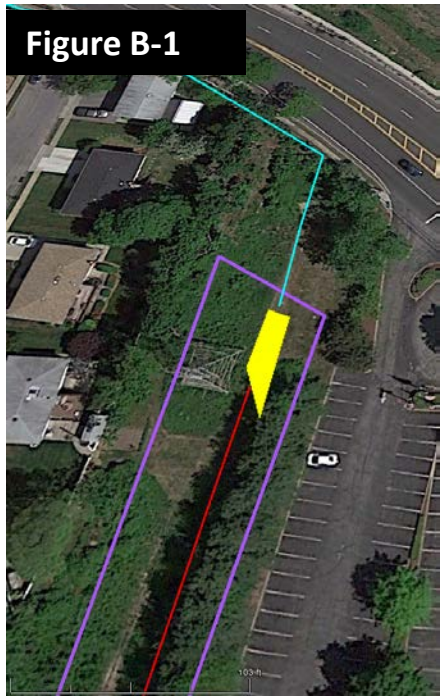


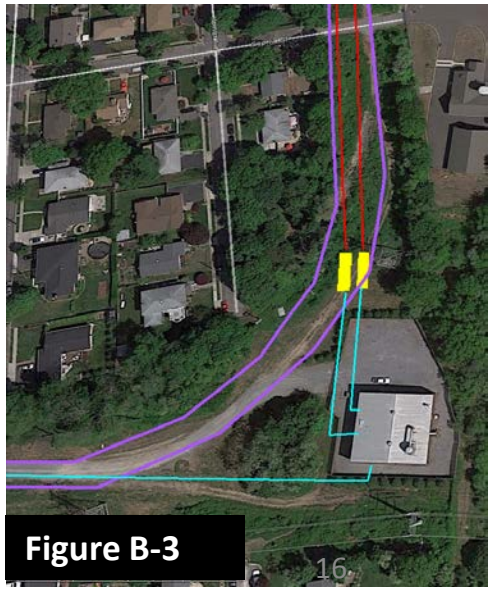


Pipe Route - Option B

- Trenching
- HDD
- Exit/Entry Area for HDD
- HDPE Fusing Area







Points of Contact

- Town of Oyster Bay
- Arcadis – David Stern, Carlo San Giovanni, Chris Engler
- Northrop Grumman – Ed Hannon, Aaron Gershonowitz
- NYSDEC – Steve Scharf
- NYSDOH – Steve Karpinski
- NCDOH – Joe DeFranco

Next Meeting Date and Agenda

- Town Meeting – June 2, 2016
  - Permitting procedures for remedial design
  - List of permits
- Public Availability Session – June 3, 2016