



Neighborhood Update

RW-21 Area Remedial Design/Remedial Action

Operable Unit 3 – Bethpage, New York
June 21, 2016



Overview – Why are we here?

- Summary of upcoming work in this neighborhood
- How the temporary work will affect you
- Safety and other controls to reduce disruption
- Schedule expectations and next steps

*Northrop Grumman and New York State representatives
are here to answer your questions*



Overview – Why are we here?

Tonight's neighborhood update meeting focuses on work to be performed by Northrop Grumman for the RW-21 Area groundwater cleanup

Supervising Regulatory Agencies

- NYS Department of Environmental Conservation
- NYS Department of Health
- Nassau County Department of Health



Project Background

Northrop Grumman is working with the NYSDEC to clean up groundwater in the “RW-21 Area” and investigate groundwater south of the RW-21 Area

Northrop Grumman’s cleanup plan includes:

- Expedited schedule for groundwater cleanup
- Two remedial wells (RW-20 and 21) to clean up groundwater in the RW-21 Area
- Three to four vertical profile borings to investigate groundwater south of the RW-21 Area
- A third remedial well (RW-22) to clean up groundwater south of the RW-21 Area
- Conceptual design of the groundwater treatment system

Northrop Grumman is implementing a plan to clean up the groundwater

Key Elements of the Cleanup System

Three Groundwater Remedial Wells

- Below-ground vaults for wells installed to extract groundwater
- Groundwater pumped to treatment system in buried pipes

Treatment System

- Removes contamination from the groundwater
- Includes water and air treatment, and other required equipment

Discharge Pipe

- Clean water from treatment system pumped to recharge basin on Arthur Avenue

Safety, Security and Controls

Clean up plan includes health, safety and security measures to protect the community and site workers

- **CONTROLS** to minimize inconvenience to residents and businesses by reducing noise, dust, and disruption to traffic
- **SECURITY** for workers and residents throughout the project
- **SAFETY** work materials will be contained; excess materials removed each day
- **WORK HOURS** typically Monday to Friday 7 a.m. to 5 p.m. except Federal holidays; some critical tasks may require extended hours.

Work coordinated with DEC, State/County DOHs, and Town of Oyster Bay

Expedited Schedule to Reduce Neighborhood Impacts

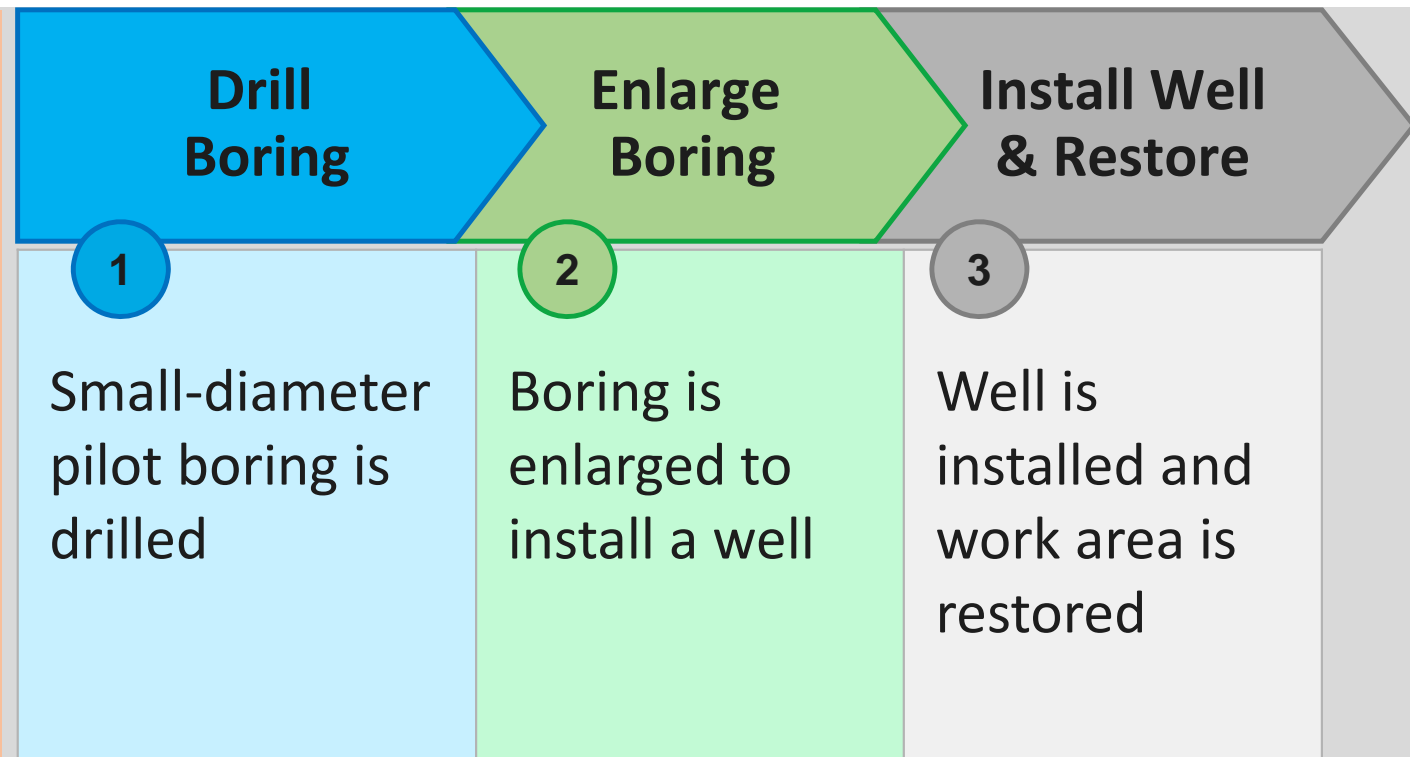
Up to four locations may be worked on simultaneously

All drilling rigs and equipment will remain in place until work is complete

Well Drilling Process

Location Process

- Locations selected based on prior investigation results
- Locations also selected to reduce inconvenience in the neighborhood
- Final locations selected based on available land, permit requirements, and other factors
- Each well takes roughly two months to complete





Estimated Schedule

Project Start

- **July-September:** RW-20 and RW-21 wells and RW-22 borings
- **September-October:** RW-20 and 21 well vaults and Phase 1 piping
- **September-December:** RW-22 borings and RW-22 well

Major Milestone

- **December 2016:** Completion of wells and borings, Phase 1 piping, and vaults

Project Finish

- **Mid-2017:** Complete treatment system construction and installation of Phase 2 piping and treatment system start up

Proposed Remedial Wells and Pipe Route

- **Wells:**
 - RW-20 & 22: Two proposed locations
 - RW-21: One proposed location
- **Pipes/Vaults:**
 - Phase 1: completed with the well
 - Phase 2: separate mobilization
- Remedial wells will have their own pipe to treatment system. Pipes buried underground in public right-of-way, to extent possible.



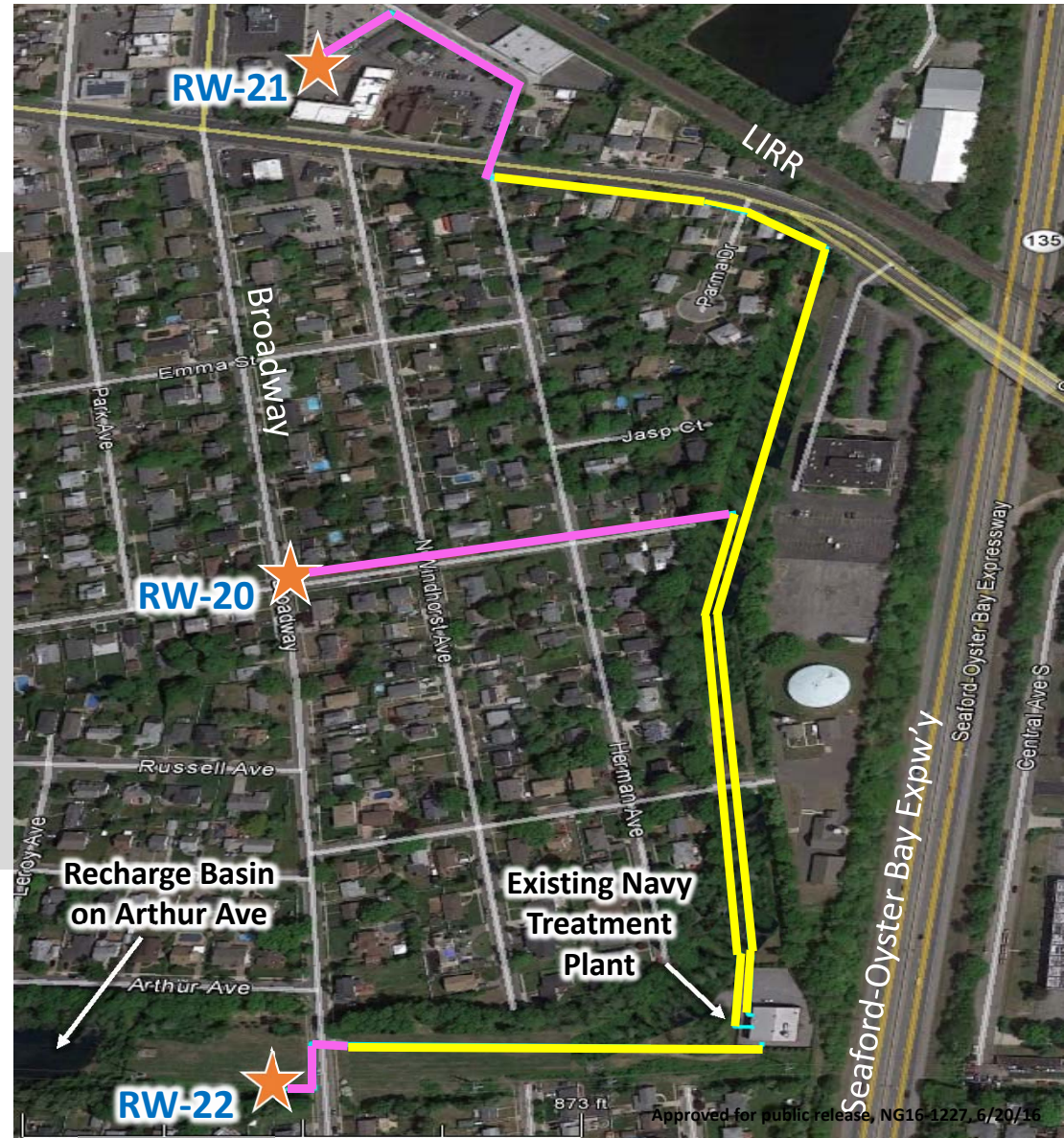
Proposed Well



Proposed Pipe Location (Phase 1)

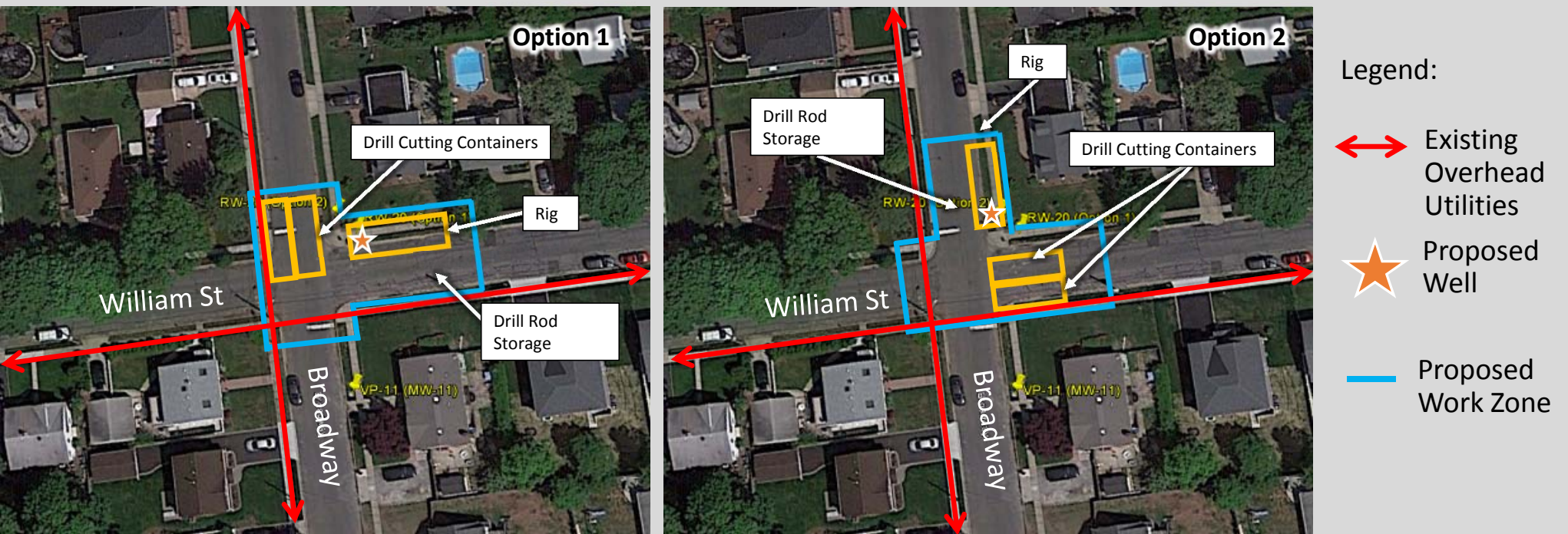


Proposed Pipe Location (Phase 2)



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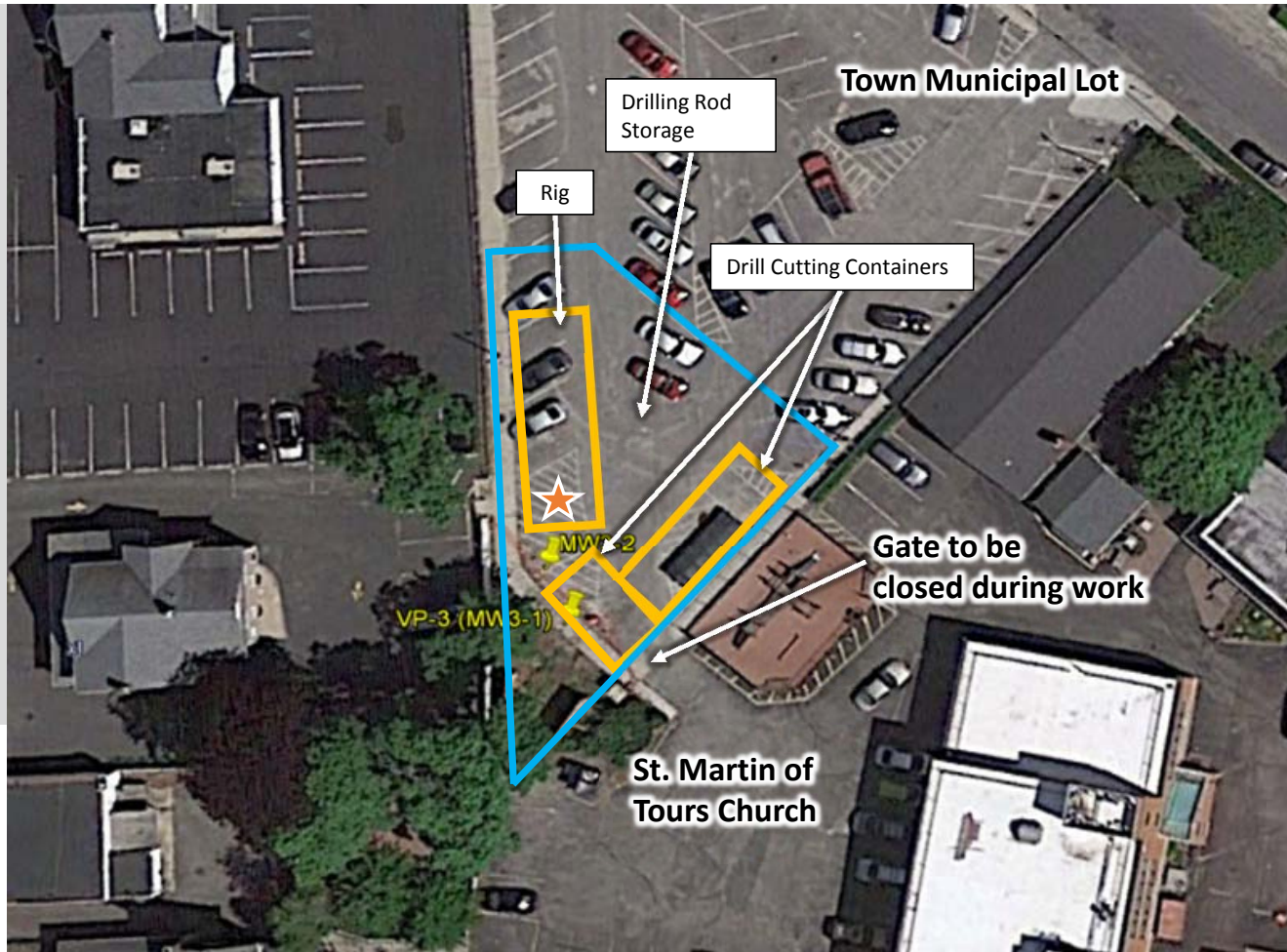
Proposed Well RW-20 Locations



Safety is very important!

Look for signs during temporary street closures and traffic detours

Proposed Well RW-21 Location



Legend:

- ★ Proposed Well
- Proposed Work Zone

All drilling rigs and equipment will remain in place until the work is complete

Proposed Well RW-22 Locations

- Four borings will help locate RW-22
- RW-22 = Two options available

★ Proposed Boring

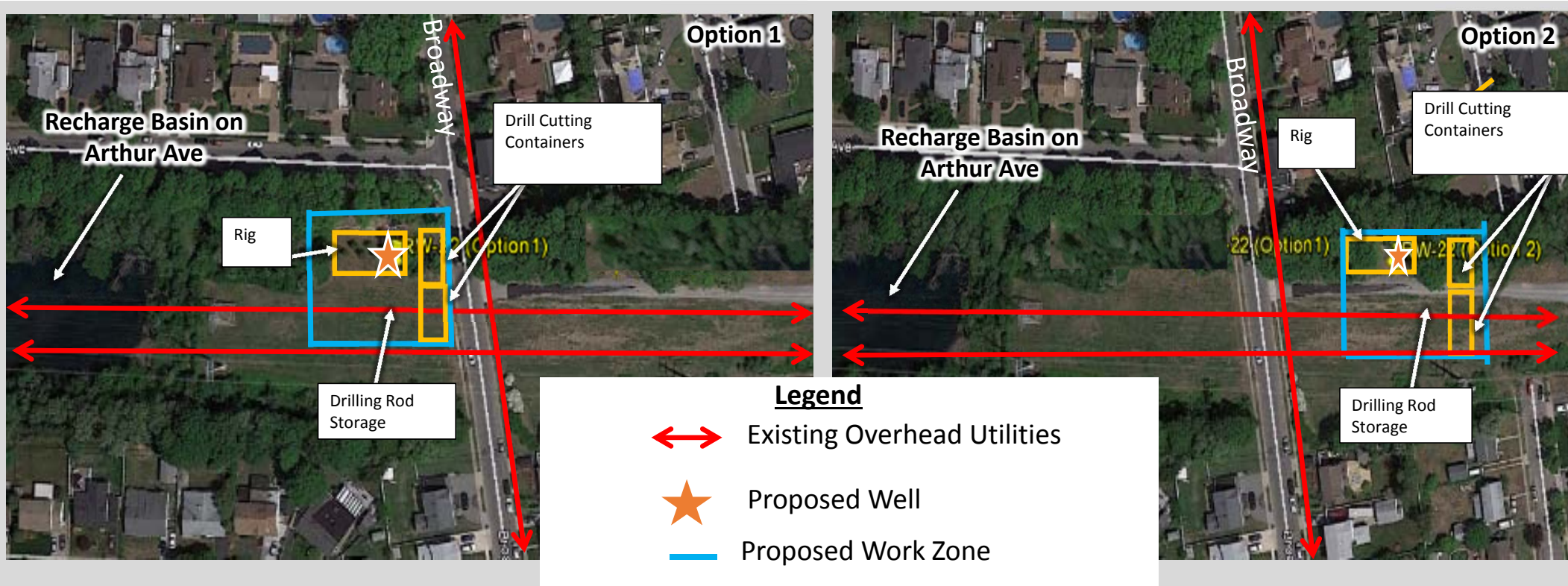
★ Proposed Well

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Proposed RW-22 Well Locations



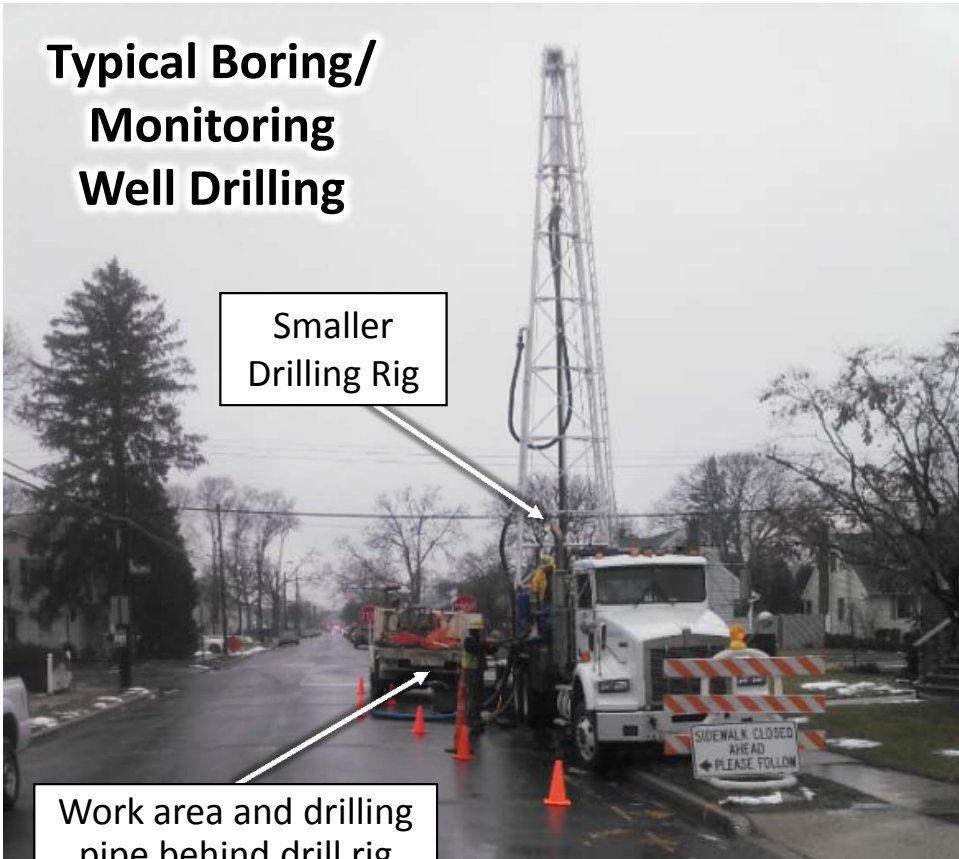
Safety is very important!
Look for traffic control signs

Typical Well Drilling Work Zones

Typical Boring/
Monitoring
Well Drilling

Smaller
Drilling Rig

Work area and drilling
pipe behind drill rig

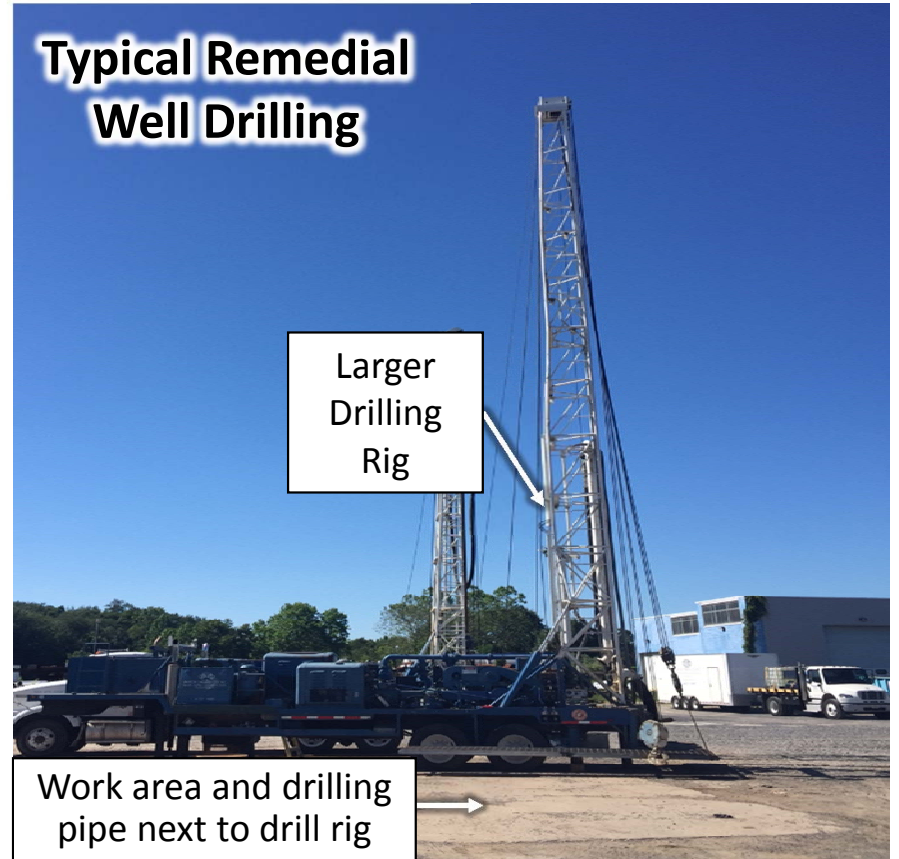


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Typical Remedial
Well Drilling

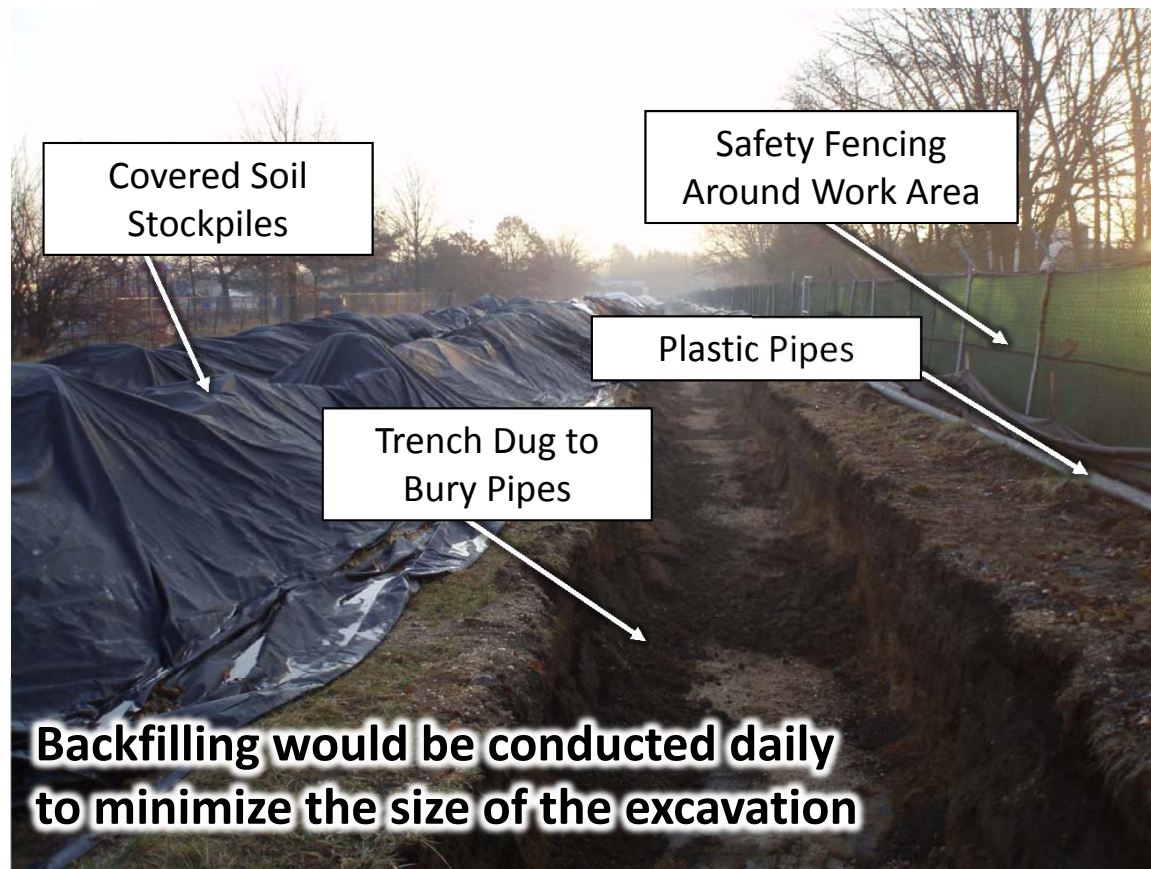
Larger
Drilling
Rig

Work area and drilling
pipe next to drill rig



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Typical Trenching Work Zone



Examples of Well Completion

**Completed Remedial
Well Vault**



**Completed Monitoring
Well Pad**



Treatment System Structures





Contact Information

*If you have
questions or
concerns, please
contact these New
York State project
representatives:*

Mr. Steven Scharf, P.E.

Project Manager

NYSDEC

Main Office: (518) 402-9620, Ext 3.

E-mail: steven.scharf@dec.ny.gov

Mr. William Fonda

Citizen Participation Specialist

NYSDEC Public Affairs & Education

Main Office: (631) 444-0347

E-mail: Bill.Fonda@dec.ny.gov

Mr. Steven Karpinski

NYS Department of Health

Main Office: (518) 402-7853

E-mail: steven.karpinski@health.ny.gov



Contact Information

If you wish to contact Northrop Grumman directly, please contact:

Ms. Dianne Baumert-Moyik

Communications

Northrop Grumman

Cell Phone: (516) 754-2645

E-mail: Dianne.Baumert-Moyik@ngc.com

Please sign the attendance sheet with your email and phone number as you leave, so that we can provide you with updates on project status.

Thank You

Please pick up a fact sheet as you leave

Extra Slides Poster only

RW-22 Investigation Process

