



RE108 HOTSPOT UPDATE

OCTOBER 2015 QUARTERLY MEETING

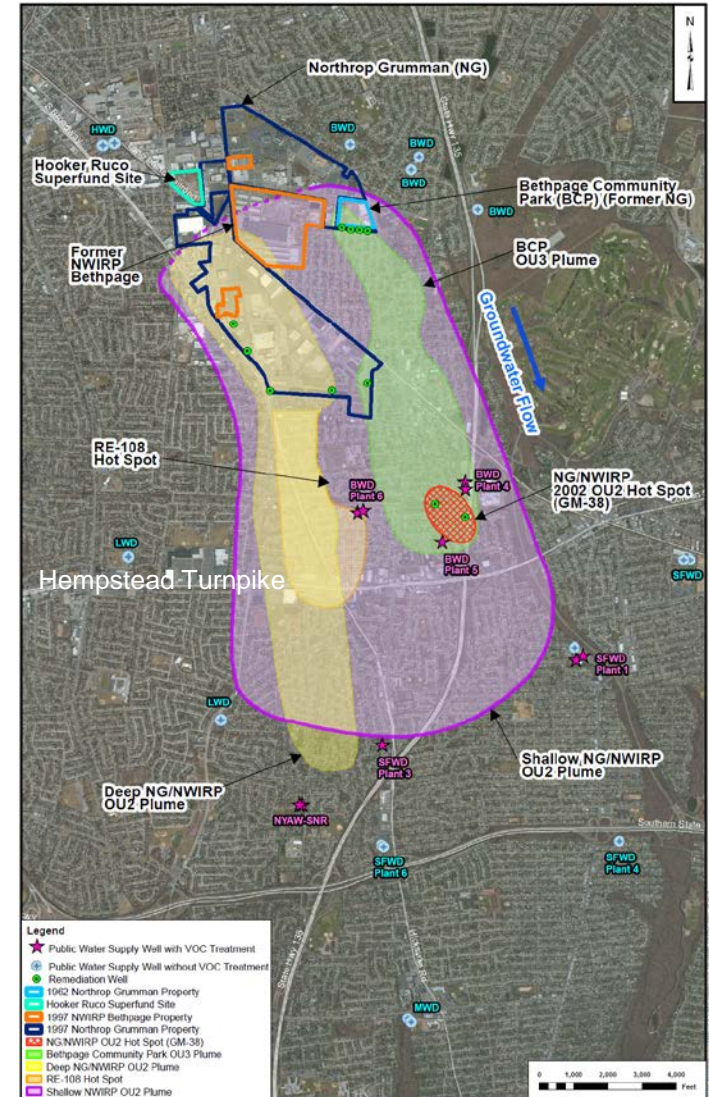
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT BETHPAGE  
LONG ISLAND, NEW YORK

10/29/2015

# Off-Property Groundwater Overview



- 2003 Operable Unit 2 Record of Decision for Groundwater
  - Two Hotspot Areas
    - GM-38 Hot Spot – Remedy in place, system has been operating since 2009
    - RE108 Hot Spot, investigations and design are under way
  - Monitoring and Outpost Well installation and testing are ongoing
  - Well head treatment installed on four Public Water Supplies and modified on one Public Water Supply

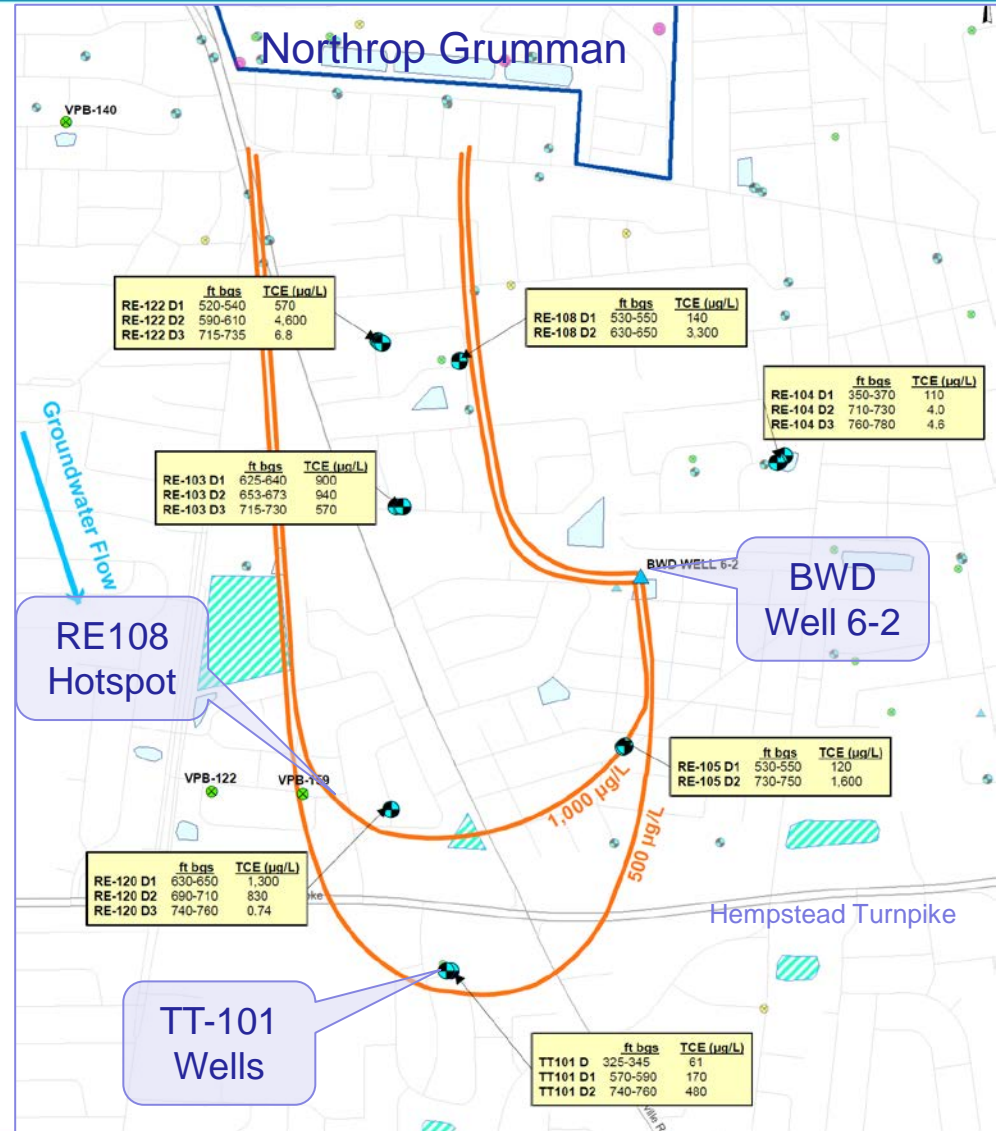


# RE108 Hotspot Area Investigation

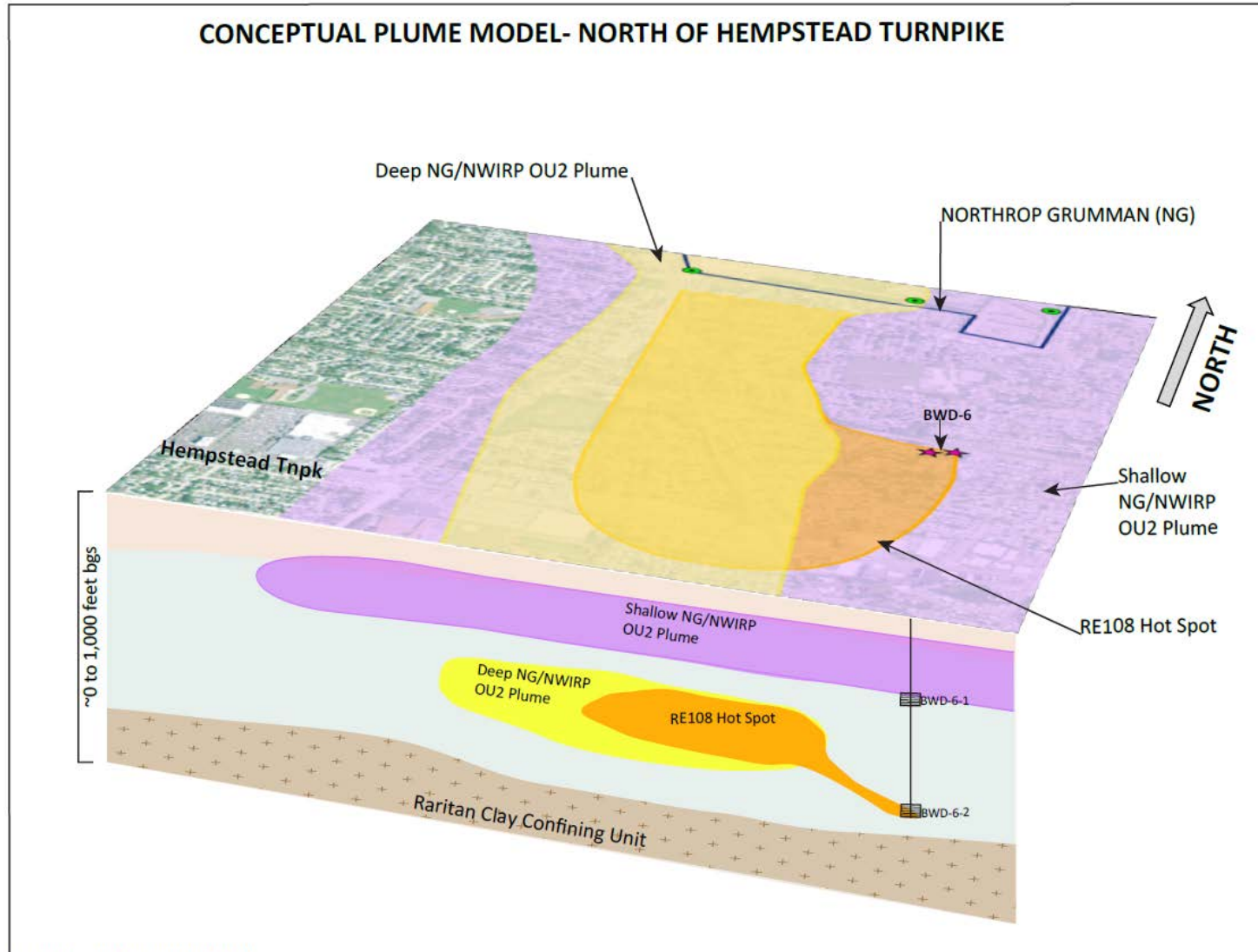


## • RE108 Hotspot Area

- Formerly known as the Bethpage Water District (BWD) Plant 6 Hotspot
- First confirmed in 2011 based on Trichloroethene (TCE) at greater than 1,000 micrograms per liter (ug/L) in BWD Well 6-2
- Vertical profile boring and monitoring well data has been sufficiently defined to proceed, plume delineation subject to ongoing investigations



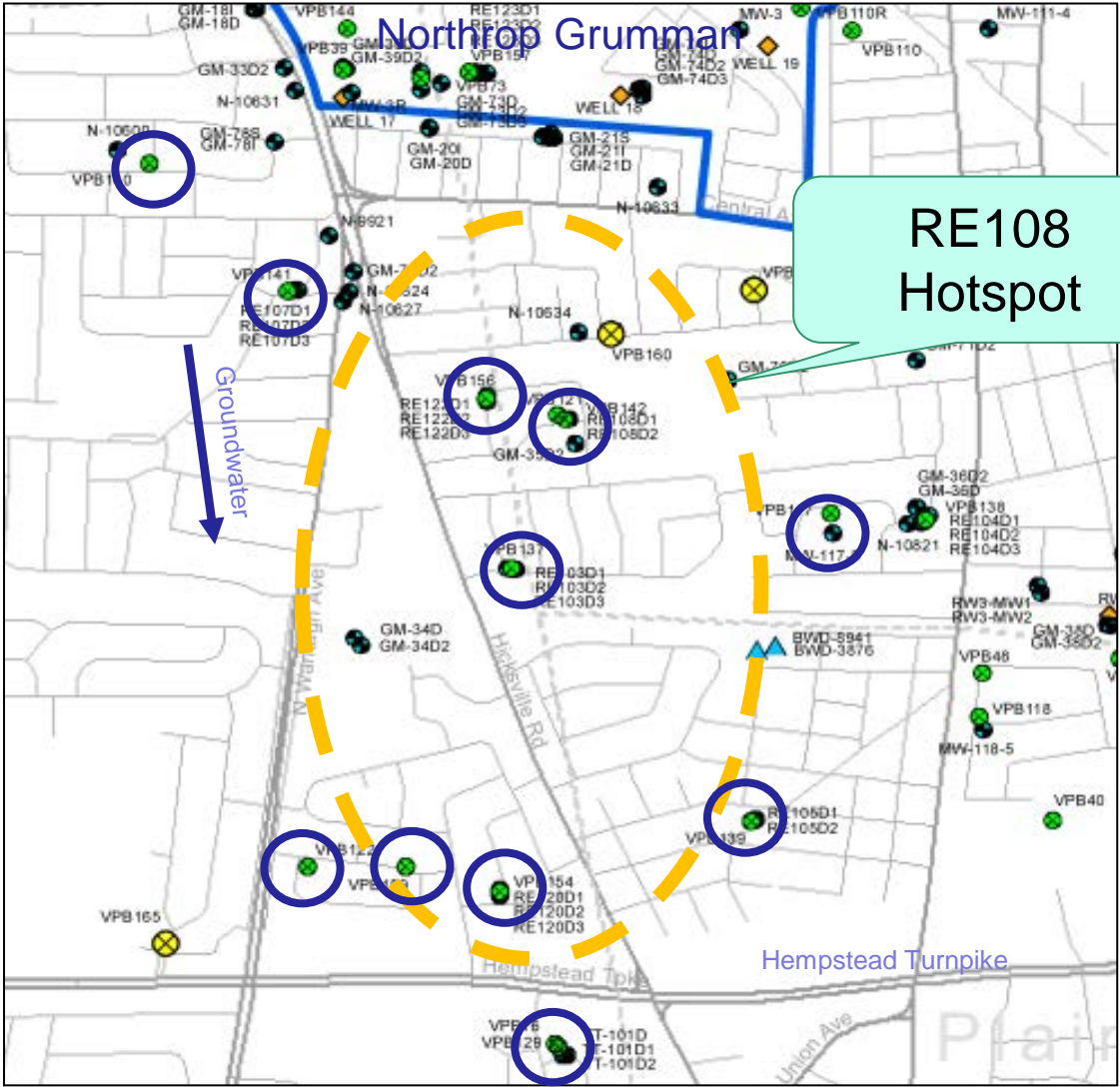
# Conceptual Site Model – RE108 Hot Spot Area



P:\GIS Files\Bethpage\AI\BP hotspot 101315.ai MC 101915



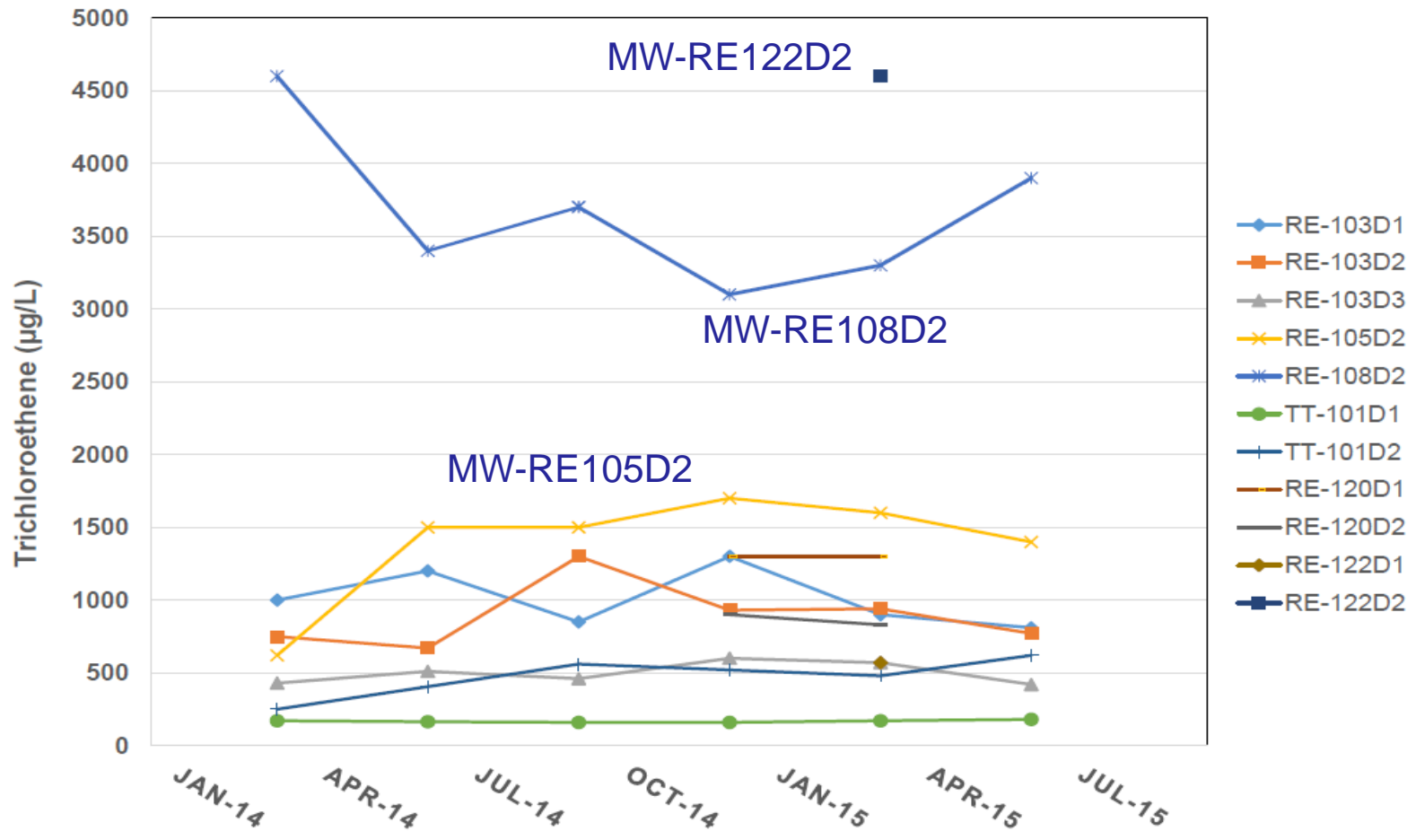
# RE108 Hotspot Area – Plume Delineation Using Vertical Profile Borings



# RE108 Hotspot Area Investigation



GRAPH 1  
TREND ANALYSIS FOR TRICHLOROETHENE  
IN THE RE108 HOTSPOT AREA

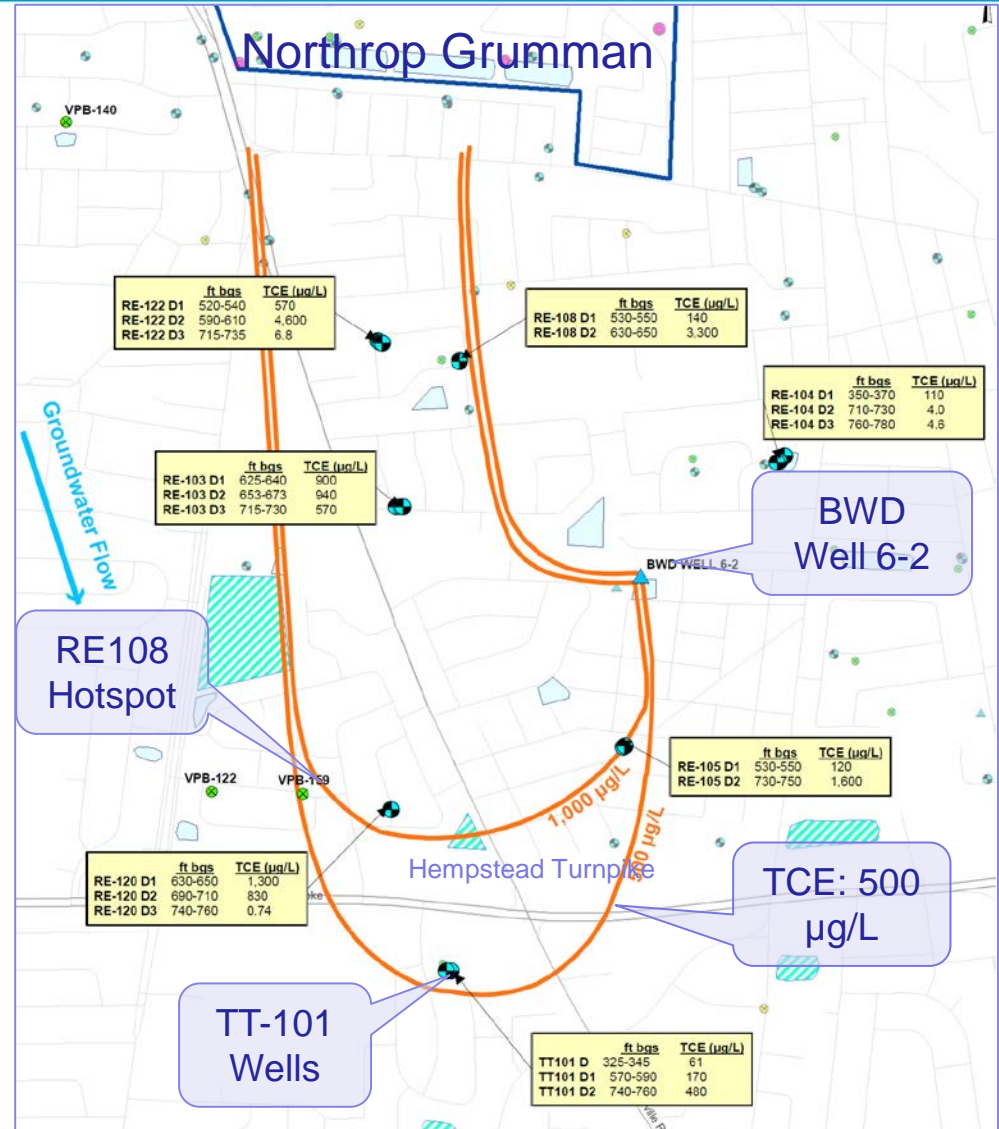


# RE108 Hotspot Area – Plume Summary



## Plume Characteristics

- 170 acres
- 500 to 750 feet below ground surface
- Approximately 40,000 pounds of TCE
- Average TCE concentration at shutdown: 200 ug/L (94 percent reduction)





# RE108 Hotspot Area

## Design

- Two to four extraction wells, 500 to 700 feet below ground surface
- Combined pumping rate of 900 to 1,200 gallons per minute
- Treatment Process: Air Stripping and Granular Activated Carbon
- Treatment Goal: Drinking Water Standards





# RE108 Hotspot Area

## Design

- Treatment Plant Dimensions: 75 feet by 75 feet by 25 feet high
- Treatment Plant property buffer, minimum of 100 feet to occupied structures – 2 acres
- Additional land for extraction wells and piping
- Preferred initial location is near the intersection of Hicksville Road and Hempstead Turnpike (TP Opt1)
- Alternative Treatment Plant Locations include Wantagh Avenue (TP Opt 2) and Stewart Avenue (TP Opt3)



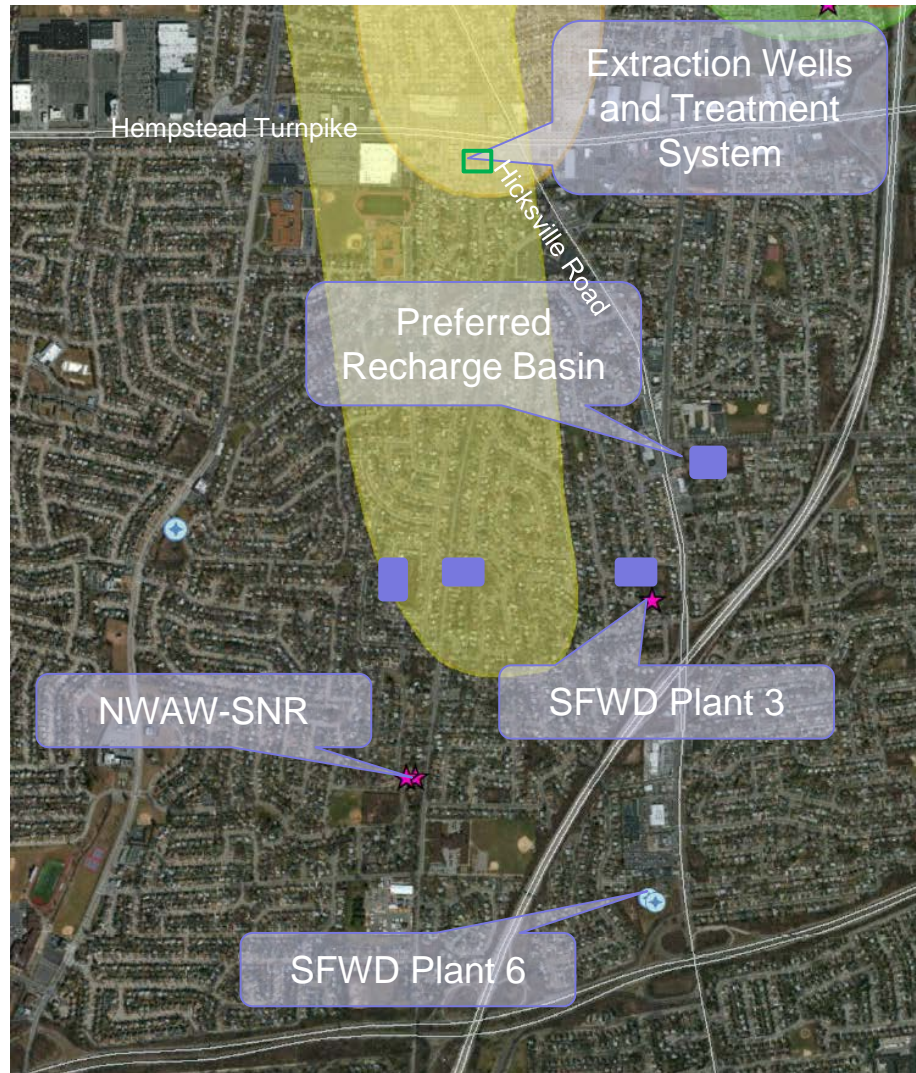


# RE108 Hotspot Area



## Design (Continued)

- Discharge to Recharge Basin, Hicksville Road – 3,500 feet southeast
- Concern with pushing plumes to other water districts:
  - Levittown Water District (LWD)
  - New York American Water (NYAW)
  - South Farmingdale Water District (SFWD)
- Other discharge options for treated water include:
  - Basins near TP Opt2 and Opt3 (previous slide)
  - NG/NWIRP properties
  - Injection Wells various locations
  - Sanitary System (Cedar Creek)
  - South Oyster Bay



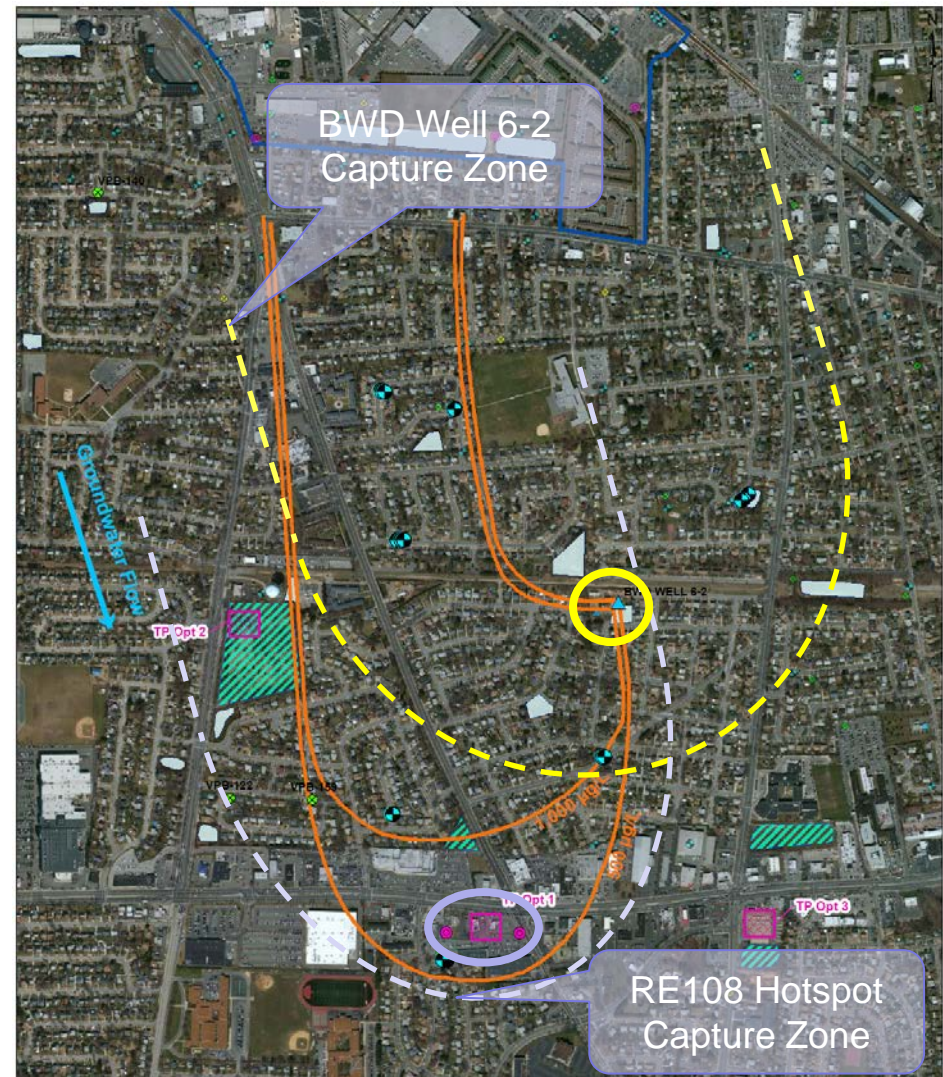


# RE108 Hotspot Area Capture Zone



## RE108 Hotspot Area Capture Zone

- Currently estimated capture zones for BWD Well 6-2 and RE108 Hotspot Wells
- Capture zones are based on 24-hour pumping test, evaluation indicates that BWD Well 6-2 sustained operation may miss a portion of the hot spot
- Navy is conducting a three-month pumping test using BWD Well 6-2 to better establish capture zone





# RE108 Hotspot Area Path Forward



## Path Forward

- Preliminary Design Activities Underway, Basis of Design Report – 2017
- Property Access – 2018 and 2019
- Design Activities – 2019 and 2020
- Construction/Startup – 2021 and 2022