

# The South Hartford Conveyance and Storage Tunnel



The Metropolitan District

June 16<sup>th</sup>-17<sup>th</sup>, 2015



**AECOM**

**BLACK & VEATCH**  
Building a world of difference.

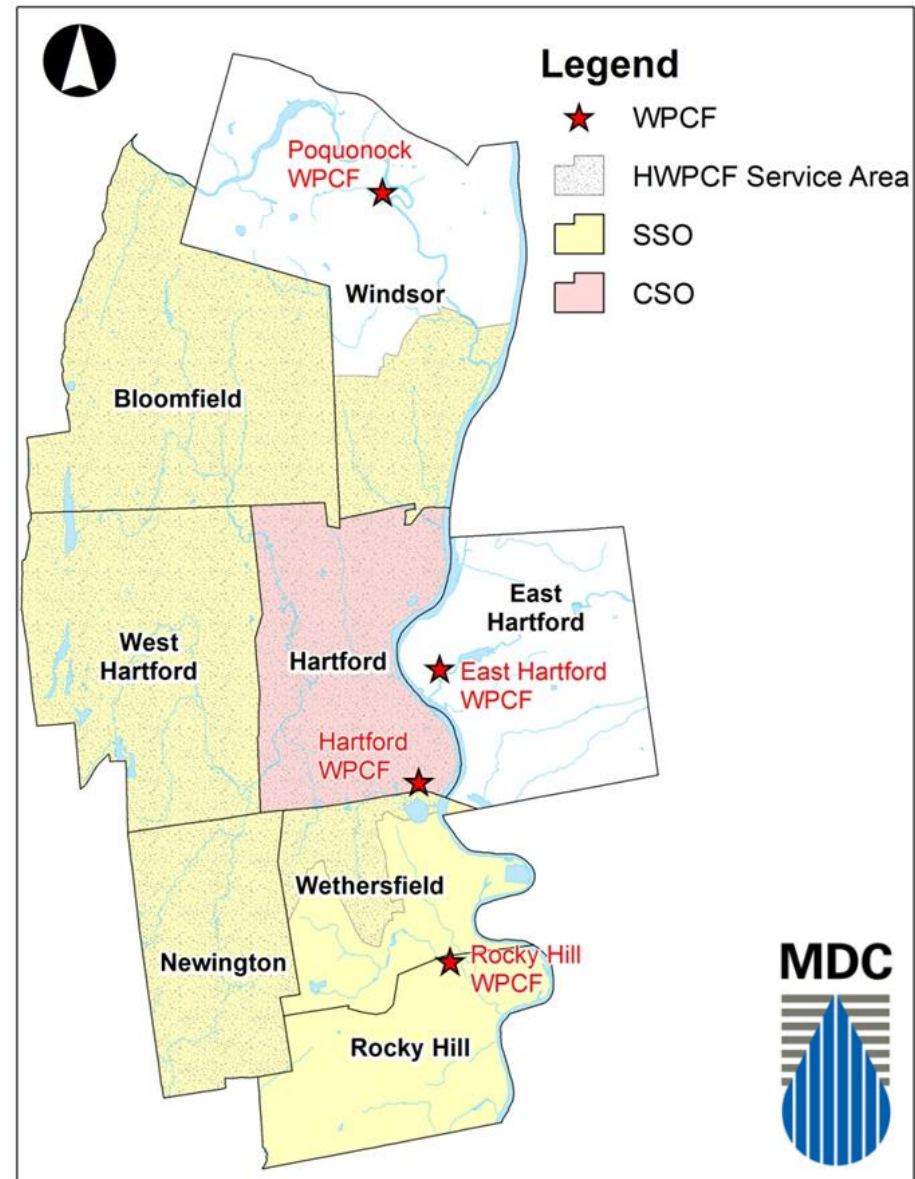
# Purpose of This Public Meeting

- Communicate with Residents Directly Adjacent to the Project
- Provide information regarding:
  - ✓ Project Background
  - ✓ Project Scope
  - ✓ Project Schedule



# The Metropolitan District (MDC)

- Nonprofit, specially chartered municipal corporation created by the CT General Assembly 1929.
- Provides water, sewer and household hazardous waste collection services to its member municipalities.
- In addition, under a series of special agreements, the MDC supplies treated water to portions of Glastonbury, South Windsor, Farmington, East Granby and Portland.

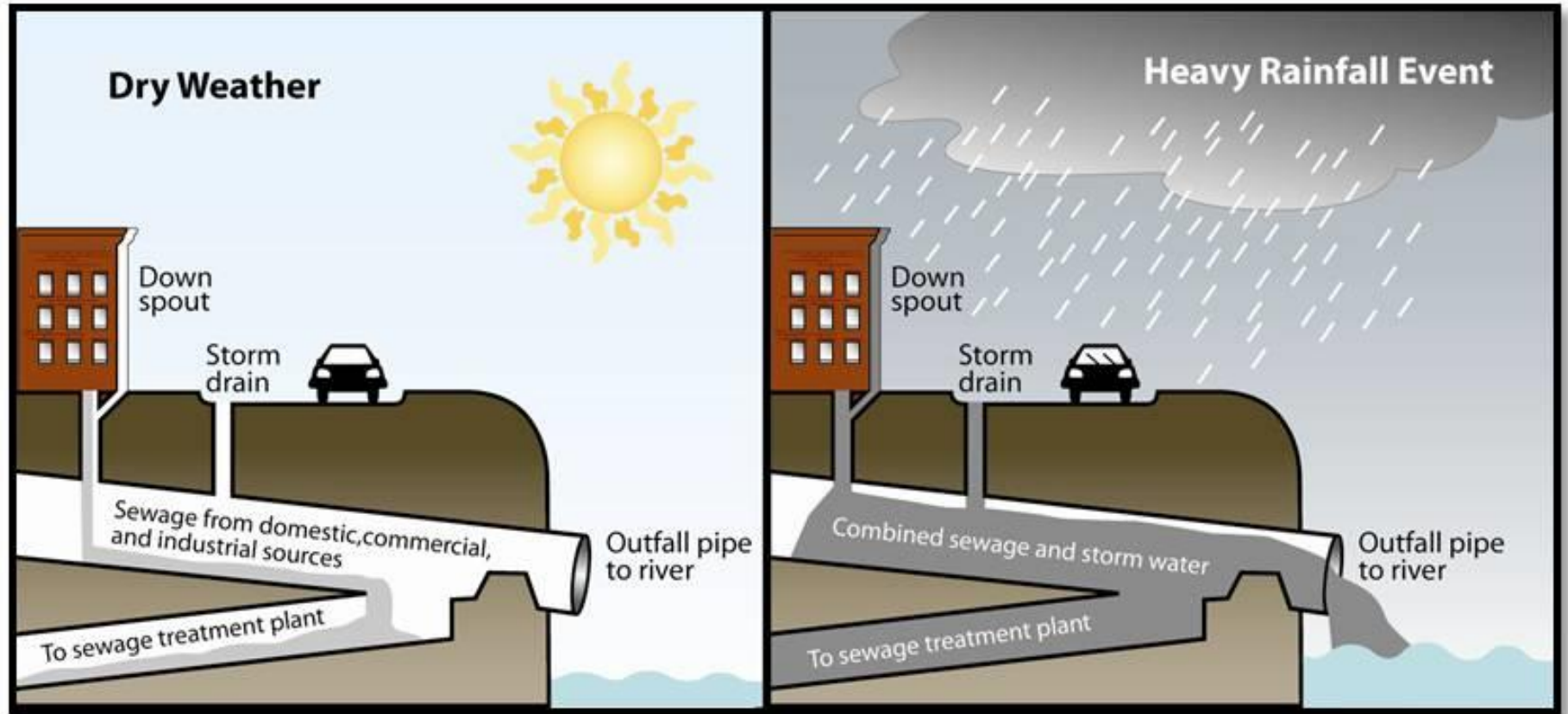




# Combined Sewer Overflows (CSOs) are a Significant Regional Issue



# How a CSO Works





# CSOs Result in Degraded Water Quality



# The Clean Water Project (CWP)

The CWP is the MDC's Response to:

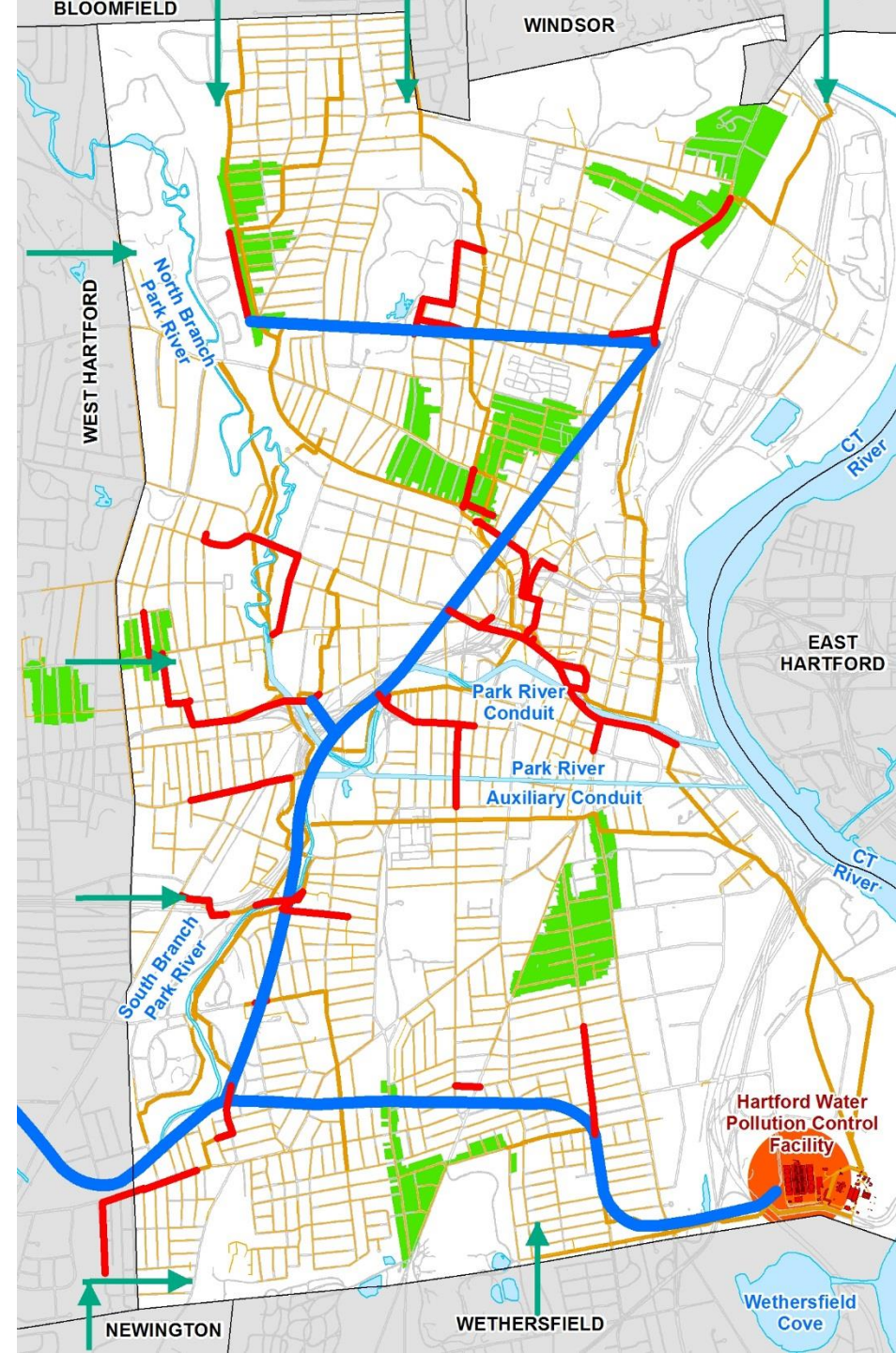
1. **Consent Order** from CT DEEP to address combined sewer overflows
  2. **Consent Decree** from EPA to address sanitary sewer overflows
- Multiphase program that will take 20 years to complete
  - Project Goals:
    1. Reduce the CSOs to streams/ivers
    2. Eliminate CSO outfalls to Wethersfield Cove & North Branch Park River
    3. Reduce Nitrogen discharged to CT River
    4. Address sanitary sewer overflows (SSOs) outside of Hartford





# The Clean Water Project

1. Expand HWPCF capacity to 200 MGD
2. 670 acres of sewer separation
3. Tunnel storage and conveyance
4. Reduce stormwater inflow/groundwater infiltration (I/I)





# Storage Tunnels – Common Approach to Combined Sewer Overflow (CSO) Management

- Providence is closest recent example, operational in 2008
- Others include
  - Chicago (1980's)
  - Milwaukee (1990's)
  - Boston (2000's)
  - Atlanta (2000's)
  - Portland (2000's)
  - Cleveland (2010's)
  - Indianapolis (2010's)
  - Washington (2010's)





# Similar Local Tunnel Project(s)

## Park River Auxiliary Conduit (PRAC)

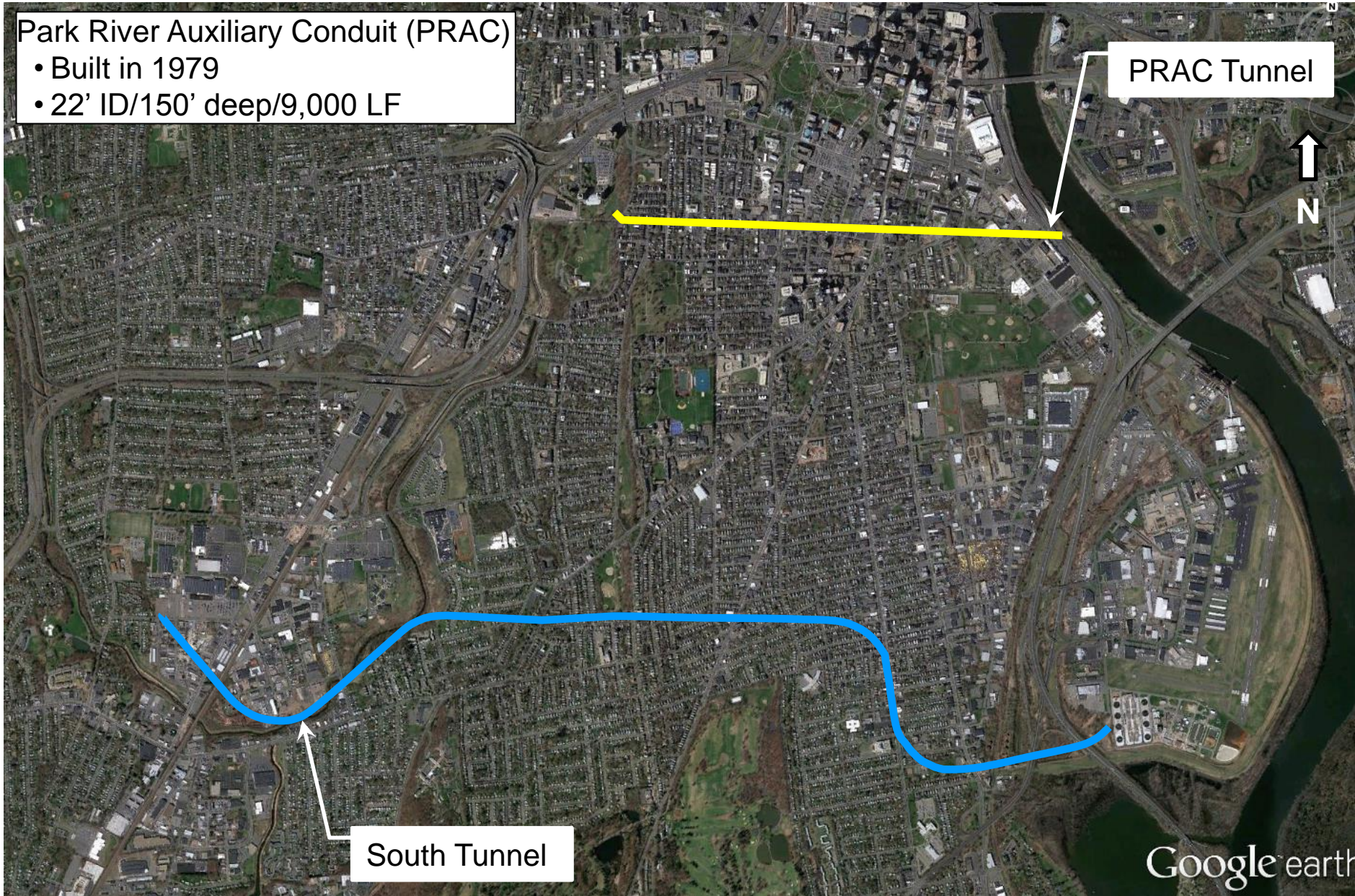
- Built in 1979
- 22' ID/150' deep/9,000 LF

PRAC Tunnel



South Tunnel

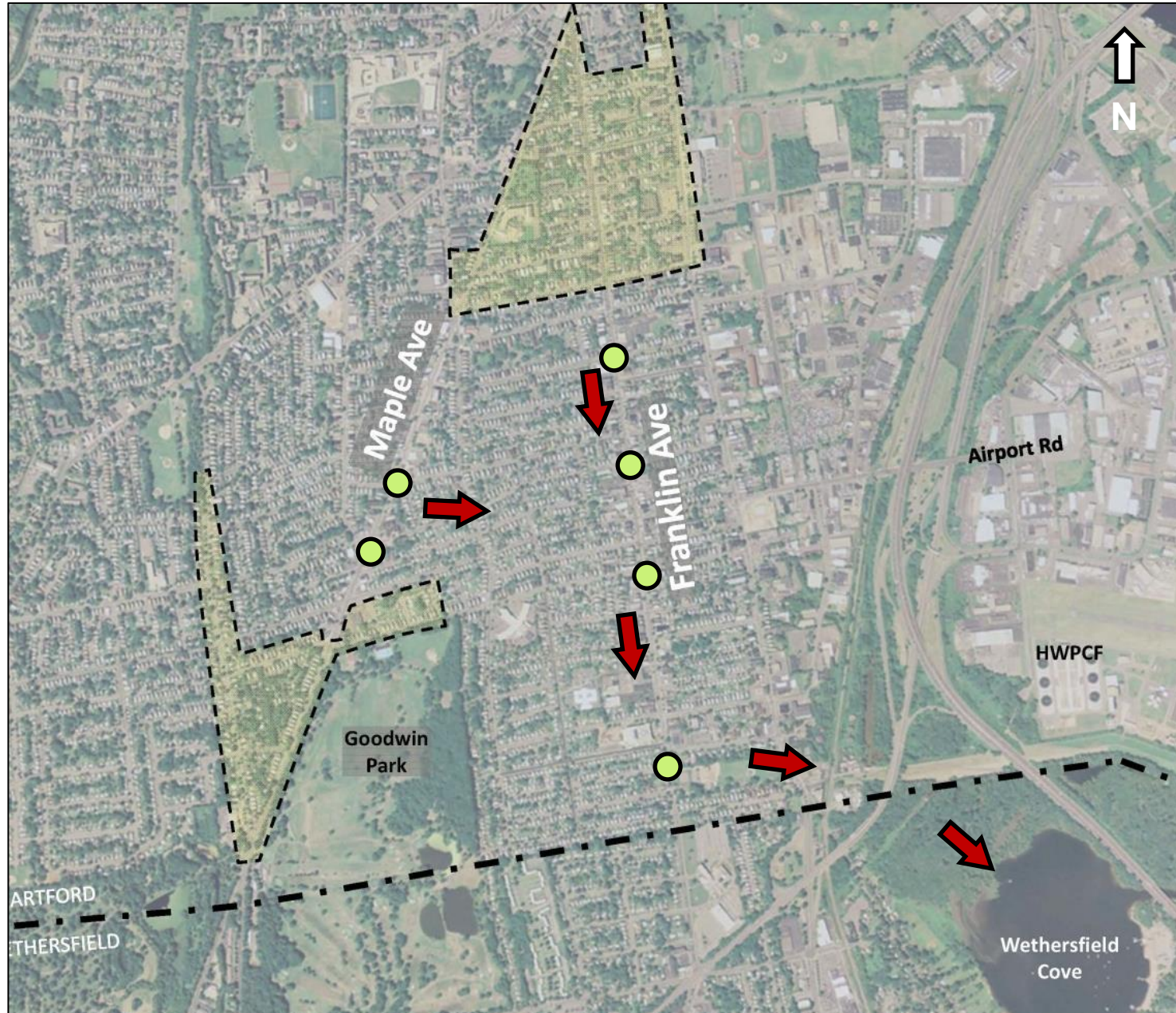
Google earth





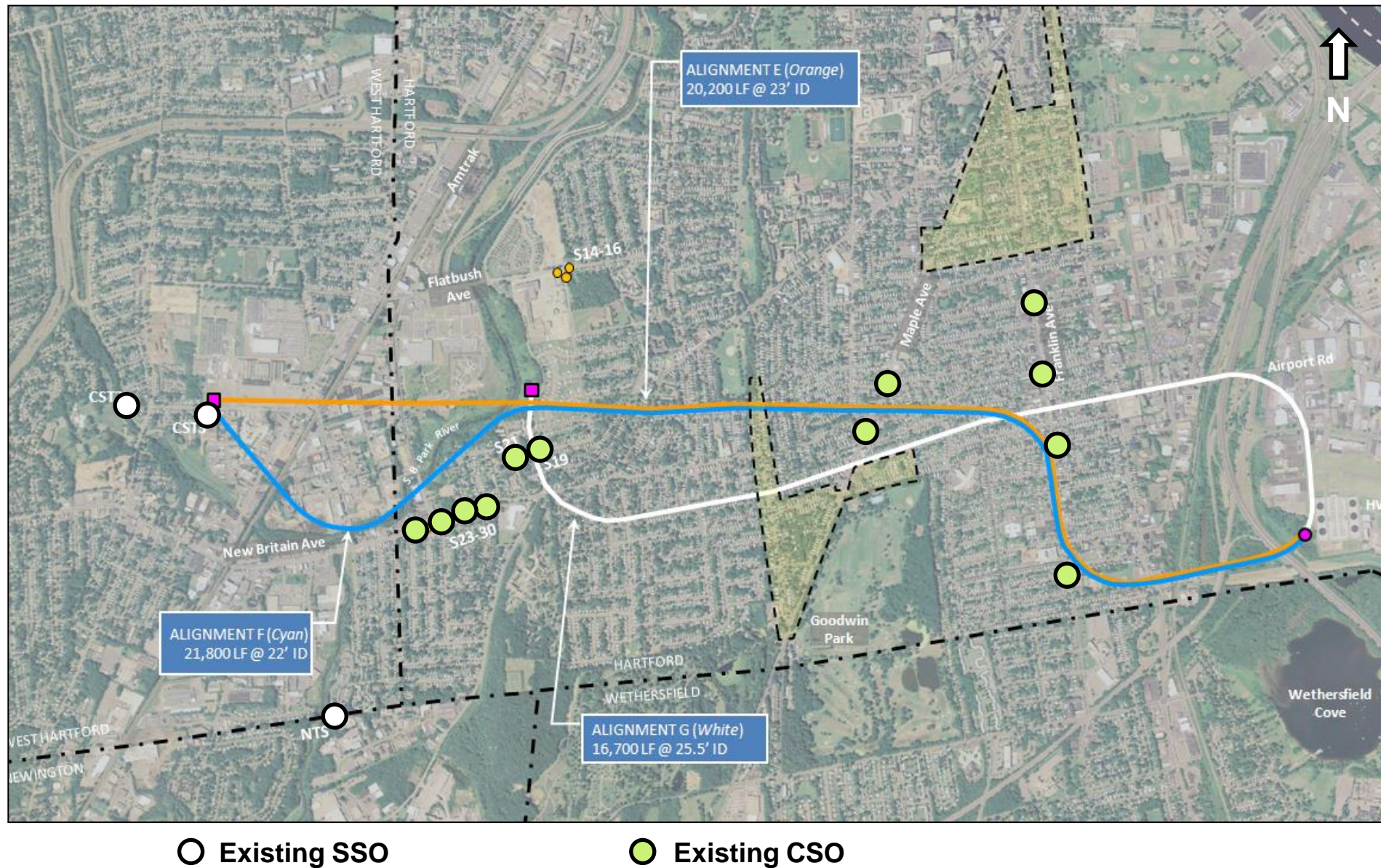
# Combined Sewer Overflows (CSOs) in Your Neighborhood

● Existing CSO





# Alignments Evaluated During Early Studies



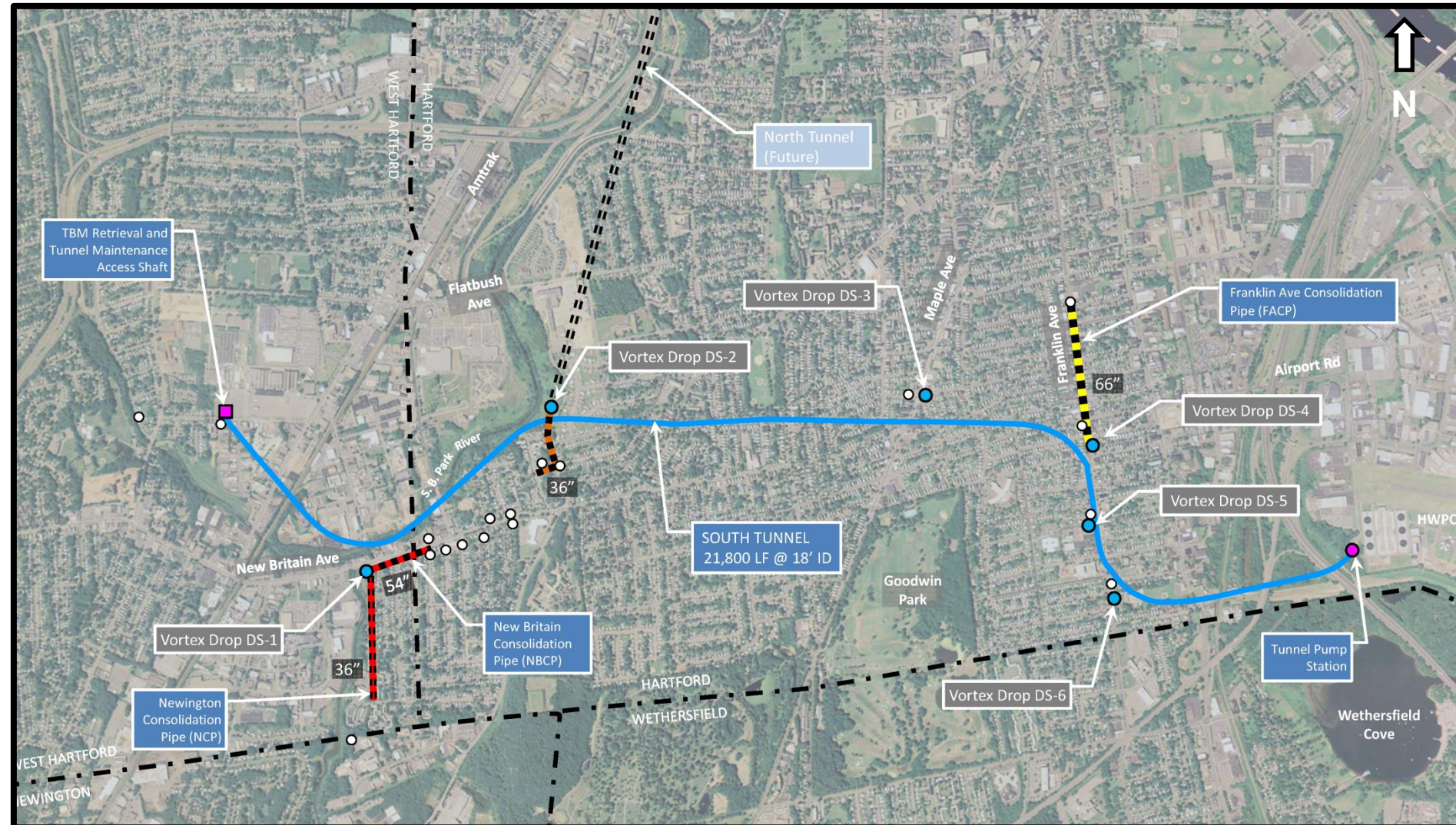


# Stakeholder Concerns Drove Alignment Selection

High Impact on Alignment Selection	Medium Impact on Alignment Selection	Low Impact on Alignment Selection
Cost	Perception of Odor at Shafts	Potential for Property Damage
Impacts to Business	Benefit to Community	Reduction in Tax Base ( <i>Permanent Surface Easement</i> )
Impacts to Traffic	Noise/Construction Impacts	Impacts to Property Values
Public Safety	Impact of Construction Vehicles	Schedule
Easements	Duration of Surface Impacts	Increase to Sewer Rates
O&M	Environmental Justice	Maximize Local Contractors
		Long Term Health Perception

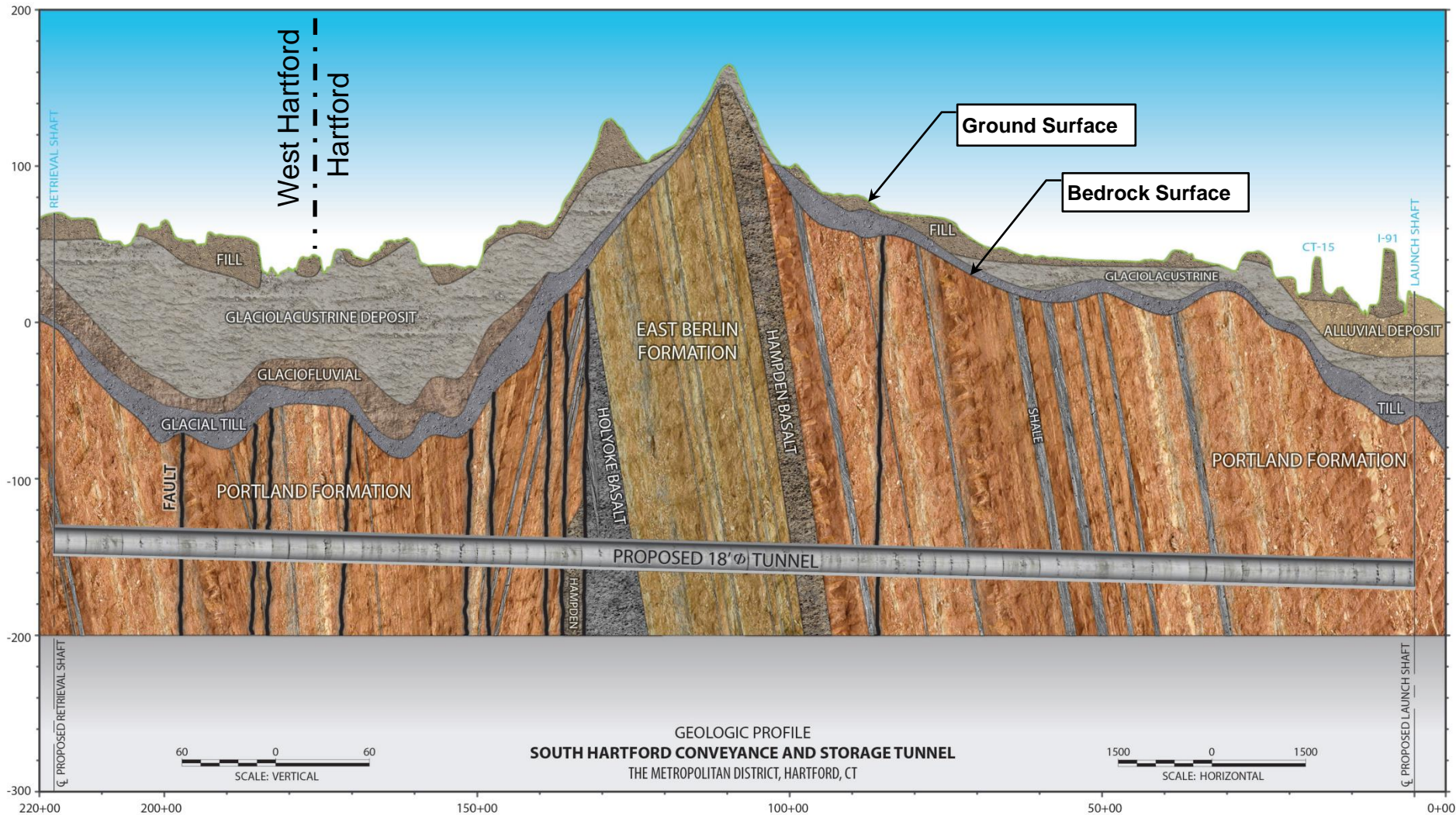
# The South Tunnel Project Components:

- 4 miles long (21,800 LF)
- 18 foot internal diameter
- 175 to 250 feet deep
- 6 Intermediate Hydraulic Drop Shafts
- 7,300 LF of Consolidation Conduits
- 50 MGD deep pump station





# South Tunnel - Geological Profile





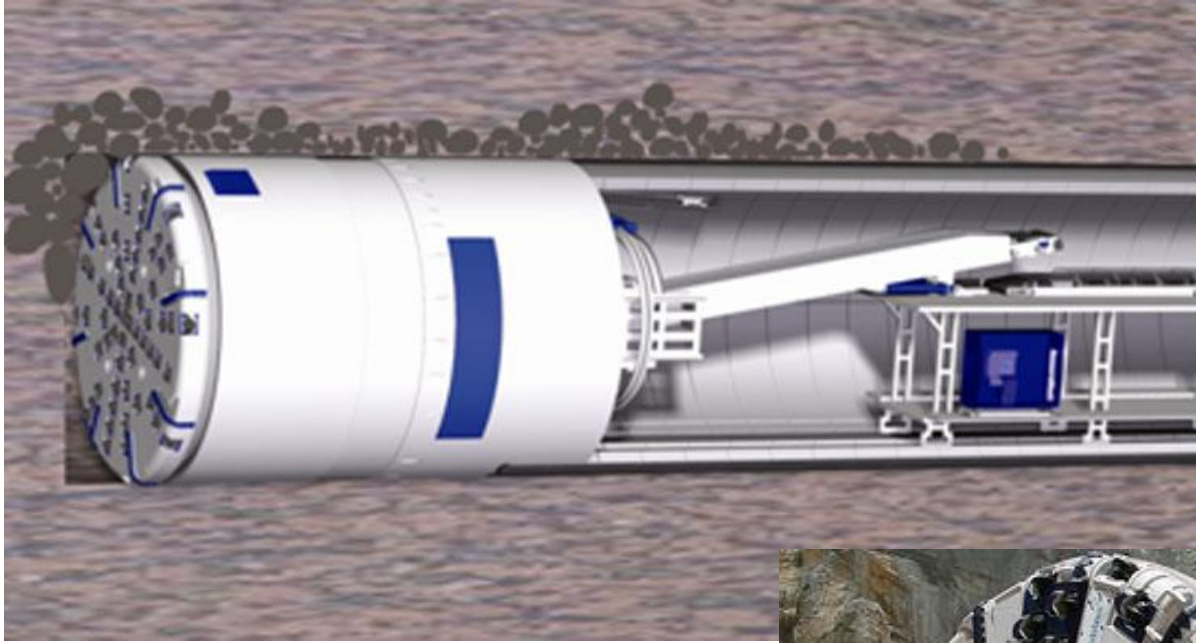
# Subterranean Easements

- Required for about 250 parcels – no surface or shallow easements at these locations
- MDC will not retain any rights at the surface nor adversely affect the use of any parcel
- Grants MDC the right to construct and operate ~200-foot deep tunnel under each parcel
- Defines depth “envelope” of MDC rights to construct the tunnel





# Hard Rock Tunnel Boring Machine (TBM)

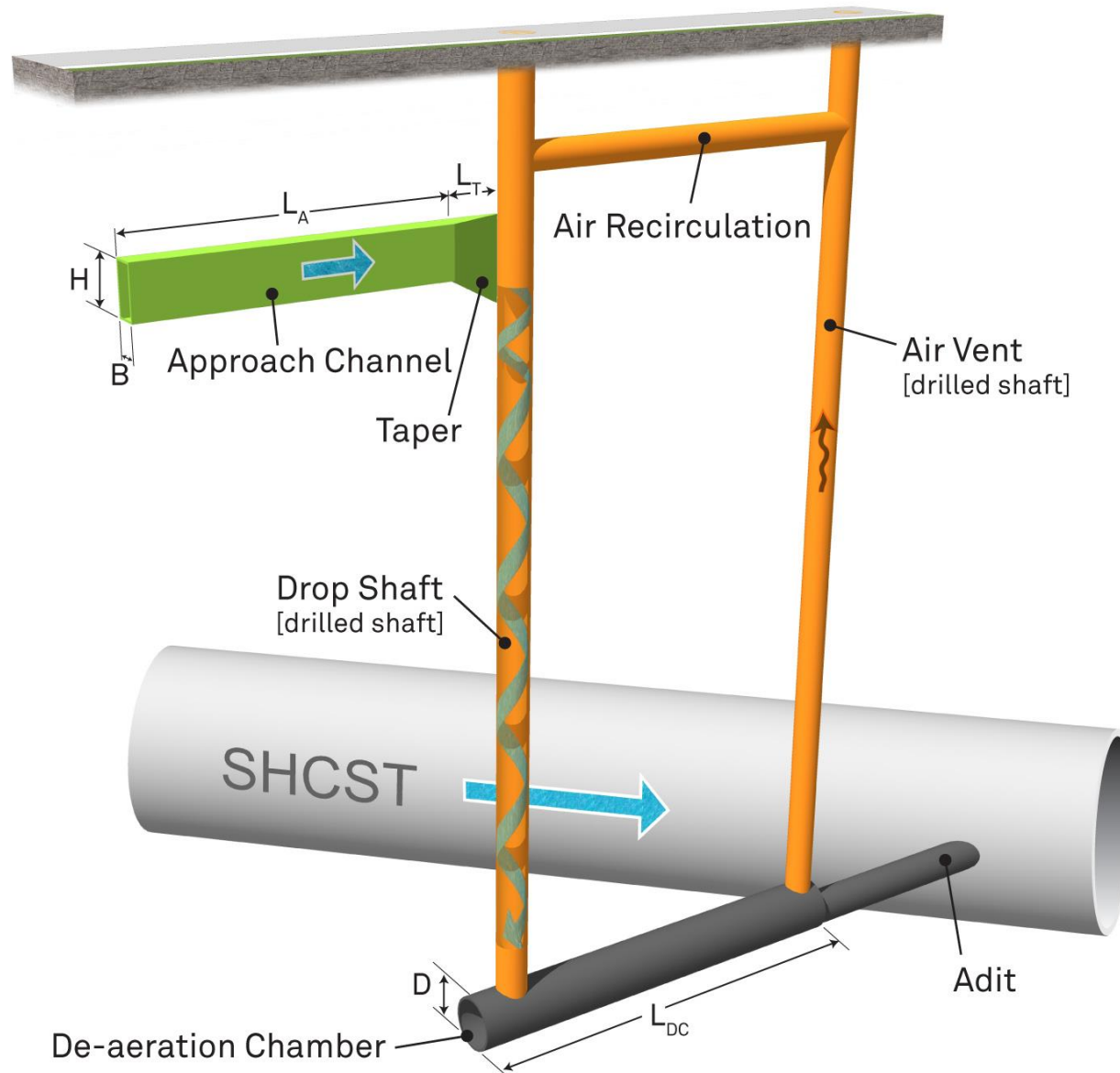


# Building the Tunnel





# Drop Shaft Schematic



# Hydraulic Drop Shafts in Operation





# Construction of Elliot Street Drop Shaft for MDC on Wethersfield Ave (Franklin Separation 13)





# Brookfield Street Drop Shaft Location





# Location of Drop Shaft #2



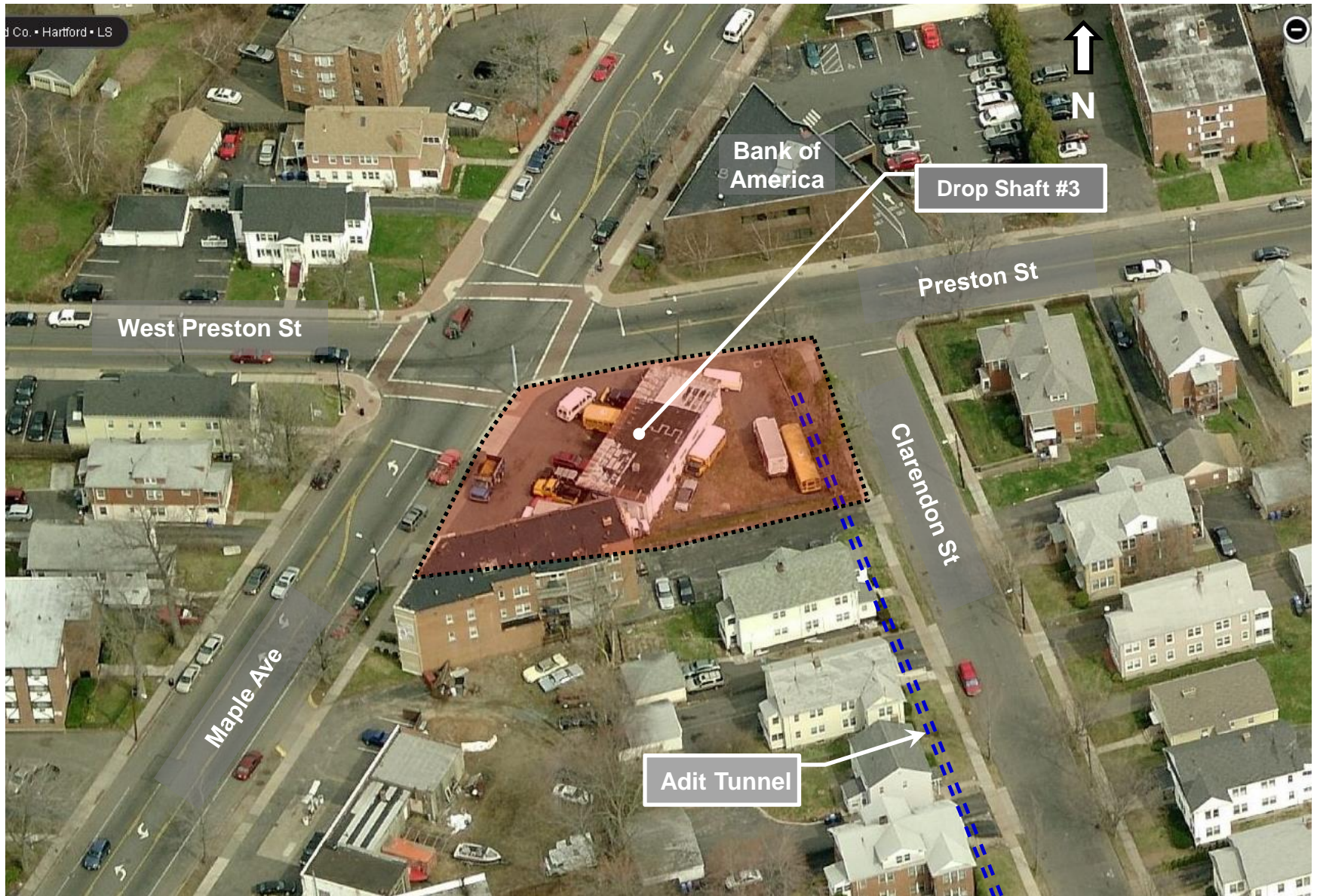


# Franklin Area Drop Shaft Locations





# Location of Drop Shaft #3



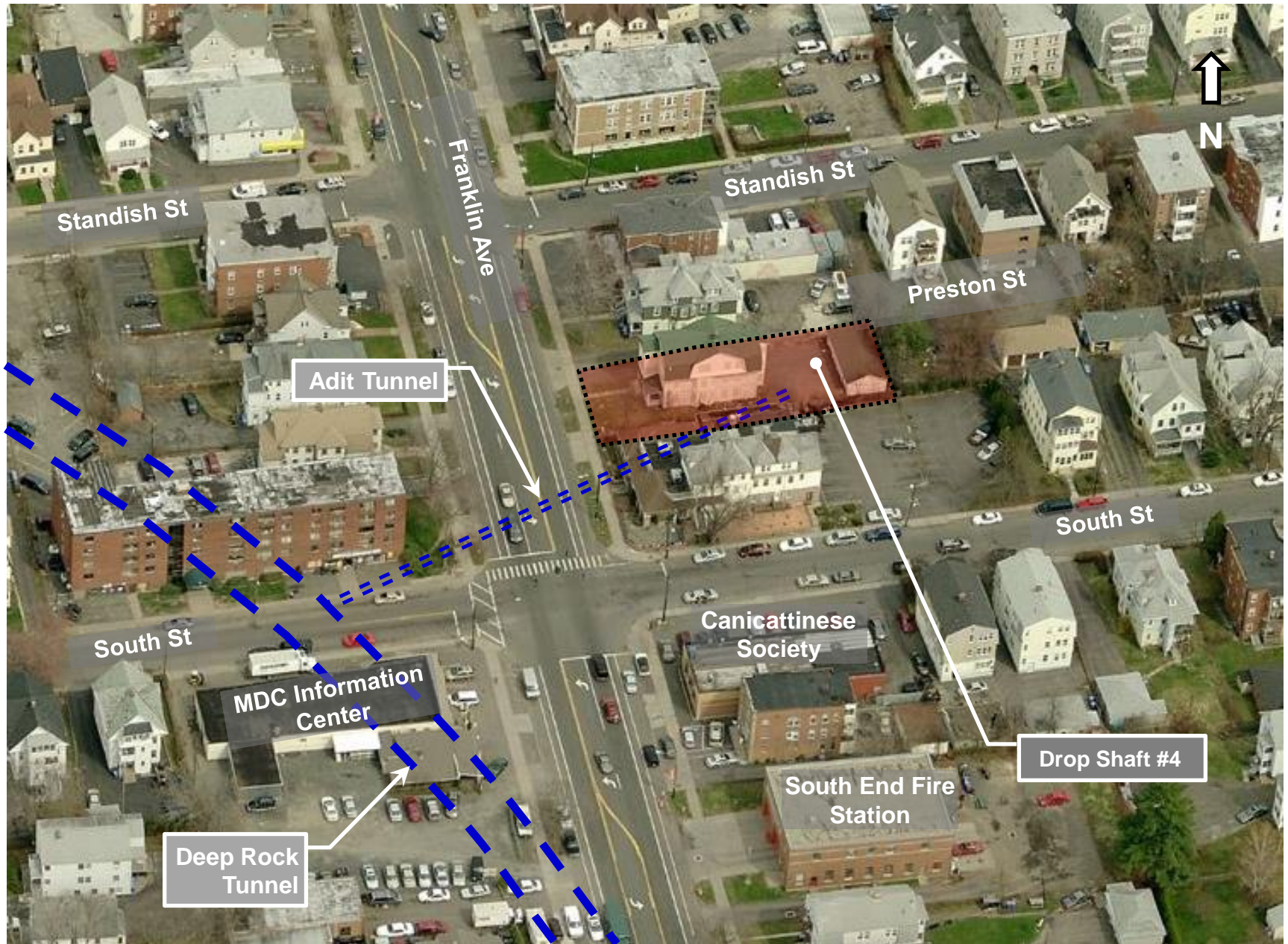


# Franklin Area Drop Shaft Locations





# Location of Drop Shaft #4





# Franklin Area Drop Shaft Locations





## Location of Drop Shaft #5





# Franklin Area Drop Shaft Locations



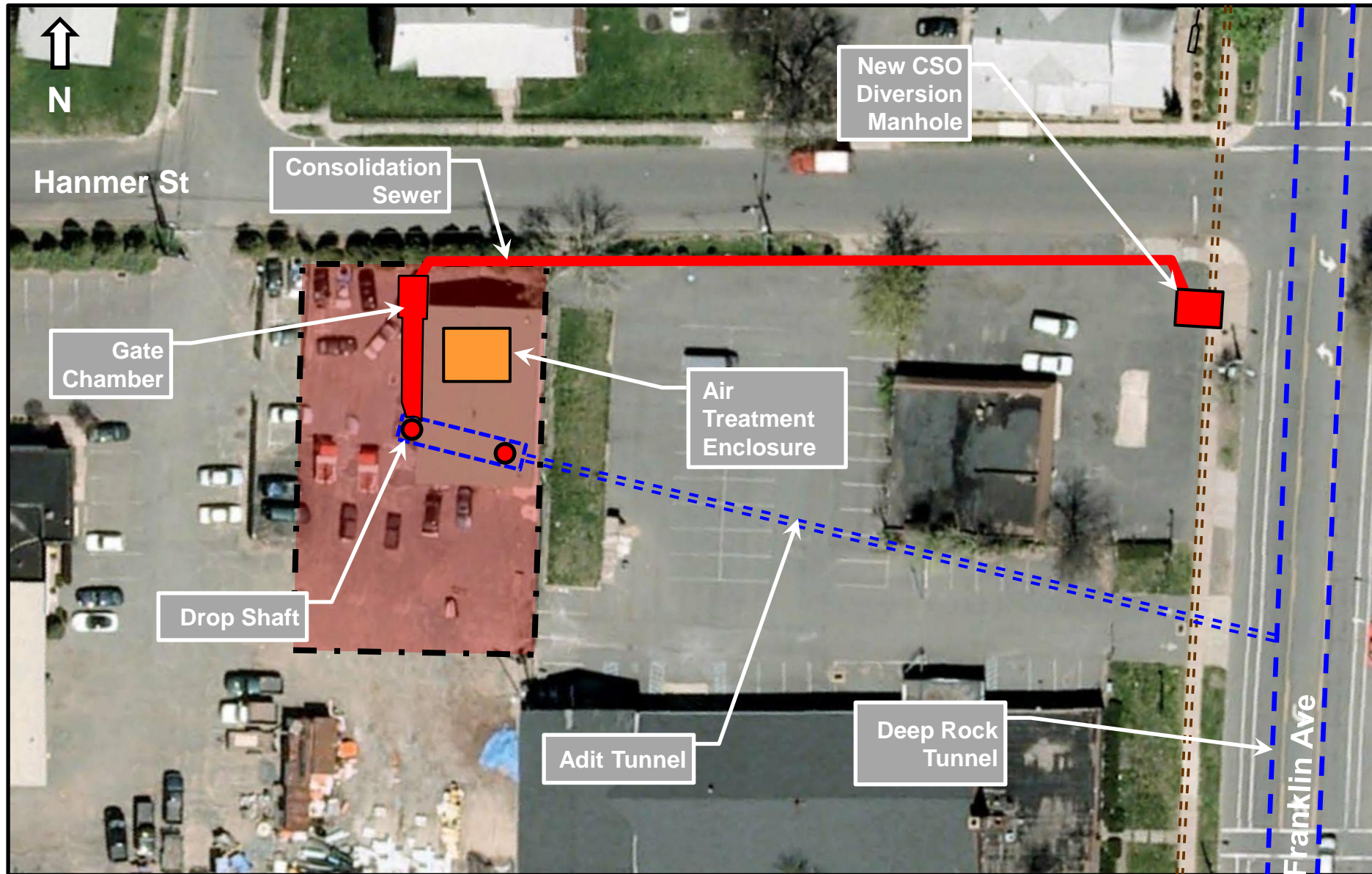


# Location of Drop Shaft #6



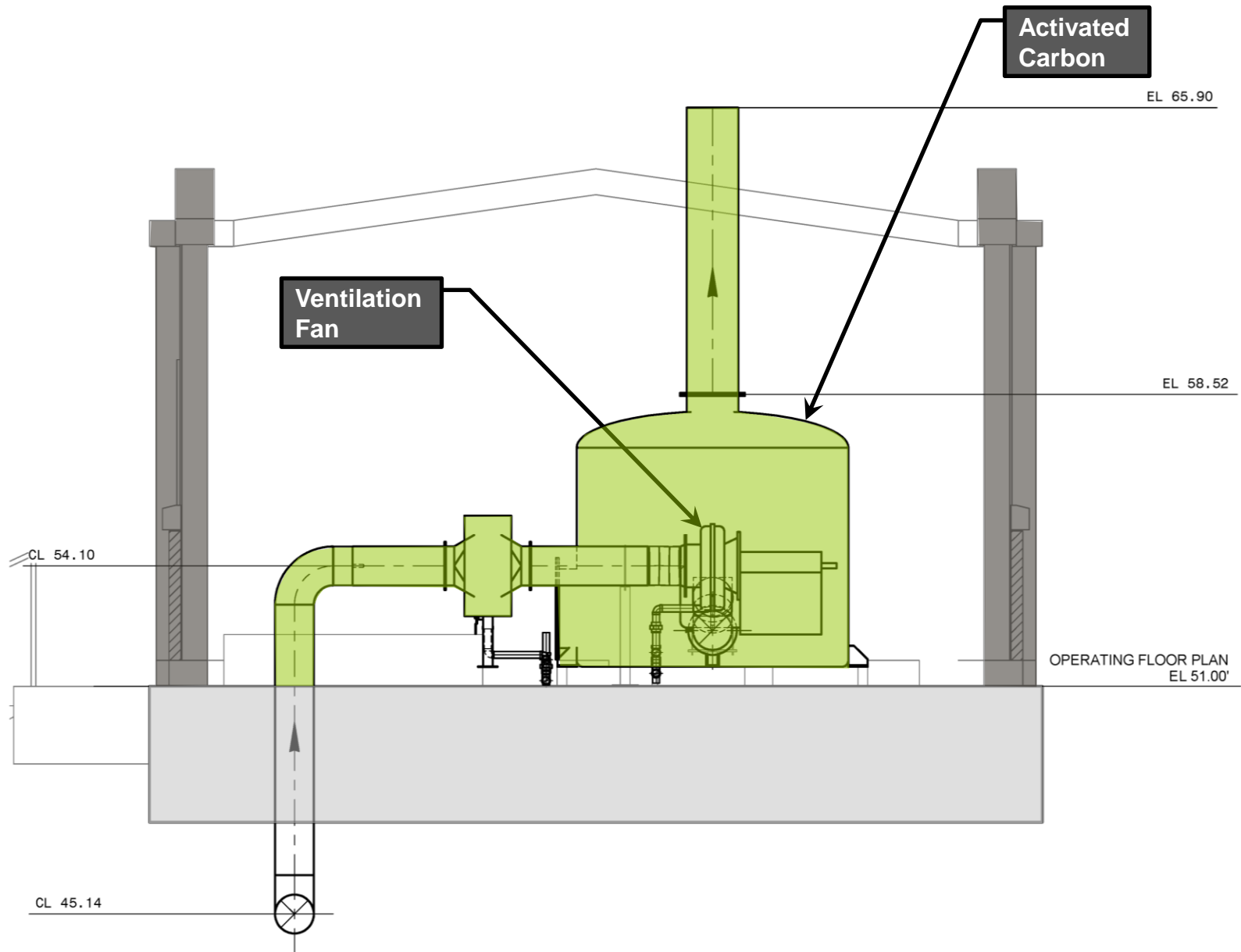


# Typical Layout of Drop Shaft





# Air Treatment System



# Typical Site View of Air Treatment Enclosure





# Constructing Consolidation Conduits





# Microtunnel Work Sites





# Franklin Area Drop Shaft Location



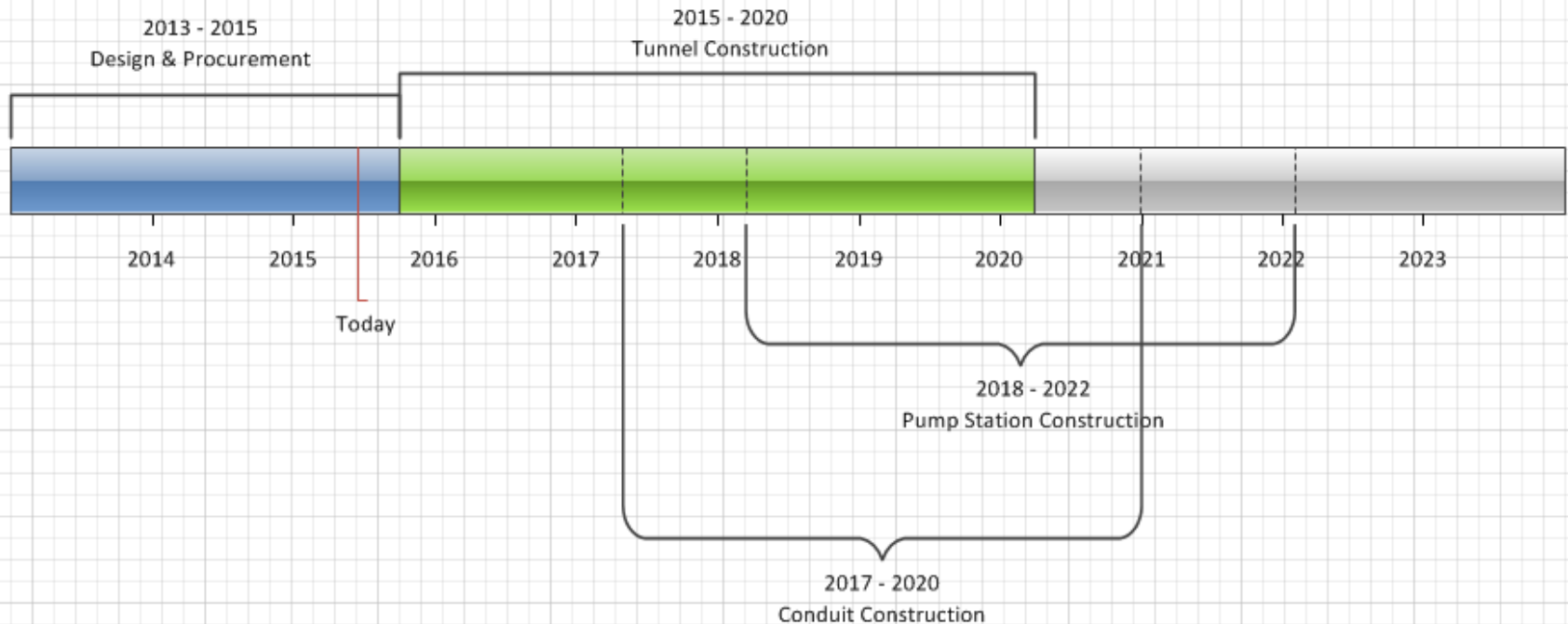


# Franklin Conduit Drop and Access Shaft





# Anticipated Schedule



## Key Dates:

- Sept/Oct 2015 – Construction Begins
- Fall 2017 – Tunnel boring (and muck hauling) begins
- Late Fall 2018 – Tunnel drive completed
- 2022 – Construction complete/facility in operation



# Summary of Facility Operations

- Unmanned Facilities
- Will Comply with Hartford Noise Ordinance
- Zero Traffic Impacts. Weekly Visits by MDC Maintenance.
- Gated and Fenced Facility.
- No Nighttime Lighting Unless Maintenance is Required





# Questions?

For additional questions and information requests, please contact the MDC at [communication@themdc.com](mailto:communication@themdc.com)