



The Metropolitan District  
water supply · environmental services · geographic information

**BUREAU OF PUBLIC WORKS  
REGULAR MEETING  
WEDNESDAY, SEPTEMBER 22, 2021  
5:00 PM**

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**Location**

Board Room  
District Headquarters  
555 Main Street, Hartford

Dial in #: (415)-655-0001;  
Access Code: 43808661#  
[Meeting Video Link](#)

**Commissioners**

Adil	Magnan
Avedisian	Marotta
Bush	Pane
Currey	Patel
DiBella (Ex-Officio)	Sweezy
Drake	Taylor
Healy	Torres
Hoffman ( VC )	Vicino ( C )
Lester	Woulfe

**Quorum: 9**

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1. CALL TO ORDER
2. PUBLIC COMMENTS RELATIVE TO AGENDA ITEMS
3. APPROVAL OF MEETING MINUTES OF JUNE 9, 2021
4. CONSIDERATION AND POTENTIAL ACTION RE: EASEMENT FOR WATER SERVICE TO 1264 POQUONOCK AVENUE WINDSOR
5. DISCUSSION RE: TUNNEL & DISPUTE RESOLUTION BOARD
6. DISCUSSION RE: VEGETATION MANAGEMENT
7. DISCUSSION RE: EPA REPORTING ON SSOs
8. OPPORTUNITY FOR GENERAL PUBLIC COMMENTS
9. COMMISSIONER COMMENTS & QUESTIONS
10. ADJOURNMENT

**REQUEST FOR AN EASEMENT IN FAVOR OF THOMAS J. DENNO, Jr. and JODY L. DENNO OVER THE POQUONOCK WATER POLLUTION CONTROL FACILITY PROPERTY LOCATED AT 1222 POQUONOCK AVENUE, WINDSOR**

**To: Bureau of Public Works for Consideration on September 22, 2021**

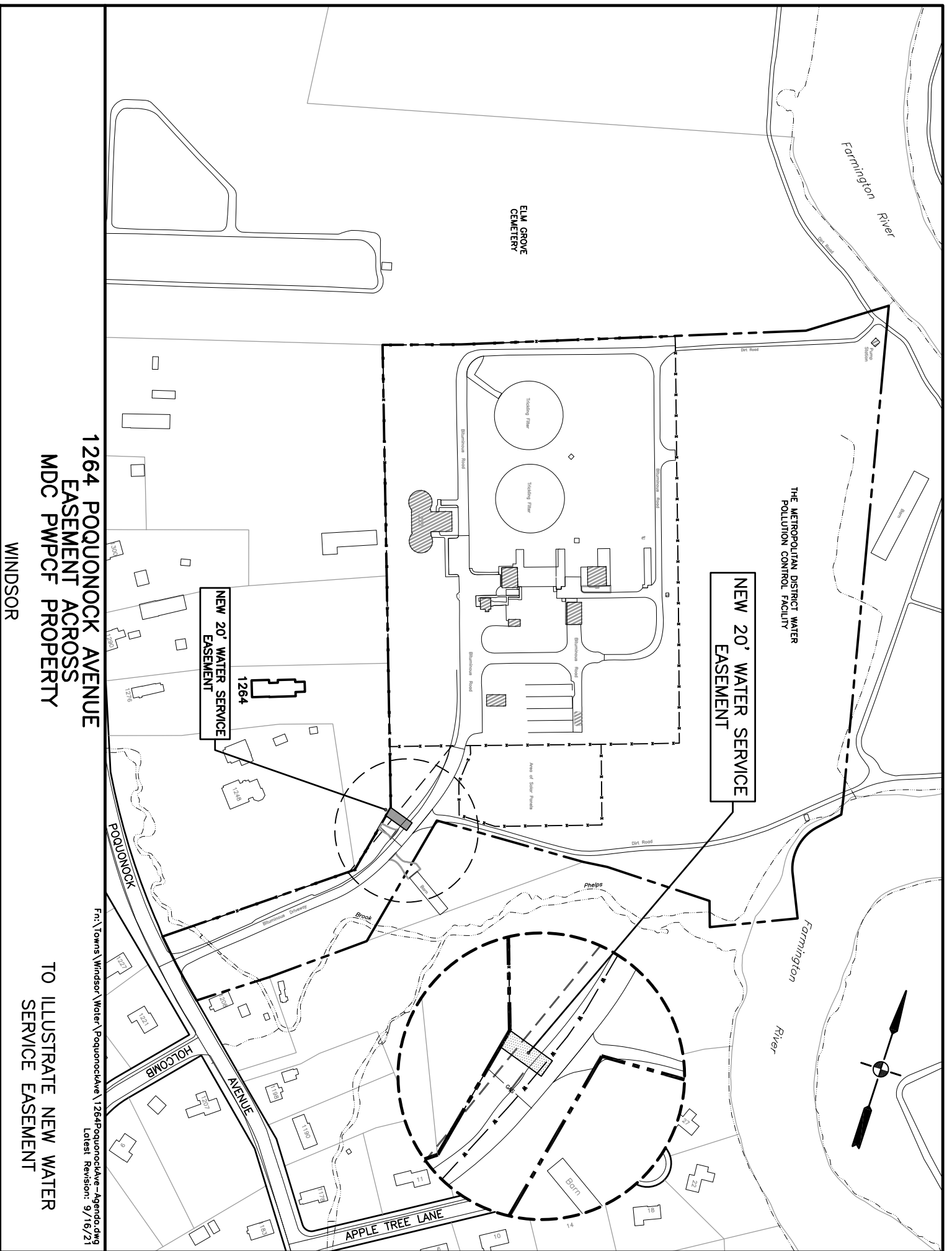
The property owners of 1264 Poquonock Avenue in Windsor, CT, Thomas J. Denno, Jr. and Jody L. Denno ("Property Owners"), have requested permission to connect to the water main that supplies the Poquonock Water Pollution Control Facility ("PWPCF"). In order to allow such a connection, the District would need to grant an easement to the Property Owners across District land. The proposed easement is set forth in the easement map attached hereto as Exhibit A. The District previously approved a similar easement for another adjacent parcel connected to the same water main.

The Property Owner's home is located on the rear portion of their lot, some 370 feet from the water main in Poquonock Avenue. The connection to the water main on the PWPCF property is only slightly shorter; however, it would allow the Property Owners to avoid crossing Poquonock Avenue in order to connect, which is a state road and would make construction costs significantly more expensive. Staff is confident that the granting of this easement will have no negative impact on the District's property or operation of PWPCF.

**It is RECOMMENDED that it be:**

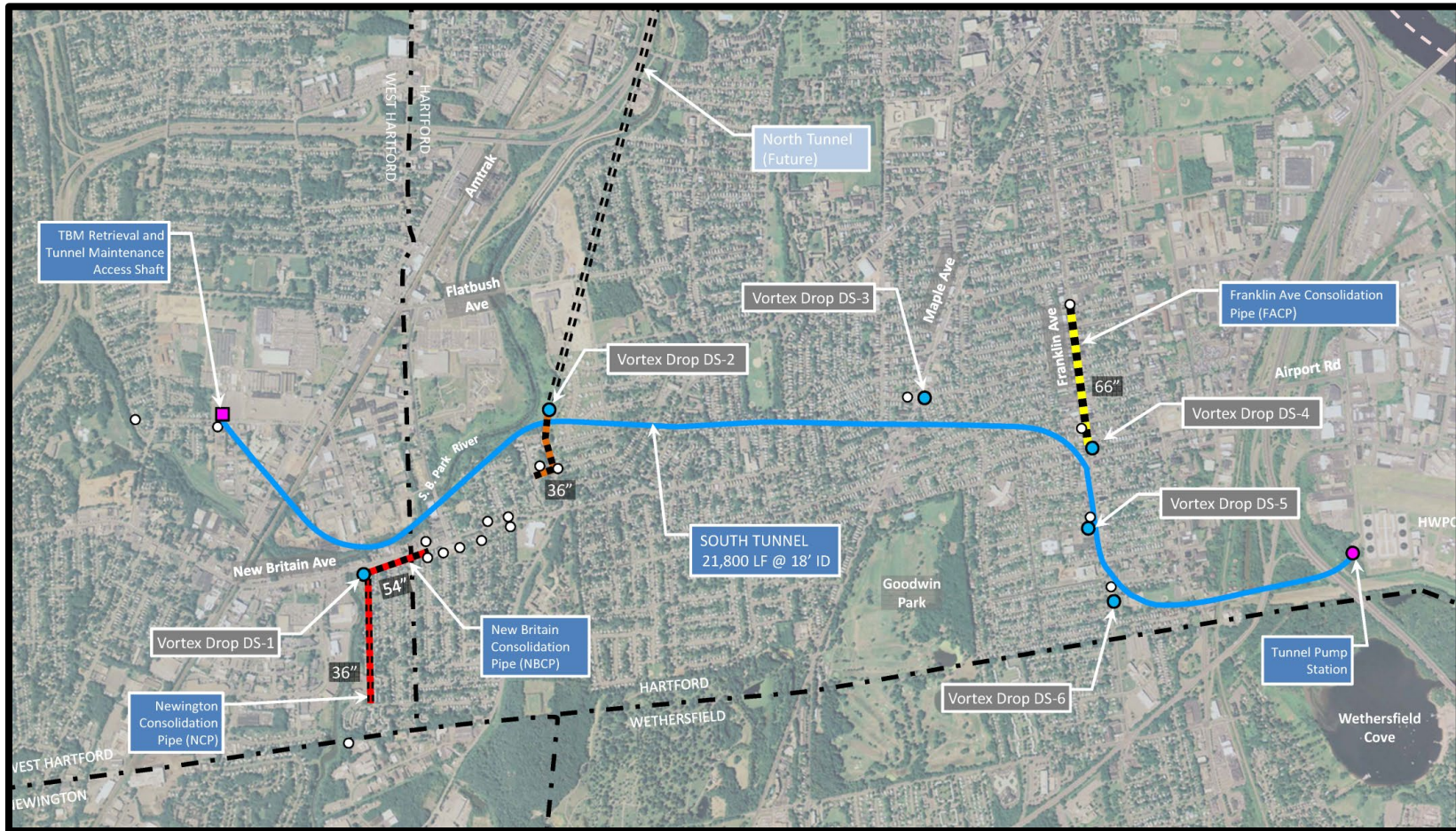
**Voted:** That the Bureau of Public Works recommend to the District Board the following:

**Resolved:** That the Metropolitan District Bureau of Public Works recommend to the District Board that the Board authorize the Chairman, or his designee, to execute any and all documents, in form and substance approved by District Counsel, reasonably necessary to convey, for the consideration stated above, the described easements to Thomas J. Denno, Jr. and Jody L. Denno.



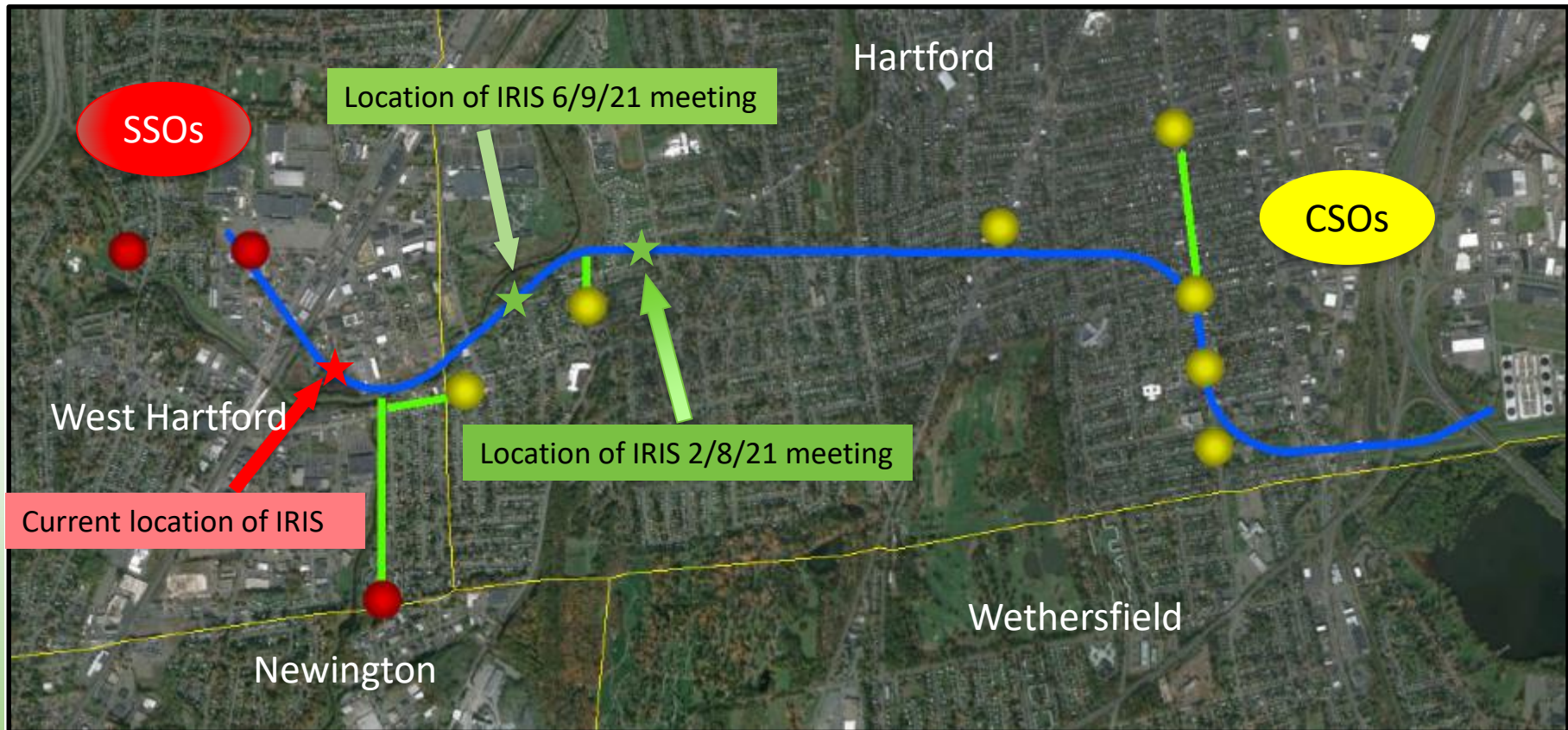


# South Hartford Conveyance and Storage Tunnel – *Project Update: September 22, 2021*





# Project Overview



- 4 miles long, 18 ft ID, 6 intermediate drop shafts
- 7,300 feet of consolidation conduits
- Deep circular shaft pump station

# Contract 2 Status (shafts and tunnel)

- Tunnel
  - TBM went underground late summer 2018.
  - Tunnel length excavated through September 17, 2021: 18,737 feet.
  - 2,521 feet remaining. Projected hole-through: January 2022.
  - Mined 1,008 feet in August 2021.
- Pump Station Shaft
  - Pump Station Completion Milestone Date: July 27, 2019.
  - Issued Certificate of Substantial Completion in September 2021.
  - Final cleaning of shaft added as an addendum in Contract 3.
- Retrieval Shaft
  - Shaft construction complete.
  - Odor control building and underground structures complete.
  - Odor control building Milestone Date: May 10, 2022.
- Drop Shafts
  - Shaft construction complete - sites secured and maintained by MDC
  - Adit tunnels complete: DS-3, DS-4, DS-5, DS-6. Finishing up concrete work.
  - Adits remaining: DS-1 and DS-2. These will be accessed from the Retrieval Shaft.
- Launch Shaft Milestone (#4)
  - Contract completion date is 10/6/2020.
  - Required turnover date for Contract 3 is 10/15/2022.

# Contract 2 Status

CONTRACT COMPLETION DATE:  
MAY 2022

Cost

88%  
Complete

Time

82% Complete

Status as of August 2021 Pay Application

## Contract 2 Status (shafts and tunnel)

- Original Contract Value: \$279,400,000
- Change Orders to Date: \$ 6,741,227
- Current Contract Value: \$286,141,227
  
- Original Contract Schedule Days: 2,050
- Original Contract Completion Date: March 13, 2022
- Change Orders to Date (additional days): 58
- Pending Change Order (additional days): 79
- Pending Contract Completion Date: July 29, 2022

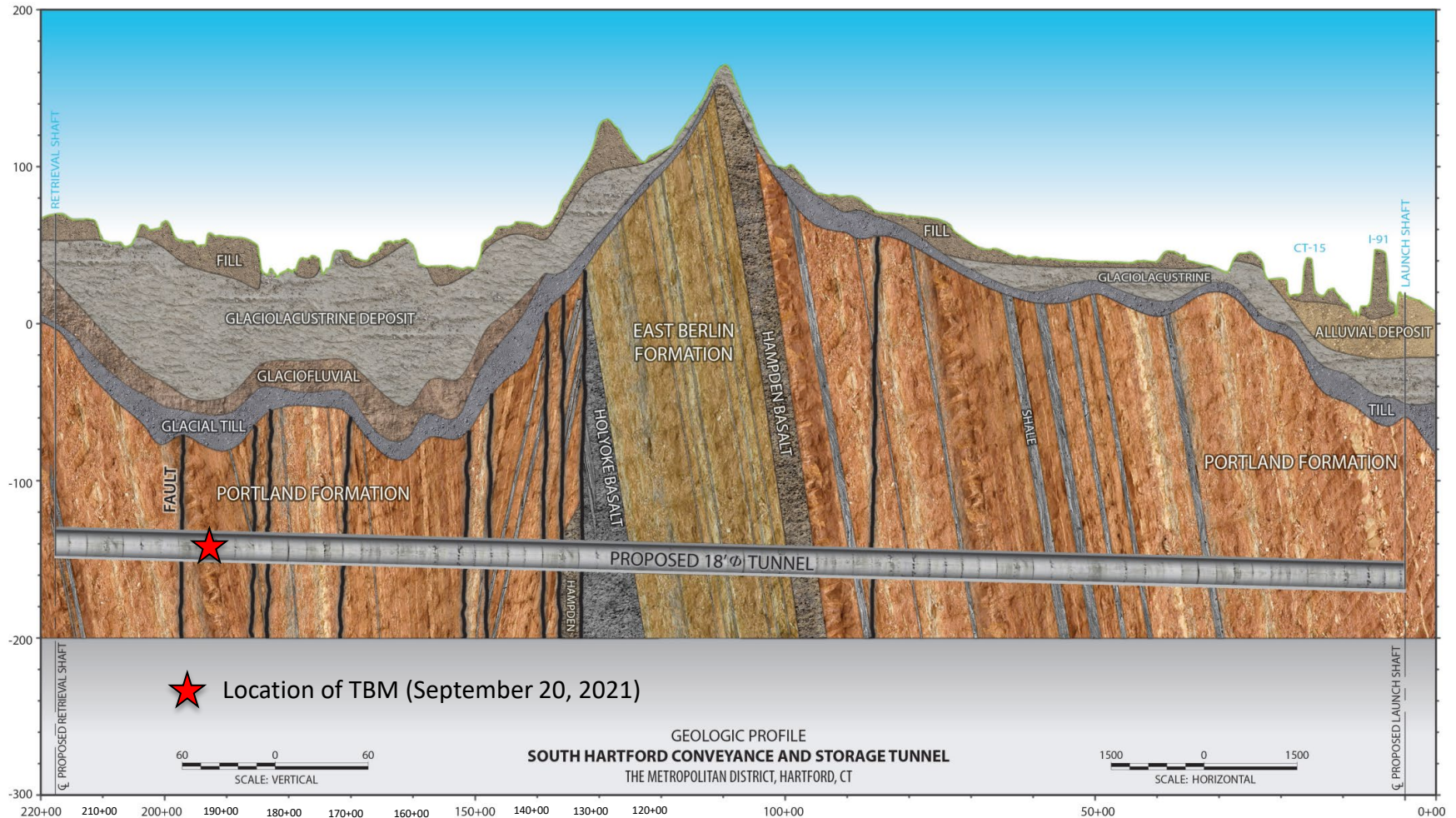


# Current C2 Milestone Schedule

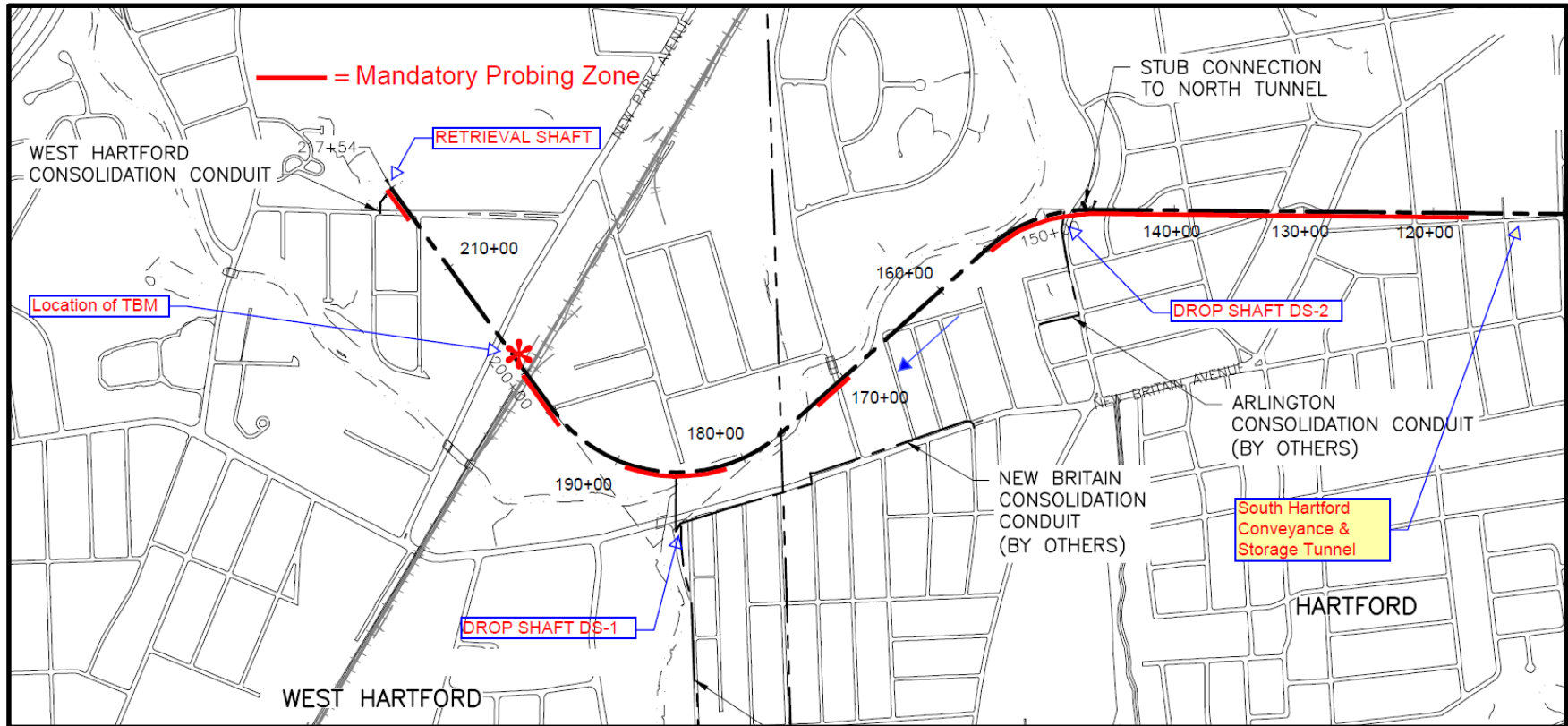
Contract Milestone Number	Contract Milestone	Current Contractual Date	KOJV Forecast	CM Forecast
3	Pump Station Shaft Completion	7/27/2019	Substantial Completion: September 2021	
---	TBM Hole Through	NA	Nov 2021	Jan 2022
4	Launch Shaft Completion	10/6/2020	5/3/22	8/31/22
5	Project Substantial Completion	5/10/2022	9/12/22	April 2023

10/15/2022 turnover date of PSS from C2 to C3.  
 LS completion needs to add grouting time.

# Geologic Cross Section of Deep Rock Tunnel



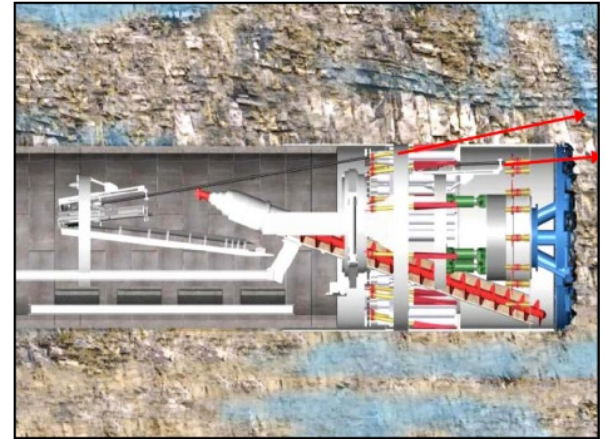
# Mandatory Pre-Excavation Grouting



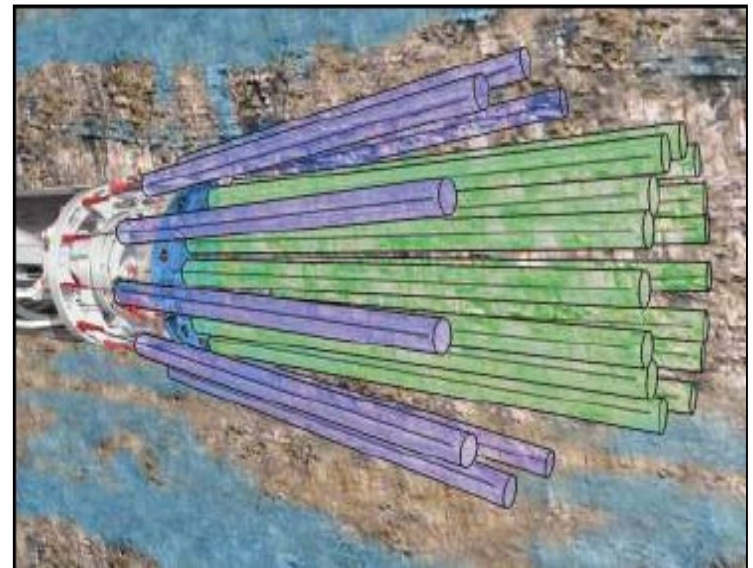


# Mandatory Pre-Excavation Probing

- Probing ahead of the TBM is required throughout portions of tunnel drive, where water-bearing fractured bedrock is expected.
- Probing ahead of the TBM is often used during construction to detect zones where there is potential for instability ahead of the tunnel face or high groundwater flow (or both).
- Pre-excavation drilling involves probing at least 100 feet ahead of the TBM cutter head with a 20-ft minimum overlap.



- Probe drilling is required in the following *six* defined areas for the TBM-mined tunnel:
  - Reach 2 - Station 118+00 to Station 143+00 (2,500 feet)
  - Reach 3 - Station 143+00 to Station 155+00 (1,200 feet)
  - Reach 3 - Station 169+75 to Station 172+75 (300 feet)
  - Reach 3 - Station 182+50 to Station 189+00 (650 feet)
  - Reach 3 - Station 196+0 to Station 200+00 (400 feet)
  - Reach 3 - Station 215+50 to Station 217+75 [Retrieval Shaft] (225 feet)





# Mandatory Pre-Excavation Grouting

- Grouting of the rock mass is required if the sustained flow from any probe hole is **greater than 30 gpm over a period of at least 30 minutes.**
- Grout materials used in the mandatory pre-excavation probing program are compensated for under allowance item A-7. This allowance is based on submittal of invoiced costs. \$2.09M total expended to date.
- Crew hour allowance for conducting probing and grouting above flow criteria is paid for under allowance A-10 (\$6,000/hr; \$4.8M). Change orders approved to increase value. \$12M total expended to date.
- This allowance shall not cover any TBM pre-excavation grouting utilized by the Contractor for grouting elected to be performed below the thresholds specified in the Contract Documents. This allowance shall not cover any down time or delay in mobilization of grouting equipment or materials.

# Dispute Resolution Board – Update

- KOJV has a claim for a Differing Site Condition in Reach 1 of the SHCST.
- After denial of the merits by MDC the issue was elevated to the DRB.
- Written position statements and presentations were provided to the DRB in early April.
- A formal hearing was held April 20-21, 2021 where both KOJV and the MDC team presented their cases on the merits of the claim – not costs.
- Concern arose about engagement in process by all three DRB members.
- Since May 2021 debating with KOJV on a replacement member for the DRB.
- Potential replacement member lists shared in July 2021. One common candidate on both lists.
- KOJV has notified MDC that candidate is not suitable from their perspective.
- We are discussing the reason for KOJV's position regarding the common candidate.
- MDC is eager to get a resolution on the third candidate.

## Contract 2 Photos

# Proof drilling to verify annulus grouting

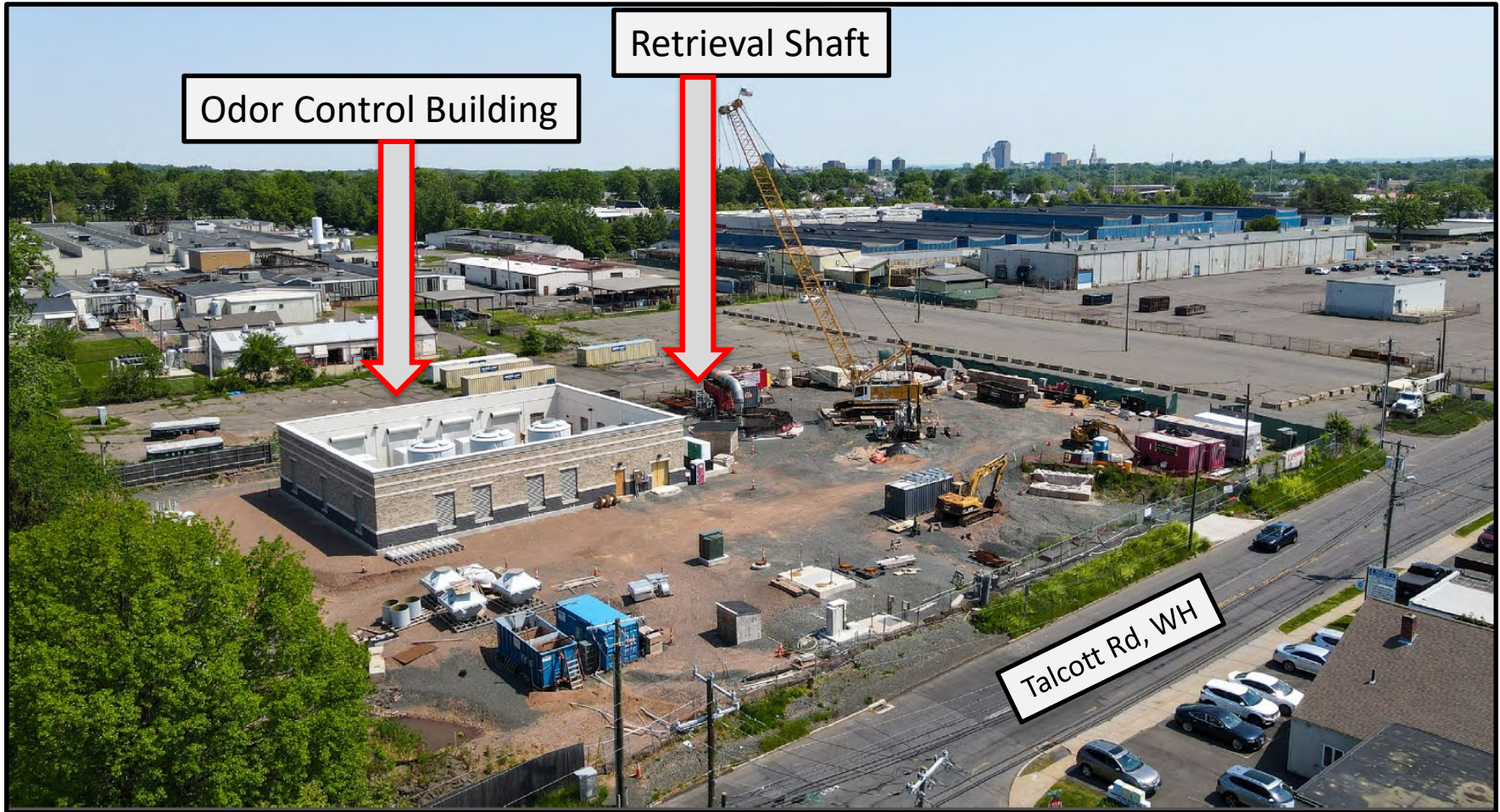




## Retrieval Shaft – setting up for temporary invert pour



## Retrieval Shaft Site – Odor Control Building: May 2021

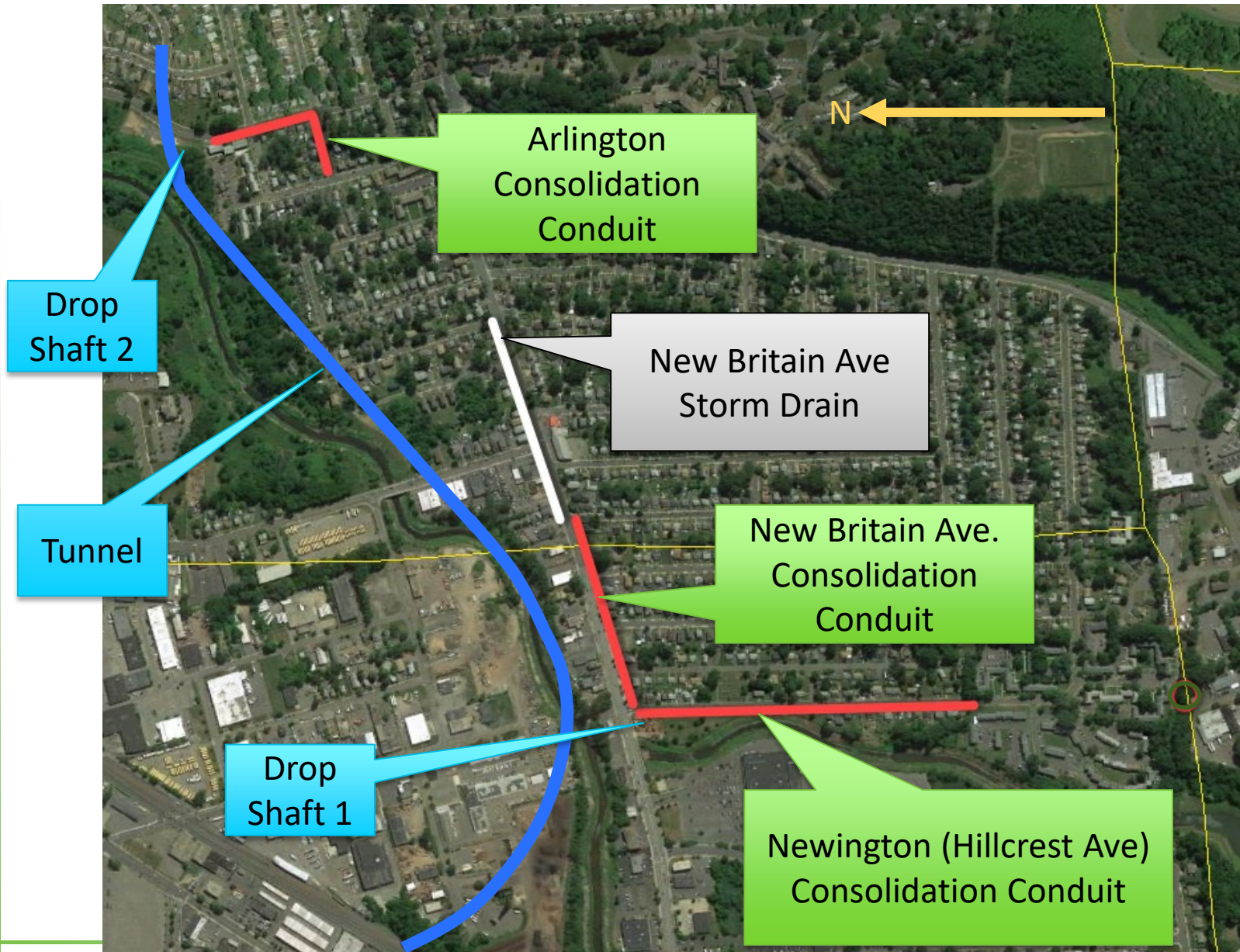




# Contract 5 – Arlington, Newington & New Britain Conduits

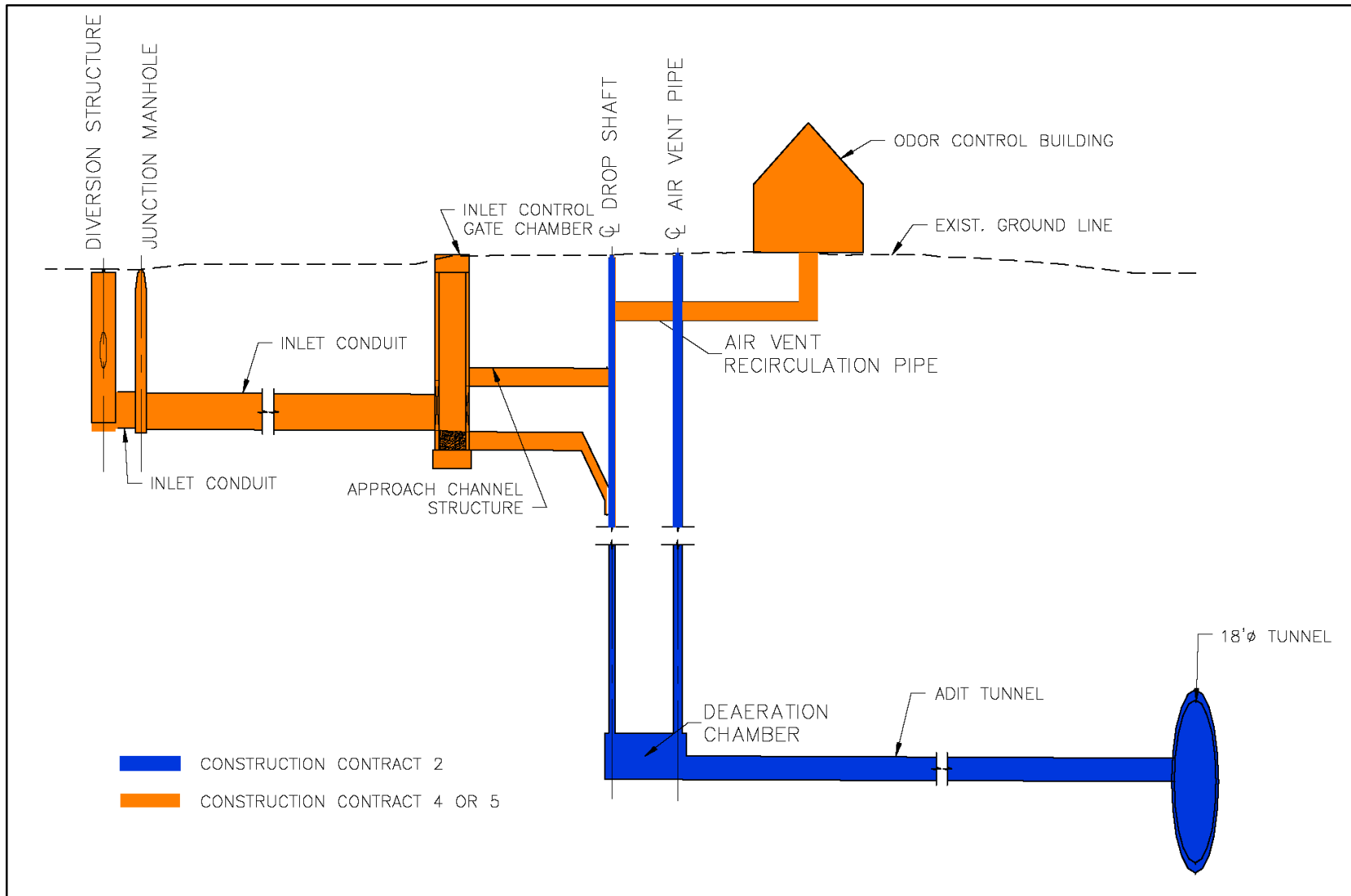
- Awarded to Empire Paving for \$36,700,842
- Contract Start Date: April 1, 2020
- Contract Completion Date: October 27, 2023 (942 calendar days)
  - New Date is October 27, 2022 (worked through winter shutdown)
- 42% grant (mix of CSO and SSO) / 58% loan
- New diversion structures
- Consolidation conduits by microtunneling
  - Newington Trunk Sewer Consolidation Conduit (Hillcrest Ave, WH) ~ 1,800 feet, 36"
  - Arlington Area Consolidation Conduit ~ 1,000 feet, 42"
  - New Britain Ave. Consolidation Conduit Sewer ~ 1,100 feet, 54"; New Britain Ave. Storm Drain ~1,300 feet, 30"
- 2 Drop Shaft Facilities (DS-1: West Hartford; DS-2: Hartford)
  - Approach channels and gate chambers
  - Odor control equipment
  - Site landscaping and enclosures

# Contract 5





# Contract Packaging



## Contract 5 – Status

- Newington Consolidation Conduit ~1,800 feet, 36”
  - Completed Microtunneling Operation (2 drives).
  - Completed subsurface structures.
  - Currently working on restoration and pipe testing.
- Arlington Consolidation Conduit ~ 1,000 feet, 42”
  - Completed both tunnel drives (Junction MH to MH03 & MH03 to Diversion Structure).
  - Completed underground structures.
    - Diversion Structures
    - High Outlet Relief Structures
  - Backfilling and restoring area.
  - Continuing to haul waste soil out of DS-2 (Brookfield St, Hartford).

## Contract 5 – Status (continued)

- New Britain Ave. Storm Drain ~1,300 feet, 30”
  - Microtunneling completed in June 2021.
  - Restoration and dewatering along pipe alignment.
  
- New Britain Ave. Consolidation Conduit Sewer ~ 1,100 feet, 54”
  - Installing support of excavation for diversion structure at 910 New Britain Ave.
  - Working on support of excavation at manholes (Abbotsford St and Roslyn St).
  - Micro TBM launched from DS-1 eastward during week of 9/13/21.
    - This is 24/7 work.
    - Expected to take about 4 weeks.

# Contract 5 Status

Original Contract Completion Date:  
October 2023

Revised Contract Completion Date:  
October 2022

Cost

49%  
Complete

Time

56% Complete

Status as of August 2021 Pay App

# Contract 5 Photos

## Contract 5 – Micro TBM push block/rams at DS-1 (Hillcrest Ave and New Britain Ave)





## Contract 5 – Unloading MTBM at DS-1.



## Contract 5 – View of MTBM in jacking frame at DS-1.



Contract 5 – New Britain Consolidation Conduit Manhole #3.  
The MTBM will be received here (Roslyn St and New Britain Ave)





# Contract 5 – New Britain Consolidation Conduit Manhole #3. The MTBM will be received here (Roslyn St and New Britain Ave)



Restoration on Hillcrest Ave



## Contract 4 – Franklin Area Conduits

- Received only one bid in March, 2020
  - Bid was significantly higher than Engineer's estimate
  - Did not award contract
  - Re-evaluating design of project
- 
- New diversion structures
  - Consolidation conduits
    - Franklin Avenue Rock Tunnel ~ 2,300 feet, 66" finished diameter
    - Shorter conduits from other diversion structures
  - 4 Drop Shaft Facilities (DS-3 through DS-6)
    - Approach channels and gate chambers
    - Odor control equipment
    - Site landscaping and enclosures



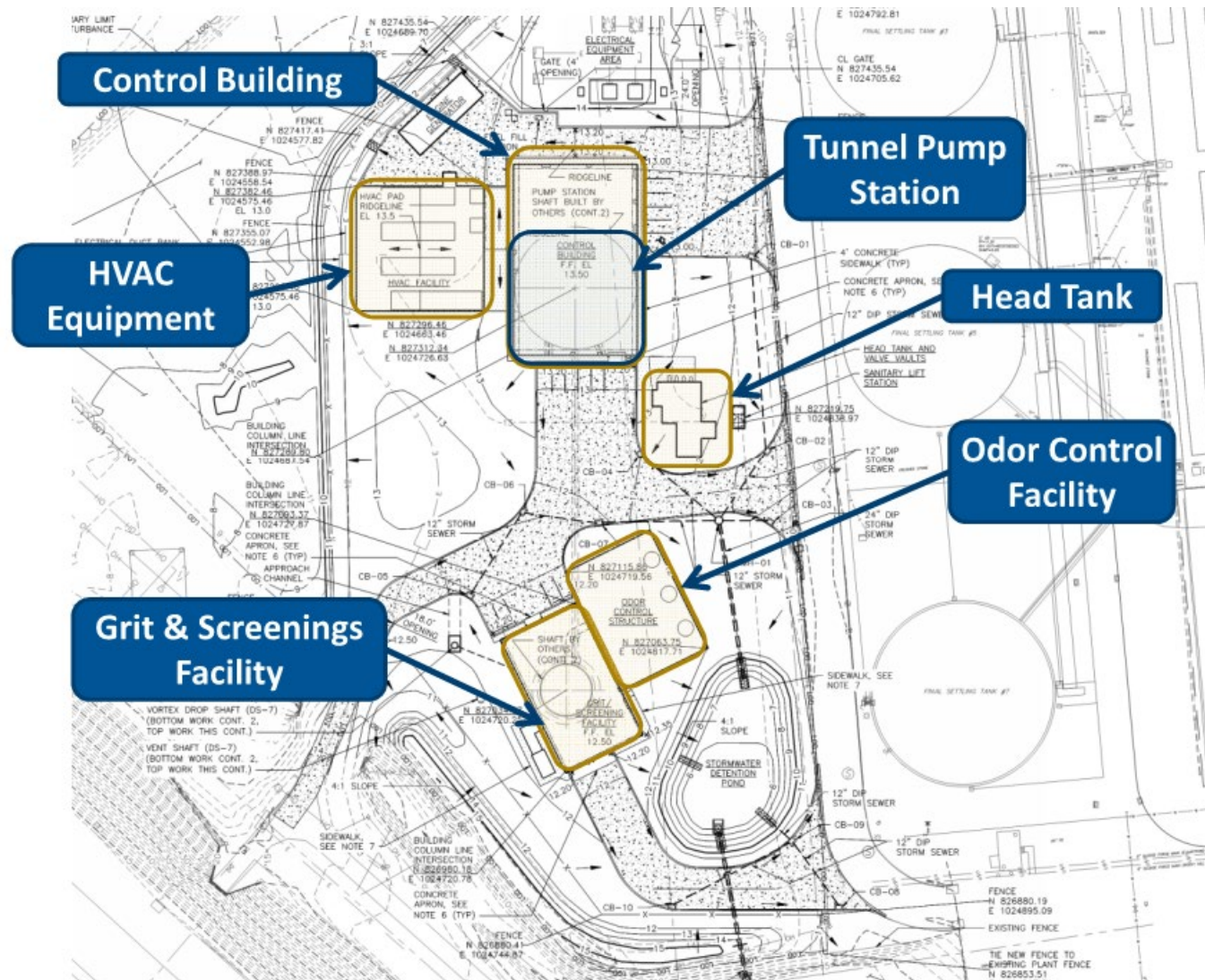
# Contract 4



# Contract 3 – Tunnel Pump Station

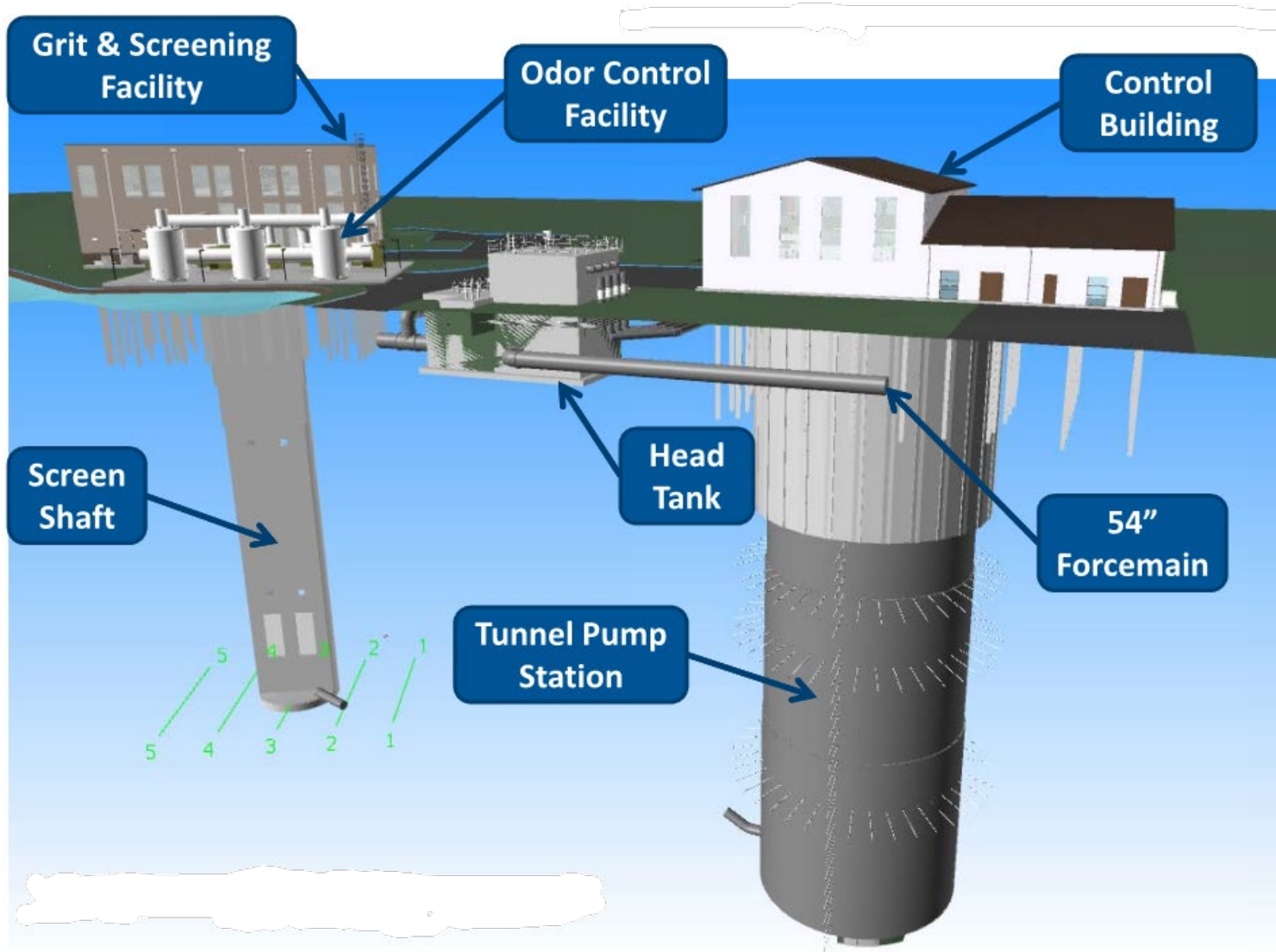
- Bidding - Advertised: 6/24/21; Bids due: 10/14/21
- 48% grant (mix of CSO and SSO) / 52% loan
- Contract 2 is building shafts
  - Tunnel launch shaft becomes grit and screening facility
  - Tunnel pump station shaft (Finish work to be added as addendum in C3)
  - Suction header connects the two shafts
- Major Equipment
  - Grit & Screening – Bar Rack, Rake, Clamshell
  - Pumps (4), valves, etc.
  - Odor Control
  - Backup Generators
- Buildings – Pump Station, Grit and Screenings
- Head Tank
- Force main to HWPCF headworks
- Systems Integration
- Site restoration / wetlands mitigation

# Contract 3 – Tunnel Pump Station





# Contract 3 – Tunnel Pump Station



# *Thank you!*







**MDC's Vegetation Management Program**  
Bureau of Public Works  
September 22, 2021



# Meeting Agenda

- MDC Sanitary Sewer Collection System
- Vegetation Management Program Drivers (CMOM)
- Sewer Easement Program Scope

## MDC Collection System

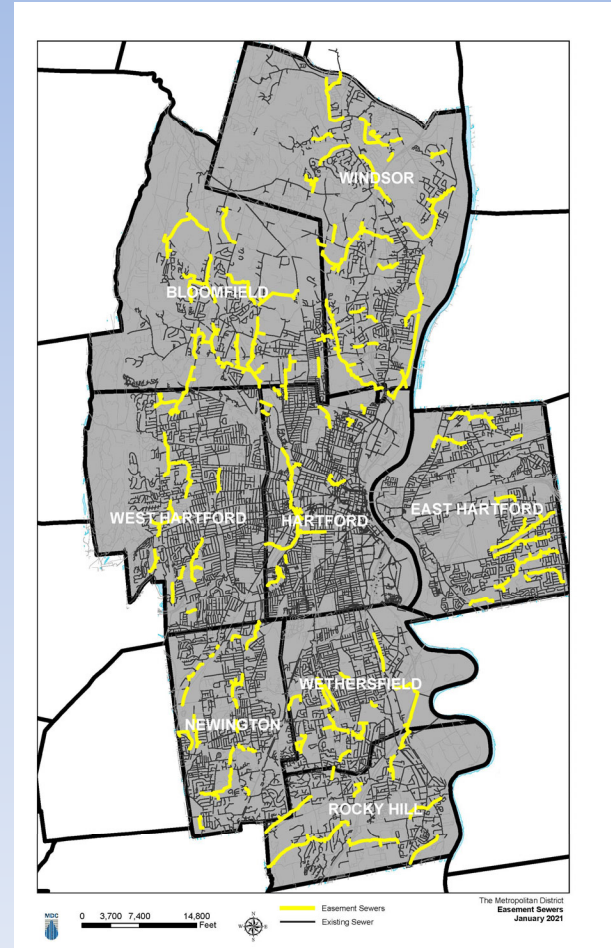
- Total Mileage = 1,220 Miles
- Total Quantity within Easements = 279 Miles
- Required Length of Easement Clearing = 109 Miles
- Easement Sewers:
  - Ages of Install: Primarily before 1979 (83%)
  - Pipe Materials: Primarily PVC/Concrete/CIPP (72%)

# Program Drivers

- MDC Consent Decree (August 2006)
- Capacity, Management, Operation & Maintenance (CMOM)
  - Primary Objective is elimination of Maintenance Related Sanitary Sewer Overflows
    - Identification of Inflow/Infiltration sources
  - Typical CMOM Activities
    - Sewer Inspection via Closed Circuit TV (CCTV)
    - Manhole Inspections
    - Sewer Cleaning
    - Sewer Lining
      - Structural and/or Infiltration/Inflow (I/I)
  - MDC has CCTV Inspected approximately 92% of entire collection system
    - Remaining 8% is primarily sewers in “cross-country” areas

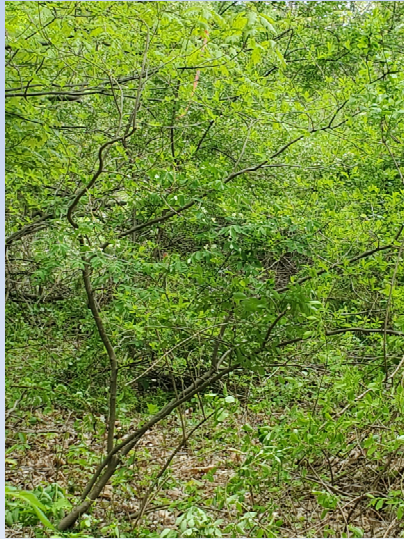
# MDC Easement Clearing Program

Town	Total Length (LF)
Bloomfield	97,986 (Completed)
East Hartford	66,195 (In Progress)
Hartford	55,815
Newington	51,322
Rocky Hill	59,133 (In Progress)
West Hartford	54,263 (Permitting Initiated)
Wethersfield	59,173
Windsor	132,266 (Permitting Initiated)
Total (LF)	576,153
Total (miles)	109.1





# Easement Program





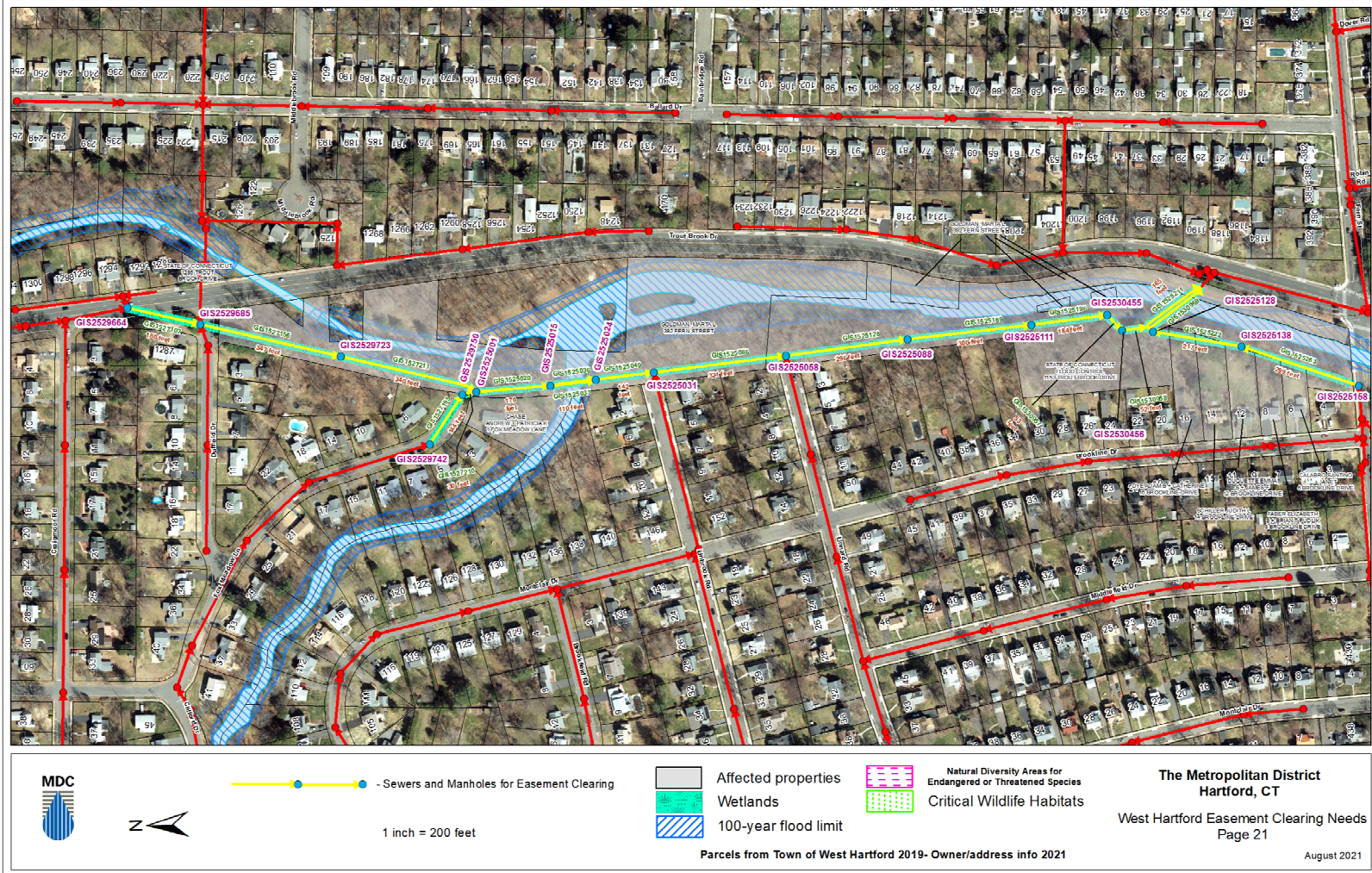
# Easement CCTV Set-up

- Increased accessibility to remote locations
- MDC Purchased UTV & Closed Circuit TV (CCTV) Equipment and began use in 2019
  - Very small footprint and high maneuverability
  - Requires 12'-15' wide clearing within existing 20' sanitary sewer easements





# Example Map Area



# Typical Easement Clearing Sequence

- MDC sends notifications to property owners and abutters of pending easement work
- MDC personnel completes initial survey to locate Sanitary Sewer Manholes and lines of site
- MDC Contractor conducts assessment on each “Map Area”. Assessments include:
  - Site Access Locations
  - #/Type of Properties
  - Stream Crossings
  - Unique Features (i.e. fences, structures, or steep grades)
  - Quantity of Larger Trees (12” and greater)
  - Duration of Work
- MDC notifies property owners via door hanger in advance of work
- Contractor completes clearing in phases:
  - Initial clearing and cutting of debris
    - Primarily Hand Cutting
    - Small Equipment for Chipping and Stump Grinding/Cutting
  - Flush cutting of stumps
  - Seeding
  - Selective Herbicide application for invasive plant species.
- On-going annual maintenance of easements



# Example Outreach Notifications

## Property Owner Notification



March 10, 2021

RE: Easement (Sewer) Clearing

Dear Owner/Current Occupant:

Beginning in March 2021, The Metropolitan District (MDC), with their contractor, Lavoie Horticulture, will initiate a project in your neighborhood to perform preventative maintenance on a critical easement that crosses your property. To create and maintain access to our sewer pipe, located in the right of way, it is necessary that crews clear brush, debris and trees (as needed) to maintain access.

In the event that trees, fences or structures need to be removed or relocated due to the clearing, MDC staff will meet with each property owner affected to discuss our plan and address any concerns.

The clearing work is expected to last approximately 30 working days, weather permitting. Work hours are Monday through Friday, 7:30 AM to 5:00 PM. MDC Staff and contractors must be properly identified and present ID upon request.

Further notifications may be distributed as work progresses. If you have questions or concerns, please contact Andrew Perham at (860) 278-7850 ext. 3449 or [aperham@themdc.com](mailto:aperham@themdc.com).

Sincerely,  
The Metropolitan District

Andrew Perham  
Construction Manager

cc: Communications

Rocky Hill Easement Clearing OWNER Area 34

555 Main Street Post Office Box 800 Hartford, Connecticut 06142-0800 telephone: 860-278-7850 fax: 860-724-2679  
An Affirmative Action and Equal Opportunity Employer

## Abutter Owner Notification



March 10, 2021

RE: Easement (Sewer) Clearing – Abutter's Notice

Dear Owner/Current Occupant:

Beginning in March 2021, the Metropolitan District (MDC), with their contractor, Lavoie Horticulture, will be working in your neighborhood to perform preventative maintenance on an easement in areas that abut your property. No work is planned on your property. To create and maintain access to our sewer, located in the right of way, it is necessary that crews clear brush, debris and trees (as needed).

The clearing work is expected to last approximately 30 working days, weather permitting. Work hours are Monday through Friday, 7:30 AM to 5:00 PM. MDC Staff and contractors must be properly identified and present ID upon request.

Further notifications may be distributed as work progresses. If you have questions or concerns, please contact Andrew Perham at (860) 278-7850 ext. 3449 or [aperham@themdc.com](mailto:aperham@themdc.com).

Sincerely,  
The Metropolitan District

Andrew Perham  
Construction Manager

Cc: Communications

Rocky Hill Easement Clearing ABUTTER Area 34

555 Main Street Post Office Box 800 Hartford, Connecticut 06142-0800 telephone: 860-278-7850 fax: 860-724-2679  
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## Pre-Work Door Hanger



### Easement Clearing to Begin in Your Neighborhood

This is a reminder that the **Metropolitan District (MDC)** and their contractor will be starting work to perform preventative maintenance on a critical easement (right of way) that crosses your property.

To create and maintain access to our sewer pipe, located in the right of way, it is necessary that crews clear brush, debris and trees (as needed) to maintain access and thus maintain our sewer.

In the event that trees, fences or structures need to be removed or relocated due to the clearing, MDC staff will meet with each property owner affected to discuss a plan and address any concerns.

The clearing work is expected to last approximately 30 working days, weather permitting. Work hours are generally Monday through Friday, 7:30 AM to 5:00 PM. MDC Staff and contractors will be properly identified and shall present ID upon request.

If you have questions or concerns, please contact **Andrew Perham, Project Manager, at (860) 278-7850 Ext. 3449 or [aperham@themdc.com](mailto:aperham@themdc.com).**

Thank you.

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