



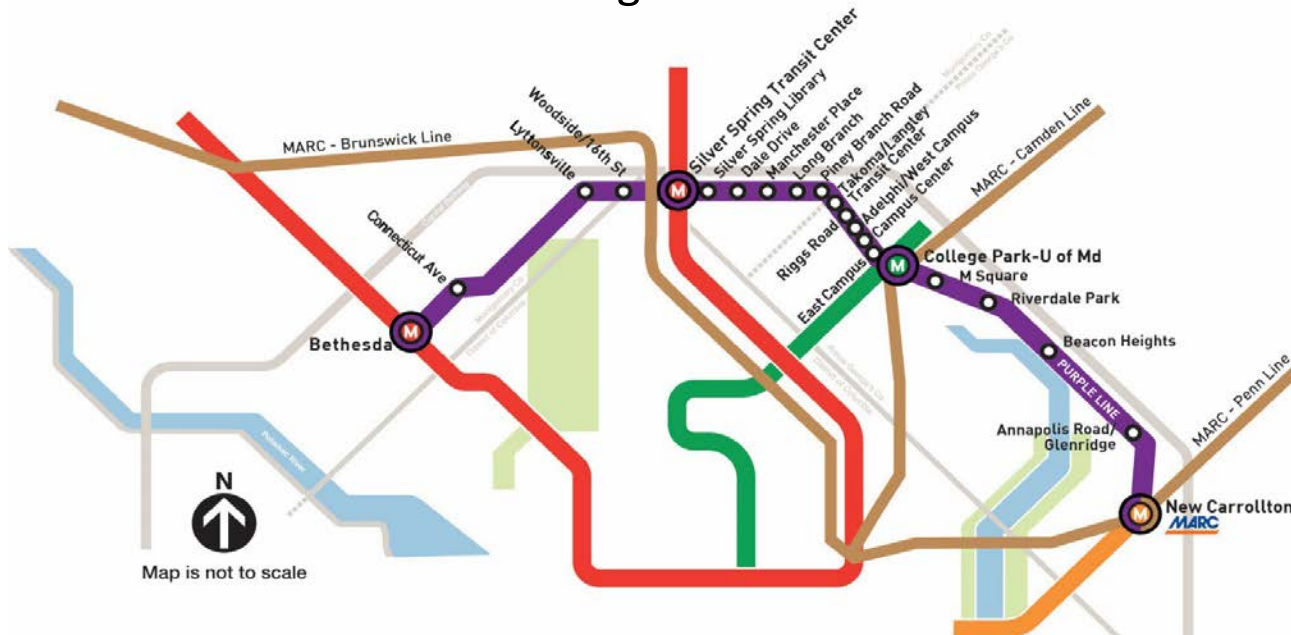
Wayne Manchester Towers

February 21, 2017



What is the Purple Line?

- A new 16 mile east-west light rail line
- Operates mostly on the surface with 21 stations
- Connects New Carrollton in Prince George's County and Bethesda in Montgomery County
- Provides a direct connection to 4 Washington Metrorail lines, 3 MARC commuter rail lines, Amtrak Northeast Corridor and regional and local bus services





What's the status of the Purple Line?

- Purple Line is being delivered as a Public-Private Partnership (P3) to complete design, construction, operation, maintenance and financing
- Selection of P3 concessionaire announced on March 2, 2016
- Maryland Board of Public Works approved P3 Concessionaire contract with the Purple Line Transit Partners (PLTP) on April 6, 2016.
- Right-of-Way offers and property settlements are continuing
- Pre-construction activities such as survey work and geotechnical investigations are continuing
- Construction start scheduled for 2017
- Service anticipated to begin in spring 2022



What is the Purple Line?



69,000 daily riders in 2030 and more than 74,000 daily riders in 2040



Span of service generally matches Metrorail hours



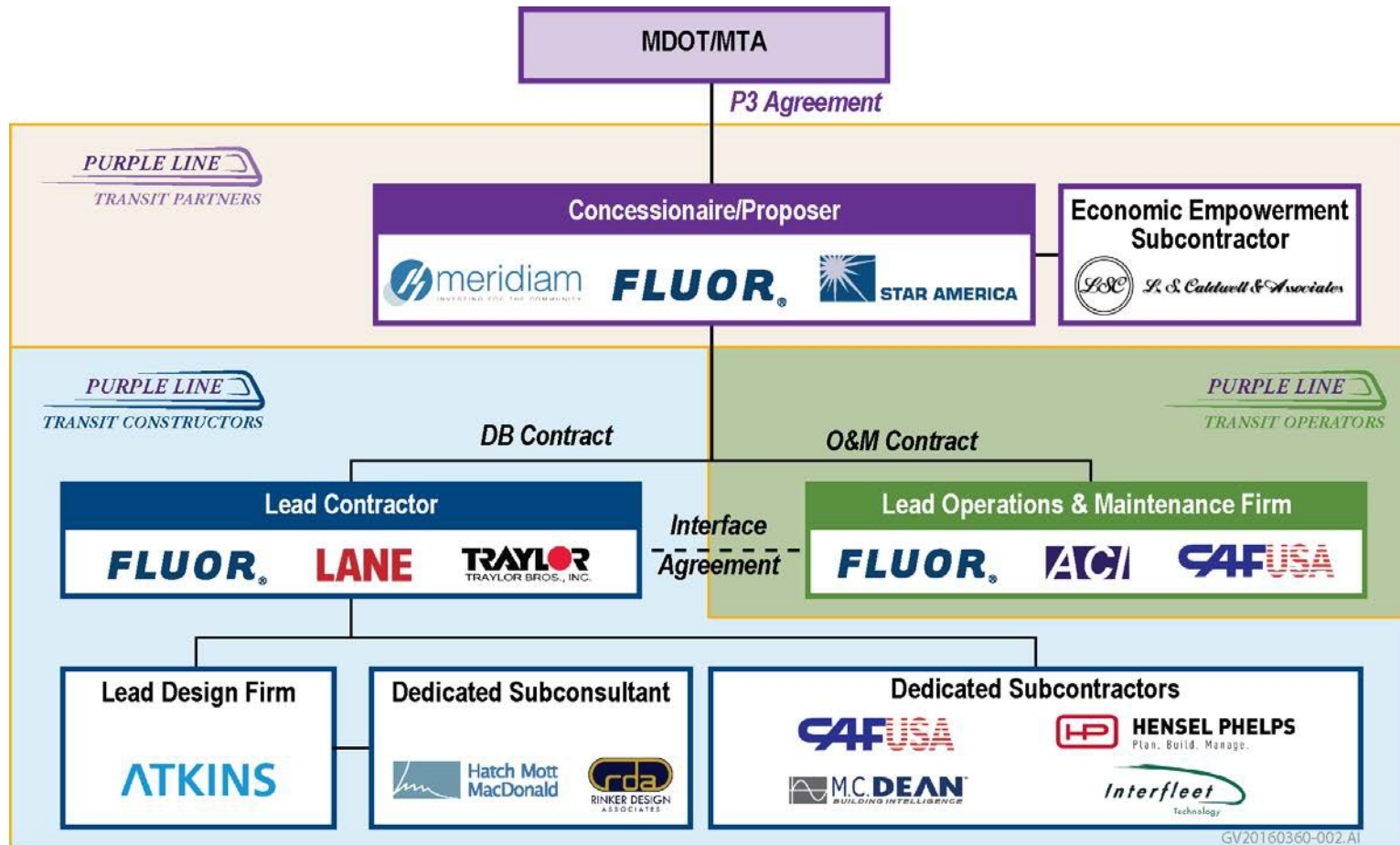
Trains every 7 ½ minutes initially during peak period, 10-12 minutes off-peak



End-to-end travel time estimated at 63 minutes; majority of riders will take short trips



PLTP Organizational Structure



Purple Line Light Rail Vehicle



- 5-module multiple-articulated light rail vehicle
- Single car that is 136' long
- 80 seats are provided
- Electrically-powered vehicle with overhead contact system
- 80% Low Floor – easy on/off boarding



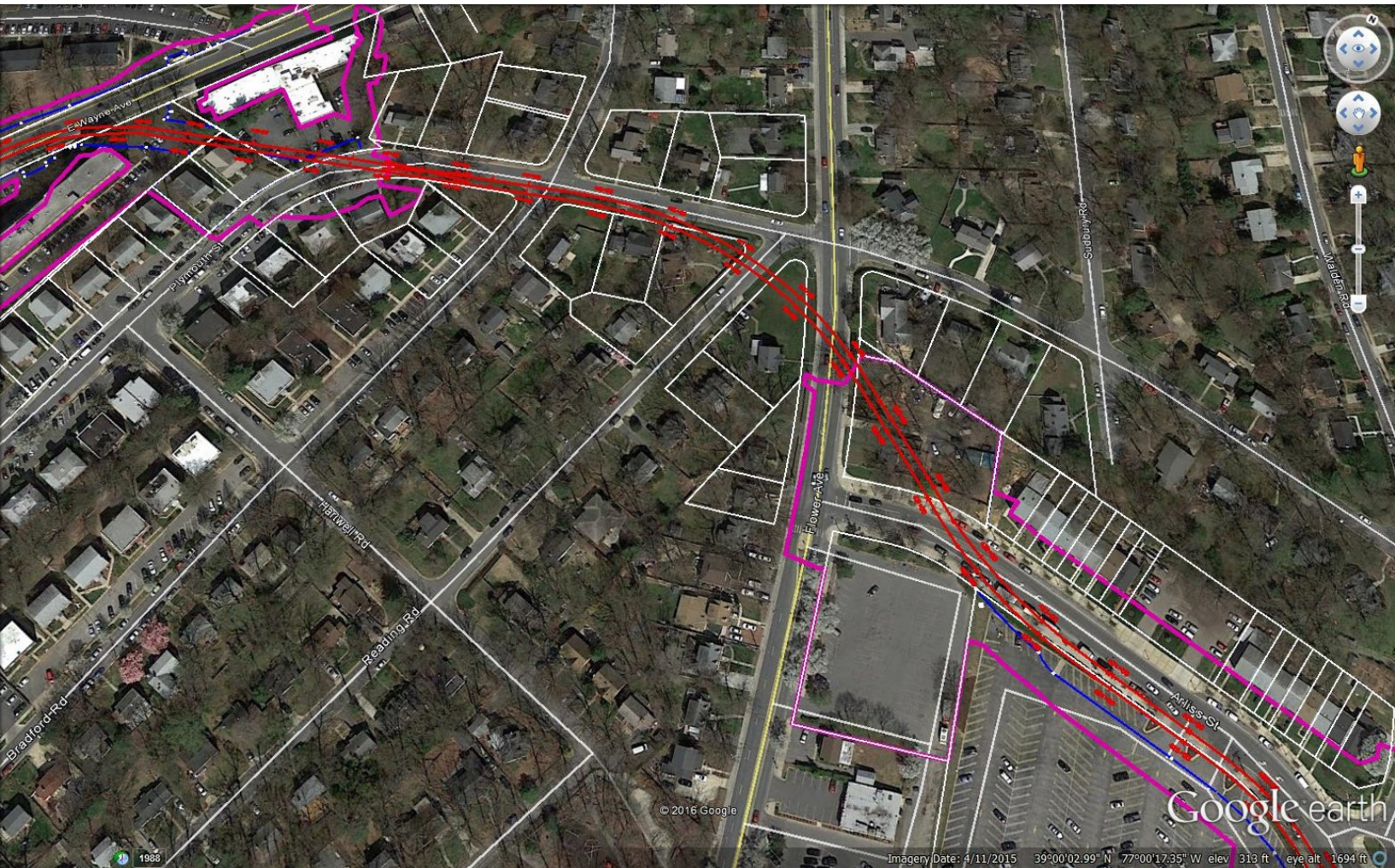
Purple Line Light Rail Vehicle



- Open-air concept – passengers have ample room to disperse
- Specifically designed to meet ADA requirements
- Eight wheelchairs and eight bicycles can be accommodated simultaneously
- Interior displays, passenger announcements and designed to be visible and audible to disabled passengers
- Final colors and graphics on the vehicle will be determined during design



Plymouth Tunnel



West Construction Staging Area





Plymouth Tunnel

Tunnel Portal / Manchester Station at Wayne Ave.



Plymouth Tunnel

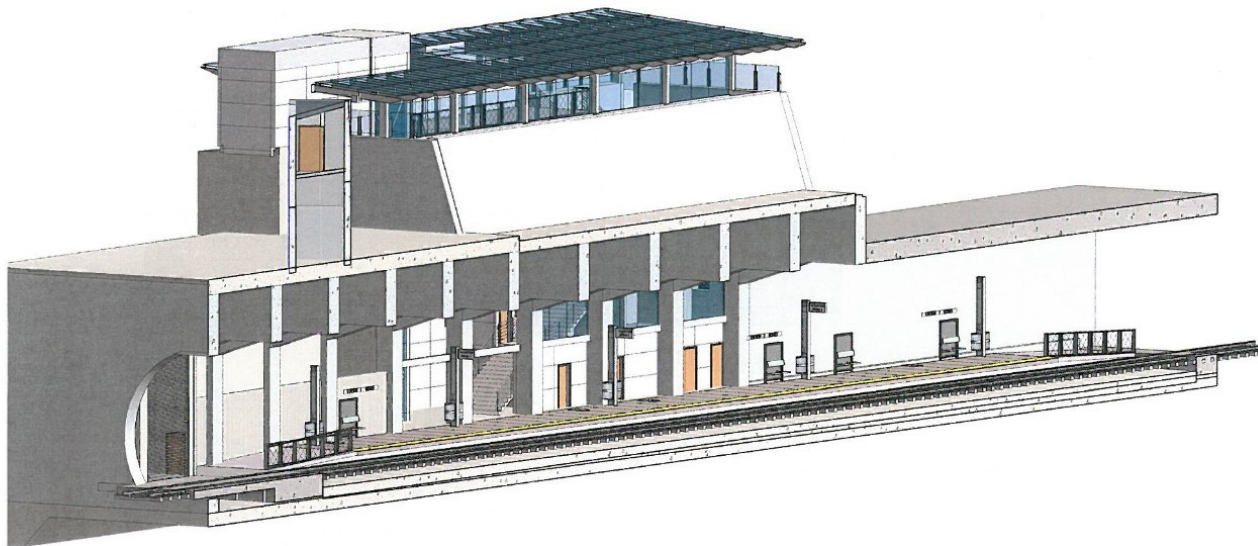
Manchester Station East Plaza



Plymouth Tunnel



Manchester Station East Plaza



Plymouth Tunnel



Plymouth Tunnel

Arliss Street





Sequential Excavation Method

The **New Austrian Tunneling Method (NATM)**, also known as **Sequential Excavation Method (SEM)** integrates the principles of the behavior of rock masses under load and monitoring the performance of underground construction during construction.

NATM has seven elements:

- Exploitation of the strength of native rock mass
- Shotcrete protection
- Measurement and monitoring
- Flexible support
- Closing of the invert
- Contractual arrangements
- Rock mass classification



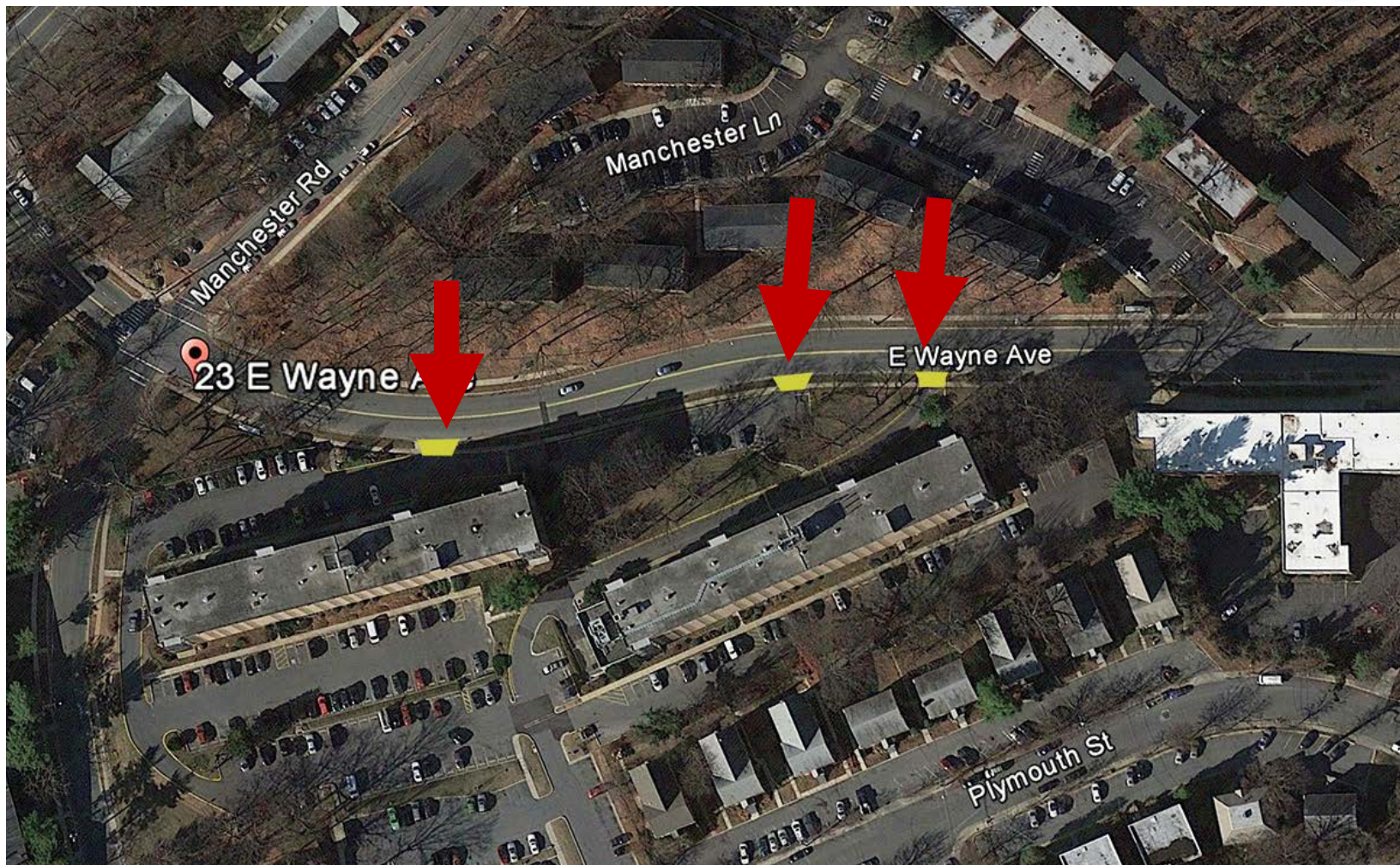
Tentative Tunnel Schedule/Construction

	Start	Finish
Design	Spring 2016	Spring 2017
Construction	Spring 2017	Fall 2020
Testing and Commissioning	Fall 2020	Spring 2022
Open the Purple Line	Spring 2022	

- Assumptions:
 - If blasting is required it will be limited to daylight hours
 - If blasting is needed due to soil conditions, the community will be notified
 - Tunnel construction is 24 hrs/day, 6 days/week with maintenance on Sundays

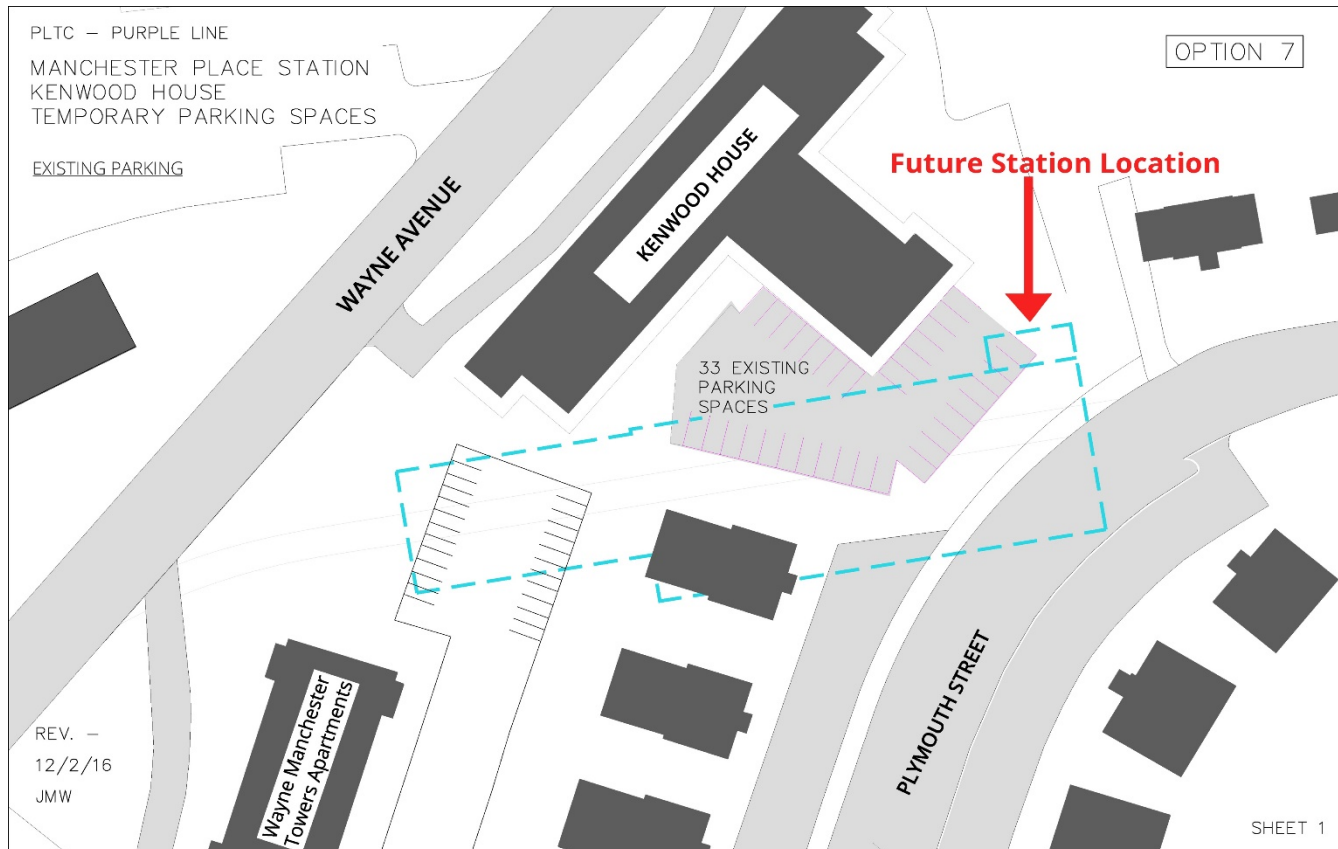


Access from East Wayne Avenue





Existing Conditions



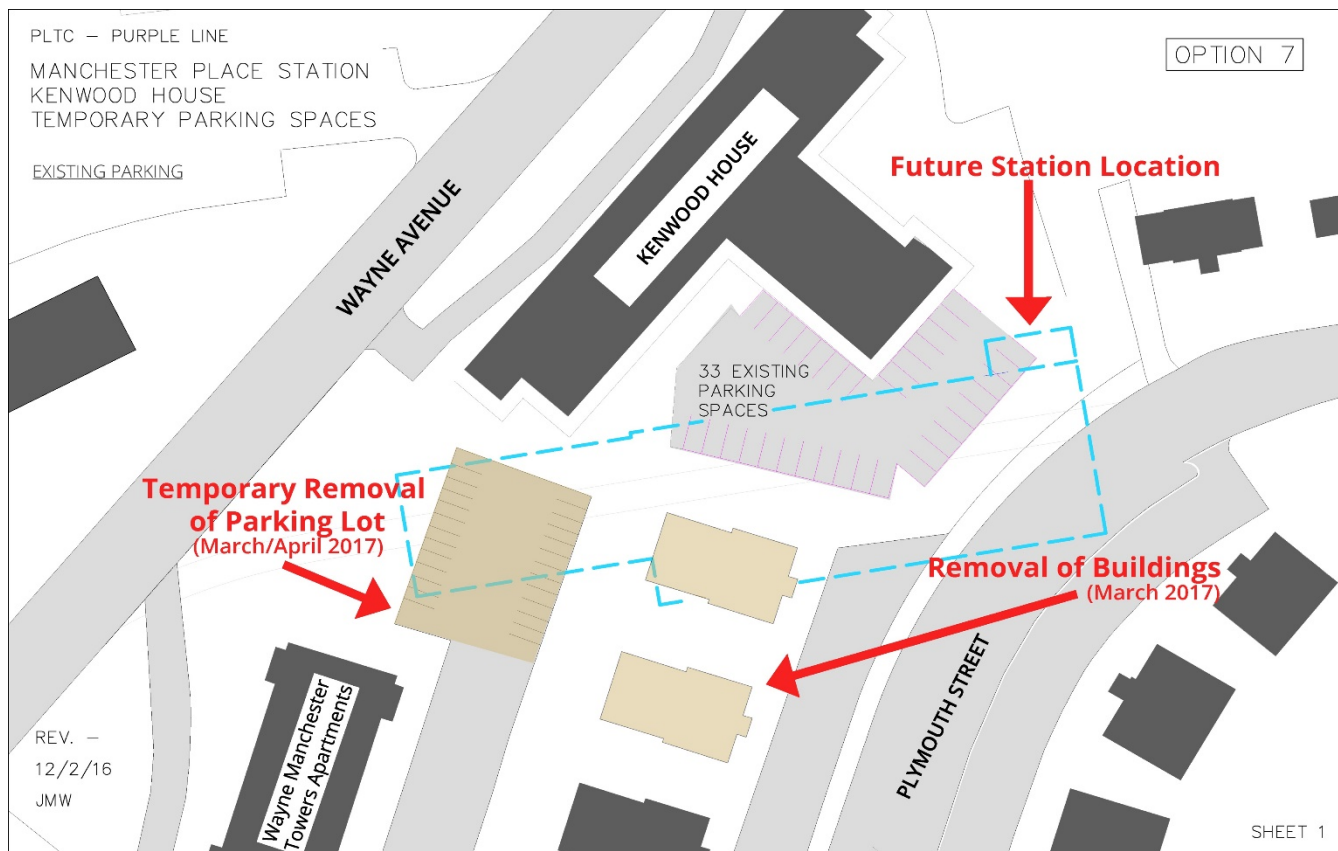
Dates subject to change based on further schedule development.



Existing Parking Conditions

Removal of Buildings

Temporary Removal of Wayne Manchester Towers Parking



Dates subject to change based on further schedule development.

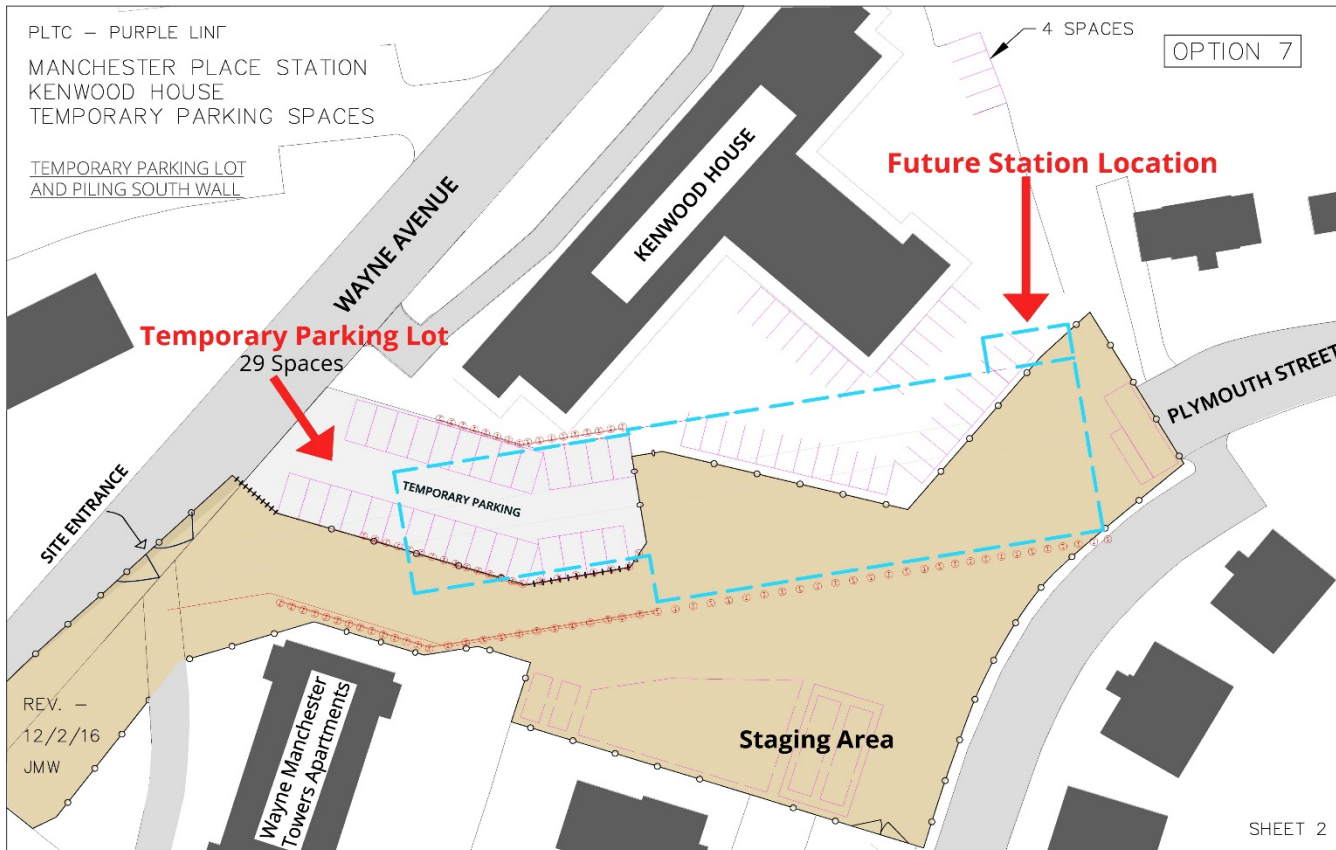


04/17-06/17

Establish Work Zone

Create Temporary Parking Lot with 29 Spaces

North Access from Wayne Ave. Restricted



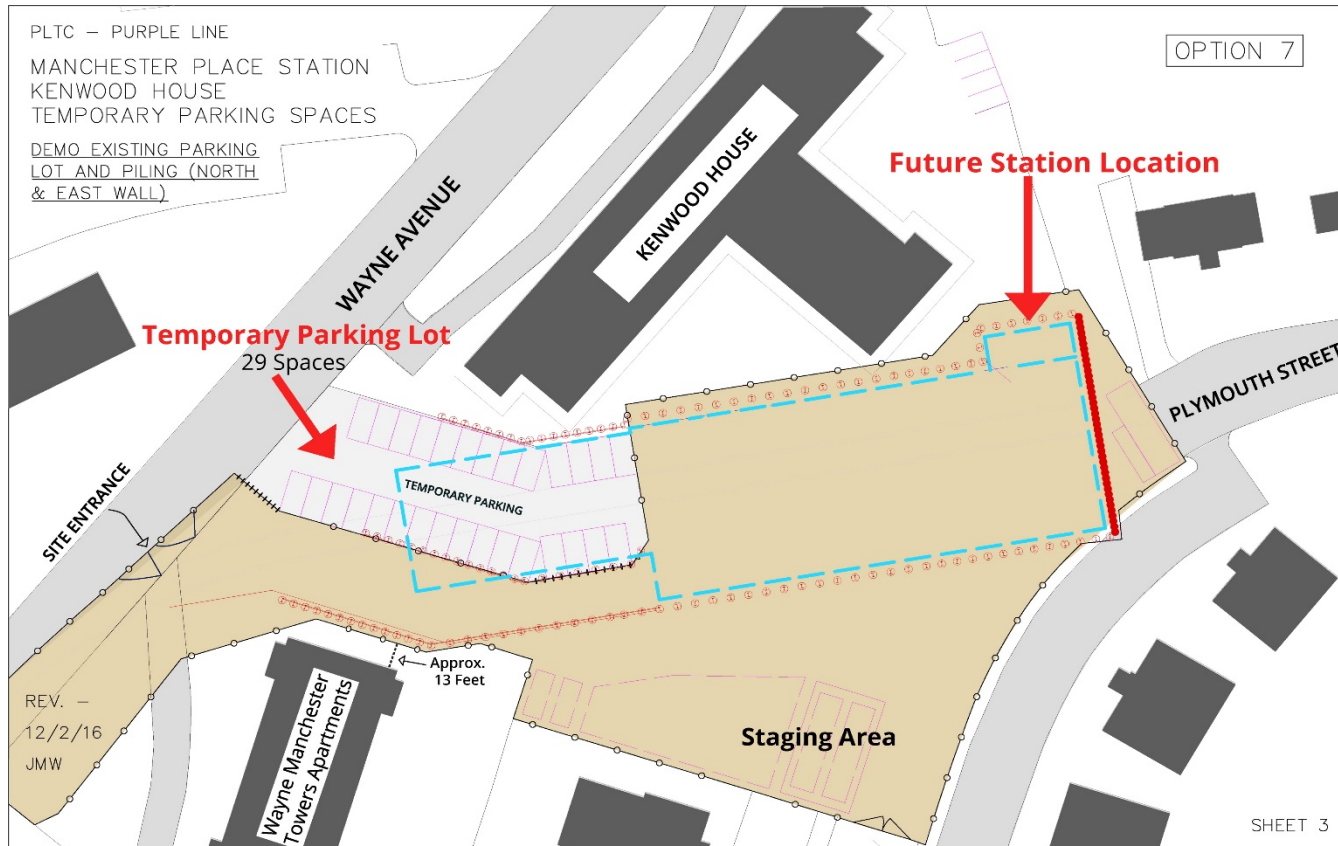
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07/17-09/17

Demo Existing
Parking Lot

Pile Installation

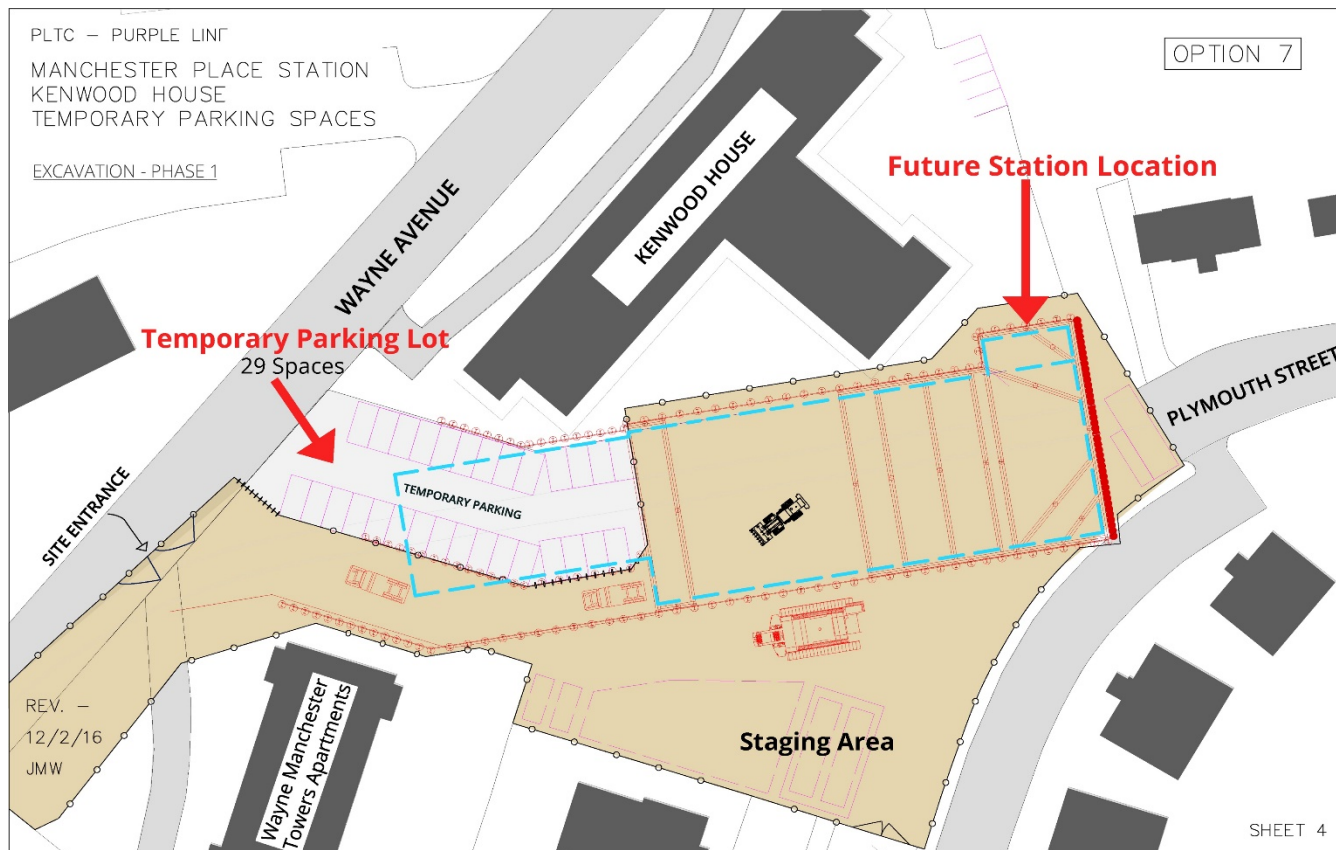


Dates subject to change based on further schedule development.



10/17-02/18

Excavation Phase 1

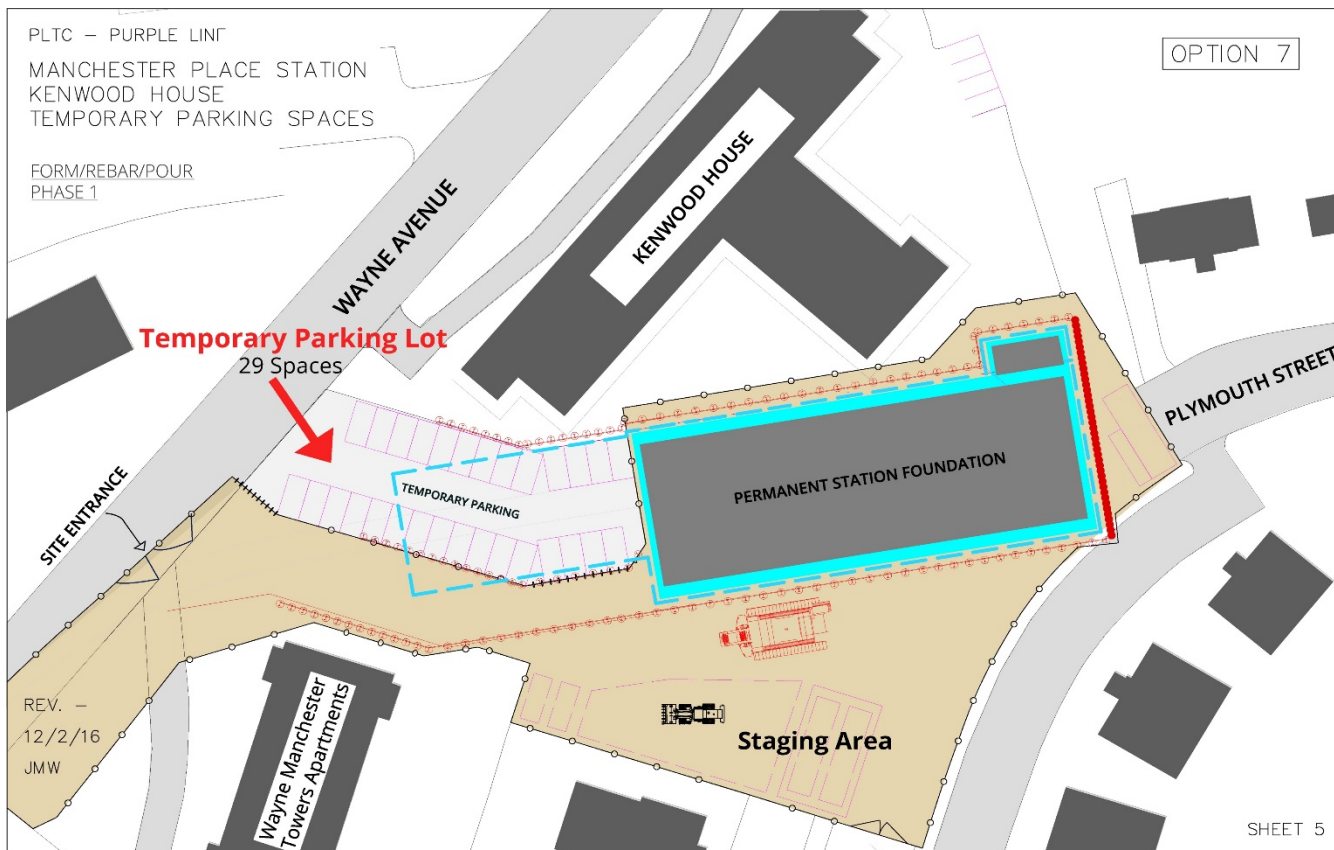


Dates subject to change based on further schedule development.



03/18-06/19

Form/Rebar/Pour
Phase 1

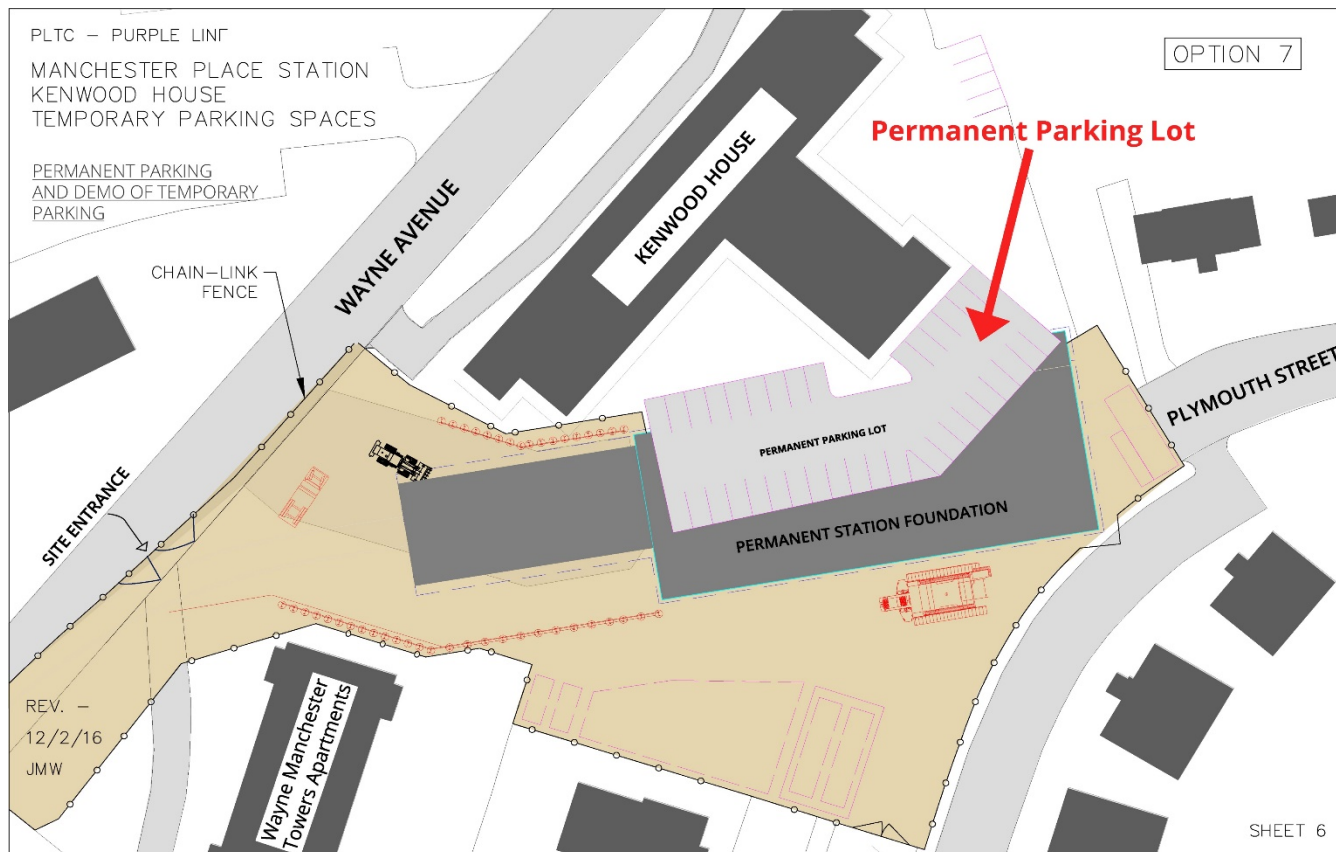


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07/19

Permanent Parking and Demo of Temporary Parking



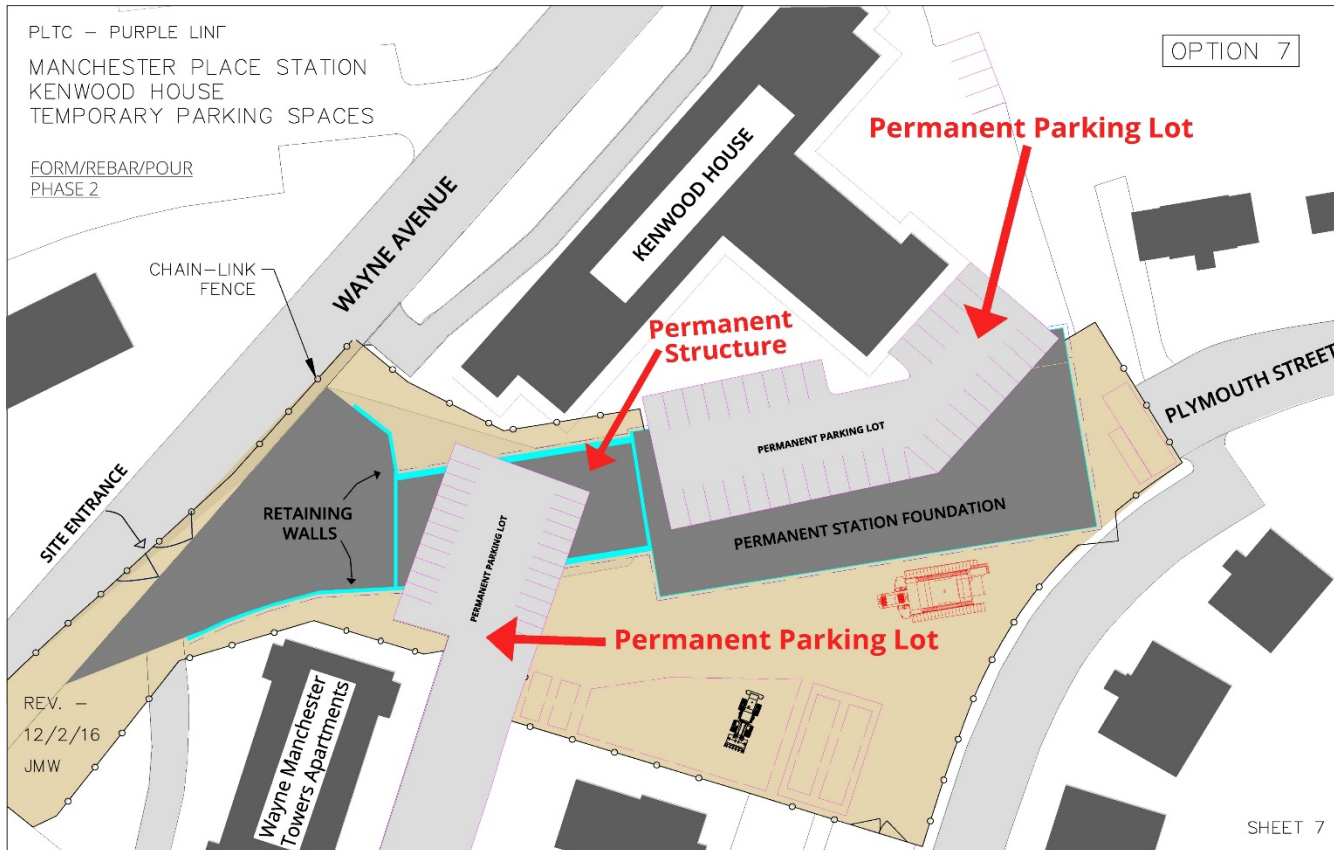
Dates subject to change based on further schedule development.



08/19-02/20

Form/Rebar/Pour
Phase 2

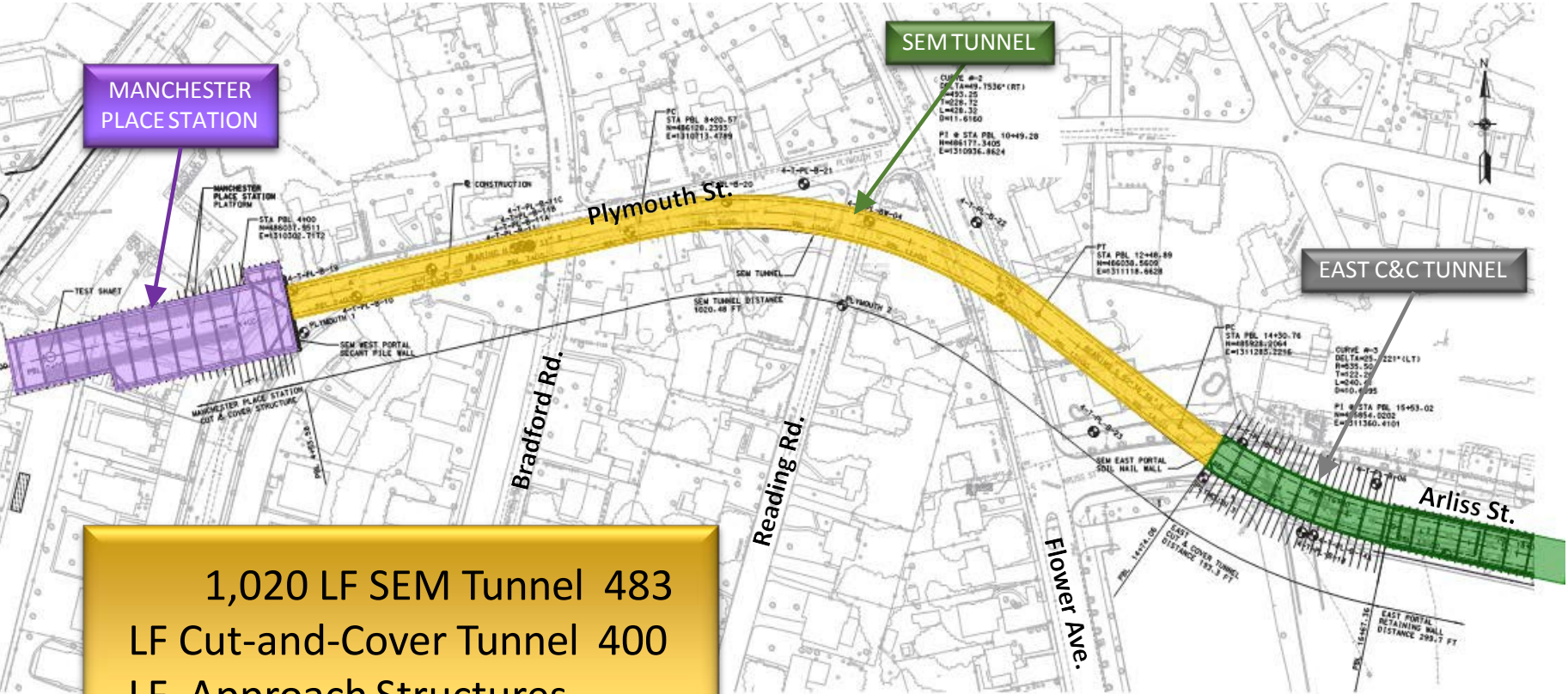
Reestablish
Wayne
Manchester
North Parking
Lot



Dates subject to change based on further schedule development.



Plymouth Tunnel



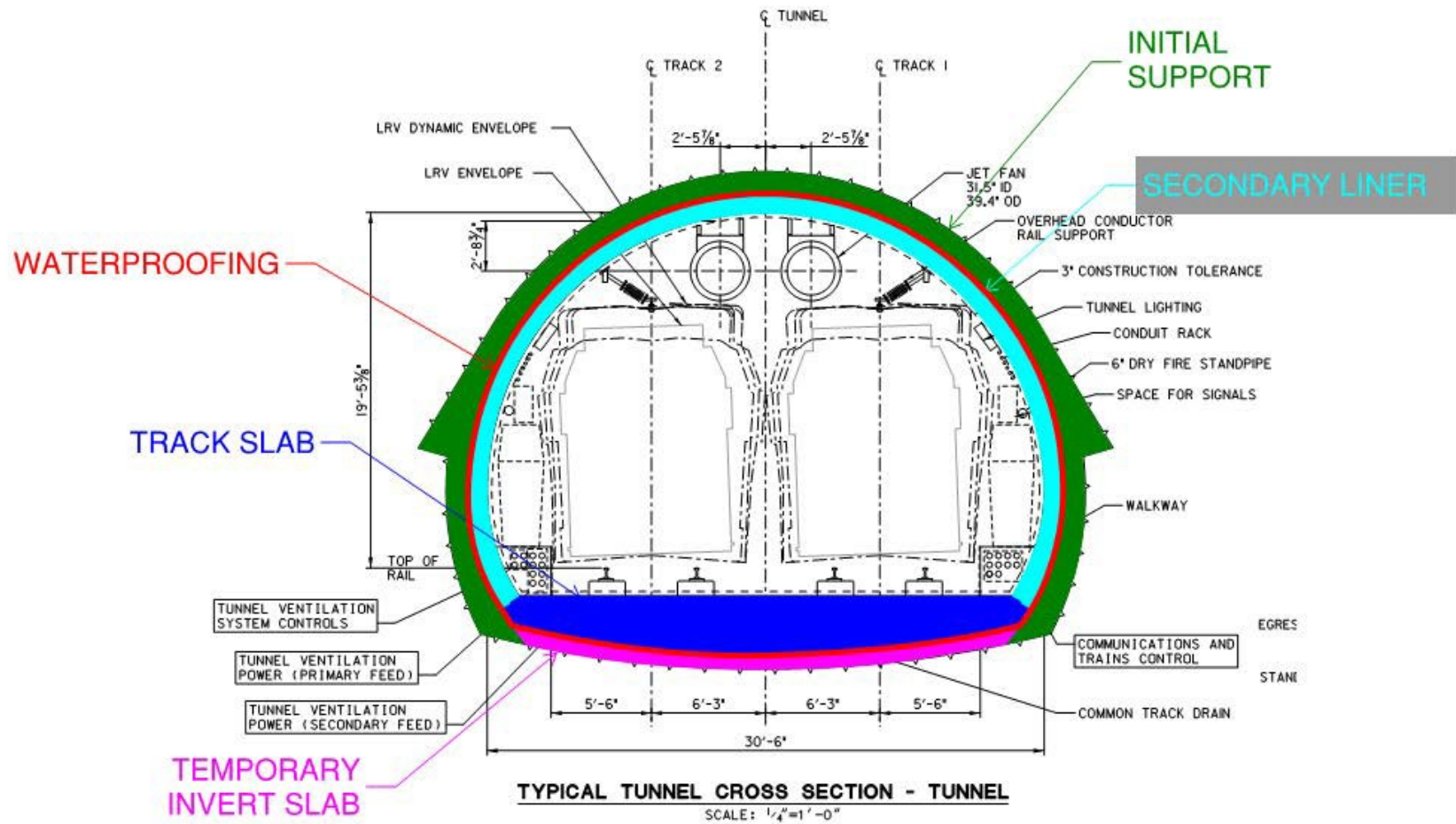
1,020 LF SEM Tunnel
 483 LF Cut-and-Cover Tunnel
 400 LF Approach Structures
 1x Underground Station

PLAN VIEW

The map illustrates the proposed Plymouth Tunnel project. The tunnel route is shown as a hatched area, starting near East Wayne Ave. and extending eastward, passing under Plymouth St., Reading Rd., and Hartwell Rd. The Manchester Place Station is located near the intersection of Plymouth St. and Bradford Rd. The map also shows existing streets and a retaining wall. A north arrow is present in the top right corner.

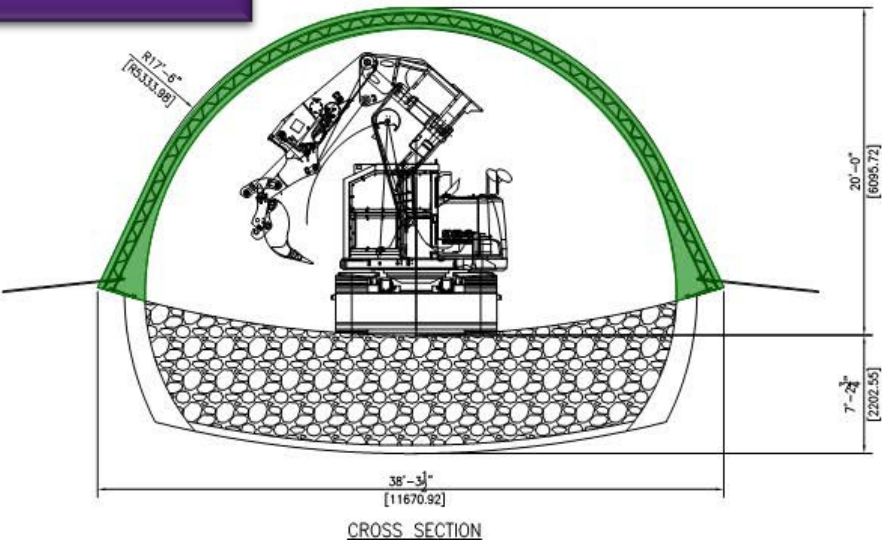
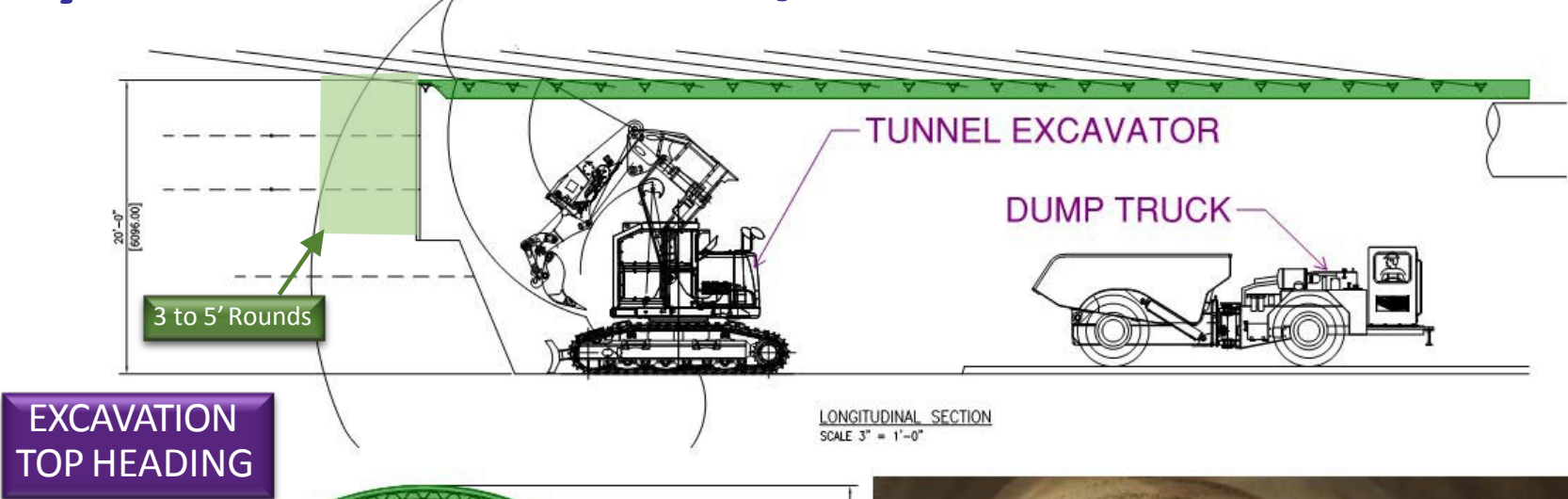


Plymouth Tunnel



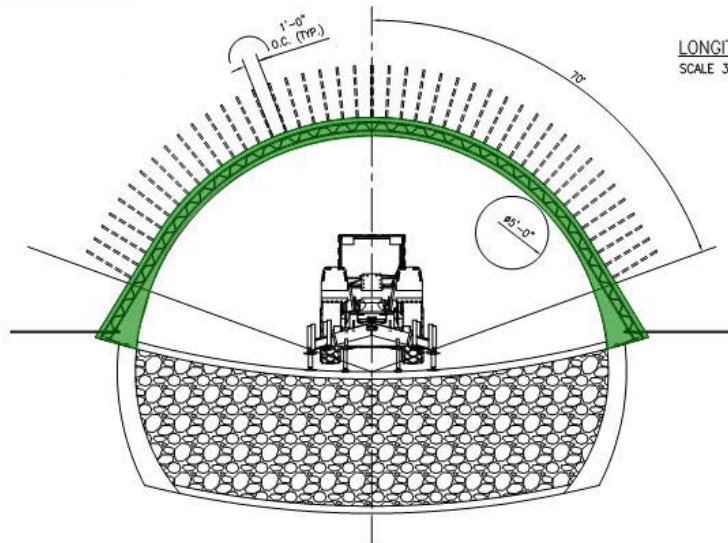
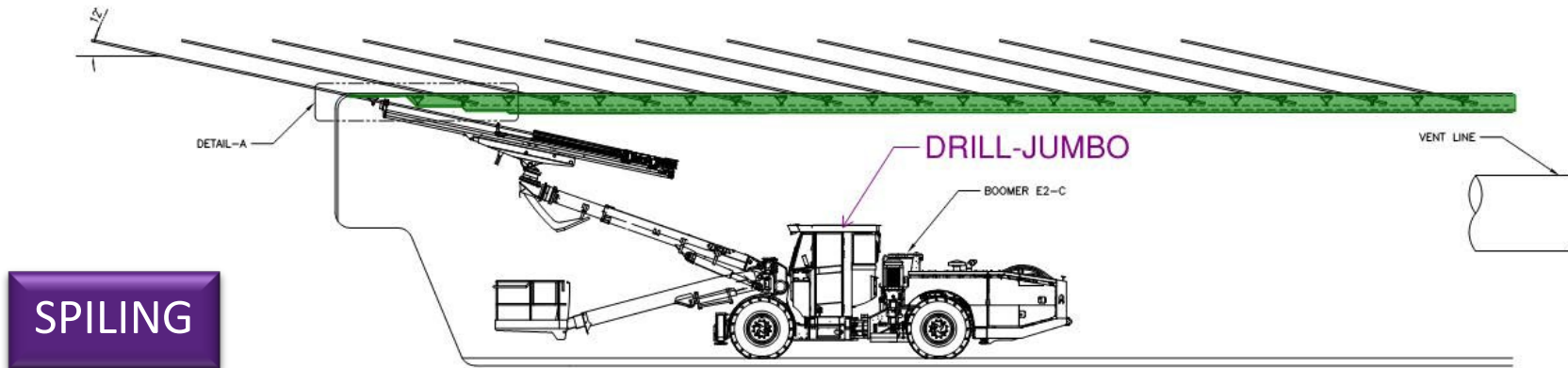


Plymouth Tunnel SEM / NATM





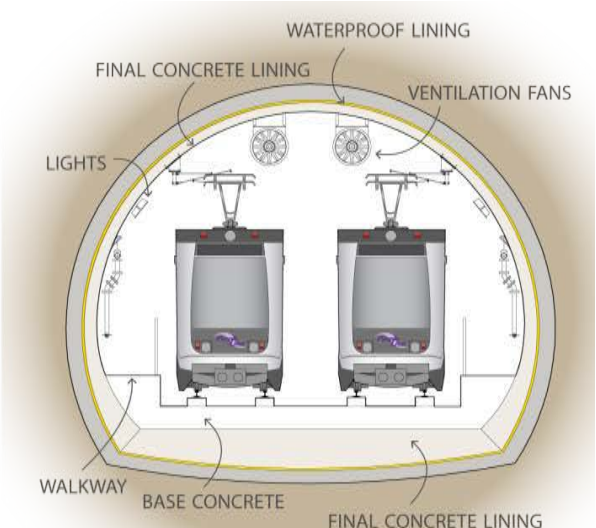
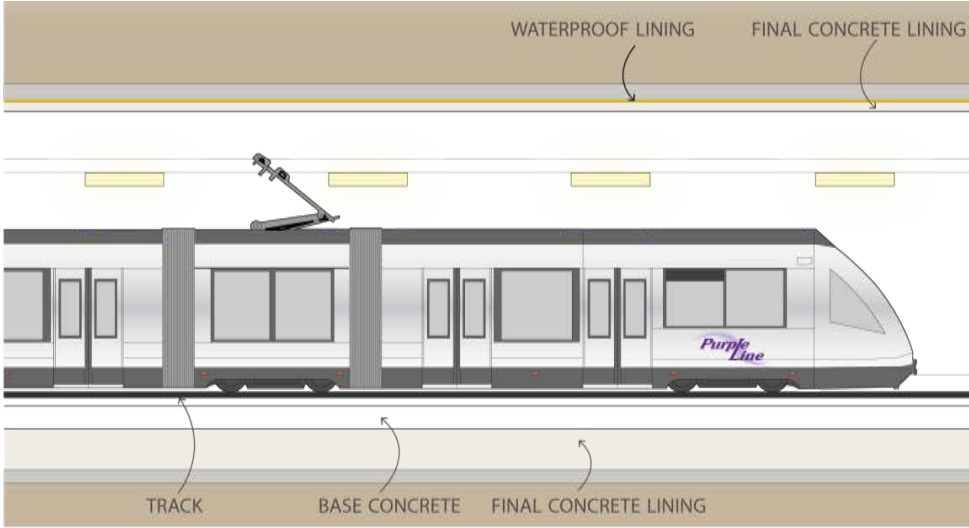
Plymouth Tunnel SEM / NATM



LONGITUDINAL SECTION
SCALE 3" = 1'-0"



Completed Tunnel



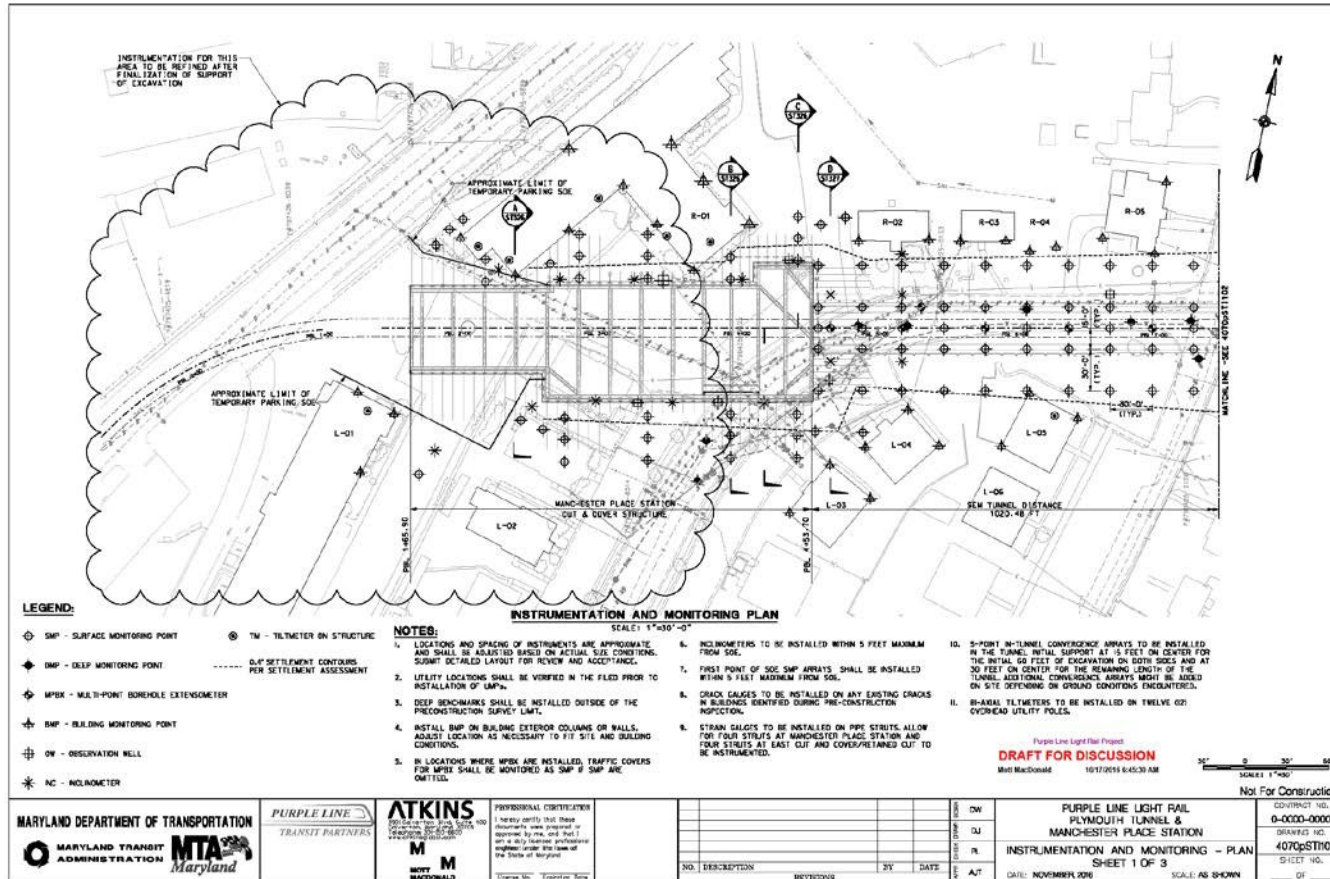


Ensuring Public Safety and Integrity of Private Property during Tunnel Construction

Preventive measures in place to ensure safety for the public and prevent damage to existing structures and facilities:

- Soil Investigation Borings and Testing
- Pre-Construction Surveys
 - Information on condition of existing structures and sensitivity
- Instrumentation and Monitoring
 - Detection of potential ground movements, change in groundwater table levels, and movement of existing structures
 - Data collected electronically and transmitted to a data base accessible to Purple Line engineers and geologists
 - Threshold Values programmed into the system alerting Purple line personnel in real-time via email and text messages
- Use of Qualified and Experienced Personnel
 - Specific Tunnel Construction Training and Safety Orientation for laborers
 - Supervision with at least 20 years experience in Tunnel Construction
 - Licensed Professional Engineers on site monitoring ground conditions and movements on a daily basis

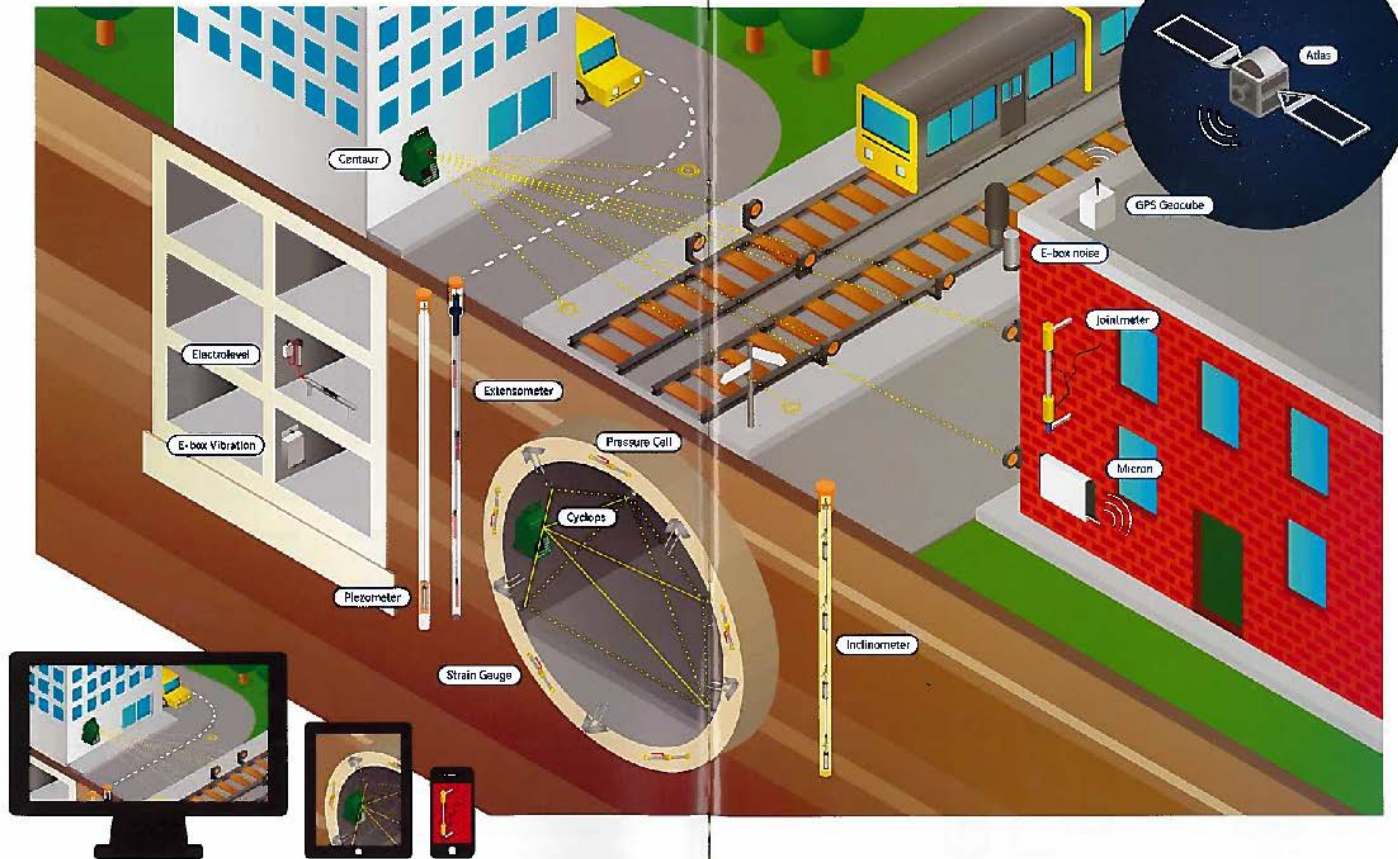
Instrumentation and Monitoring





Instrumentation and Monitoring

Urban Works Monitoring





Instrumentation and Monitoring

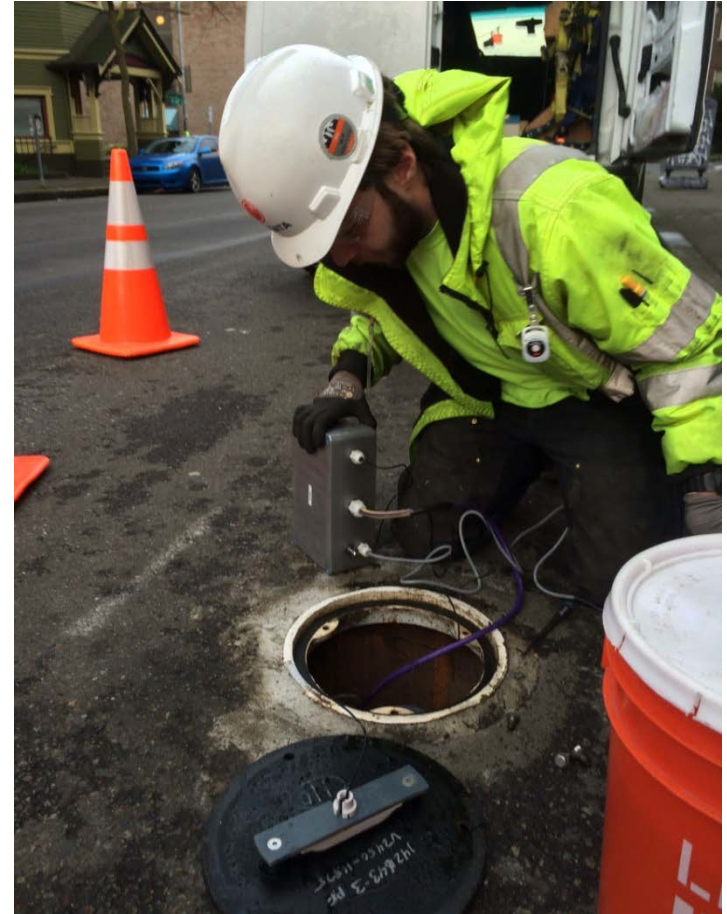
Prism Targets for Buildings





Instrumentation and Monitoring

Subsurface Instrumentation

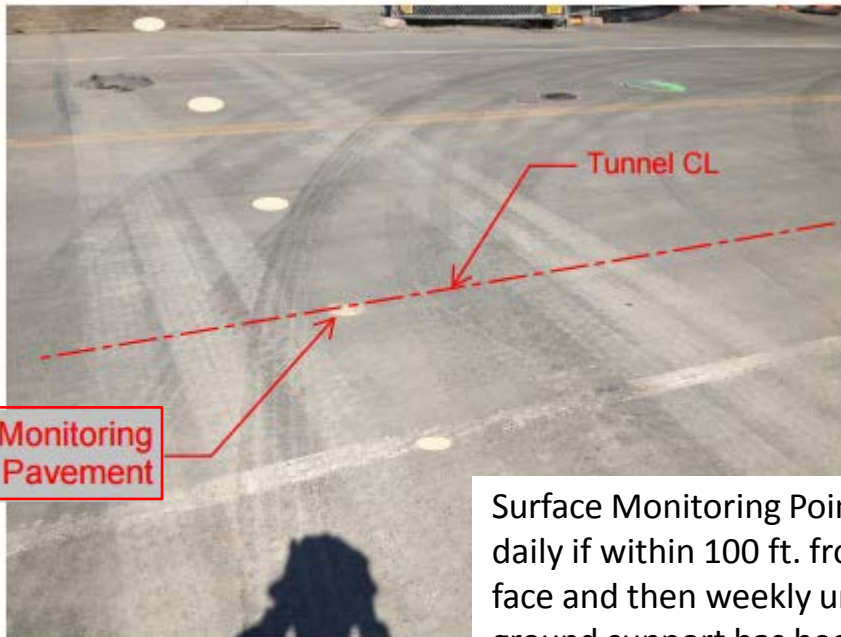




Instrumentation and Monitoring

Prism Targets for Field

Surface Monitoring Point arrays will be installed every 20 feet along the centerline of the tunnel. A surface monitoring point array will consist of nine monitoring points spaced at 15 feet on-center from the centerline of the tunnel



Surface
Monitoring Point
Non-Paved Area

Surface Monitoring Point will be monitored daily if within 100 ft. from the excavation face and then weekly until the permanent ground support has been installed



Noise and Vibration Control During Construction

RFP Noise Requirements

- Noise Control, Monitoring and Mitigation Plan
- Noise Reduction Measures
- Construction Noise Monitoring and Reporting
- Noise barriers between Plymouth Tunnel construction staging area and residences

RFP Vibration Requirements

- Blasting and Vibration Plan
- Protection of Existing Structures Plan
- Tunneling Monitoring Plan
- Ongoing ground-borne vibration monitoring (seismometers, other devices)



What To Expect During Pre-Construction?

- Community Outreach and Public Meetings
- Pre-construction surveys and documentation
- Blasting and Tunneling Pre-Construction Surveys, if blasting is required
- Additional geo-technical investigations (soil borings) and surveying
- Installation of tunneling construction monitoring instrumentation
- Mobilization activities (equipment, temporary substation, etc.)
- Relocation of existing utilities



What To Expect During Construction?

- Continued tunneling construction monitoring
- Detours and local access
- Construction site safety
- Continuous outreach and coordination
- Monitoring and mitigation plan for noise and vibration



Traffic and Parking During Construction

RFP Requirements

- Concessionaire will develop a Construction Access and Mobility Plan depicting all haul routes and access points
- Concessionaire is not allowed to use local streets, such as Plymouth Street or Bradford Road, through residential neighborhoods, except for work located on the local roadway
- Construction traffic to and from the Project area will be confined to the Project right of way and will be on designated haul routes along the Project alignment
- The Concessionaire will provide designated parking areas for construction workers. The Concessionaire will not park on residential streets.



Haul Routes

- Wayne Avenue
- Flower Avenue via the South – MD 320 Piney Branch Road
- MD 320 – Piney Branch Road
- MD 193 – University Boulevard
- MD 650 – New Hampshire Avenue



Public Outreach

- During construction the MTA will maintain responsibility for communication and coordination with property owners, residents, business owners/operators and other stakeholders
- Concessionaire will support outreach effort
- Liaisons will:
 - be located in project office in the corridor
 - alert the community to upcoming construction activities
 - serve as direct points of contact for the community
 - bring the right staff to the table to problem solve
- Outreach construction 24/7 Hotline—443-451-3706



Moving Forward - CATs

Purple Line Community Advisory Teams (CATs)

- New community meeting format developed in consultation with Counties
- Structure based on geographic location and a similar set of concerns
- Composed of representatives of the community/ civic associations, business organizations, and other stakeholder groups
- “Work around the table” format
- In coordination with the counties, the CATs will function through the construction period
- There will be a Silver Spring Community Advisory Team



Questions?

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