



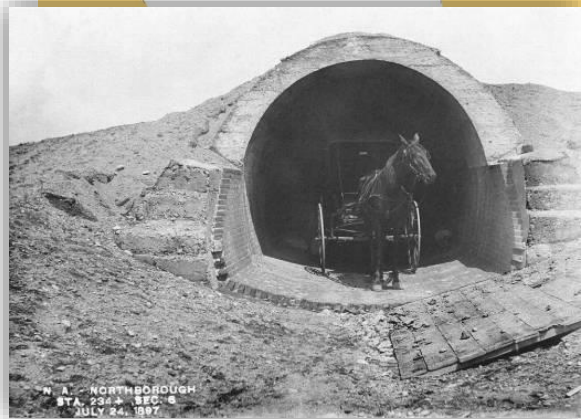
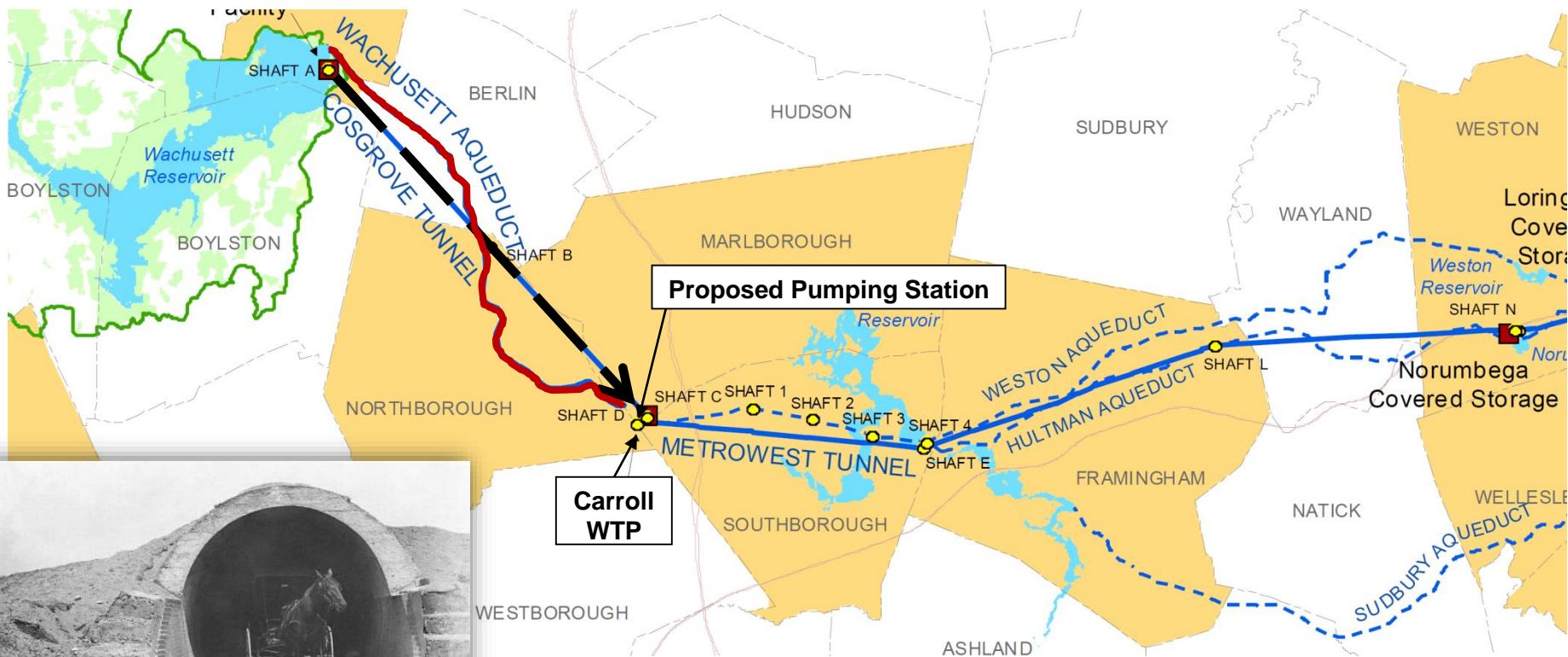
**Massachusetts Water Resources Authority**

**Wachusett Aqueduct Pumping Station**  
**Water Supply Citizen's Advisory Committee**

**October 10, 2017**



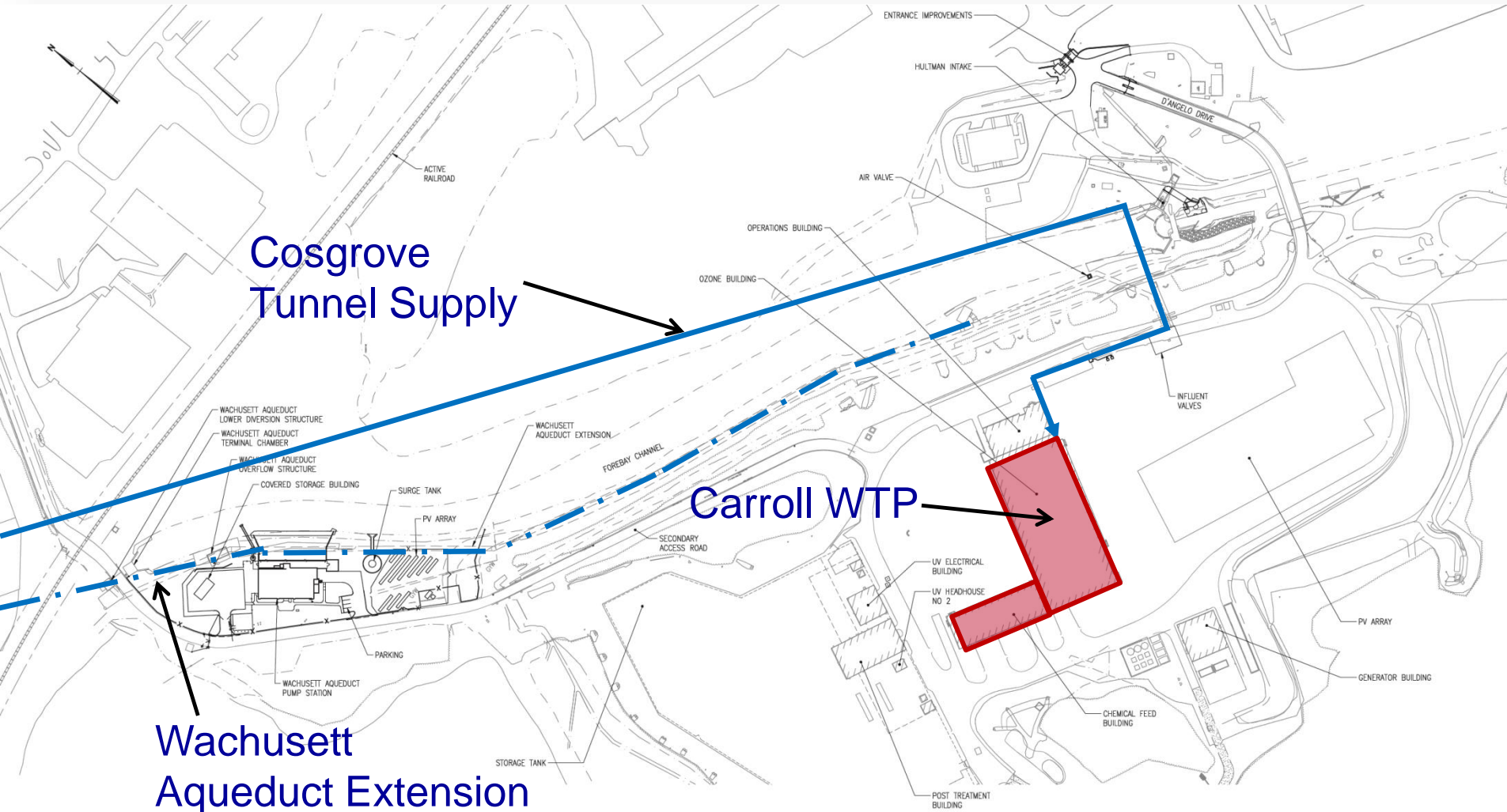
# MWRA Transmission System



Wachusett Aqueduct

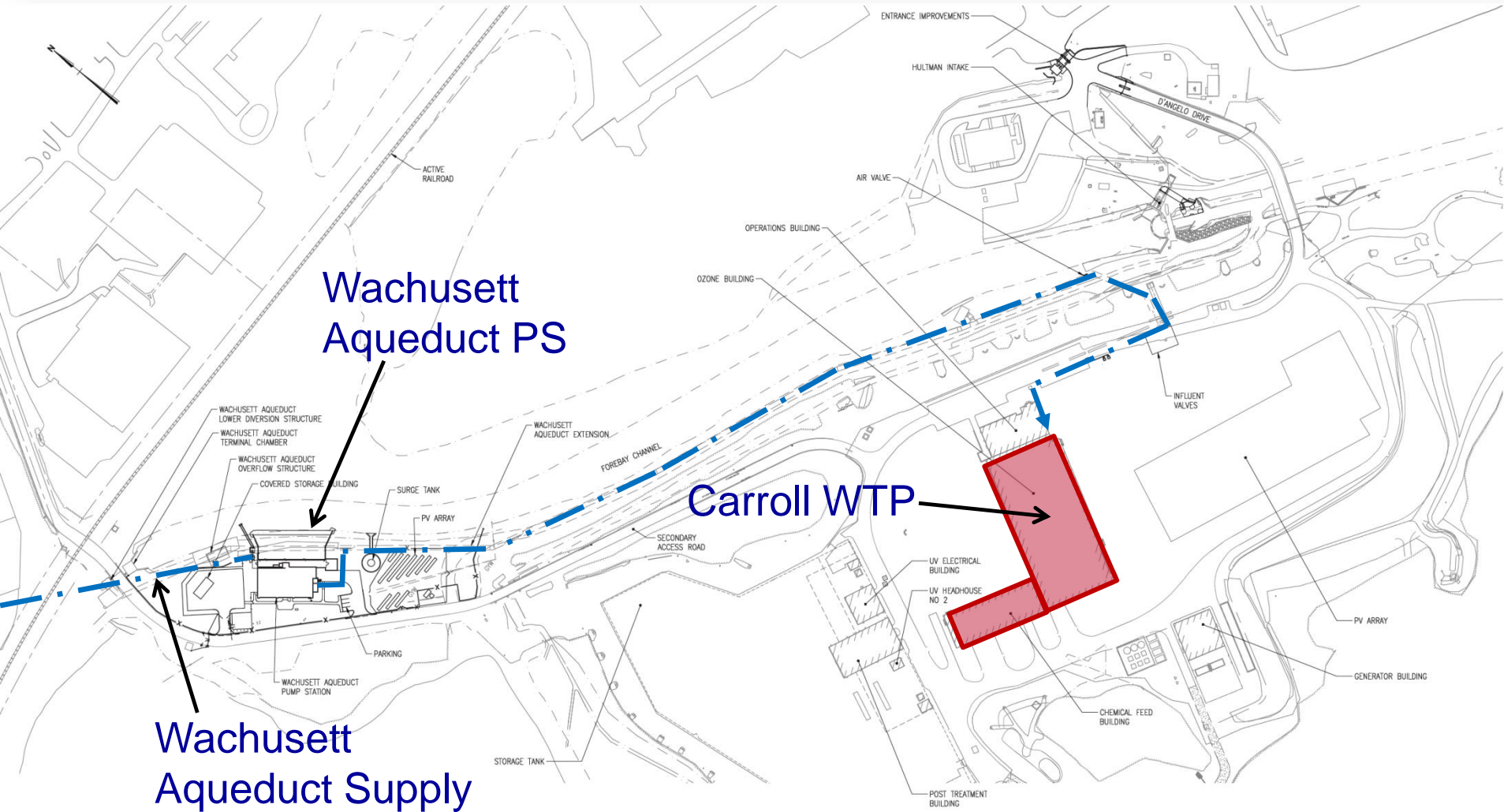


# Carroll WTP Supply – Cosgrove Tunnel





# Carroll WTP Supply – Wachusett Aqueduct for Redundancy



Wachusett  
Aqueduct PS

Carroll WTP

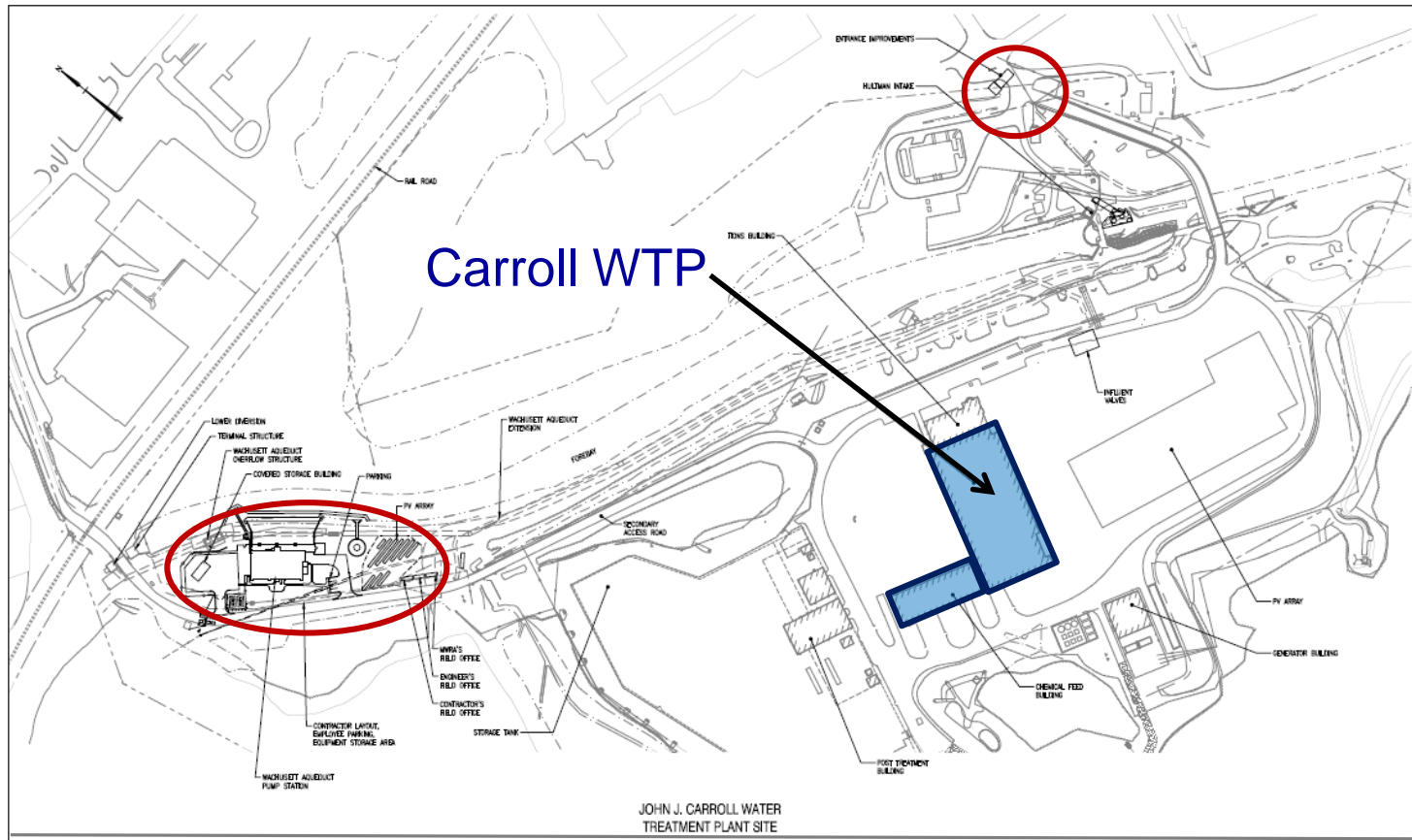
Wachusett  
Aqueduct Supply





# Major Design Elements

- 240 mgd pumping station located near the end of the Wachusett Aqueduct
- Security Gate Improvements





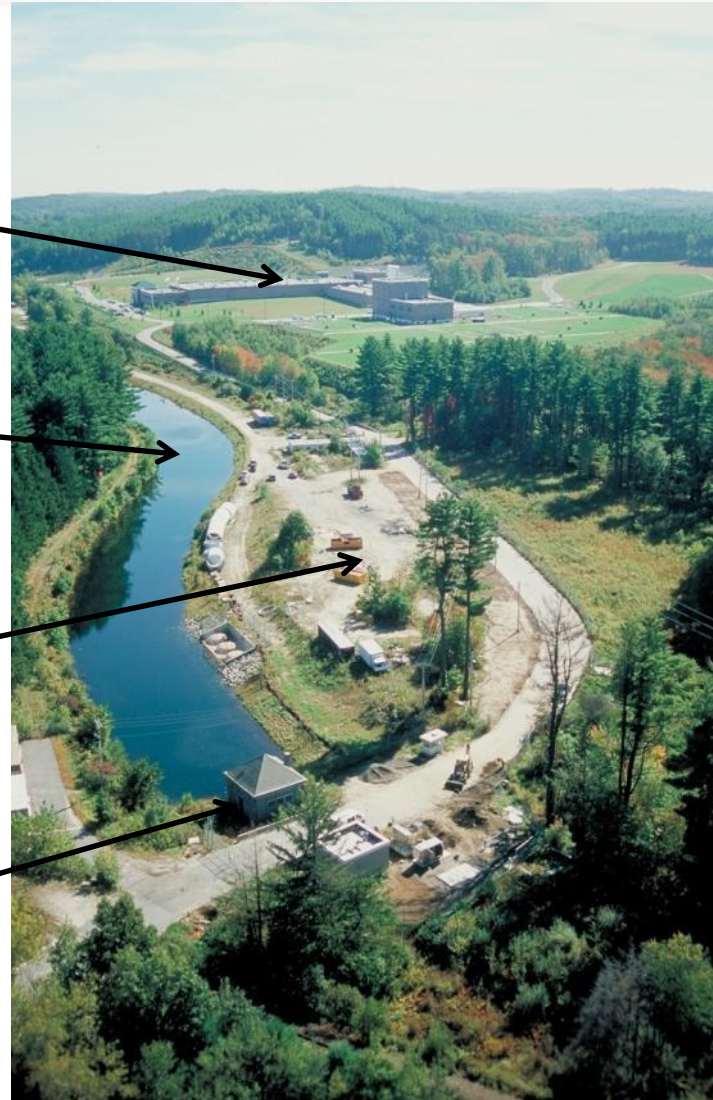
# WAPS and CWTP Site

Carroll WTP

Forebay Channel

Wachusett Aqueduct  
Pumping Station Site

Wachusett Aqueduct  
Terminal Chamber





# WAPS Rendering

- 122' x 68' and 51' high masonry building
- Surge tank
- Storage yard

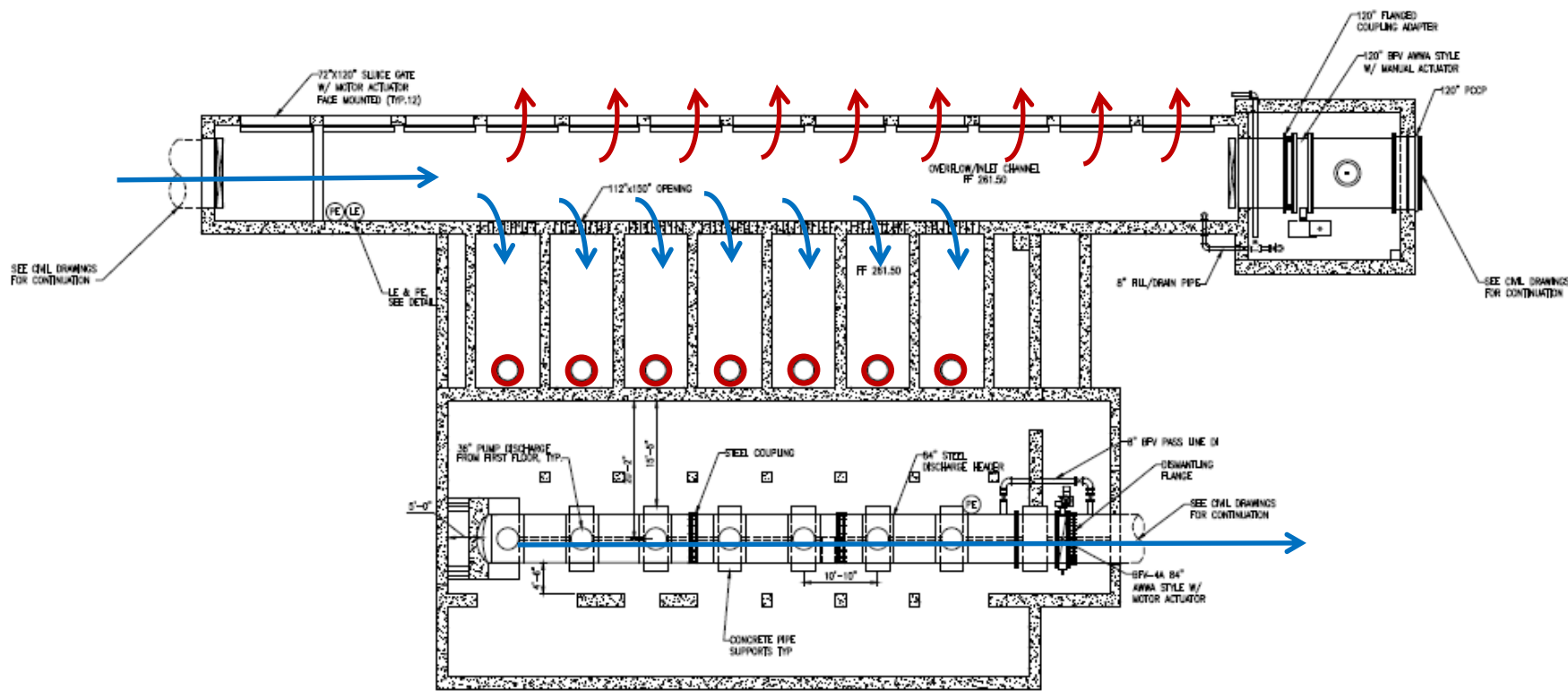






# Basement Plan

- Establish flow in the Wachusett Aqueduct to Inlet Channel
- Overflow channel until ready to start pumps
- Seven 40 mgd pumps with 700 hp motors (six for 240 mgd and one stand-by)



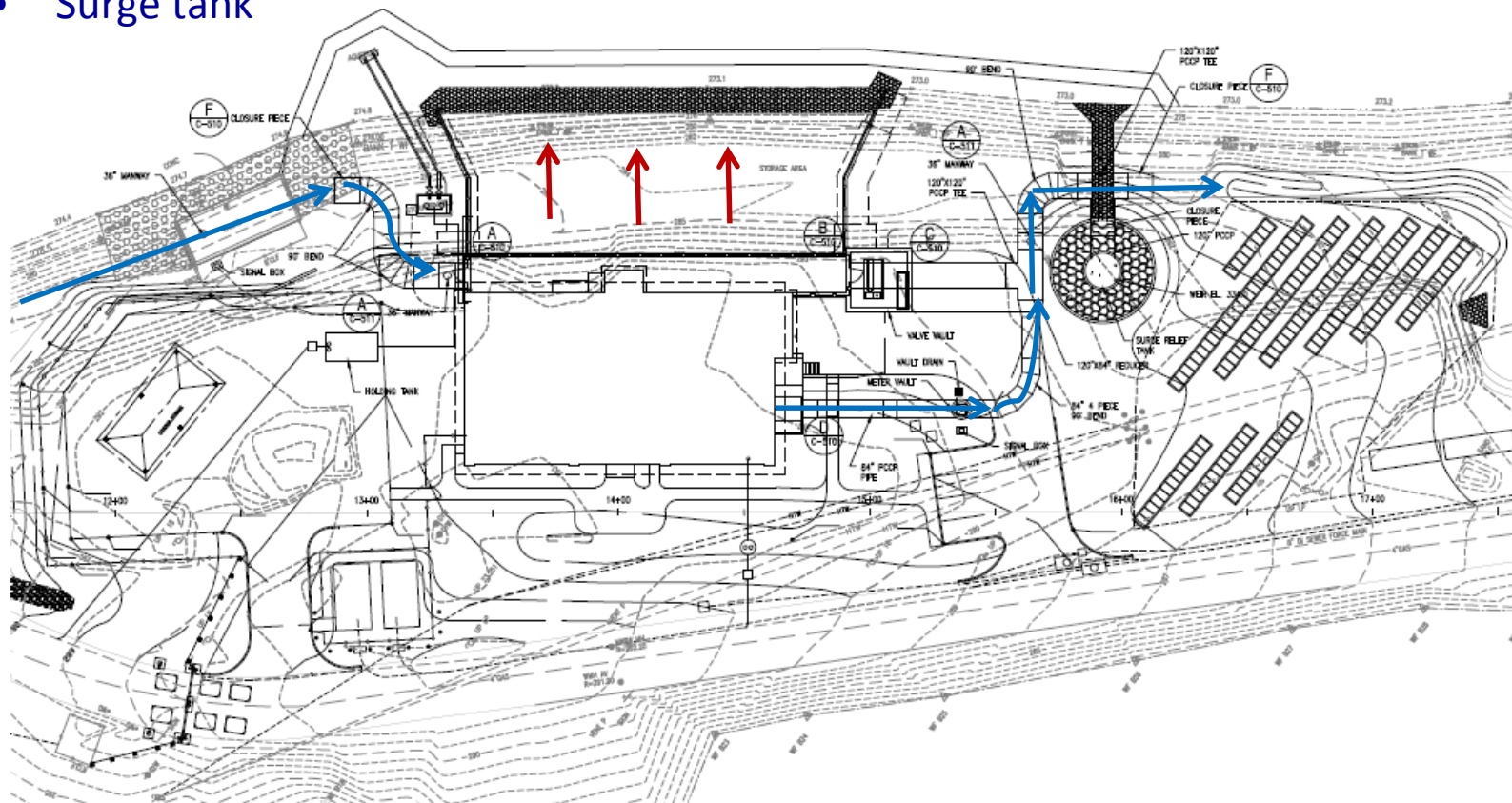
BASEMENT PLAN  
SCALE 1/8" = 1'-0"





# Yard Piping

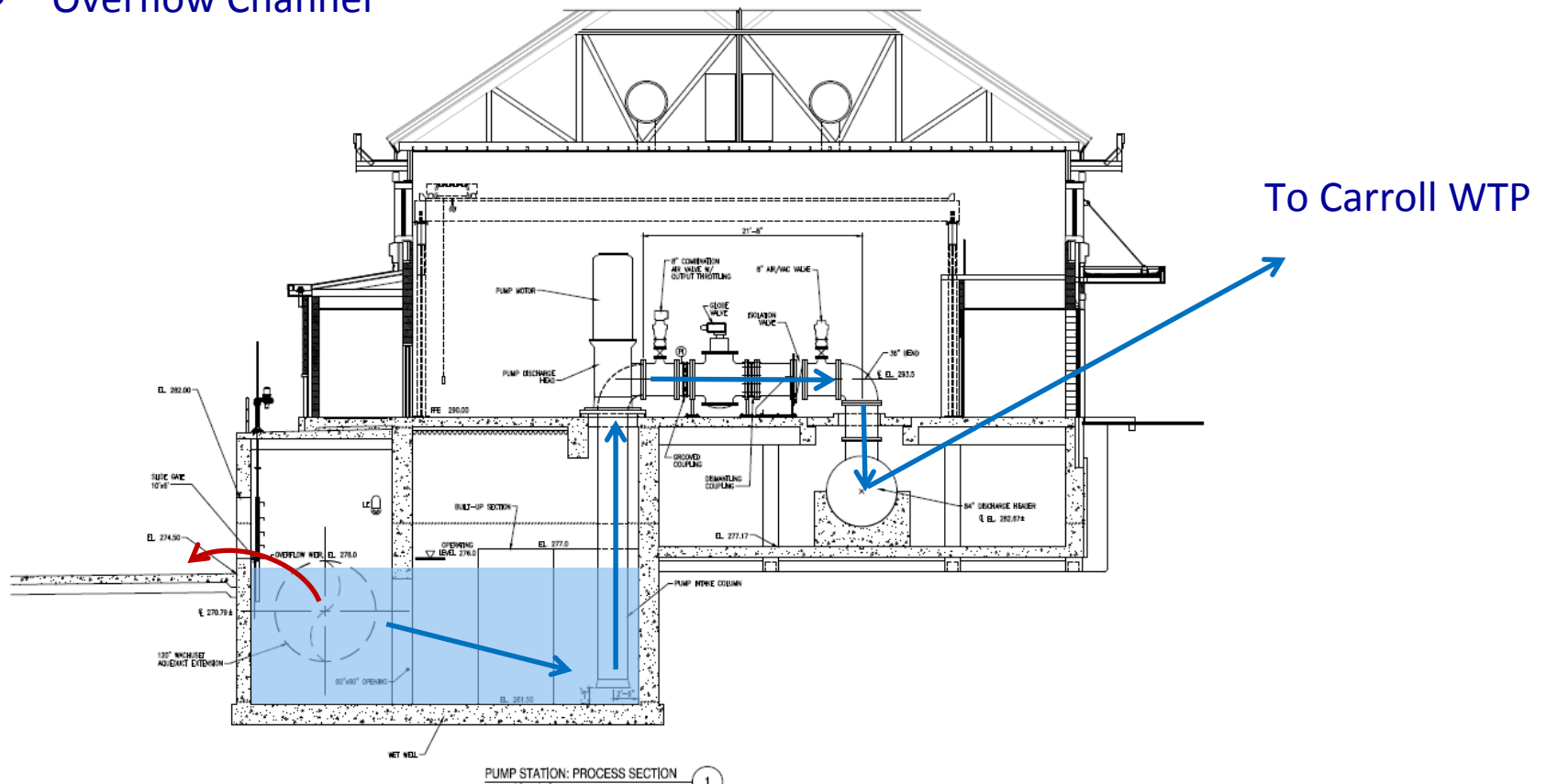
- Connection to existing Wachusett Aqueduct extension pipe, suction pipe, discharge pipe and by-pass
- Surge tank





# Section

- Constant speed vertical turbine pumps
- Intake Channel
- Overflow Channel

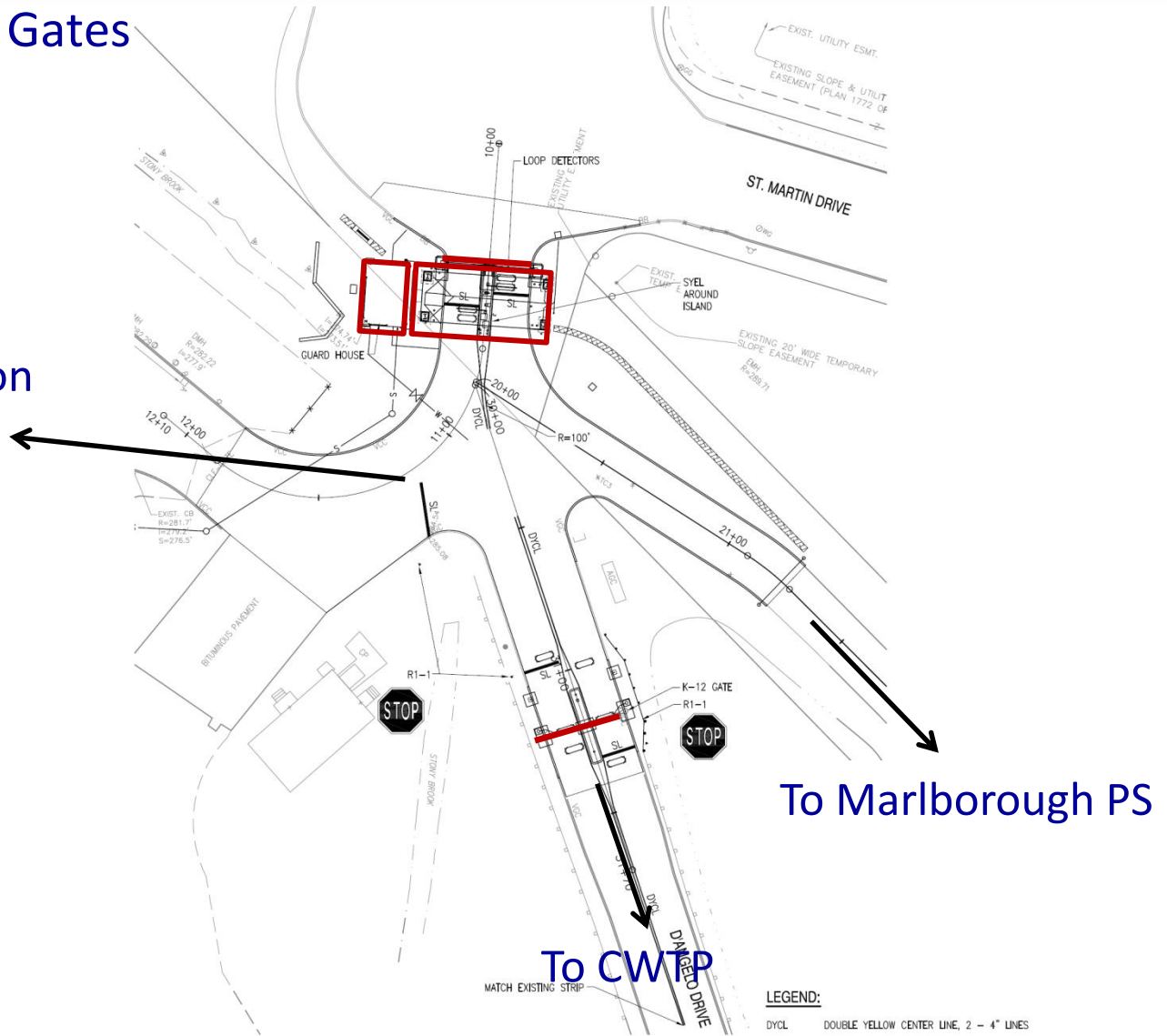




# Entrance Improvements

- K-12 Security Gates
- Guard House
- Canopy

To Interim Corrosion Control Facility





# Entrance Improvements

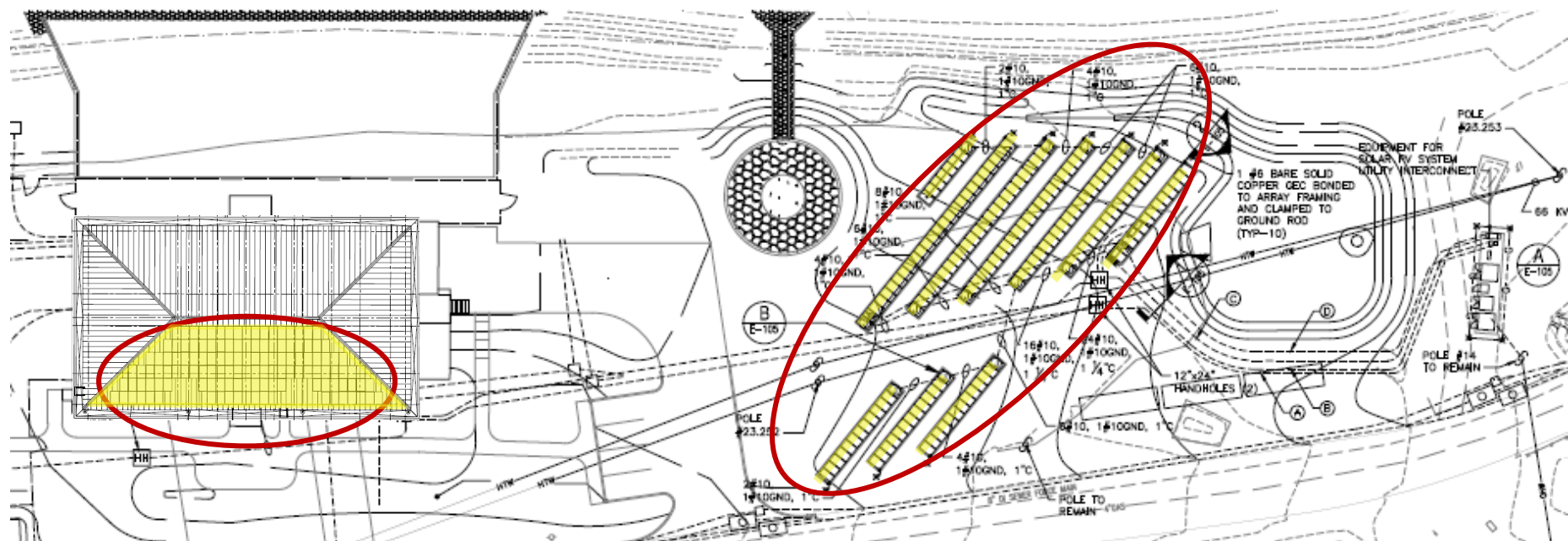






# Other Design Elements

- Photovoltaic panels on roof and ground for Zero Net Energy
- WAPS building optimized for energy efficiency
- Geothermal heating and cooling system





# Construction Schedule

- Construction Notice to Proceed March 1, 2016
- Construction Substantial Completion February 14, 2019



# Sheet Pile Excavation Support 4/12/2016







# Foundation and Earth Support 4/27/2016







# Foundation and Earth Support 5/24/2016







# Foundation and Earth Support 6/7/2016







# Excavation for Inlet Channel 6/7/2016







# Earth Support and Rock Excavation for Inlet Channel







# Base Slab Reinforcing Steel







# Sheet Pile Excavation Support 8/9/2016







# Base Slab and Wall Reinforcing Steel 8/16/2016







# Foundation 9/14/2016







# Inlet Channel Slab and 120" Valve Vault 11/8/2016







# Discharge Header 1/24/2017







# Aerial View of Foundation and Pipes







# Pump Room 8/1/2017







# Building Exterior 9/12/2017





# Front Gate Security Improvements







Questions?

