



**Massachusetts Bay
Transportation Authority**

MBTA Construction Contract No. X02CN04: SL Courthouse Station Waterproofing Resiliency and Repairs

Fiscal and Management Control Board

December 7, 2020

Karl E. Eckstrom, PE, Senior Project Manager, Capital Delivery

Project Benefits – Silver Line Courthouse Station

- Implements a comprehensive waterproofing and drainage repair scope to address extensive groundwater infiltration and damage throughout the underground bus station
- Waterproofing and Drainage Repairs include injecting PolyRubber Gel at all Roof Slab support beam and column interfaces, injection of polyurethane in lower masonry block perimeter walls to create drainage conveyance space along slurry walls, drain pipe cleaning
- Addresses and mitigates point sources of water infiltration with a new maintenance access and auxiliary pump installation in existing building air intake tower and supply shaft
- Replaces deteriorated air handling fans and ductwork, includes stainless steel ductwork for resiliency
- Replaces damaged metallic conduits with more corrosion resistant FRC conduits
- Replaces water damaged components of the fire alarm system throughout the station
- Repair, Relamping or Replacement of damaged and non-functioning light fixtures
- Addresses State of Good Repair of building systems (mechanical, plumbing, electrical, drainage and life safety systems)



Request of the Fiscal and Management Control Board

VOTED: That the General Manager be, and hereby is, authorized to execute, in the name of and on behalf of the Massachusetts Bay Transportation Authority (“MBTA”), and in a form approved by the General Counsel, a construction contract (No. X02CN04) with **BOND Civil & Utility Construction, Inc.**, in connection with certain repairs at the Silver Line Courthouse Station, in an amount not to exceed **\$26,921,663.05**, said contractor being the lowest responsible and eligible bidder in response to a request for sealed proposals.



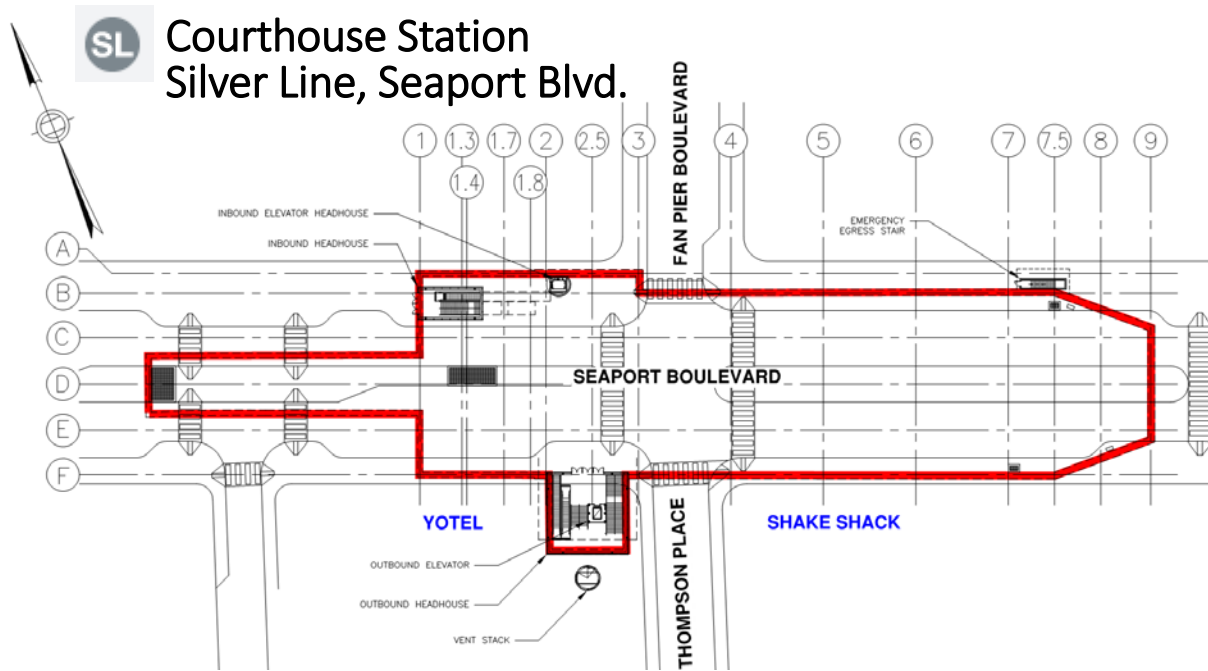
Appendix

Project Scope Details



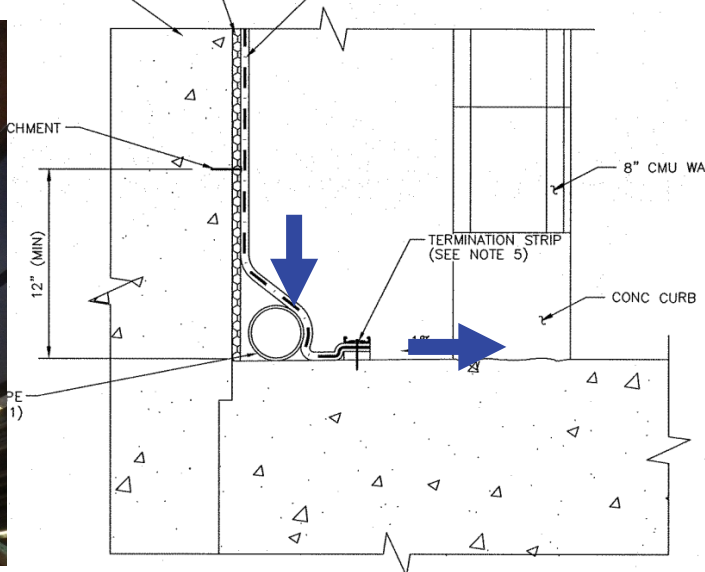
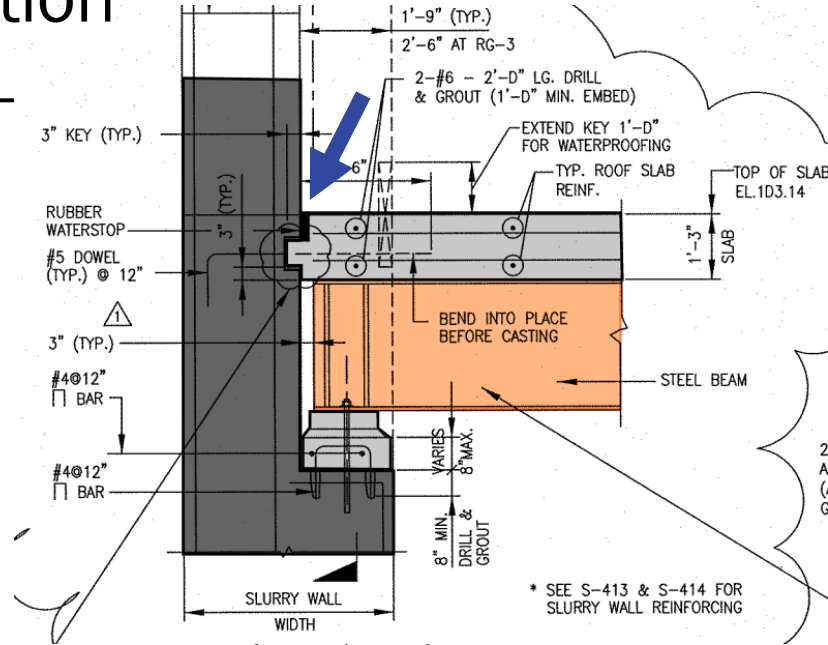
Overview

- Today's Board action will provide approval for Resiliency Improvements including Waterproofing and Drainage Repairs, Mechanical Ductwork and Fan Replacement, Replacement of Fire Alarm Components, Electrical Repairs and installation of replacement conduit & panels, for Silver Line Courthouse Station, situated underneath Seaport Boulevard in Boston



Sources of Water Infiltration

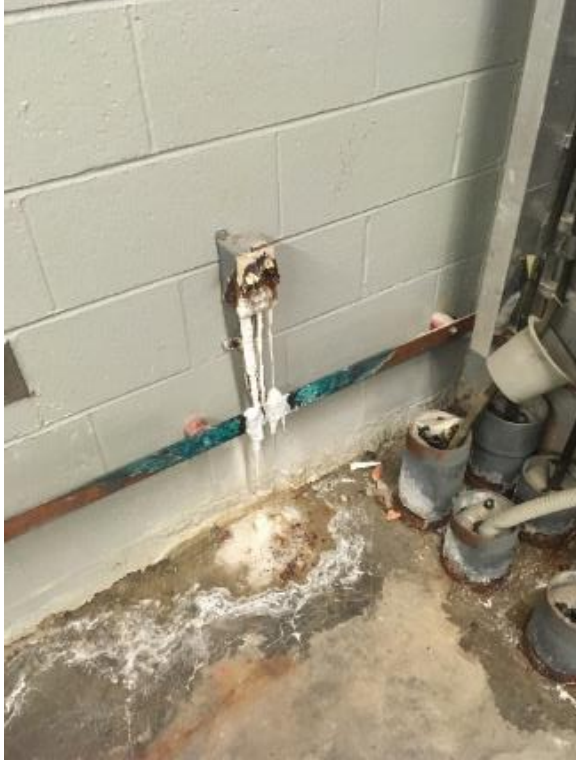
- Slurry Wall infiltration, failure of HDPE curtain
- Ceiling/Wall seal failure
- Air intake flooding
- Conduit flooding
- Clogged drains



Damage to Duct Work



Conduit Flooding



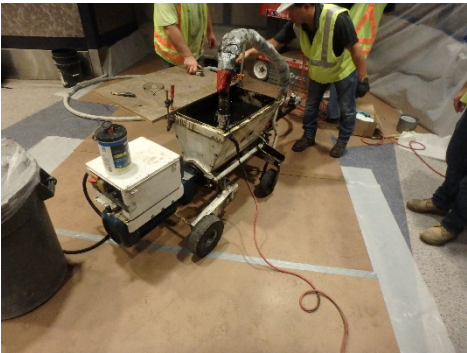
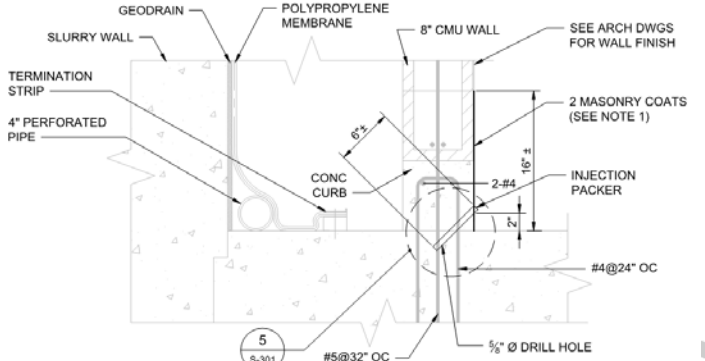
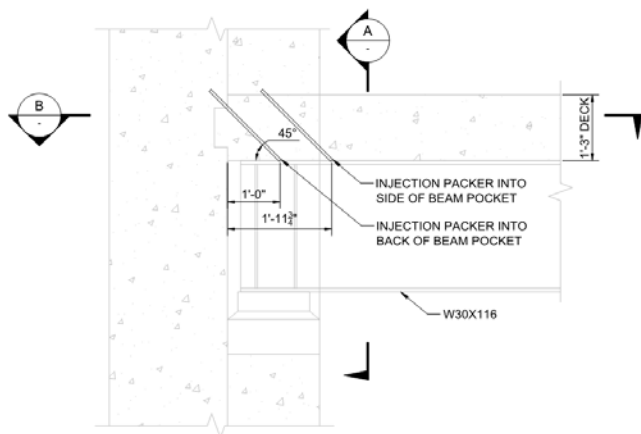
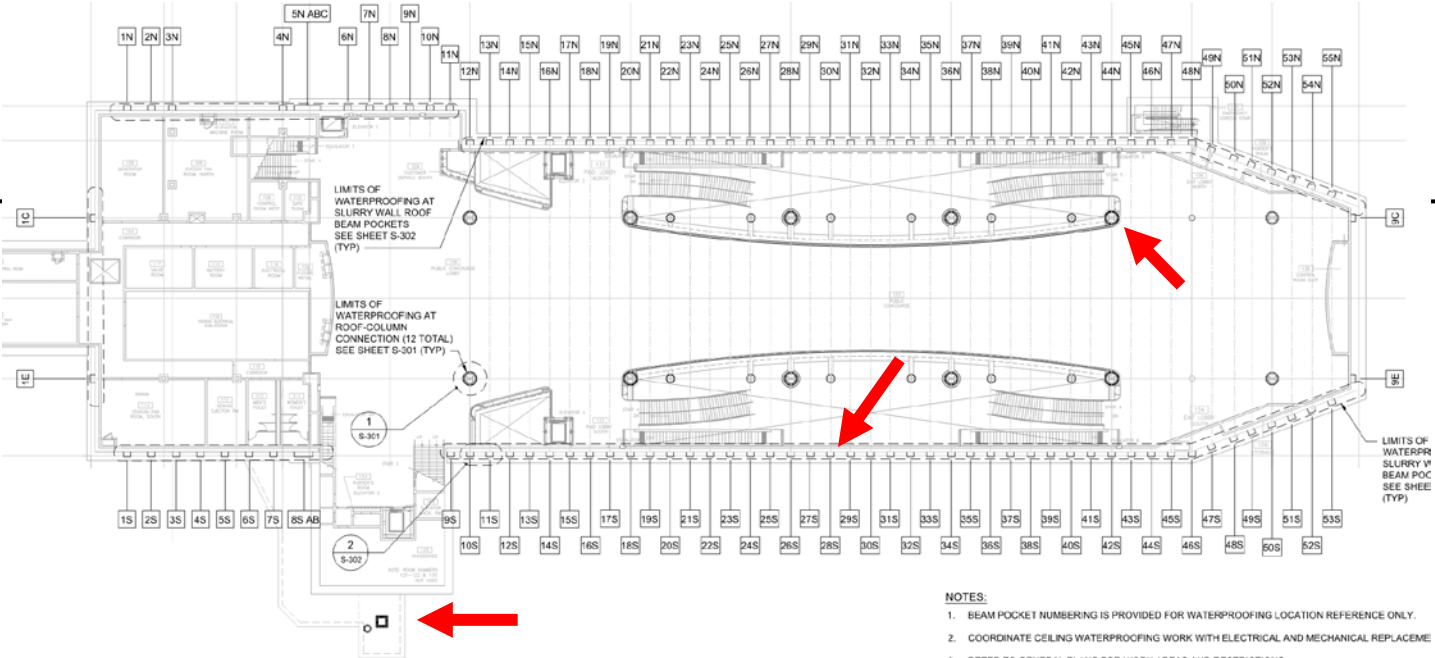
Scope Summary

WATERPROOFING AND DRAINAGE REPAIRS

- 1. Air Intake: Install New Pump & Access
- 2. Roof Beam Joints: Inject PolyRubber Gel
- 3. Cavity Wall: Inject Polyurethane, New Curbs, Surface Coating, Replace Pumps
- 4. Drain Cleaning

DUCT AND FAN REPLACEMENT

ELECTRICAL REPAIRS AND RESILIENCY



NOTES AT CURB:

- 1. REMOVE ARCHITECTURAL FINISHES TO PERMIT WATERPROOFING REPAIRS.

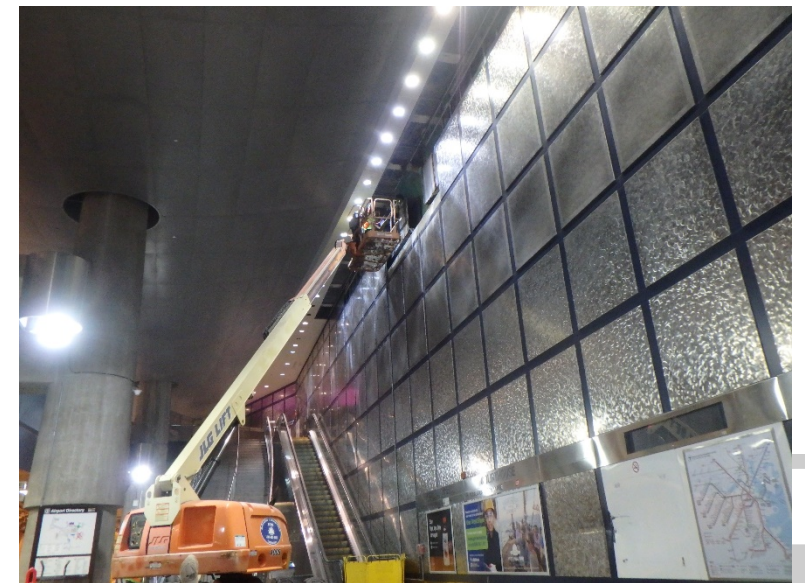
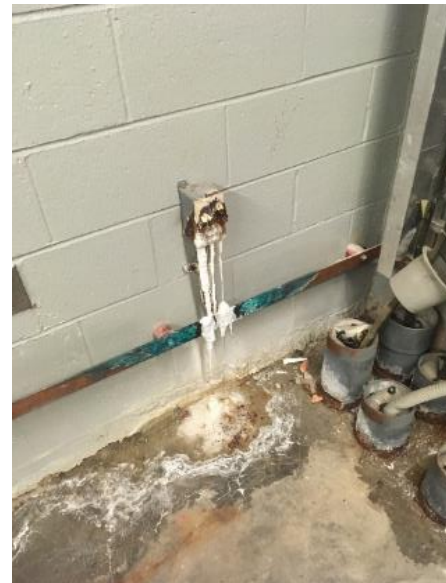
Electrical Scope Summary

ELECTRICAL

- All Electrical Panels on the concourse level shall be replaced with NEMA 4X rating except for panel HTCP1 and HTCP2.
- All embedded conduits routing power throughout the platform shall be replaced with surface mounted FRE conduits and contain XHHW-2 cables.
- Surface mounted conduits routed from the west platform back rooms to the perimeter rooms of the platform shall be mounted to the exterior of the CMU wall; the means to do the work will be temporary demolition of the CMU wall every 10ft
- All receptacles shall be replaced on the platform level and for Fan Room North on the Concourse level
- All ground bussed shall be tested and components shall be replaced until test passes.
- All floor mounted transformers shall be wall mounted.
- Contractor shall trace and verify circuits going in to embedded conduits on the platform level. Circuit traced that shall be replaced in this contract will be removed and conduit capped otherwise cables will be sealed in conduit.

LIGHTING

- Re-lamping of station fixtures provisions
- Lighting fixture replacement if beyond repair
- Air intake structure: added lights for increased personnel safety

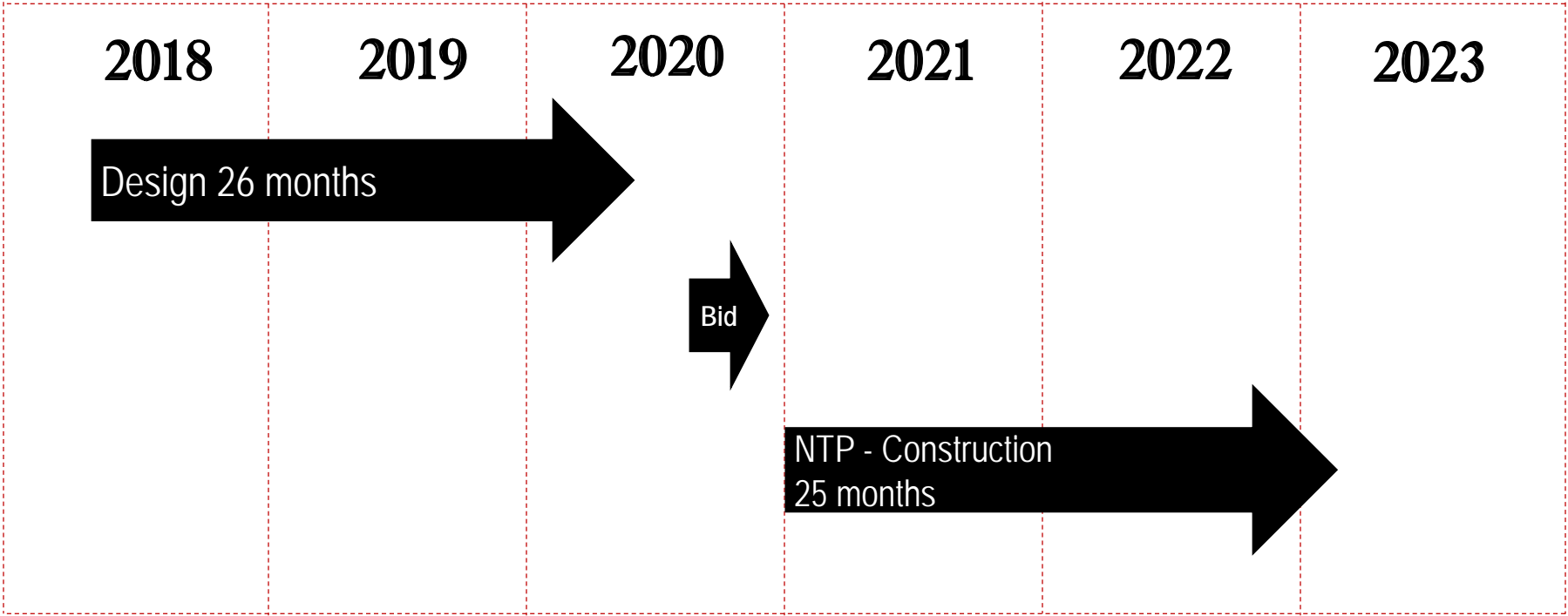


Operations During Construction

- Construction schedule to utilize up to eight (8) weekend diversions of Bus Operations from the Silver Line Busway to surface streets, giving the Contractor Exclusive Access to Courthouse Station from 9:30 PM Friday to 4:30 AM Monday.
- All work that cannot be completed with work zones or during special outages that would otherwise impact service will be performed during Non-Revenue Hours between 12:30AM to 4:30 AM.
- Contractor will be allowed to work within “non-public” areas within the Station at all times of day, provided those work areas are not disruptive to MBTA Operations, the travelling public, and building tenants in the adjacent buildings.



Project Schedule



- Advertise for Construction: October 2020
- Anticipated Contractor Notice to Proceed: January 2021
- Approximate Construction Duration: 25 months



Construction Procurement

- Project advertised on October 13, 2020
- Engineer's Estimate was \$25,159,321
- Bid opening on November 19, 2020
- 3 Bids were received

\$ 26,921,663.05	BOND Civil & Utility Construction, Inc. (Low Bidder)
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\$ 27,435,524.00	J.F. White Contracting Co.
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\$ 30,849,505.00	McCourt Construction Co. Inc.
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A bid analysis has been completed and ***BOND Civil & Utility Construction, Inc.*** is the recommended low responsible bidder.

