

**MAINE TURNPIKE AUTHORITY**

**ADDENDUM NO. 3**

**CONTRACT**  
**2021.02**

**WATER LINE AND UTILITY**  
**VAULTS**

**MM 47.1, 47.6, AND 48.5**

**The bid opening date is July 08, 2021 at 11:00 am.**

The following changes are made to the Proposal, Specifications and Plans.

**GENERAL**

Utility Vault design at Station 2360+02 is revised and reflected in the plans and specifications.

Contractor shall submit any final questions by noon on July 01, 2021.

**PROPOSAL**

Revised Proposal P-sheets are attached. The following Item(s) are revised.

827.38 Sta. 2360+02 Vault Pipe Modification; Item added to the contract.

**SPECIFICATIONS**

- Notice To Contractor
  - Page N-1 is revised to change Bid Opening Date. See Attached.
- Special Provision 604 Manholes, Inlet, and Catch Basins (Utility Vault Extensions)
  - Page SP-41 through SP-43 are revised to include buttress wall construction and wall widening at the 2360+02 Vault.
- Special Provision 652 Maintenance of Traffic
  - Page SP-83 is revised to change the allowable merge with mainline times. See attached.
- Special Provision Section 01250 Measurement and Payment (Appendix D)
  - Page SP-101 is revised to add Pay Item 827.38 Sta. 2360+02 Vault Pipe Modification. See Attached.

## **PLANS**

The complete plan set is reissued under this Addendum #3. Following is a brief summary of actual changes.

- Plan sheet 1, Index of Sheets, is revised to include additional 8” cast iron pipe removal and abandonment at the Station 2360+02 Vault. See attached.
- Plan sheet 2, Estimate of Quantities, is revised to add Item 827.38 Vault Pipe Modification. See attached.
- Plan sheets 26 through 31, Structural Plans, are revised and plan sheet 29 added to include thickened wall construction and updated vault dimensions based on field conditions. See attached.
- Plan sheet 35, 8” Piping Modification, is added to the plan set. See attached.

## **QUESTIONS**

**The following are questions submitted to the Maine Turnpike Authority in writing or general comments. Answers to the questions are noted. Bidders shall utilize this information in preparing their bid.**

Question 1: SP 83 6th paragraph states construction vehicles are prohibited from merging with mainline traffic between 6:00 AM and 10:00AM and 3pm and 7pm. Are pick-up trucks, single axle rack trucks, and employee vehicles considered a “construction vehicle” or is the MTA’s intent that concrete trucks, dump trucks, tractor trailers, or similar large vehicle not be allowed to merge during these times.

Answer: Special Provision 652, page SP-83, paragraph six, second sentence shall be deleted and replaced with the following: “Construction vehicles are prohibited from merging with mainline traffic between 7:00 a.m. and 8:30 a.m. and between 4:00 p.m. and 5:30 p.m. unless approved in writing from the MTA.” This applies to all vehicles. The MTA will consider a request by the Contractor to allow pick-up trucks and personal vehicles to enter/exit during the above times if the Contractor proposes to provide adequate acceleration/deacceleration areas for merging.”

Question 2: Sheet 23 note 2 states “stainless steel strap shall be ASTM A666, type 201 and be installed at 2’-0” O.C. along the watermain pipe.” What are the limits of this work, is it just the new extensions or is it also the existing vault? The typical section shows the straps bolting to the cradles although the cradles are not every 2’.

Answer: Stainless steel straps are required for the new extension only. Stainless steel straps are required at all cradles in lieu of 24” O.C.

**ATTACHMENTS**

- Addendum No. 3 (3 pages)
- Proposal Sheets (6 pages)
- Specifications (6 pages)
- Plans (42 pages)

**Notes:** The above items shall be considered as part of the bid submittal.

The total number of pages included with this addendum is fifty-seven pages (57).

All bidders are requested to acknowledge the receipt of the Addendum No. 3 by signing below and faxing this sheet to Nathaniel Carll, Purchasing Department, Maine Turnpike Authority at 207-871-7739. Bidders are also required to acknowledge receipt of this Addendum No. 3 on Page P-8 of the bid package.

\_\_\_\_\_  
Business Name

\_\_\_\_\_  
Print Name and Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Very truly  
yours,

MAINE TURNPIKE AUTHORITY

\_\_\_\_\_  
Nathaniel Carll  
Purchasing Department  
Maine Turnpike  
Authority

**SCHEDULE OF BID PRICES  
 CONTRACT NO. 2021.02  
 WATER LINE AND UTILITY VAULTS  
 MM 47.1, MM 47.6, AND MM 48.5**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
202.12	Remove Existing Structural Concrete	Cubic Yard	50				
203.20	Common Excavation	Cubic Yard	980				
203.25	Granular Borrow	Cubic Yard	280				
304.14	Aggregate Base Course - Type A	Cubic Yard	850				
403.213	Hot Mix Asphalt, 12.50 mm Nominal Maximum Size (Base and Intermediate Base Course)	Ton	80				
409.15	Bituminous Tack Coat RS1 or RS1h - Applied	Gallon	15				
419.30	Sawing Bituminous Pavement	Linear Foot	450				
501.231	Dynamic Load Test	Each	2				
501.40	Steel H-beam Piles, 53 lb/ft, delivered	Linear Foot	865				
501.401	Steel H-beam Piles, 53 lb/ft, in place	Linear Foot	865				
501.90	Pile Tips	Each	10				

**CARRIED FORWARD:**



Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
501.91	Pile Splices	Each	10				
501.92	Pile Driving Equipment Mobilization	Lump Sum	1				
511.091	Temporary Earth Support Systems	Lump Sum	1				
514.06	Curing Box for Concrete Cylinders	Each	1				
526.306	Temporary Concrete Barrier, Type I - Supplied by Authority (1,760 LF)	Lump Sum	1				
527.341	Work Zone Crash Cushions - TL-3	Unit	5				
603.175	18 inch Reinforced Concrete Pipe - Class III	Linear Foot	37				
603.195	24 inch Reinforced Concrete Pipe - Class III	Linear Foot	20				
603.28	Concrete Collar	Each	1				
603.281	Concrete Collar for Watermain	Each	1				
604.1581	Utility Vault Extension - STA 2360+02.55 NB	Lump Sum	1				
604.1582	Utility Vault Extension - STA 2340+52.81 NB	Lump Sum	1				

**CARRIED FORWARD:**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
604.1583	Utility Vault Extension - STA 2340+52.81 SB	Lump Sum	1				
606.366	Guardrail, Removed and Reset, Type 3c	Linear Foot	540				
610.08	Plain Riprap	Cubic Yard	11				
610.18	Stone Ditch Protection	Cubic Yard	5				
613.319	Erosion Control Blanket	Square Yard	200				
615.07	Loam	Cubic Yard	170				
618.14	Seeding Method Number 2	Unit	15				
619.1201	Mulch - Plan Quantity	Unit	15				
619.1202	Temporary Mulch	Lump Sum	1				
620.58	Erosion Control Geotextile	Square Yard	54				
627.712	White or Yellow Pavement Marking Line	Linear Foot	300				
627.73	Temporary 6 inch Pavement Marking Tape	Linear Foot	600				

**CARRIED FORWARD:**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
629.05	Hand Labor, Straight Time	Hour	15				
631.12	All Purpose Excavator (Including Operator)	Hour	15				
631.172	Truck-Large (Including Operator)	Hour	15				
631.22	Front End Loader (Including Operator)	Hour	15				
631.36	Foreman	Hour	15				
652.30	Flashing Arrow	Each	1				
652.312	Type III Barricades	Each	2				
652.33	Drum	Each	110				
652.35	Construction Signs	Square Foot	660				
652.361	Maintenance of Traffic Control Devices	Lump Sum	1				
652.41	Portable-Changeable Message Sign	Each	2				
652.45	Truck Mounted Attenuator	Calendar Day	15				

**CARRIED FORWARD:**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
656.50	Bailed Hay, In Place	Each	15				
656.632	30 Inch Temporary Silt Fence	Linear Foot	900				
659.10	Mobilization (Utility Vaults)	Lump Sum	1				
659.11	Mobilization (Waterline)	Lump Sum	1				
822.3405	8" Class 52 DI Pipe Push On Joint	Linear Foot	10				
822.3605	12" Class 52 DI Pipe Push on Joint	Linear Foot	160				
823.311	12" Gate Valve	Each	2				
823.333	1" Air Release Valve	Each	2				
825.60	12" DR 11 HDPE Pipe	Linear Foot	390				
827.303	Unsuitable Material Below Trench Grade	Cubic Yard	50				
827.38	Sta. 2360+02 Vault Pipe Modification	Lump Sum	1				
845.211	Stone Pipe Support in Casing - NB, SB, & SB On Ramp	Lump Sum	1				

**CARRIED FORWARD:**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
845.212	Stone Pipe Support in Casing - NB Off Ramp	Lump Sum	1				
<b>TOTAL:</b>							

MAINE TURNPIKE AUTHORITY

NOTICE TO CONTRACTORS

Sealed Proposals will be received by the Maine Turnpike Authority for:

CONTRACT 2021.02

WATER LINE AND UTILITY VAULTS  
MM 47.1, MM 47.6, AND MM 48.5

at the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, ME, until 11:00 a.m., prevailing time as determined by the Authority on July 08, 2021 at which time and place the Proposals will be publicly opened and read. Bids will be accepted from Contractors **prequalified** by the Maine Department of Transportation for Highway Construction Projects. All other bids may be rejected. This Project includes a wage determination developed by the State of Maine Department of Labor.

The work consists of constructing utility vault extensions and watermain replacement on the Maine Turnpike in the City of Portland, Maine. The work includes embankment excavation, shoulder gravels and pavement construction, utility vault extension, watermain replacement, guardrail and culvert removal and replacement, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications.

Plans and Contract Documents may be examined by prospective Bidders weekdays between 8:00 a.m. and 4:30 p.m. at the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine. **The half size Plans** and Contract Documents may be obtained from the Authority upon payment of Seventy-Five (\$75.00) Dollars for each set, which payment will not be returned. Checks shall be made payable to: Maine Turnpike Authority. The Plans and Contract Documents may also be downloaded from a link on our website at <http://www.maineturnpike.com/project-and-planning/Construction-Contracts.aspx>.

For general information regarding Bidding and Contracting procedures, contact Nate Carll, Purchasing Manager, at (207)482-8115. For information regarding Schedule of Items, plan holders list and bid results, visit our website at <http://www.maineturnpike.com/project-and-planning/Construction-Contracts.aspx>. For Project specific information, fax all questions to Nate Carll, Purchasing Manager, at (207) 871-7739 or email ncarll@maineturnpike.com. Responses will not be prepared for questions received by telephone. Bidders shall not contact any other Authority staff or Consultants for clarification of Contract provisions, and the Authority will not be responsible for any interpretations so obtained.

All work shall be governed by the Specifications entitled "State of Maine, Department of Transportation, Standard Specifications, Revision of November 2014", "Standard Details, Revision of November 2014" and "Best Management Practices for Erosion and Sediment Control", latest issue. Copies and recent updates to these publications can be downloaded at: <http://www.maine.gov/mdot/contractors/publications/>.

N - 1 (Revised 6/30/2021)

SPECIAL PROVISIONSECTION 604MANHOLES, INLETS, AND CATCH BASINS

(Utility Vault Extensions)

604.01 Description

The following sentences are added:

This work shall also include the partial demolition of the existing utility vaults and manholes and construction of the utility vault extensions as shown on the Contract Plans. This work shall also include developing and submitting for approval, a construction procedure, temporary water main support system, and temporary earth support to protect the water main, and coordination with Portland Water District as described in the Contract Plans and these Specifications. This work also includes the installation of new manholes as Manufactured by Neenah Foundry Company, Catalog Number R-6660-NH. This work also includes construction of buttress walls and thickening of the wall of the existing utility vault at station 2360+02.

604.02 Materials

The following sentence is added:

Except as otherwise provided on the plans, reinforcing steel shall be epoxy coated reinforcing bars meeting the requirements of Section 503 – Reinforcing Steel. All concrete work shall be in accordance with the requirements of Section 502 – Structural Concrete.

604.03 Construction Requirements

The following sentences are added:

The Contractor shall develop a construction procedure, temporary water main support, and temporary support systems that will protect, at all times, the 42” Cast Iron Pipe (1912, leaded joint) – at station 2360+02.55 and the 42” Reinforced Concrete Cylinder Pipe (1931, rubber and steel joint) – at station 2340+50.81, during construction of the tunnel extensions. Each water main will be removed from service by Portland Water District (PWD) during the work by closing valves on each side of the work area.

The Contractor is required to fully complete the work on one utility vault before work can begin on the other utility vault. Water mains can be removed from service between April 15<sup>th</sup> and December 10<sup>th</sup> and all work shall be completed within those dates. Winter shut offs are not permitted.

The maximum pipe support spacing shall be 6’ along the pipeline. The temporary watermain support system and temporary earth support shall be designed by a professional engineer licensed in the State of Maine and reviewed by the Resident Engineer and PWD prior to the start of construction.

PWD shall receive at least 30-days advance notice of work to be performed within the PWD's easements or Rights-of-Way. No work shall be performed within the PWD pipeline easements or Rights-of-Way without prior approval of PWD and a PWD representative being on-site for inspection purposes.

The vault structure shall follow the horizontal alignment of the existing water main.

Bars broken during removal of existing concrete shall be replaced at the Contractors expense by drilling and anchoring. Material used for drilling and anchoring dowels shall be selected from MaineDOT's Qualified Products list of Epoxy and Resin Bonding Agents.

Concrete demolition required to construct the utility vault extensions, as shown in the Contract Plans, shall be completed in accordance with Standard Specification 202 Removing Existing Structural Concrete. The Contractor shall use extreme care during demolition to avoid damaging components to remain. Any damage to components to remain shall be repaired to MTA's and PWD's satisfaction at no additional cost to the MTA. Structural Excavation and backfill, as shown in the Contract Plans, shall be completed in accordance with Standard Specification 206 Structural Earth Excavation – Drainage & Minor Structures Below Grade.

#### 604.05 Method of Measurement

The following sentences are added:

Utility vault extensions shall be measured as one lump sum, per location, satisfactorily completed and in place as shown on the Contract Plans.

Where required on the Plans, installation of steel H-piles and all related pay items shall be paid for under their respective 501 pay items.

Where required on the Plans, removal of the existing concrete buttress wall shall be paid for under item 202.12 Remove Existing Structural Concrete.

#### 604.06 Basis of Payment

The following sentences are added:

Payment shall be full compensation for partial demolition of existing utility vaults and manholes, furnishing all labor, equipment and materials including excavation, foundation material, backfill material, temporary supports, structural concrete, epoxy coated reinforcing, and all incidentals required to complete the construction of the Utility Vault Extensions and modifications to the existing Utility Vault in accordance with the Plans and these Specifications.



Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
604.1581	Utility Vault Extension – STA 2360+02.55 NB	Lump Sum
604.1582	Utility Vault Extension – STA 2340+52.81 NB	Lump Sum
604.1583	Utility Vault Extension – STA 2340+52.81 SB	Lump Sum

Where space is available pavement striping for all tapers shall create a minimum buffer of 250 feet to the point where the temporary concrete barrier taper ends and becomes parallel to the travelway. Temporary concrete barrier shall be tapered at a minimum 8:1 unless space is available and then it should be tapered at 15:1 or 100 feet whichever is longest.

Lane shifts and maintenance of traffic layouts merging with Adjacent Contracts, including the layouts contained in this Contract, shall be coordinated with the Adjacent Contractor and the Resident Engineer to ensure work zones are not impacted and that traffic is shifted smoothly from one work zone to the other. Contractor shall provide a 30-day notice to the Resident of all proposed changes to the maintenance of traffic layouts affecting Adjacent Work Zones. Precedence will be given to the Contract(s) executed before this contract, for all potential work zone overlaps.

Sawcutting and paving of mainline shoulders and interchange ramps shall be done between 9:00 p.m. and 5:00 AM, unless otherwise shown on the Maintenance of Traffic Phasing Plans or as directed by the MTA. Only a single ramp at an interchange may be closed at once. Ramp closures will not be permitted the day before or after holidays, on holidays, or on Saturdays or Sundays. The Contractor shall request approval from the Resident/Authority two weeks prior for all closures. Portable changeable message signs shall be used to provide advance notice and warning of the ramp closure. PCMS's shall be operational a minimum of 1 week prior to ramp closure to notify Patrons. The contractor shall coordinate PCMS locations with the Resident and the MTA.

Construction vehicles will not be allowed to cross active ramps. Equipment moves across ramps will require a short-term ramp closure (i.e. 5-minute maximum timeframe) utilizing State Police and must be approved by the Authority in advance. Ramp closures for equipment moves will not be permitted between 6:00 a.m. and 10:00 a.m. and between 3:00 p.m. and 7:00 p.m. All State Police shall be coordinated through the Maine Turnpike Authority. The Authority will make payment for the State Police officers and vehicles directly to the State Police.

Lane and/or ramp closure setup may not begin until the beginning time specified. Closures that are setup early or that remain in place outside of the approved time period shall be subject to a lane rental fee of \$1,000 per five minutes for every five minutes outside of the approved time. The installation of the construction signs will be considered setting up the lane closure. Removal of the last construction sign will be considered removal of the closure. Construction signs shall be installed immediately prior to the start of the closure and shall be promptly removed when no longer required. The installation and removal of a closure, including signs, channelizing devices, and arrow boards shall be a continuous operation. The Authority reserves the right to order the removal of an approved closure.

Access to, and egress from, the construction area shall be with the direction of travel without crossing traffic. Construction vehicles are prohibited from merging with mainline traffic between 7:00 a.m. and 8:30 a.m. and between 4:00 p.m. and 5:30 p.m. unless approved in writing from the MTA. The contractor shall develop work zone access/egress with acceleration and deceleration areas and should utilize interchange ramp areas whenever feasible.

Loading/unloading trucks shall not be closer than six feet from an open travel lane.

Portable light towers will be required to illuminate the night construction work area(s) and shall be incidental to the Contract.

- B. Basis of Payment: Payment of the unit price established in the Bid shall be full compensation for removing unsuitable excavated material below trench grade and replacing with granular bedding material as directed by the MTA resident.

2.09 ITEM NO. 827.38 Sta. 2360+02 Vault Pipe Modification

- A. Method of Measurement: Lump Sum
- B. Basis of Payment: Payment of the unit price established in the Bid shall be full compensation for installation of fittings, removal and disposal of fittings, preparation of pipe and abandoning, and all associated work as specified and shown on Drawings.

**SECTION 01300 - SUBMITTALS**

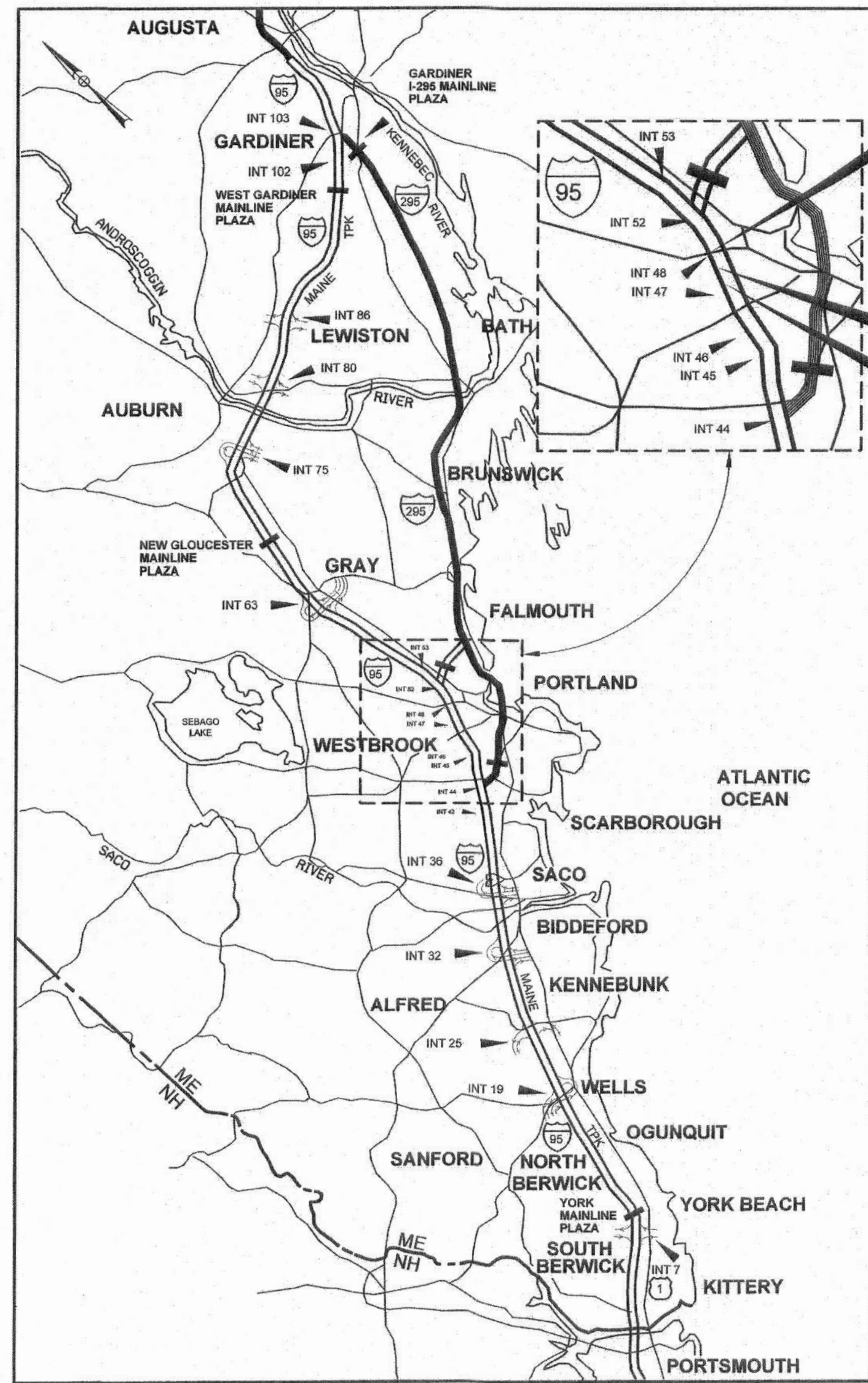
PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. For all products to be incorporated into the Work submit to the M.T.A. resident who will distribute to Owner (Portland Water District) for approval sufficient information in the form of shop drawings, product data and/or samples such that the Owner can determine that the product is in compliance with the Technical Specifications and Drawings.
- B. Submit two (2) copies of each submittal. One (1) copy will be returned to the Contractor. Each copy shall include a cover sheet which clearly identifies the product and corresponding specification section. Each cover sheet shall bear the Contractor's stamp and signature certifying that the submittal is in full compliance with the Contract Documents or that any deviations from the Contract Documents are clearly identified on a separate sheet(s) labeled "Deviations From Contract Documents" and attached to the cover sheet.
- C. The Owner (P.W.D.) shall review the submittals and indicate their status as:
  1. "A" - Approved Subject to the Requirements of the Contract
  2. "B" - Approved as Noted, Subject to the Requirements of the Contract
  3. "C" – Revise as Noted, Resubmittal Required
  4. "D" – Not Approved
- D. Owner's review is only for general conformance with the design concept and general conformance with the information given in the Contract Documents. Corrections or comments made during the review do not relieve the Contractor from compliance with the requirements of the Contract Documents.
- E. Re-submittals: Make re-submittals under procedures specified for submittals; identify changes made since previous submittal.



Date: 5/17/2021



LOCATION MAP



THE GOLD STAR MEMORIAL HIGHWAY

# MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR  
 ROBERT D. STONE, VICE CHAIR  
 MICHAEL J. CIANCHETTE, MEMBER  
 ANN R. ROBINSON, MEMBER  
 THOMAS J. ZUKE, MEMBER  
 JANE LINCOLN, MEMBER  
 BRUCE VAN NOTE, MEMBER EX-OFFICIO

S. PETER MILLS, EXECUTIVE DIRECTOR

## CONTRACT: 2021.02 WATER LINE AND UTILITY VAULTS MM 47.1, MM 47.6 AND MM 48.5

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATE OF QUANTITIES AND GENERAL NOTES
3	TYPICAL SECTIONS
4-10	MAINTENANCE OF TRAFFIC
11-12	HIGHWAY PLANS
13	LIMIT OF DISTURBANCE
14-18	CROSS SECTIONS
19-31	UTILITY VAULT EXTENSION STRUCTURAL PLANS
32-34	WATER MAIN REPLACEMENT - PWD
35	ABANDONED 8" CI PIPE PLANS - PWD
36-42	CONTRACT 2001.01 RAND ROAD RETAINING WALL ORIGINAL DESIGN PLANS

APPROVED: MAINE TURNPIKE AUTHORITY

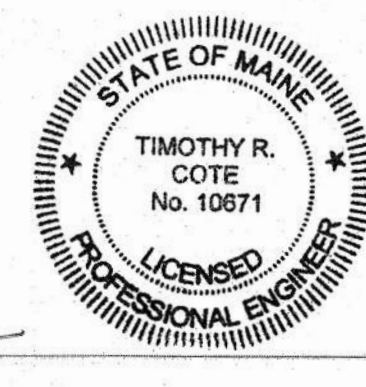
*Peter S. Merfeld*  
 PETER S. MERFELD, P.E. - CHIEF OPERATIONS OFFICER

*5/18/21*  
 DATE

*Stephen R. Taithe*  
 STEPHEN R. TAITHE, P.E. - DIRECTOR OF ENGINEERING & BUILDING MAINTENANCE

*5/19/21*  
 DATE

### HNTB



*Timothy R. Cote*  
 TIM R. COTE, P.E.  
 VICE PRESIDENT

*5/24/2021*  
 DATE

CONTRACT: 2021.02

Filename: 001\_MTATitle.dgn



**GENERAL NOTES:**

- ALL DETAILS SHALL BE IN CONFORMANCE WITH MAINE DEPARTMENT OF TRANSPORTATION (MAINEDOT) STANDARD DETAILS HIGHWAYS AND BRIDGES LATEST REVISION AND MAINEDOT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL LATEST REVISION, UNLESS OTHERWISE INCLUDED IN THESE PLANS.
- THE CONTRACTOR SHALL SUBMIT THE PROPOSED STAGING AREA(S) AND CONTRACTOR'S FIELD TRAILER LOCATION TO THE RESIDENT FOR APPROVAL PRIOR TO STARTING WORK.
- RIGHT OF WAY AND PROPERTY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.
- GEOTECHNICAL INFORMATION EITHER FURNISHED OR REFERENCED IN THIS PLAN SET IS FOR THE BIDDER'S AND CONTRACTOR'S USE. NO ASSURANCE IS GIVEN THAT THE INFORMATION OR THE INTERPRETATIONS WILL BE REPRESENTATIVE OF ACTUAL SUBSURFACE CONDITIONS AT THE TIME OF CONSTRUCTION. THE AUTHORITY SHALL NOT BE RESPONSIBLE FOR THE BIDDER'S AND CONTRACTOR'S INTERPRETATIONS OF, OR CONCLUSIONS DRAWN FROM, THE GEOTECHNICAL INFORMATION.
- THE GEOTECHNICAL DESIGN REPORT, INCLUDING TEST BORING LOGS TITLED PORTLAND AREA WIDENING & SAFETY IMPROVEMENTS, MAINE TURNPIKE, GEOTECHNICAL DESIGN REPORT MAY BE ACCESSED AT THE MAINE TURNPIKE AUTHORITY WEB ADDRESS: WWW.MAINeturnpike.com/PROJECTS/CONSTRUCTION-CONTRACTS.
- TREE CLEARING IS NOT ALLOWED FROM JUNE 1 TO JULY 31.
- CONTRACTOR SHALL PROVIDE MTA WITH AS-CONSTRUCTED PLANS IN PDF AND MICROSTATION FORMATS. THE PLANS SHALL NOTE ALL CHANGES TO, BUT NOT LIMITED TO: THE WATERLINE CASING AND VAULTS

**EARTHWORK AND PAVEMENT NOTES:**

- EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA SUBPART P, EXCAVATIONS, OF 29 CFR PART 1926.650-652 AND APPENDICES.
- REMOVAL OF PAVEMENT FOR WATER MAIN REPLACEMENT AT EXIT 48 SHALL NOT BE ALLOWED.
- REMOVAL OF PAVEMENT FOR UTILITY VAULT EXTENSIONS AS SHOWN ON THE PLANS IS ALLOWED. EXISTING PAVEMENT THICKNESS IS ESTIMATED AT 10 INCHES.
- CLEARING LIMITS SHALL BE 10' BEYOND AND PARALLEL TO THE CONSTRUCTION SLOPE LINES OR AS SHOWN ON THE PLANS UNLESS OTHERWISE AUTHORIZED BY THE RESIDENT. THE ACTUAL CLEARING LINES SHALL BE ESTABLISHED IN THE FIELD BY THE CONTRACTOR AND SHALL BE APPROVED BY THE RESIDENT PRIOR TO ANY CLEARING TAKING PLACE. CLEARING SHALL BE INCIDENTAL TO THE CONTRACT.

**UTILITY NOTES:**

- EXISTING UTILITIES ON THESE PLANS WERE COMPILED FROM FIELD SURVEY AND VARIOUS OTHER SOURCES. LOCATIONS ARE NOT GUARANTEED TO BE ACCURATE NOR IS IT GUARANTEED THAT ALL UTILITIES ARE SHOWN. NO SEPARATE OR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR DUE TO ANY VARIANCE BETWEEN THE DATA SHOWN ON THE PLANS AND THE ACTUAL FIELD CONDITIONS ENCOUNTERED. NO WORK SHALL BE STARTED UNTIL THE OWNERS OF THE VARIOUS UTILITIES ARE NOTIFIED BY THE CONTRACTOR OF THE PROPOSED CONSTRUCTION. THE CONTRACTOR IS ALSO REQUIRED TO CALL DIG SAFE AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO THE START OF THE WORK.
- THE UTILITIES INVOLVED IN THIS CONTRACT ARE:  
  
CENTRAL MAINE POWER  
MAINE TURNPIKE AUTHORITY LIGHTING  
PORTLAND PIPELINE  
PORTLAND WATER DISTRICT
- THE CONTRACTOR SHALL NOTIFY THE RESIDENT 10 DAYS PRIOR TO CONSTRUCTION SO THE RESIDENT CAN ARRANGE FOR MAINE TURNPIKE UNDERGROUND UTILITY LOCATION. ALL EXCAVATION LOCATIONS SHALL BE MARKED AT THE NOTIFICATION TIME. EXCAVATION WILL NOT BE PERMITTED UNTIL THE AUTHORITY HAS LOCATED AND MARKED THEIR UNDERGROUND UTILITIES, OR NOTIFIED THE RESIDENT THERE ARE NO UNDERGROUND UTILITIES IN THE MARKED AREAS. THE AUTHORITY HAS PROGRAMMED TWO FIELD VISITS FOR MAINE TURNPIKE UTILITY COORDINATION ON THIS PROJECT. SHOULD THE CONTRACTOR NEED ADDITIONAL EXCAVATION LOCATIONS MARKED, OR SHOULD THE CONTRACTOR FAIL TO MAINTAIN THE AUTHORITY'S PREVIOUSLY ESTABLISHED DIG SAFE MARKS, THE AUTHORITY SHALL DEDUCT ADDED MARKING COSTS FROM THE CONTRACTOR'S PAYMENTS. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE UTILITY LOCATIONS.

**LIGHTING NOTES:**

- LOCATION OF ELECTRICAL CONDUIT IS SCHEMATIC ONLY.
- EXISTING ELECTRICAL SERVICE TO RAMP LIGHTING SHALL BE MAINTAINED SUCH THAT ALL LIGHTING IS IN CONTINUOUS SERVICE.

**GUARDRAIL NOTES:**

- AT THE END OF EACH WORK DAY, THE CONTRACTOR IS REQUIRED TO HAVE AN APPROVED CRASHWORTHY END TREATMENT ON ALL GUARDRAIL ITEMS, UNLESS NOTED OTHERWISE.
- CONNECTIONS FOR PROPOSED GUARDRAIL TO EXISTING GUARDRAIL SHALL BE INCIDENTAL TO THE PROPOSED GUARDRAIL ITEMS, UNLESS OTHERWISE NOTED.
- ALL GUARDRAIL SHALL BE INSTALLED IN A MANNER TO AVOID DRAINAGE STRUCTURES AND ELECTRICAL CONDUITS.
- HOLES CREATED BY GUARDRAIL REMOVAL WILL BE FILLED AND COMPACTED WITH APPROVED MATERIALS AS DIRECTED BY THE RESIDENT. PAYMENT TO BE INCIDENTAL TO THE GUARDRAIL ITEMS.

**DRAINAGE NOTES:**

- INLETS AND OUTLETS OF ALL CULVERTS SHALL BE RIPRAPPED UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE RESIDENT.
- IF FOUNDATION MATERIAL IS REQUIRED UNDER CULVERTS, IT SHALL MEET THE REQUIREMENTS FOR GRANULAR BORROW - UNDERWATER BACKFILL.
- ALL DITCH ELEVATIONS AND OFFSETS SHOWN ON THE CROSS SECTIONS ARE FOR THE FINISHED DITCH FLOW LINE.
- THE CONTRACTOR SHALL MAINTAIN EXISTING DRAINAGE DURING CONSTRUCTION AS NEEDED FOR TEMPORARY USE, PRIOR TO PROPOSED DRAINAGE SYSTEMS BEING FUNCTIONAL AS IDENTIFIED ON PLANS.

**EROSION CONTROL NOTES:**

- THE ANTICIPATED EROSION CONTROL DEVICES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROPOSE ACTUAL TYPE AND LOCATION OF DEVICES FOR APPROVAL BY THE RESIDENT. ADDITIONAL MEASURES MAY BE PROPOSED BY THE CONTRACTOR DUE TO SITE OR WEATHER CONDITIONS. THE RESIDENT MAY DIRECT THE CONTRACTOR TO IMPLEMENT ADDITIONAL MEASURES. ANY ADDITIONAL MEASURES APPROVED BY THE RESIDENT WILL BE MEASURED FOR PAYMENT UNDER THE APPROPRIATE BID ITEMS.
- EROSION CONTROL DEVICES USED AT EXIT 48 WATERLINE REPLACEMENT SHALL NOT BE MEASURED FOR PAYMENT AND SHALL BE CONSIDERED INCIDENTAL TO THE WATERLINE PAY ITEMS.
- 4" LOAM HAS BEEN ESTIMATED FOR 100% OF THE DISTURBED SLOPE AREA UNLESS OTHERWISE SPECIFIED ON THE PLANS. ACTUAL PLACEMENT OF THE LOAM SHALL BE AS DESIGNATED BY THE RESIDENT.
- ALL NON-ROCK SLOPES SHALL BE SEEDED WITH SEEDING METHOD NO. 2.
- MULCH SHALL BE APPLIED IN SEEDED AREAS, EXCEPT WHERE EROSION CONTROL BLANKET IS SPECIFIED.
- ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION BEST MANAGEMENT PRACTICES.
- TEMPORARY EROSION CONTROL BLANKET, ITEM 613.319 SHALL BE INSTALLED IN ALL DITCHES AND 2:1 SLOPES FROM TOP TO TOE OF SLOPE. LOAM AND SEED SHALL BE PLACED PRIOR TO THE INSTALLATION OF THE EROSION CONTROL BLANKET. LIMITS OF THE EROSION CONTROL BLANKET IN DITCHES SHALL BE 6' WIDE OR AS DESIGNATED BY THE RESIDENT.
- TEMPORARY STABILIZATION WITH MULCH OR OTHER NON-ERODABLE COVER IS REQUIRED ON ALL EXPOSED SOILS THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS. AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY SHALL BE STABILIZED WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST. THE CONTRACTOR IS RESPONSIBLE FOR APPLYING TEMPORARY MULCH AS NECESSARY, IN ACCORDANCE WITH THE LATEST EDITION OF THE BMP'S, TO MINIMIZE SOIL EROSION PRIOR TO THE APPLICATION OF THE FINAL SLOPE TREATMENT.
- TEMPORARY SEED SHALL BE APPLIED TO ALL DISTURBED AREAS THAT WILL NOT BE COMPLETED WITHIN 30 DAYS.
- A DOUBLE ROW OF SILT FENCE PROTECTION SHALL BE INSTALLED AT ALL STREAM LOCATIONS AND OPEN WATER WETLANDS AS SHOWN ON THE PLANS, OR AS DIRECTED BY RESIDENT. AN ADDITIONAL QUANTITY IS INCLUDED FOR LOCATIONS NOT SPECIFICALLY SHOWN.
- STABILIZED CONSTRUCTION ENTRANCES MUST BE USED AND MAINTAINED. NO TRACKING OF SOIL ON THE MAINE TURNPIKE OR LOCAL ROADS WILL BE ALLOWED.
- IF DIRECTED BY THE RESIDENT, EROSION CONTROL MIX SHALL BE USED IN PLACE OF LOAM AND SEED IN AREAS OF REGRADED TEMPORARY GRAVEL SHOULDER WIDENING. PAYMENT SHALL BE MADE PER THE CONTRACT UNIT PRICE OF THE LOAM PAY ITEM.

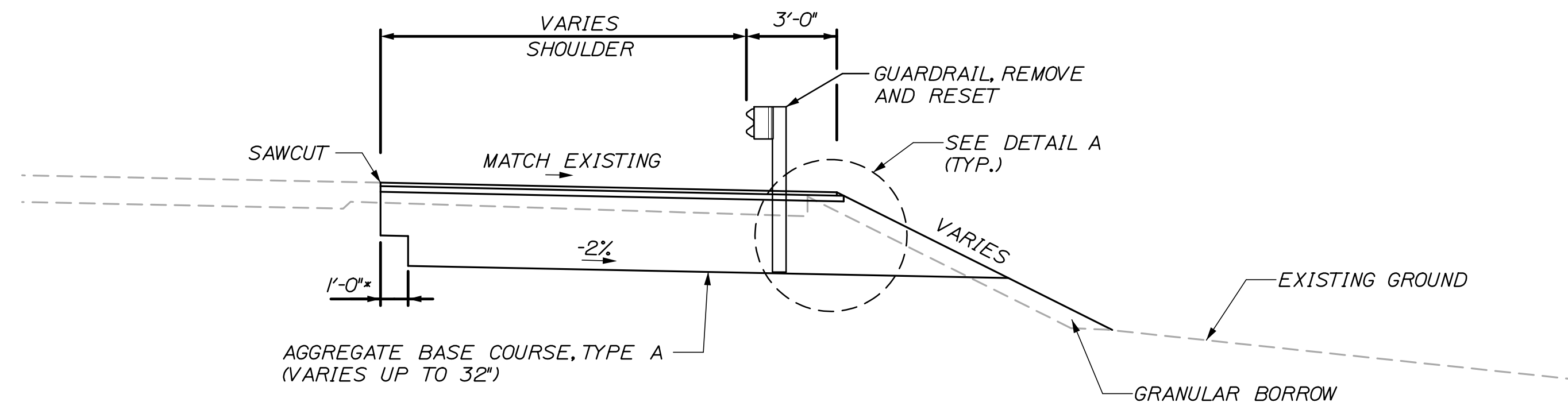
ESTIMATED QUANTITIES					
ITEM NO	DESCRIPTION	WATER MAIN	UTILITY VAULTS	TOTAL QUANTITY	UNIT
202.12	REMOVE EXISTING STRUCTURAL CONCRETE		50	50	CY
203.20	COMMON EXCAVATION	70	910	980	CY
203.25	GRANULAR BORROW	100	180	280	CY
304.14	AGGREGATE BASE COURSE - TYPE A	150	700	850	CY
403.213	HOT MIX ASPHALT, 1/2.50 MM NOMINAL MAXIMUM SIZE (BASE AND INTERMEDIATE BASE COURSE)		80	80	TON
409.15	BITUMINOUS TACK COAT RSI OR RSIH - APPLIED		15	15	GAL
419.30	SAWING BITUMINOUS PAVEMENT		450	450	LF
501.231	DYNAMIC LOAD TEST		2	2	EA
501.40	STEEL H-BEAM PILES, 53 LB/FT, DELIVERED		865	865	LF
501.401	STEEL H-BEAM PILES, 53 LB/FT, IN PLACE		865	865	LF
501.90	PILE TIPS		10	10	EA
501.91	PILE SPLICES		10	10	EA
501.92	PILE DRIVING EQUIPMENT MOBILIZATION		1	1	LS
511.091	TEMPORARY EARTH SUPPORT SYSTEMS		1	1	LS
514.06	CURING BOX FOR CONCRETE CYLINDERS		1	1	EA
526.306	TEMPORARY CONCRETE BARRIER, TYPE I - SUPPLIED BY AUTHORITY (1,760 LF)		1	1	LS
527.341	WORK ZONE GRASS CUSHIONS - TL-3		5	5	UNIT
603.175	18 INCH REINFORCED CONCRETE PIPE - CLASS III		37	37	LF
603.195	24 INCH REINFORCED CONCRETE PIPE - CLASS III	20		20	LF
603.28	CONCRETE COLLAR		1	1	EA
603.281	CONCRETE COLLAR FOR WATERMAIN	1		1	EA
604.1581	UTILITY VAULT EXTENSION - STA 2360+02.55 NB		1	1	LS
604.1582	UTILITY VAULT EXTENSION - STA 2340+52.81 NB		1	1	LS
604.1583	UTILITY VAULT EXTENSION - STA 2340+52.81 SB		1	1	LS
606.366	GUARDRAIL, REMOVED AND RESET, TYPE 3C		540	540	LF
610.08	PLAIN RIPRAP		11	11	CY
610.18	STONE DITCH PROTECTION		5	5	CY
613.319	EROSION CONTROL BLANKET		200	200	SY
615.07	LOAM		170	170	CY
618.14	SEEDING METHOD NUMBER 2		15	15	UNIT
619.1201	MULCH - PLAN QUANTITY		15	15	UNIT
619.1202	TEMPORARY MULCH		1	1	LS
620.58	EROSION CONTROL GEOTEXTILE		54	54	SY
627.712	WHITE OR YELLOW PAVEMENT MARKING LINE		300	300	LF
627.73	TEMPORARY 6 INCH PAVEMENT MARKING TAPE		600	600	LF
629.05	HAND LABOR, STRAIGHT TIME	10	5	15	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	10	5	15	HR
631.172	TRUCK-LARGE (INCLUDING OPERATOR)	10	5	15	HR
631.22	FRONT END LOADER (INCLUDING OPERATOR)	10	5	15	HR
631.36	FOREMAN	10	5	15	HR
652.30	FLASHING ARROW		1	1	EA
652.312	TYPE III BARRICADES		2	2	EA
652.33	DRUM		110	110	EA
652.35	CONSTRUCTION SIGNS		660	660	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES		1	1	LS
652.41	PORTABLE-CHANGEABLE MESSAGE SIGN		2	2	EA
652.45	TRUCK MOUNTED ATTENUATOR		15	15	CD
656.50	BAILED HAY, IN PLACE		15	15	EA
656.632	30 INCH TEMPORARY SILT FENCE		900	900	LF
659.10	MOBILIZATION (UTILITY VAULTS)		1	1	LS
659.11	MOBILIZATION (WATERLINE)		1	1	LS
822.3405	8" CLASS 52 DI PIPE PUSH ON JOINT		10	10	LF
822.3605	12" CLASS 52 DI PIPE PUSH ON JOINT	160		160	LF
823.311	12" GATE VALVE		2	2	EA
823.333	1" AIR RELEASE VALVE		2	2	EA
825.60	12" DR II HDPE PIPE	390		390	LF
827.303	UNSATURABLE MATERIAL BELOW TRENCH GRADE		50	50	CY
827.38	STA. 2360+02 VAULT PIPE MODIFICATION		1	1	LS
845.211	STONE PIPE SUPPORT IN CASING - NB, SB, & SB ON RAMP		1	1	LS
845.212	STONE PIPE SUPPORT IN CASING - NB OFF RAMP		1	1	LS

Date: 6/29/2021

Filename: P:\AW2\_General Notes.dgn

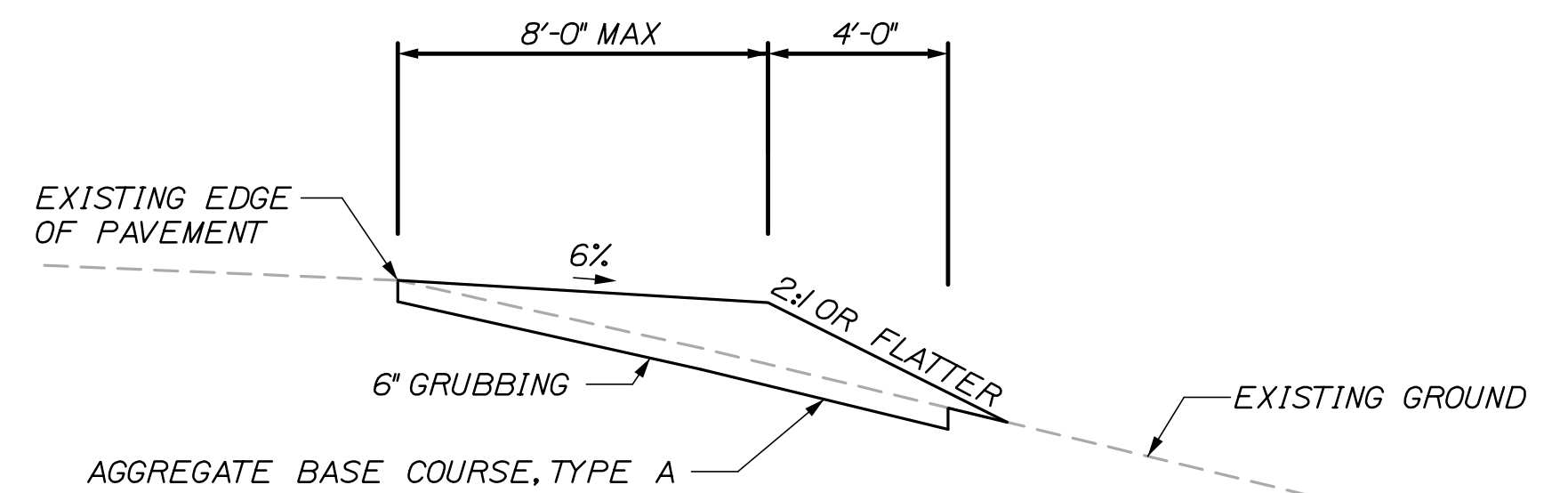
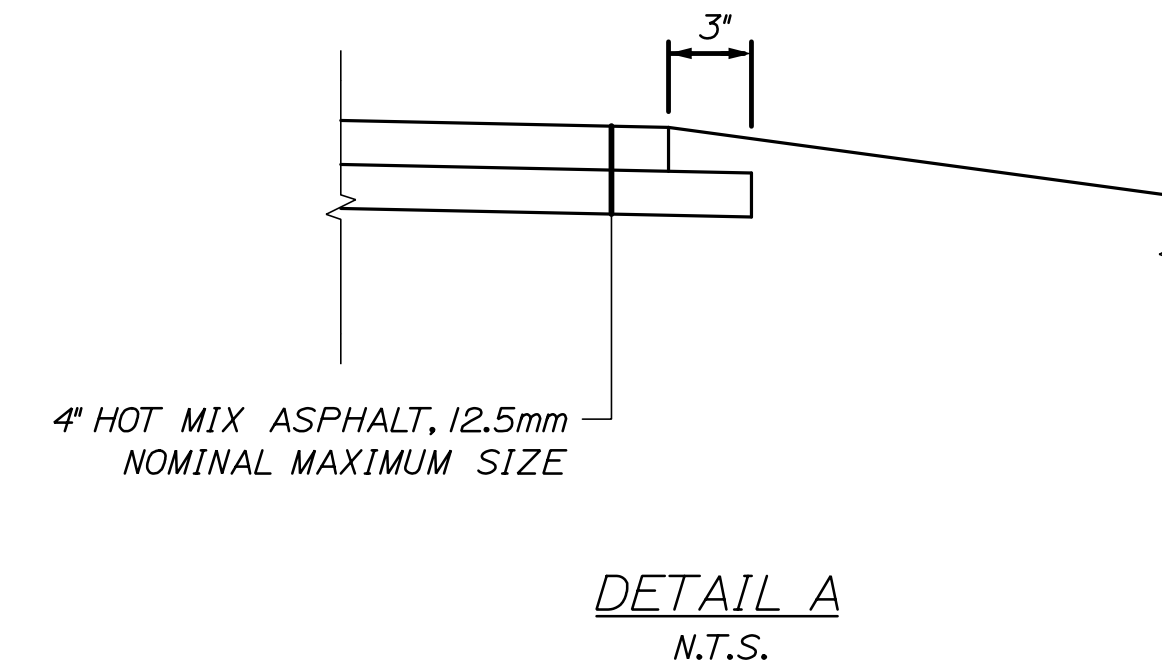
Scale: <b>NOT TO SCALE</b>	Designed by: <b>HNTB</b>	HNTB CORPORATION 82 Running Hill Road, Suite 201 South Portland, ME 04106 TEL (207) 774-5155 FAX (207) 228-0909		<b>THE GOLD STAR MEMORIAL HIGHWAY</b>	<b>WATER LINE AND UTILITY VAULTS ESTIMATE OF QUANTITIES AND GENERAL NOTES</b>																																				
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					SHEET NUMBER: GN-01 2 OF 42																																				

Date: 6/29/2021



\* NOTE:  
A 1" STEP IS REQUIRED FOR AGGREGATE THICKNESS GREATER THAN 19" OR AS DIRECTED BY THE RESIDENT.

TYPICAL SECTION



TEMPORARY GRAVEL SHOULDER WIDENING FOR CONTRACTOR ACCESS

TEMPORARY GRAVEL SHOULDER NOTES:

1. CONTRACTOR MAY CONSTRUCT A TEMPORARY GRAVEL PAD UP TO 8' WIDE FLUSH WITH PAVEMENT, UP TO 150' LONG FROM VAULT, AND SLOPED AWAY FROM PAVEMENT AT 6% FOR CONTRACTOR ACCESS.
2. EXISTING SIDESLOPE SHALL BE GRUBBED TO 6 INCHES DEEP BY WIDTH OF GRAVEL PAD PLUS 4 FEET.
3. FOLLOWING CONSTRUCTION THE SIDE SLOPE SHALL BE GRADED TO 3:1 OR FLATTER, OR AS DIRECTED BY THE RESIDENT.
4. CONTRACTOR WILL BE PAID FOR COMMON EXCAVATION AND AGGREGATE BASE COURSE - TYPE A BASED ON ACTUAL QUANTITY COMPLETED. PAYMENT FOR FINAL SIDE SLOPE GRADING WILL BE INCIDENTAL TO THE CONTRACT.

Filename: PAW2\_UtilityVaultTypicals.dgn

Scale:			
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No.	Revision	By	Date

Designed by:					
<b>HNTB</b>					
CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.					
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Designed	DAM	04/21	Checked	RWH	04/21
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THE GOLD STAR  
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS

TYPICAL SECTIONS

SHEET NUMBER: TYP-01

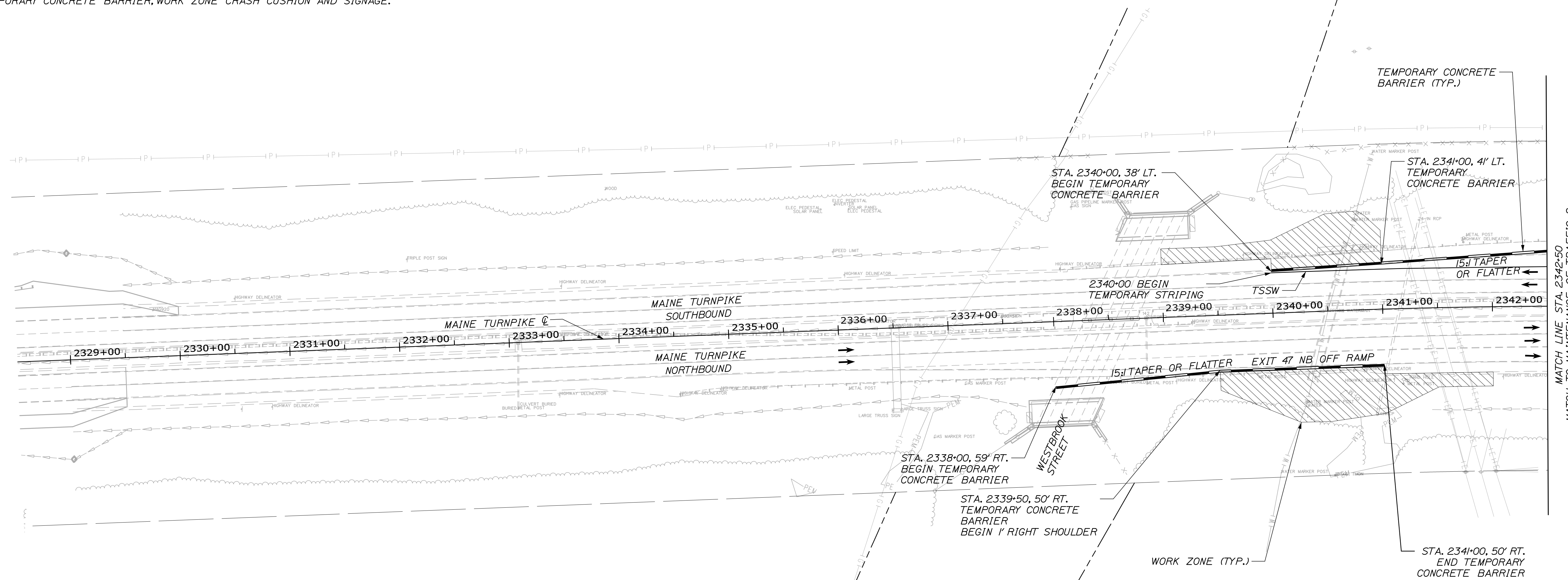
CONTRACT: 2021.02





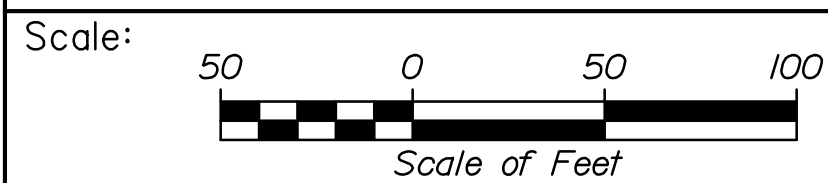
**CONSTRUCTION SEQUENCE (2340+00 LT):**

1. SETUP SINGLE LANE CLOSURE AND TEMPORARY RAMP SHIFT AT NIGHT, SAWCUT PAVEMENT AND SETUP WORK ZONE CRASH CUSHION, TEMPORARY CONCRETE BARRIER, AND TEMPORARY SHOULDER CLOSURE SIGNAGE.
2. CONSTRUCT UTILITY VAULT EXTENSION.
3. FINE GRADE AND PREPARE FOR PAVEMENT.
4. SETUP SINGLE LANE CLOSURE AND RAMP SHIFT AT NIGHT, REMOVE TEMPORARY CONCRETE BARRIER, PAVE SHOULDER.
5. REMOVE TEMPORARY CONCRETE BARRIER, WORK ZONE CRASH CUSHION AND SIGNAGE.



**CONSTRUCTION SEQUENCE (2340+00 RT):**

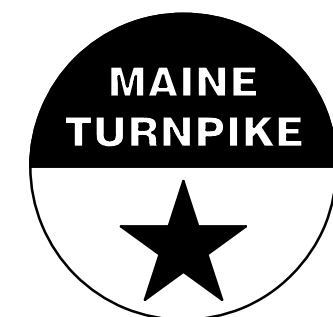
1. SETUP SINGLE LANE CLOSURE AND TEMPORARY RAMP SHIFT AT NIGHT, SAWCUT PAVEMENT, REMOVE GUARDRAIL, SETUP TEMPORARY SHOULDER CLOSURE SIGNAGE, AND TEMPORARY CONCRETE BARRIER.
2. CONSTRUCT UTILITY VAULT EXTENSION.
3. FINE GRADE AND PREPARE FOR PAVEMENT.
4. SETUP SINGLE LANE CLOSURE AND RAMP SHIFT AT NIGHT, REMOVE TEMPORARY CONCRETE BARRIER, PAVE SHOULDER.



Designed by:



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**THE GOLD STAR  
 MEMORIAL HIGHWAY**

WATER LINE AND UTILITY VAULTS  
 MAINTENANCE OF TRAFFIC (1 OF 5)

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.					
	By	Date		By	Date
Designed	DAM	04/21	Checked	RWH	04/21
Drawn	EDD	04/21	In Charge of	TRC	04/21

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CONTRACT: 2021.02

SHEET NUMBER: MOT-02

5 OF 42

Date: 6/29/2021

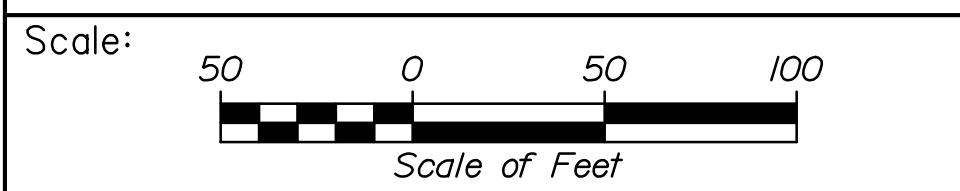
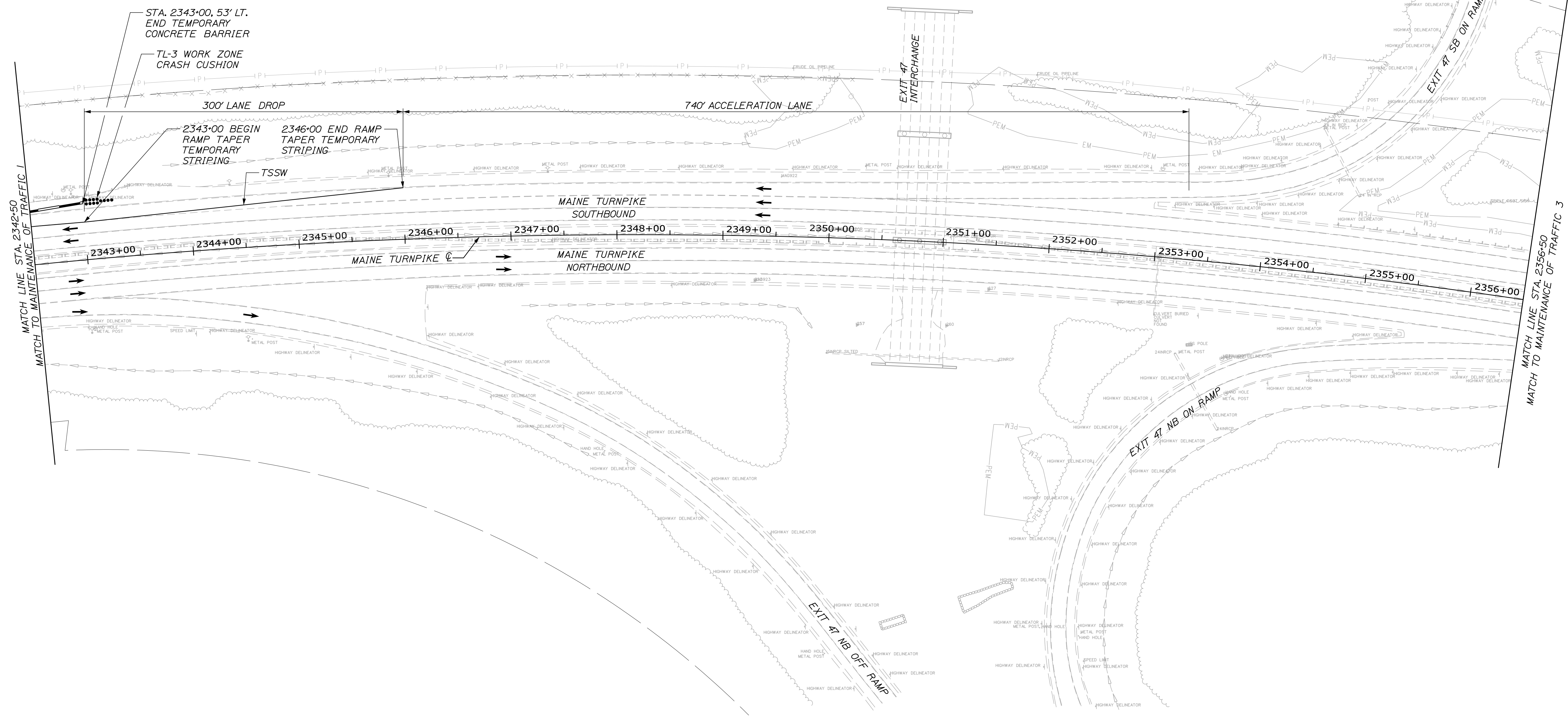
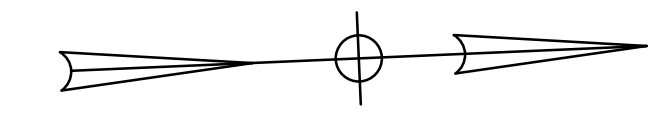
Filename: PAW2\_HP\_Plan\_MOT\_01.dgn



Date: 6/29/2021

Filename: PAW2\_HP\_Plan\_MOT\_02.dgn

TOWN LINE: WESTBROOK  
TOWN LINE: PORTLAND



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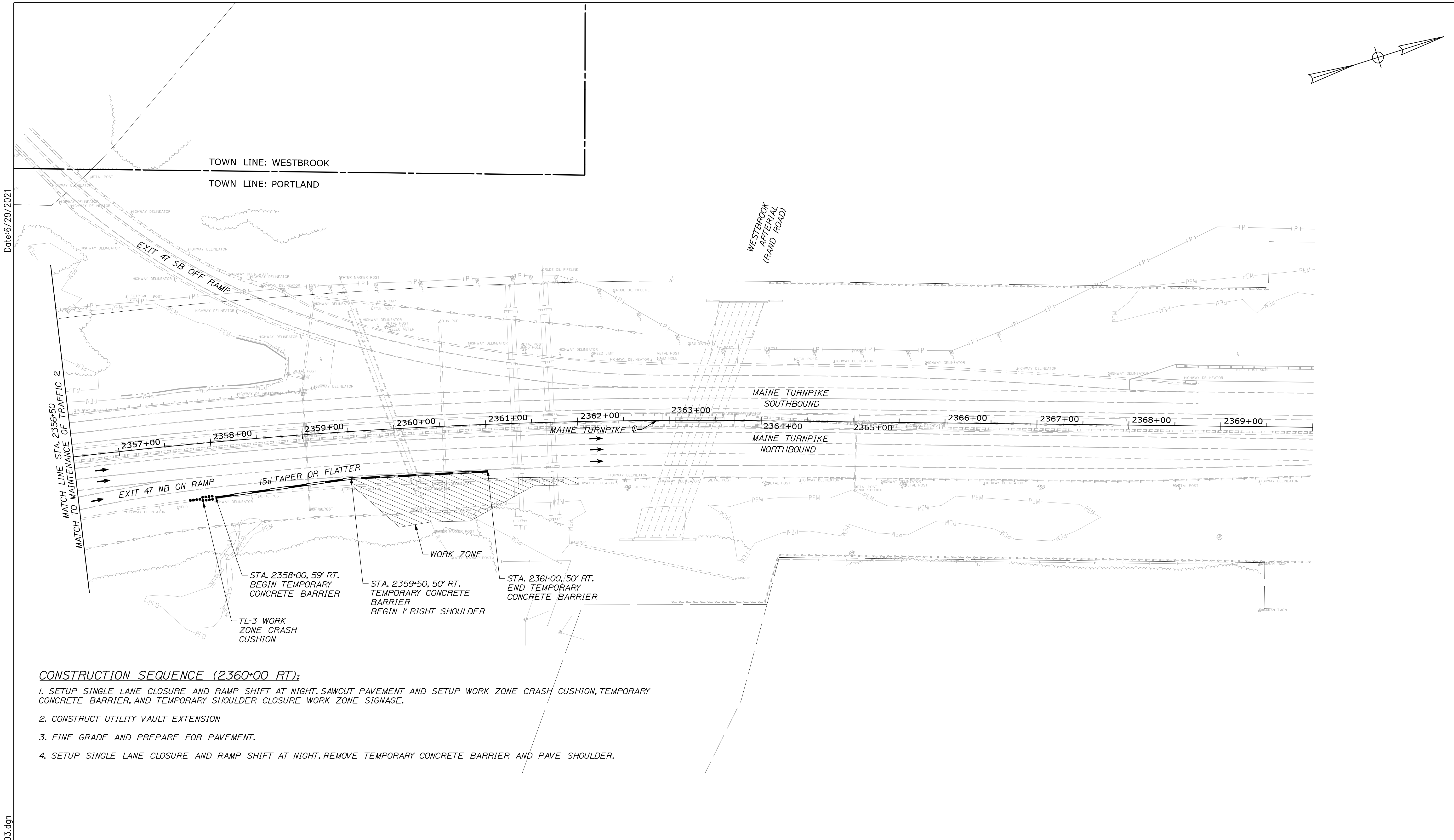
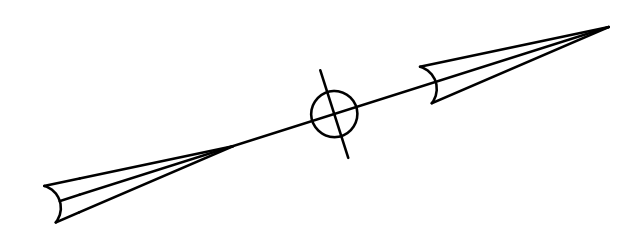
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**THE GOLD STAR  
MEMORIAL HIGHWAY**

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WATER LINE AND UTILITY VAULTS  
MAINTENANCE OF TRAFFIC (2 OF 5)

SHEET NUMBER: MOT-03  
CONTRACT: 2021.02  
6 OF 23  
Addendum 03

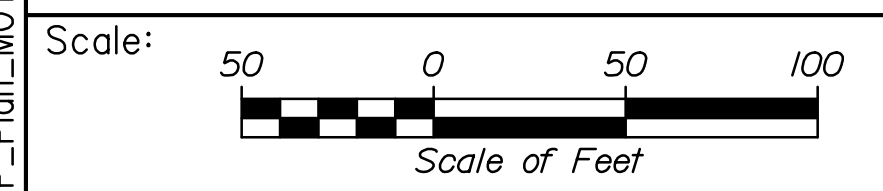


**CONSTRUCTION SEQUENCE (2360+00 RT):**

1. SETUP SINGLE LANE CLOSURE AND RAMP SHIFT AT NIGHT, SAWCUT PAVEMENT AND SETUP WORK ZONE CRASH CUSHION, TEMPORARY CONCRETE BARRIER, AND TEMPORARY SHOULDER CLOSURE WORK ZONE SIGNAGE.
2. CONSTRUCT UTILITY VAULT EXTENSION
3. FINE GRADE AND PREPARE FOR PAVEMENT.
4. SETUP SINGLE LANE CLOSURE AND RAMP SHIFT AT NIGHT, REMOVE TEMPORARY CONCRETE BARRIER AND PAVE SHOULDER.

Date: 6/29/2021

Filename: PAW2\_HP\_Plan\_MOT\_03.dgn



No.	Revision	By	Date

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**THE GOLD STAR  
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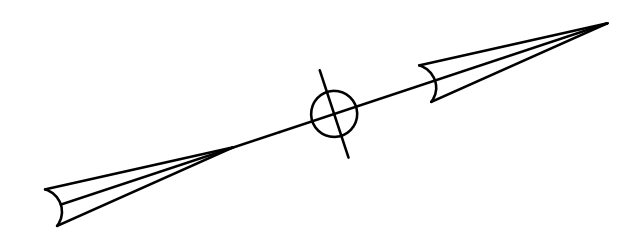
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

**WATER LINE AND UTILITY VAULTS**

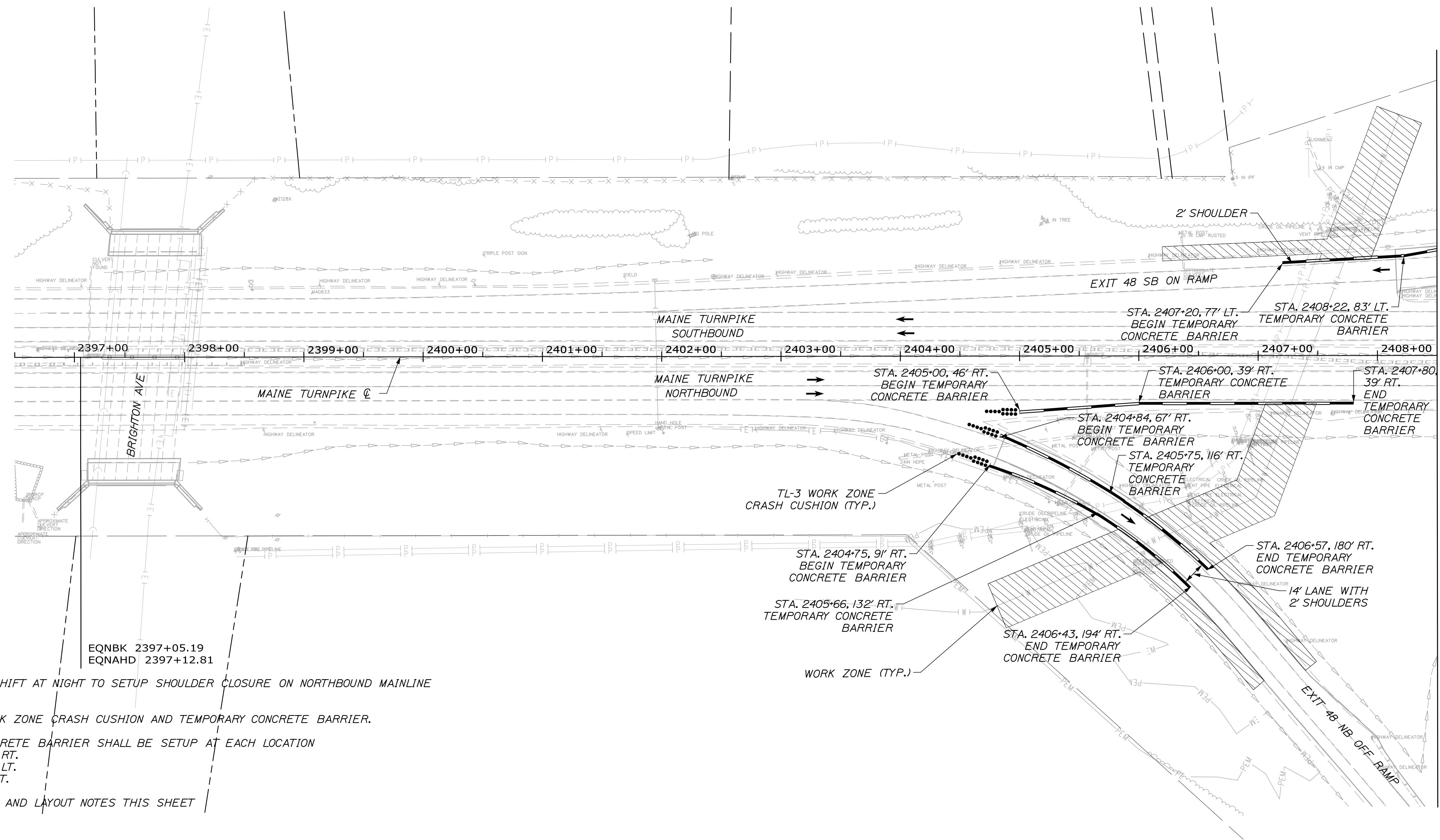
**MAINTENANCE OF TRAFFIC (3 OF 5)**

SHEET NUMBER: MOT-04  
7 OF 42

CONTRACT: 2021.02



Date: 6/29/2021



MATCH LINE STA. 2408+50  
MATCH TO MAINTENANCE OF TRAFFIC 5

**CONSTRUCTION SEQUENCE:**

1. SETUP SINGLE LANE CLOSURE AND RAMP SHIFT AT NIGHT TO SETUP SHOULDER CLOSURE ON NORTHBOUND MAINLINE (STA. 2405+00 TO 2408+00 RT.)
2. SETUP NIGHT RAMP CLOSURE TO SET WORK ZONE CRASH CUSHION AND TEMPORARY CONCRETE BARRIER.
3. SHOULDER CLOSURE WITH TEMPORARY CONCRETE BARRIER SHALL BE SETUP AT EACH LOCATION
  - NORTHBOUND OFF RAMP STA. 145+00 RT.
  - NORTHBOUND OFF RAMP STA. 145+00 LT.
  - SOUTHBOUND ON RAMP STA. 125+00 LT.
4. SEE SHOULDER CLOSURE STANDARD DETAIL AND LAYOUT NOTES THIS SHEET
5. MINIMUM RAMP WIDTH SHALL BE 18 FEET.
6. A REQUEST FOR SHOULDER CLOSURES ON BOTH SIDES OF RAMP INCLUDING LAYOUT DETAILS AND DURATION OF SETUP, SHALL BE SUBMITTED TO MTA FOR REVIEW AND APPROVAL.
7. SETUP NIGHT RAMP CLOSURE AND/OR NIGHT SINGLE LANE CLOSURE AND RAMP SHIFT TO REMOVE WORK ZONE CRASH CUSHION AND TEMPORARY CONCRETE BARRIER.

EQNBK 2397+05.19  
EQNAHD 2397+12.81

Scale: 50 0 50 100 Scale of Feet			
No.	Revision	By	Date

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CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.			
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THE GOLD STAR  
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS

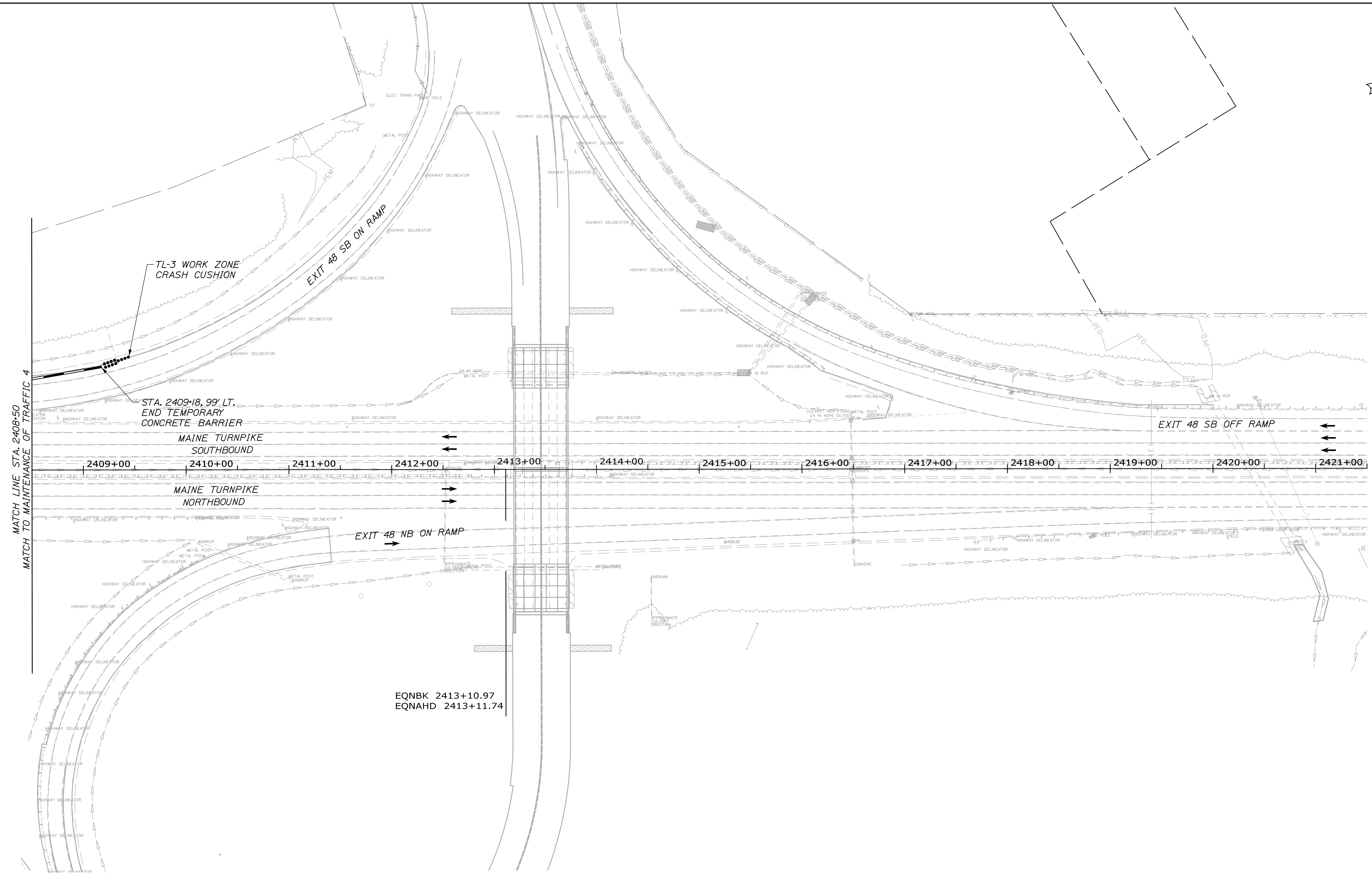
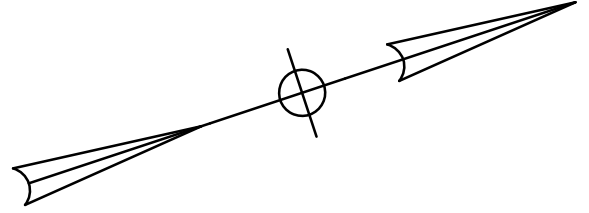
MAINTENANCE OF TRAFFIC (4 OF 5)

SHEET NUMBER: MOT-05  
8 OF 42

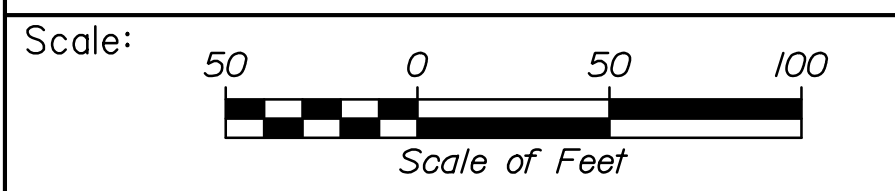
CONTRACT: 2021.02  
Addendum 03



Date: 6/29/2021



Filename: PAW2\_HP\_Plan\_MOT\_05.dgn



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WATER LINE AND UTILITY VAULTS

MAINTENANCE OF TRAFFIC (5 OF 5)

SHEET NUMBER: MOT-06  
9 OF 42

CONTRACT: 2021.02

Date: 6/29/2021

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR		BORDER RADIUS	AREA IN SQUARE FEET (TOTAL)
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND BORDER		
E5-2a	48"	48"	EXIT CLOSED	TEXT DIMENSIONS SHALL CONFORM TO "2004 EDITION - STANDARD HIGHWAY SIGNS OR AS SUPERSEDED BY 2012 SUPPLEMENT"			3	ORANGE			16.00 (48)
G20-2	48"	24"	END ROAD WORK				4	ORANGE			8.00 (32)
G20-5aP	48"	24"	WORK ZONE				1				8.00 (8)
R1-2	48"	48"	YIELD				1	WHITE			6.93 (6.93)
R2-1 (50)	48"	60"	SPEED LIMIT 50				1				20.00 (20)
R2-6aP	48"	24"	FINES DOUBLED				1				8.00 (8)
R2-12	48"	60"	END WORK ZONE SPEED LIMIT				2				20.00 (40)
W3-2	48"	48"	AWAY FROM TRUCK				1	ORANGE			16.00 (16)
W3-5 (50)	48"	48"	SPEED LIMIT 50				2				16.00 (32)
W4-1	48"	48"	ONE WAY				1				16.00 (16)
W4-2R	48"	48"	LANE AHEAD				2				16.00 (32)
W4-5P	30"	24"	NO MERGE AREA				1				5.00 (5)

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR		BORDER RADIUS	AREA IN SQUARE FEET (TOTAL)
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND BORDER		
W13-4P	36"	36"	ON RAMP	TEXT DIMENSIONS SHALL CONFORM TO "2004 EDITION - STANDARD HIGHWAY SIGNS OR AS SUPERSEDED BY 2012 SUPPLEMENT"			8	ORANGE			9.00 (72)
W20-1 (AHEAD) (1 MILE)	48"	48"	ROAD WORK XXX				8				16.00 (128) 16.00 (32)
W20-5R (1/2 MILE) (AHEAD)	48"	48"	RIGHT LANE CLOSED 1/2 MILE				1				16.00 (16) 16.00 (32)
W21-5aR	48"	48"	RIGHT SHOULDER CLOSED				4				16.00 (64)
W21-5bR	48"	48"	RIGHT SHOULDER CLOSED 1000 FT				4				16.00 (64)
CS-4	48"	48"	EXIT CLOSED AHEAD	6" C 6" C 6" C	4" 4"		1				16.00 (16)
CS-11	48"	48"	NO STOPPING ON PAVEMENT	6" C 6" C 6" C	4" 4"		1				16.00 (16)

Filename: PAW2\_MOT\_SignSummary 1

Scale: NOT TO SCALE

No.	Revision	By	Date

Designed by:

**HNTB**

CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.

	By	Date		By	Date
Designed	DAM	04/21	Checked	RWH	04/21
Drawn	EDD	04/21	In Charge of	TRC	04/21

HNTB CORPORATION  
 82 Running Hill Road, Suite 201  
 South Portland, ME 04106  
 TEL (207) 774-5155  
 FAX (207) 228-0909

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

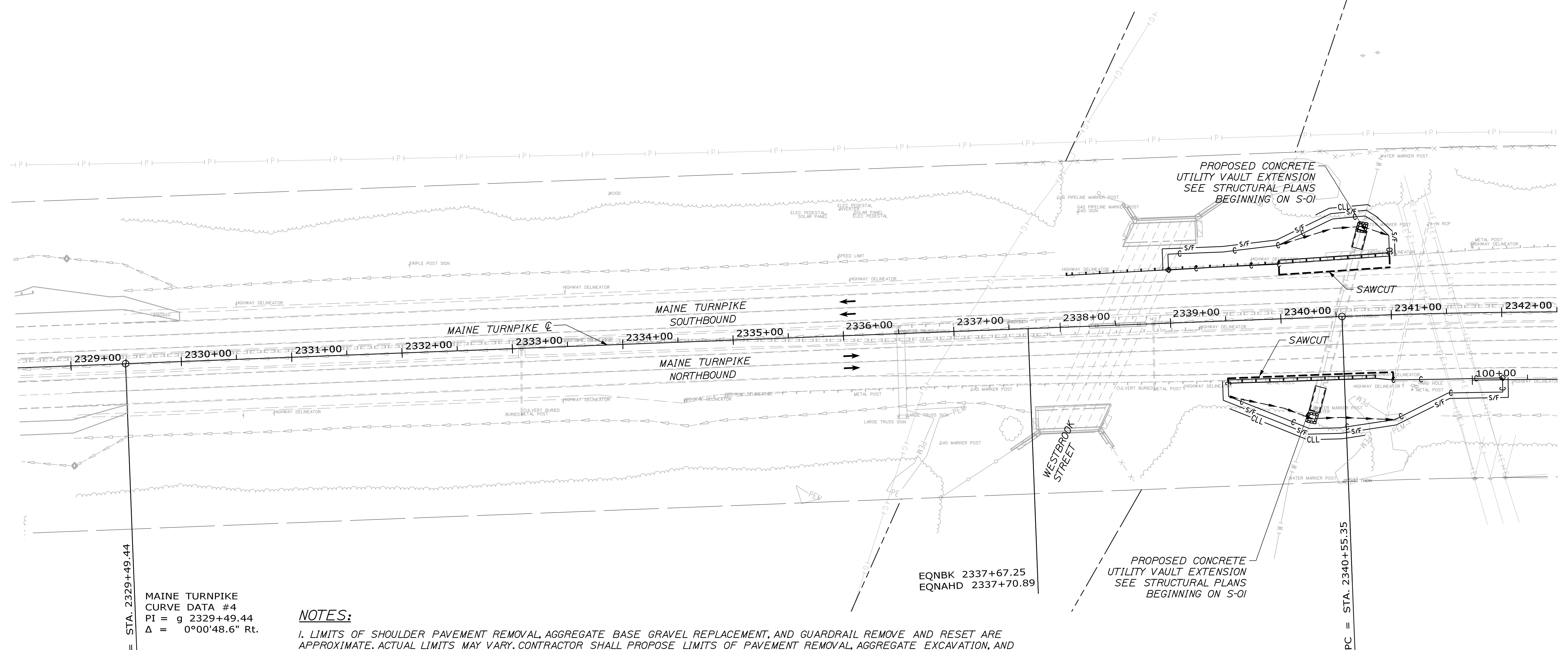
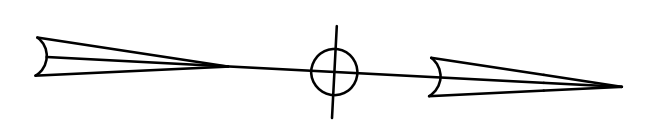
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS  
 MAINTENANCE OF TRAFFIC  
 SIGN SUMMARY

SHEET NUMBER: MOT-07  
 CONTRACT: 2021.02  
 10 OF 42

ITEM 606.366 GUARDRAIL REMOVE AND RESET  
 STA. 2339+50.00, 53.45' RT. TO STA. 2340+83.37, 54.10' RT. (ADJUST LIMITS IN THE FIELD)  
 STA. 2338+07.80, 48.38' LT. TO STA. 2341+00.00, 53.19' LT. (ADJUST LIMITS IN THE FIELD)

LE  
 133  
 293



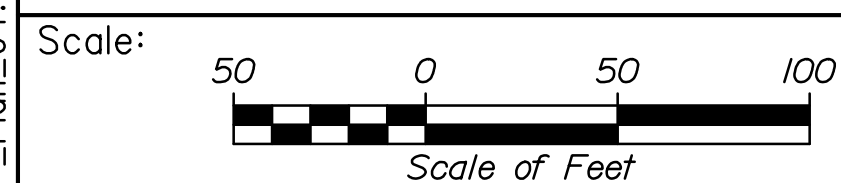
MAINE TURNPIKE  
 CURVE DATA #4  
 PI = g 2329+49.44  
 $\Delta = 0^{\circ}00'48.6''$  Rt.

**NOTES:**

1. LIMITS OF SHOULDER PAVEMENT REMOVAL, AGGREGATE BASE GRAVEL REPLACEMENT, AND GUARDRAIL REMOVE AND RESET ARE APPROXIMATE. ACTUAL LIMITS MAY VARY. CONTRACTOR SHALL PROPOSE LIMITS OF PAVEMENT REMOVAL, AGGREGATE EXCAVATION, AND GUARDRAIL REMOVAL FOR REVIEW AND APPROVAL BY RESIDENT.
2. PAYMENT FOR ALL ITEMS SHALL BE BASED ON ACTUAL WORK COMPLETED, MEASURED, AND ACCEPTED.
3. STA. 2340+00 RT. SAWCUT PARALLEL TO RAMP STRIPING, APPROX. 52' OFFSET. TEMPORARY EARTH SUPPORT MAY BE REQUIRED.
4. STA. 2340+00 LT. SAWCUT PARALLEL TO RAMP STRIPING OFFSET VARIES. TEMPORARY EARTH SUPPORT MAY BE REQUIRED.
5. REPLACE PAVEMENT WITH 4" H.M.A. REPLACE MINIMUM 8 1/2" AGGREGATE BASE COURSE - TYPE A BENEATH ALL REMOVED PAVEMENT. REPLACE ALL EXCAVATED MATERIAL WITHIN 36" OF PAVED SURFACE WITH TYPE A GRAVEL. TYPE A GRAVEL SHALL BE DAYLIGHTED.
6. THE PAVEMENT BASE DEPTHS AND CROSS SLOPES AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.
7. BITUMINOUS TACK COAT IS REQUIRED BETWEEN ALL LIFTS OF PAVEMENT, OR AS DIRECTED BY RESIDENT. BITUMINOUS TACK COAT IS REQUIRED ON ALL EXISTING PAVED OR MILLED SURFACES PRIOR TO PLACING PROPOSED PAVEMENT.
8. ALL DISTURBED SIDESLOPE AREAS SHALL BE TREATED WITH 4" LOAM, SEED, AND MULCH.

Date: 6/29/2021

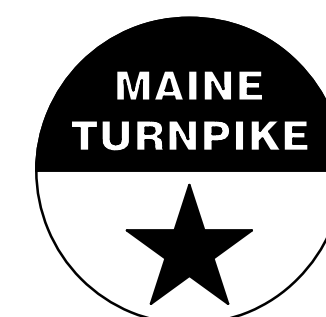
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Designed by:



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 South Portland, ME 04106  
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**THE GOLD STAR  
 MEMORIAL HIGHWAY**

WATER LINE AND UTILITY VAULTS

HIGHWAY PLAN (1 OF 2)

No.	Revision	By	Date
1	ADDENDUM #1	DAM	06/21

CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.			
	By	Date	
Designed	DAM	04/21	Checked RWH 04/21
Drawn	EDD	04/21	In Charge of TRC 04/21

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

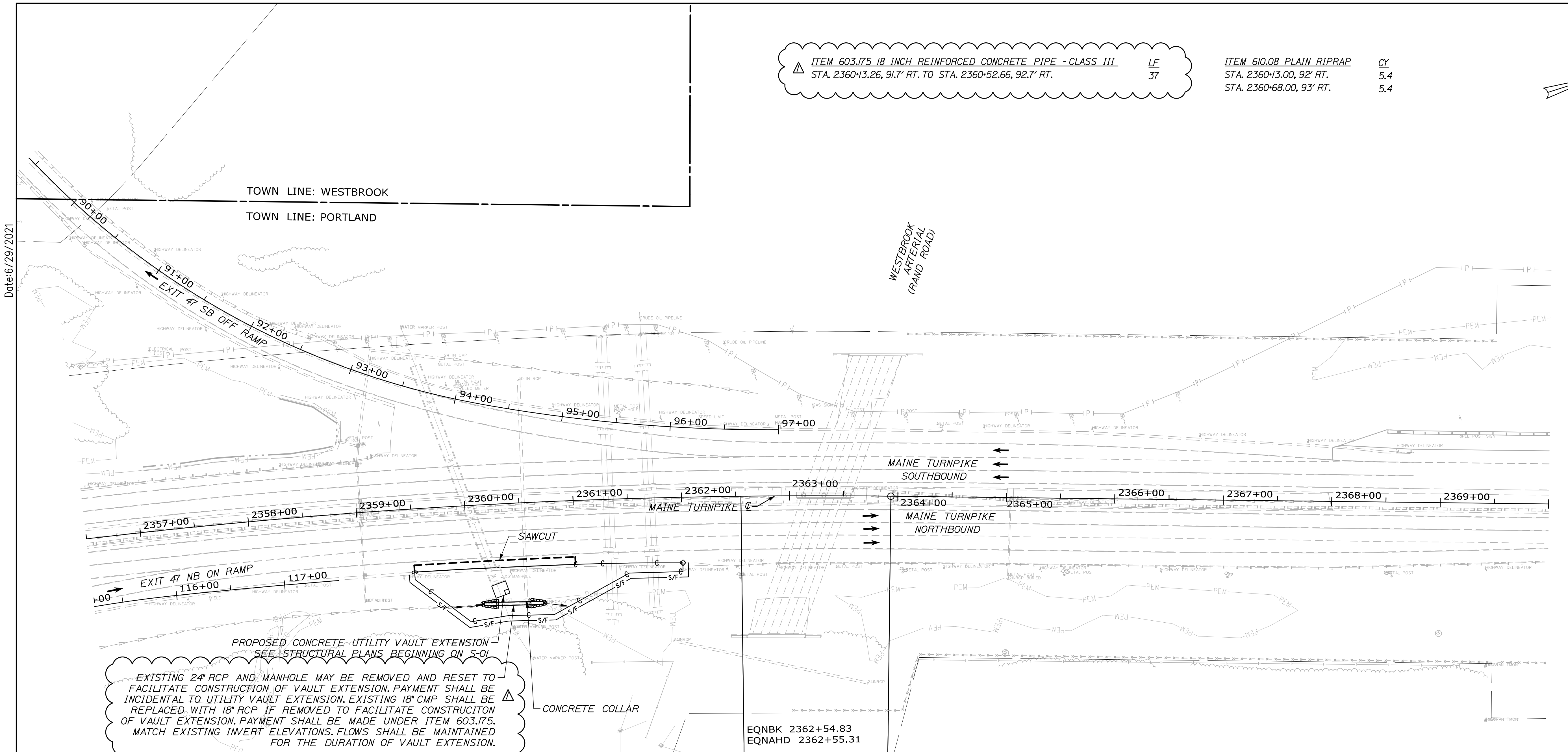
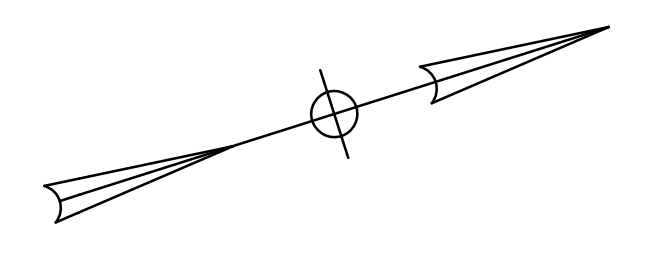
CONTRACT: 2021.02

SHEET NUMBER: HP-01

11 OF 42

ITEM 603.175 18 INCH REINFORCED CONCRETE PIPE - CLASS III LF 37  
 STA. 2360+13.26, 91.7' RT. TO STA. 2360+52.66, 92.7' RT.

ITEM 610.08 PLAIN RIPRAP CY 5.4  
 STA. 2360+13.00, 92' RT.  
 STA. 2360+68.00, 93' RT.



EXISTING 24" RCP AND MANHOLE MAY BE REMOVED AND RESET TO FACILITATE CONSTRUCTION OF VAULT EXTENSION. PAYMENT SHALL BE INCIDENTAL TO UTILITY VAULT EXTENSION. EXISTING 18" CMP SHALL BE REPLACED WITH 18" RCP IF REMOVED TO FACILITATE CONSTRUCTION OF VAULT EXTENSION. PAYMENT SHALL BE MADE UNDER ITEM 603.175. MATCH EXISTING INVERT ELEVATIONS. FLOWS SHALL BE MAINTAINED FOR THE DURATION OF VAULT EXTENSION.

**NOTES:**

- LIMITS OF SHOULDER PAVEMENT REMOVAL AND AGGREGATE BASE GRAVEL REPLACEMENT ARE APPROXIMATE. ACTUAL LIMITS MAY VARY. CONTRACTOR SHALL PROPOSE LIMITS OF PAVEMENT REMOVAL AND AGGREGATE EXCAVATION FOR REVIEW AND APPROVAL BY RESIDENT.
- PAYMENT FOR ALL ITEMS SHALL BE BASED ON ACTUAL WORK COMPLETED, MEASURED, AND ACCEPTED.
- STA. 2359+50 RT. SAWCUT PARALLEL TO RAMP STRIPING, APPROX. 52' OFFSET. TEMPORARY EARTH SUPPORT MAY BE REQUIRED.
- REPLACE PAVEMENT WITH 4" H.M.A. REPLACE MINIMUM 8 1/2" AGGREGATE BASE COURSE - TYPE A BENEATH ALL REMOVED PAVEMENT. REPLACE ALL EXCAVATED MATERIAL WITHIN 36" OF PAVED SURFACE WITH TYPE A GRAVEL. TYPE A GRAVEL SHALL BE DAYLIGHTED.
- THE PAVEMENT BASE DEPTHS AND CROSS SLOPES AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.
- BITUMINOUS TACK COAT IS REQUIRED BETWEEN ALL LIFTS OF PAVEMENT, OR AS DIRECTED BY RESIDENT. BITUMINOUS TACK COAT IS REQUIRED ON ALL EXISTING PAVED OR MILLED SURFACES PRIOR TO PLACING PROPOSED PAVEMENT.
- ALL DISTURBED SIDESLOPE AREAS SHALL BE TREATED WITH 4" LOAM, SEED, AND MULCH.
- DITCH DRAINAGE SHALL BE MAINTAINED DURING CONSTRUCTION.
- PAYMENT FOR CULVERT CONNECTION TO EXISTING PIPE SHALL BE MADE UNDER 603.28 CONCRETE COLLAR

Scale: 50 0 50 100  
Scale of Feet

No.	Revision	By	Date
1	ADDENDUM #1	DAM	06/21

Designed by:

**HNTB**

CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.

	By	Date	By	Date
Designed	DAM	04/21	Checked	RWH 04/21
Drawn	EDD	04/21	In Charge of	TRC 04/21

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**THE GOLD STAR MEMORIAL HIGHWAY**

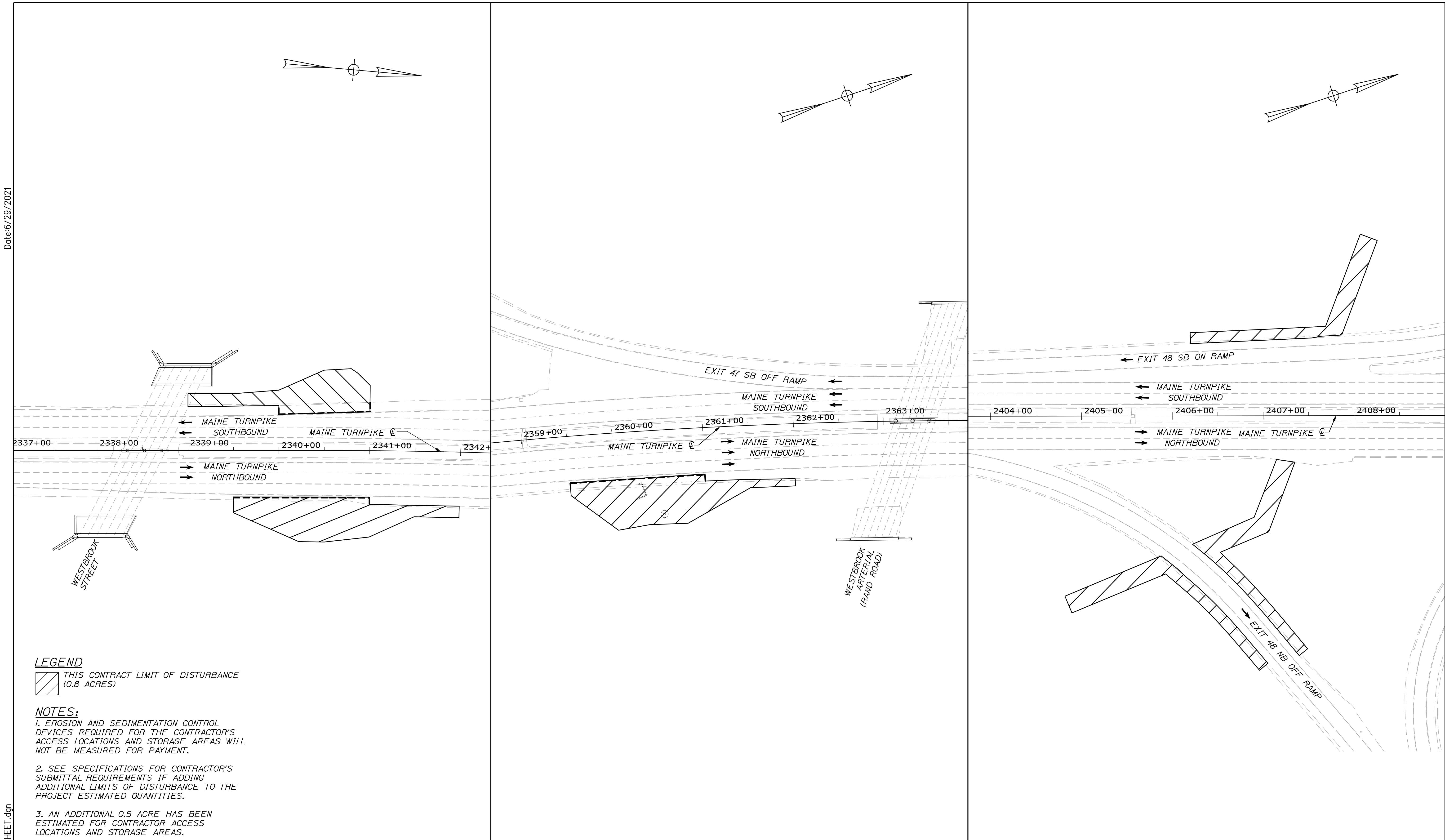
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS  
 HIGHWAY PLAN (2 OF 2)

SHEET NUMBER: HP-02  
 CONTRACT: 2021.02  
 12 OF 42



Date: 6/29/2021



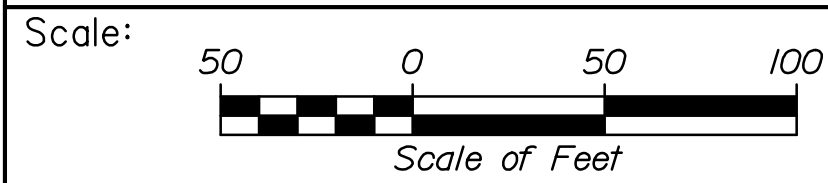
**LEGEND**

THIS CONTRACT LIMIT OF DISTURBANCE (0.8 ACRES)

**NOTES:**

1. EROSION AND SEDIMENTATION CONTROL DEVICES REQUIRED FOR THE CONTRACTOR'S ACCESS LOCATIONS AND STORAGE AREAS WILL NOT BE MEASURED FOR PAYMENT.
2. SEE SPECIFICATIONS FOR CONTRACTOR'S SUBMITTAL REQUIREMENTS IF ADDING ADDITIONAL LIMITS OF DISTURBANCE TO THE PROJECT ESTIMATED QUANTITIES.
3. AN ADDITIONAL 0.5 ACRE HAS BEEN ESTIMATED FOR CONTRACTOR ACCESS LOCATIONS AND STORAGE AREAS.

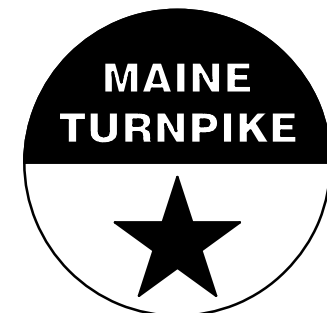
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Designed by:



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**THE GOLD STAR  
MEMORIAL HIGHWAY**

**WATER LINE AND UTILITY VAULTS**

**LIMIT OF DISTURBANCE**

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.			
	By	Date	
Designed	DAM	04/21	Checked RWH 04/21
Drawn	EDD	04/21	In Charge of TRC 04/21

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

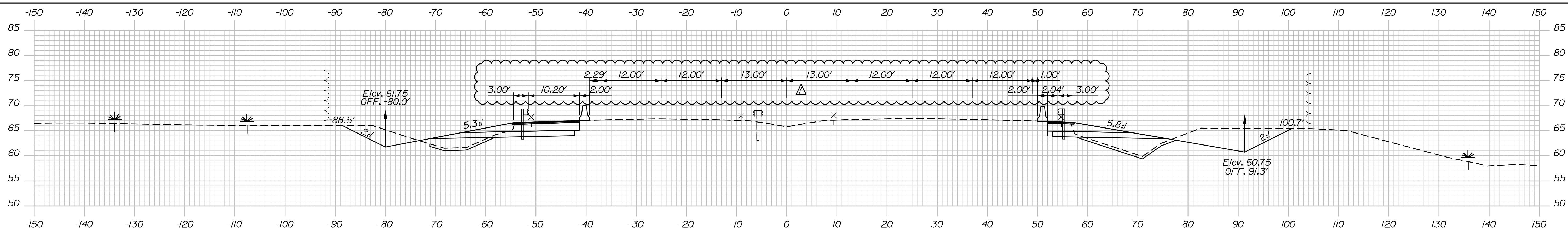
CONTRACT: 2021.02

SHEET NUMBER: LOD-01

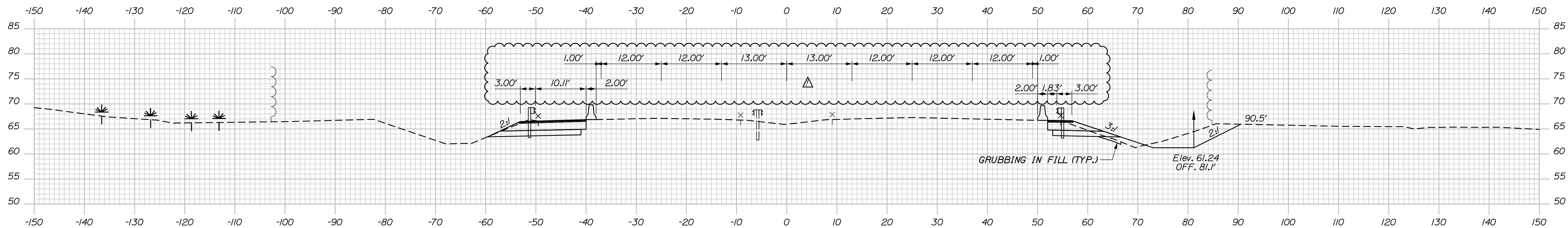
13 OF 42



Date: 6/29/2021



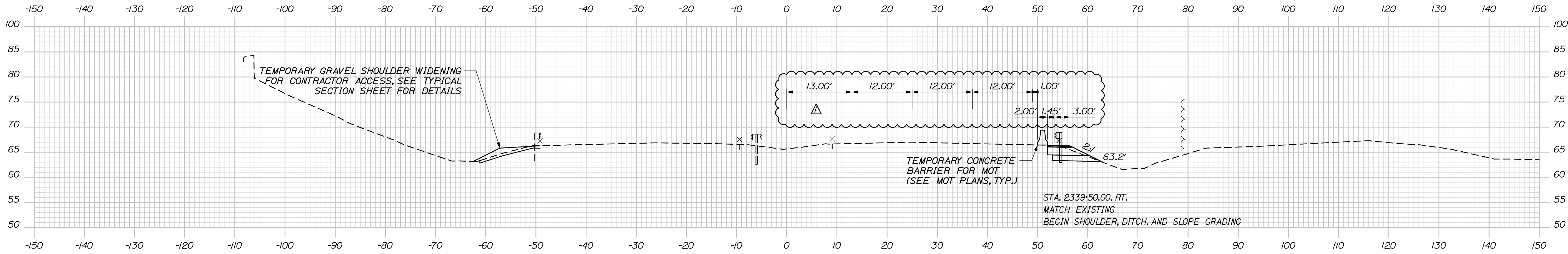
2340+50.00



2340+00.00

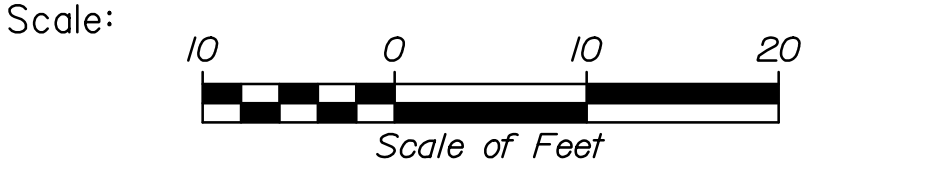
STATION 2340+00.00  
APPROX. ELEV. -23.0  
NR PROBE

STA. 2340+00.00, LT.  
MATCH EXISTING  
BEGIN SHOULDER, DITCH, AND SLOPE GRADING



2339+50.00

NOTE:  
STATION TO STATION WORK LIMITS ARE APPROXIMATE, CONTRACTOR SHALL PROPOSE ACTUAL LIMITS FOR RESIDENT REVIEW AND APPROVAL.



Designed by:

**HNTB**

No.	Revision	By	Date
Δ	ADDENDUM #1	DAM	04/21

CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.

	By	Date	By	Date	
Designed	DAM	04/21	Checked	RWH	04/21
Drawn	EDD	04/21	In Charge of	TRC	04/21

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**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS

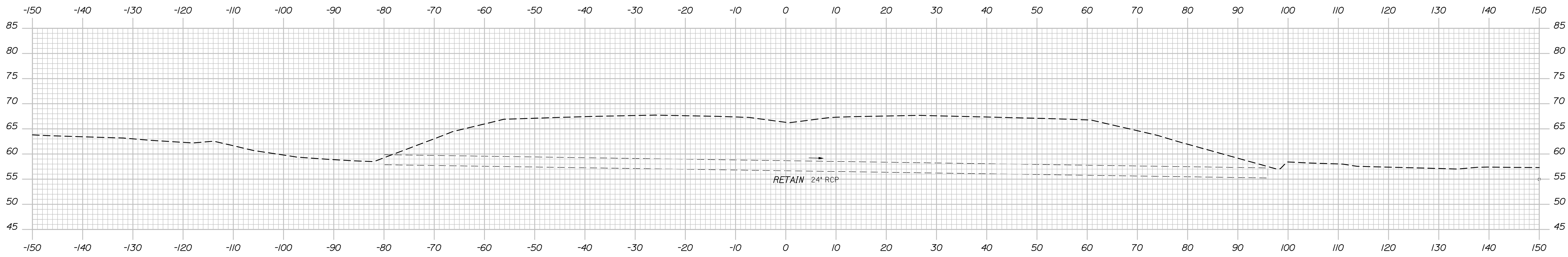
MAINE TURNPIKE CROSS SECTIONS  
STA. 2339+50 TO STA. 2340+50

SHEET NUMBER: XS-01

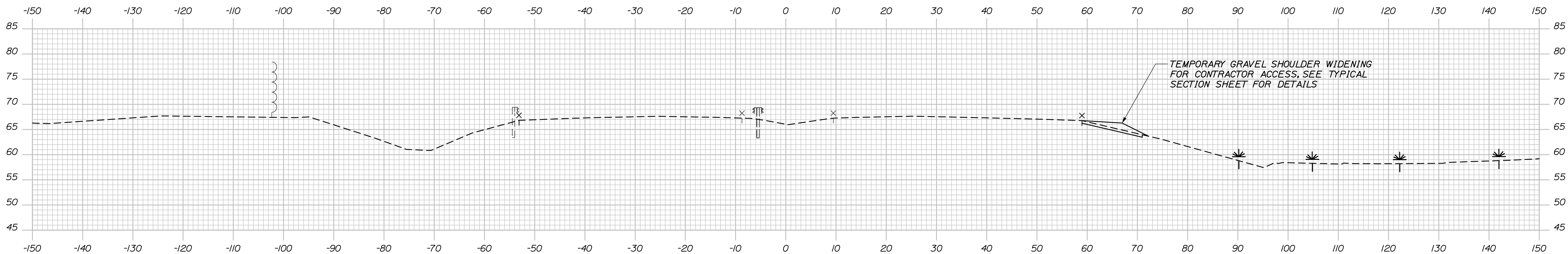
CONTRACT: 2021.02

14 OF 42

Date: 6/29/2021



2341+15.66 (SKEWED)

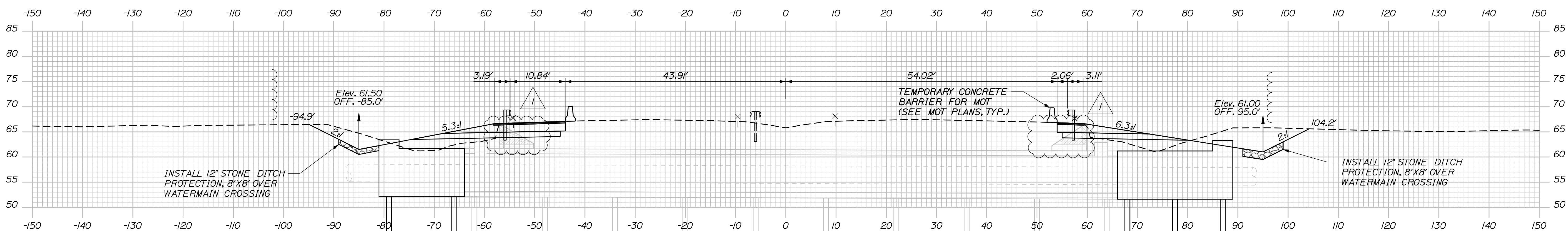


STA. 2341+00.00, LT.  
END SHOULDER, DITCH, AND SLOPE GRADING  
MATCH EXISTING

2341+00.00

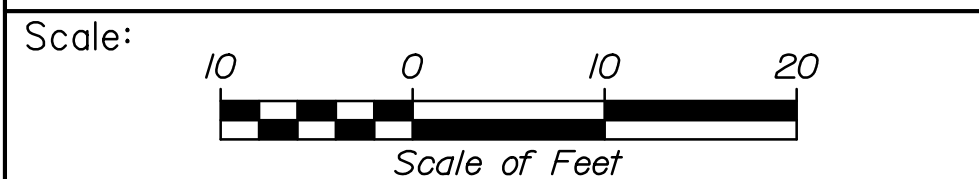
STA. 2341+00.00, RT.  
END SHOULDER, DITCH, AND SLOPE GRADING  
MATCH EXISTING

NR  
STATION 2340+80.00  
APPROX. ELEV. -11.6  
PROBE



2340+50.15 (SKEWED)

NOTE:  
STATION TO STATION WORK LIMITS ARE APPROXIMATE, CONTRACTOR  
SHALL PROPOSE ACTUAL LIMITS FOR RESIDENT REVIEW AND APPROVAL.



Designed by:

**HNTB**

CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.			
By	Date	By	Date
Designed	DAM 04/21	Checked	RWH 04/21
Drawn	EDD 04/21	In Charge of	TRC 04/21

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**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

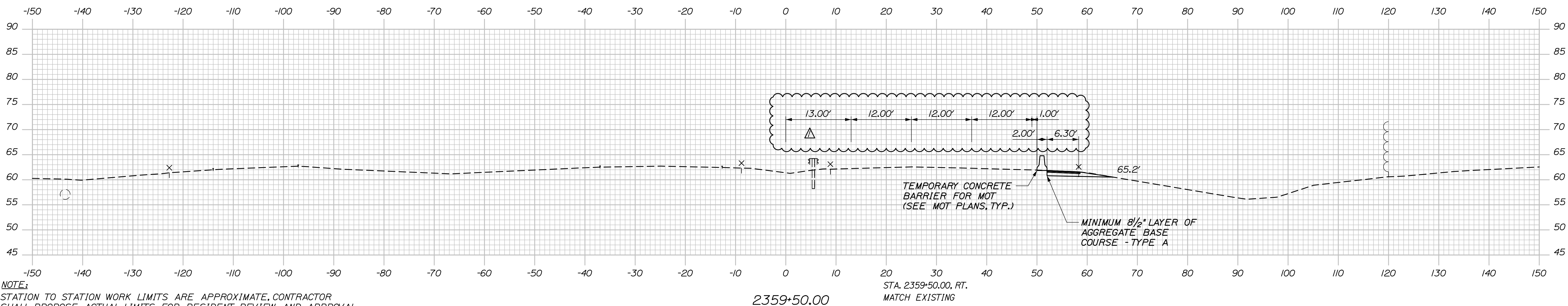
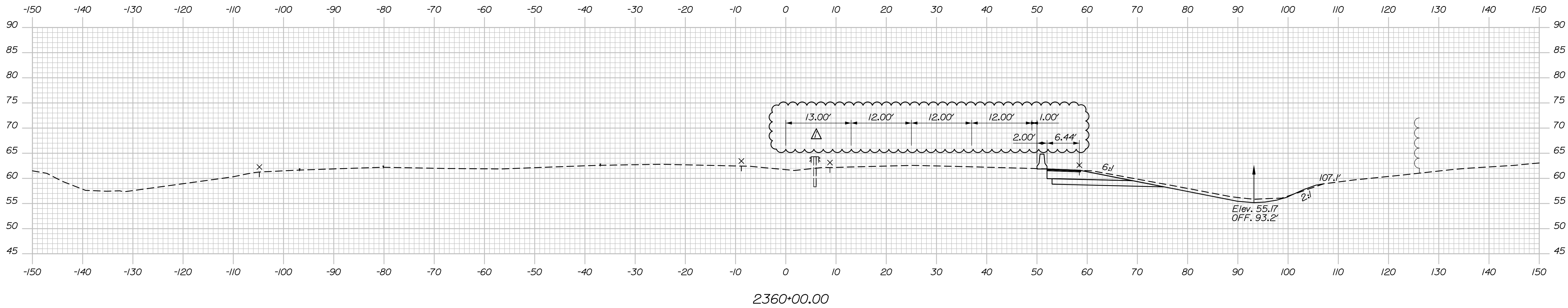
WATER LINE AND UTILITY VAULTS

MAINE TURNPIKE CROSS SECTIONS  
STA. 2340+50.15 TO STA. 2341+15.66

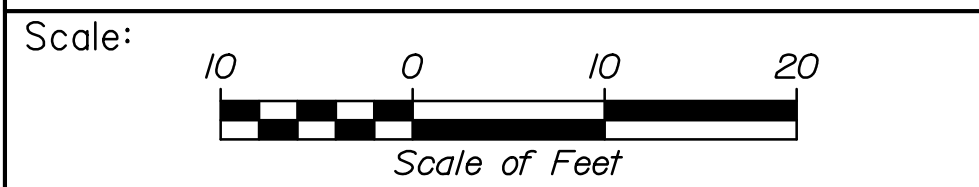
SHEET NUMBER: XS-02

CONTRACT: 2021.02

Date: 6/29/2021



**NOTE:**  
STATION TO STATION WORK LIMITS ARE APPROXIMATE, CONTRACTOR SHALL PROPOSE ACTUAL LIMITS FOR RESIDENT REVIEW AND APPROVAL.



Designed by:

**HNTB**

No.	Revision	By	Date
△	ADDENDUM #1	DAM	04/21

CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.

	By	Date	Checked	By	Date
Designed	DAM	04/21		RWH	04/21
Drawn	EDD	04/21		TRC	04/21

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**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS

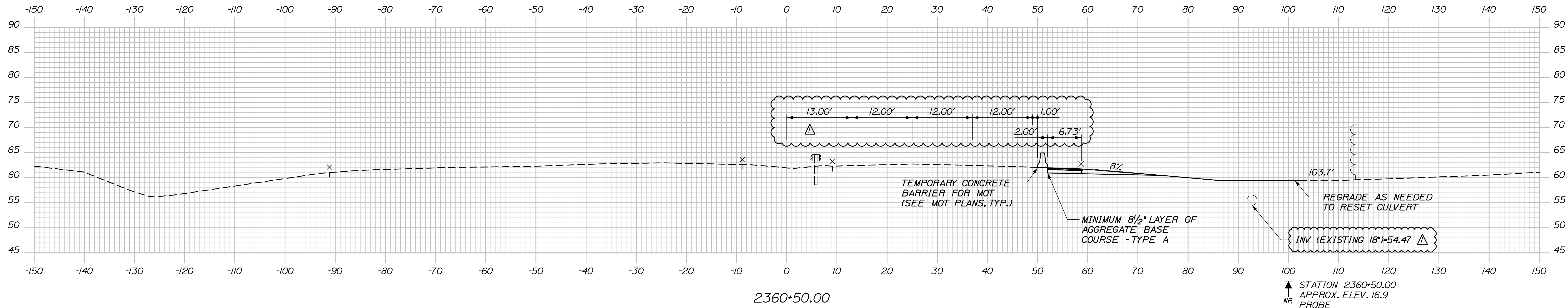
MAINE TURNPIKE CROSS SECTIONS  
STA. 2359+50 TO STA. 2360+00

SHEET NUMBER: XS-03

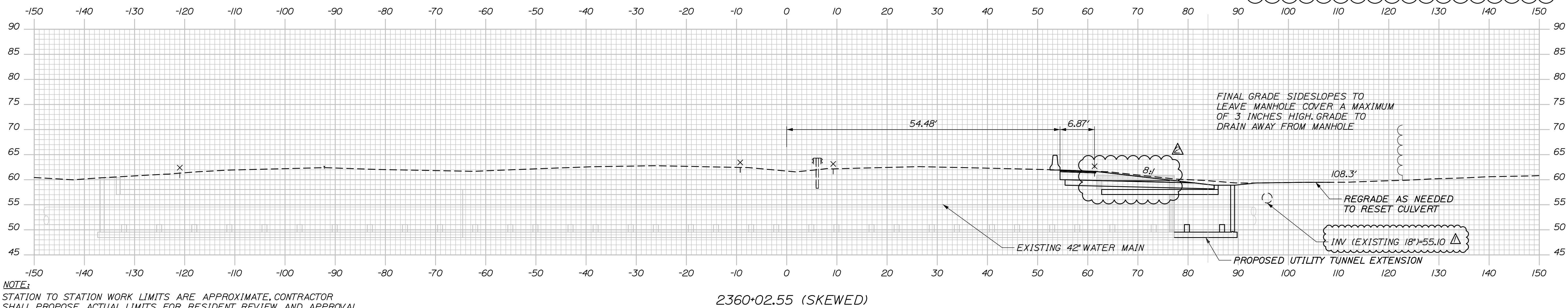
CONTRACT: 2021.02

16 OF 42

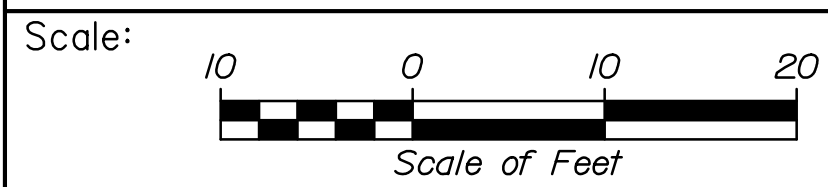
Date: 6/29/2021



△ EXISTING 24" RCP AND MANHOLE MAY BE REMOVED AND RESET TO FACILITATE CONSTRUCTION OF VAULT EXTENSION. PAYMENT SHALL BE INCIDENTAL TO UTILITY VAULT EXTENSION. EXISTING 18" CMP SHALL BE REPLACED WITH 18" RCP IF REMOVED TO FACILITATE CONSTRUCTION OF VAULT EXTENSION. PAYMENT SHALL BE MADE UNDER ITEM 603.175. MATCH EXISTING INVERT ELEVATIONS. FLOWS SHALL BE MAINTAINED FOR THE DURATION OF VAULT EXTENSION.



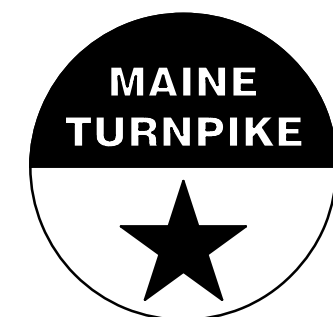
NOTE:  
STATION TO STATION WORK LIMITS ARE APPROXIMATE, CONTRACTOR SHALL PROPOSE ACTUAL LIMITS FOR RESIDENT REVIEW AND APPROVAL.



Designed by:



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82 Running Hill Road, Suite 201  
South Portland, ME 04106  
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THE GOLD STAR  
MEMORIAL HIGHWAY

WATER LINE AND UTILITY VAULTS

MAINE TURNPIKE CROSS SECTIONS  
STA. 2360+02.55 TO STA. 2360+50

SHEET NUMBER: XS-04

No.	Revision	By	Date
△	ADDENDUM #1	DAM	04/21
△	UTILITY VAULT LINEWORK	BRG	06/21

CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.

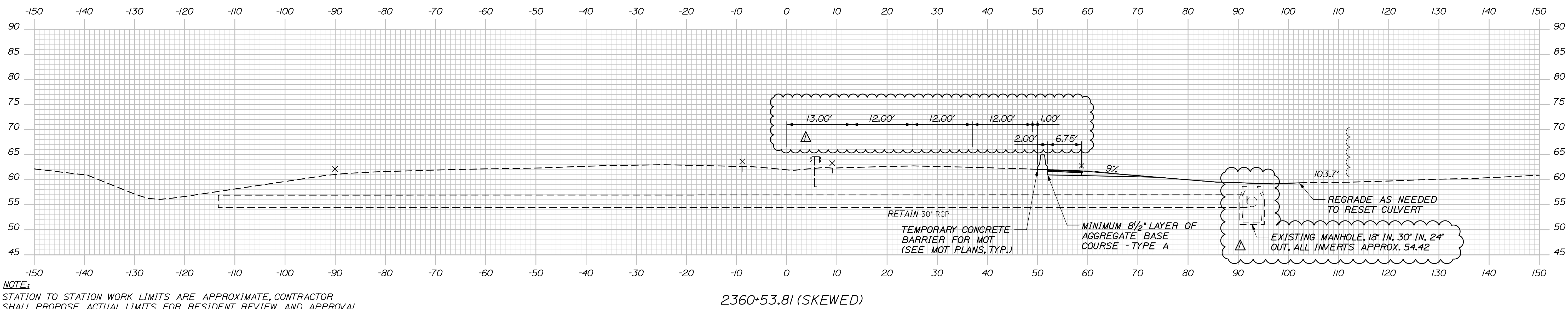
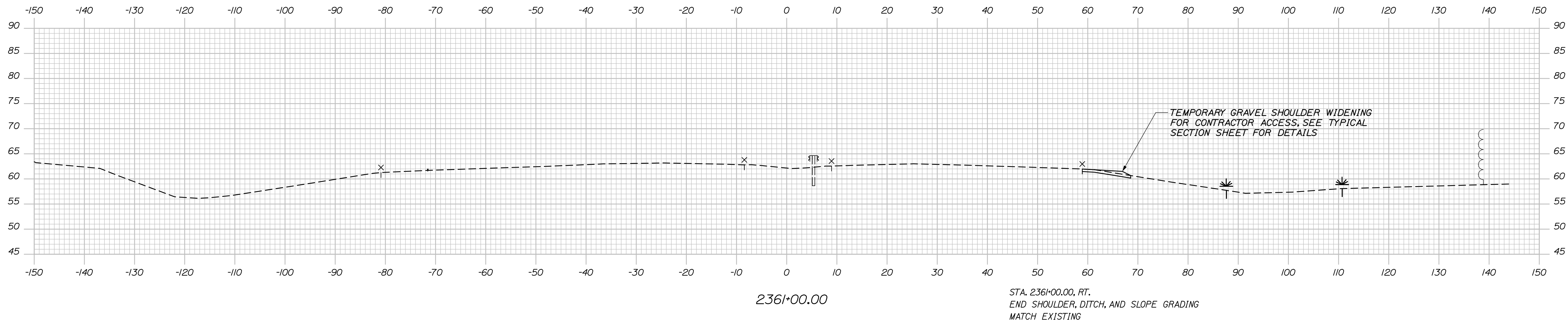
	By	Date	Checked	By	Date
Designed	DAM	04/21	Checked	RWH	04/21
Drawn	EDD	04/21	In Charge of	TRC	04/21

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

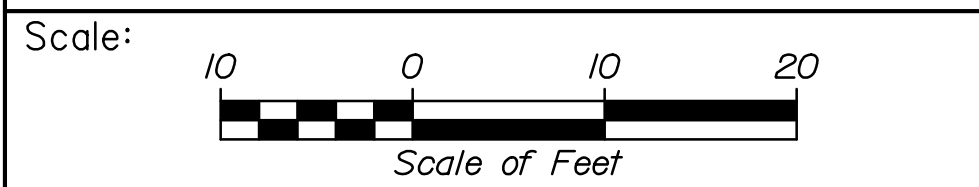
CONTRACT: 2021.02

17 OF 42

Date: 6/29/2021



**NOTE:**  
STATION TO STATION WORK LIMITS ARE APPROXIMATE, CONTRACTOR SHALL PROPOSE ACTUAL LIMITS FOR RESIDENT REVIEW AND APPROVAL.



Designed by:

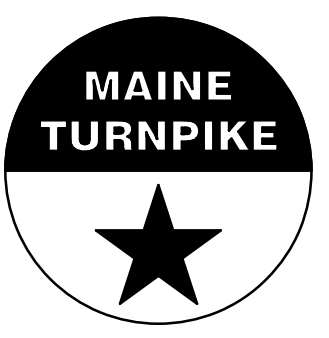
**HNTB**

No.	Revision	By	Date
Δ	ADDENDUM #1	DAM	04/21

CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.

	By	Date	Checked	By	Date
Designed	DAM	04/21		RWH	04/21
Drawn	EDD	04/21		TRC	04/21

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**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS

MAINE TURNPIKE CROSS SECTIONS  
STA. 2360+53.81 TO STA. 2361+00

SHEET NUMBER: XS-05

CONTRACT: 2021.02



**SPECIFICATIONS**

DESIGN

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION.

CONSTRUCTION

STATE OF MAINE, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES, REVISION OF NOVEMBER 2014.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD DETAILS FOR HIGHWAYS AND BRIDGES, NOVEMBER 2014 WITH LATEST REVISIONS.

AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, 4TH EDITION.

DESIGN LOADING

LIVE LOAD - HL-93

MATERIALS

CONCRETE

CLASS AAA

REINFORCING STEEL

AASHTO M31, GRADE 60 EPOXY COATED

ANCHOR BOLTS

ASTM F1554, GRADE 55

STRUCTURAL STEEL

STEEL H-PILES, ASTM A572, GRADE 50

ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO ASTM A709, GRADE 50

BASIC DESIGN STRESSES

CONCRETE - CLASS AAA -  $f'_c = 4,500$  P.S.I.

REINFORCING STEEL - GRADE 60  $f_y = 60,000$  P.S.I.

STRUCTURAL STEEL - ASTM 572, GRADE 50;  $f_y = 50,000$  P.S.I.  
- ASTM 709, GRADE 50;  $f_y = 50,000$  P.S.I.

GENERAL NOTES:

1. THE PROPOSED ELEVATIONS ARE BASED ON THE NAVD 88 DATUM. SOME AS-BUILT PLANS ARE BASED ON NGVD 29 DATUM.

2. COPIES OF THE AS-BUILT PLANS ARE ON FILE AT THE MAINE TURNPIKE AUTHORITY. THE ACCURACY OF THESE PLANS IS NOT GUARANTEED.

3. REINFORCING STEEL SHALL HAVE A CLEAR COVER OF 2", UNLESS OTHERWISE NOTED.

4. CHAMFER ALL EXPOSED CONCRETE EDGES  $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

5. WHERE DRILLING AND ANCHORING OF REINFORCING STEEL IS SPECIFIED THE CONTRACTOR SHALL USE A MATERIAL LISTED ON THE MAINEDOT PREQUALIFIED LIST OF EPOXY AND RESIN BASED ADHESIVE BONDING SYSTEMS. THE DEPTH OF EMBEDMENT SHALL BE SUFFICIENT TO DEVELOP 125% OF THE YIELD STRENGTH OF THE BAR, BUT SHALL BE NO LESS THAN THE MINIMUM DEPTH OF EMBEDMENT WHEN SPECIFIED.

6. DIMENSIONS WITH RESPECT TO EXISTING STRUCTURES ARE APPROXIMATE AND ARE PROVIDED FOR REFERENCE. IF FIELD CONDITIONS VARY BY MORE THAN 1" FROM DIMENSIONS SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED.

QUANTITY TABLE

ITEM NO.	DESCRIPTION	UNIT	STRUCTURAL QUANTITY
202.12	REMOVE EXISTING STRUCTURAL CONCRETE	CY	50
501.231	DYNAMIC LOAD TEST	EA	2
501.40	STEEL H-BEAM PILES, 53 LB/FT, DELIVERED	LF	865
501.401	STEEL H-BEAM PILES, 53 LB/FT, IN PLACE	LF	865
501.90	PILE TIPS	EA	10
501.91	PILE SPLICES	EA	10
501.92	PILE DRIVING EQUIPMENT MOBILIZATION	LS	1
511.091	TEMPORARY EARTH SUPPORT SYSTEMS	LS	1
514.06	CURING BOX FOR CONCRETE CYLINDERS	EA	1
604.1581	UTILITY VAULT EXTENSION - STA 2360+02.55 NB	LS	1
604.1582	UTILITY VAULT EXTENSION - STA 2340+52.81 NB	LS	1
604.1583	UTILITY VAULT EXTENSION - STA 2340+52.81 SB	LS	1

INDEX OF DRAWINGS

PAGE NO.	TITLE	SHEET NO.
19	STRUCTURAL PLANS GENERAL NOTES	S-01
20	UTILITY VAULT DETAILS STA. 2340+52.81	S-02
21	UTILITY VAULT DETAILS STA. 2340+52.81 - DETAILS I	S-03
22	UTILITY VAULT DETAILS STA. 2340+52.81 - DETAILS II	S-04
23	UTILITY VAULT DETAILS STA. 2340+52.81 - DETAILS III	S-05
24	UTILITY VAULT DETAILS STA. 2340+52.81 - DETAILS IV	S-06
25	UTILITY VAULT DETAILS STA. 2340+52.81 - REINFORCING SCHEDULE	S-07
26	UTILITY VAULT DETAILS STA. 2360+02.55	S-08
27	UTILITY VAULT DETAILS STA. 2360+02.55 - DETAILS I	S-09
28	UTILITY VAULT DETAILS STA. 2360+02.55 - DETAILS II	S-10
29	UTILITY VAULT DETAILS STA. 2360+02.55 - DETAILS III	S-11
30	UTILITY VAULT DETAILS STA. 2360+02.55 - DETAILS IV	S-12
31	UTILITY VAULT DETAILS STA. 2360+02.55 - REINFORCING SCHEDULE	S-13

UTILITY VAULT NOTES:

1. ALL EXISTING DIMENSIONS AND DETAILS ARE TAKEN FROM ORIGINAL DESIGN DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND EXISTING DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENT AND SURVEY.

2. PAYMENT FOR REMOVAL OF EXISTING CONCRETE AND SAW CUTTING CONCRETE IS INCIDENTAL TO THE RELATED UTILITY VAULT EXTENSION PAY ITEMS. BEFORE REMOVAL OF CONCRETE, THE DEMOLITION LIMIT SHALL BE SAW CUT TO A DEPTH OF 1" MINIMUM. CARE SHALL BE TAKEN NOT TO DAMAGE ANY REINFORCING STEEL THAT IS TO REMAIN.

3. BARS BROKEN DURING REMOVAL OF EXISTING CONCRETE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE BY DRILLING AND ANCHORING AN EQUIVALENT SIZED BAR.

4. THE CONTRACTOR SHALL DEVELOP A CONSTRUCTION PROCEDURE, TEMPORARY WATER MAIN SUPPORT, AND TEMPORARY SUPPORT SYSTEMS THAT WILL PROTECT, AT ALL TIMES, THE WATER MAINS. EACH WATER MAIN WILL BE REMOVED FROM SERVICE DURING THE WORK BY CLOSING THE VALVES ON EACH SIDE OF THE WORK AREA. SEE SPECIAL PROVISION 604 FOR ADDITIONAL INFORMATION.

5. THE UTILITY VAULTS SHALL FOLLOW THE HORIZONTAL ALIGNMENT OF THE EXISTING WATER MAIN.

6. MANHOLES SHALL BE NEENAH FOUNDRY COMPANY, R-6660-NH SERIES CATALOG NUMBER R-6660-NH, OR APPROVED EQUIVALENT. PAYMENT FOR THE MANHOLES ARE INCIDENTAL TO THE RELATED 604 UTILITY VAULT EXTENSION PAY ITEMS.

7. PREPARATION OF THE EXISTING CONCRETE SHALL PRODUCE A SOUND, CLEAN SURFACE FREE OF BOND INHIBITING MATERIALS. ANY CONCRETE AREAS FOUND TO BE UNSOUND SHALL BE RE-CHIPPED BY THE CONTRACTOR. PAYMENT SHALL BE INCIDENTAL TO THE RELATED UTILITY VAULT EXTENSION PAY ITEMS.

8. APPLY A BONDING AGENT TO THE EXISTING CONCRETE SURFACES PRIOR TO PLACING NEW CONCRETE. THE MANUFACTURER'S INSTRUCTIONS FOR THE SELECTED BONDING AGENT MUST BE FOLLOWED AND APPROVED BY THE ENGINEER. PAYMENT SHALL BE INCIDENTAL TO THE RELATED UTILITY VAULT EXTENSION PAY ITEMS.

9. FOR MANHOLE STEP DETAILS SEE MAINE DEPARTMENT OF TRANSPORTATION STANDARD DETAILS, PAGE 604(03). PAYMENT SHALL BE INCIDENTAL TO THE RELATED UTILITY VAULT EXTENSION PAY ITEMS.

10. FOR DETAILS OF EXISTING CONCRETE RETAINING WALL TO BE DEMOLISHED, SEE AS-BUILT PLANS FOR CONTRACT 2001.01.

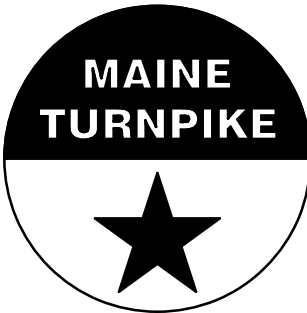
11. STRUCTURAL EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH MAINEDOT STANDARD SPECIFICATION 206 AND INCIDENTAL TO RELATED 604 PAY ITEMS.

LIST OF ABBREVIATIONS

ABUT. - ABUTMENT	EXIST. - EXISTING	PROP. - PROPOSED
ADDL. - ADDITIONAL	EXP. - EXPANSION	P.S.I. - POUNDS per SQUARE INCH
ALT. - ALTERNATE	F.F. - FAR FACE	RCP - REINFORCED CONCRETE PIPE
APPROX. - APPROXIMATELY	JT. - JOINT	RDWY. - ROADWAY
BOT. - BOTTOM	LF - LINEAR FOOT	RT. - RIGHT
BRG. - BEARING	LT. - LEFT	SHLDR. - SHOULDER
CB - CATCH BASIN	MAX. - MAXIMUM	SB - SOUTHBOUND
CIP - CAST IN PLACE	MEDOT - MAINE DEPARTMENT OF TRANSPORTATION	SF - SQUARE FEET
CL - CLEAR/CLASS	MIN. - MINIMUM	SP. - SPACES
℄ - CENTERLINE	MTA - MAINE TURNPIKE AUTHORITY	STA. - STATION
CONC. - CONCRETE	NB - NORTHBOUND	TEMP. - TEMPORARY
CONSTR. - CONSTRUCTION	N.F. - NEAR FACE	T.&B. - TOP & BOTTOM
CY - CUBIC YARD	N.T.S. - NOT TO SCALE	TPKE. - TURNPIKE
DEMO. - DEMOLITION	OC - ON CENTER	TYP. - TYPICAL
DIA. - DIAMETER	OHSS - OVERHEAD SIGN STRUCTURE	U.O.N. - UNLESS OTHERWISE NOTED
EA. - EACH	OPT - OPTION	VERT. - VERTICAL
EB - EASTBOUND	PED. - PEDESTAL	V.I.F. - VERIFY IN FIELD
E.F. - EACH FACE	PGL - PROFILE GRADE LINE	WB - WESTBOUND
EL - ELEVATION	ℙ - PLATE	W.P. - WORKING POINT
EQ. - EQUAL		WW - WINGWALL

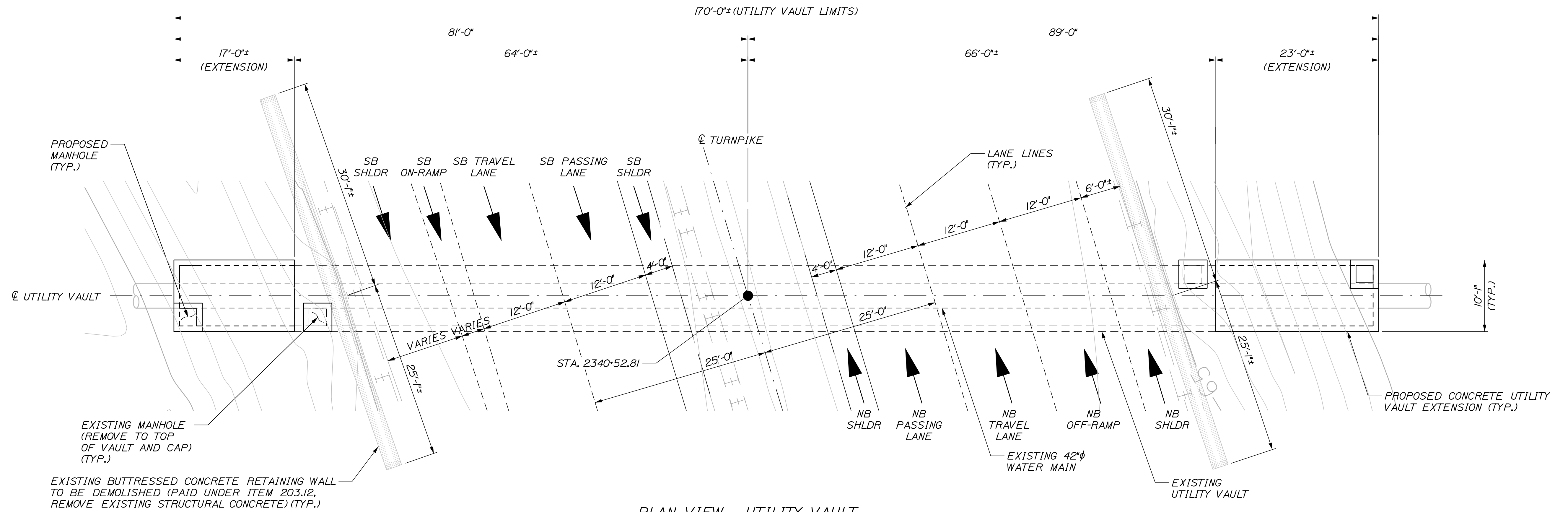
Date: 6/29/2021

Filename: 019\_General Notes Rev. 1

Scale: <b>NO SCALE</b>		Designed by: <b>HNTB</b>		HNTB CORPORATION 82 Running Hill Road, Suite 201 South Portland, ME 04106 TEL (207) 774-5155 FAX (207) 228-0909		 <b>THE GOLD STAR MEMORIAL HIGHWAY</b>		WATER LINE AND UTILITY VAULTS  STRUCTURAL PLANS GENERAL NOTES	
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.				SHEET NUMBER: S-01	
1	CONCRETE REMOVAL QUANTITY	BRG	06/21	Designed	By	Date	Checked	By	Date
				Drawn	ERB	03/21	In Charge of	TRC	03/21
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.								CONTRACT: 2021.02	
Page 34 of 57									

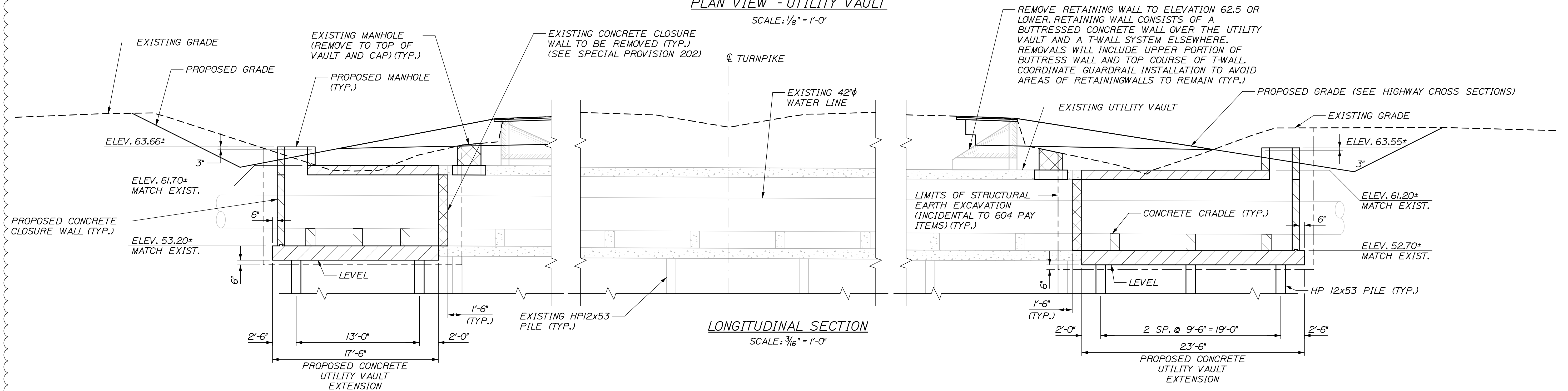
Date: 6/29/2021

Filename: 020\_UTILITY VAULT DETAILS - Tunnel 2\_Rev. 1



PLAN VIEW - UTILITY VAULT

SCALE: 1/8" = 1'-0"



LONGITUDINAL SECTION

SCALE: 3/16" = 1'-0"

NOTE:  
FOR UTILITY VAULT NOTES SEE SHEET S-01

Scale:				Designed by:			
AS NOTED							
No.	Revision	By	Date				
1	ADDED RETAINING WALL DEMOLITION	BRG	06/21				

CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.					
	By	Date	By	Date	
Designed	BRG	03/21	Checked	JDW	03/21
Drawn	ERB	03/21	In Charge of	TRC	03/21

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**THE GOLD STAR  
MEMORIAL HIGHWAY**

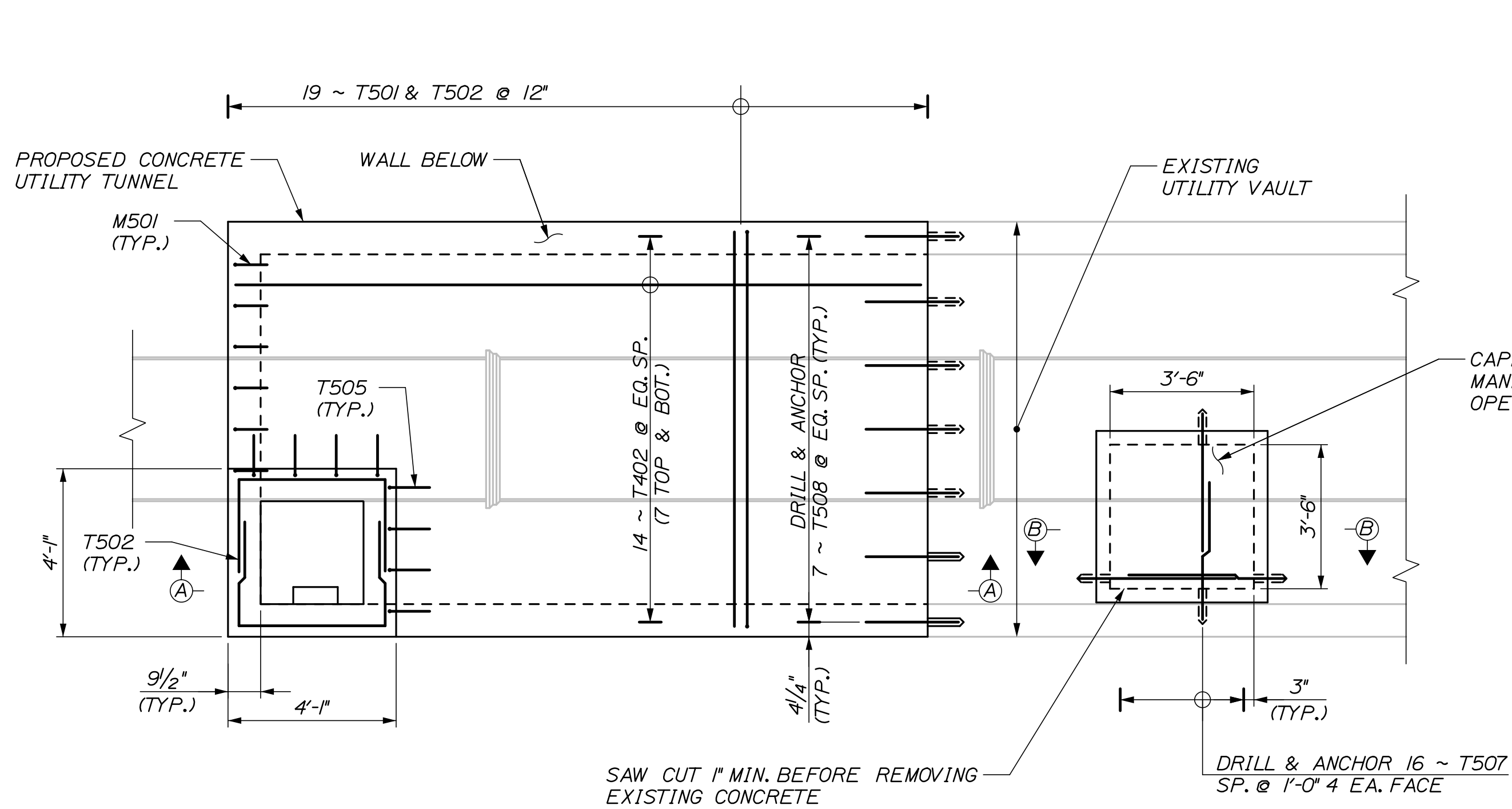
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS

UTILITY VAULT DETAILS  
STA. 2340+52.81

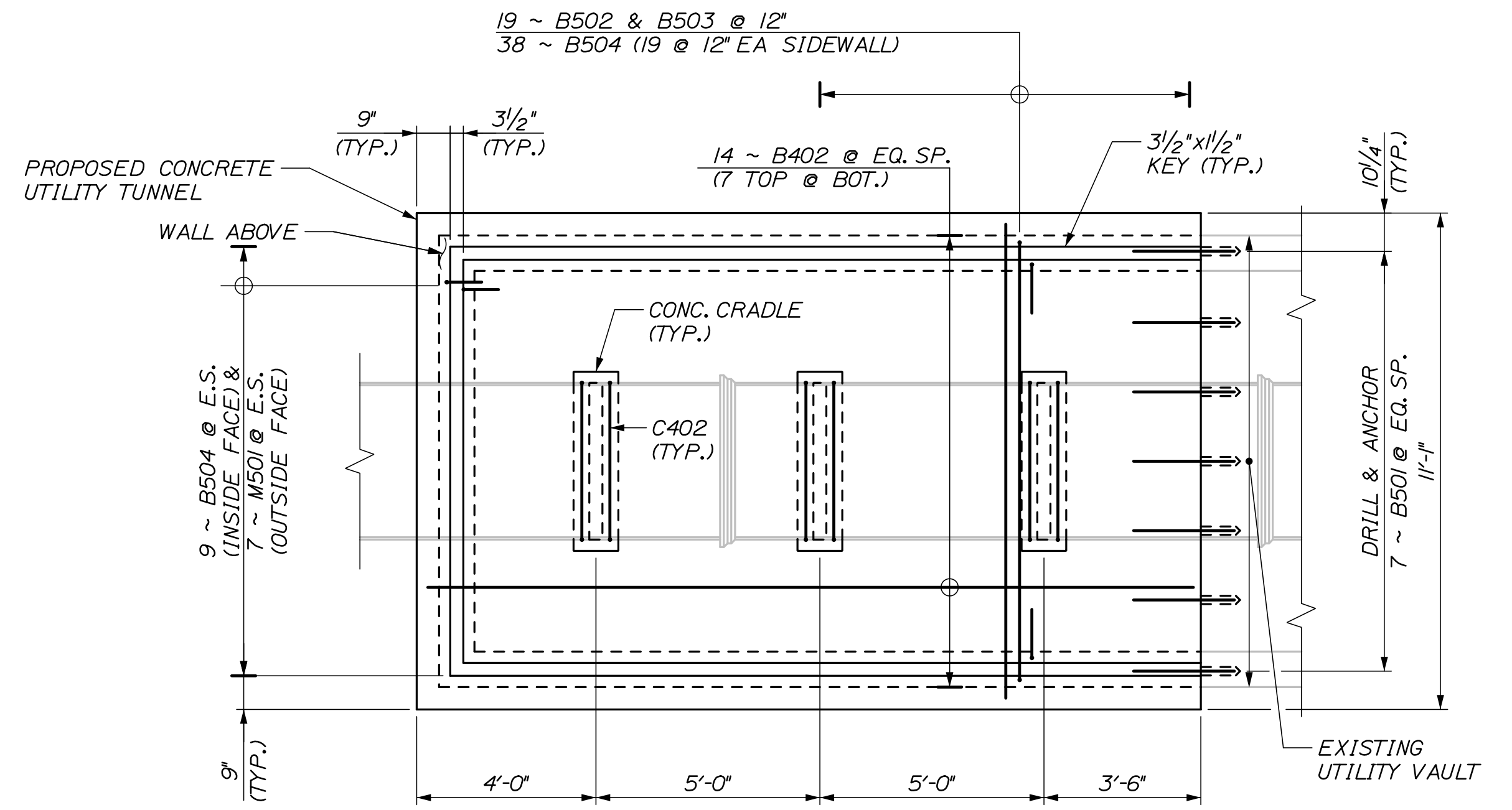
SHEET NUMBER: S-02  
CONTRACT: 2021.02  
20 OF 42

Date: 6/29/2021



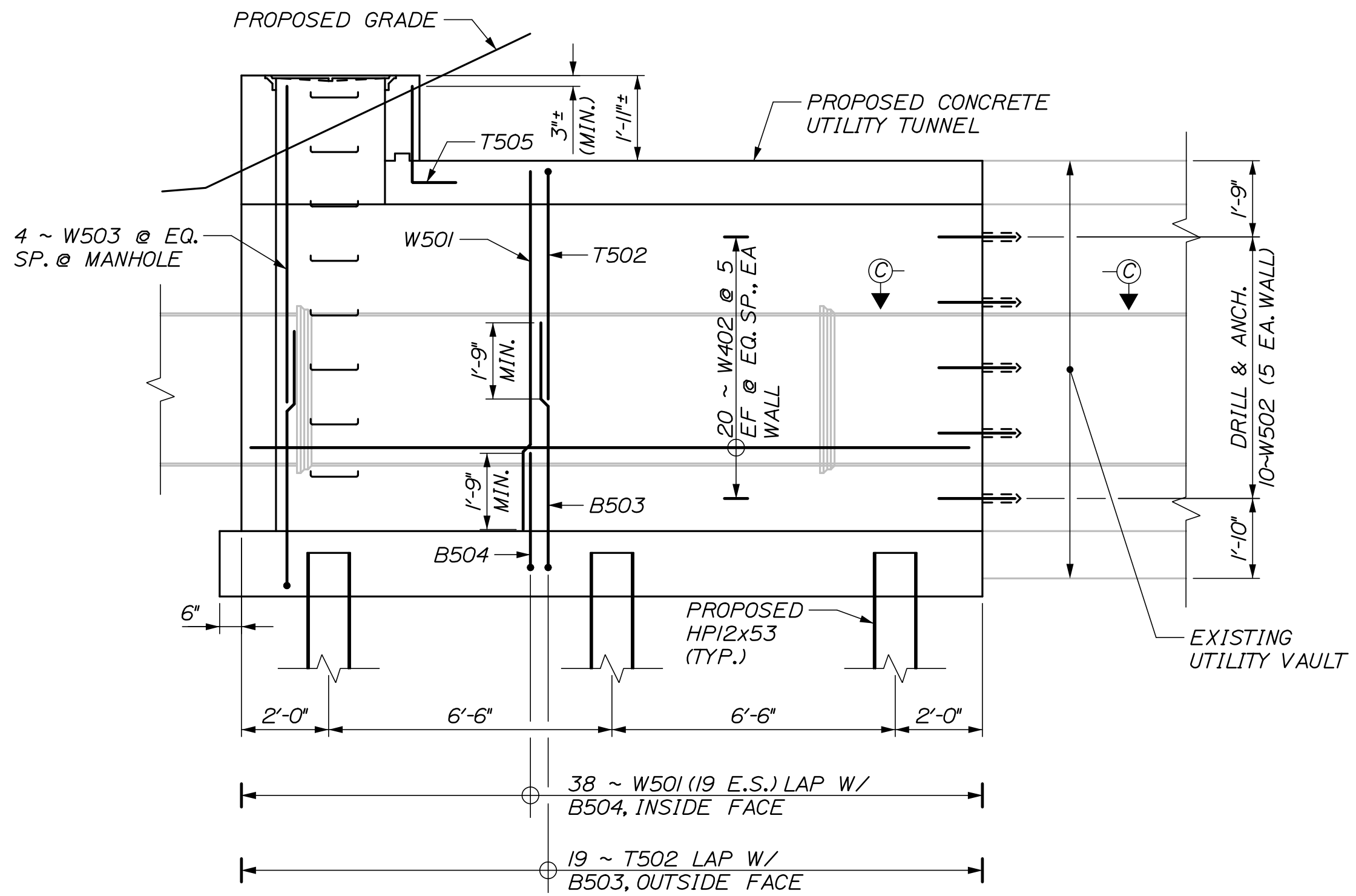
**PLAN - WEST EXTENSION**  
(TOP SLAB REINFORCEMENT SHOWN)  
3/8" = 1'-0"

NOTE:  
FIELD CUT BARS AT  
MANHOLE AS REQUIRED.



**BOTTOM SLAB PLAN - WEST EXTENSION**

3/8" = 1'-0"



**SECTION A-A - WEST EXTENSION**

(NORTH WALL SHOWN, SOUTH WALL SIMILAR)  
3/8" = 1'-0"

NOTES:  
1. FOR SECTIONS B-B AND C-C, SEE SHEET S-06.

**PILE NOTES**

1. THE CONTRACTOR SHALL PERFORM AND SUBMIT A WAVE EQUATION ANALYSIS FOR REVIEW AND ACCEPTANCE BY THE RESIDENT. THE MAXIMUM ALLOWABLE DRIVING STRESS IS 0.90 TIMES F<sub>y</sub>. THE SUBMITTAL ANALYSIS SHALL INCLUDE THE PROPOSED STOPPING CRITERIA BASED ON THE WAVE EQUATION ANALYSIS AND THE PROPOSED DRIVING SYSTEM. THE STOPPING CRITERIA SHALL INCLUDE THE BLOWS PER INCH AND THE NUMBER OF 1-IN. INTERVALS AT WHICH PILE INSTALLATION MAY BE TERMINATED. THE COST OF PERFORMING THE WAVE EQUATION ANALYSIS WILL BE CONSIDERED INCIDENTAL TO PAY ITEM 501.92.
2. THE CONTRACTOR SHALL PERFORM 2 DYNAMIC LOAD TEST(S), ONE AT EACH FOUNDATION, TO CONFIRM THE NOMINAL DRIVING RESISTANCE OF THE PILES. THE DYNAMIC TEST SHALL BE PERFORMED ON THE FIRST PRODUCTION PILE DRIVEN AT EACH FOUNDATION.
3. PILES SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION 501. ESTIMATED PILE LENGTHS INCLUDE 10 FEET PER PILE AS CONTINGENCY TO THE LENGTH OF THE PILES REQUIRED.
4. ALL PILES SHALL BE EQUIPPED WITH A PILE TIP IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 501.048, PREFABRICATED PILE TIPS.
5. ELEVATIONS ARE APPROXIMATE AND ARE PROVIDED FOR REFERENCE ONLY.

LOCATION	PILE SIZE	NUMBER OF PILES	AXIAL COMPRESSION RESISTANCE (KIPS)		MINIMUM PILE TIP ELEVATION	ESTIMATED PILE TIP ELEVATION	NOMINAL DRIVING RESISTANCE (KIPS)
			NOMINAL	FACTORED			
NORTHBOUND	HP 12x53	6	486	316	-12	-20	600
SOUTHBOUND	HP 12x53	4	535	348	-23	-28	671

Scale: AS NOTED

No.	Revision	By	Date

Designed by:

**HNTB**

CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.

	By	Date	By	Date	
Designed	BRG	03/21	Checked	JDW	03/21
Drawn	ERB	03/21	In Charge of	TRC	03/21

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**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS

UTILITY VAULT DETAILS  
STA. 2340+52.81 - DETAILS I

SHEET NUMBER: S-03

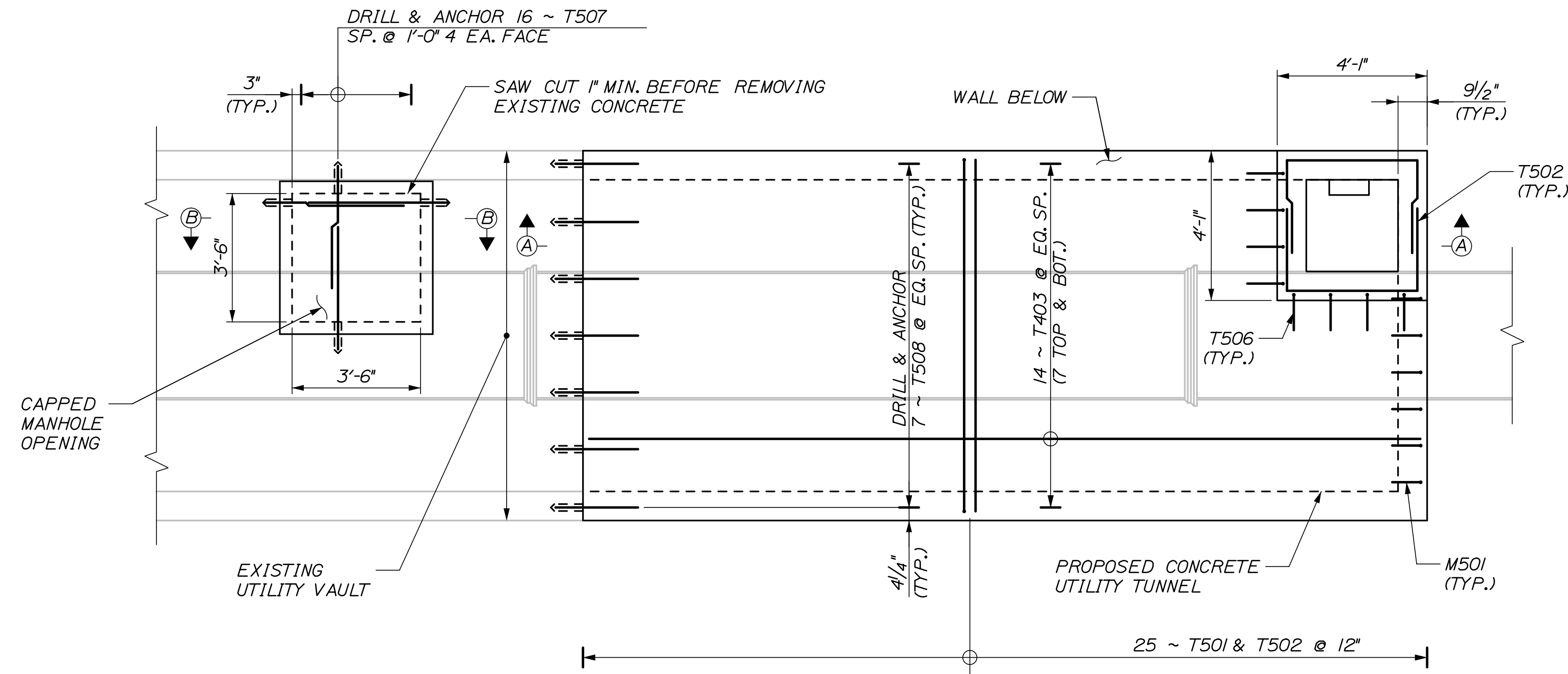
CONTRACT: 2021.02

210F 42



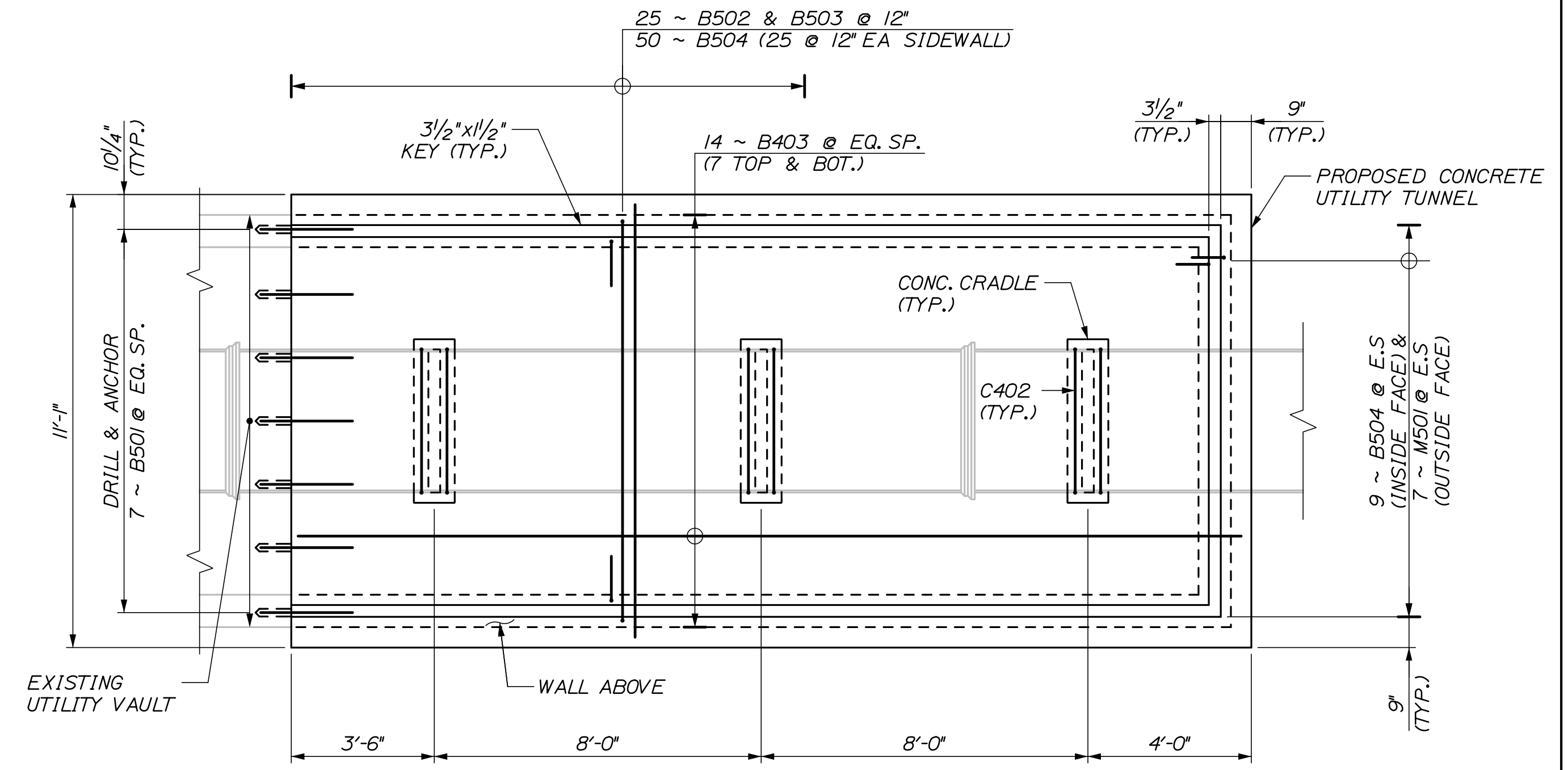
Date: 6/29/2021

Filename: 022\_Utility Vault Details - Tunnel 2 - Details II Rev. 1

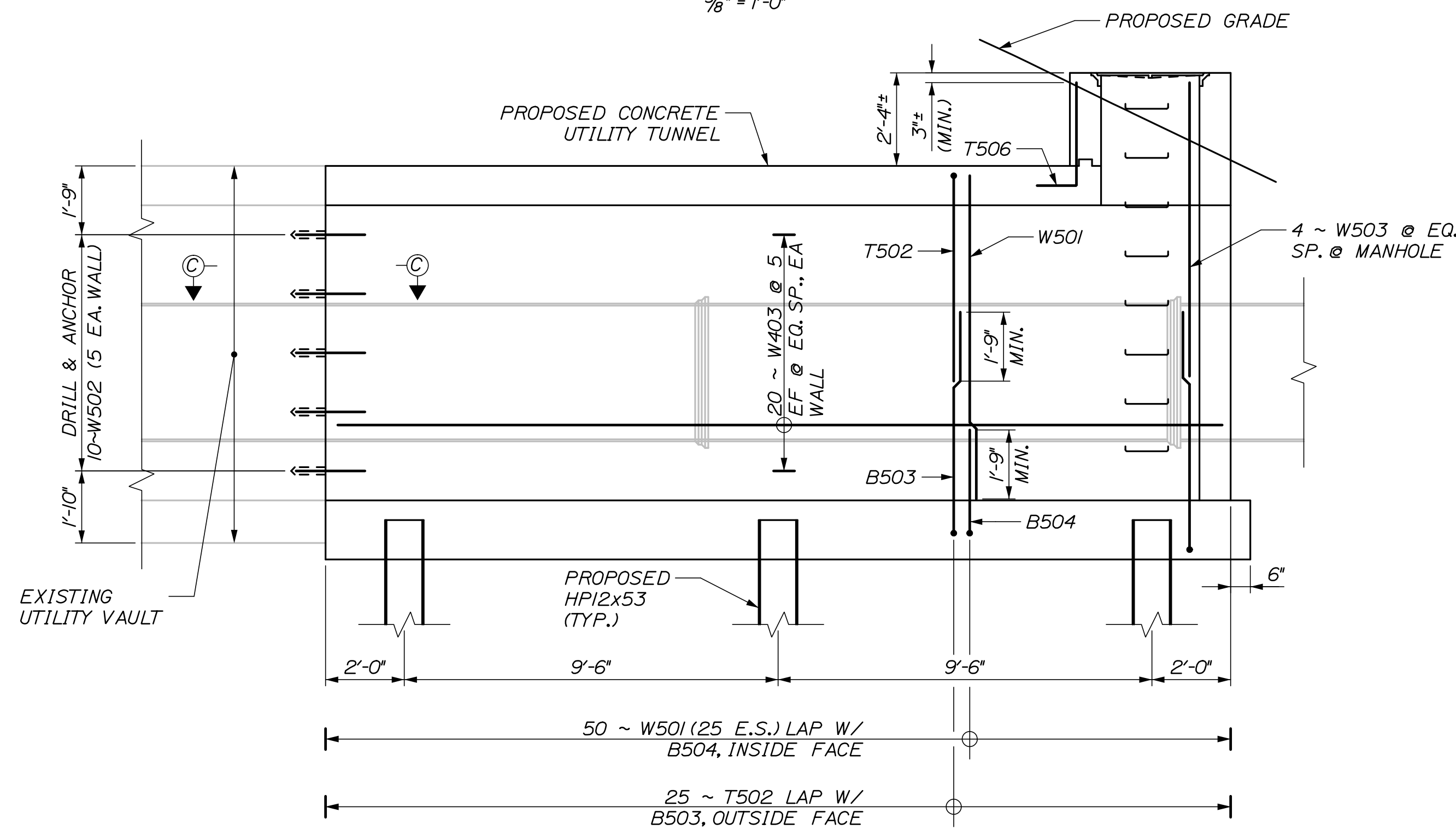


NOTE:  
FIELD CUT BARS AT  
MANHOLE AS REQUIRED.

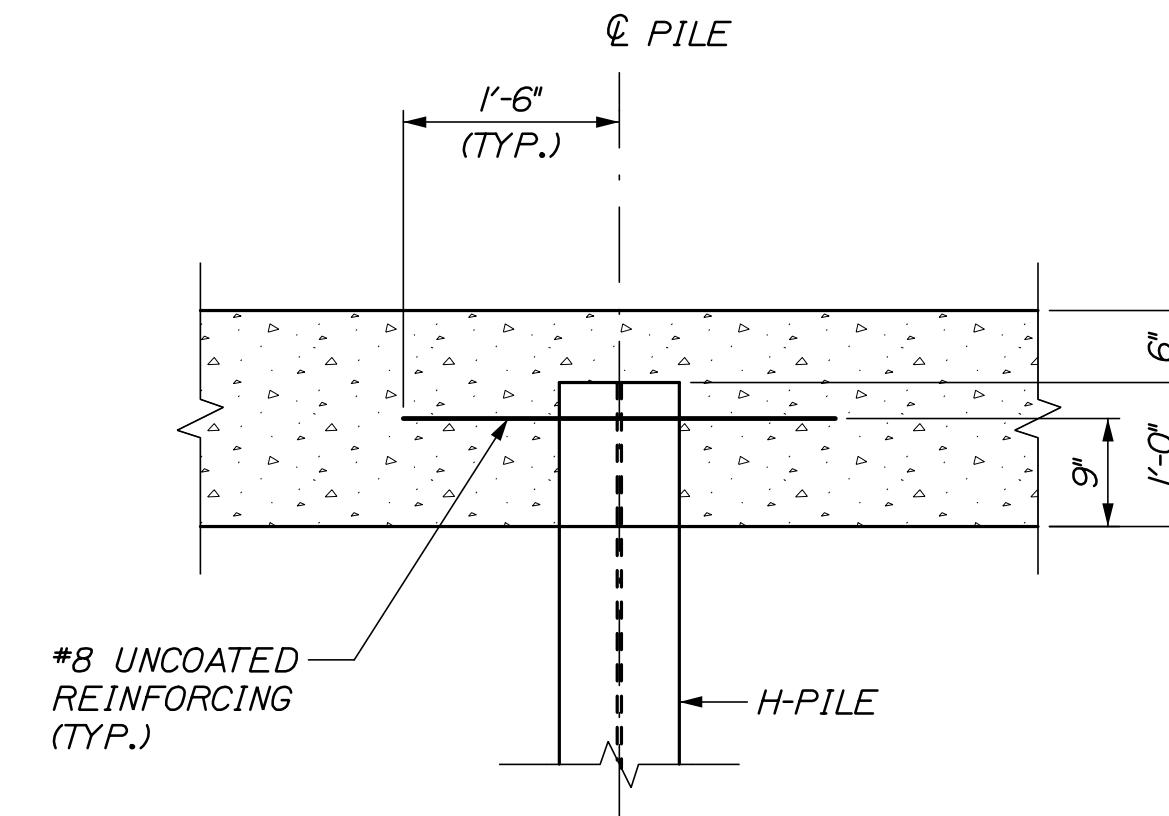
**PLAN - EAST EXTENSION**  
(TOP SLAB REINFORCEMENT SHOWN)  
3/8" = 1'-0"



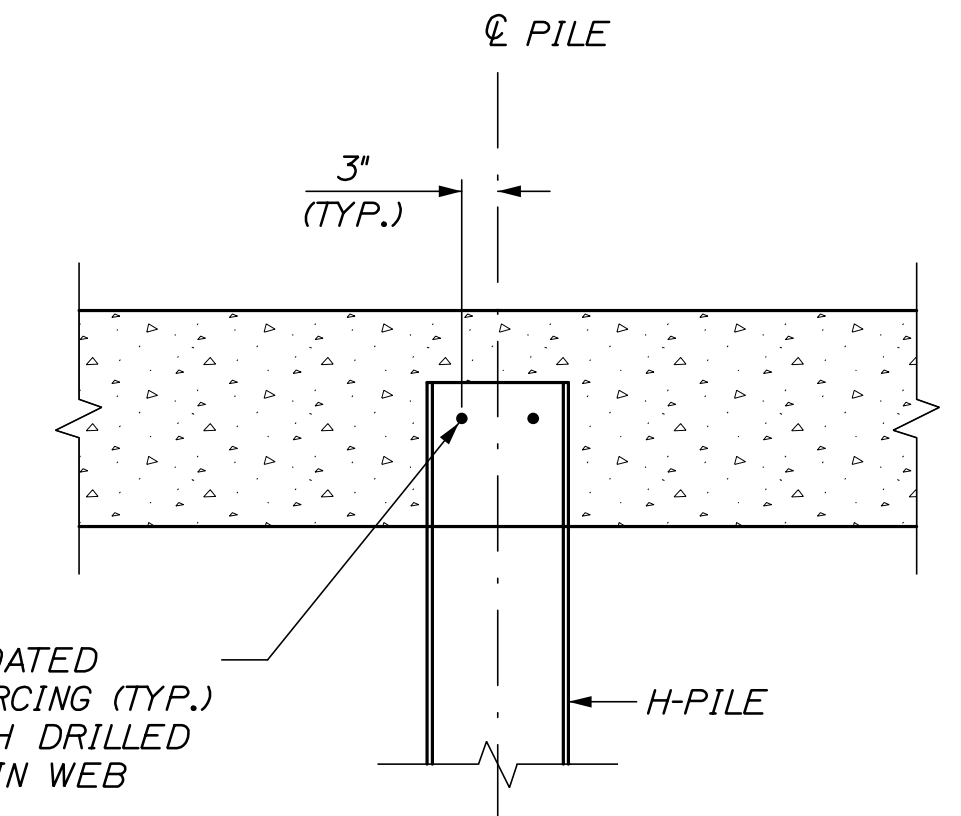
**BOTTOM SLAB PLAN - EAST EXTENSION**  
3/8" = 1'-0"



**SECTION A-A - EAST EXTENSION**  
(NORTH WALL SHOWN, SOUTH WALL SIMILAR)  
3/8" = 1'-0"



**PILE EMBEDMENT DETAIL**  
NOT TO SCALE



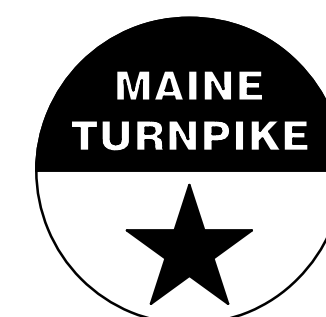
**PILE EMBEDMENT SECTION**  
NOT TO SCALE

**NOTES:**  
1. FOR SECTIONS B-B AND C-C, SEE SHEET S-06.

Scale: <b>AS NOTED</b>			
No.	Revision	By	Date

Designed by: <b>HNTB</b>			
CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.			
	By	Date	
	BRG	03/21	
	Checked		
	JDW	03/21	
	By	Date	
	ERB	03/21	
	In Charge of		
	TRC	03/21	

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**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

**WATER LINE AND UTILITY VAULTS**

UTILITY VAULT DETAILS  
STA. 2340+52.81 - DETAILS II

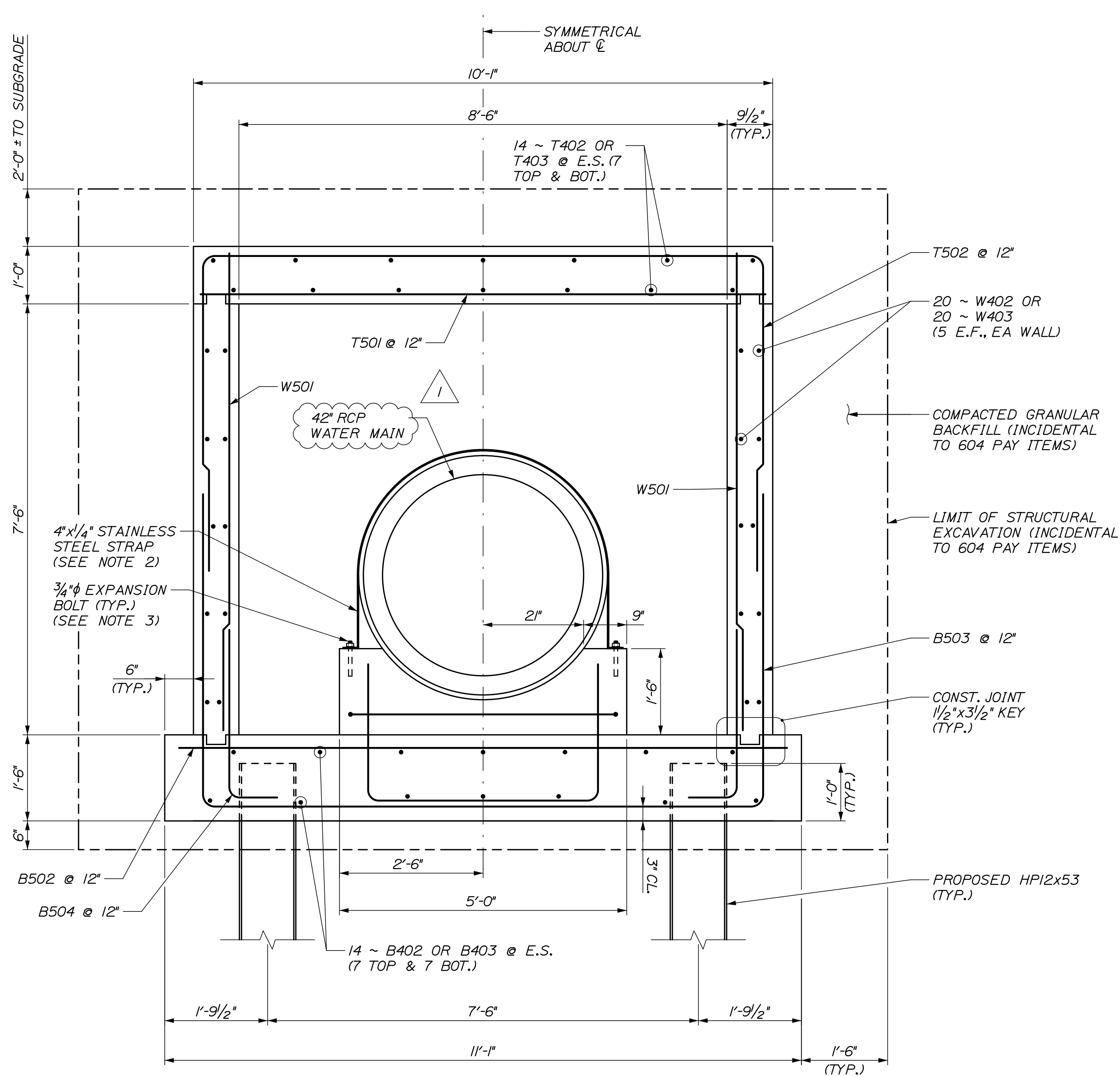
SHEET NUMBER: S-04

CONTRACT: 2021.02

22 OF 42

Date: 6/29/2021

Filename: 023\_Utility Vault Details - Tunnel 2 - Details III Rev. 1

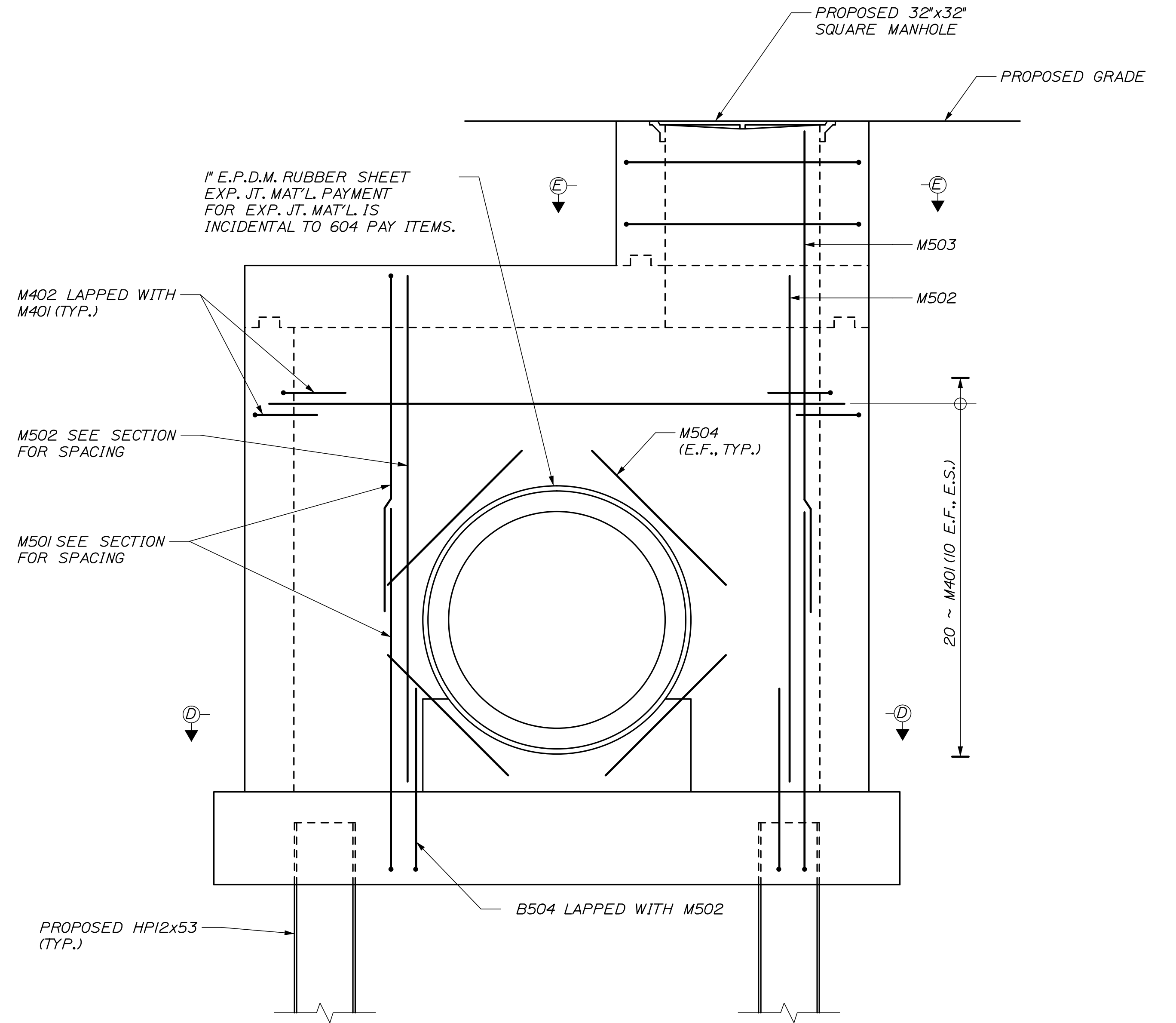


TYPICAL SECTION

3/4" = 1'-0"

NOTES:

- FOR SECTIONS D-D AND E-E, SEE SHEET S-06.
- STAINLESS STEEL STRAP SHALL BE ASTM A666, TYPE 201 AND BE INSTALLED AT 2'-0" O.C. ALONG THE WATERMAIN PIPE.
- EXPANSION BOLT SHALL BE 3/4" STAINLESS STEEL HILTI QUICK BOLT WITH 6" EMBEDMENT OR APPROVED EQUAL.



CLOSURE WALL ELEVATION

3/4" = 1'-0"

NOTE:  
FIELD CUT REINFORCEMENT AT  
42" CIP WHERE REQUIRED.

Scale: <b>AS NOTED</b>			
No.	Revision	By	Date
1	CONCRETE PIPE	BRG	06/21

Designed by: <b>HNTB</b>			
CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.			
	By	Date	By
Designed	BRG	03/21	Checked JDW
Drawn	ERB	03/21	In Charge of TRC

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**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS

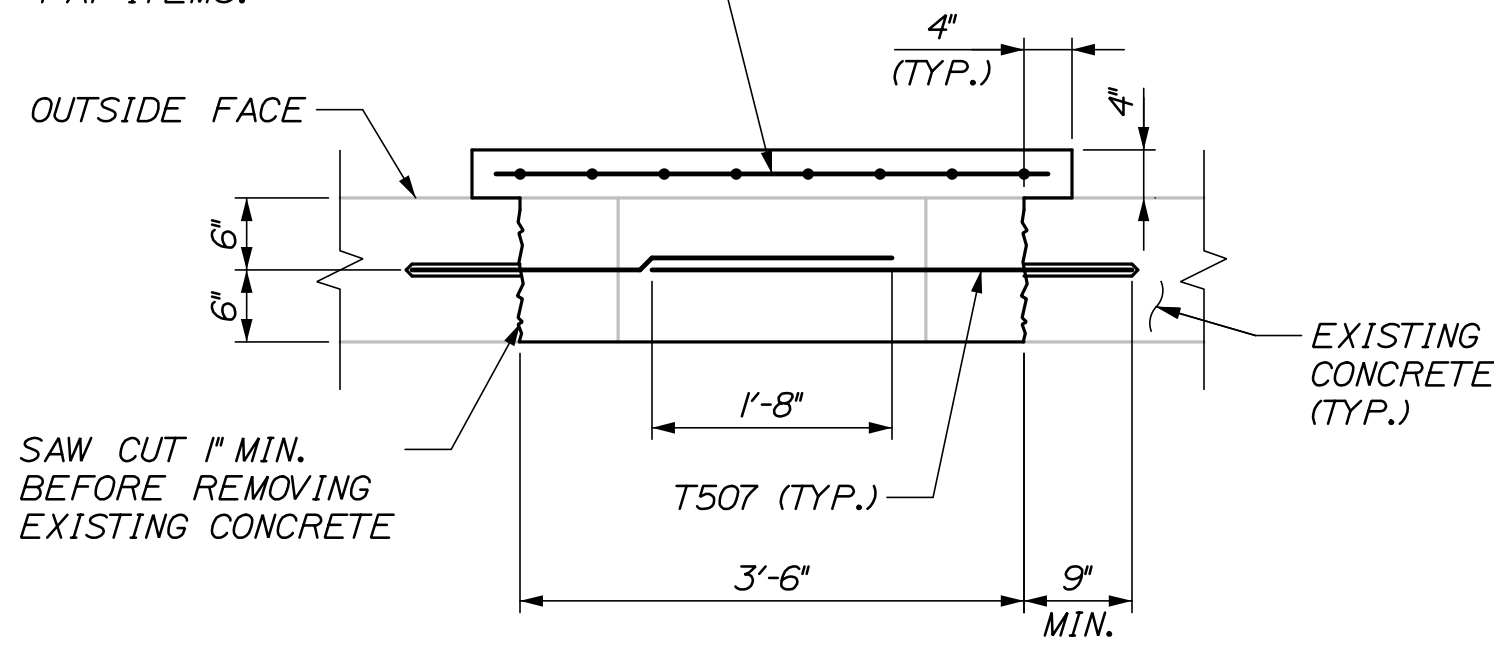
UTILITY VAULT DETAILS  
STA. 2340+52.81 - DETAILS III

SHEET NUMBER: S-05

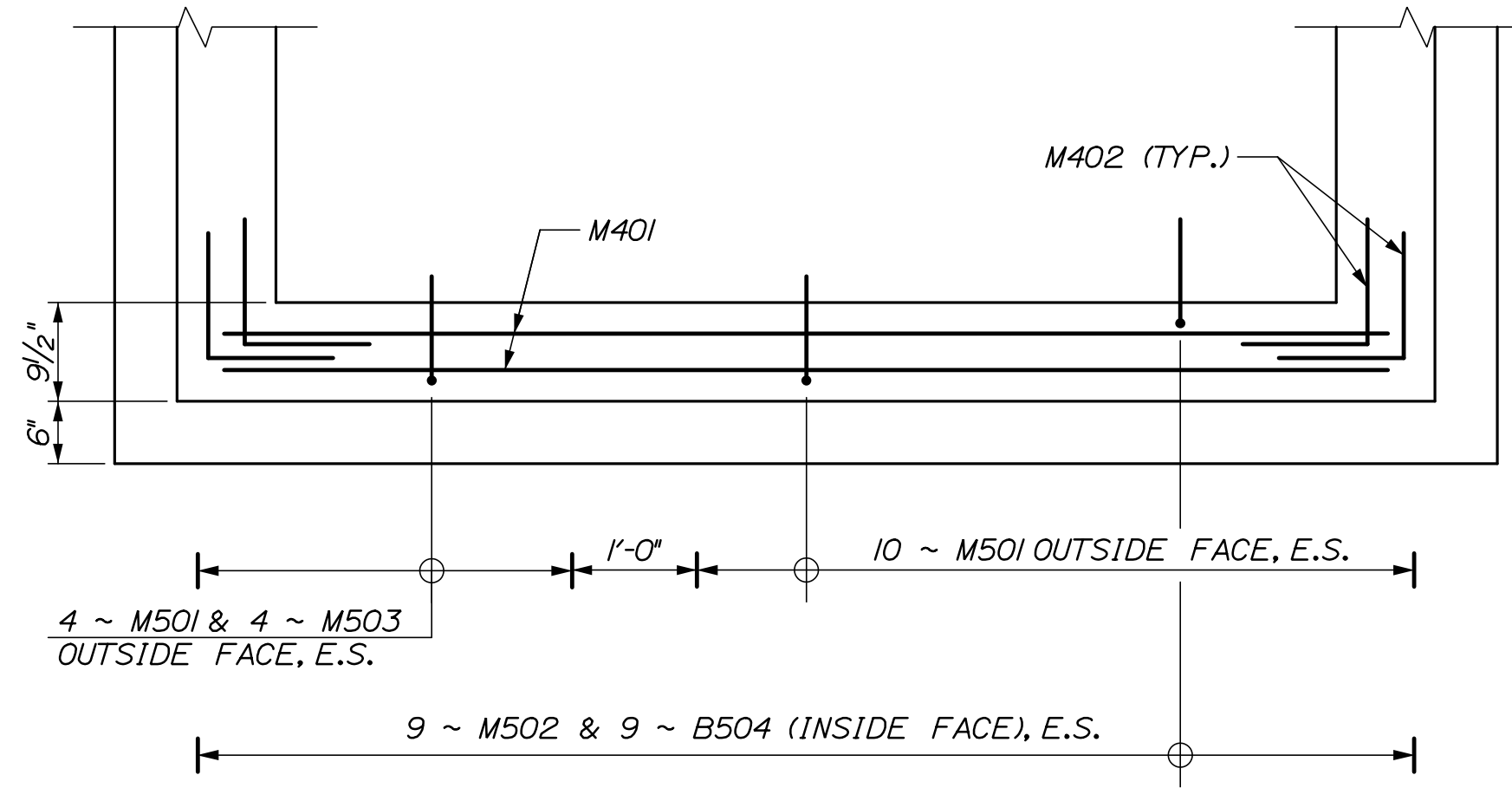
CONTRACT: 2021.02 23 OF 42

Date: 6/29/2021

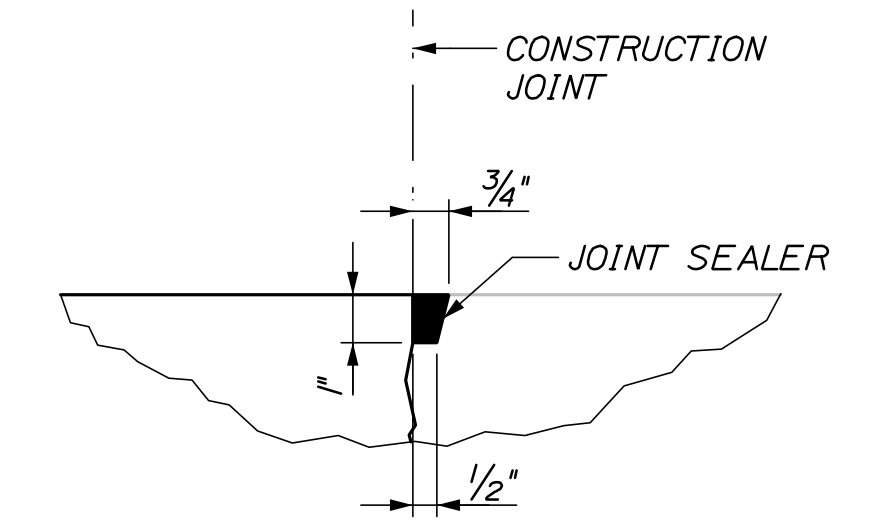
6 X 6 - W1.4 X W1.4 EPOXY COATED WELDED WIRE FABRIC. PAYMENT FOR WELDED WIRE FABRIC IS INCIDENTAL TO 604 PAY ITEMS.



**SECTION B-B**  
(CAPPED EXISTING MANHOLE OPENING)  
3/4" = 1'-0"

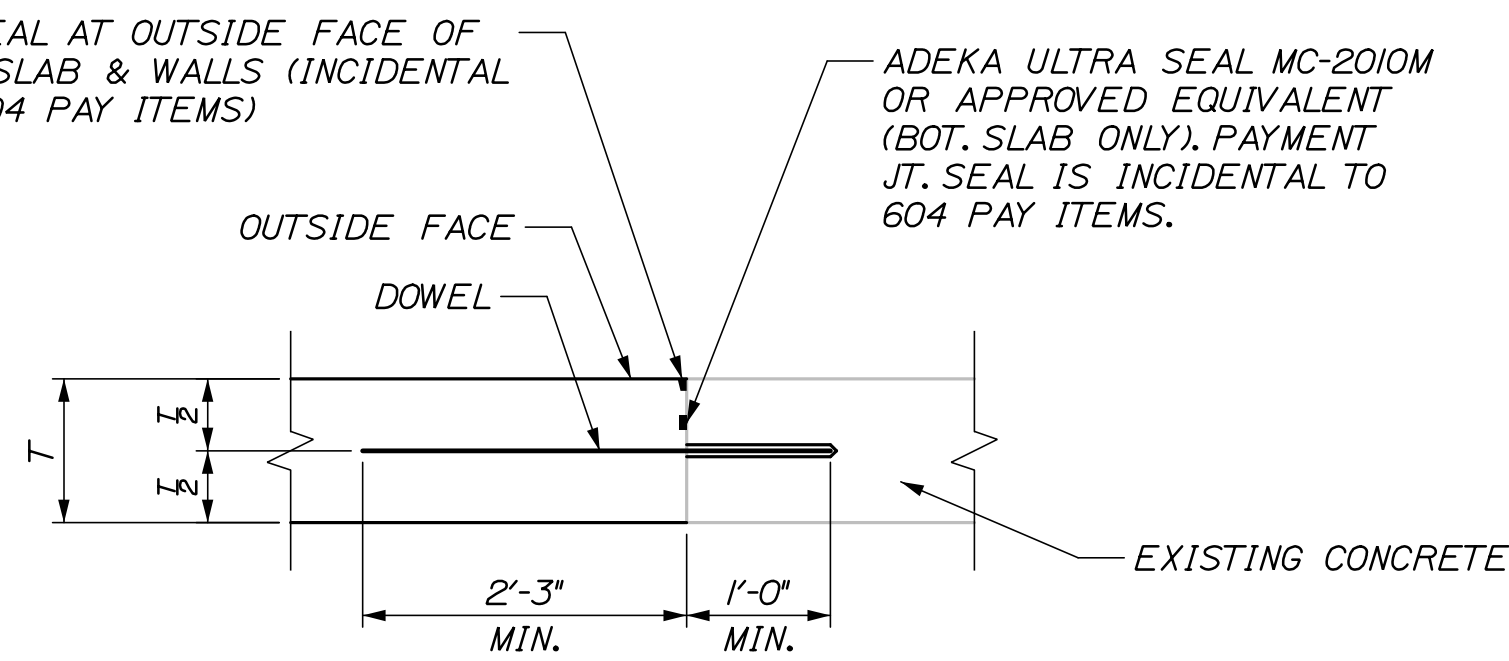


**SECTION D-D**  
3/4" = 1'-0"

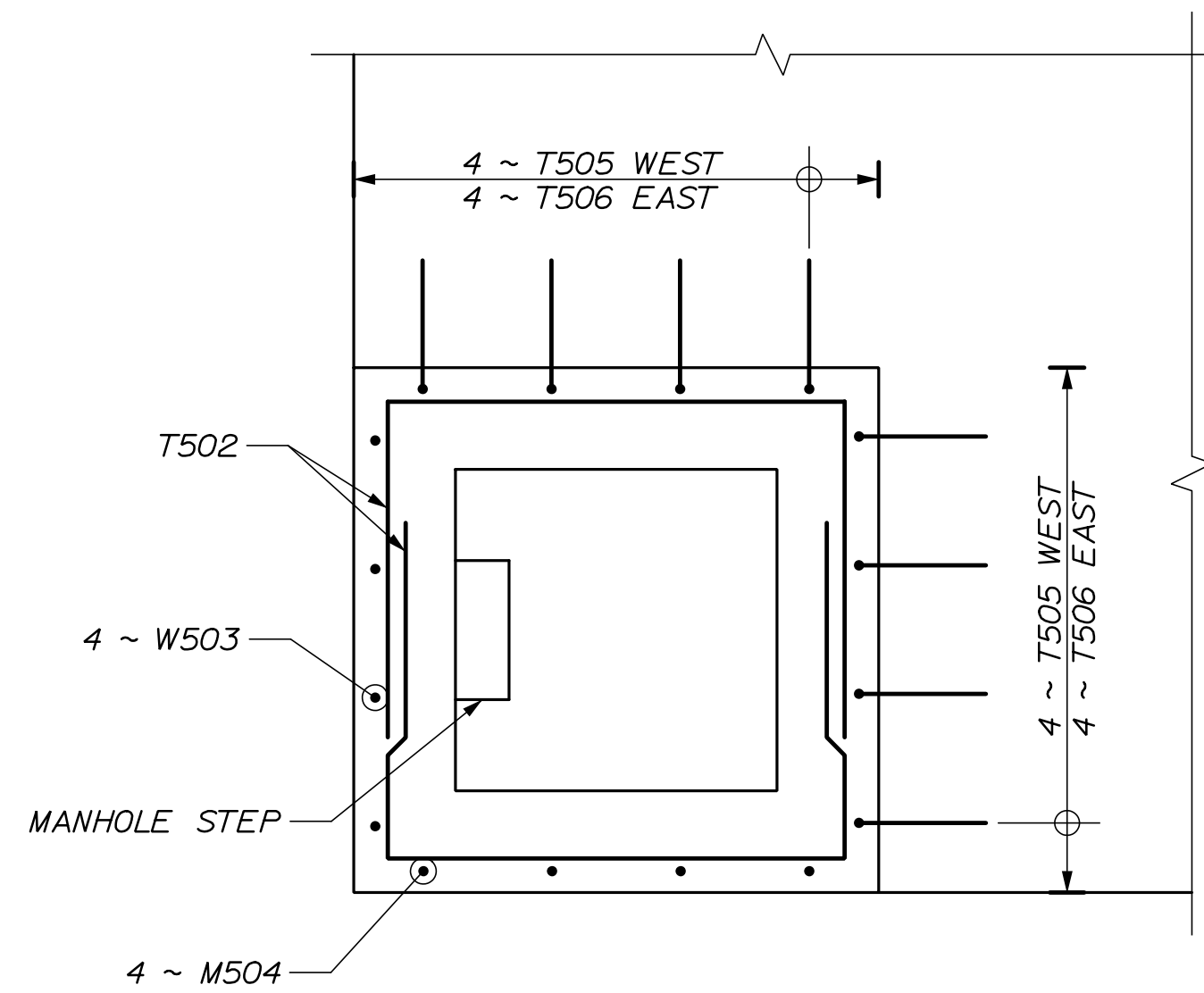


**JOINT SEALER DETAIL**  
3" = 1'-0"

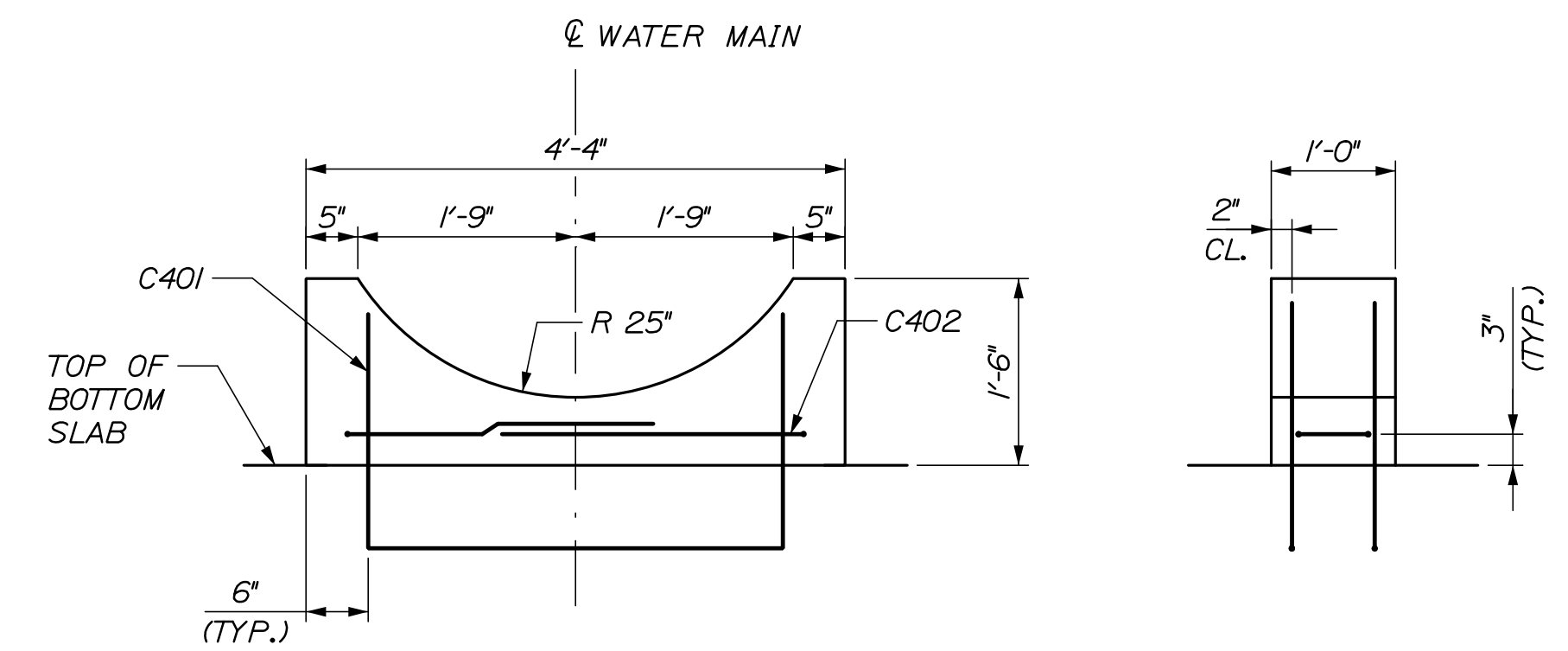
JT. SEAL AT OUTSIDE FACE OF TOP SLAB & WALLS (INCIDENTAL TO 604 PAY ITEMS)



**SECTION C-C**  
3/4" = 1'-0"



**SECTION E-E**  
3/4" = 1'-0"



**CRADLE REINFORCEMENT DETAIL**  
3/4" = 1'-0"

**NOTE:**

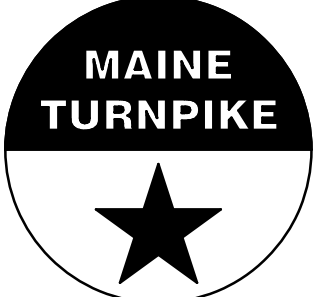
1. CONTRACTOR SHALL VERIFY CRADLE RADIUS MATCHES PIPE RADIUS IN FIELD. IF REQUIRED, RADIUS SHALL BE ADJUSTED SUCH THAT THE PIPE SEATS WITH NO GAPS. ADJUSTMENTS SHALL BE INCIDENTAL TO RELATED 604 PAY ITEMS.

Filename: 024\_UTILITY Vault Details - Tunnel 2 - Details IV Rev. 1

Scale:			
AS NOTED			
No.	Revision	By	Date

Designed by:			
<b>HNTB</b>			
CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.			
	By	Date	
	BRG	03/21	
	Checked	JDW	03/21
	By	Date	
	ERB	03/21	
	In Charge of	TRC	03/21

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**MAINE  
TURNPIKE**

**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS

UTILITY VAULT DETAILS  
STA. 2340+52.81 - DETAILS IV

SHEET NUMBER: S-06

CONTRACT: 2021.02

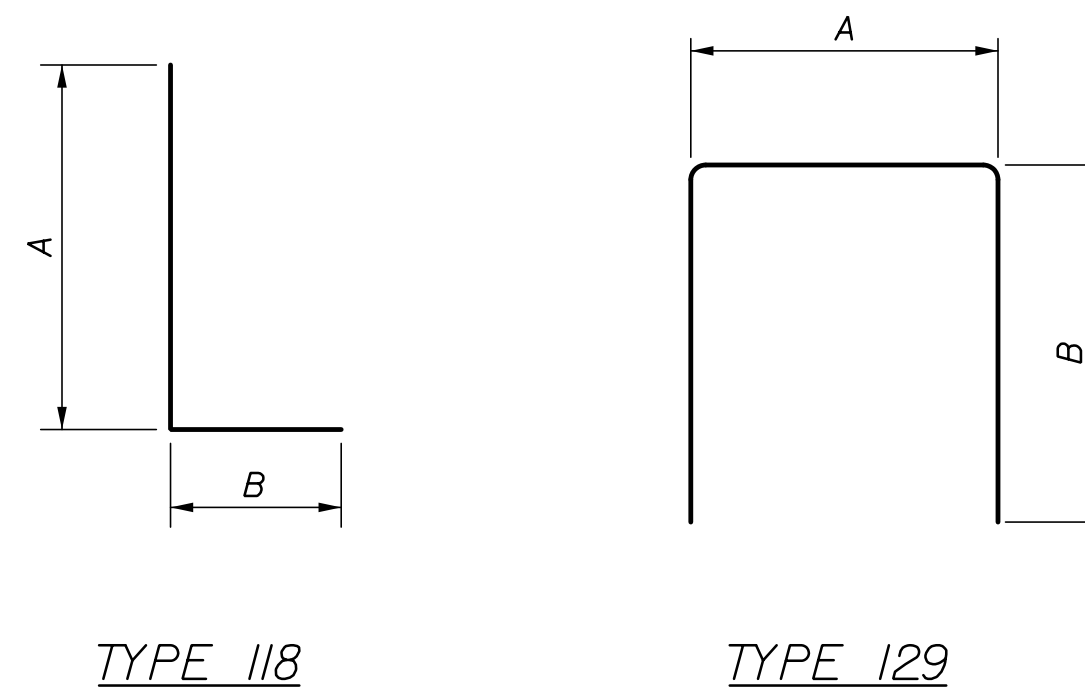
24 OF 42



Date:6/29/2021

Filename: 025\_UTILITY Vault Details - Tunnel 2 - Reinforcing Schedule Rev. 1

WEST UTILITY VAULT REINFORCING SCHEDULE							
MARK	SIZE	NO.	LENGTH	TYPE	A	B	REMARKS
<b>STA. 2340+52.81</b>							
T402	4	14	16' - 8"	STR			Top Slab: Longitudinal
T501	5	19	9' - 9"	STR			Top Slab: Transverse Bottom
T502	5	19	21' - 11"	129	9'-9"	6'-1"	Top Slab: Transverse Top
T503	5	4	9' - 8"	129	3'-4"	3'-2"	Top Slab: Horizontal Manhole
T505	5	8	5' - 4"	118	3'-4"	2'-0"	Top Slab: Vertical Manhole
T507	5	16	3' - 4"	STR			Top Slab: Existing Manhole Infill
T508	5	7	3' - 6"	STR			Top Slab: Dowel
W402	4	20	16' - 8"	STR			Sidewalls: Longitudinal
W501	5	38	8' - 2"	STR			Sidewalls: Vertical Int. Face
W502	5	10	3' - 6"	STR			Sidewalls: Dowels
W503	5	4	9' - 0"	STR			Sidewalls: Vertical @ Manhole
B402	4	14	17' - 2"	STR			Bottom Slab: Longitudinal
B501	5	7	3' - 6"	STR			Bottom Slab: Dowels
B502	5	19	10' - 9"	STR			Bottom Slab: Transverse Top
B503	5	19	22' - 9"	129	9'-9"	6'-6"	Bottom Slab: Transverse Bottom
B504	5	47	6' - 10"	118	6'-0"	10"	Bottom Slab: Vertical Hook
M401	4	20	9' - 9"	STR			Closure Wall: Horizontal
M402	4	40	4' - 0"	118	2'-0"	2'-0"	Closure Wall: Horizontal Hooks
M501	5	14	6' - 11"	118	6'-1"	10"	Closure Wall: Vertical Ext. Face
M502	5	9	8' - 2"	STR			Closure Wall: Vertical Int. Face
M503	5	4	9' - 0"	STR			Closure Wall: Vertical Manhole Outside Face
M504	5	8	5' - 0"	STR			Closure Wall: Utility Diagonal
C401	4	6	8' - 8"	129	3'-6"	2'-7"	Cradle: Vertical
C402	4	6	6' - 8"	129	8"	3'-0"	Cradle: Horizontal



EAST UTILITY VAULT REINFORCING SCHEDULE							
MARK	SIZE	NO.	LENGTH	TYPE	A	B	REMARKS
<b>STA. 2340+52.81</b>							
T403	4	14	22' - 8"	STR			Top Slab: Longitudinal
T501	5	25	9' - 9"	STR			Top Slab: Transverse Bottom
T502	5	25	21' - 11"	129	9'-9"	6'-1"	Top Slab: Transverse Top
T503	5	6	9' - 8"	129	3'-4"	3'-2"	Top Slab: Horizontal Manhole
T506	5	8	5' - 9"	118	3'-4"	2'-5"	Top Slab: Vertical Manhole
T507	5	16	3' - 4"	STR			Top Slab: Existing Manhole Infill
T508	5	7	3' - 6"	STR			Top Slab: Dowel
W403	4	20	22' - 8"	STR			Sidewalls: Longitudinal
W501	5	50	8' - 2"	STR			Sidewalls: Vertical Int. Face
W502	5	10	3' - 6"	STR			Sidewalls: Dowels
W503	5	4	9' - 0"	STR			Sidewalls: Vertical @ Manhole
B403	4	14	23' - 2"	STR			Bottom Slab: Longitudinal
B501	5	7	3' - 6"	STR			Bottom Slab: Dowels
B502	5	25	10' - 9"	STR			Bottom Slab: Transverse Top
B503	5	25	22' - 9"	129	9'-9"	6'-6"	Bottom Slab: Transverse Bottom
B504	5	59	6' - 10"	118	6'-0"	10"	Bottom Slab: Vertical Hook
M401	4	20	9' - 9"	STR			Closure Wall: Horizontal
M402	4	40	4' - 0"	118	2'-0"	2'-0"	Closure Wall: Horizontal Hooks
M501	5	14	6' - 11"	118	6'-1"	10"	Closure Wall: Vertical Ext. Face
M502	5	9	8' - 2"	STR			Closure Wall: Vertical Int. Face
M503	5	4	9' - 0"	STR			Closure Wall: Vertical Manhole Outside Face
M504	5	8	5' - 0"	STR			Closure Wall: Utility Diagonal
C401	4	6	8' - 8"	129	3'-6"	2'-7"	Cradle: Vertical
C402	4	6	6' - 8"	129	8"	3'-0"	Cradle: Horizontal

Scale: NO SCALE			
No.	Revision	By	Date

Designed by:			
<b>HNTB</b>			
CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.			
By	Date	By	Date
Designed	BRG 03/21	Checked	JDW 03/21
Drawn	ERB 03/21	In Charge of	TRC 03/21

HNTB CORPORATION  
 82 Running Hill Road, Suite 201  
 South Portland, ME 04106  
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THE GOLD STAR  
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS

UTILITY VAULT DETAILS

STA. 2340+52.81 - REINFORCING SCHEDULE

SHEET NUMBER: S-07

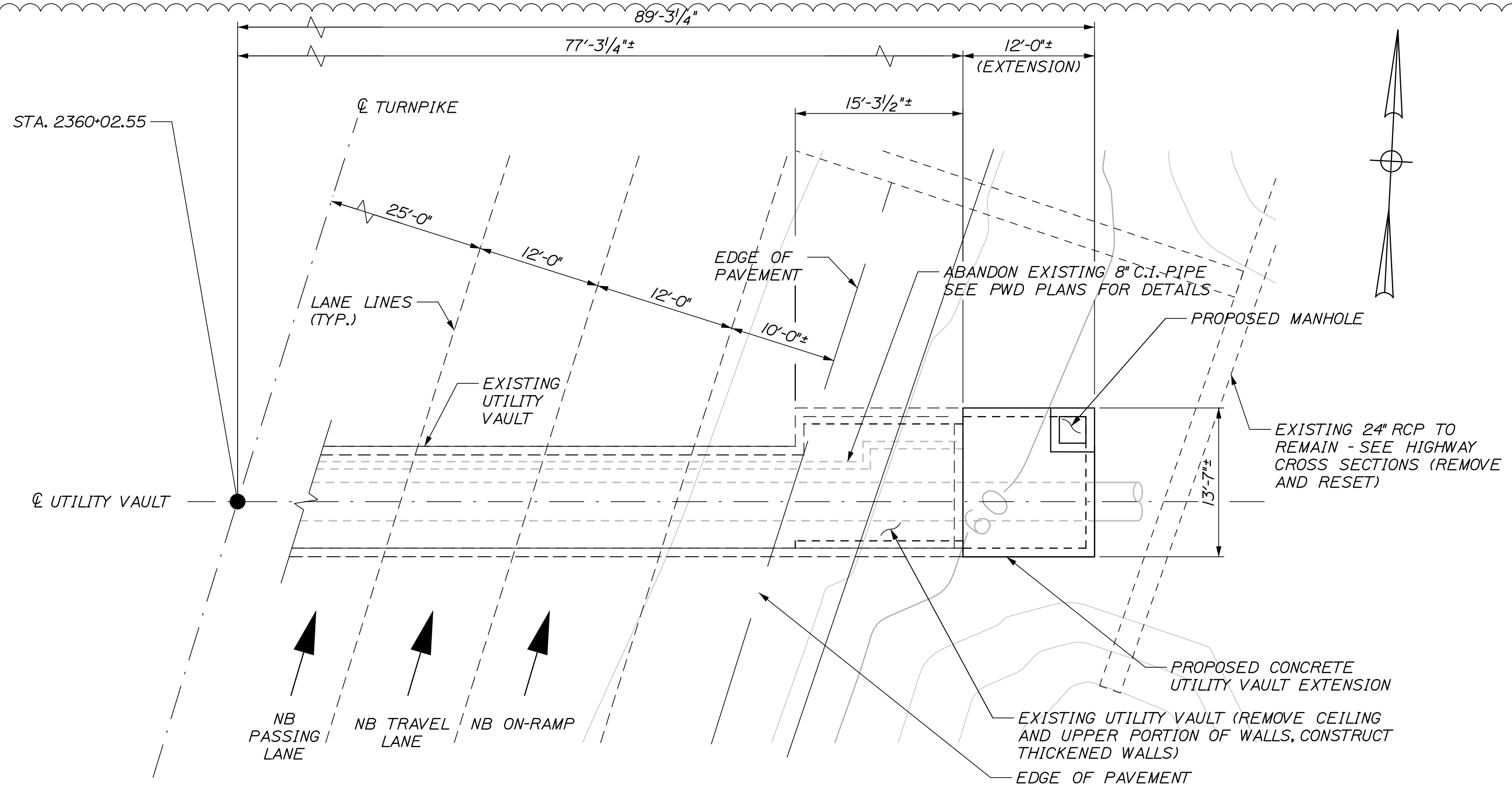
CONTRACT:2021.02

25 OF 42

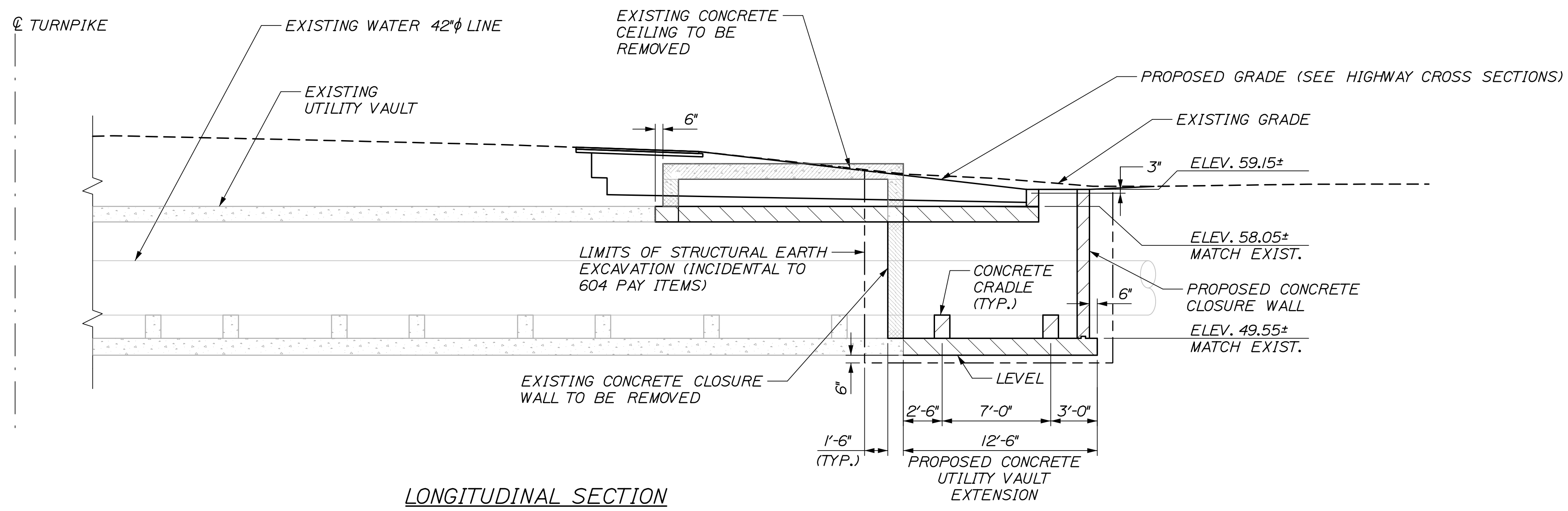
Date: 6/29/2021

Filename: 026\_UTILITY VAULT DETAILS - Tunnel 1 Rev. 1

1  
2



**PLAN VIEW**  
SCALE: 1/8" = 1'-0"



**LONGITUDINAL SECTION**  
SCALE: 3/16" = 1'-0"

**NOTE:**  
FOR UTILITY VAULT NOTES SEE SHEET S-01

No.	Revision	By	Date
1	UPDATED EXIST. STRUCTURE LINEWORK	BRG	06/21
2	UPDATED VAULT DIMENSIONS	BRG	06/21

Designed by:			
<b>HNTB</b>			
CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.			
By	Date	By	Date
Designed	BRG 03/21	Checked	JDW 03/21
Drawn	ERB 03/21	In Charge of	TRC 03/21

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THE GOLD STAR  
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS

UTILITY VAULT DETAILS

STA. 2360+02.55

SHEET NUMBER: S-08

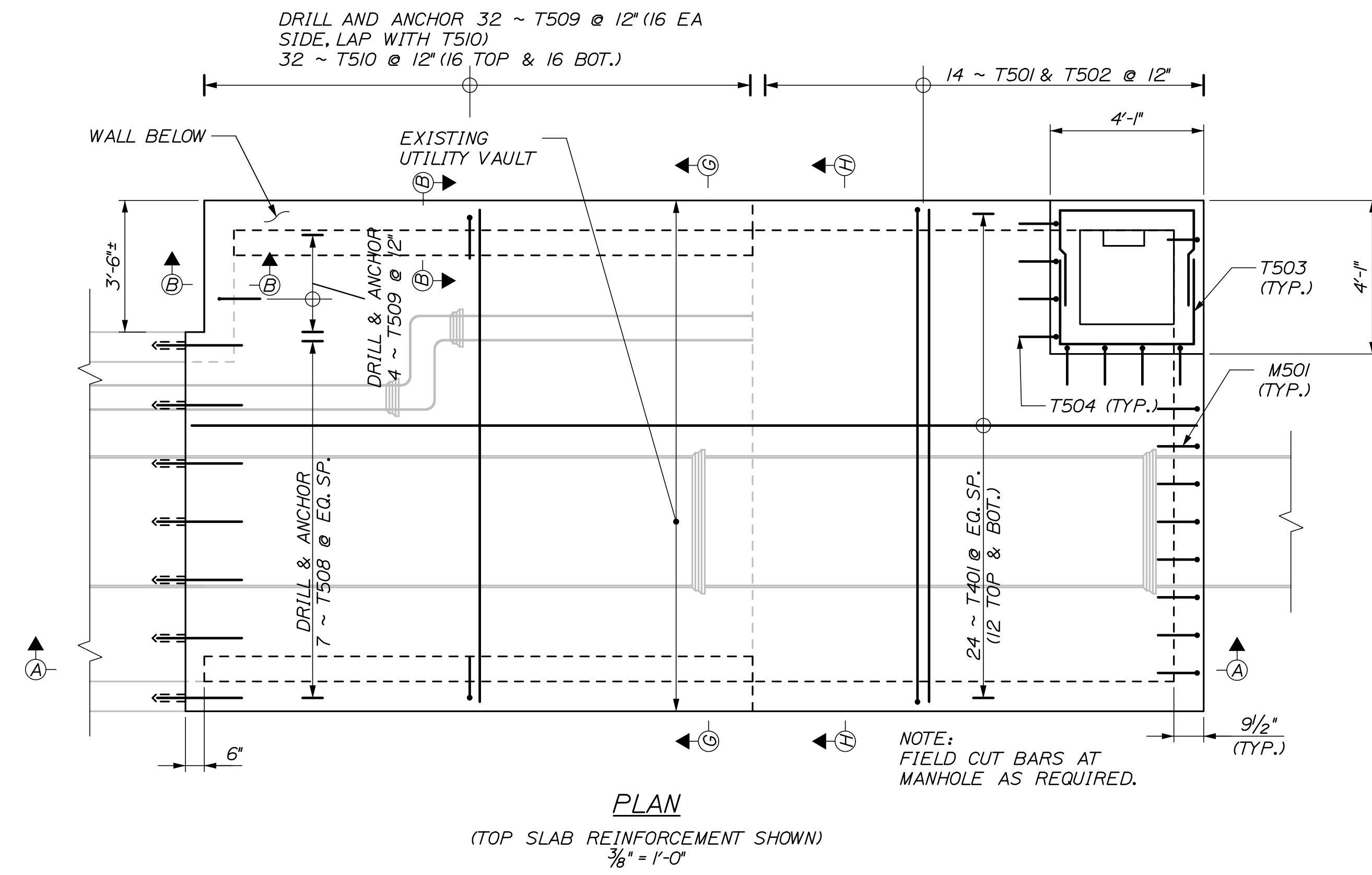
CONTRACT: 2021.02

26 OF 42

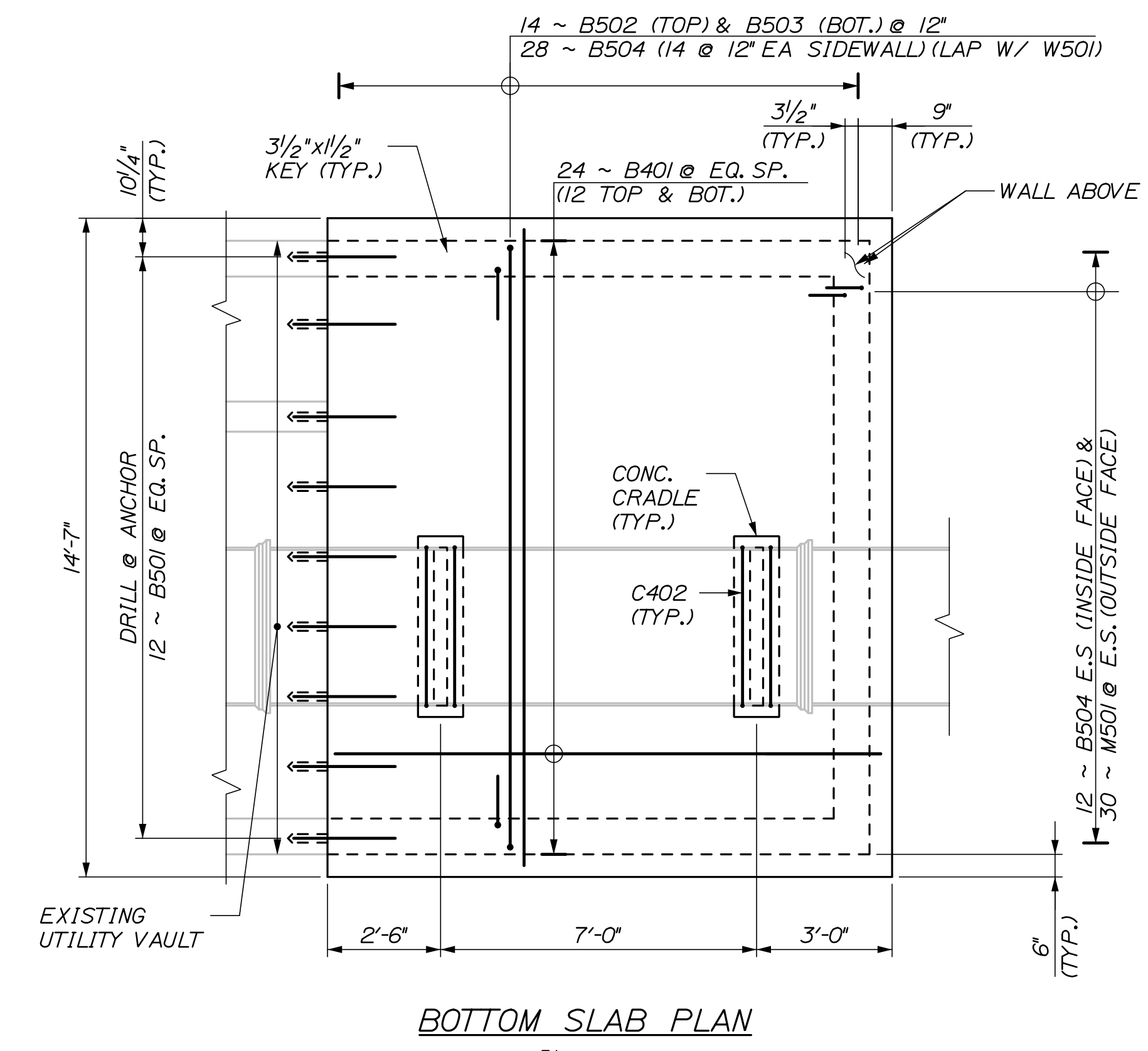


Date: 6/29/2021

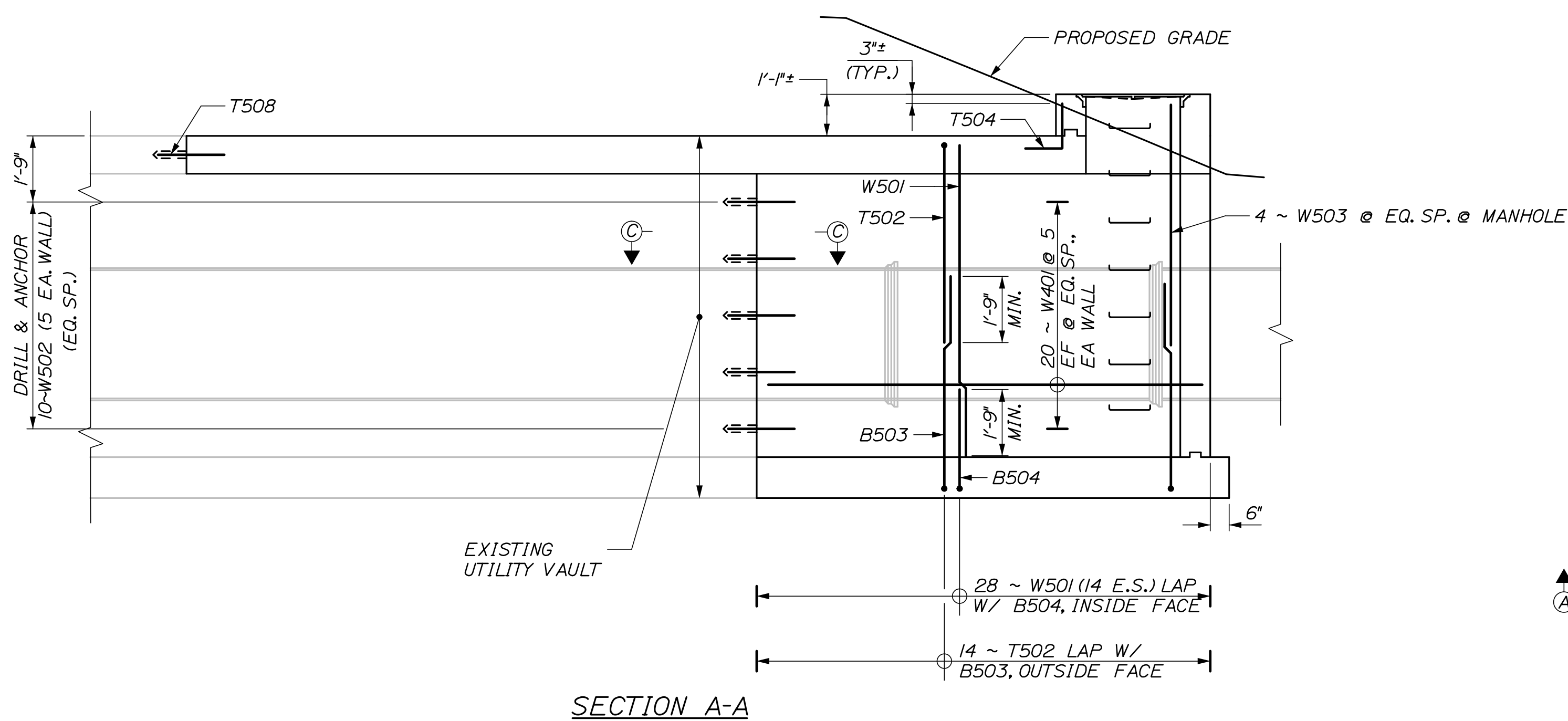
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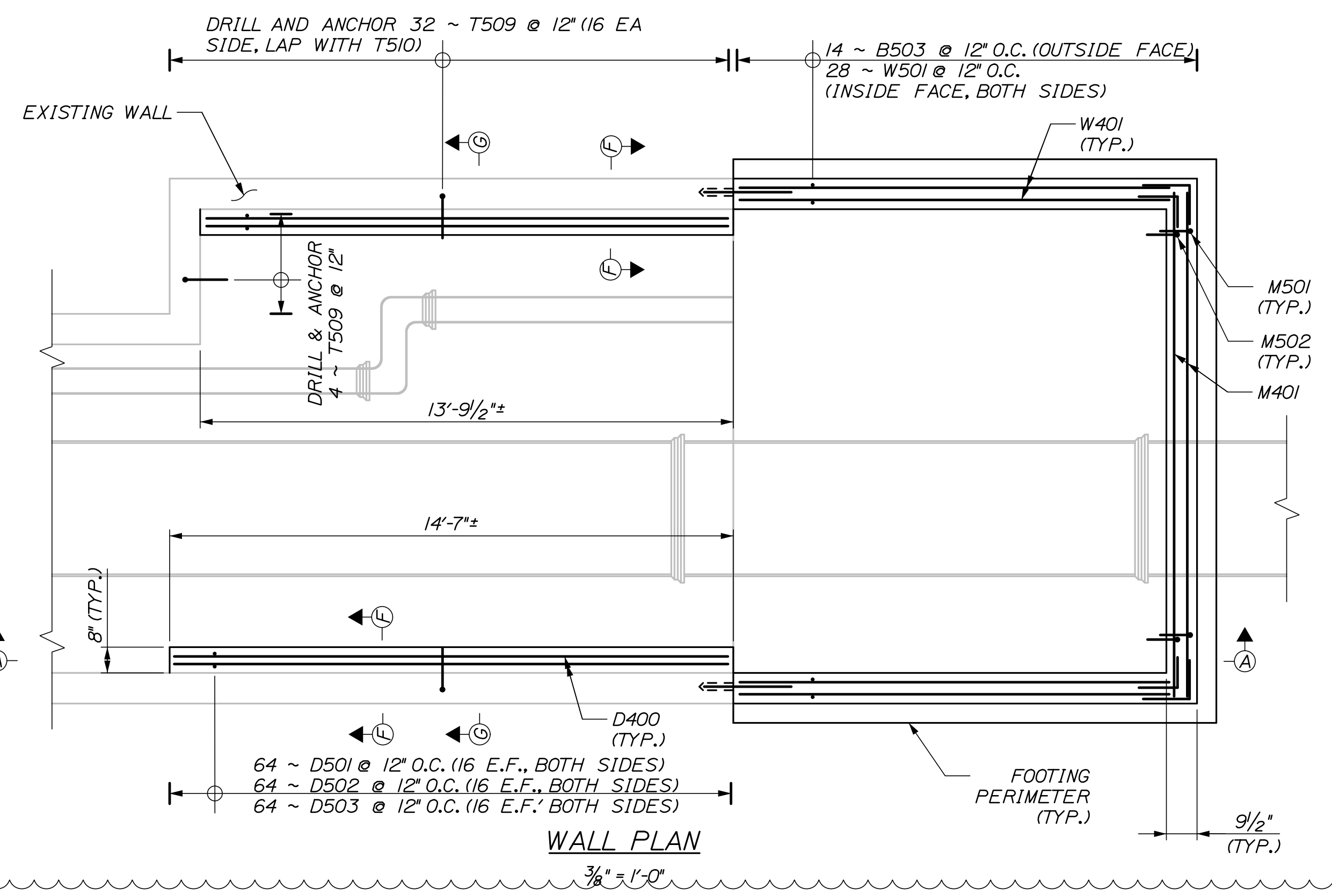
**PLAN**  
(TOP SLAB REINFORCEMENT SHOWN)  
3/8" = 1'-0"



**BOTTOM SLAB PLAN**  
3/8" = 1'-0"



**SECTION A-A**  
(NORTH WALL SHOWN, SOUTH WALL SIMILAR)  
(TOP SLAB, BOTTOM SLAB AND CLOSURE WALL BARS NOT SHOWN FOR CLARITY)  
3/8" = 1'-0"



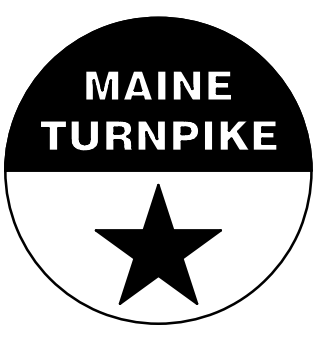
**WALL PLAN**  
3/8" = 1'-0"

**NOTES:**  
1. FOR SECTIONS B-B AND C-C, SEE SHEET S-12.

Scale: AS NOTED			
No.	Revision	By	Date
1	UPDATED VAULT DIMS AND REINF.	BRG	06/21

Designed by:			
<b>HNTB</b>			
CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.			
By	Date	By	Date
Designed	BRG 03/21	Checked	JDW 03/21
Drawn	ERB 03/21	In Charge of	TRC 03/21

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**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

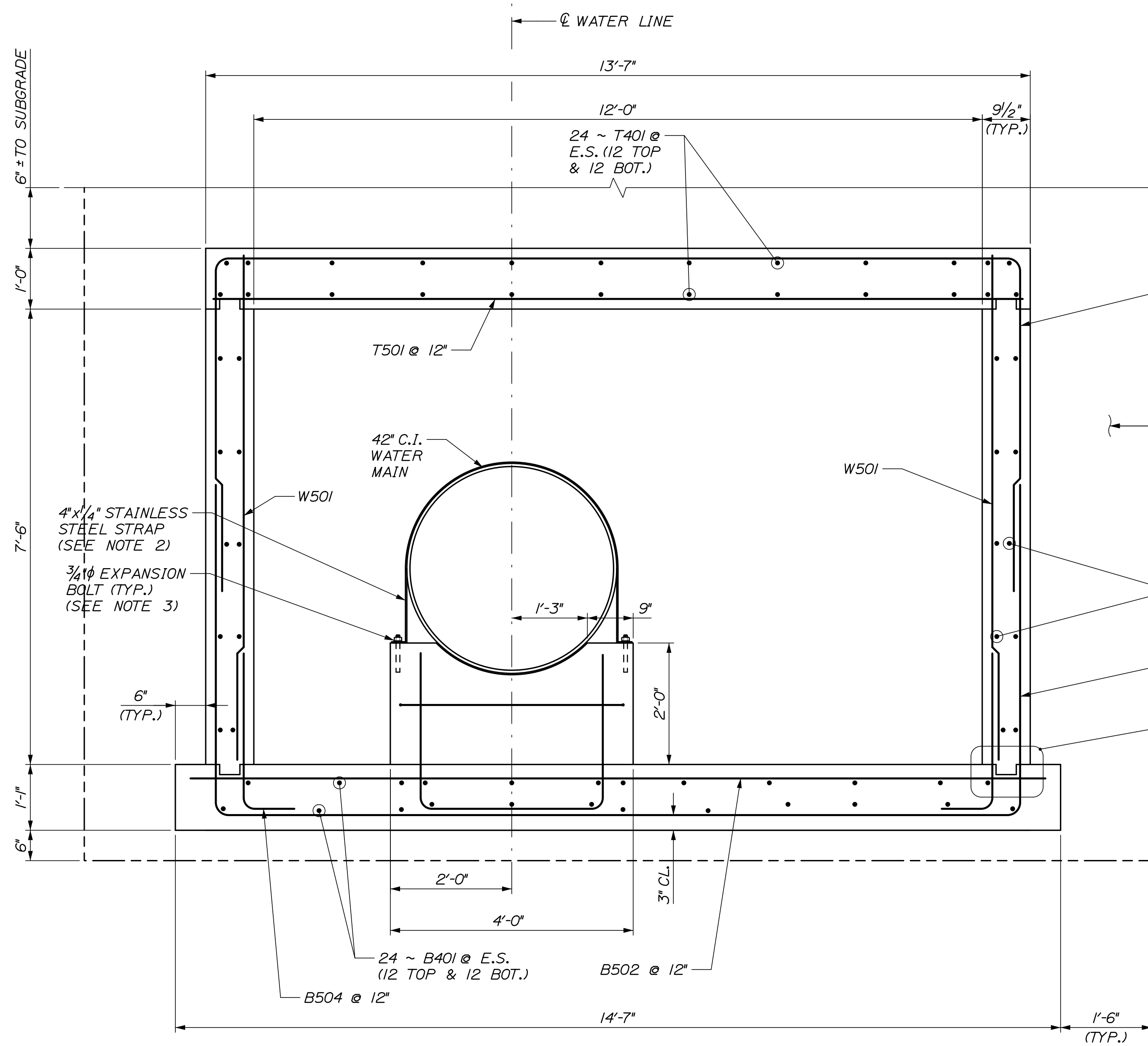
WATER LINE AND UTILITY VAULTS  
UTILITY VAULT DETAILS  
STA. 2360+02.55 - DETAILS I

SHEET NUMBER: S-09  
CONTRACT: 2021.02  
27 OF 42

Date: 6/29/2021

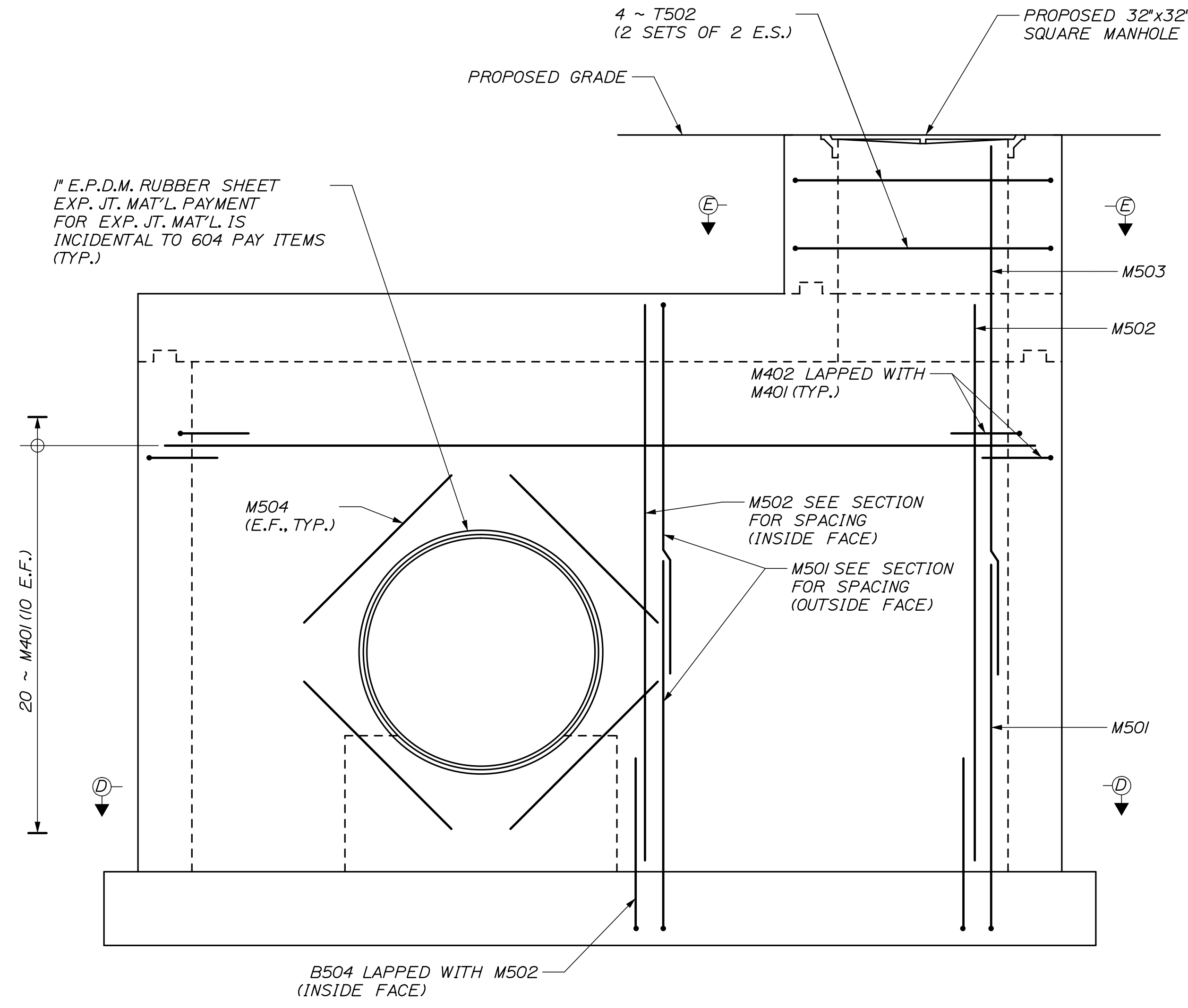
Filename: 028\_Utility Vault Details - Tunnel 1 - Details II Rev. 1

1



SECTION H-H

3/4" = 1'-0"



CLOSURE WALL ELEVATION

3/4" = 1'-0"

NOTES:

- FOR SECTIONS D-D AND E-E, SEE SHEET S-12.
- STAINLESS STEEL STRAP SHALL BE ASTM A666, TYPE 201 AND BE INSTALLED AT EACH CRADLE ALONG THE WATERMAIN PIPE.
- EXPANSION BOLT SHALL BE 3/4" STAINLESS STEEL HILTI QUICK BOLT WITH 6" EMBEDMENT OR APPROVED EQUAL.

Scale:				Designed by:			
AS NOTED							
No.	Revision	By	Date				
1	UPDATED VAULT DIMS AND REINF.	BRG	06/21				
CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.				By	Date	By	Date
Designed	BRG	03/21	Checked	JDW	03/21		
Drawn	ERB	03/21	In Charge of	TRC	03/21		

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82 Running Hill Road, Suite 201			
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FAX (207) 228-0909			
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.			

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**THE GOLD STAR  
MEMORIAL HIGHWAY**

WATER LINE AND UTILITY VAULTS

UTILITY VAULT DETAILS  
 STA. 2360+02.55 - DETAILS II

SHEET NUMBER: S-10

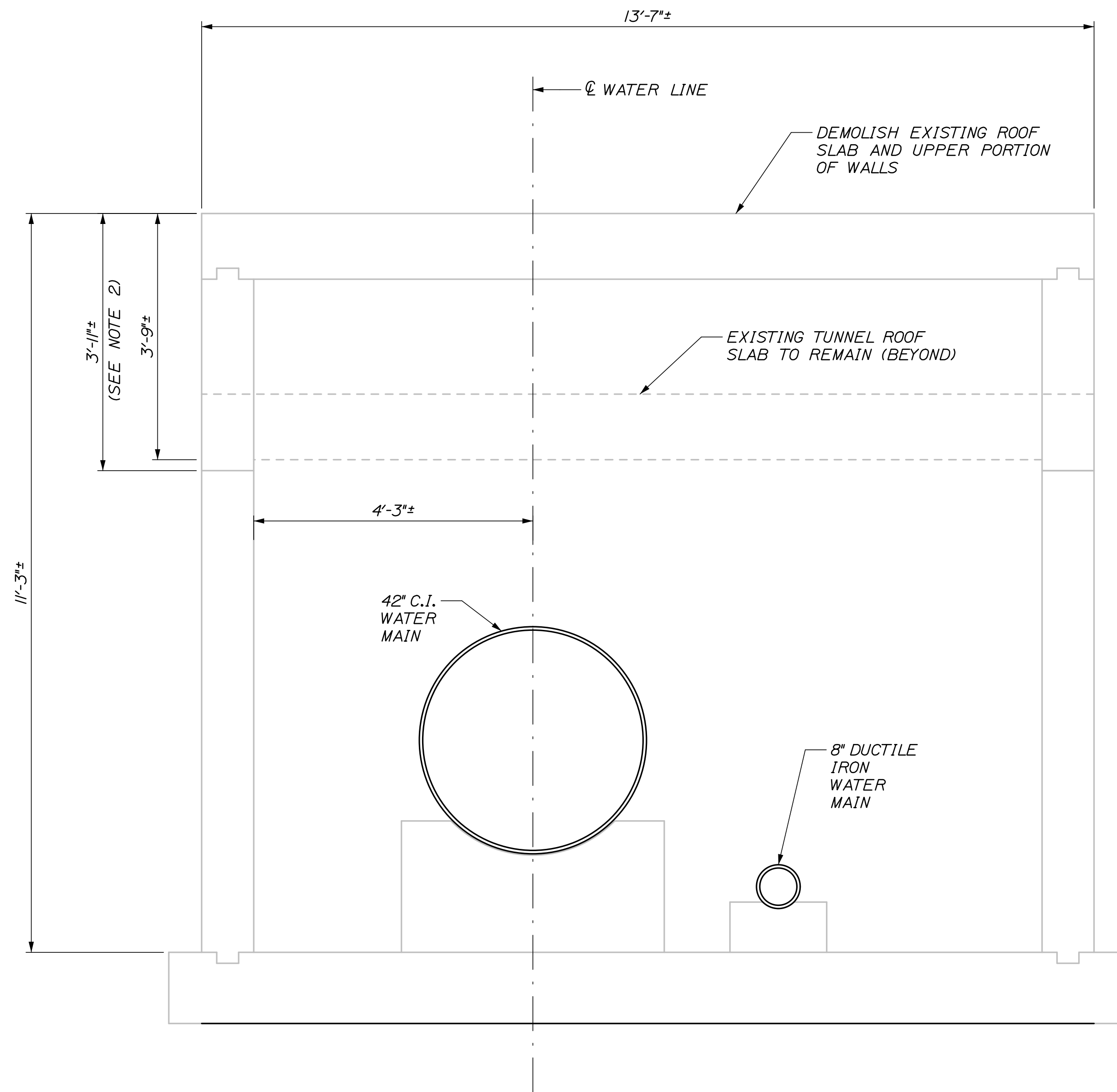
CONTRACT: 2021.02

28 OF 42

Date: 6/29/2021

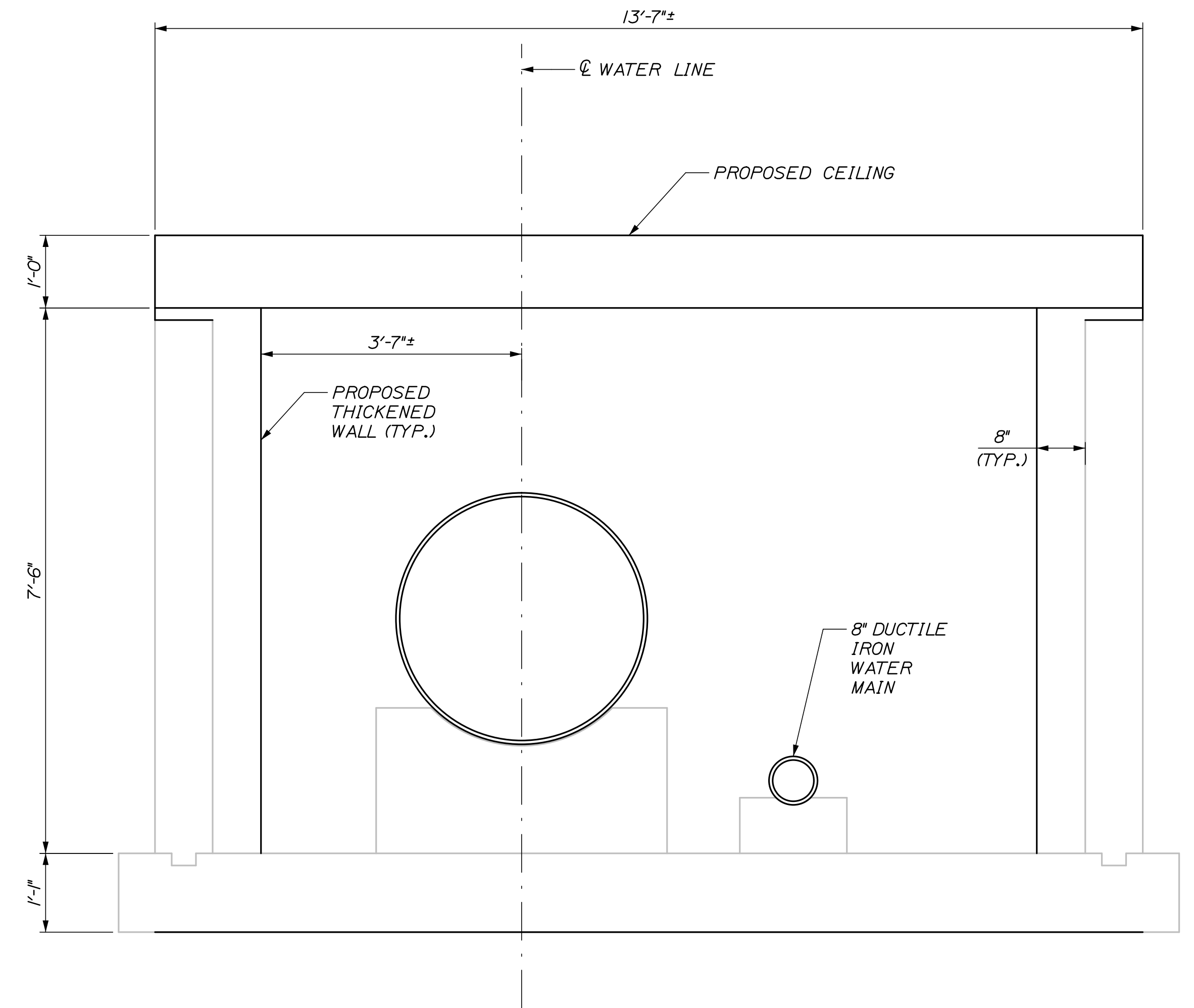
Filename: 029\_UTILITY Vault Details - Tunnel 1 - Details III

1



SECTION G-G DEMOLITION

3/4" = 1'-0"



SECTION G-G NEW CONSTRUCTION

3/4" = 1'-0"

**NOTES:**

1. LIMITS OF REMOVAL SHALL BE SAW CUT TO A DEPTH OF 1" MINIMUM.
2. LIMITS OF CONCRETE DEMOLITION SHALL EXTEND TO 2"± BELOW THE BOTTOM OF THE PORTION OF THE TUNNEL ROOF SLAB TO REMAIN.
3. EXISTING TUNNEL WALLS TO RECEIVE NEW CONCRETE SHALL BE CLEANED BY PRESSURE WASHING TO REMOVE AREAS OF MUD, DEBRIS, OR OTHER CONTAMINATION THAT WOULD INHIBIT BONDING OF NEW CONCRETE.

Scale:				Designed by:			
AS NOTED				<b>HNTB</b>			
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.			
1	ADDED SHEET	BRG	06/21	By	Date	By	Date
				Designed	BRG 03/21	Checked	JDW 03/21
				Drawn	ERB 03/21	In Charge of	TRC 03/21

Designed by:				HNTB CORPORATION			
				82 Running Hill Road, Suite 201			
				South Portland, ME 04106			
				TEL (207) 774-5155			
				FAX (207) 228-0909			
				MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.			

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THE GOLD STAR  
MEMORIAL HIGHWAY

WATER LINE AND UTILITY VAULTS

UTILITY VAULT DETAILS

STA. 2360+02.55 - DETAILS III

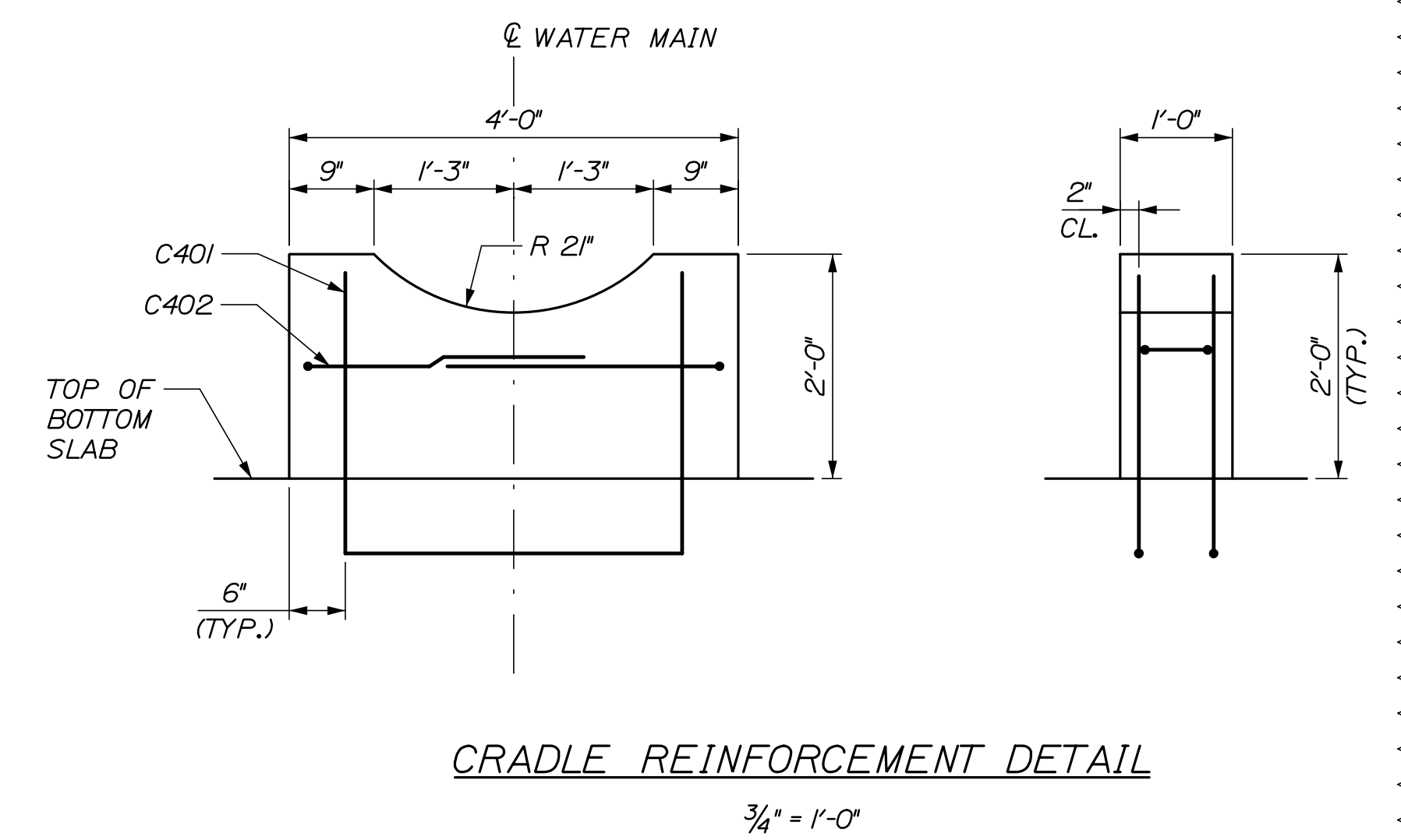
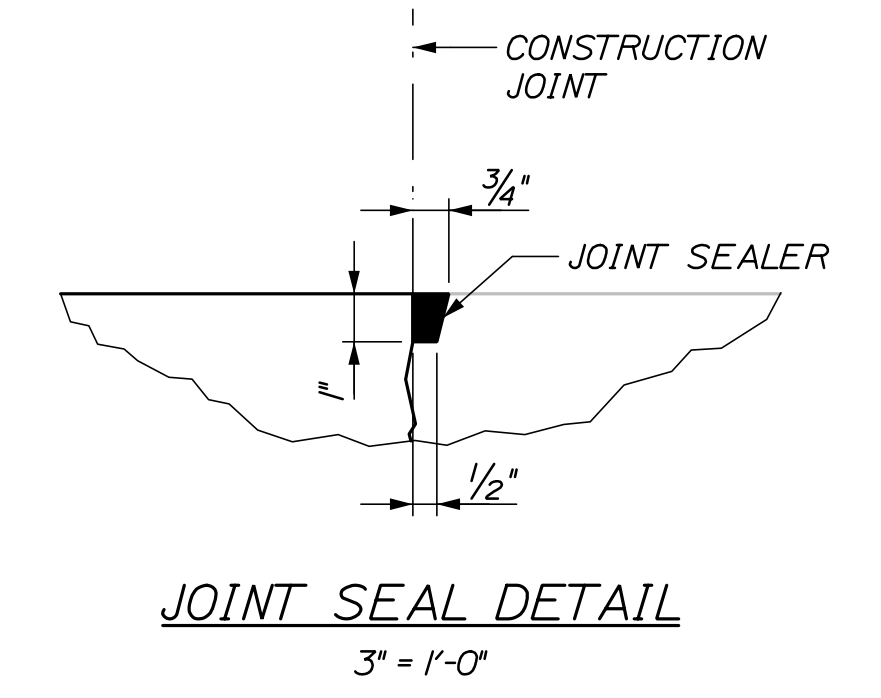
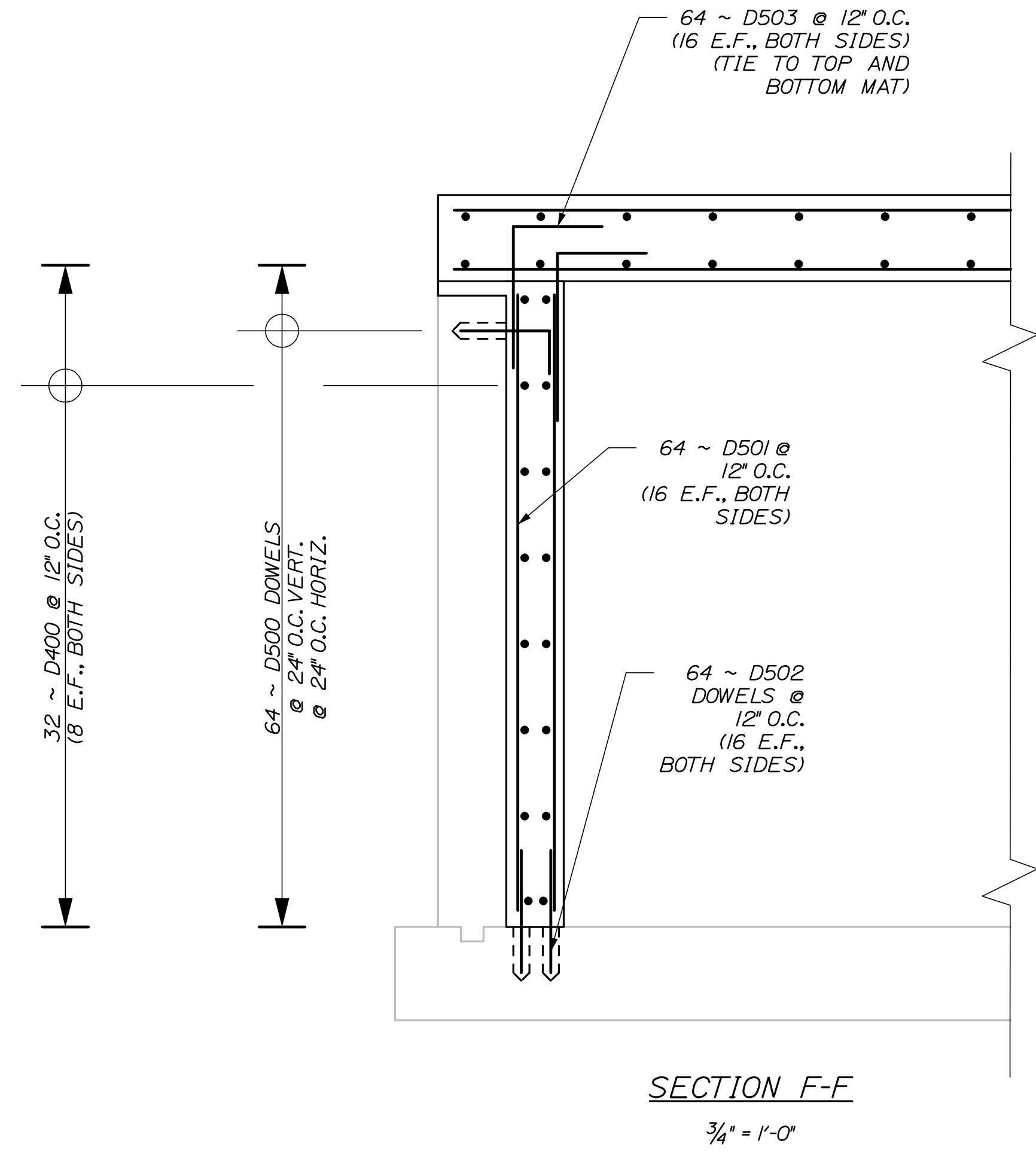
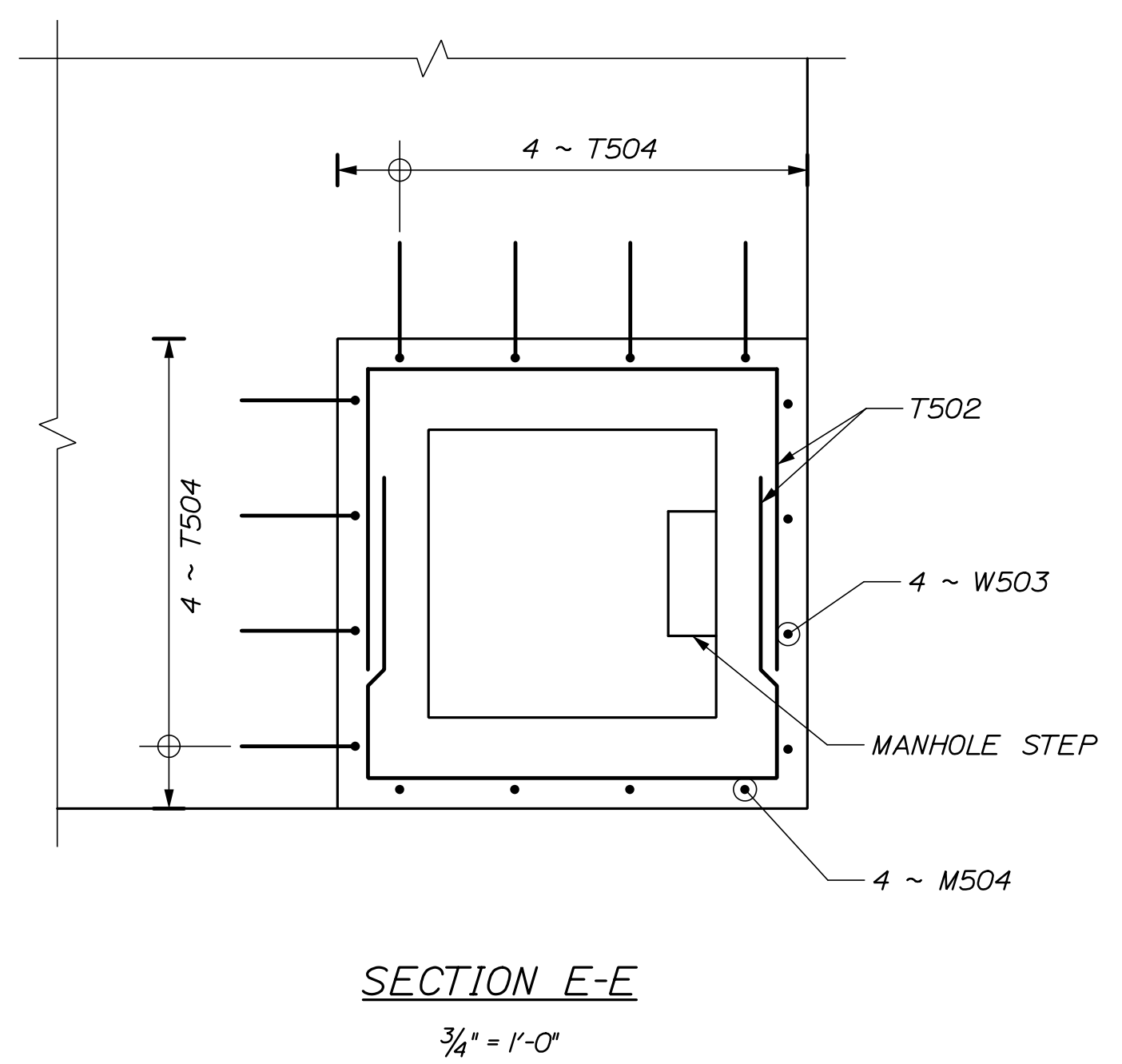
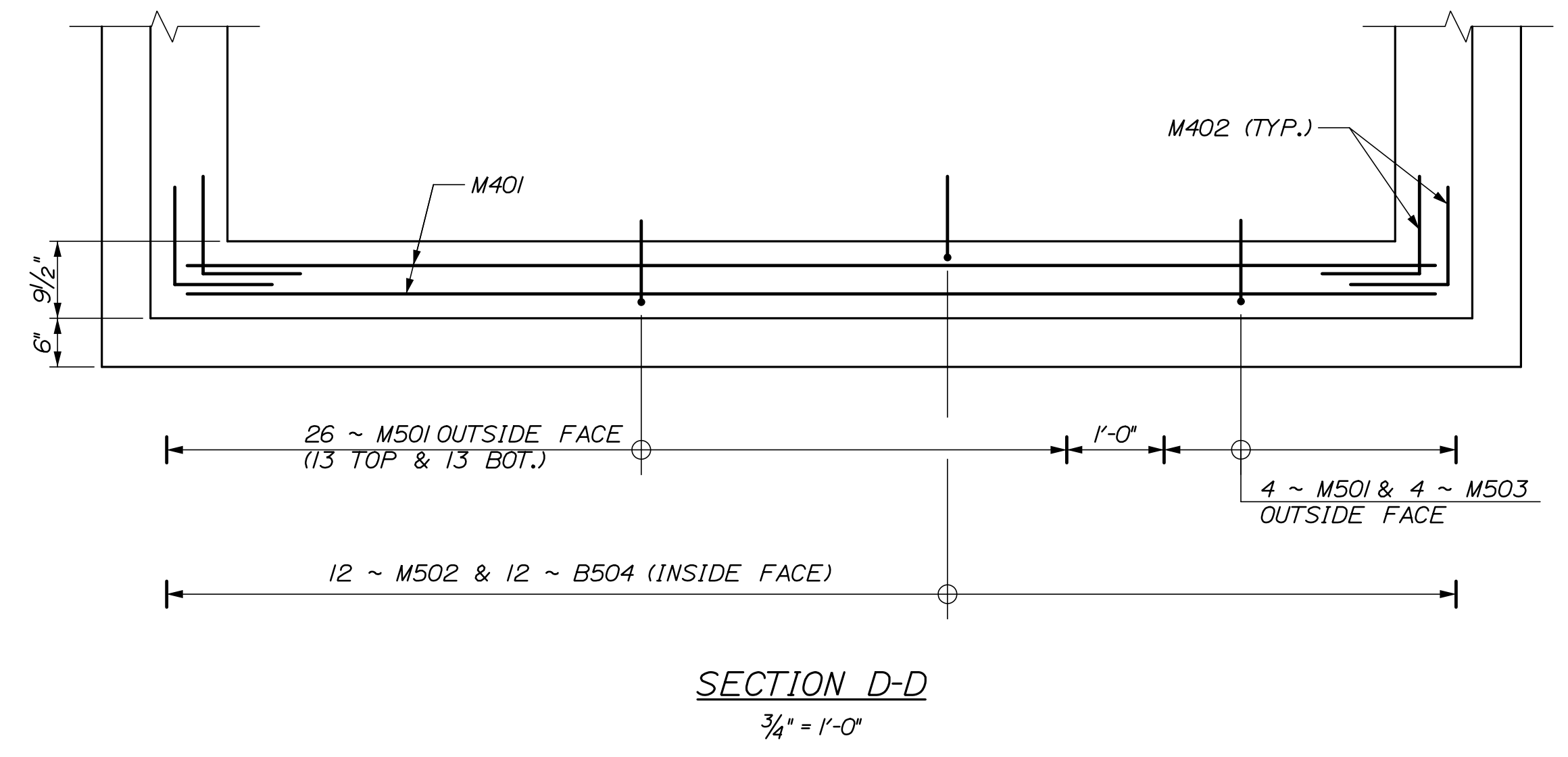
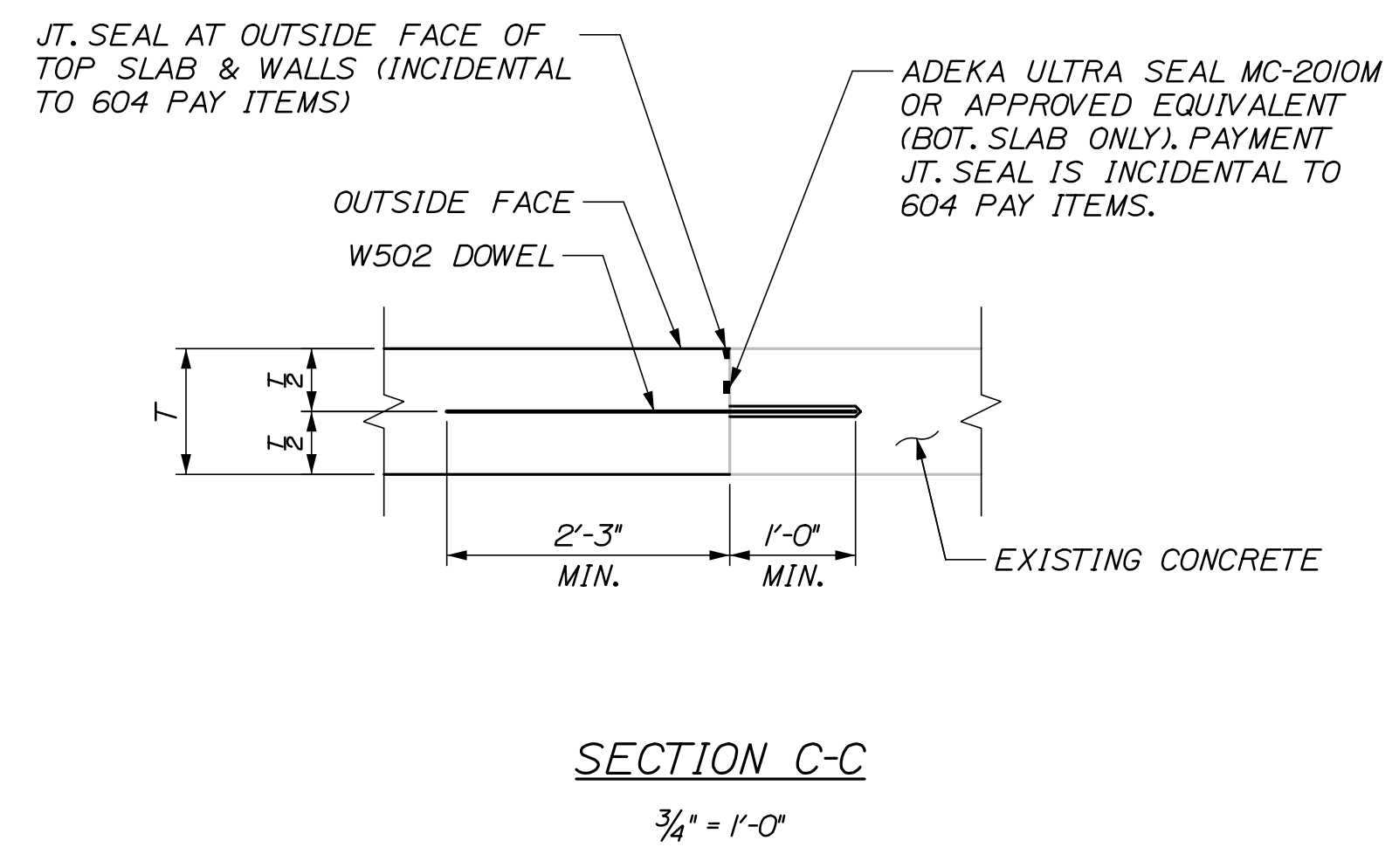
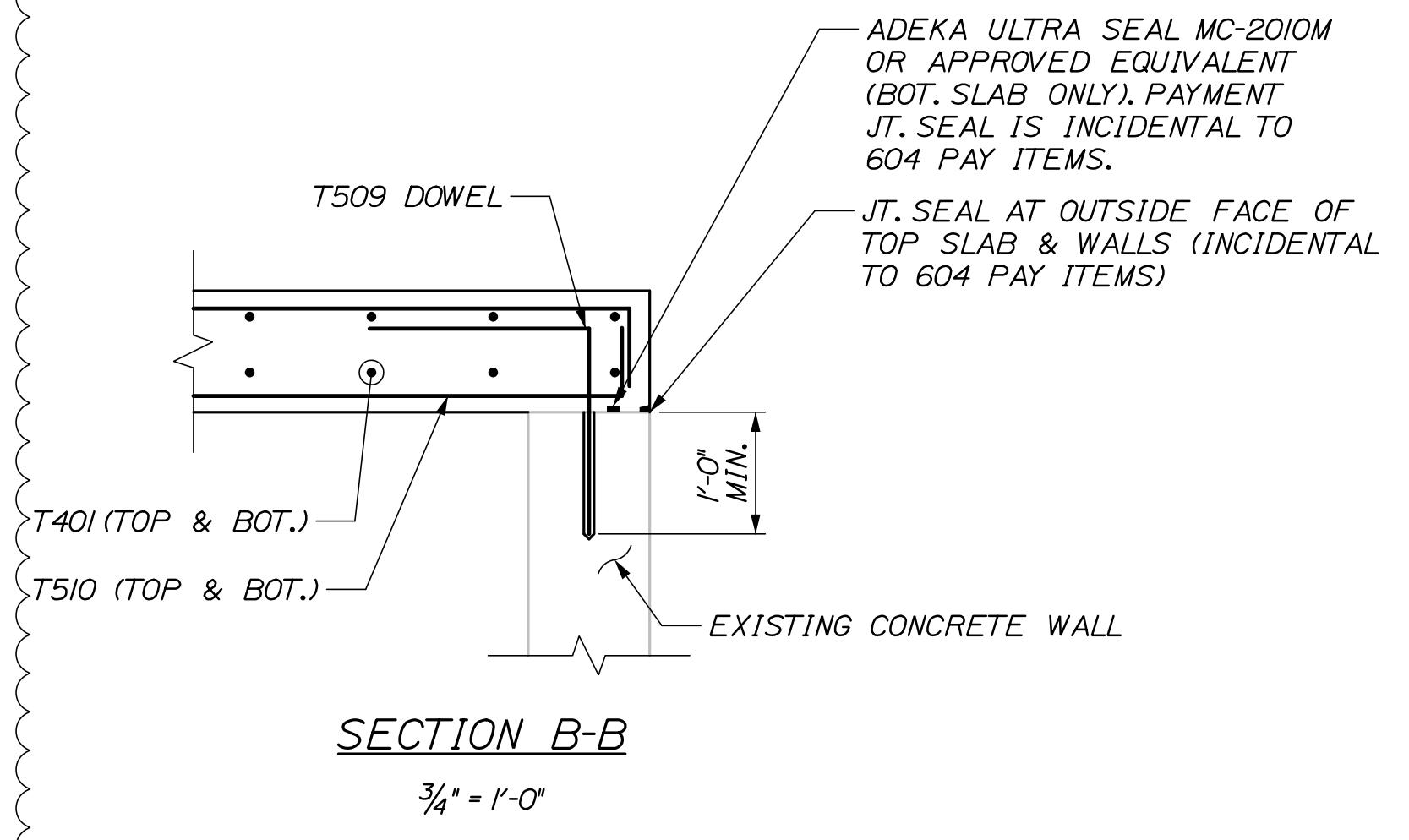
SHEET NUMBER: S-11



Date: 6/29/2021

Filename: 030\_UTILITY VAULT DETAILS - Tunnel 1 - Details IV Rev. 1

1



**NOTE:**  
1. CONTRACTOR SHALL VERIFY CRADLE RADIUS MATCHES PIPE RADIUS IN FIELD. IF REQUIRED, RADIUS SHALL BE ADJUSTED SUCH THAT THE PIPE SEATS WITH NO GAPS. ADJUSTMENTS SHALL BE INCIDENTAL TO RELATED 604 PAY ITEMS.

**NOTE:** EXISTING WALL SURFACE SHALL BE CLEAN OF DIRT AND DEBRIS PRIOR TO PLACING NEW CONCRETE.

Scale:				Designed by:			
AS NOTED							
No.	Revision	By	Date				
1	UPDATED VAULT DIMS AND REINF.	BRG	06/21				

CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.					
	By	Date	By	Date	
Designed	BRG	03/21	Checked	JDW	03/21
Drawn	ERB	03/21	In Charge of	TRC	03/21

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**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS

UTILITY VAULT DETAILS  
STA. 2360+02.55 - DETAILS IV

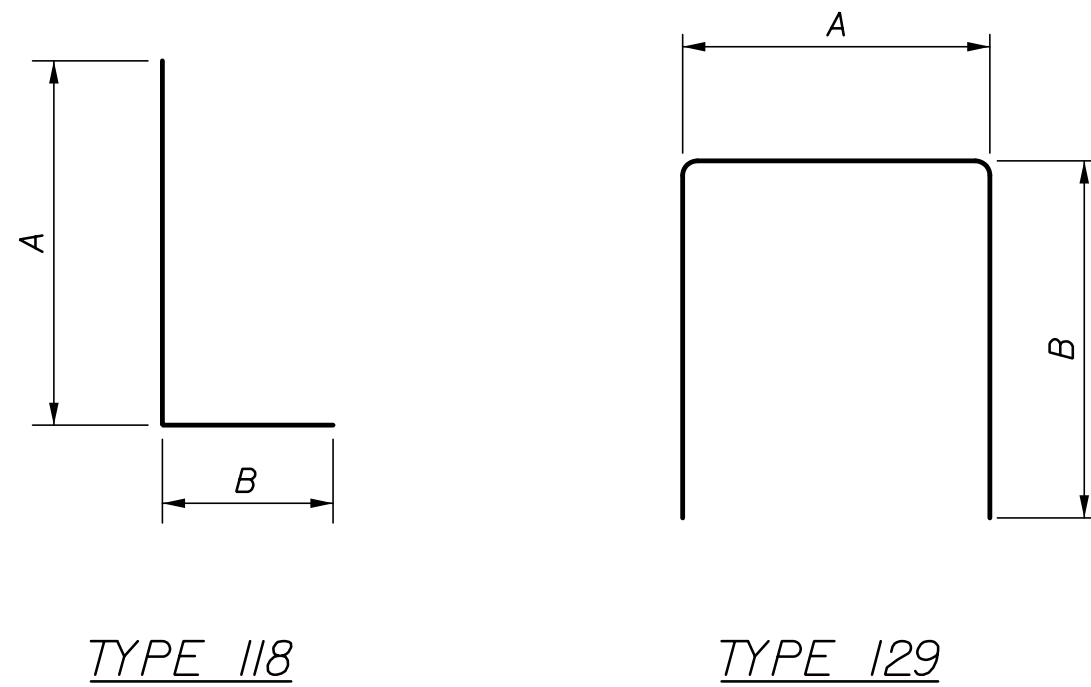
SHEET NUMBER: S-12

CONTRACT: 2021.02 30 OF 42



**UTILITY VAULT REINFORCING SCHEDULE**

MARK	SIZE	NO.	LENGTH	TYPE	A	B	REMARKS
<b>STA 2360+02.55</b>							
T401	4	24	26	- 7	STR		Top Slab: Longitudinal
T501	5	14	13	- 3	STR		Top Slab: Transverse Bottom
T502	5	14	25	- 5	129	13'-3"	Top Slab: Transverse Top
T503	5	4	9	- 8	129	3'-4"	Top Slab: Horizontal Manhole
T504	5	8	4	- 6	118	3'-4"	Top Slab: Vertical Manhole
T508	5	7	3	- 6	STR		Top Slab: Dowel
T509	5	36	4	- 0	118	2'-3"	Wall to Top Slab Dowel
T510	5	32	14	- 4	129	13'-2"	Top Slab: Transverse
W401	4	20	11	- 8	STR		Sidewalls: Longitudinal
W501	5	28	8	- 2	STR		Sidewalls: Vertical Int. Face
W502	5	10	3	- 6	STR		Sidewalls: Dowels
W503	5	4	9	- 0	STR		Sidewalls: Vertical @ Manhole
B401	4	24	12	- 2	STR		Bottom Slab: Longitudinal
B501	5	12	3	- 6	STR		Bottom Slab: Dowels
B502	5	14	14	- 3	STR		Bottom Slab: Transverse Top
B503	5	14	26	- 3	129	13'-3"	Bottom Slab: Transverse Bottom
B504	5	40	6	- 10	118	6'-0"	Bottom Slab: Vertical Hook
M401	4	20	13	- 3	STR		Closure Wall: Horizontal
M402	4	80	4	- 0	118	2'-0"	Closure Wall: Horizontal Hooks
M501	5	30	6	- 11	118	6'-1"	Closure Wall: Vertical Ext. Face
M502	5	12	8	- 2	STR		Closure Wall: Vertical Int. Face
M503	5	4	9	- 0	STR		Closure Wall: Vertical Manhole Outside Face
M504	5	8	5	- 0	STR		Closure Wall: Utility Diagonal
M505	5	8	1	- 6	STR		Closure Wall: Utility Diagonal
C401	4	4	8	- 8	129	3'-6"	Cradle: Vertical
C402	4	4	6	- 8	129	8"	Cradle: Horizontal
C403	4	4	2	- 4	129	1'-2"	Cradle: Vertical
C404	4	4	1	- 8	129	8"	Cradle: Horizontal
D400	4	32	14	- 1	STR		Thickened Wall: Horizontal
D500	5	64	1	- 8	118	1'-1"	Thickened Wall: Dowel
D501	5	64	7	- 0	STR		Thickened Wall: Vertical
D502	5	64	3	- 0	STR		Thickened Wall: Slab Dowels
D503	5	64	4	- 0	118	2'-9"	Thickened Wall: Top Corner Bars



Date:6/29/2021

Filename: 031\_Utility Vault Details - Tunnel1 - Reinforcing Schedule Rev. 1

Scale:			
NO SCALE			
No.	Revision	By	Date
1	UPDATED REINFORCING SCHEDULE	BRG	06/21

Designed by:					
<b>HNTB</b>					
CONSULTANT PROJECT MANAGER: Dale A. Mitchell, P.E.					
	By	Date	By	Date	
Designed	BRG	03/21	Checked	JDW	03/21
Drawn	ERB	03/21	In Charge of	TRC	03/21

HNTB CORPORATION  
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 South Portland, ME 04106  
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**THE GOLD STAR  
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

WATER LINE AND UTILITY VAULTS

UTILITY VAULT DETAILS

STA. 2360+02.55 - REINFORCING SCHEDULE

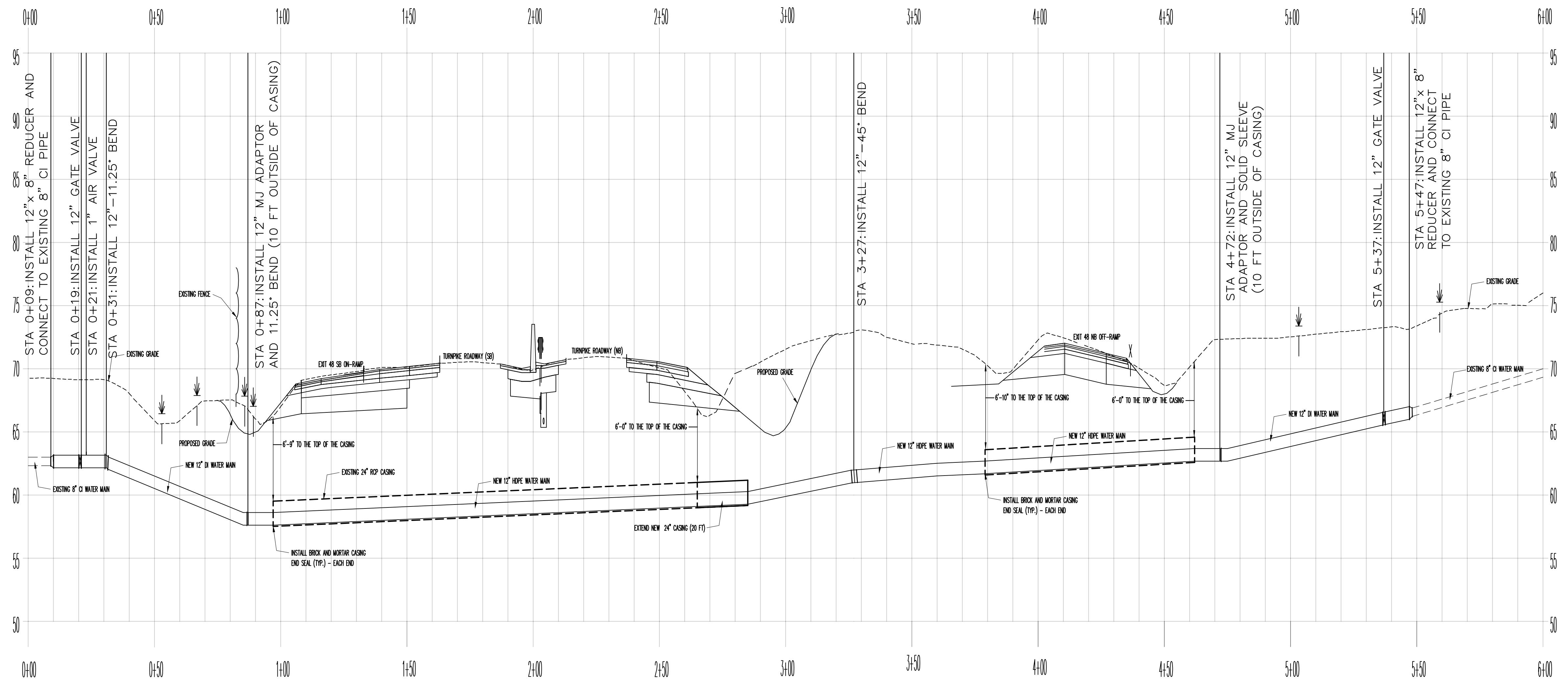
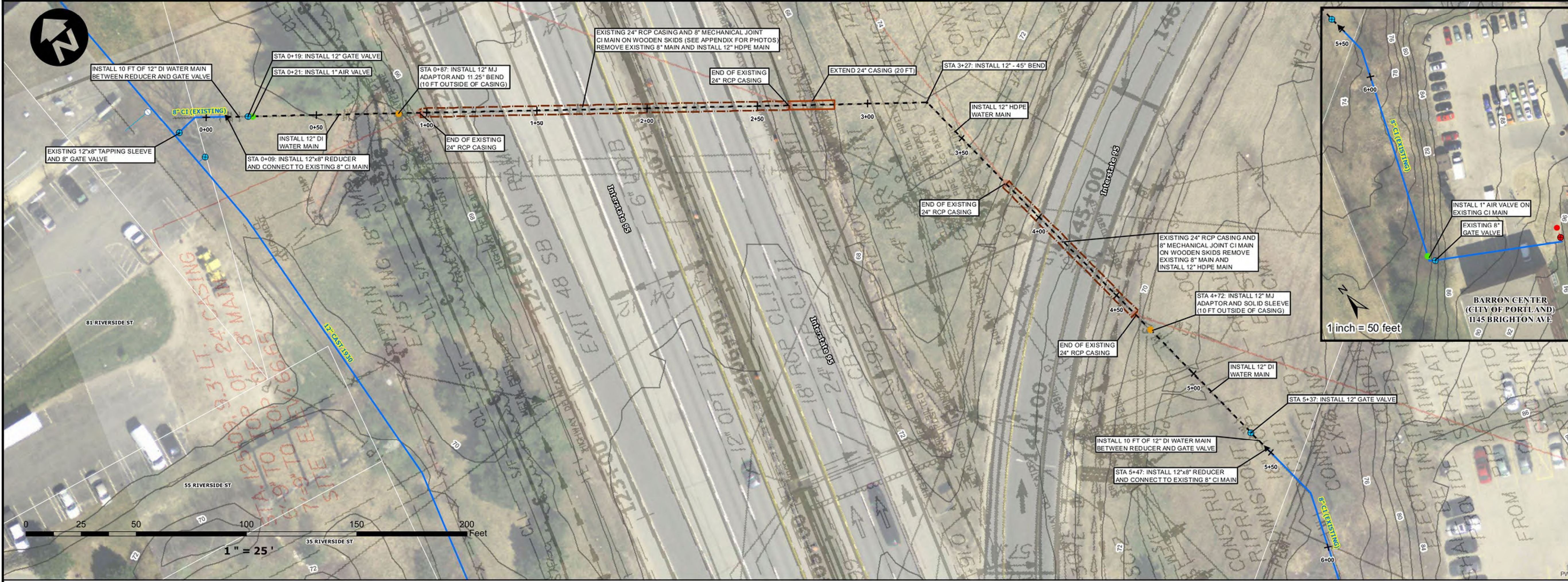
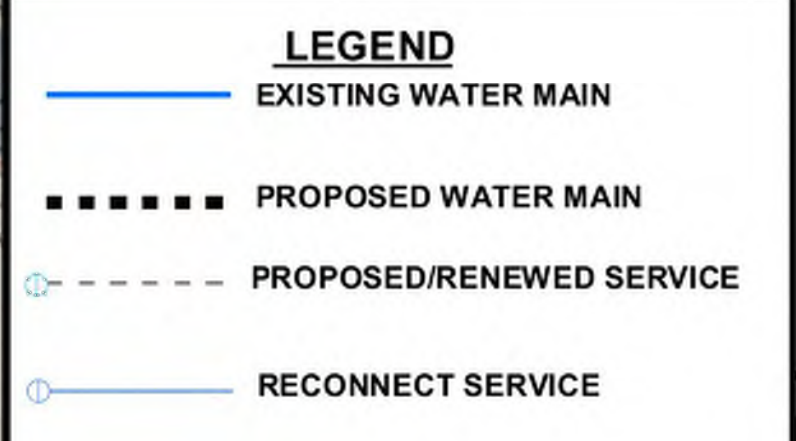
SHEET NUMBER: S-13

CONTRACT:2021.02 31 OF 42



**MTA CROSSING - EXIT 48  
PORTLAND, MAINE  
WATER MAIN REPLACEMENT**

- NOTES**
1. CONTRACTOR SHALL DISPOSE OF ALL EXCAVATED PIPING AND APPURTENANCES.
  2. THE PORTLAND WATER DISTRICT WILL NOTIFY CUSTOMERS FOR ALL WORK INVOLVING TEMPORARY SHUTDOWN OF SERVICE. CUSTOMERS MUST RECEIVE AT LEAST 48 HOURS NOTIFICATION PRIOR TO ANY SHUTDOWN. THE DISTRICT MUST RECEIVE NOTICE FROM THE CONTRACTOR OF THE SHUTDOWN AT LEAST 48 HOURS PRIOR TO CUSTOMER NOTIFICATION.
  3. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLY-WRAPPED PER SPECIFICATIONS.
  4. LOCATIONS OF UTILITIES OTHER THAN WATER ARE APPROXIMATE, AND NOT ALL UTILITIES ARE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, SUPPORTING AND PROTECTING ALL UTILITIES DURING INSTALLATION OF THE WATER MAIN.
  5. THE ANNULAR SPACE OF EACH CASING SHALL BE FILLED WITH 3/8" STONE.
  6. THE RCP CASING SHALL BE TONGUE AND GROOVE CLASS 4 IN ACCORDANCE WITH AASHTO M170. JOINTS SHALL BE SEALED WITH BUTYL IN ACCORDANCE WITH AASHTO M198.
  7. INSTALL RESTRAINED JOINT GASKETS IN ALL DUCTILE IRON PUSH ON JOINTS.

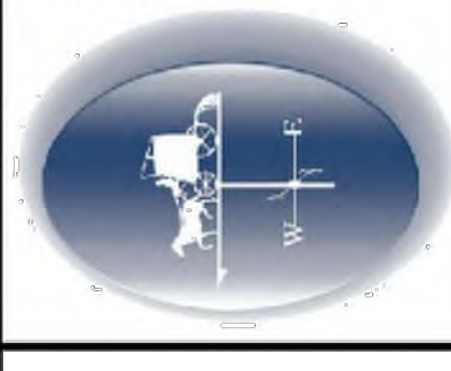


PROFILE  
VERTICAL: 1"=5'  
HORIZONTAL: 1"=25'



DRAWN BY: BJS  
DESIGN BY: TM  
DATE: 12/31/2020

**Portland Water District**  
ASSET MANAGEMENT AND PLANNING DEPARTMENT  
225 DOUGLASS STREET, PORTLAND ME 04104  
(207) 774-5961 • WWW.PWD.ORG

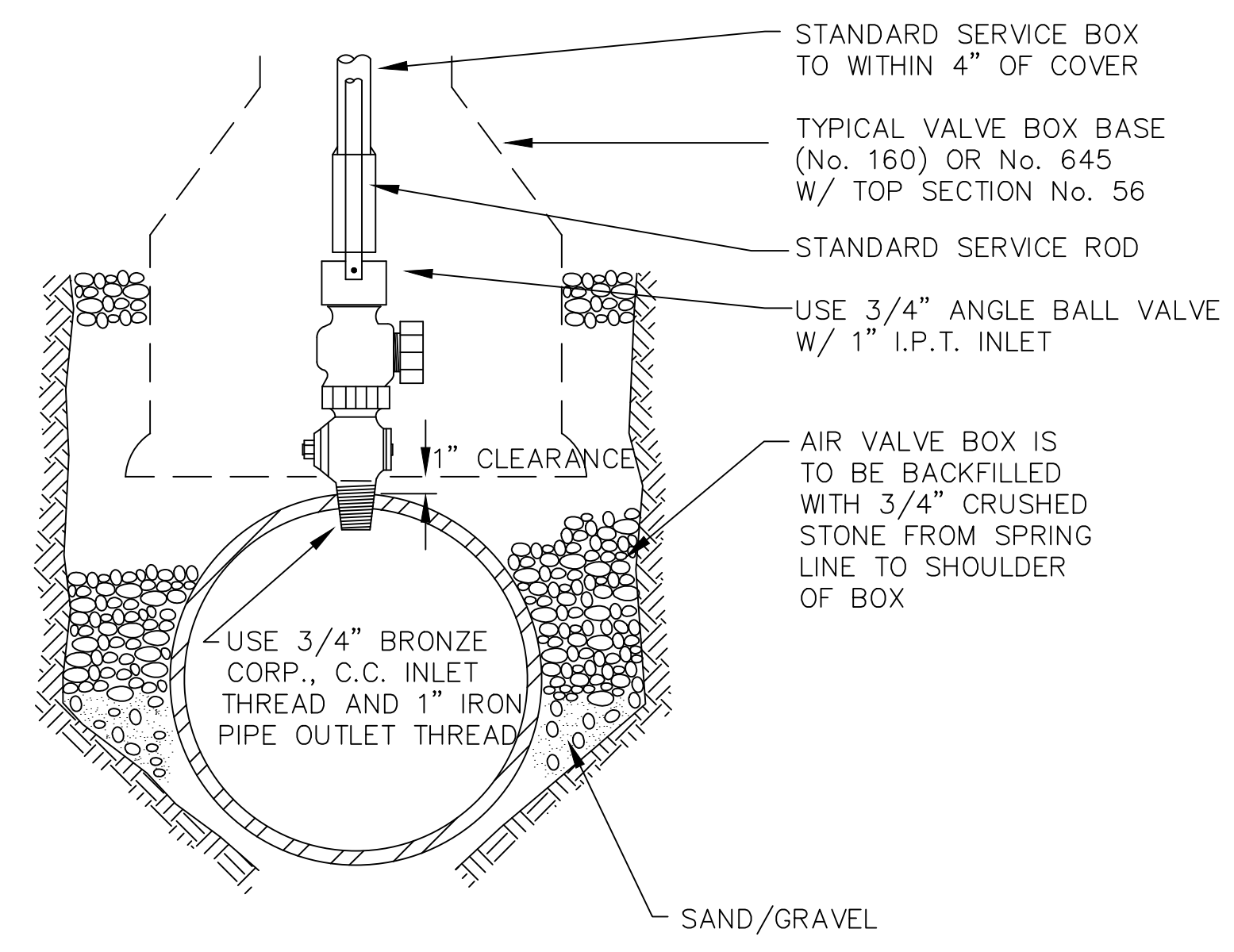




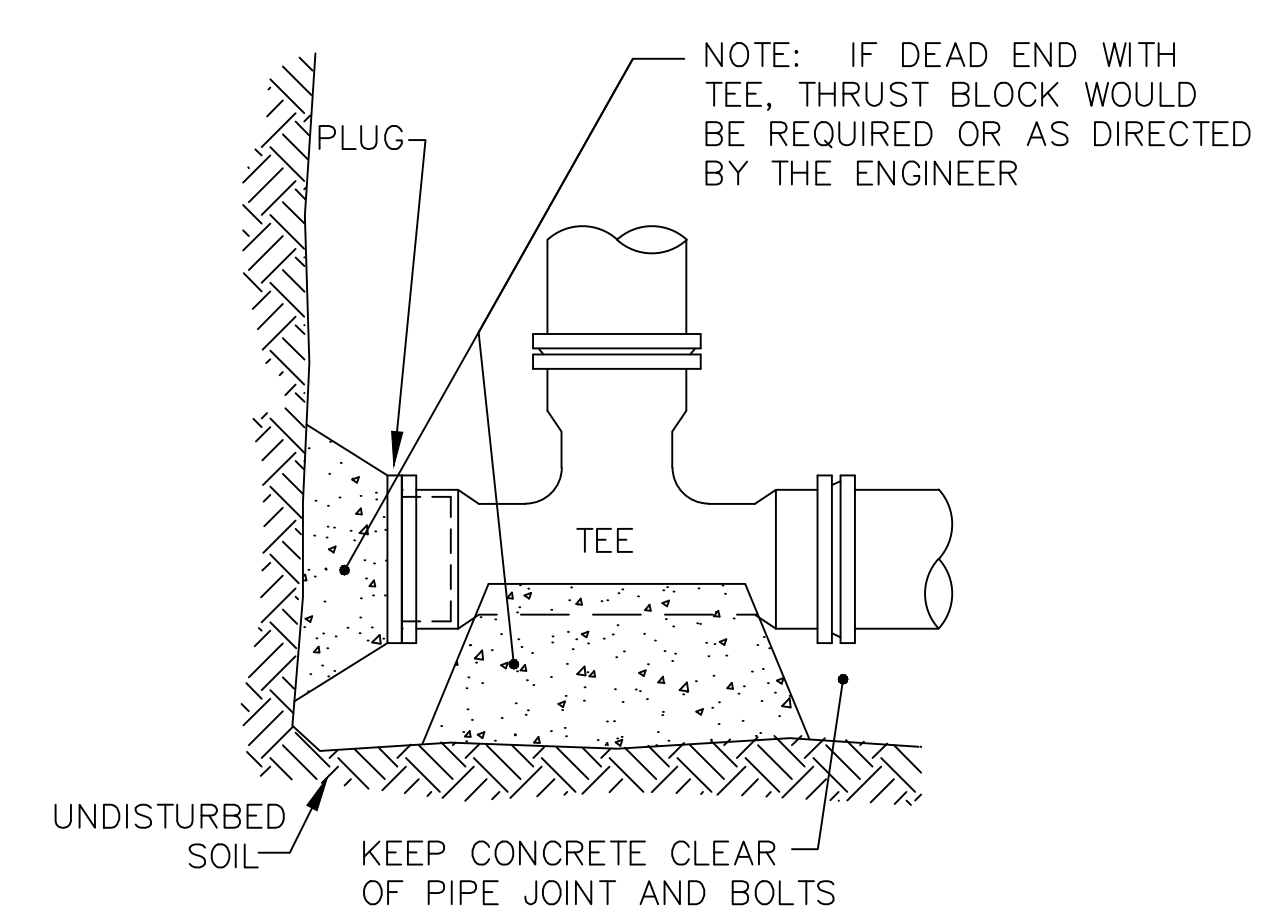


DRAWN BY:  
BSJ  
CHECKED BY:  
TM  
DATE:  
12/31/2020

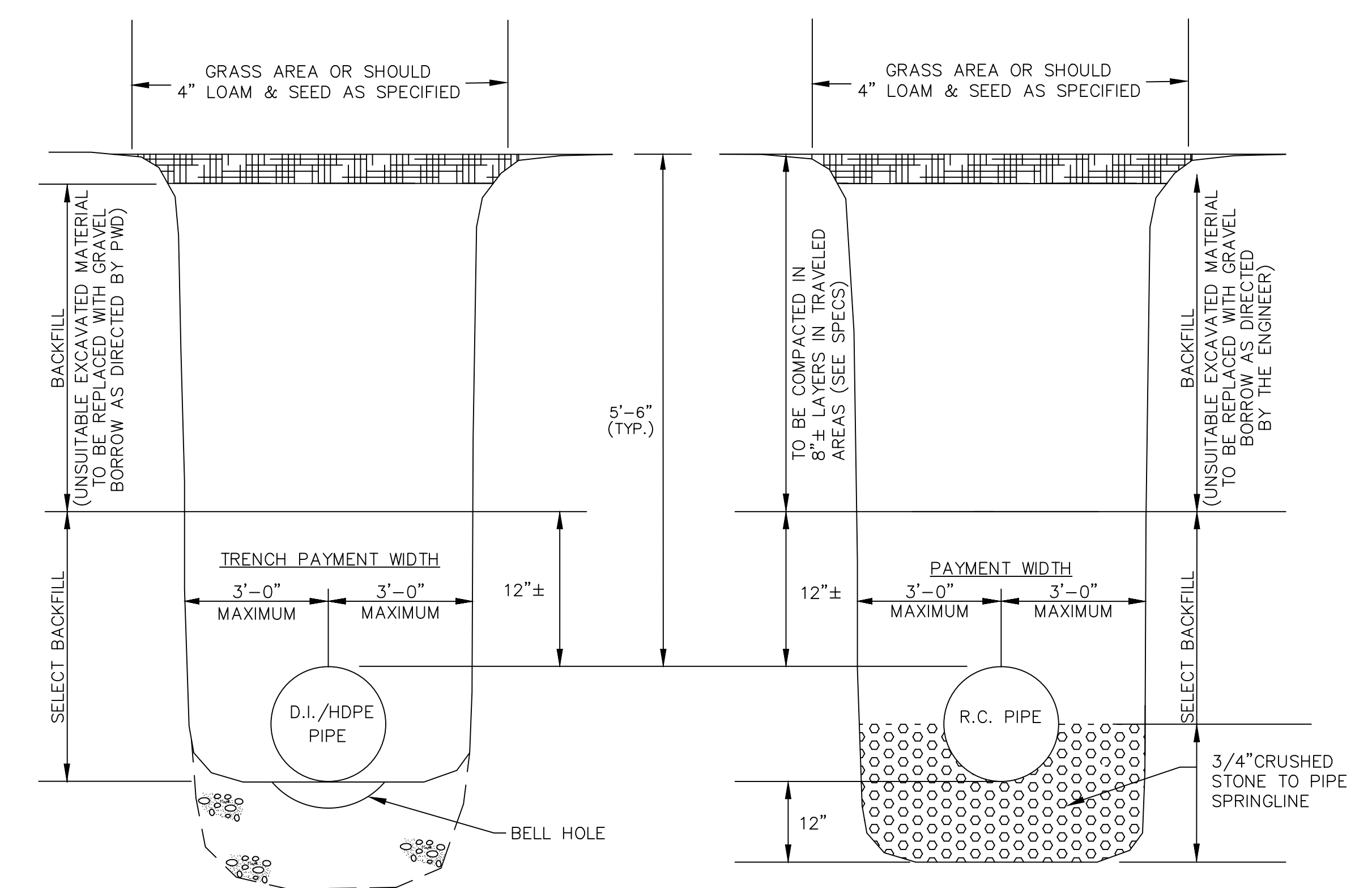
**Portland Water District**  
ASSET MANAGEMENT AND PLANNING DEPARTMENT  
225 DOUGLASS STREET, PORTLAND ME 04104  
(207) 774-5961 EXT. 3041 • MEANS@PWD.ORG



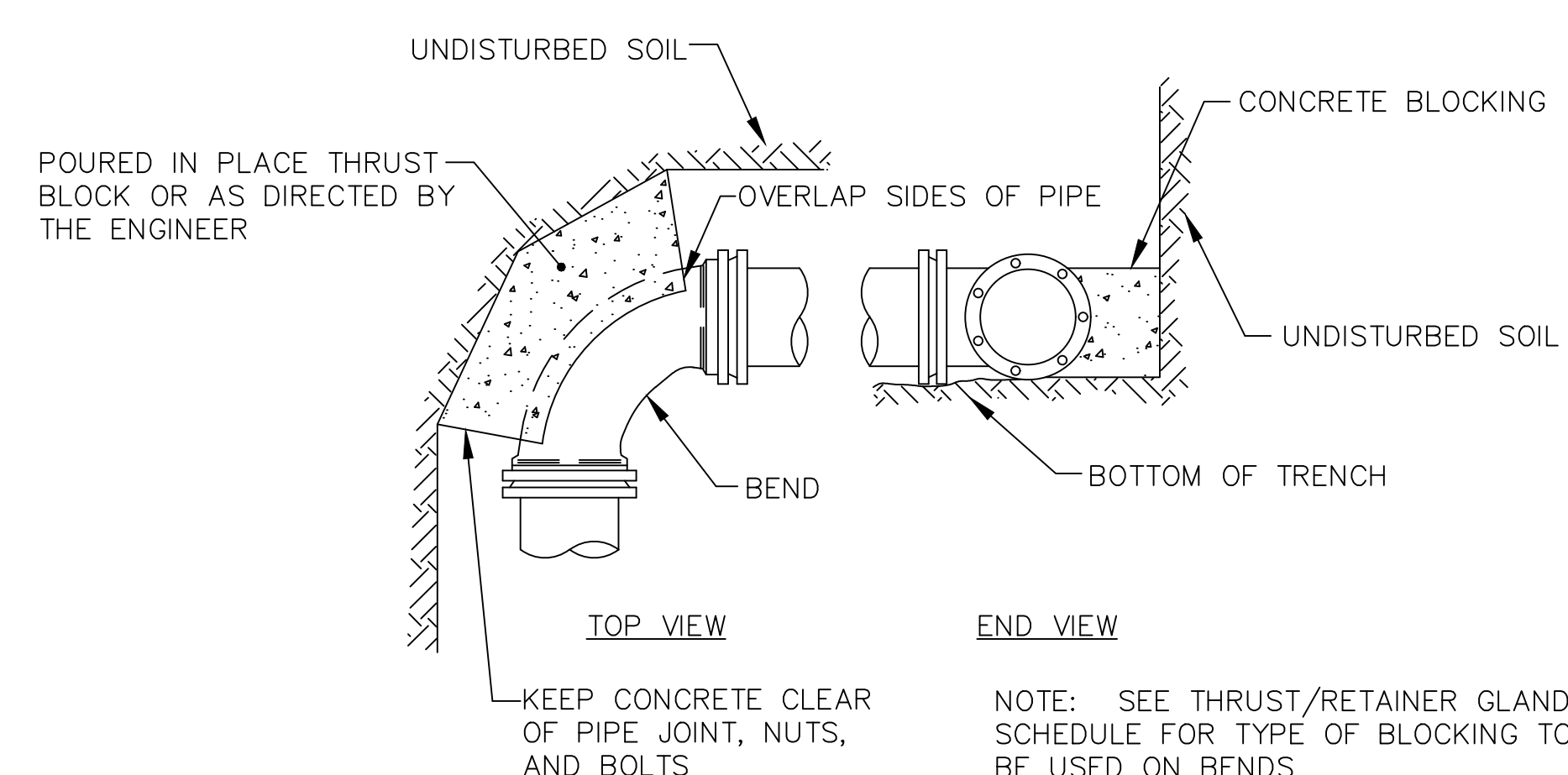
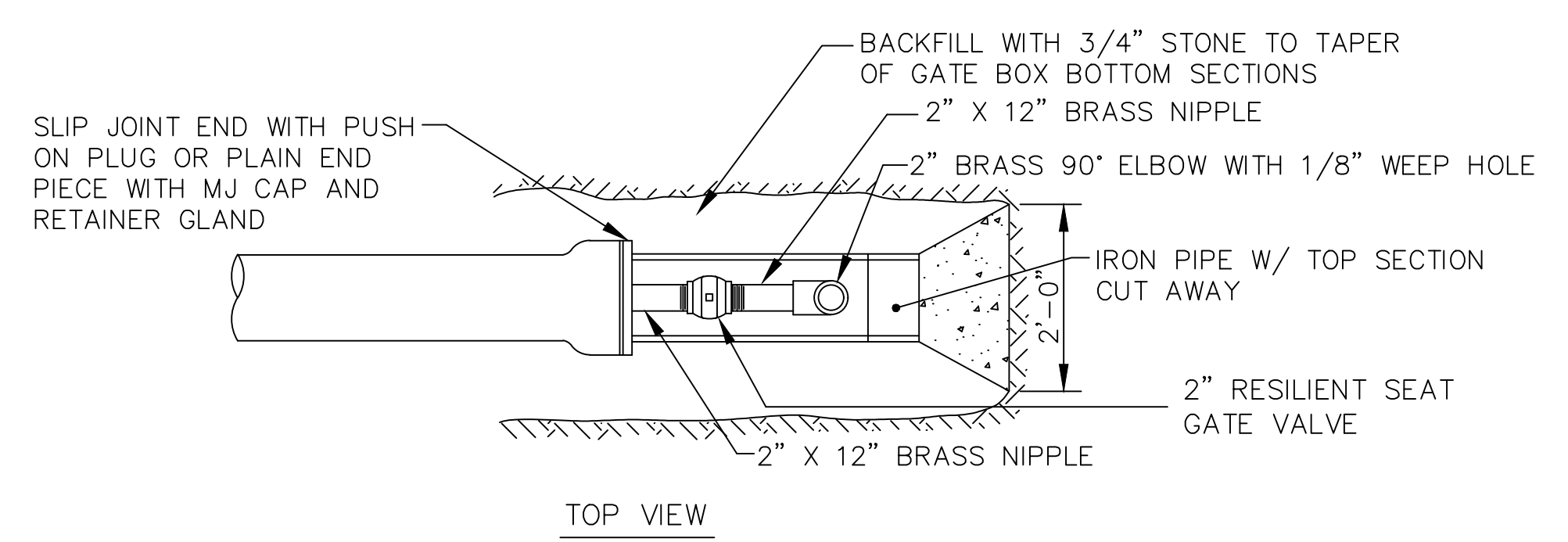
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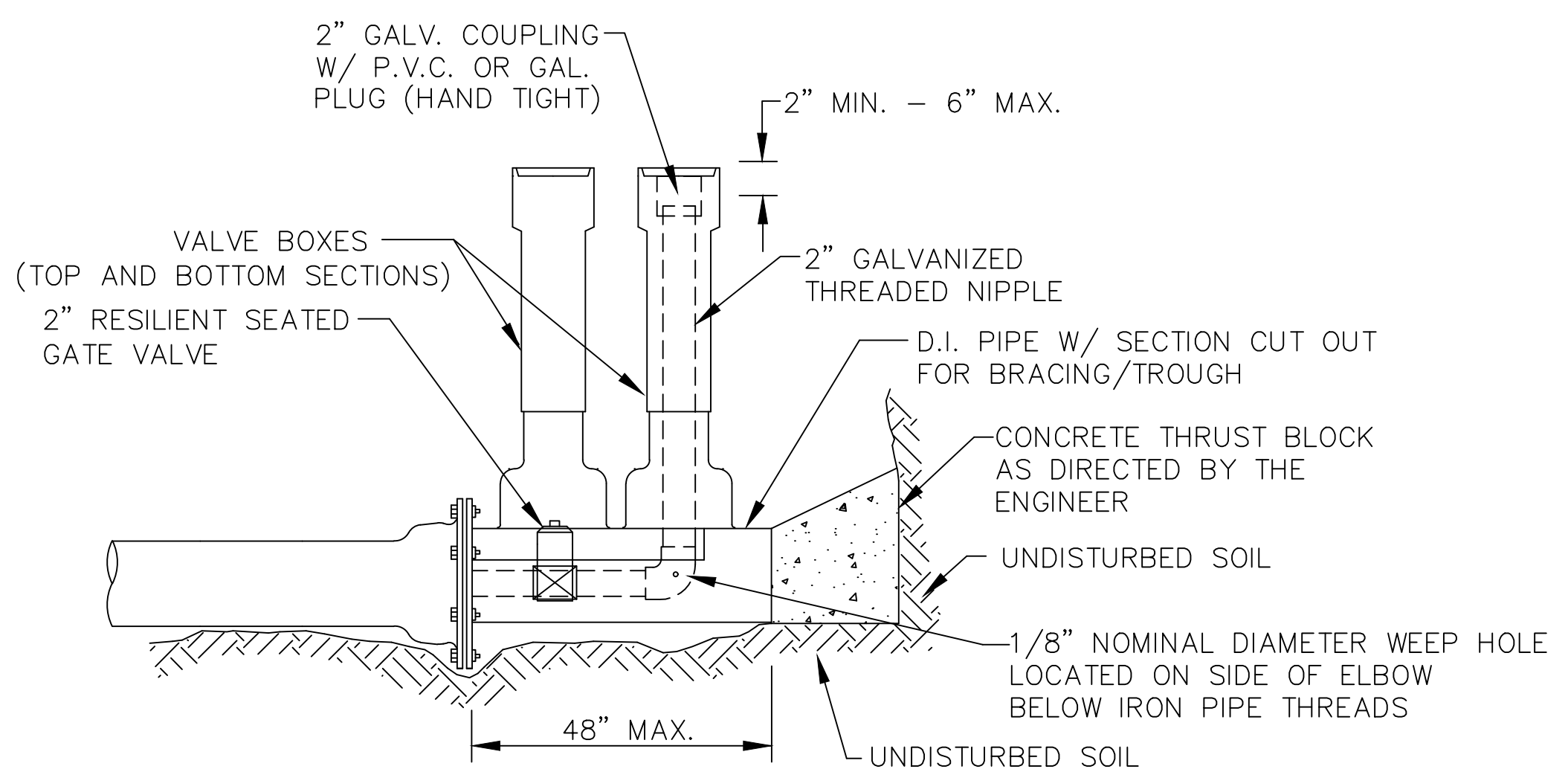
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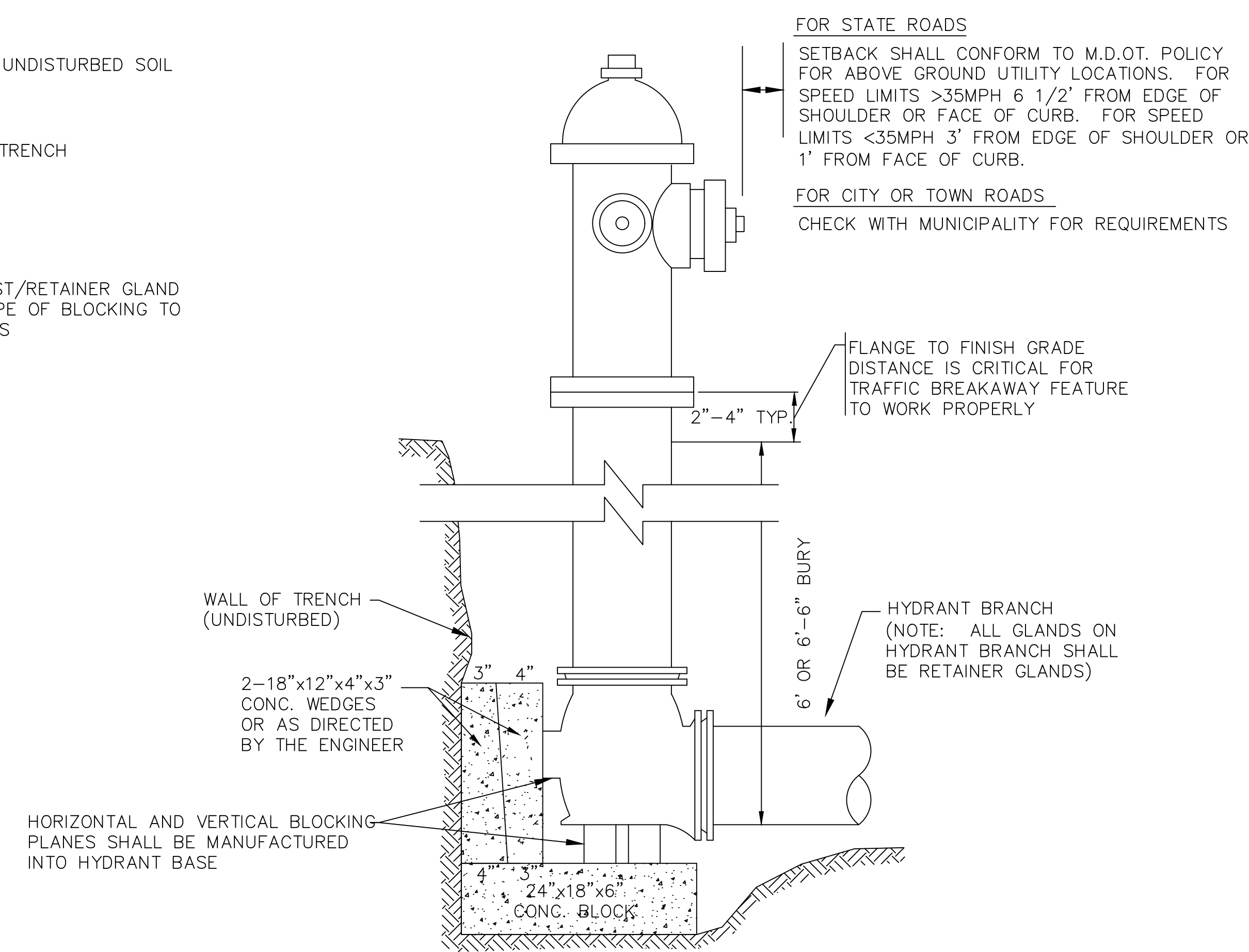
SECTION THRU EARTH TRENCH  
N.T.S.



STANDARD BEND BLOCKING

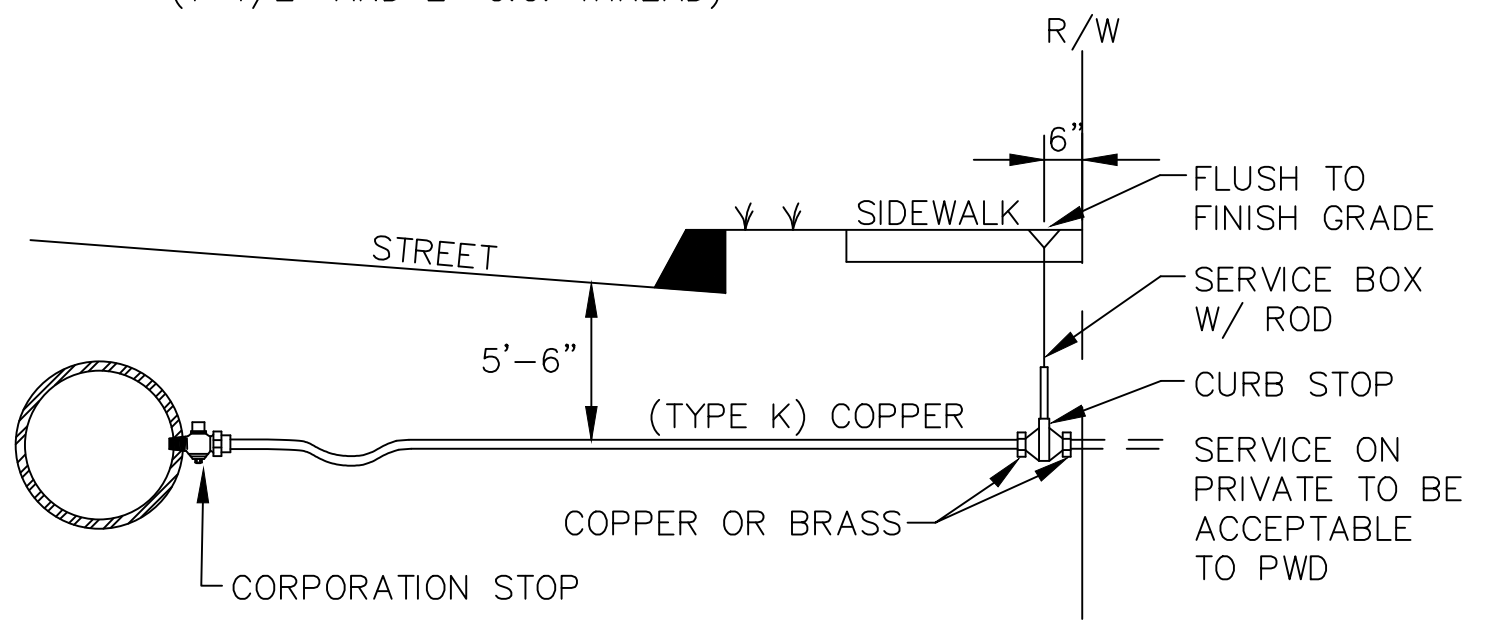
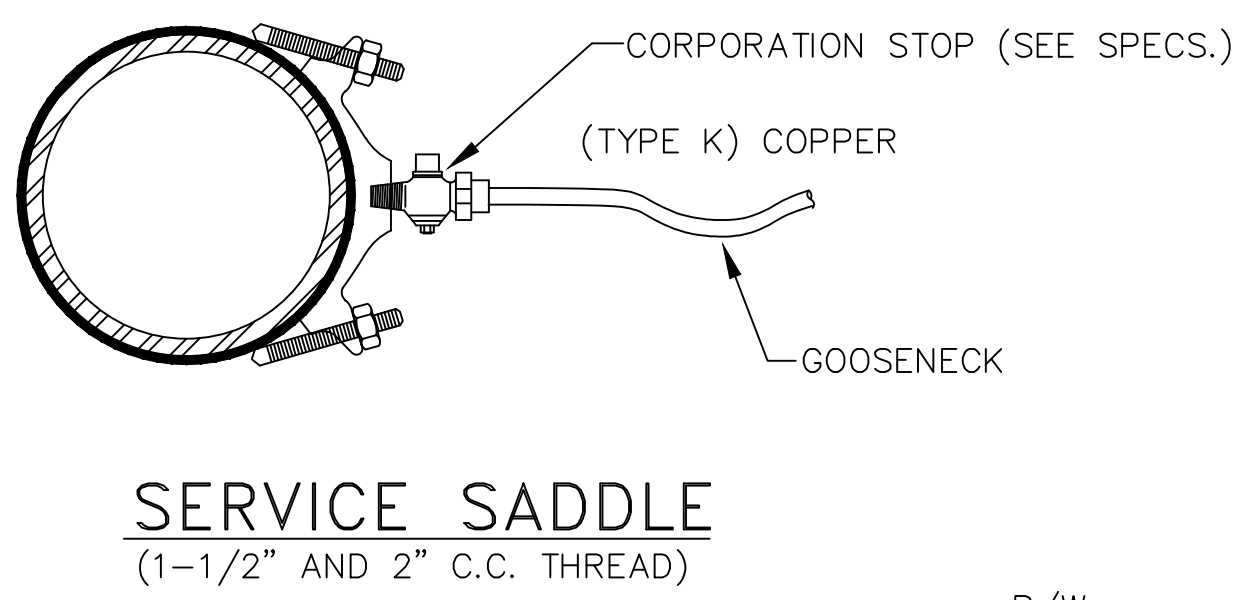
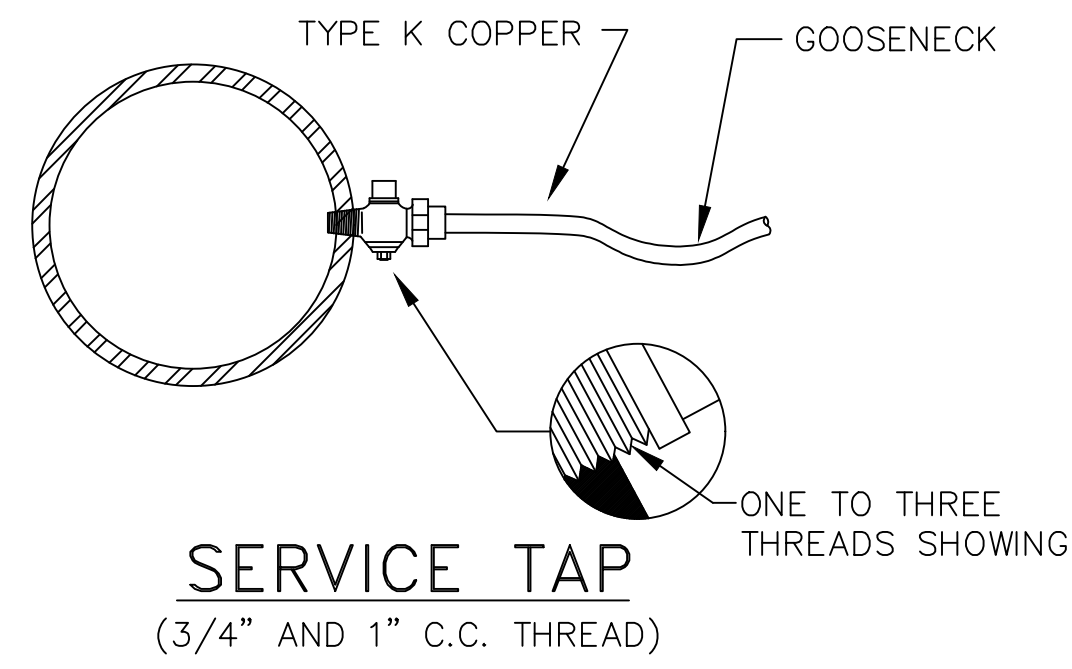


STANDARD 2" BLOW OFF

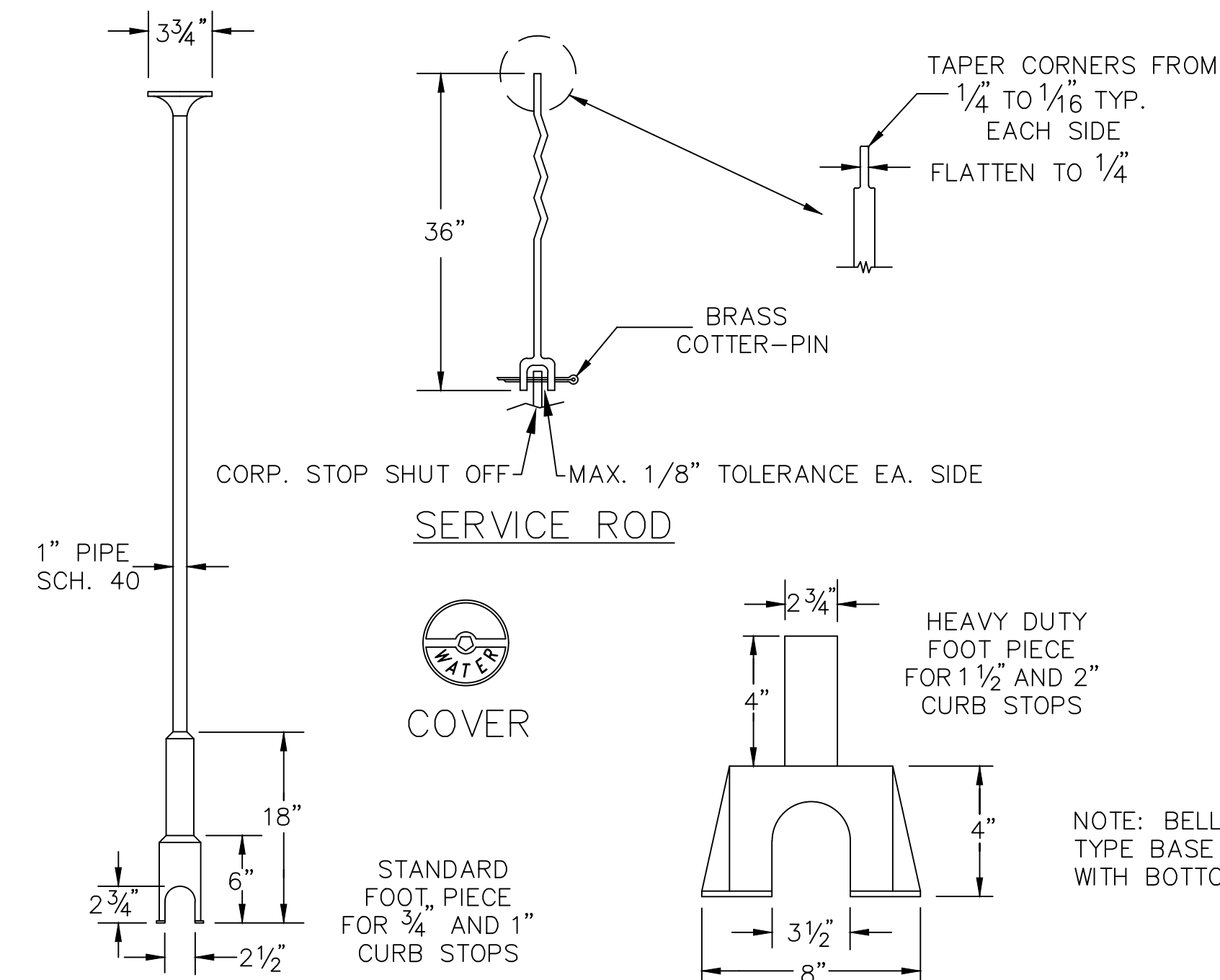


TYPICAL HYDRANT INSTALLATION DETAIL



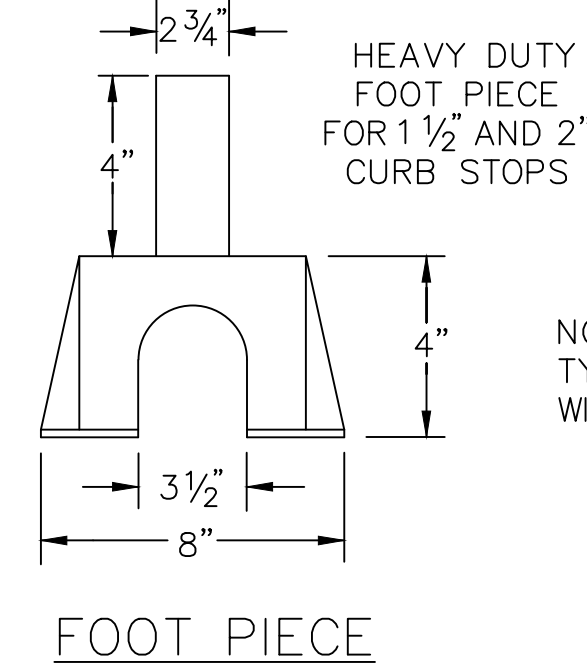


TYPICAL SERVICE CONNECTION

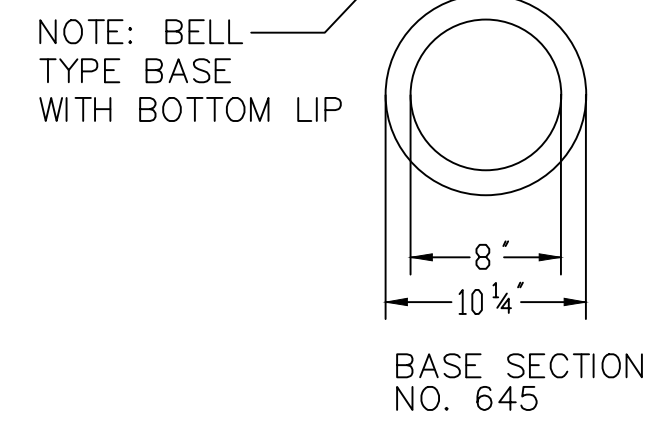


SERVICE BOX

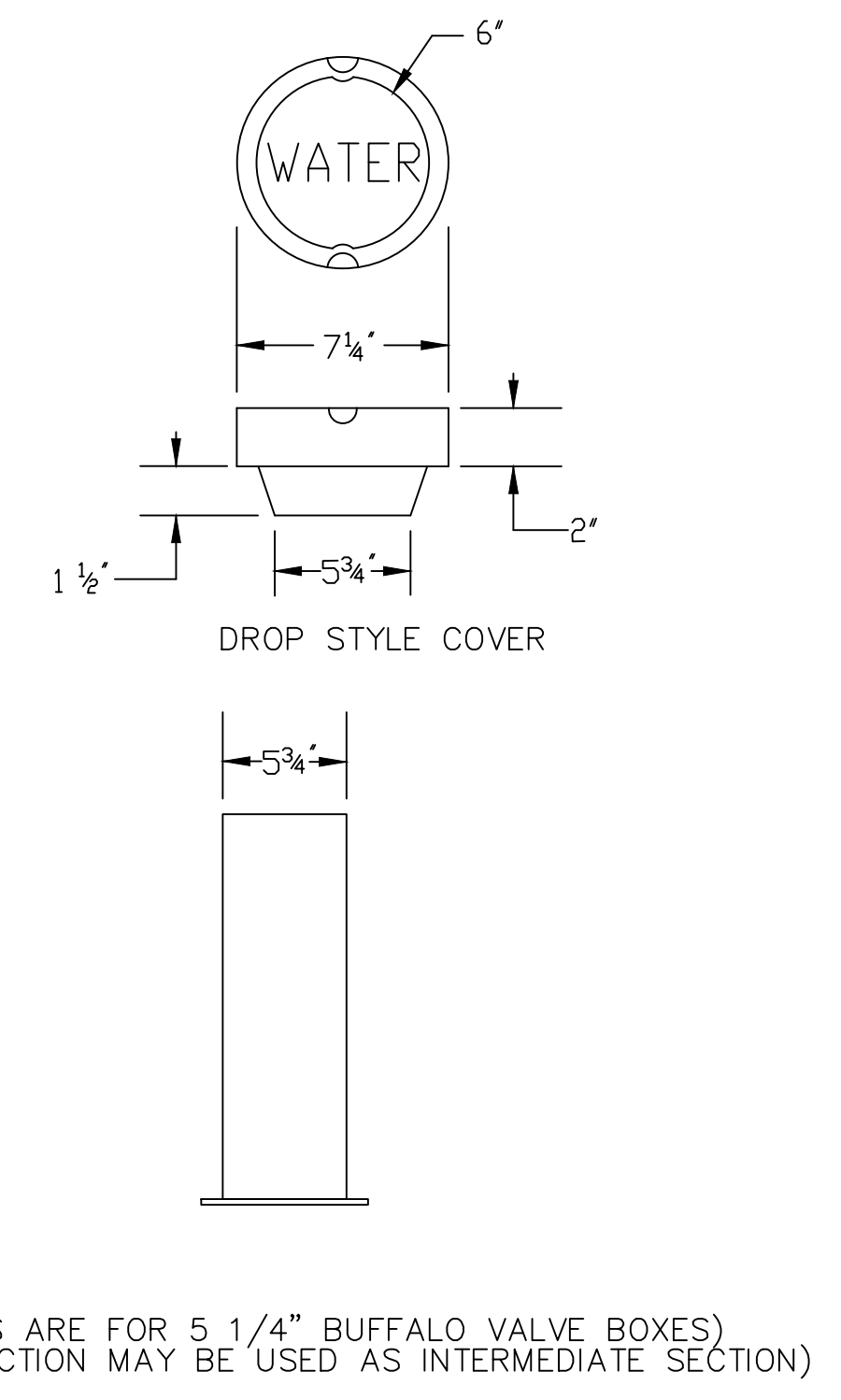
NOTE : ANY EXTENSION OF SERVICE BOX REQUIRES:  
1) 1" FEMALE IRON PIPE COUPLING  
2) 1" THREADED PIPE  
(THIS IS TO BE A NON-WELDED, TWO PIECE ARRANGEMENT. SLIP ON ADAPTERS ARE NOT PERMISSIBLE.)



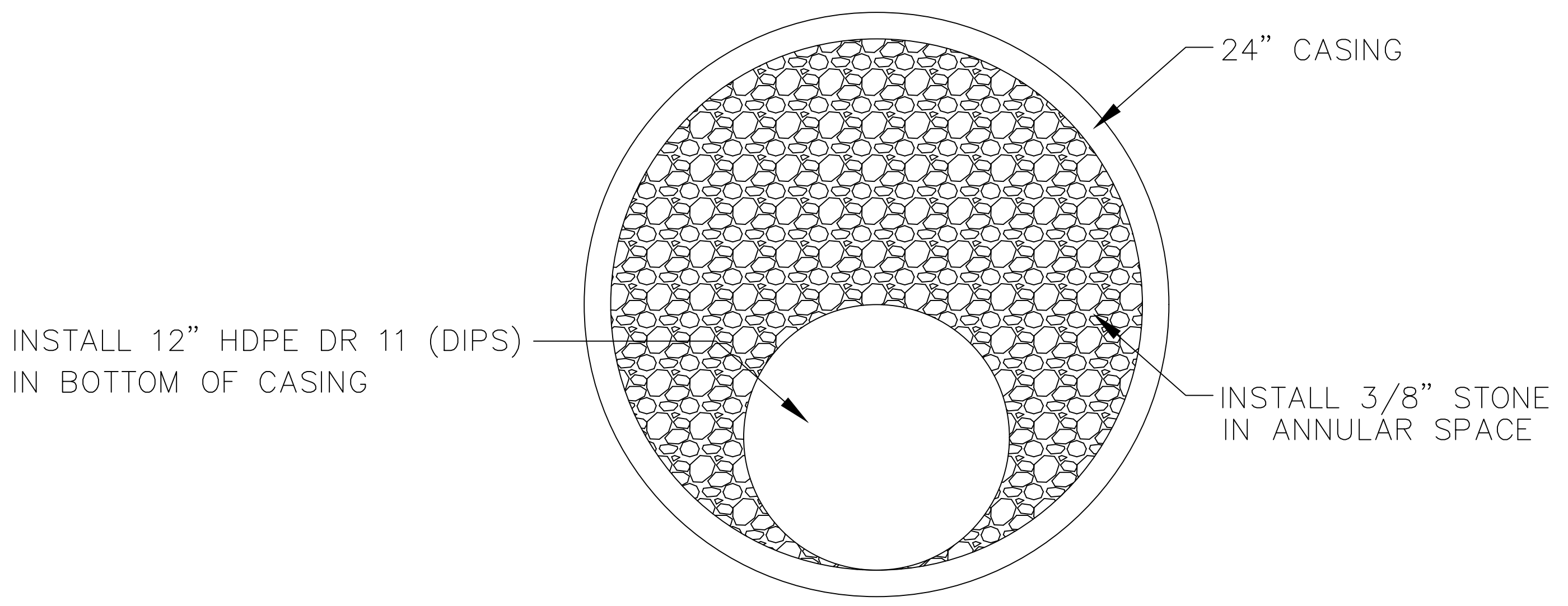
FOOT PIECE



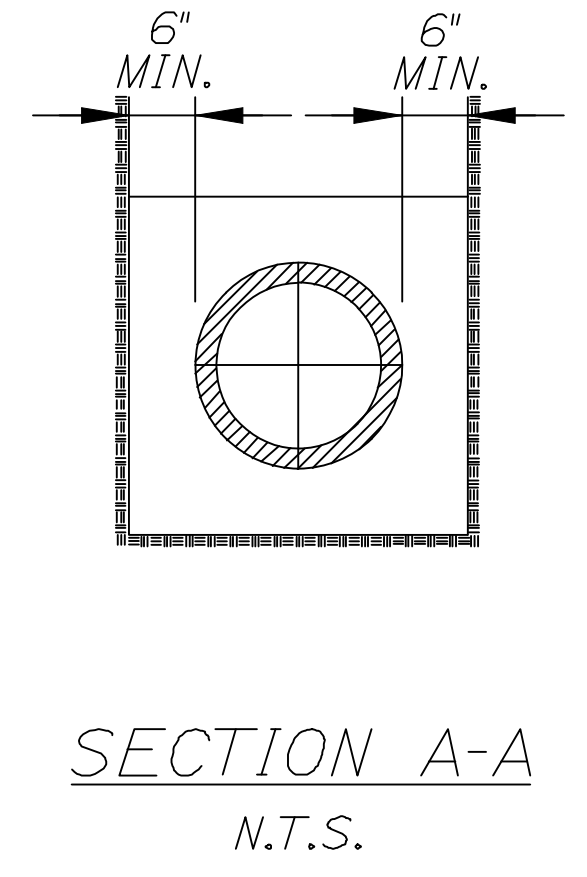
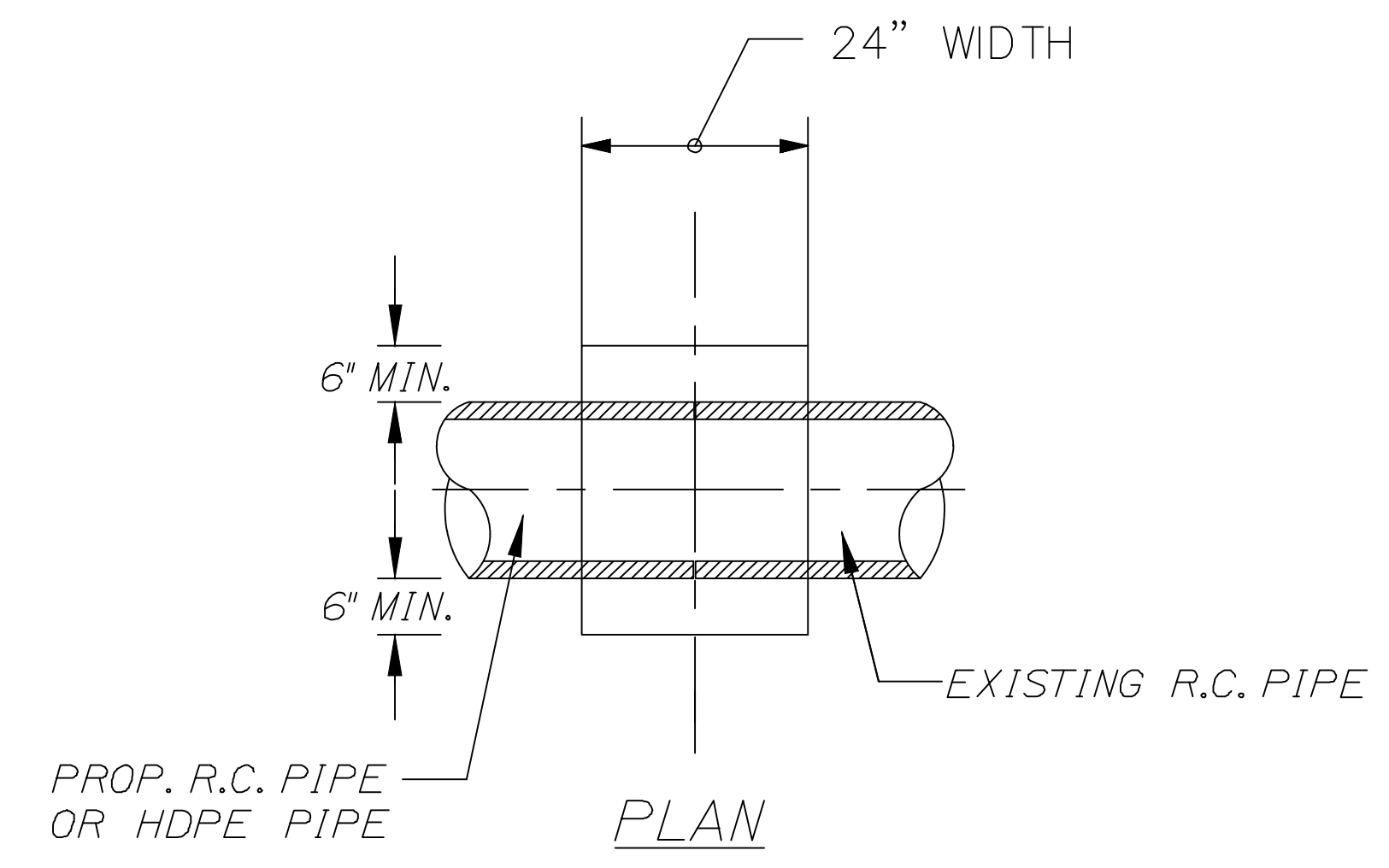
VALVE BOX & COVER



(NUMBERS ARE FOR 5 1/4" BUFFALO VALVE BOXES)  
(BASE SECTION MAY BE USED AS INTERMEDIATE SECTION)



TYPICAL CASING / PIPE SECTION  
N.T.S.



NOTES:  
1. CONNECTION AND PIPE TO BE BACKFILL PER ASTM D2321 (CRUSHED STONE)  
2. CONCRETE SHALL BE CLASS A FIBER REINFORCED.

CONCRETE COLLAR DETAIL

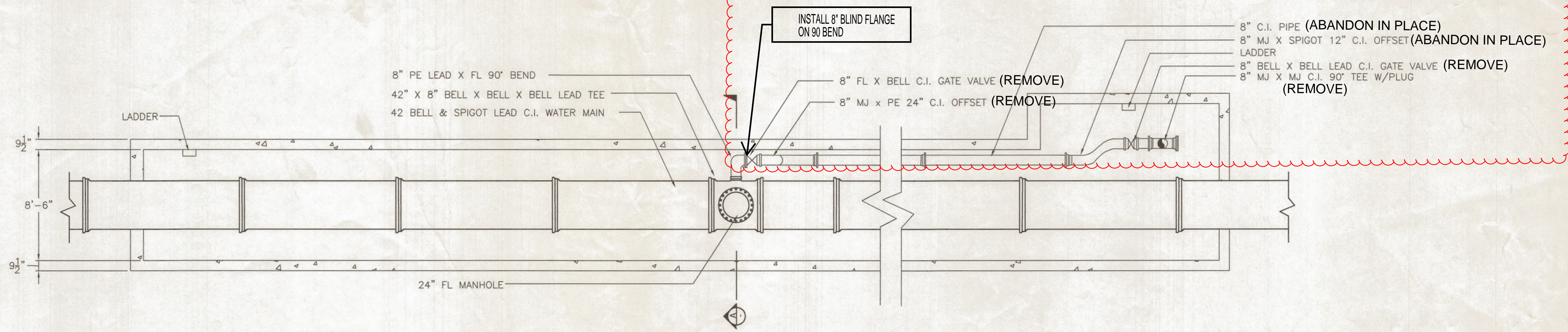


DRAWN BY:  
BSJ  
CHECKED BY:  
TM  
DATE:  
12/31/2020

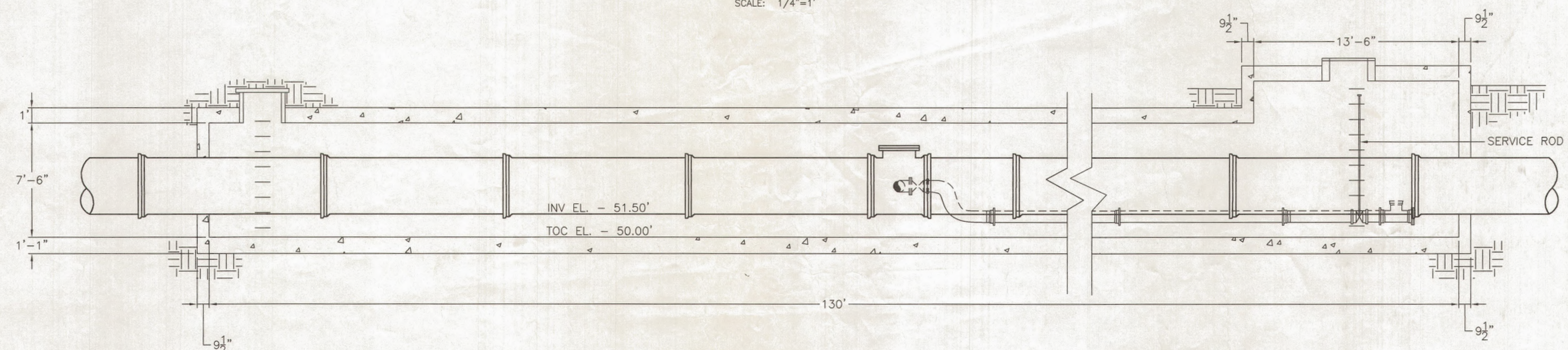
Portland Water District  
ASSET MANAGEMENT AND PLANNING DEPARTMENT  
225 DOUGLASS STREET, PORTLAND ME 04104  
(207) 774-5961 EXT. 3041 • MEANS@PWD.ORG



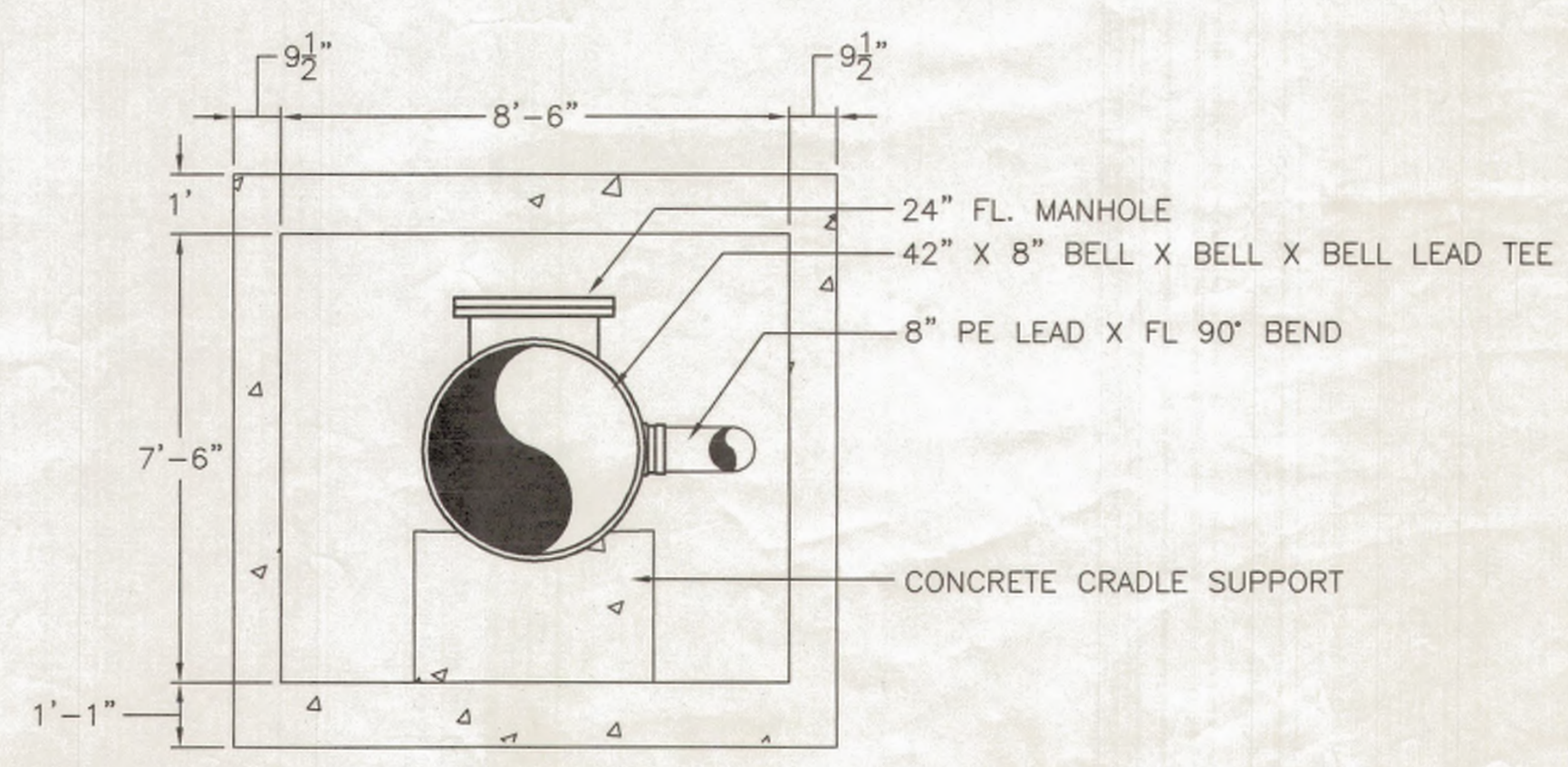




**PLAN VIEW**  
SCALE: 1/4"=1'



**PROFILE VIEW**  
SCALE: 1/4"=1'




**SECTION A**  
SCALE: 3/8"=1'

- NOTES:**
1. ORIGINAL DRAWING COMPLETED 2/11/54 BY HOWARD, NEEDLES, TAMMEN & BERGENDOFF.
  2. UPDATED 6/22/00 TO REFLECT AS-BUILT STATUS OF PIPING.
  3. DIMENSIONS OF VAULT & CONCRETE REINFORCING NOT VERIFIED.

This sheet added to Plans in Addendum #3.  
See clouded notes for required work.

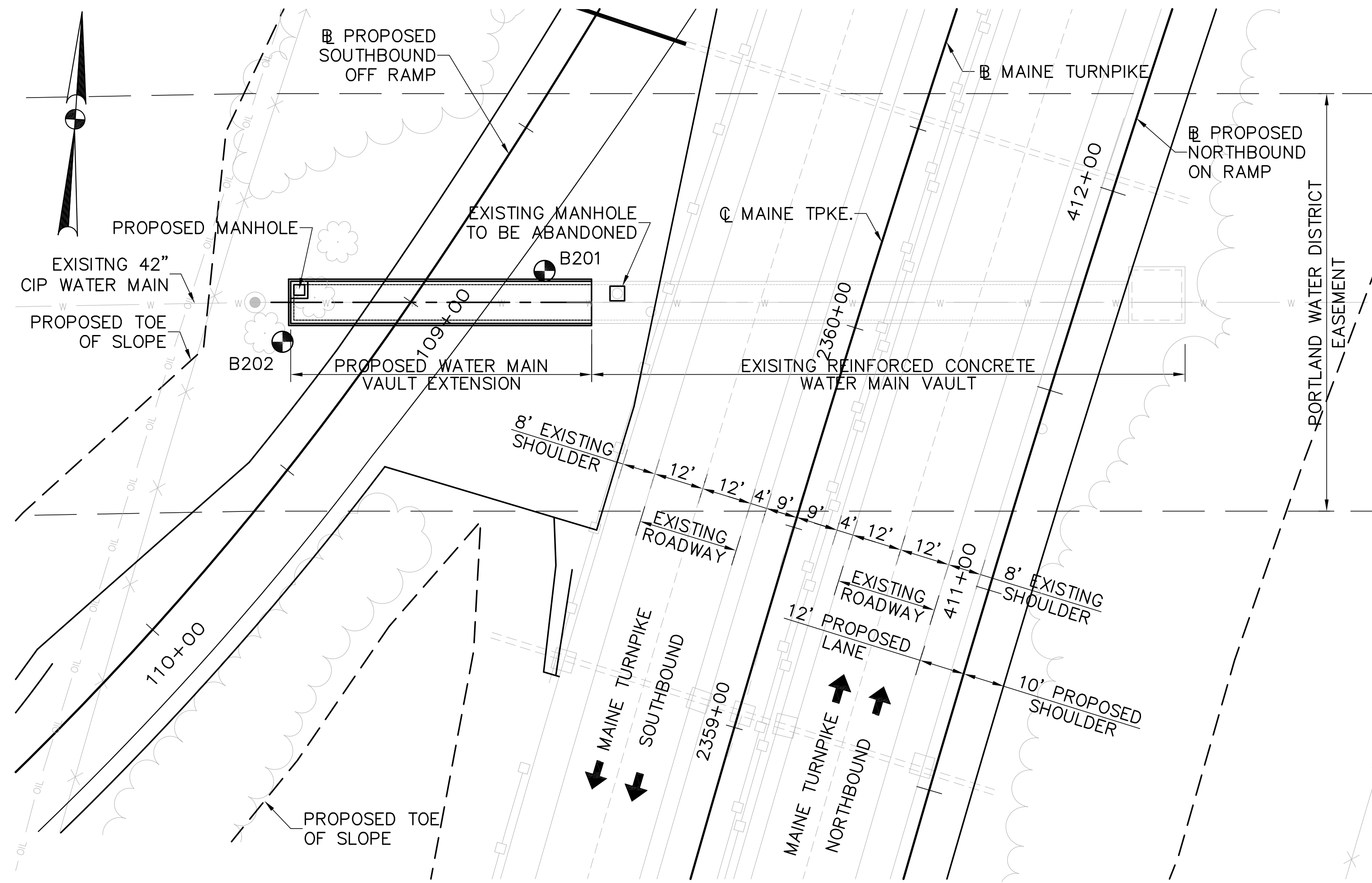
**8" PIPING MODIFICATIONS**

MAINE TURNPIKE - PORTLAND			
42" C.I. WATER MAIN VAULT STA. 2360+08			
 <b>Portland Water District</b> <small>ENGINEERING DEPARTMENT 225 DOUGLASS STREET P.O. 5059 PORTLAND, MAINE 04104-2653</small>			
<b>REVISIONS</b>		DESIGN	CHECK
PROJECT NUMBER	DRAWN	JS	APPROVED
CAD FILE	FIELD BOOK	SCALE	DATE
		AS NOTED	6/22/00
			SHEET 1 OF 1

CONTRACT: 2021.02

35 OF 42





**PLAN**  
1" = 20'

INDEX OF DRAWINGS	
SHEET NO.	TITLE
PWD-S1	GENERAL PLAN
PWD-S2	PLAN & ELEVATION
PWD-S3	DETAILS
PWD-S4	REINFORCING SCHEDULE

AS-BUILT PLANS	
SHEET NO.	TITLE
N/A	PROPOSED BOX CULVERT FOR 42" C.I. WATERMAIN STA. 2360+08.

QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
206.061	STRUCTURAL EARTH EXCAVATION - DRAINAGE MINOR STRUCTURES, BELOW GRADE	390	C.Y.
304.10	AGGREGATE BASE COURSE - GRAVEL	170	C.Y.
502.30	STRUCTURAL CONCRETE BOX CULVERT (100 CY)	1	L.S.
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	9640	LBS.
503.13	REINFORCING STEEL, PLACING	9640	LBS.
514.06	CURING BOX FOR CONCRETE CYLINDERS	1	EACH

**SPECIFICATIONS**

**DESIGN**  
AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES SIXTEENTH EDITION 1996 WITH LATEST INTERIM REVISIONS.

**CONSTRUCTION**  
STATE OF MAINE, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES, REVISION OF APRIL 1995.

**DESIGN LIVE LOAD**  
AASHTO HS 25-44

**DESIGN METHOD**  
LOAD FACTOR DESIGN

**MATERIALS**  
**CONCRETE**  
f'c = 4,000 P.S.I. (CLASS A)

**REINFORCING STEEL**  
AASHTO M31 GRADE 60 (UNCOATED BARS)  
fy = 60,000 P.S.I.

**GENERAL NOTES**

- A COPY OF AS-BUILT PLAN IS INCLUDED IN THIS CONTRACT FOR THE CONTRACTOR'S CONVENIENCE. THE COMPLETENESS AND ACCURACY OF THIS PLAN IS NOT GUARANTEED.
- BORING LOGS ARE INCLUDED IN APPENDIX G OF THE SPECIFICATIONS.
- ALL PROPOSED ELEVATIONS REFERENCE THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988. THE ELEVATIONS REFERENCED ON THE AS-BUILT PLAN MAY DIFFER.
- FOR ADDITIONAL DETAILS REFERENCED OR NOT SHOWN IN THESE DRAWINGS, SEE THE STATE OF MAINE, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES, APRIL 1997.

ABBREVIATIONS	
N.F.	NEAR FACE
F.F.	FAR FACE
E.F.	EACH FACE
E.S.	EQUALLY SPACED
CL.	CLEAR
T	TOP
B	BOTTOM
&	AND
TYP.	TYPICAL
EXIST.	EXISTING
PROP.	PROPOSED

**ORIGINAL DESIGN PLANS**

Scale: AS NOTED

Designed by:



HNTB CORPORATION  
2 Thomas Drive  
Westbrook, ME 04092  
TEL (207) 774-5155  
FAX (207) 772-7410

**MAINE TURNPIKE AUTHORITY**  
**MODERNIZATION AND WIDENING PROJECT**



**WESTBROOK INTERCHANGE**  
**WESTBROOK, MAINE**  
**42" C.I. WATER MAIN VAULT**  
**GENERAL PLAN**

No.	Revision	By	Date

By	Date	By	Date
Designed CLC	7/01	Checked CLC	7/01
Drawn TRC	7/01	In Charge of RAL	7/01

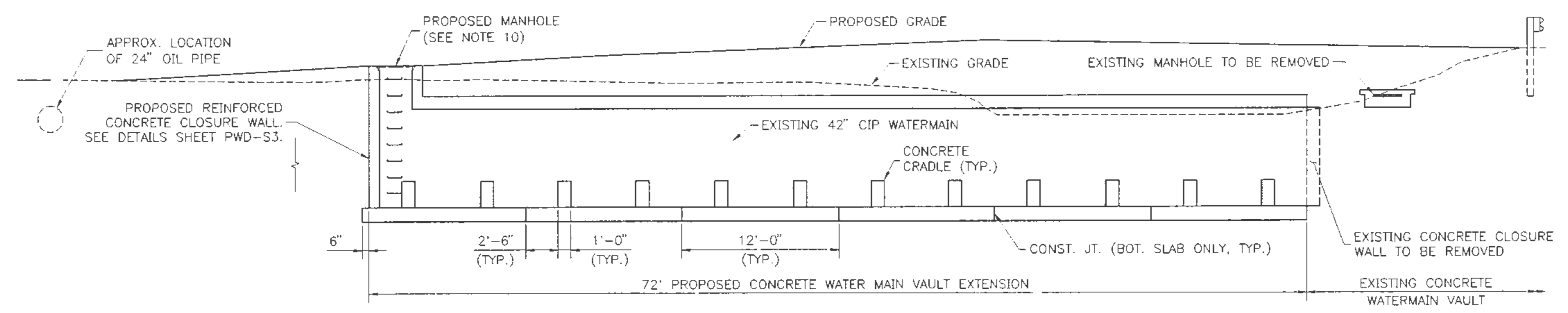
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CONTRACT: 2021.02

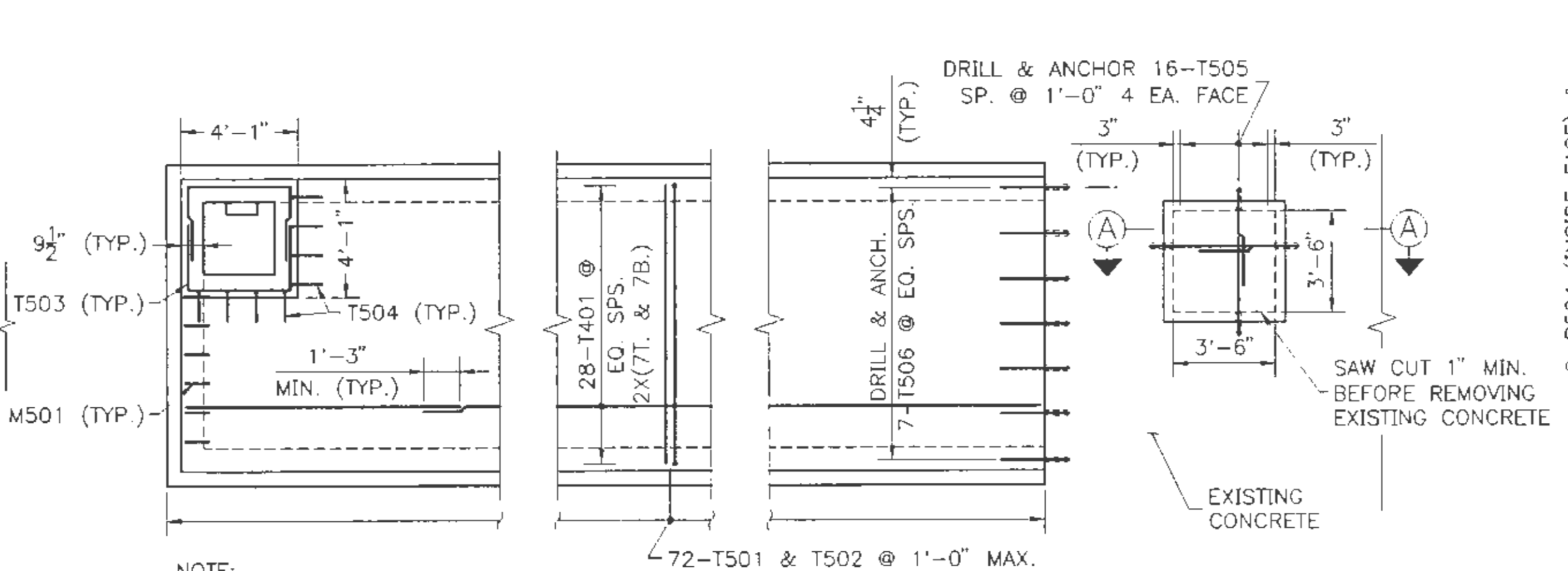
36 OF 42



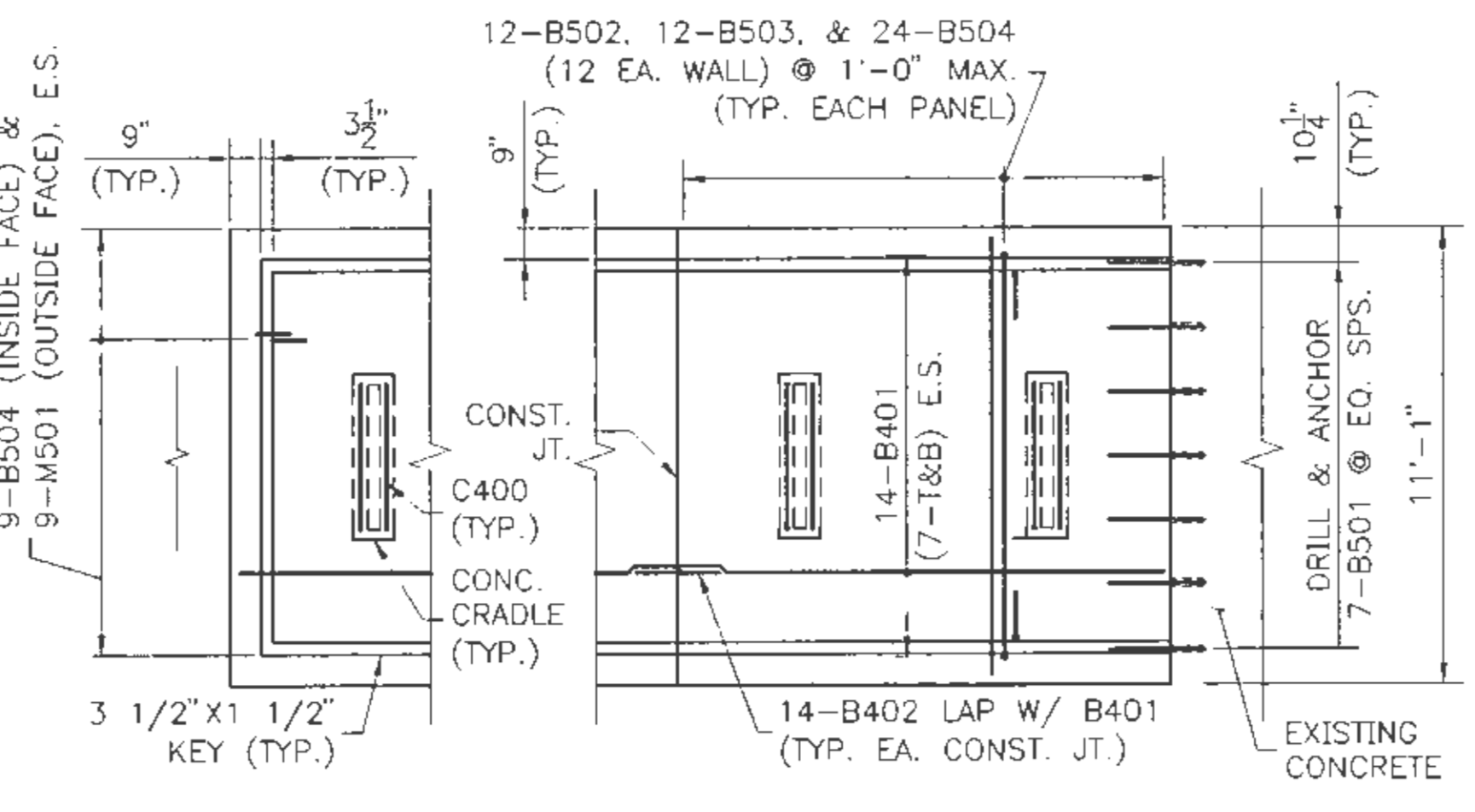
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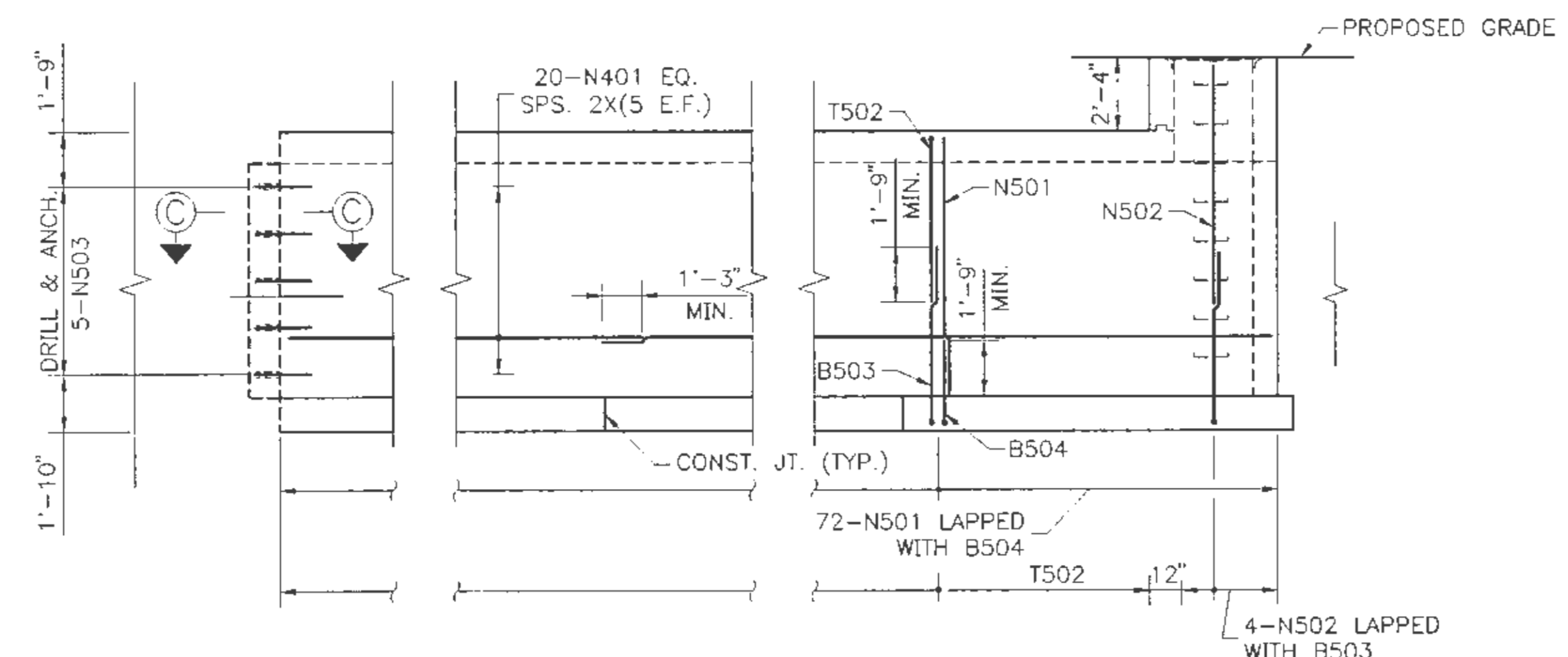
**TRANSVERSE SECTION**  
3/16" = 1'-0"



**PLAN**  
(TOP SLAB REINFORCEMENT SHOWN)  
1/4" = 1'-0"



**BOTTOM SLAB PLAN**  
1/4" = 1'-0"



**WALL ELEVATION**  
(NORTH WALL SHOWN, SOUTH WALL SIMILAR)  
1/4" = 1'-0"

- NOTES**
1. ALL EXISTING DIMENSIONS AND DETAILS ARE TAKEN FROM ORIGINAL DESIGN DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND EXISTING DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENT AND SURVEY.
  2. CHAMFER ALL EXPOSED CORNERS 3/4" UNLESS OTHERWISE NOTED.
  3. PAYMENT FOR REMOVAL OF EXISTING CONCRETE AND SAW CUTTING CONCRETE IS INCIDENTAL TO ITEM 502.30.
  4. MATERIAL USE FOR "DRILLING AND ANCHORING" DOWELS SHALL BE ONE OF THE PRODUCTS LISTED ON THE MAINE DEPARTMENT OF TRANSPORTATION LIST OF PREQUALIFIED TYPE 3 ANCHOR MATERIALS. INSTALLATION SHALL BE IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE CAPACITY OF THE ANCHORAGE SHALL BE SUFFICIENT TO DEVELOP THE FULL YIELD STRENGTH OF THE DOWEL. MINIMUM EMBEDMENT SHALL BE 6" MIN. FOR #4 DOWEL AND 9" MIN. FOR #5 DOWEL. PAYMENT FOR "DRILLING AND ANCHORING" BARS SHALL BE INCIDENTAL TO ITEM 503.13.
  5. BARS BROKEN DURING REMOVAL OF EXISTING CONCRETE SHALL BE REPLACED AT THE CONTRACTORS EXPENSE BY "DRILLING AND ANCHORING".
  6. REINFORCING STEEL SHALL HAVE 2" CONCRETE COVER UNLESS OTHERWISE INDICATED.
  7. THE CONTRACTOR SHALL DEVELOP A CONSTRUCTION PROCEDURE AND TEMPORARY EARTH SUPPORT SYSTEM THAT WILL PROTECT, AT ALL TIMES, THE 42" CIP WATER MAIN, THE MAINE TURNPIKE, AND THE 24 INCH OIL PIPE. THE WATER MAIN MUST REMAIN IN SERVICE AT ALL TIMES. EXCAVATION BELOW MID-DEPTH OF THE WATER MAIN AT ANY ONE LOCATION, SHALL BE LIMITED TO 12 FEET OF UNSUPPORTED LENGTH ALONG THE PIPE AT ONE TIME. AFTER EACH LENGTH OF BOTTOM SLAB IS CONSTRUCTED AND THE PIPE IS SUPPORTED BY CRADLES, EXCAVATION MAY PROCEED TO THE NEXT 12' SECTION. PAYMENT FOR TEMPORARY EARTH SUPPORT SHALL BE INCIDENTAL TO ITEM 502.30. THE CONSTRUCTION PROCEDURE AND TEMPORARY EARTH SUPPORT SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MAINE AND REVIEWED BY THE ENGINEER PRIOR TO CONSTRUCTION.
  8. THE VAULT STRUCTURE SHALL FOLLOW THE HORIZONTAL ALIGNMENT OF THE EXISTING WATER MAIN.
  9. FOR SECTIONS A-A, B-B AND C-C, SEE SHEET PWD-S3.
  10. MANHOLE SHALL BE NEENAH FOUNDRY COMPANY, R-6660 SERIES CATALOG NUMBER R-6660-NH, OR APPROVED EQUIVALENT. PAYMENT FOR MANHOLE IS INCIDENTAL TO ITEM 502.30.
  11. PREPARATION OF THE EXISTING CONCRETE SHALL PRODUCE A SOUND, CLEAN SURFACE FREE OF BOND INHIBITING MATERIALS. ANY CONCRETE AREAS FOUND TO BE UNSOUND SHALL BE RE-CHIPPED BY THE CONTRACTOR (PAYMENT IS INCIDENTAL TO ITEM NO. 502.30).
  12. APPLY A BONDING AGENT TO THE EXISTING CONCRETE SURFACES PRIOR TO PLACING NEW CONCRETE. THE MANUFACTURER'S INSTRUCTIONS, FOR THE BONDING AGENT SELECTED, MUST BE FOLLOWED AND APPROVED BY THE ENGINEER (PAYMENT IS INCIDENTAL TO ITEM NO. 502.30).
  13. FOR MANHOLE STEP DETAILS SEE MAINE DEPARTMENT OF TRANSPORTATION STANDARD DETAILS PAGE 604(3) (PAYMENT IS INCIDENTAL TO ITEM NO. 502.30).

**ORIGINAL DESIGN PLANS**

Scale:

No.	Revision	By	Date

Designed by:

**HNTB**  
ARCHITECTS ENGINEERS PLANNERS

	By	Date		By	Date
Designed	CLC	7/01	Checked	CLC	7/01
Drawn	TRC	7/01	In Charge of	RAL	7/01

HNTB CORPORATION  
2 Thomas Drive  
Westbrook, ME 04092  
TEL (207) 774-5155  
FAX (207) 772-7410

MAINE TURNPIKE AUTHORITY  
MODERNIZATION AND WIDENING PROJECT

WESTBROOK INTERCHANGE  
WESTBROOK, MAINE  
42" C.I. WATER MAIN VAULT  
PLAN & ELEVATION

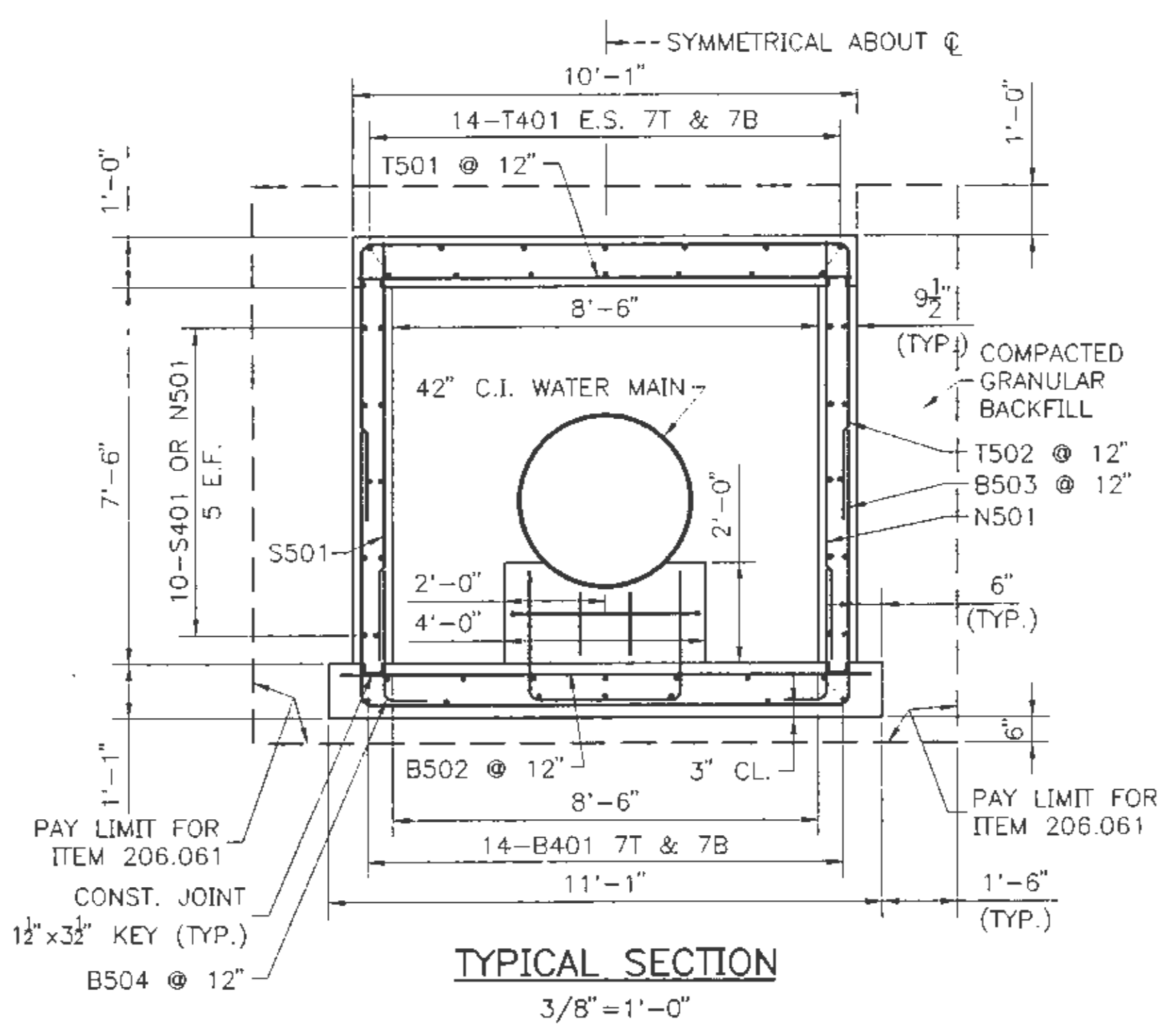
SHEET NUMBER: PWD-S2

CONTRACT: 2021.02

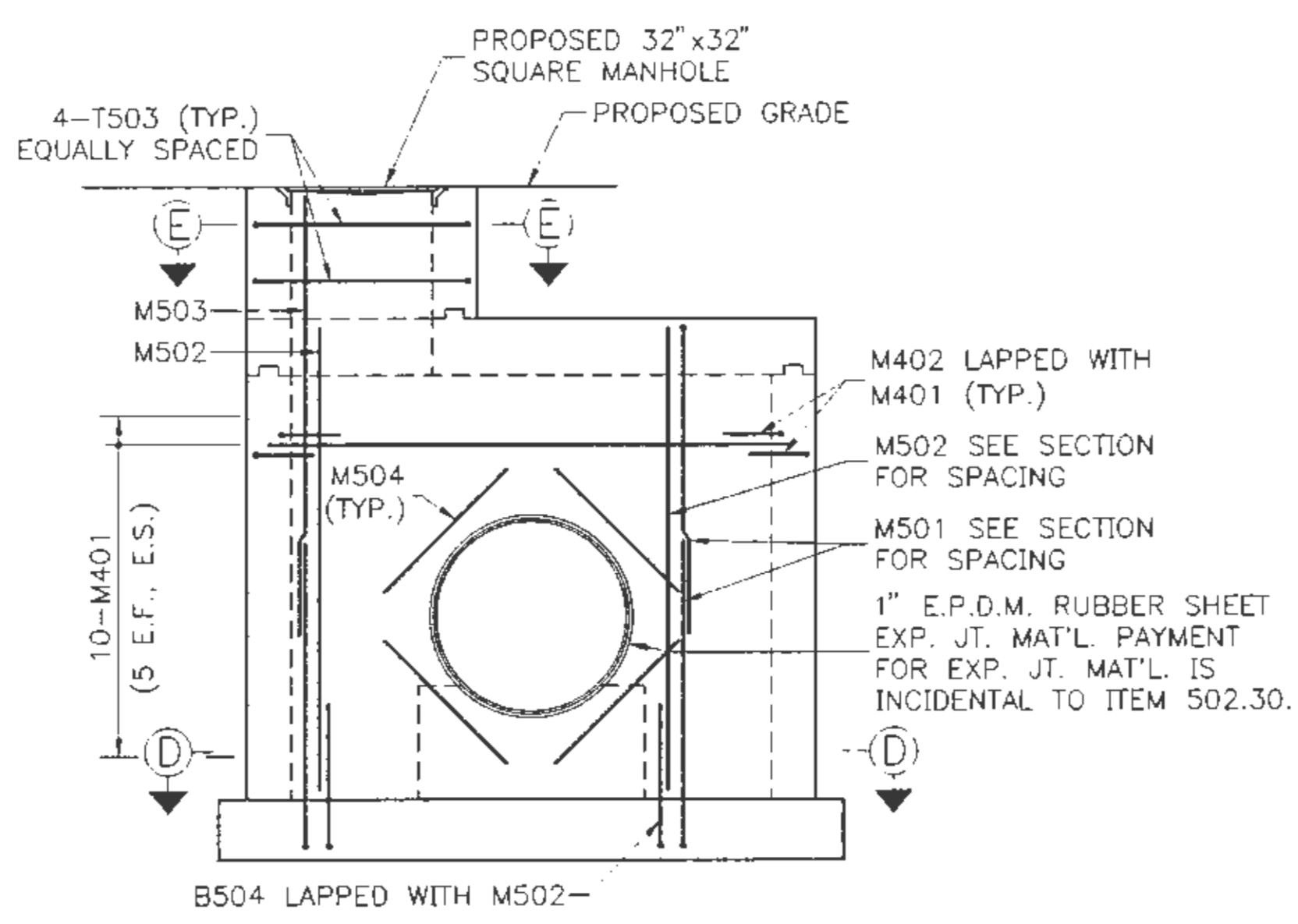
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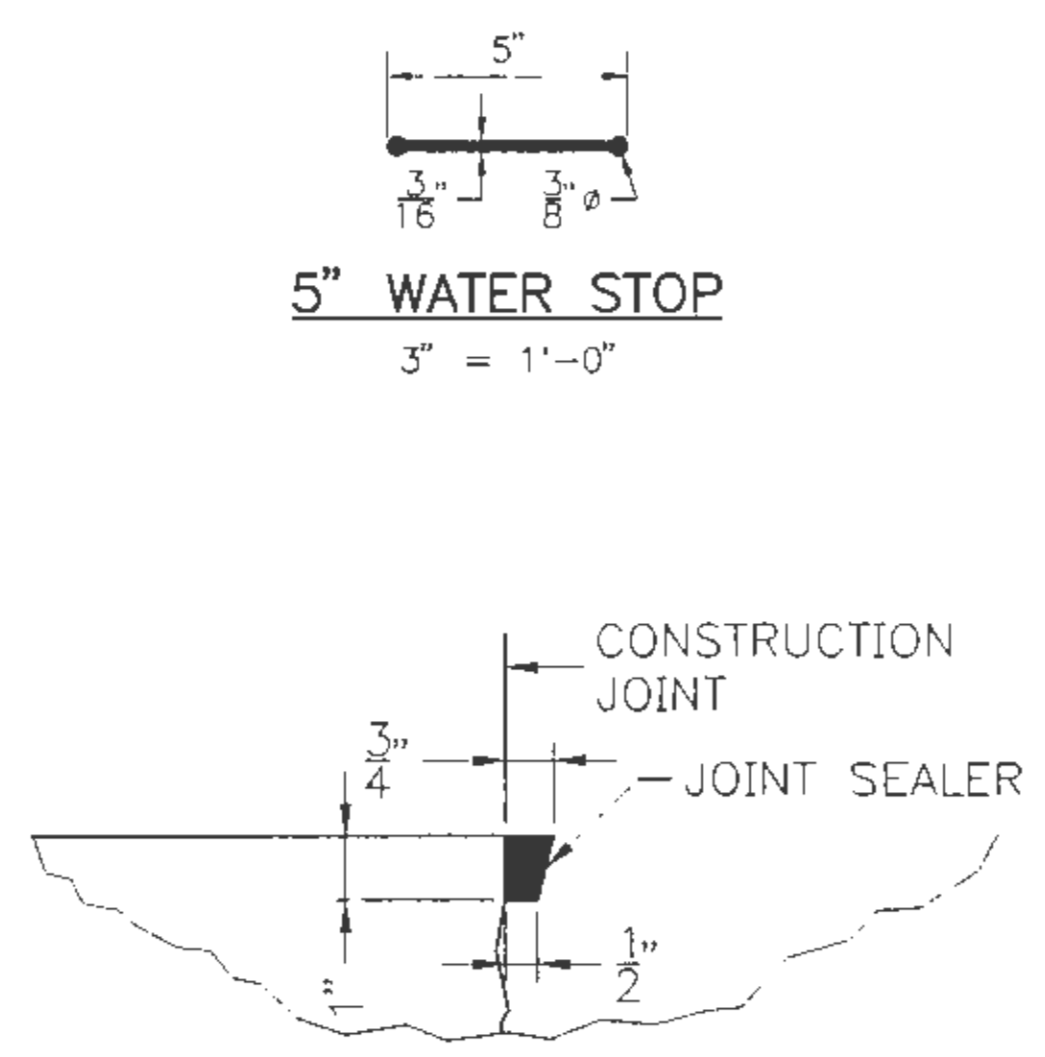


TYPICAL SECTION  
3/8" = 1'-0"

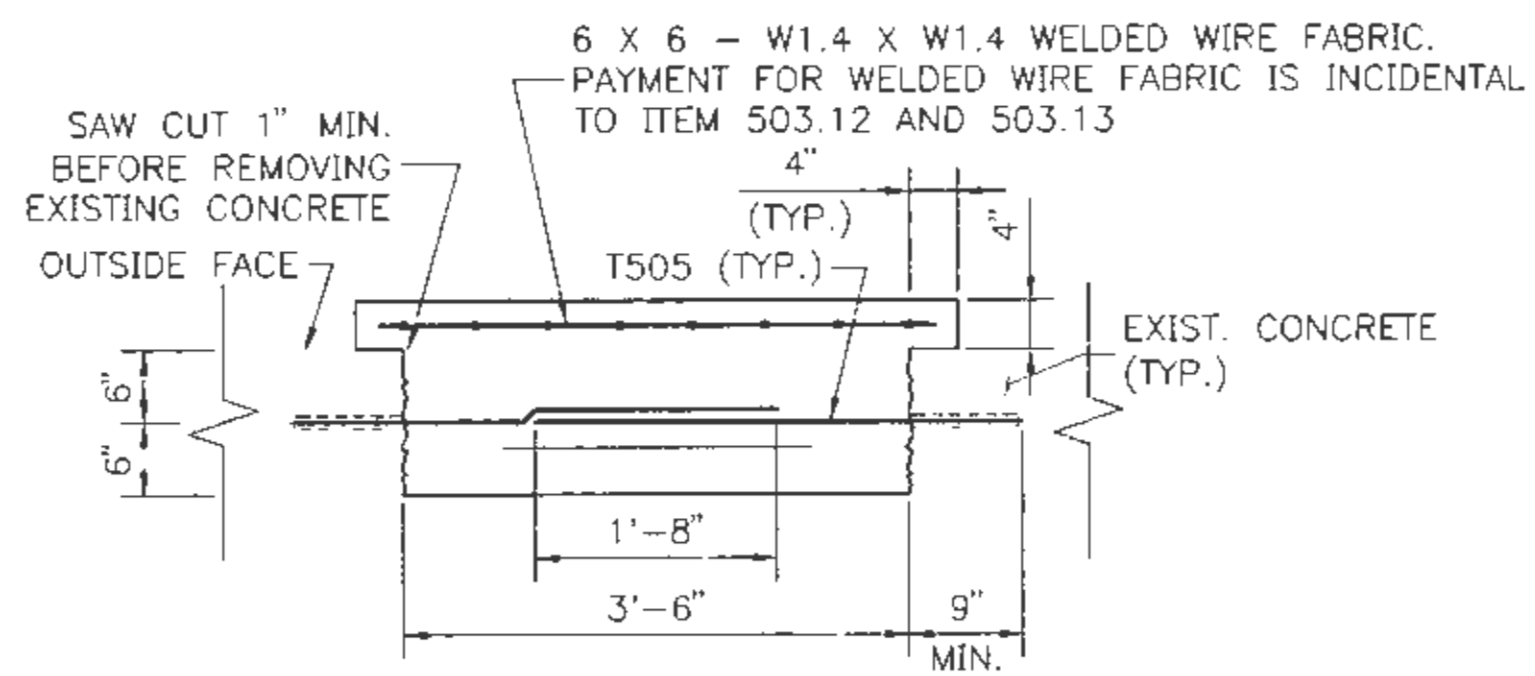


CLOSURE WALL ELEVATION  
3/8" = 1'-0"

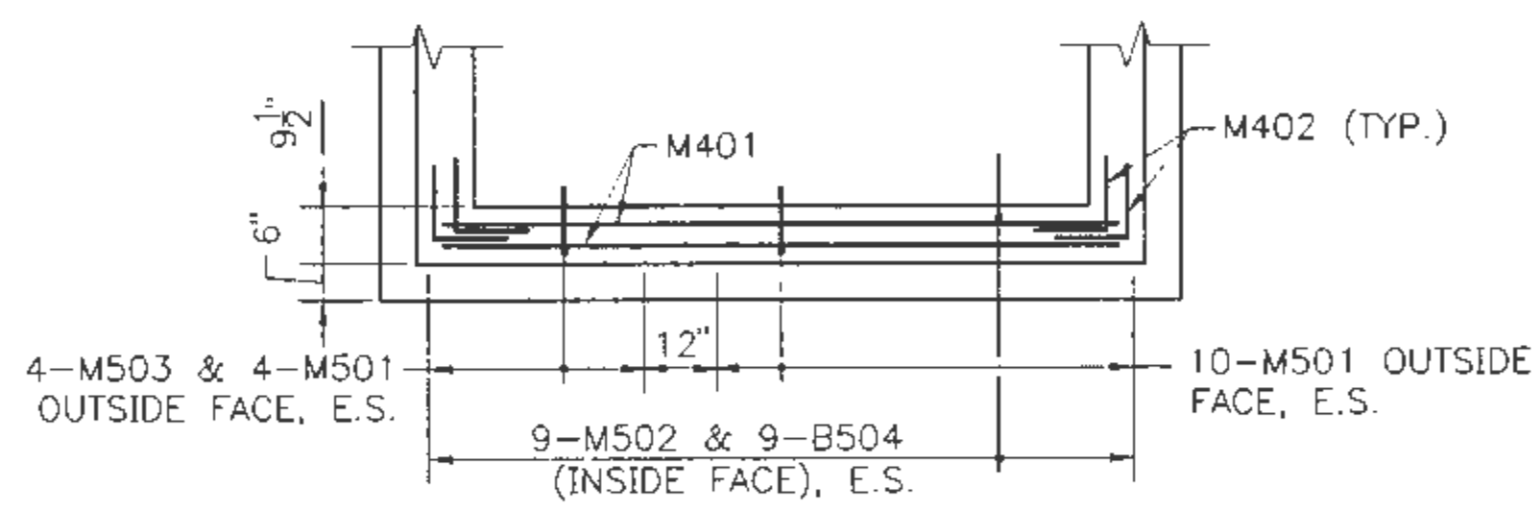
NOTE:  
FIELD CUT REINFORCEMENT AT 42" CIP WHERE REQUIRED.



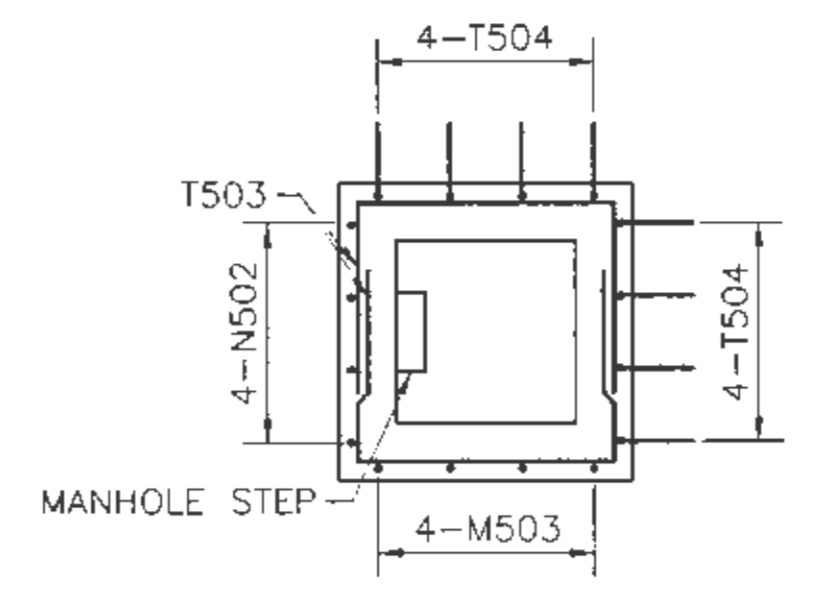
JOINT SEAL DETAIL  
3" = 1'-0"



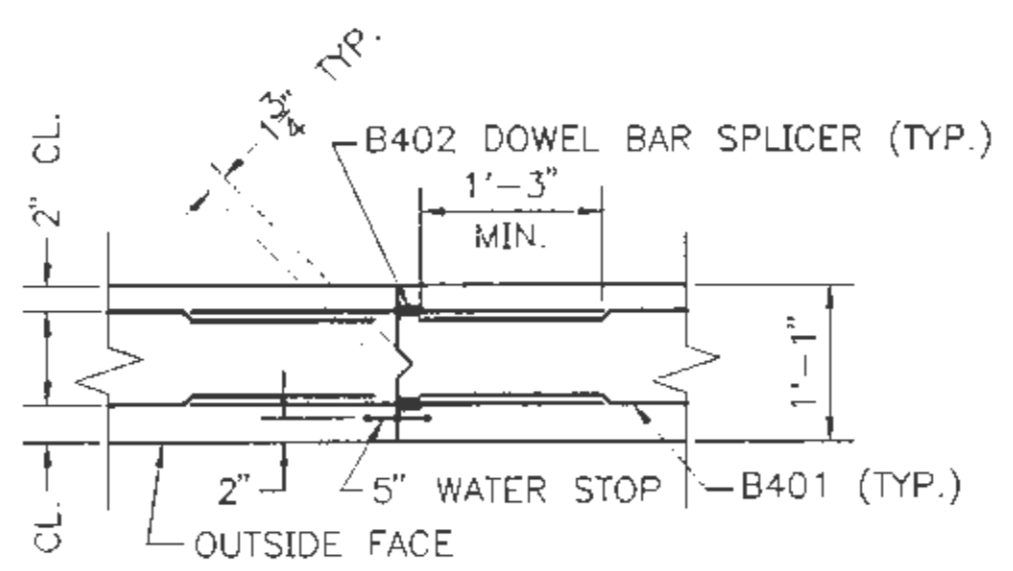
SECTION A-A  
3/4" = 1'-0"



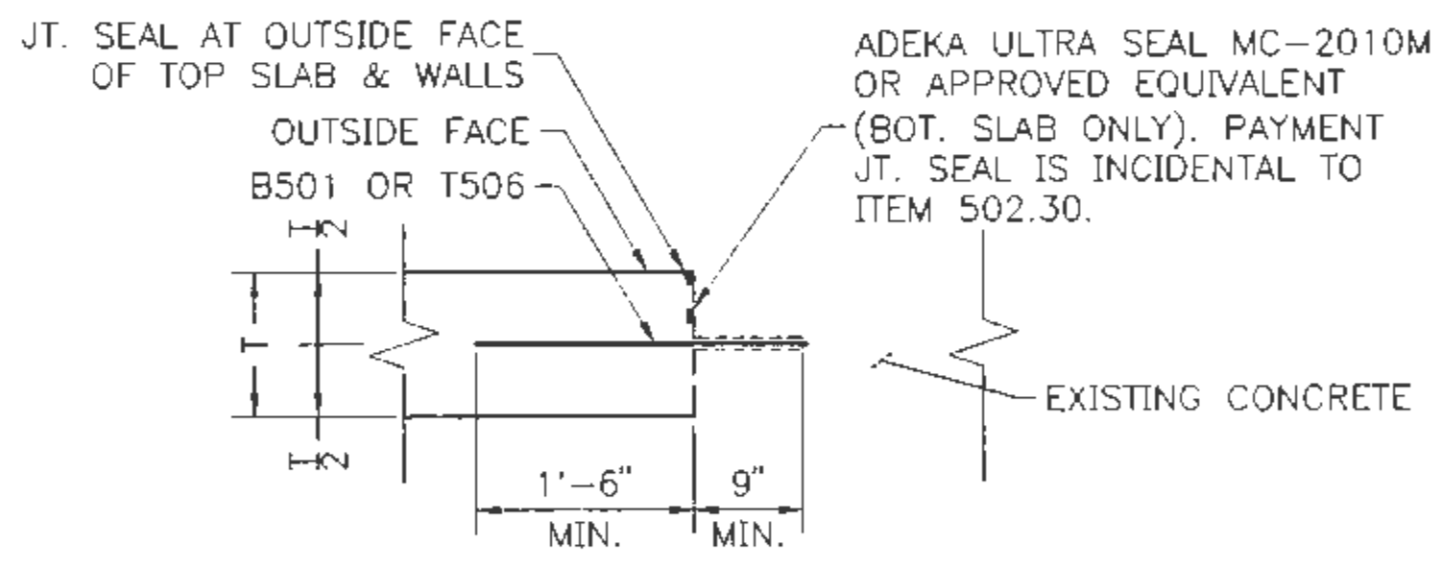
SECTION D-D  
3/8" = 1'-0"



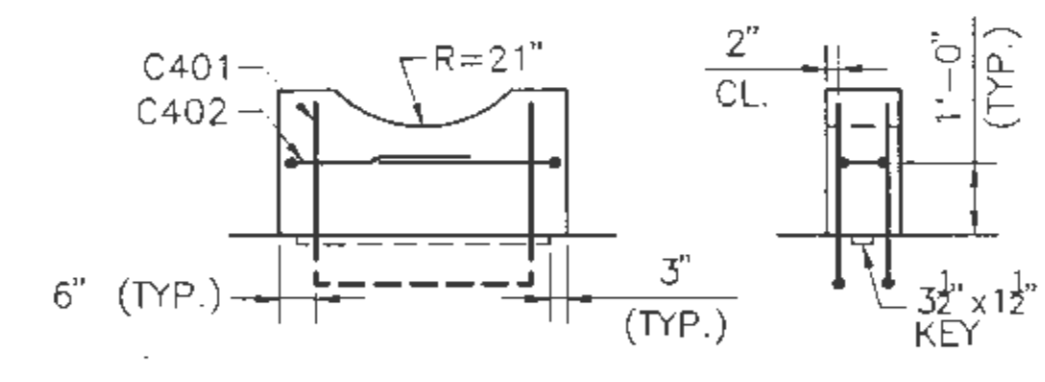
SECTION E-E  
3/8" = 1'-0"



SECTION B-B  
3/4" = 1'-0"



SECTION C-C  
3/4" = 1'-0"



CRADLE REINFORCEMENT DETAIL  
3/8" = 1'-0"

ORIGINAL DESIGN PLANS

Scale:

No.	Revision	By	Date

Designed by:

**HNTB**  
ARCHITECTS ENGINEERS PLANNERS

	By	Date		By	Date
Designed	CLC	7/01	Checked	CLC	7/01
Drawn	TRC	2/01	In Charge of	RAL	7/01

HNTB CORPORATION  
 2 Thomas Drive  
 Westbrook, ME 04092  
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MAINE TURNPIKE AUTHORITY  
 MODERNIZATION AND WIDENING PROJECT



WESTBROOK INTERCHANGE  
 WESTBROOK, MAINE  
 42" C.I. WATER MAIN VAULT  
 DETAILS

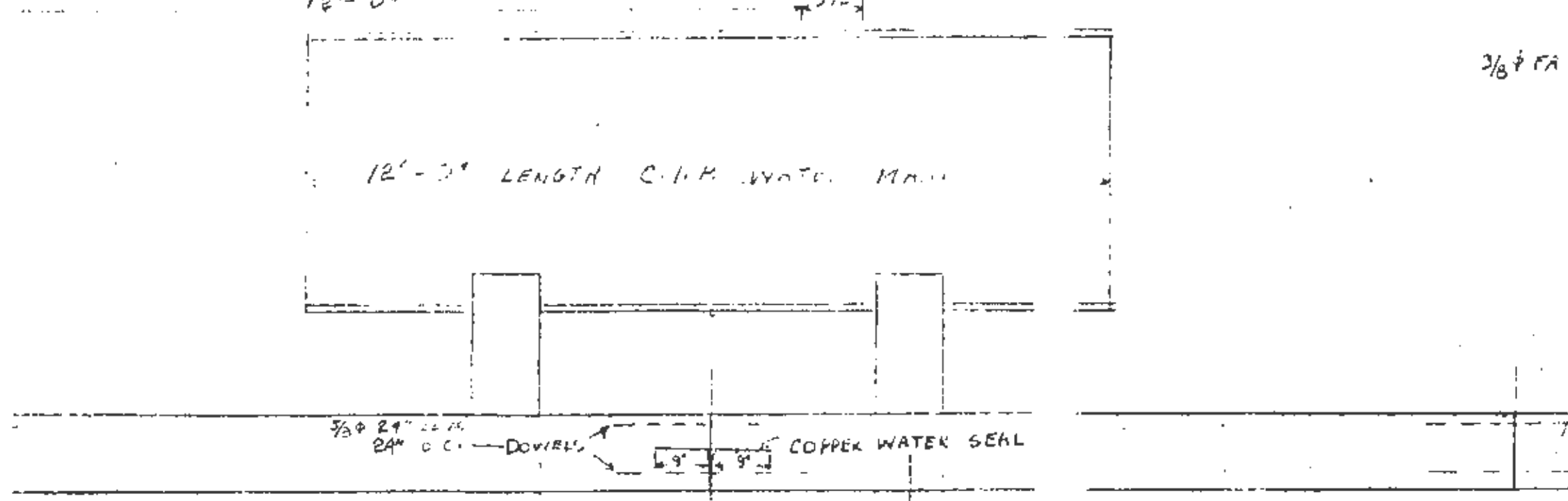
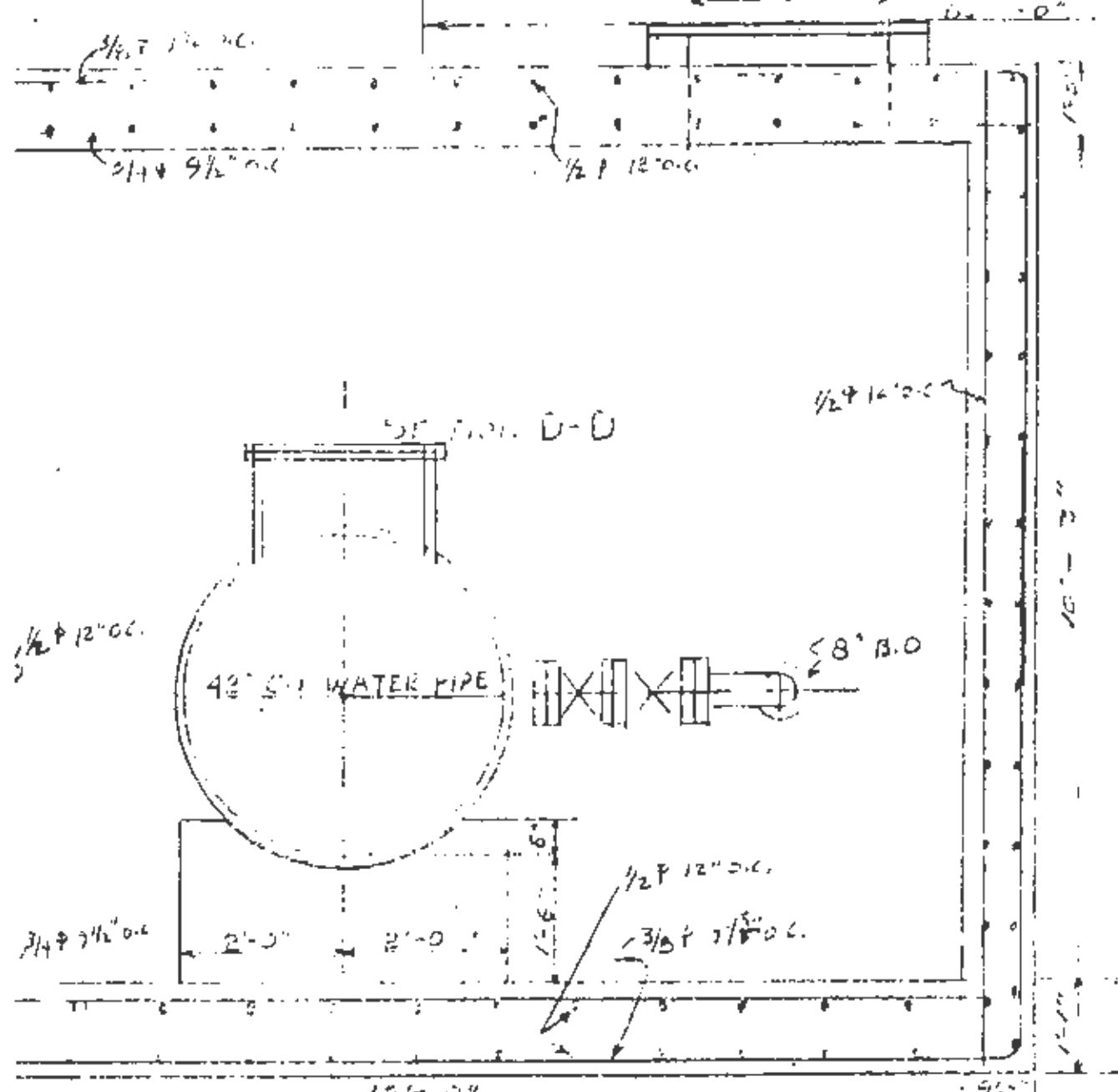
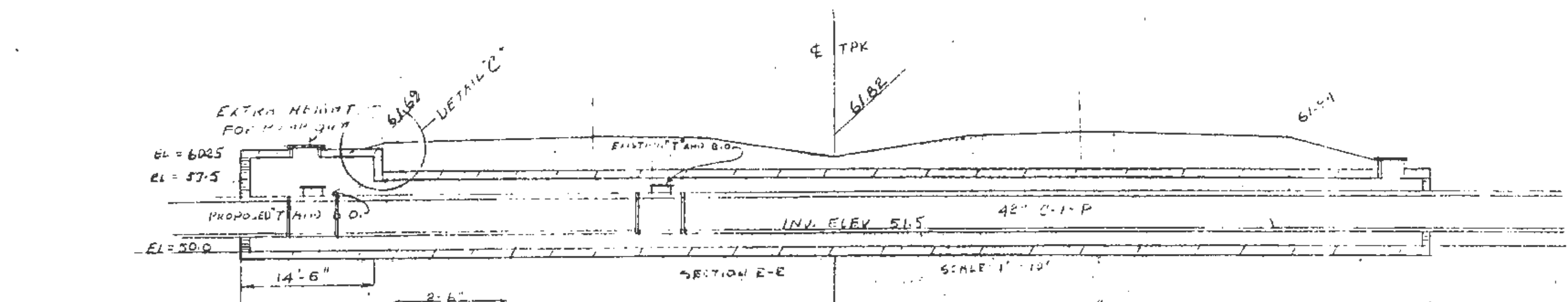
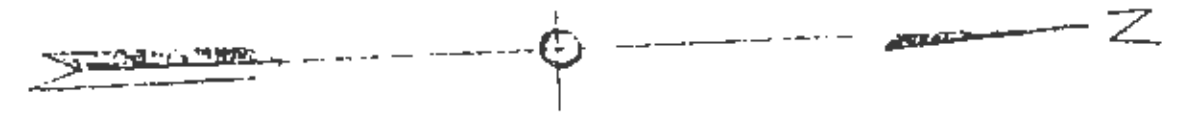
CONTRACT: 2021.02

SHEET NUMBER: PWD-S3

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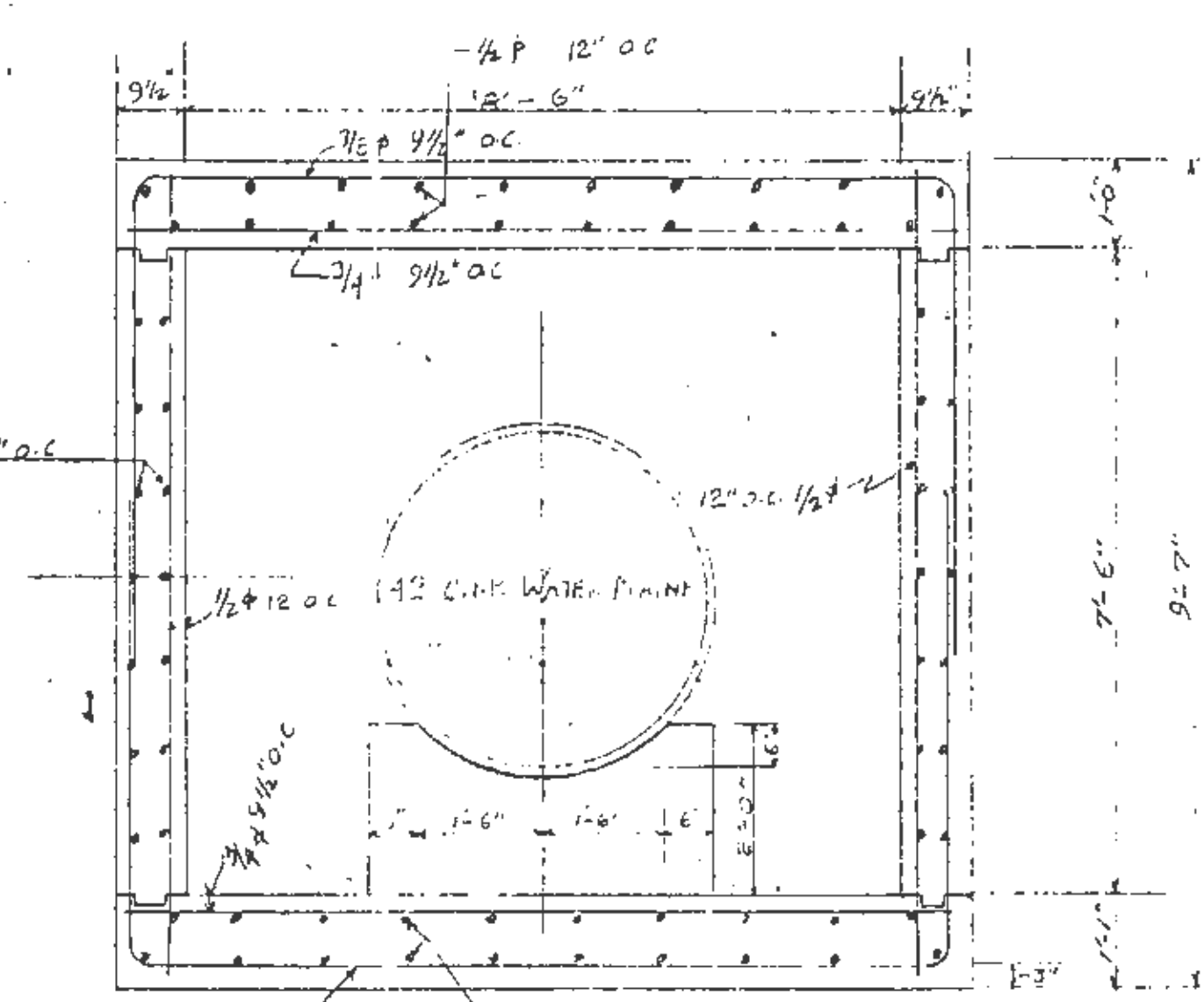
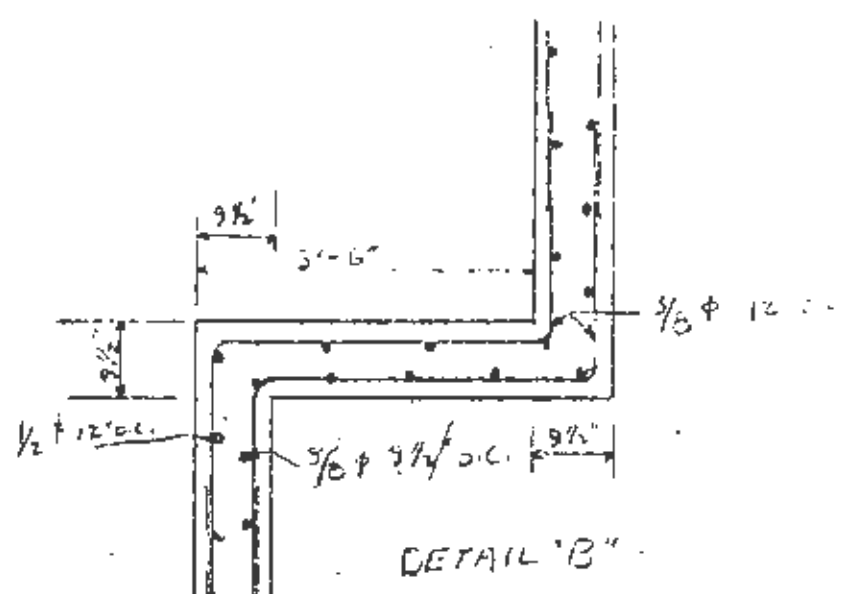


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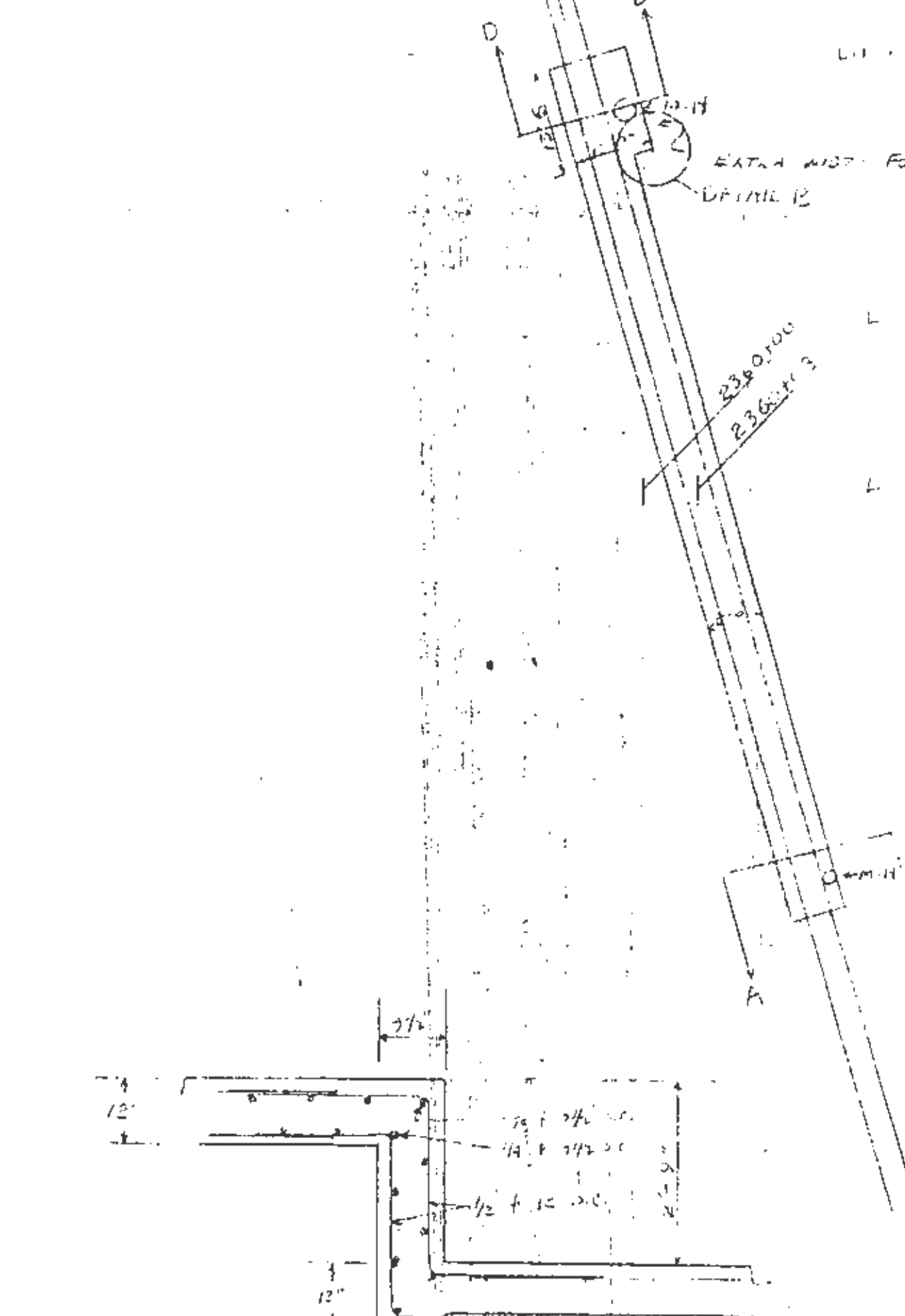
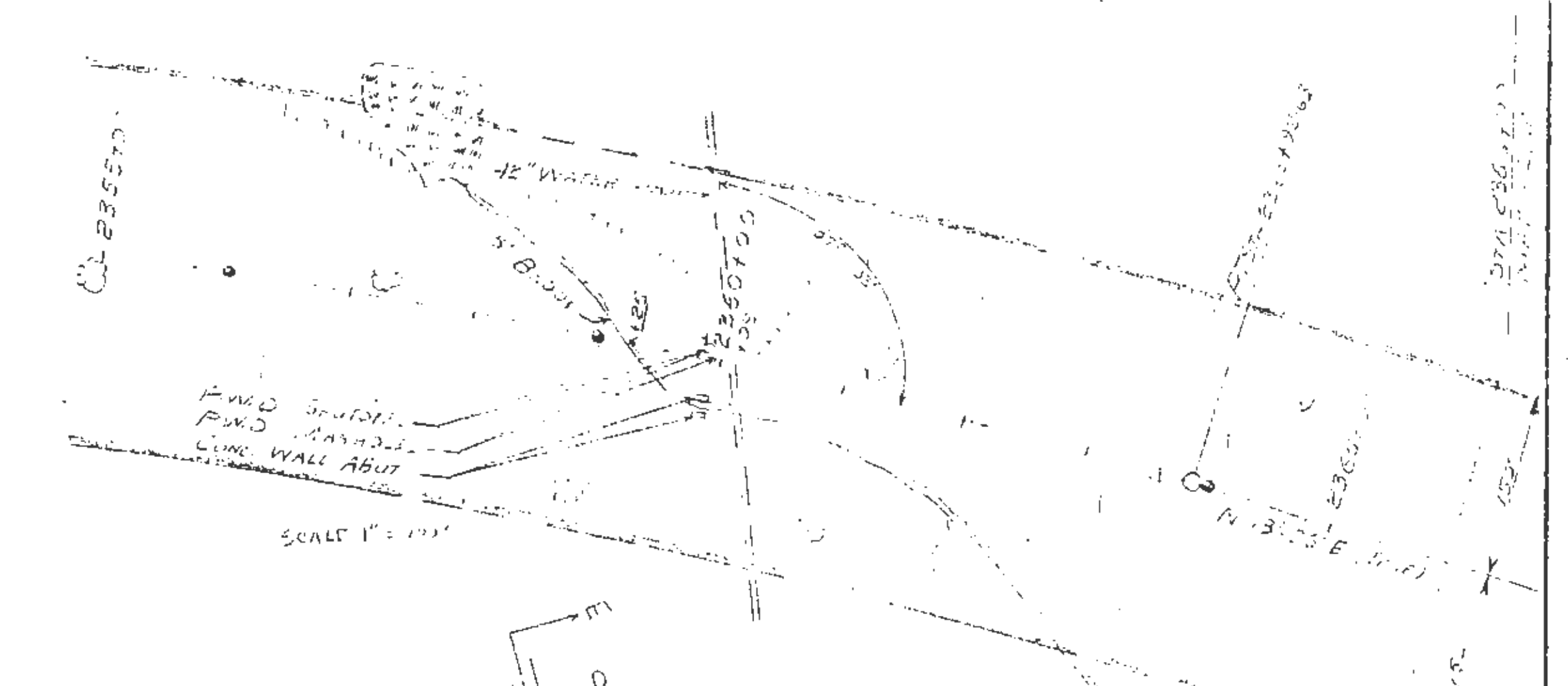


CRADLE SUPPORTS FOR C.I.P. WATER MAIN  
SCALE 1" = 2'

ALT. SECTIONS  
NOTE - FOOTING TO BE CONSTRUCTED  
ALTERNATE SECTIONS 12'-0" LONG



WATER MAIN BOX CULVERT 8'-6" X 7'-6" STA 2360+08  
TRANSVERSE SECTION  
SCALE 1" = 2'



DETAIL 'D'

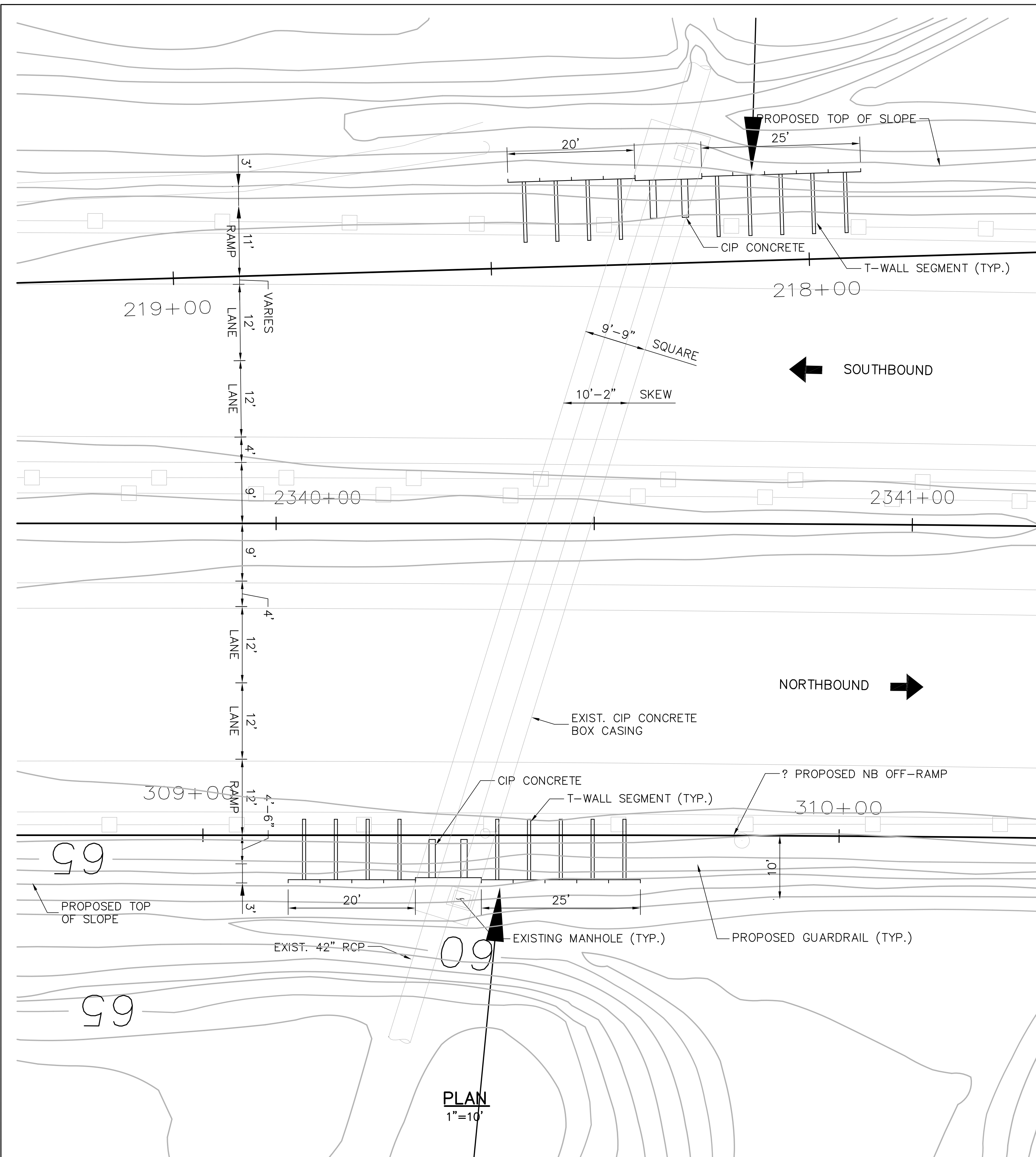
RECEIVED  
ORIGINAL DESIGN PLANS

MAINE TURNPIKE AUTHORITY  
MAINE TURNPIKE  
SECTION 2 - PORTLAND TO AUGUSTA  
PROPOSED BOX CULVERT FOR  
42" C.I. WATER MAIN STA 2360+08

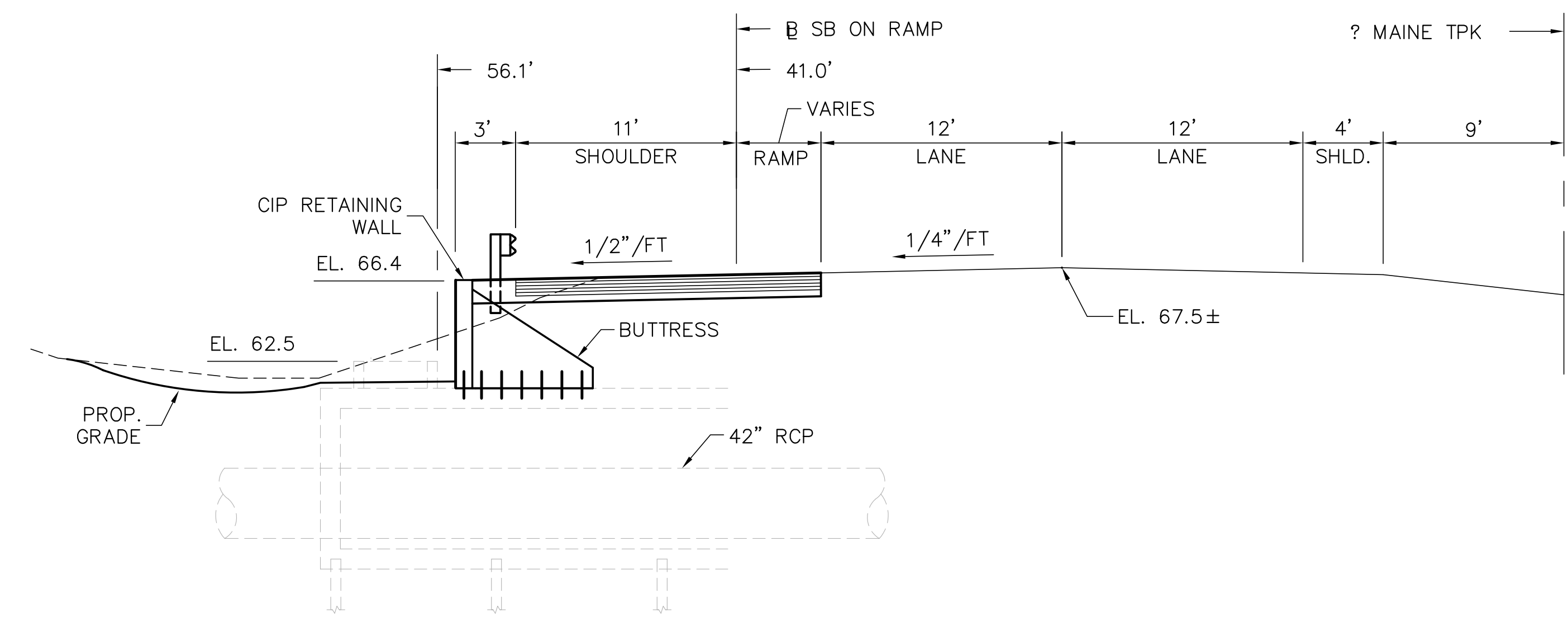
HOWARD, NEEDLES, TAMMEN & BERGENDOFF  
CONSULTING ENGINEERS  
NEW YORK KANSAS CITY

SCALE:  
CONTRACT NO. \_\_\_\_\_  
SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

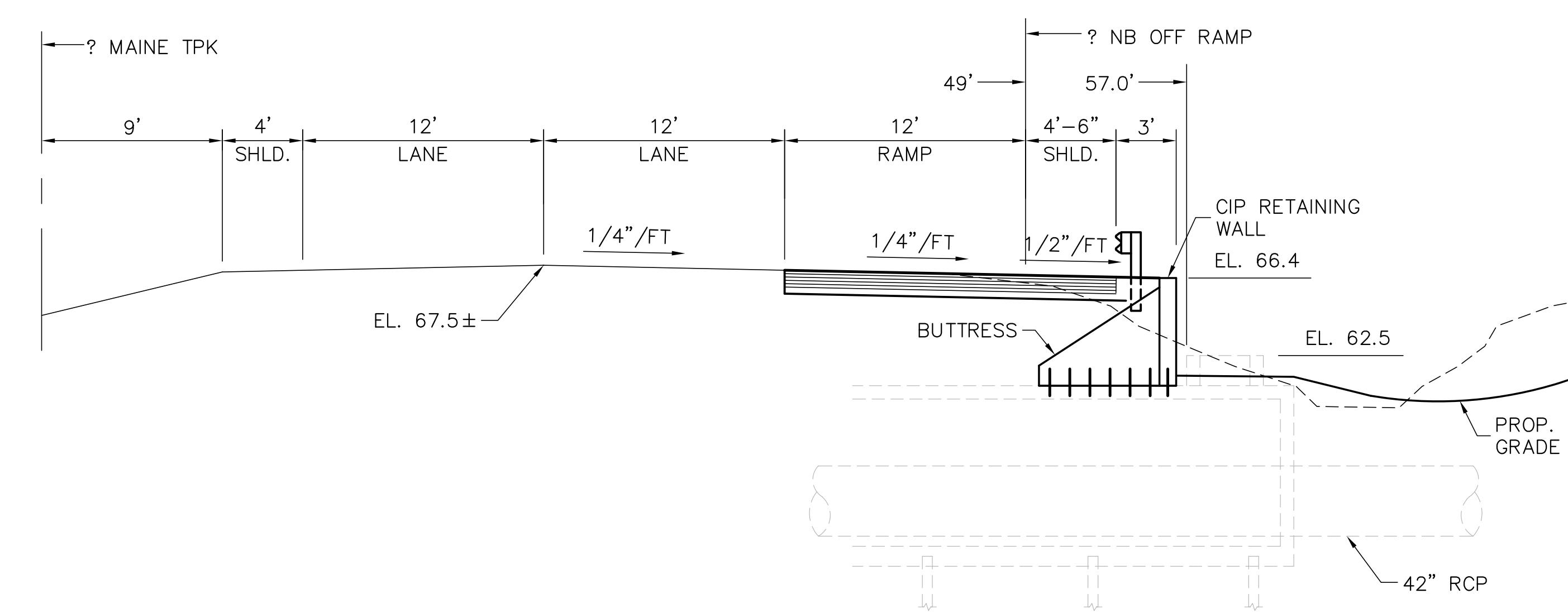
DATE	REVISION	BY	DATE
2-1-54			



PLAN  
1"=10'



CROSS SECTION @ STA. 2340+65  
3/16" = 1'-0"



CROSS SECTION @ STA. 2340+28  
3/16" = 1'-0"

**ORIGINAL DESIGN PLANS**

Scale:

Designed by:



ARCHITECTS ENGINEERS PLANNERS

HNTB CORPORATION  
2 Thomas Drive  
Westbrook, ME 04092  
TEL (207) 774-5155  
FAX (207) 772-7410

MAINE TURNPIKE AUTHORITY  
MODERNIZATION AND WIDENING PROJECT



WESTBROOK INTERCHANGE  
WESTBROOK, MAINE  
42" RCP WATER MAIN  
PLAN AND CROSS SECTIONS

No.	Revision	By	Date

Designed	By	Date	Checked	By	Date
	JRB	04/01			
Drawn	TRC	04/01	In Charge of	RAL	

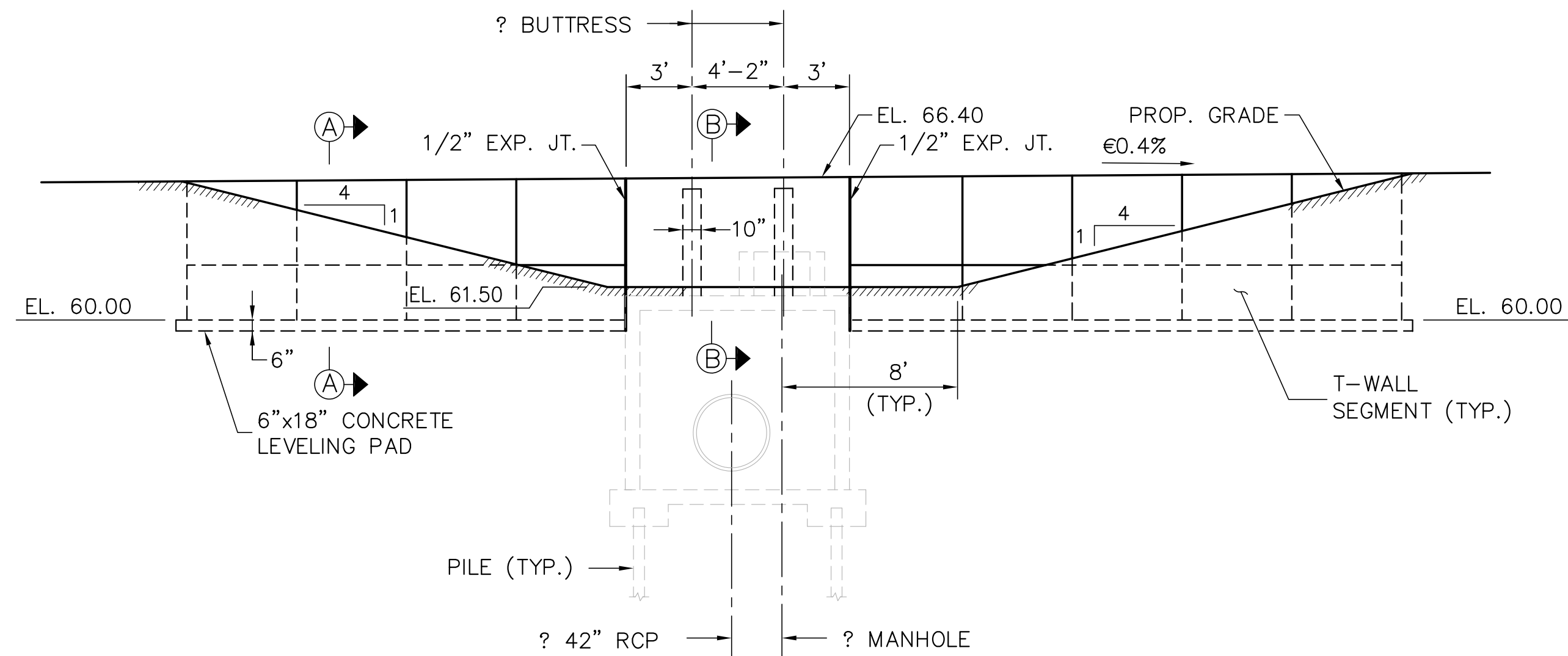
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CONTRACT: 2021.02

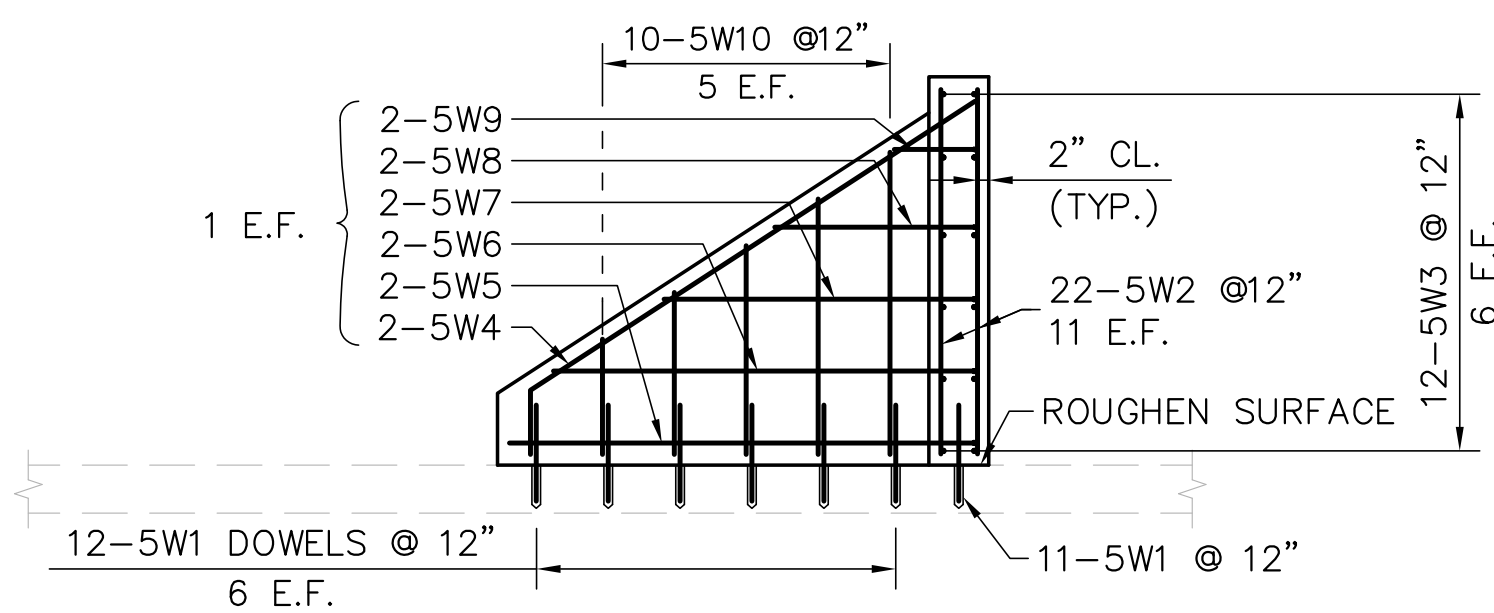
40 OF 42

I:\14335DS\002\WC\006-FINAL DESIGN\RETAINING WALL\RWALLDLS01.DWG 07/19/01 13:53

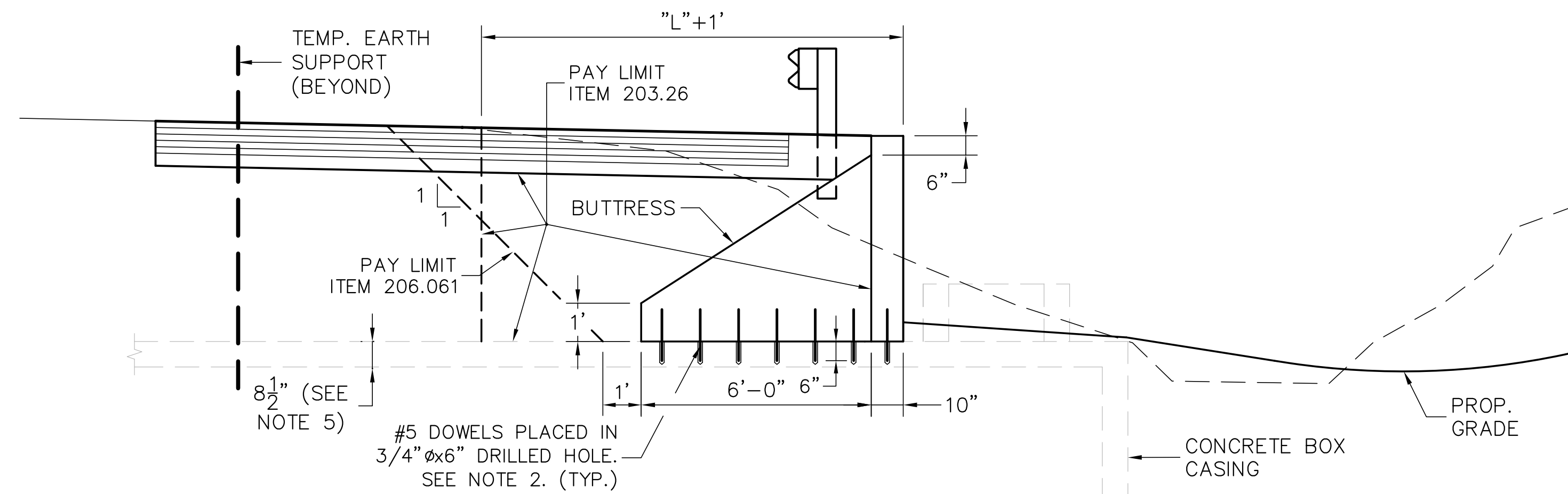




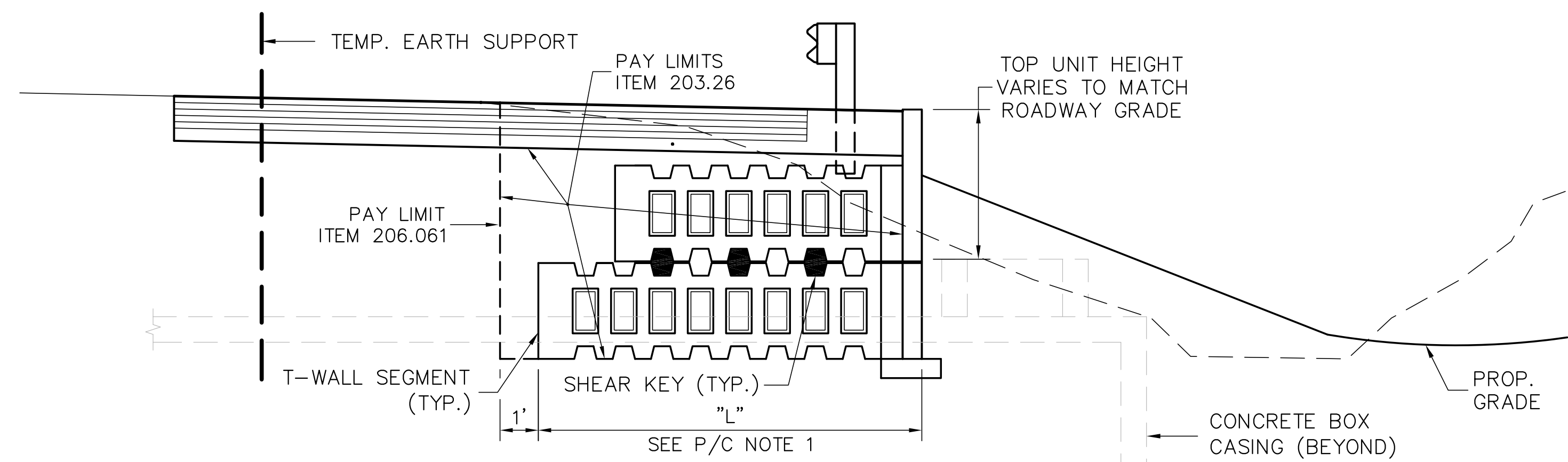
**EAST ELEVATION**  
(WEST END SIMILAR)  
3/16" = 1'-0"



**REINFORCING WALL REINFORCING**  
(WEST END SHOWN, EAST END SIMILAR)  
3/8" = 1'-0"



**CROSS SECTION B-B**  
3/8" = 1'-0"



**CROSS SECTION A-A**  
3/8" = 1'-0"

**PRECAST CONCRETE**

1. PRECAST CONCRETE ELEMENTS SHALL BE DESIGNED BY THE MANUFACTURER AND BE SUBJECT TO THE APPROVAL OF THE ENGINEER. THE T-WALL RETAINING WALL SEGMENTS SHALL BE DESIGNED IN ACCORDANCE WITH AASHTO SPECIFICATIONS FOR THE VARIOUS MINIMUM AND MAXIMUM LOAD COMBINATIONS TO PRODUCE MAXIMUM SHEARS, BENDING MOMENTS, AND BEARING PRESSURES.
2. MINIMUM REQUIREMENTS FOR PRECAST CONCRETE SHALL BE AS SPECIFIED IN ASTM C789 (AASHTO M259) & ASTM C850 (AASHTO M273).
3. THE CONTRACTOR SHALL PREPARE THE DESIGN, SHOP DETAILS, ERECTION AND ANY OTHER WORKING DRAWINGS IN ACCORDANCE WITH REQUIREMENTS OF SUBSECTION 105.02 OF THE MDOT STANDARD SPECIFICATIONS. SUBSTITUTIONS OF SECTIONS, MATERIALS, OR DETAILS DIFFERING FROM THOSE SHOWN SHALL BE MADE ONLY WHEN APPROVED BY THE ENGINEER. ALL CHANGES AND REVISIONS TO THE APPROVED WORKING DRAWINGS SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.
4. PRECAST CONCRETE ELEMENTS SHALL BE THOSE MANUFACTURED BY "SUPERIOR CONCRETE CO., INC." OF AUBURN, MAINE, OR EQUIVALENT.
5. ALL CONNECTION HARDWARE SHALL CONFORM TO ASTM A36. PAYMENT SHALL BE INCIDENTAL TO ITEM 502.302. ALL JOINT SEALS BETWEEN PRECAST UNITS SHALL BE INCIDENTAL TO ITEM 502.302.

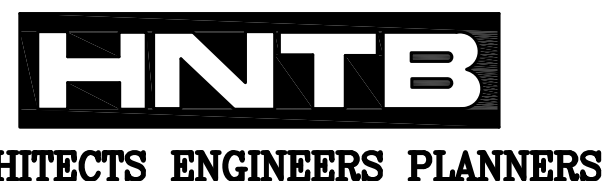
**ORIGINAL DESIGN PLANS**

**NOTES**

1. CHAMFER ALL EXPOSED CORNERS 3/4" UNLESS OTHERWISE NOTED.
2. MATERIAL USED FOR DRILLING AND ANCHORING DOWELS SHALL BE "KELIGROUT" AS MANUFACTURED BY KELKEN-GOLD, INC., OR EQUAL. INSTALLATION SHALL BE IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE CAPACITY OF THE ANCHORAGE SHALL BE SUFFICIENT TO DEVELOP THE FULL YIELD STRENGTH OF THE DOWEL. EMBEDMENT SHALL BE 6" MINIMUM. PAYMENT FOR DRILLING AND ANCHORING BARS SHALL BE INCIDENTAL TO ITEM 502.21.
3. REINFORCING STEEL SHALL HAVE 2" CONCRETE COVER UNLESS OTHERWISE INDICATED.
4. GUARDRAIL SHALL BE INSTALLED SO THAT POSTS AVOID CONCRETE BUTTRESSES AND STEMS OF T-WALL.
5. THE CONTRACTOR SHALL FIELD VERIFY THE THICKNESS OF THE TOP SLAB OF THE CONCRETE BOX CASING.

Scale:

Designed by:



HNTB CORPORATION  
2 Thomas Drive  
Westbrook, ME 04092  
TEL (207) 774-5155  
FAX (207) 772-7410

**MAINE TURNPIKE AUTHORITY  
MODERNIZATION AND WIDENING PROJECT**



**WESTBROOK INTERCHANGE  
WESTBROOK, MAINE  
42" RCP WATER MAIN  
RETAINING WALL DETAILS**

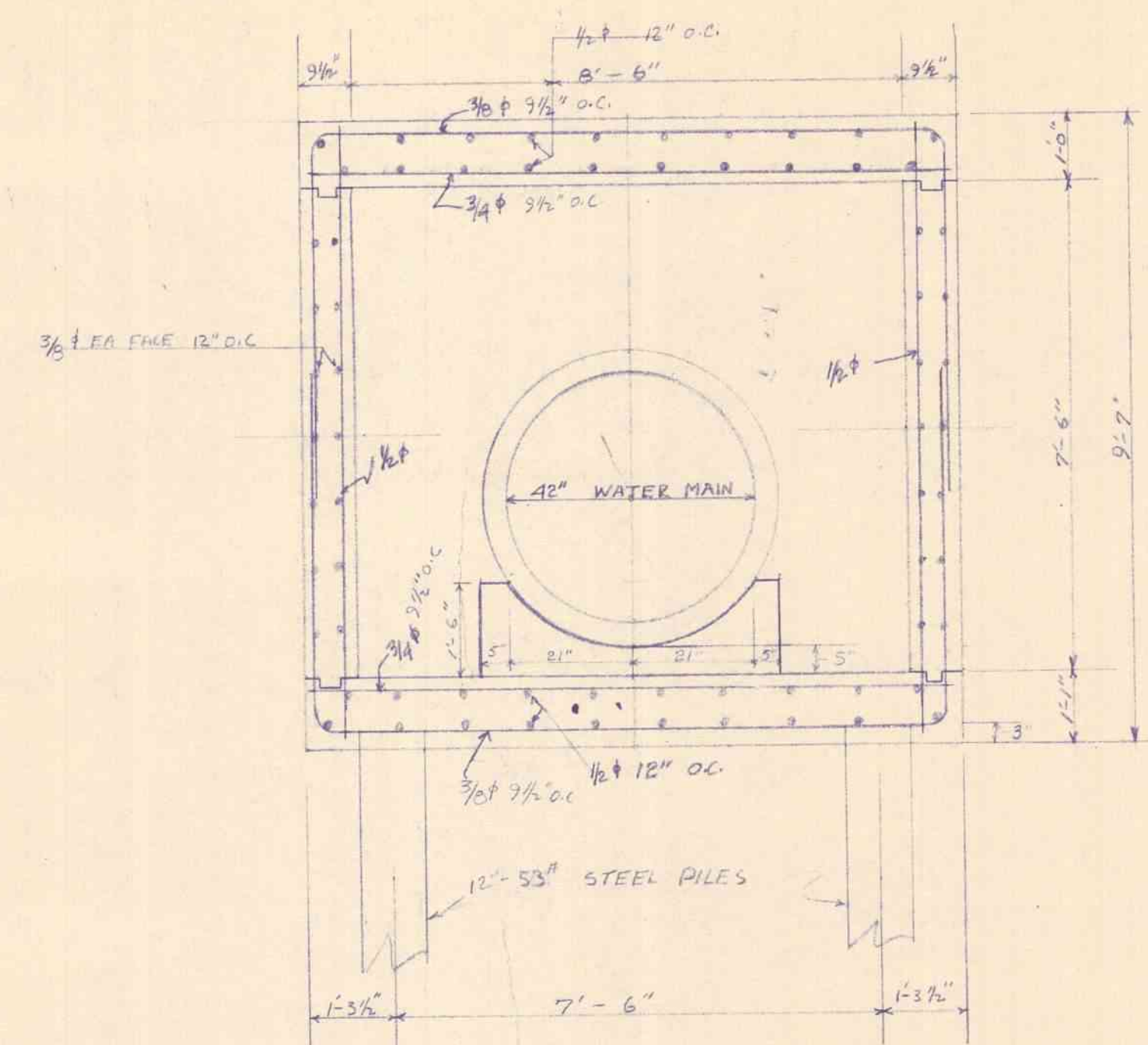
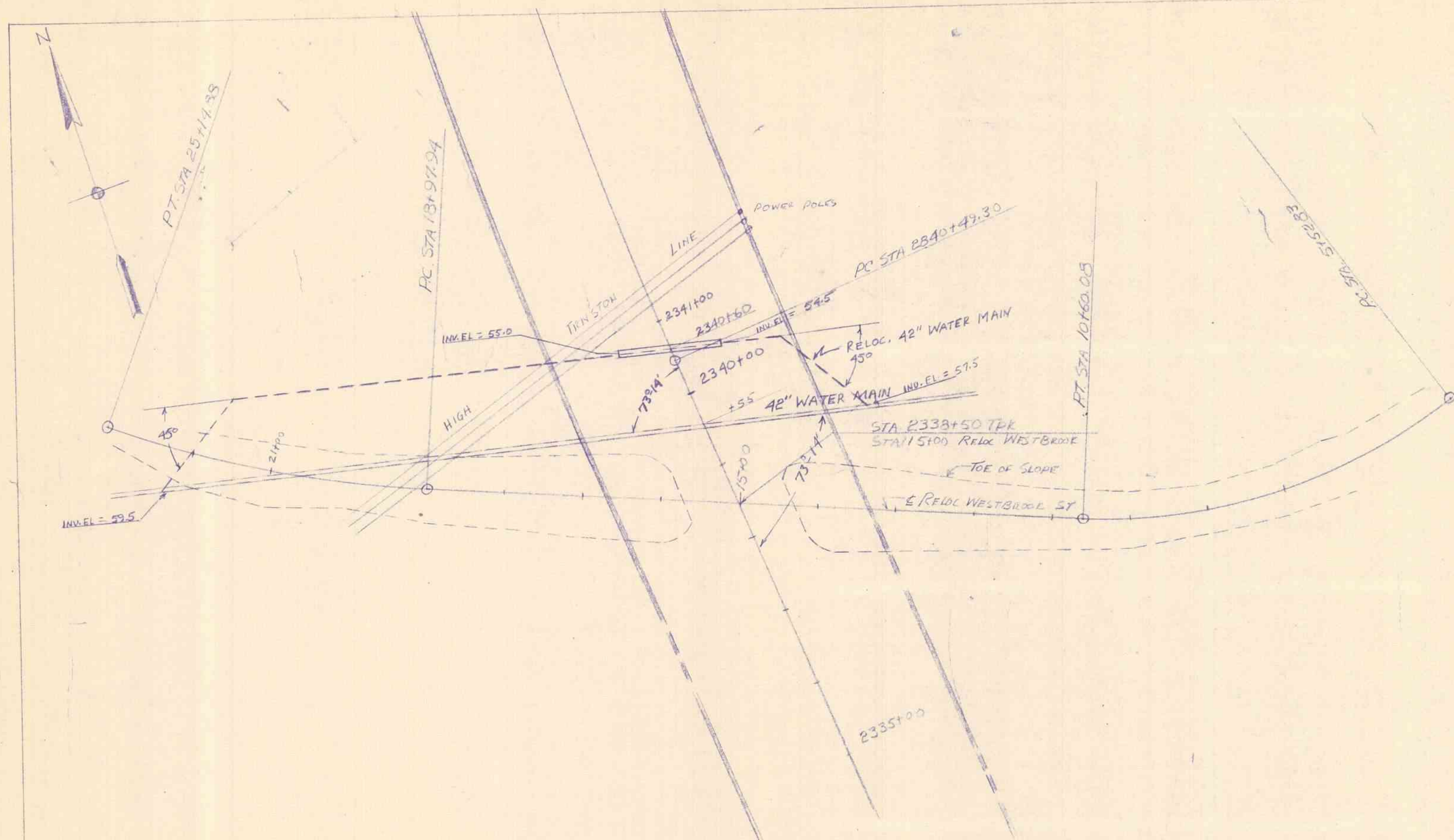
SHEET NUMBER: PWD-RW3

CONTRACT: 2021.02

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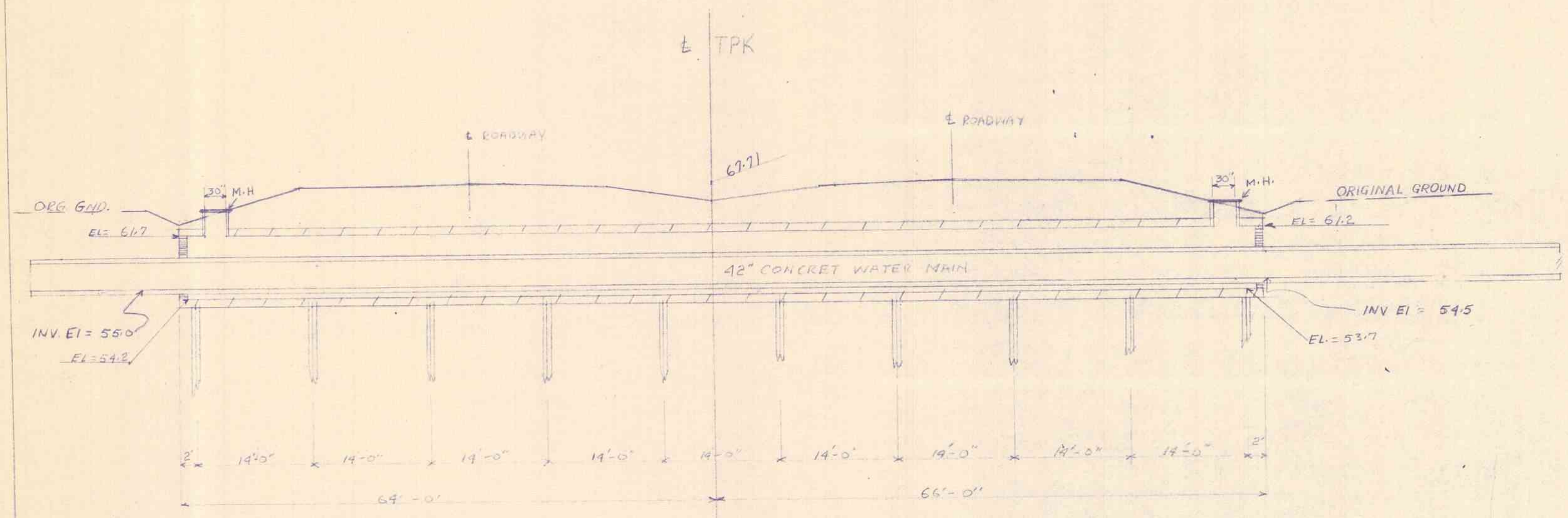
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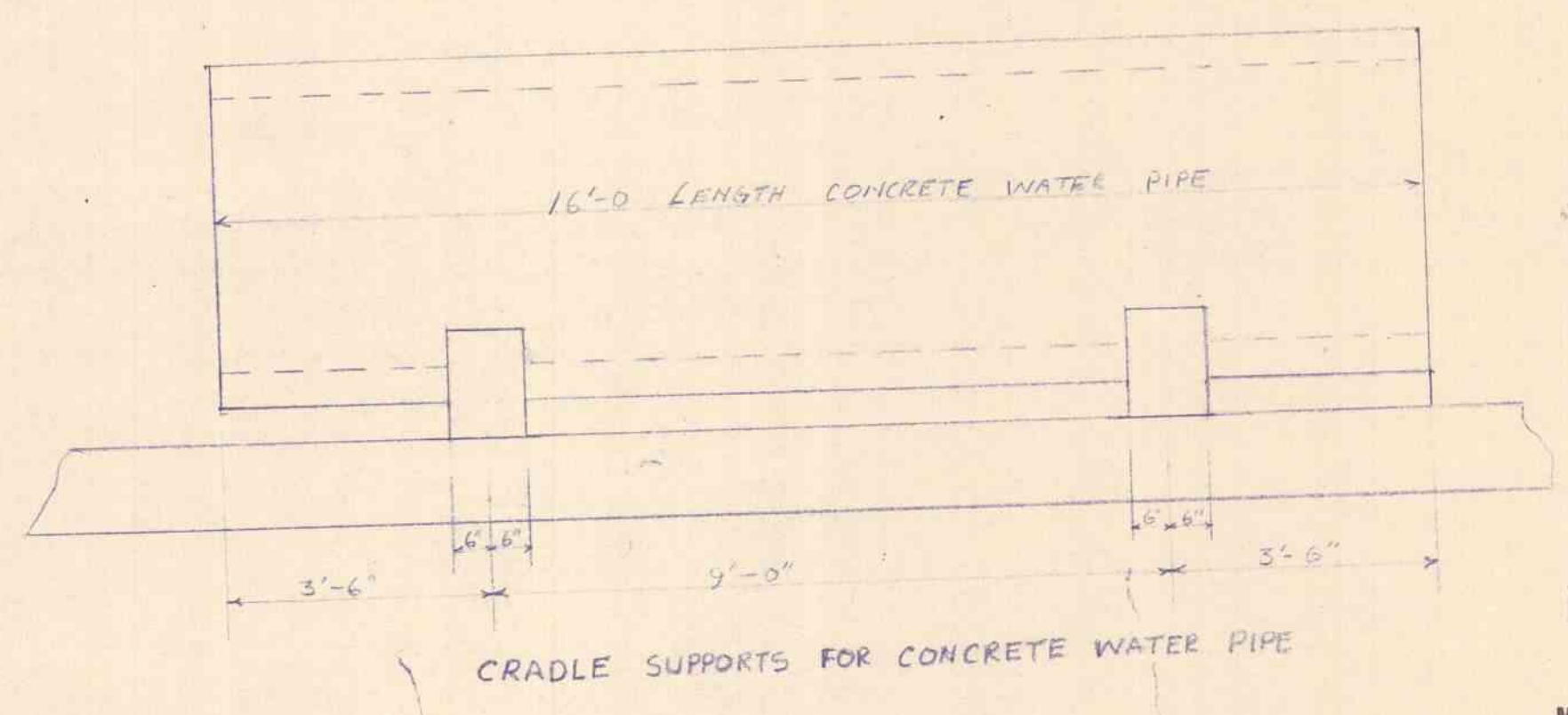


WATER MAIN BOX CULVERT 8'-6" x 7'-6" STA 2340+60  
TRANSVERSE SECTION

SCALE 1" = 2'



SCALE 1" = 100'



CRADLE SUPPORTS FOR CONCRETE WATER PIPE

RECEIVED  
FEB 16 1954  
MAINE TURNPIKE AUTHORITY

ORIGINAL DESIGN PLANS

MAINE TURNPIKE AUTHORITY  
MAINE TURNPIKE  
SECTION 2 - PORTLAND TO AUGUSTA  
PROPOSED RELOC. OF 42" CONCRETE  
WATER MAIN IN CONCRETE BOX  
CULVERT STA 2340+60

SKETCH NO S-154

MADE	BY	DATE			
TRACED					
CHECKED					
IN CHARGE OF	NO.	REVISION	BY	DATE	

CONTRACT: 2021.02

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