

**MAINE TURNPIKE AUTHORITY**

**ADDENDUM NO. 2**

**CONTRACT 2019.04**

**INTERCHANGE 103 BARRIER TOLL PLAZA**  
**OPEN ROAD TOLLING CONVERSION**  
**MILE 103.00**

**The bid opening date is Thursday, 4/18/2019 at 11am.**

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

**PROPOSAL**

- Proposal Sheets P-4 and P-9 are deleted and replaced with Sheets P-4 and P-9 attached hereto. The revisions to these proposal sheets modify the item description for Item 403.211 Hot Mix Asphalt – Shim and modify the quantities for Items 605.11 12 Inch Underdrain Type C and 605.111 12 Inch Underdrain Type C – SDR.
- Proposal Sheet P-20 of Addendum 1 has been deleted in its entirety and replaced with Proposal Sheet P-20 of Addendum 2.
- Proposal Sheets P-27, P-28 and P-29 are deleted and replaced with Sheets P-27, P-28, and P-29 attached hereto. The revisions to these proposal sheets add Item 655.94 Standby Generator and Transfer Switch.

**SPECIAL PROVISIONS**

- Page 9 of the Table of Contents for Part II – SPECIAL PROVISIONS has been deleted in its entirety and replaced with Page 11 of Addendum 2.
- Page SP-60, Section 503.02 Materials, the following shall be added to the second sentence in the first paragraph ending in “...and sand coated”:  
“, except that #12 dowel bars shall be smooth”
- Page SP-103, Section 526.021 Acceptance shall be revised as follows: Delete “- Supplied by Authority” from the first sentence.
- Page SP-105, Section 526.3 Construction Requirements, bullet 1 has been deleted in its entirety and replaced with the following:
  1. One on every fourth barrier in tangents and one on every two barriers in tapers, including all barrier furnished by the Contractor.
- Pages SP-298A, Special Provision 655 ELECTRICAL WORK (Standby Generator and Transfer Switch) has been added and is included in this addendum.
- Page 263213-4, Section 263213 ENGINE GENERATORS, PART 2 – PRODUCTS, 2.2 PERFORMANCE REQUIREMENTS, bullet E has been deleted in its entirety and replaced

with the following: “Engine Exhaust Emissions: Comply with EPA Stationary Emergency use requirements and applicable state and local government requirements.”

## **PLANS**

- Plan Sheet 2 of 503, ESTIMATED QUANTITIES – 1, has been deleted in its entirety and replaced with Plan Sheet 2 of 503, included in this addendum.
- Plan Sheet 4 of 503, ESTIMATED QUANTITIES – 3 & EARTHWORKS SUMMARY, has been deleted in its entirety and replaced with Plan Sheet 4 of 503, included in this addendum.
- Plan Sheets 143 and 144 of 503, SOUTHBOUND PROFILE 4 AND 5, have been deleted in their entirety and replaced with Plan Sheets 143 and 144 of 503, included in this addendum.
- Plan Sheet 169 of 503, PAVEMENT PLAN 2, has been deleted in its entirety and replaced with Plan Sheet 169 of 503, included in this addendum.
- Plan Sheets 277 and 278 of 503, NB/SB ORT STA. 4500+80/7500+80 TO STA. 4501+50/7501+50, NB/SB ORT STA. 4502+00/7502+00 TO STA. 4502+00/ 7502+00, have been deleted in their entirety and replaced with Plan Sheets 277 and 278 of 503, included in this addendum.
- Plans Sheets 279, 280 and 281 of 503, SB ORT STA. 4502+50.00 TO STA. 4503+00.00, SB ORT STA. 4503+50.00 TO STA. 4504+00.00 and SB ORT STA. 4504+50.00 TO STA. 4505+00.00, have been deleted in their entirety and replaced with Plan Sheets 279, 280 and 281 of 503, included in this addendum.
- Plan Sheet 455 of 503, WALL SECTIONS & PARTITION TYPES, has been deleted in its entirety and replaced with Plan Sheet 455 of 503, included in this addendum.

## **SKETCHES**

- ASK1, included in this addendum, has been added with revisions to the dimensions of the precast sill.

## **QUESTIONS**

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

1. Question: We would like to get a clarification regarding the GFRP dowels noted on Page 38 of the bid documents (Drawing S-22) and find out if those are smooth load transfer dowels or sand-coated adherent products?

**Answer:** The GFRP dowels should be smooth load transfer type dowels. This addendum will revise Special Provision sheet SP-60.

2. Question: Any mesh or bars needed on the metal deck slab in the Toll Admin Building?

**Answer:** Yes, refer to Sheet Number S-502 (470 of 503) Section C. Use 6X6-W2.1XW2.1 (Typ).

3. Question: Is there a bid item for the retaining walls connected to the Toll Admin Building?

**Answer:** The retaining walls are included in the Toll Administration Building Pay Item 800.01, as indicated in Special Provision Section 800, Toll Administration Building.

4. Question: Are the bars in the retaining wall uncoated or epoxy coated?

**Answer:** The bars in the retaining wall should be uncoated.

5. Question: Is the mesh in the site structures uncoated or epoxy coated?

**Answer:** The mesh in the site structures should be uncoated.

6. Question: 526.021 states “*the Resident shall have the authority to accept or reject all Temporary Concrete Barrier Type 1 – Supplied by Authority used on the Project....*”. Please clarify the amount of temporary precast barrier the MTA is providing for the project and where it will need to be transported from and returned to.

**Answer:** SP-103 Section 526.021 has been revised by this addendum to address this question.

7. Question: The specification for the Engine Generator calls for a Tier 4 Non-Emergency rated generator. This type of generator is generally utilized if the generator is going to be used for a demand response application. Please confirm that a Tier 4 Generator is required as specified.

**Answer:** Page 263213-4, Section 263213 ENGINE GENERATORS, PART 2 – PRODUCTS, 2.2 PERFORMANCE REQUIREMENTS, bullet E has been revised with this addendum.

8. Question: We notice that although there is a Pay Item for the Generator Pad, there is not a Pay Item for the Generator itself. Please advise as to where we should include the cost for the procurement and installation of the generator.

**Answer:** Procurement and installation of a Standby Generator and Transfer Switch will be paid for under Item 655.94 noted in the Special Provision sheet SP-298A included in this addendum.

9. Question: Currently, specification calls for Barritech NP “*C. Field Applied Water Resistive Barrier: Similar to Carlise BarritechNP*”. We would like to request that our **AIR-SHIELD LSR** please be reviewed as a non-permeable air barrier here. Please see the attached data sheet to assist with review, if you can please let me know if it’s acceptable it would be greatly appreciated.

**Answer:** The W. R. Meadows AIR-SHIELD LSR product that was submitted for review (copy attached to this addendum) may be utilized, provided all characteristics/requirements of Section 042200 are met.

10. Question: I see you have changed the 212 to the 211 on the 403 Special Provisions indicating 4.75mm and 19mm mix for shim. However on page 22 of the addendum the Item 403.211 is still showing a 9.5mm mix. Please clarify if any 9.5mm will be used as shim.

**Answer:** 9.5mm will not be used as shim. The item description on Plan Sheet 2 of 503, ESTIMATED QUANTITIES – 1 and on Proposal Sheet P- 4 has been revised in this addendum.

11. Question: What is the intended depth for the temporary mix? The details do not show depths or lifts.

**Answer:** Refer to the “Temporary Widened Pavement” detail on Plan Sheet 95 of 503, MOT DETAILS 3 for pavement depths.

12. Question: In addendum #1 Bid Item 605.111 on P-9 of the bid form was changed from 600 lf to 3,605 lf but on Sheet No. 2 of 503 Bid Item 605.11 was changed from 236 lf to 3,605 lf and 605.111 was unchanged. Which is the correct item to change the quantity on?

**Answer:** Proposal Sheet P-9 has been revised by this addendum to address this question.

13. Question: Special Provision for Section 645 indicates that *“the contractor may propose an alternate shallow spread footing or drilled shaft design than that set forth on the drawings”*. Does this mean that the contractor can propose spread footing foundations for locations other than STA 4491+00, or that an alternate spread footing foundation will be considered only at STA 4491+00 (i.e. all other location must be drilled shafts)?

**Answer:** The contractor can propose alternate shallow spread footing or drilled shaft design for all locations provided that requirements in the plans and specifications are met.

14. Question: Is there a specification for the materials for Bid Item 614.3 – Geocell Confinement System – Slope?

**Answer:** For Item 614.30 Geocell Confinement System for Slope Protection refer to the Maine DOT Standard Specifications.

## **ATTACHMENTS**

- Proposal Sheets (6 pages)
- Special Provisions (2 Pages)
- Plans (11 Pages)
- Sketches (1 Page)
- Product Data Sheet (2 Page)

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
403.211	HOT MIX ASPHALT - SHIM	Ton	1,658				
403.213	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE (BASE AND INTERMEDIATE BASE COURSE)	Ton	7,570				
409.152	BITUMINOUS TACK COAT NTSS - 1HM TRACKLESS - APPLIED	Gallon	15,700				
419.30	SAWING BITUMINOUS PAVEMENT	Linear Foot	5,760				
470.08	BERM DROPOFF CORRECTION - GRINDINGS	Ton	248				
470.081	BERM CORRECTION	Linear Foot	4,500				
502.231	STRUCTURAL CONCRETE, SPACE FRAME PEDESTALS & FOOTINGS	Cubic Yard	96				
502.232	STRUCTURAL CONCRETE, UTILITY PITS	Cubic Yard	145				
502.261	STRUCTURAL CONCRETE, ORT SLABS	Cubic Yard	210				
502.262	STRUCTURAL CONCRETE, CASH SLABS	Cubic Yard	280				
502.263	STRUCTURAL CONCRETE, PLAZA ISLANDS, BUMPERS, AND CURTAIN WALLS	Cubic Yard	200				
503.14	EPOXY-COATED REINFORCING STEEL, FABRICATED & DELIVERED	Pound	43,700				

**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>							
605.09	6 INCH UNDERDRAIN TYPE B	Linear Foot	1,729				
605.11	12 INCH UNDERDRAIN TYPE C	Linear Foot	3,605				
605.111	12 INCH UNDERDRAIN TYPE C - SDR	Linear Foot	600				
605.12	15 INCH UNDERDRAIN TYPE C	Linear Foot	236				
605.13	18 INCH UNDERDRAIN TYPE C	Linear Foot	140				
606.13	31" W-BEAM GUARDRAIL-MID-WAY SPLICE (7' STEEL POSTS, 8" OFFSET BLOCKS, SINGLE FACED)	Linear Foot	2,940.625				
606.1306	31" W-BEAM GUARDRAIL-MIDWAY SPLICE TANGENT TERMINAL	Each	7				
606.131	31" W-BEAM GUARDRAIL-MID-WAY SPLICE (8' STEEL POSTS, 8" OFFSET BLOCKS, SINGLE FACED)	Linear Foot	662.5				
606.132	31" W-BEAM GUARDRAIL-MID-WAY SPLICE (7' STEEL POSTS, 8" OFFSET BLOCKS, DOUBLE FACED)	Linear Foot	1,612.5				
606.1351	31" W-BEAM GUARDRAIL - MID-WAY SPLICE TERMINAL END - ANCHORED END	Each	12				
606.1724	BRIDGE TRANSITION - TYPE III, MODIFIED	Each	2				
606.2651	TERMINAL END - REMOVE AND RESET	Each	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>							
652.34	CONE	Each	50				
652.35	CONSTRUCTION SIGNS	Square Foot	4,100				
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	Lump Sum	1				
652.38	FLAGGERS	Hour	100				
652.41	PORTABLE-CHANGEABLE MESSAGE SIGN	Each	4				
652.45	TRUCK MOUNTED ATTENUATOR	Each	4				
652.451	AUTOMATED TRAILER MOUNTED SPEED LIMIT SIGN	Each	3				
652.46	TEMPORARY PORTABLE RUMBLE STRIP	Unit	50		\$150.00	\$7,500.00	
655.01	INSTALLATION OF ORT LANE CONTROLLER CABINET	Each	2				
655.012	INSTALLATION OF CASH LANE CONTROLLER CABINET	Each	6				
655.02	DVAS MOUNT INSTALLATION	Each	10				
655.03	VCARS MOUNT INSTALLATION	Each	16				

**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>							
655.64	6-INCH X 6-INCH PVC NEMA 3R WIREWAY	Linear Foot	500				
655.65	8-INCH X 8-INCH PVC NEMA 3R WIREWAY	Linear Foot	300				
655.66	12-INCH X 12-INCH PVC NEMA 3R WIREWAY	Linear Foot	300				
655.75	CONCRETE ENCASED CONDUIT	Cubic Yard	135				
655.80	LIGHTNING SUPPRESSION SYSTEM	Lump Sum	1				
655.81	KEY SWITCH	Each	10				
655.82	DUPLEX RECEPTACLE	Each	20				
655.83	NEMA L5-20R RECEPTACLE	Each	10				
655.84	QUADPLEX RECEPTACLE	Each	10				
655.90	SPACE FRAME LIGHTING	Lump Sum	1				
655.92	LED CANOPY LIGHT FIXTURE	Each	12				
655.94	STANDBY GENERATOR AND TRANSFER SWITCH	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>							
655.99	LED BUMPER BEACON	Each	6				
656.41	GRAVEL WETLAND FILTER 1	Lump Sum	1				
656.42	GRAVEL WETLAND FILTER 2	Lump Sum	1				
656.50	BALED HAY, IN-PLACE	Each	140				
656.60	TEMPORARY BERMS	Linear Foot	3,000				
656.62	TEMPORARY SLOPE DRAINS	Linear Foot	500				
656.632	30" TEMPORARY SILT FENCE	Linear Foot	26,000				
659.10	MOBILIZATION	Lump Sum	1				
670.01	SEWAGE DISPOSAL SYSTEM	Lump Sum	1				
800.01	TOLL ADMINISTRATION BUILDING	Lump Sum	1				
800.10	ELECTRICAL DEMOLITION	Lump Sum	1				
800.20	MECHANICAL DEMOLITION	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>							
800.22	HVAC AND ELECTRICAL TUNNEL AND BOOTHS	Lump Sum	1				
800.30	TOLL PLAZA & BRIDGE DEMOLITION	Lump Sum	1				
800.40	NEW TOLL BOOTH INSTALLATION	Lump Sum	1				
800.41	STAIR ENCLOSURE & INSTALLATION	Lump Sum	1				
800.90	GENERATOR PAD	Lump Sum	1				
800.91	TRANSFORMER PAD	Lump Sum	1				
803.01	TEST PITS	Each	3				
832.41	TYPE A STEEL SITE BOLLARD	Each	8				
<b>TOTAL:</b>							

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
655.	ELECTRICAL (36" x 30" x 20" NEMA 4X Cabinet)	SP-281
655.	ELECTRICAL (60 AMP 3 Phase Panelboard Cabinet)	SP-282
655.	ELECTRICAL (100 AMP 3 Phase Panelboard Cabinet)	SP-283
655.	ELECTRICAL (150 AMP 3 Phase Panelboard Cabinet)	SP-284
655.	ELECTRICAL (PVC Conduit Condulets)	SP-285
655.	ELECTRICAL (Rigid Metal Conduit Condulets)	SP-286
655.	ELECTRICAL (Electrical Metal Tubing Condulets)	SP-287
655.	ELECTRICAL (Plastic Wireway)	SP-288
655.	ELECTRICAL (Concrete Encased Conduit)	SP-289
655.	ELECTRICAL (Lighting Suppression System)	SP-291
655.	ELECTRICAL (Key Switch)	SP-294
655.	ELECTRICAL (Receptacle Boxes)	SP-295
655.	ELECTRICAL (Space Frame Lighting)	SP-296
655.	ELECTRICAL (LED Canopy Light Fixture)	SP-298
655.	ELECTRICAL (Standby Generator and Transfer Switch)	SP-298A

SPECIAL PROVISION

SECTION 655

ELECTRICAL WORK

(Standby Generator and Transfer Switch)

Description

Provide and install a new diesel, 3-phase, standby generator with a new 3-phase automatic transfer switch. New generator shall be installed outdoors in a weatherproof enclosure adjacent to the Administration Building, and the new automatic transfer switch shall be installed inside the Administration Building; both as shown on the Drawings.

The standby generator shall be as specified in Section 263213 and the automatic transfer switch shall be as specified in Section 263600 in Division 800 Appendix. These sections specify materials, procedures and requirements for this equipment, complete with all appurtenances, including any and all associated conduit, wiring, testing and training within the limits as shown on the Drawings.

Work Included

Standby Generator and Transfer Switch includes but is not necessarily limited to, the following:

- Provide and install a new diesel, 3-phase, stand-by generator with a new, 3-phase automatic transfer switch. The generator shall be exterior mounted on a concrete slab, and shall have all needed enclosures.
- Provide all wiring and conduits required to connect the generator into the building electrical system as indicated on the contract drawings including trenching and backfilling, conduit, wire, supports, brackets, junction boxes, etc. required to provide all work. All components shall be furnished and installed as specified in the relevant specification sections.

Method of Measurement

The Standby Generator and Transfer Switch will be measured for payment as one lump sum unit, complete, and accepted.

Basis of Payment

Payment for installing the generator and transfer switch as described herein will be paid for at the Contract Lump Sum price which shall include provision and installation of the generator, enclosures, battery charger, transfer switch, and all associated hardware and wiring for a complete operational system.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
655.94 Standby Generator and Transfer Switch	Lump Sum

ITEM NO.	DESCRIPTION	TOTAL QUANTITY	UNIT
201.11	CLEARING	4.0	AC
201.23	REMOVING SINGLE TREE TOP ONLY	4	EA
201.24	REMOVING STUMP	4	EA
202.071	REMOVING ASBESTOS CONTAINING MATERIALS, TOLL BOOTH LAB TOPS	1	LS
202.081	REMOVING EXISTING BUILDING	1	LS
202.15	REMOVING EXISTING MANHOLE OR CATCH BASIN	6	EA
202.17	REMOVING EXISTING STRUCTURAL CONCRETE	1	LS
202.202	REMOVING PAVEMENT SURFACE	27,850	SY
202.203	PAVEMENT BUTT JOINTS	1,910	SY
202.205	RUMBLE STRIPS	29,850	EA
202.206	REMOVING RUMBLE STRIPS	8,650	LF
203.20	COMMON EXCAVATION	88,000	CY
203.21	ROCK EXCAVATION	200	CY
203.2310	UNDERGROUND STORAGE TANK REMOVAL	1	LS
203.2312	DISPOSAL / TREATMENT OF SPECIAL EXCAVATION	50	TON
203.25	GRANULAR BORROW	28,325	CY
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	2,350	CY
304.09	AGGREGATE BASE COURSE - CRUSHED	11,285	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	18,135	CY
403.207	HOT MIX ASPHALT, 190 MM NOMINAL MAXIMUM SIZE	16,150	TON
403.208	HOT MIX ASPHALT, 12.5 MM	900	TON
403.2081	HOT MIX ASPHALT, 12.5 MM (POLYMER MODIFIED) - RAP	910	TON
403.209	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)	100	TON
403.211	HOT MIX ASPHALT, SHIM	1,658	TON
403.213	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE (BASE AND INTERMEDIATE BASE COURSE)	7,570	TON
409.152	BITUMINOUS TACK COAT NTSS-IHM TRACKLESS - APPLIED	15,700	GAL
419.30	SAWING BITUMINOUS PAVEMENT	5,760	LF
470.08	BERM DROPOFF CORRECTION - GRINDINGS	248	TON
470.081	BERM CORRECTION	4,500	LF
502.231	STRUCTURAL CONCRETE, SPACE FRAME PEDESTALS & FOOTINGS	96	CY
502.232	STRUCTURAL CONCRETE, UTILITY PITS	145	CY
502.261	STRUCTURAL CONCRETE, ORT SLABS	210	CY
502.262	STRUCTURAL CONCRETE, CASH SLABS	280	CY
502.263	STRUCTURAL CONCRETE, PLAZA ISLANDS, BUMPERS, AND CURTAIN WALLS	200	CY
503.14	EPOXY-COATED REINFORCING STEEL, FABRICATED & DELIVERED	43,700	LB
503.15	EPOXY-COATED REINFORCING STEEL, PLACING	43,700	LB
503.181	GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCING BARS (#5), FAB & DELIVERED	83,500	LF
503.182	GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCING BARS (#12), FAB & DELIVERED	180	LF
503.191	GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCING BARS (#5), PLACING	83,500	LF
503.192	GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCING BARS (#12), PLACING	180	LF
503.90	SYNTHETIC FIBER REINFORCEMENT	2,450	LB
504.50	TOLL PLAZA CANOPIES	1	LS
504.80	SPACE FRAME CANOPIES, FABRICATED AND DELIVERED	1	LS
504.81	SPACE FRAME CANOPIES, ERECTION	1	LS
504.90	STEEL POST SUPPORT SYSTEMS	1	LS
504.91	MOUNTING BRACKET ASSEMBLIES	1	LS
504.96	METAL STAIRS	1	LS
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE	1	LS
511.091	TEMPORARY EARTH SUPPORT SYSTEMS	1	LS
515.201	PIGMENTED CONCRETE PROTECTIVE COATING - TUNNEL AND STAIRWAY WALLS & CEILING	750	SY
515.202	PIGMENTED CONCRETE PROTECTIVE COATING - TUNNEL FLOOR	270	SY
515.202	CLEAR PROTECTIVE COATING FOR CONCRETE SURFACES	2,500	SY
515.23	EPOXY OVERLAY	225	SF
526.306	TEMPORARY CONCRETE BARRIER TYPE I (9,100 LF)	1	LS
526.351	MEDIAN BARRIER TYPE I	450	LF
526.3511	MEDIAN BARRIER TYPE IA - PRECAST	2,816	LF
526.3513	MEDIAN BARRIER TYPE IB - PRECAST	938	LF
526.3514	MEDIAN BARRIER TYPE IC - PRECAST	170	LF
526.3515	MEDIAN BARRIER TYPE ID - PRECAST	107	LF
526.3516	MEDIAN BARRIER TYPE IE - PRECAST	51	LF
526.352	MEDIAN BARRIER TYPE II	159	LF
526.3611	MEDIAN BARRIER TRANSITION TYPE IA - PRECAST	3	EA
526.3612	MEDIAN BARRIER TRANSITION TYPE IB - PRECAST	4	EA
526.362	MEDIAN BARRIER TRANSITION TYPE II - PRECAST	17	EA
526.371	MEDIAN BARRIER WITH MOUNTED LIGHT POLE TYPE I	5	UNIT
527.342	WORK ZONE CRASH CUSHIONS - TL-2	7	UNIT
527.343	WORK ZONE CRASH CUSHIONS - TL-3	1	LS
535.70	PRECAST CONCRETE TUNNEL	8	CY
602.30	FLOWABLE CONCRETE FILL	99	LF
603.155	12 INCH REINFORCED CONCRETE PIPE - CLASS III	95	LF
603.165	15 INCH REINFORCED CONCRETE PIPE - CLASS III	603	LF
603.175	18 INCH REINFORCED CONCRETE PIPE - CLASS III	73	LF
603.195	24 INCH REINFORCED CONCRETE PIPE - CLASS III		LF

Scale:

Designed by:

No.	Revision	By	Date
1	QUANTITY REVISION	EJB	4/19
2	ITEM DESCRIPTION REVISION	PLP	4/19

By	Date	By	Date
PLP	3/20/19	LEM	3/20/19
EJB	3/20/19	GAE	3/20/19



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THE GOLD STAR  
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: RALPH NORWOOD, IV, PE, PTOE

CONTRACT: 2019.04

SHEET NUMBER: QN-01  
2 OF 503

ITEM NO.	DESCRIPTION	TOTAL QUANTITY	UNIT
603.205	30 INCH REINFORCED CONCRETE PIPE - CLASS III	40	LF
603.280	CONCRETE COLLAR FOR REINFORCED CONCRETE PIPE	2	EA
604.072	CATCH BASIN TYPE AI-C	2,125	EA
604.09	CATCH BASIN TYPE BI	5,125	EA
604.097	60" CATCH BASIN TYPE B5-C	1,125	EA
604.15	MANHOLE	2,125	EA
604.18	ADJUSTING MANHOLE OR CATCH BASIN TO GRADE	1	EA
604.245	CATCH BASIN TYPE F4-C	1	EA
604.26	CATCH BASIN TYPE B5	40	EA
605.09	6 INCH UNDERDRAIN TYPE B	1,729	LF
605.11	12 INCH UNDERDRAIN TYPE C	3,605	LF
605.12	15 INCH UNDERDRAIN TYPE C	600	LF
605.13	18 INCH UNDERDRAIN TYPE C	236	LF
606.13	31" W-BEAM GUARDRAIL-MIDWAY SPLICE (7' STEEL POSTS, 8' OFFSET BLOCKS, SINGLE FACED)	140	LF
606.1306	31" W-BEAM GUARDRAIL-MIDWAY SPLICE TANGENT TERMINAL	2,940,625	EA
606.131	31" W-BEAM GUARDRAIL-MIDWAY SPLICE (8' STEEL POSTS, 8' OFFSET BLOCKS, SINGLE FACED)	7	EA
606.132	31" W-BEAM GUARDRAIL-MIDWAY SPLICE (7' STEEL POSTS, 8' OFFSET BLOCKS, DOUBLE FACED)	662.5	LF
606.1351	31" W-BEAM GUARDRAIL - MIDWAY SPLICE (7' STEEL POSTS, 8' OFFSET BLOCKS, DOUBLE FACED)	1,612.5	LF
606.1724	BRIDGE TRANSITION - TYPE III, MODIFIED	12	EA
606.2651	TERMINAL END - REMOVE AND RESET	2	EA
606.2652	TERMINAL END - REMOVE AND STACK	1	EA
606.275	TERMINAL END - DOUBLE RAIL - GALVANIZED STEEL	9	EA
606.352	REFLECTORIZED BEAM GUARDRAIL DELINEATOR	2	EA
606.353	DELINEATOR POST	130	EA
606.3561	DELINEATOR POST - REMOVE AND RESET	94	EA
606.3605	GUARDRAIL - REMOVE, MODIFY, AND RESET SINGLE RAIL	102	EA
606.3621	GUARDRAIL ADJUST, SINGLE RAIL	950	LF
606.82	GUARDRAIL - REMOVE AND STACK EXISTING CRASH END	3,400	LF
607.2326	AUTOMATIC ENTRY GATE	1	EA
607.40	CHAIN LINK FENCE - 3' HIGH	1	EA
607.41	POST ASSEMBLY FOR SIGN OR CHAIN LINK FENCE	510	LF
607.41	DUMPSTER ENCLOSURE	66	EA
607.4211	REINFORCED CONCRETE SIDEWALK	1	LS
608.08	CURB RAMP DETECTABLE WARNING FIELD	110	SY
608.26	VERTICAL CURB TYPE I	36	SF
609.11	VERTICAL CURB TYPE I - CIRCULAR	1,000	LF
609.12	TERMINAL CURB TYPE I - 4 FT	200	LF
609.234	TERMINAL CURB TYPE I - 8 FT	4	EA
609.238	PLAIN RIPRAP	2	EA
610.08	STONE DITCH PROTECTION	34	CY
610.18	TEMPORARY STONE CHECK DAM	27	CY
613.319	EROSION CONTROL BLANKET	325	CY
614.30	GEOTEXTILE CONFINEMENT SYSTEM FOR SLOPE PROTECTION	13,750	SY
615.07	LOAM	16,000	SF
615.13	SEEDING METHOD NUMBER 1	7,690	CY
618.14	SEEDING METHOD NUMBER 2	45	UNIT
619.1201	MULCH - PLAN QUANTITY	584	UNIT
619.1202	TEMPORARY MULCH	629	UNIT
619.1401	EROSION CONTROL MIX	1	LS
620.58	EROSION CONTROL GEOTEXTILE	50	CY
621.043	EVERGREEN TREE (6' - 8') GROUP A	910	SY
621.396	DWARF EVERGREEN (18" - 24") GROUP B	2	EA
621.512	HYBRID RHODODENDRON (2' - 2.5')	8	EA
621.553	DECIDUOUS SHRUB (3' - 4') GROUP B	3	EA
625.106	WATER SERVICE SUPPLY LINE (<3 IN)	4	EA
626.121	QUAZITE JUNCTION BOX (36X24)	2,400	LF
626.122	QUAZITE JUNCTION BOX (18X11)	11	EA
626.13	4" X 6" SPLICE BOX WITH ACCESS DOOR	75	EA
626.21	METALLIC CONDUIT	5	EA
626.22	NON-METALLIC CONDUIT	310	LF
626.223	HORIZONTAL DIRECTIONAL DRILLED CONDUIT	35,500	LF
626.31	18 INCH DIAMETER FOUNDATION	530	LF
626.32	24 INCH DIAMETER FOUNDATION	33	EA
626.333	30 INCH DIAMETER FOUNDATION, 8 FEET OR LESS	94	EA
626.36	REMOVE OR MODIFY CONCRETE FOUNDATION	8	EA
627.18	12 INCH SOLID WHITE PAVEMENT MARKING LINE	66	EA
627.681	TEMPORARY 6 INCH PAINTED PAVEMENT MARKING LINE - YELLOW OR WHITE	9,100	LF
627.73	TEMPORARY 6 INCH PAVEMENT MARKING TAPE	97,400	LF
627.731	TEMPORARY 6 INCH BLACK PAVEMENT MARKING TAPE	7,050	LF
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	7,050	LF
627.744	6" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	1,520	LF
627.75	WHITE OR YELLOW PAVEMENT & CURB MARKING	51,900	SF
627.77	REMOVING EXISTING PAVEMENT MARKING	1,220	SF
		37,650	SF

INTERCHANGE 103  
ORT CONVERSION  
ESTIMATED QUANTITIES 1

ITEM NO.	DESCRIPTION	TOTAL QUANTITY	UNIT
655.58	3/4" ELECTRICAL METAL TUBING CONDULETS	40	EA
655.59	1" ELECTRICAL METAL TUBING CONDULETS	40	EA
655.63	4-INCH X 4-INCH PVC NEMA 3R WIREWAY	540	LF
655.64	6-INCH X 6-INCH PVC NEMA 3R WIREWAY	500	LF
655.65	8-INCH X 8-INCH PVC NEMA 3R WIREWAY	300	LF
655.66	12-INCH X 12-INCH PVC NEMA 3R WIREWAY	300	LF
655.75	CONCRETE ENCASED CONDUIT	135	CY
655.80	LIGHTNING SUPPRESSION SYSTEM	1	LS
655.81	KEY SWITCH	10	EA
655.82	DUPLEX RECEPTACLE	20	EA
655.83	NEMA 15-20R RECEPTACLE	10	EA
655.84	QUADPLEX RECEPTACLE	10	EA
655.90	SPACE FRAME LIGHTING	1	LS
655.92	LED CANOPY LIGHT FIXTURE	12	EA
655.94	STANDBY GENERATOR AND TRANSFER SWITCH	1	LS
655.99	LED BUMPER BEACON	6	EA
656.41	GRAVEL WETLAND FILTER 1	1	LS
656.42	GRAVEL WETLAND FILTER 2	1	LS
656.50	BALED HAY, IN-PLACE	140	EA
656.60	TEMPORARY BERMS	3,000	LF
656.62	TEMPORARY SLOPE DRAINS	500	LF
656.632	30' TEMPORARY SILT FENCE	26,000	LF
659.10	MOBILIZATION	1	LS
670.01	SEWAGE DISPOSAL SYSTEM	1	LS
800.01	TOLL ADMINISTRATION BUILDING	1	LS
800.10	ELECTRICAL DEMOLITION	1	LS
800.20	MECHANICAL DEMOLITION	1	LS
800.22	HVAC AND ELECTRICAL TUNNEL AND BOOTHS	1	LS
800.30	TOLL PLAZA & BRIDGE DEMOLITION	1	LS
800.40	NEW TOLL BOOTH INSTALLATION	1	LS
800.41	STAIR ENCLOSURE & INSTALLATION	1	LS
800.90	GENERATOR PAD	1	LS
800.91	TRANSFORMER PAD	1	LS
803.01	TEST PITS	3	EA
832.41	TYPE A STEEL SITE BOLLARD	8	EA

EARTHWORK SUMMARY

COMMON EXCAVATION FOR ESTIMATE

COMMON EXCAVATION (FROM CROSS SECTIONS)  
GRUBBING IN FILL  
MUCK EXCAVATION (FROM CROSS SECTIONS)  
PAVEMENT SALVAGE IN FILL  
TOTAL COMMON EXCAVATION

80,922  
4,206  
2,542  
0

87,670  
88,000

ITEM 203.20 - COMMON EXCAVATION

FILL FOR BORROW CALCULATIONS

COMMON FILL (FROM CROSS SECTIONS)  
GRUBBING IN FILL  
EXISTING TUNNEL VOID  
EXISTING BUILDING FOUNDATION VOID  
BACKFILL CATCH BASIN REMOVAL  
MUCK EXCAVATION  
TOTAL FILL

41,965  
4,026  
300  
275  
33  
2,542

49,141

AVAILABLE COMMON EXCAVATION FOR BORROW CALCULATIONS

(1) TOTAL COMMON EXCAVATION  
DEDUCTIONS:  
GRUBBING IN CUT  
GRUBBING IN FILL  
PAVEMENT REMOVAL

87,497  
6,939  
4,026  
726

(2) TOTAL DEDUCTIONS

11,691

TOTAL AVAILABLE COMMON EXCAVATION (1) MINUS (2)  
TOTAL AVAILABLE STRUCTURAL EXCAVATIONS (PLAZA)  
TOTAL AVAILABLE STRUCTURAL EXCAVATIONS (BUILDING)  
TOTAL AVAILABLE NON-ROCK EXCAVATION

75,806  
2,350  
815  
78,971

COMPUTATION FOR GRANULAR BORROW FOR ESTIMATE

GRANULAR BORROW TO REPLACE MUCK  
GRANULAR BORROW IN LOW WET AREAS  
GRANULAR BORROW TO UPGRADE EXCAVATION  
GRANULAR BORROW TO MAINTAIN TRAFFIC  
GRANULAR BORROW FOR UNDERCUTTING  
GRANULAR BORROW =

2,542  
0  
0  
0  
0  
2,542 X 1.00 = 2,542

COMPUTATION FOR COMMON BORROW FOR ESTIMATE

(3) TOTAL FILL

49,141

TOTAL AVAILABLE NON-ROCK EXCAVATION  
(4) TOTAL AVAILABLE EXCAVATION

78,971 x 0.90 = 71,074  
71,074

21,933

(4) - (3) SURPLUS MATERIAL =

Scale:

Designed by:



STANTEC CONSULTING SERVICES INC.  
482 PAYNE ROAD  
SCARBOROUGH, ME 04074  
TEL (207) 887-3448  
FAX (207) 883-3376



THE GOLD STAR  
MEMORIAL HIGHWAY

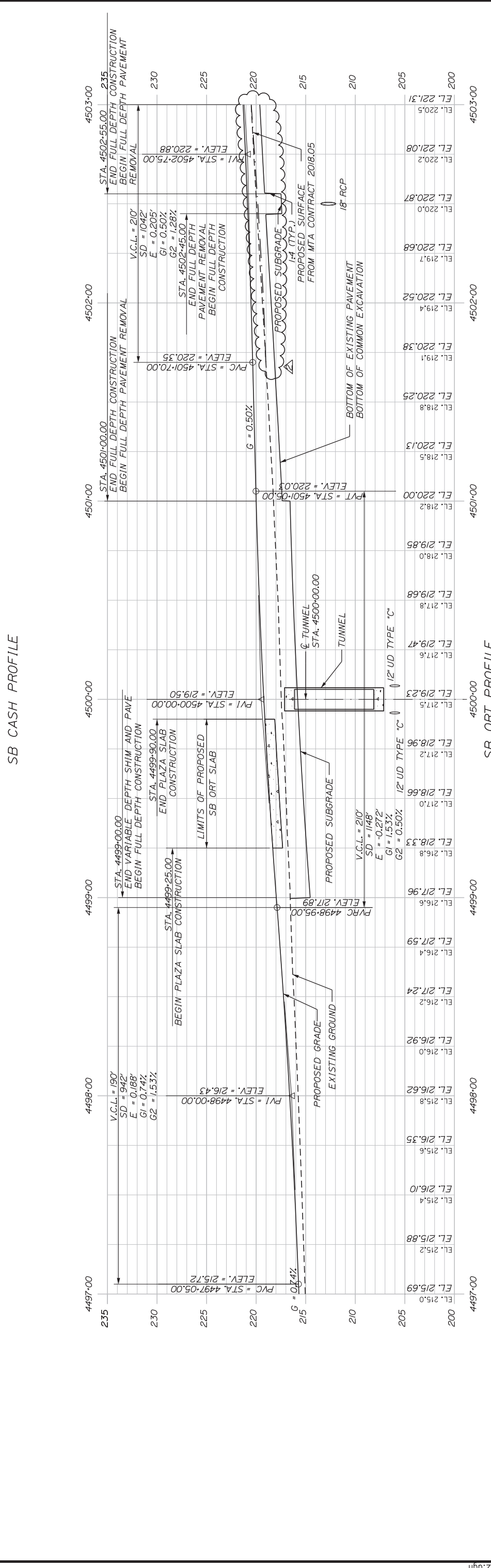
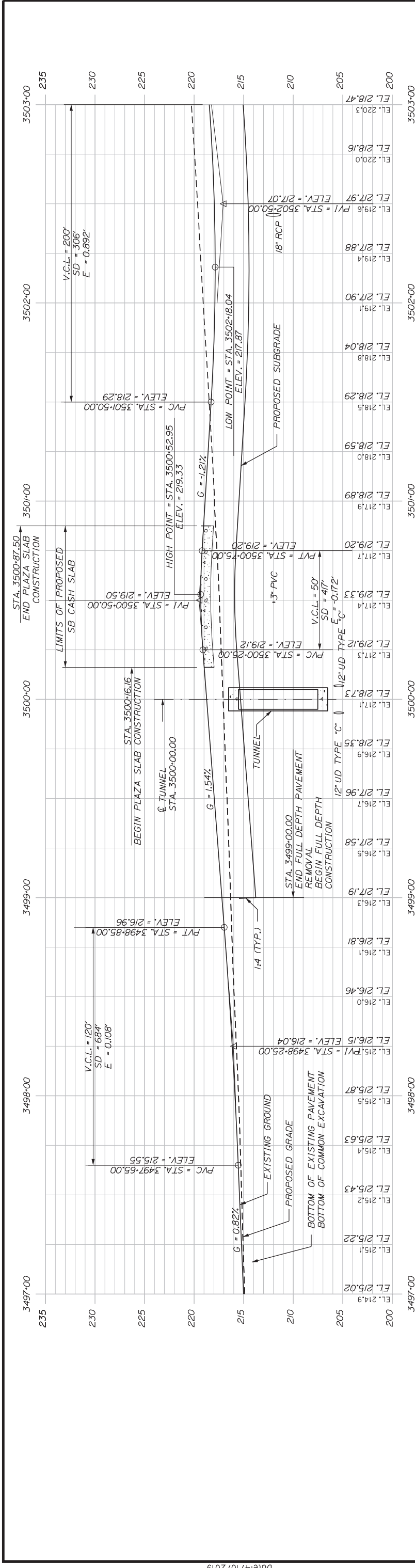
INTERCHANGE 103  
ORT CONVERSION  
ESTIMATED QUANTITIES 3 &  
EARTHWORKS SUMMARY

MTA PROJECT MANAGER: RALPH NORWOOD, IV, PE, PTOE

CONTRACT: 2019.04

SHEET NUMBER: QN-03  
4 OF 503





Scale: 25 50  
Scale of Feet

No.	Revision	By	Date
1	PAVEMENT DEPTH CHANGE	PLP	4/19

Designed by: \_\_\_\_\_  
 Checked: LEM 3/20/19  
 In Charge of: EJB 3/20/19

Designed by: \_\_\_\_\_  
 Checked: \_\_\_\_\_  
 In Charge of: \_\_\_\_\_

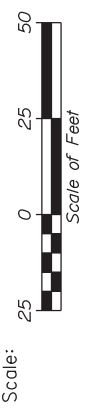
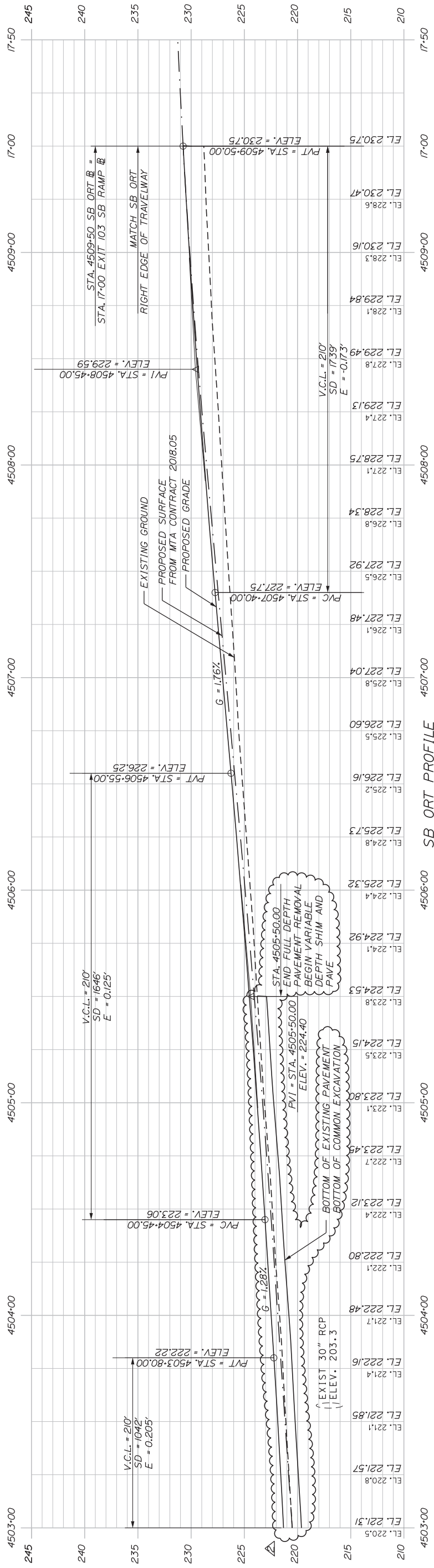
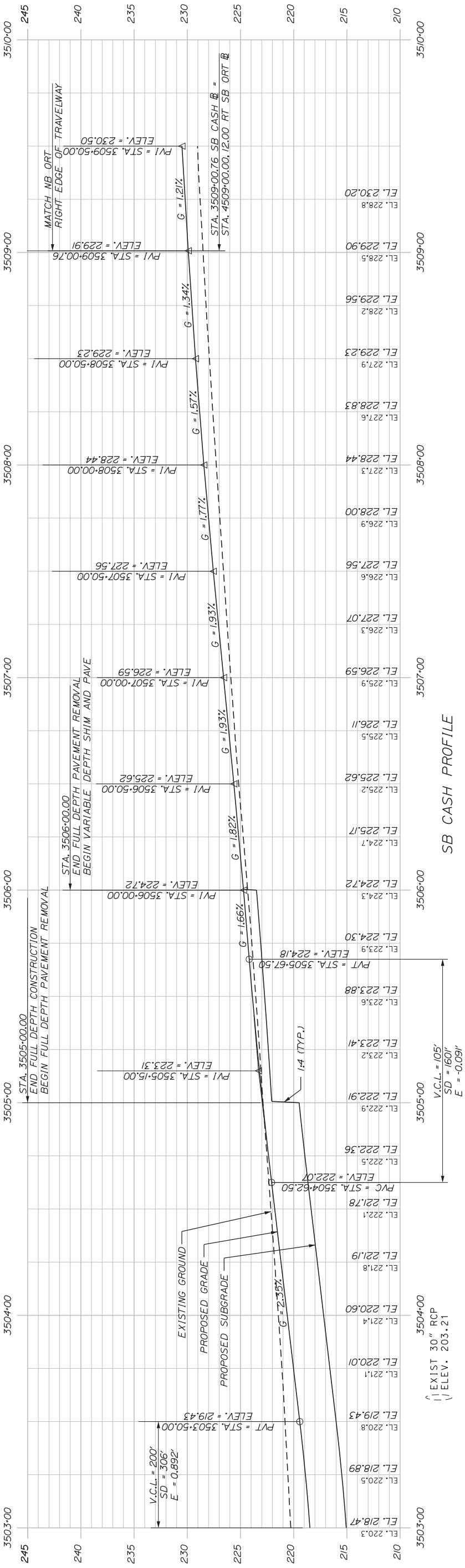
STANTEC CONSULTING SERVICES INC.  
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 SCARBOROUGH, ME 04074  
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 FAX (207) 883-3376

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

INTERCHANGE 103 ORT CONVERSION  
 SOUTHBOUND PROFILE 4

CONTRACT: 2019.04  
 SHEET NUMBER: PR-10  
 14.3 OF 50.3



No.	Revision	By	Date
1	PAVEMENT DEPTH CHANGE	FLP	4/19

Designed by:

By	Date	By	Date
PLP	3/20/19	Checked	LEM
EJB	3/20/19	In Charge of	GAEL

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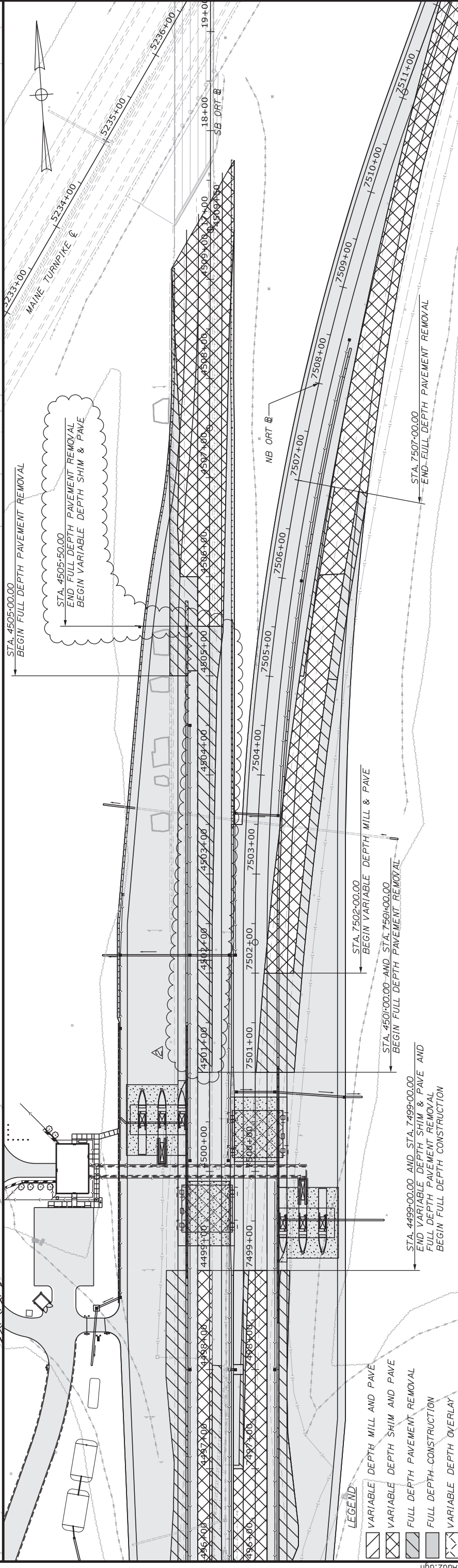
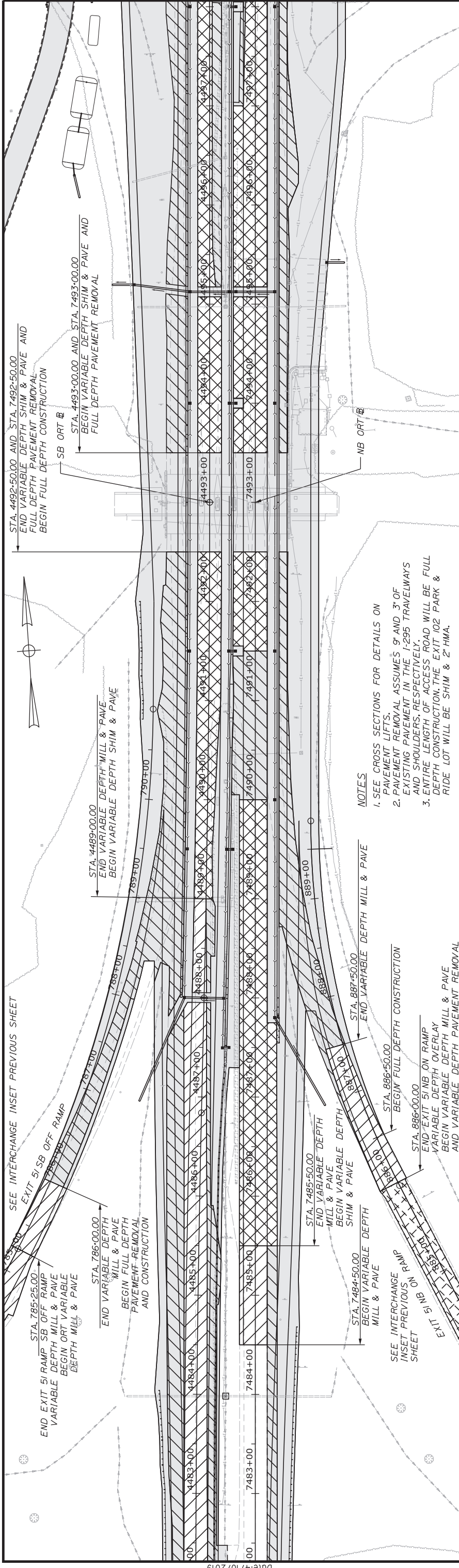
# THE GOLD STAR MEMORIAL HIGHWAY

INTERCHANGE 103  
ORT CONVERSION

SOUTHBOUND PROFILE 5

CONTRACT: 2019.04  
SHEET NUMBER: PR-11  
14.4 OF 50.3



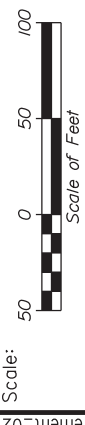


**NOTES**

1. SEE CROSS SECTIONS FOR DETAILS ON PAVEMENT LIFTS.
2. PAVEMENT REMOVAL ASSUMES 9' AND 3' OF EXISTING PAVEMENT IN THE I-295 TRAVELWAYS AND SHOULDERS, RESPECTIVELY.
3. ENTIRE LENGTH OF ACCESS ROAD WILL BE FULL DEPTH CONSTRUCTION. THE EXIT 102 PARK & RIDE LOT WILL BE SHIM & 2" HMA.

**LEGEND**

	VARIABLE DEPTH MILL AND PAVE
	VARIABLE DEPTH SHIM AND PAVE
	FULL DEPTH PAVEMENT REMOVAL
	FULL DEPTH CONSTRUCTION
	VARIABLE DEPTH OVERLAY



No.	Revision	By	Date
1	PAVEMENT DEPTH CHANGE	PLP	4/19

Designed	Checked	By	Date
EJB	LEM	LAUREN MEEK, PE	3/20/19

Drawn	In Charge of	By	Date
	GAE	LAUREN MEEK, PE	3/20/19



Designed by:  
 CONSULTANT PROJECT MANAGER: LAUREN MEEK, PE  
 In Charge of: GAE

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# THE GOLD STAR MEMORIAL HIGHWAY

INTERCHANGE 103  
 ORT CONVERSION

PAVEMENT PLAN 2

CONTRACT: 2019.04

MTA PROJECT MANAGER: RALPH NORWOOD, IV, PE, PTOE

SHEET NUMBER: PP-02

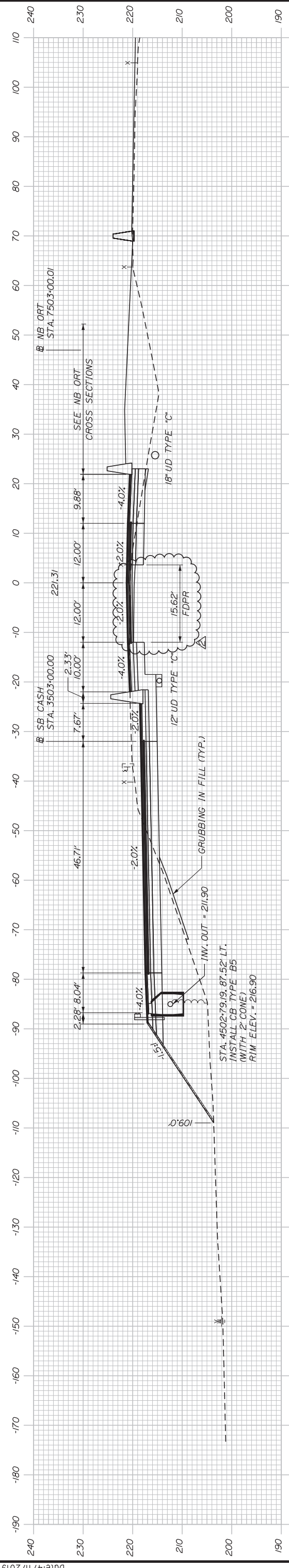
169 OF 503





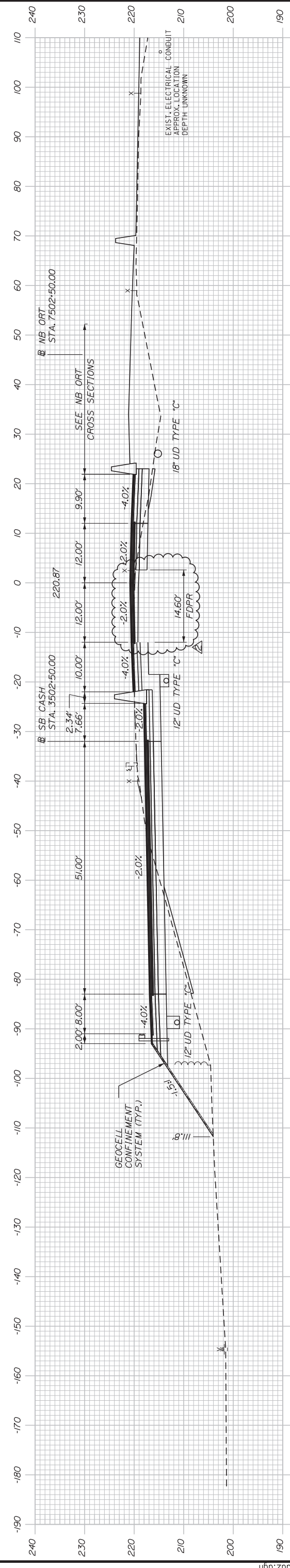


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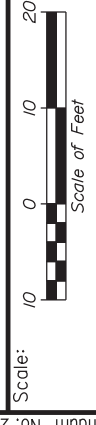


4503+00.00

C=442.62 CY  
F=453.35 CY  
G=22.15 CY



4502+50.00



No.	Revision	By	Date
1	PAVEMENT DEPTH CHANGE	PLP	4/19

Designed	By	Date	Checked	By	Date
PLP	PLP	3/20/19	LEM	LEM	3/20/19
Drawn	EJB	3/20/19	In Charge of	GAE	3/20/19

Designed by:



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SCARBOROUGH, ME 04074  
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**THE GOLD STAR  
MEMORIAL HIGHWAY**

INTERCHANGE 103  
ORT CONVERSION  
SB ORT

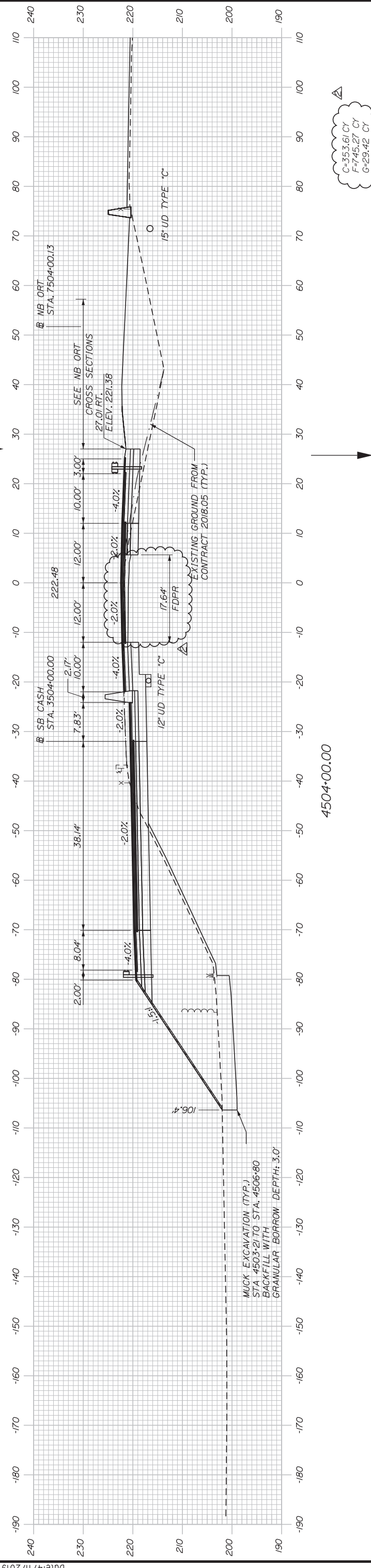
STA. 4502+50.00 TO STA. 4503+00.00

CONTRACT: 2019.04

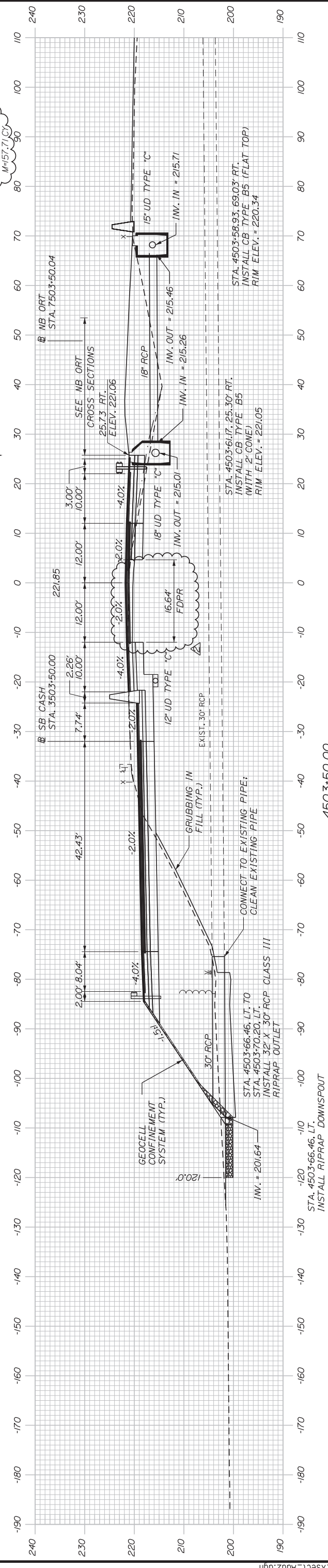
SHEET NUMBER: XS-45  
279 OF 503



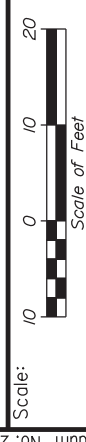
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G=30.72 CY  
M=145.34 CY



4504+00.00



4503+50.00



No.	Revision	By	Date
1	PAVEMENT DEPTH CHANGE	PLP	4/19

Designed	Checked	In Charge of
PLP	LEM	GAE

By	Date	By	Date
PLP	3/20/19	LEM	3/20/19
EJB	3/20/19	GAE	3/20/19



STANTEC CONSULTING SERVICES INC.  
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SCARBOROUGH, ME 04074  
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FAX (207) 883-3376



# THE GOLD STAR MEMORIAL HIGHWAY

INTERCHANGE 103  
ORT CONVERSION  
SB ORT

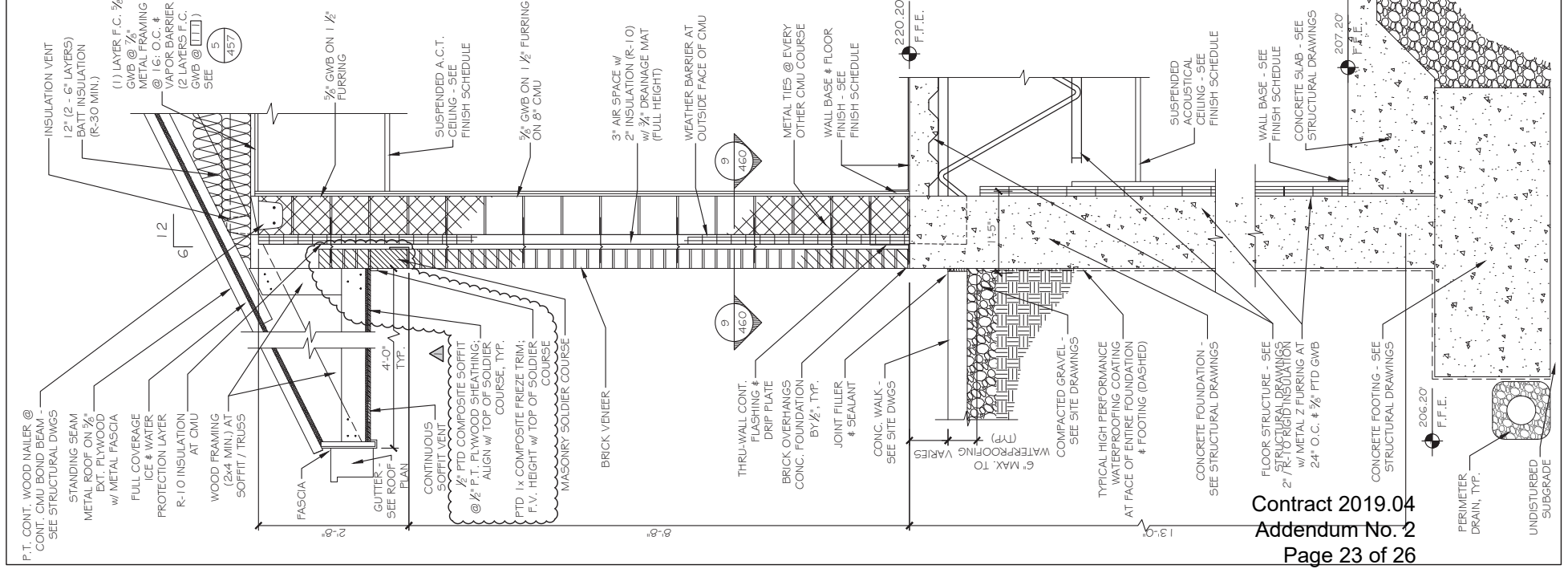
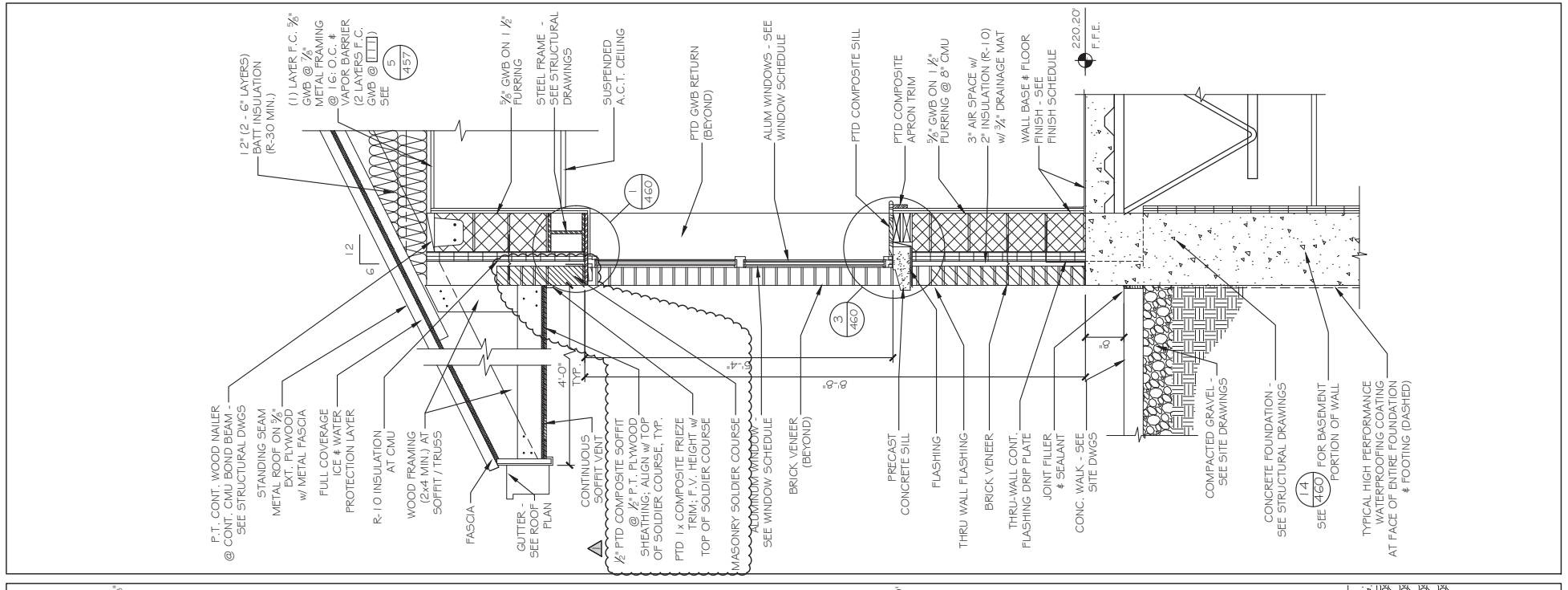
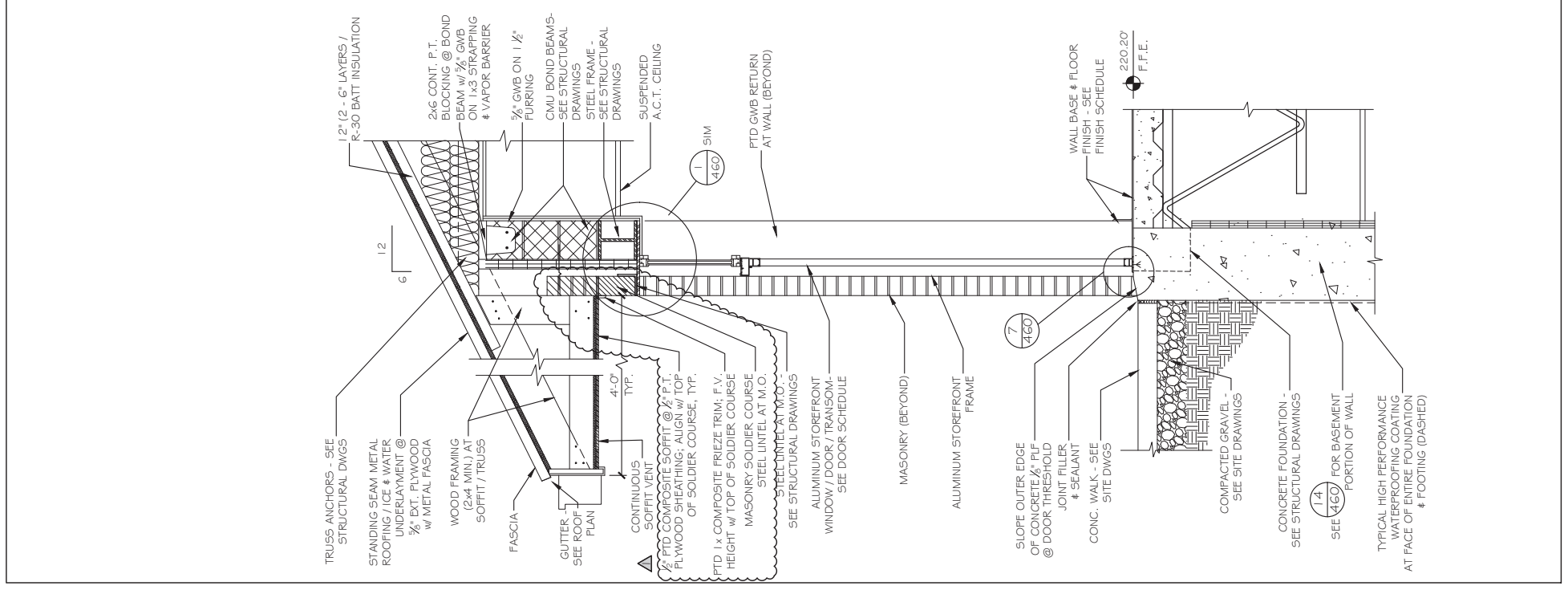
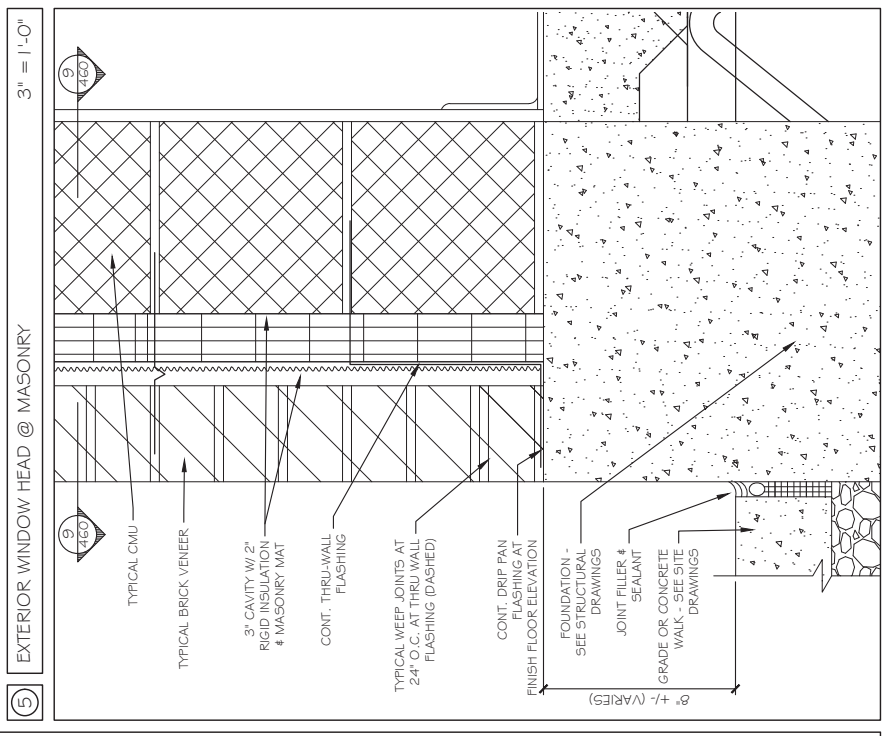
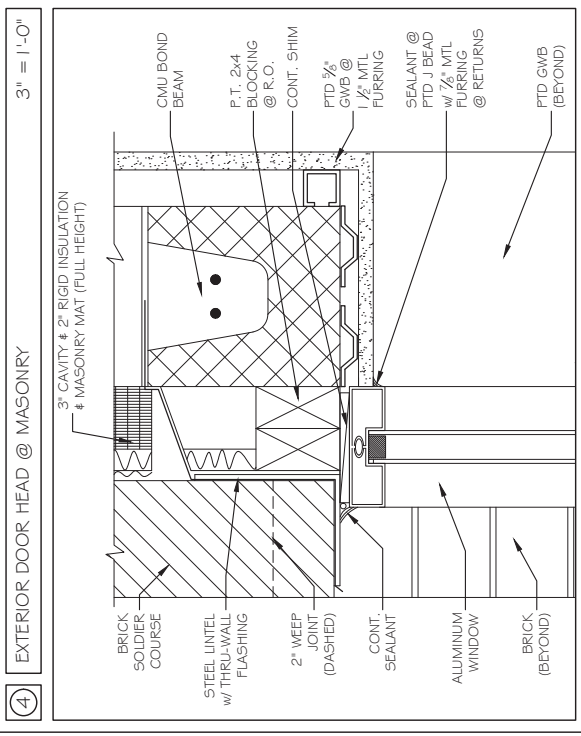
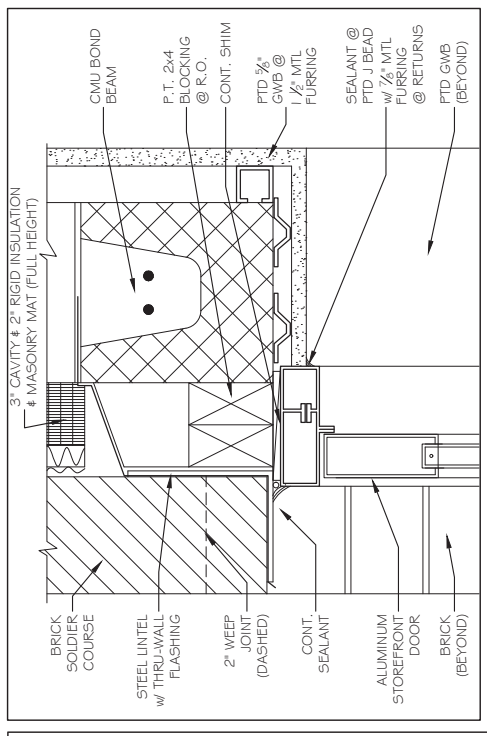
STA. 4503+50.00 TO STA. 4504+00.00

CONTRACT: 2019.04  
SHEET NUMBER: XS-46  
280 OF 503





REVISION  
 6 APR. 2019





**GRANT HAYS ASSOCIATES**

ARCHITECTURE & INTERIOR DESIGN  
P.O. BOX 6179 FALMOUTH MAINE 04105  
207.871.5900 www.granthays.com

JCAL

REVISIONS

PROJECT NAME

CONTRACT NO.: 2019.04  
MAINE TURNPIKE TOLL  
ADMINISTRATION BUILDING  
MILE MARKER (MM) 103  
MAINE 04345  
GARDNER

SHEET

REVISION TO  
EXTERIOR  
WINDOW SILL

DATE  
8 APR 2019

SCALE  
3" = 1'-0"

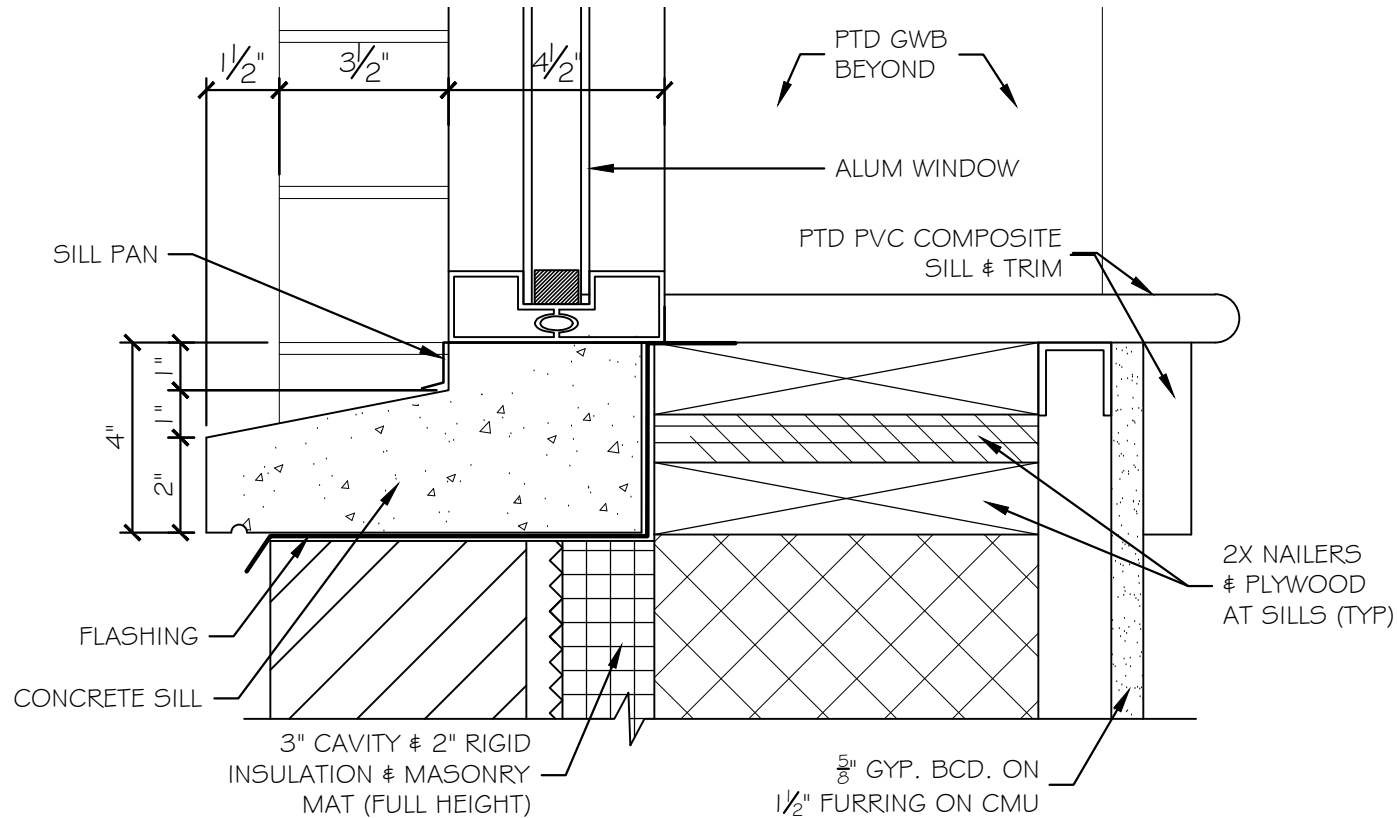
DRAWN  
MFH/mgk

JOB NO.  
180203

SHEET

**ASK-1**

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Contract 2019.04  
Addendum No. 2  
Page 24 of 26





MasterFormat: 07 27 26

NO. 724-C

OCTOBER 2016  
(Supersedes May 2015)

## AIR-SHIELD™ LSR

Liquid Membrane Air/Vapor and Liquid Moisture Barrier

### DESCRIPTION

AIR-SHIELD LSR (liquid synthetic rubber) is an asphalt-free, single-component, synthetic rubber based liquid air/vapor and liquid moisture barrier. AIR-SHIELD LSR cures to form a tough, seamless, elastomeric membrane, which exhibits excellent resistance to air and moisture transmission.

### USES

AIR-SHIELD LSR has been specifically formulated to act as an air/vapor and liquid moisture barrier within the building envelope. It may be applied to most common surfaces and integrated into various wall systems. AIR-SHIELD LSR is suitable for both new construction and restoration. Primary applications include cavity wall and masonry wall construction. AIR-SHIELD LSR works equally well as an air barrier on precast concrete, cast-in-place concrete, masonry (concrete block), interior and exterior gypsum board, Styrofoam, primed steel, aluminum mill finish, anodized aluminum, primed galvanized metal, drywall, and plywood.

### FEATURES/BENEFITS

- Non-asphaltic – designed to meet stringent fire code requirements.
- Low permeability - prevents the transmission of air and inhibits moisture and vapor from passing through porous building materials.
- Highly flexible - bridges cracks, which may form in the substrate.
- User friendly – single-component, water-based technology allows for simple, safe application and easy cleanup.
- Liquid applied - simplifies detailing and assures a monolithic, seamless membrane when applied to a rough or smooth surface.
- Sprayable - with appropriately configured airless spray equipment - low application costs.
- Excellent adhesion - remains firmly bonded to the substrate, even when applied over damp surfaces.
- Low VOC content (<100 g/L). Produces no harmful odors.
- Compatible with asphalt-based emulsion products.
- UV resistant – membrane can be left exposed up to four months.

### PACKAGING

5 Gallon (18.93 L) Pails  
55 Gallon (208.20 L) Drums

### COVERAGE

**Application Rate** 17 - 22 ft.<sup>2</sup>/gal.  
(1.59 - 2.05 m<sup>2</sup>/3.8 L)

**Wet Film Thickness** 75 mils

**Cured Film Thickness** 40 mils (1 mm)

Coverage dependant on substrate type, weather, and application conditions.

### SHELF LIFE

When stored indoors in original, unopened containers at temperatures between 40° - 90° F (4° - 32° C), optimum performance and best use is obtained within one year of date of manufacture.

### SPECIFICATIONS

- ASTM E 84, Class A
- Exceeds ABAA maximum material air permeance requirements when tested in accordance with ASTM E2178.
- Complies with all current federal, state, and local maximum allowable VOC requirements, including U.S. EPA, LADCO, SCAQMD, and OTC.

### TECHNICAL DATA

Solids Content, %:	56
VOC Content, g/L	77
Color:	Sprays Pink Dries to Desert Tan
Flexibility @ -26° C (-15° F), (ASTM C 836):	PASS
Tensile Strength (ASTM D 412), PSI	250
Elongation (ASTM D 412), %:	700
Water Vapor Permeance (ASTM E 96, Procedure B) Perms:	0.1
Service Temperature:	Not to exceed 175° F (80° C)
Nail Sealability (ASTM D 1970):	Pass
Storage Temperature of AIR-SHIELD LSR	40° - 90° F (4° - 32° C)
Air/Substrate Temperature (At Time of Application):	>20° F (-6.7° C)

CONTINUED ON REVERSE SIDE...

**Air Leakage**

Test Method	ASTM E 2178-01	ASTM E 2357
Pressure:	75 Pa (1.57 lb/ft. <sup>2</sup> )	75 Pa (1.57 lb/ft. <sup>2</sup> )
ABAA Requirements, maximum:	0.004 cfm/ft. <sup>2</sup> (0.02 L/S/M <sup>2</sup> )	0.04 cfm/ft. <sup>2</sup> (0.2 L/S/M <sup>2</sup> )
AIR-SHIELD LSR Results:	<0.004 cfm/ft. <sup>2</sup> (<0.02 L/S/M <sup>2</sup> )	<0.04 cfm/ft. <sup>2</sup> (<0.2 L/S/M <sup>2</sup> )

\*Independent test available upon request

AIR-SHIELD LSR may be used in NFPA 285 complying wall assemblies. Contact W. R. MEADOWS for further information.

**APPLICATION**

**Surface Preparation ...** All surfaces must be clean (free of all coatings and curing compounds), structurally sound, frost-free, and relatively smooth. Prepare substrate per manufacturer's instruction prior to application of membrane.

**Exterior Sheathing Panels ...** Exterior sheathing panels are to be installed and fastened per manufacturer's recommendation. For detailed application information, see INSTALLATION INSTRUCTIONS: JOINT TREATMENT OF EXTERIOR SHEATHING PANELS available at [www.wrmeadows.com](http://www.wrmeadows.com).

**Rough Openings ...** Refer to AIR-SHIELD ROUGH OPENINGS INSTALLATION GUIDELINES document available at [www.wrmeadows.com](http://www.wrmeadows.com) for recommendations.

**Concrete Masonry Units ...** Before applying AIR-SHIELD LSR to CMU surfaces, patch all cracks, protrusions, small voids, offsets, details, irregularities, and small deformities with MEADOW-PATCH® 5 or MEADOW-PATCH 20 from W. R. MEADOWS at least two hours before application.

**Application Method ...** AIR-SHIELD LSR may be applied by spraying or a 3/4" (19.1 mm) minimum nap roller. (For recommendations on spray equipment, consult W. R. MEADOWS technical staff.)

AIR-SHIELD LSR may be sprayed on at the minimum coverage rate of approximately 17 - 22 ft.<sup>2</sup>/gal. (0.42 - 0.54 m<sup>2</sup>/L) (75 mils wet) (40 mils dry). Note: For roller applications or during periods of extremely hot weather, two coats may be necessary if the material begins to slump. Apply second coat after first coat has completely dried, approximately one to two hours after first coat. Frequently inspect surface area with a wet mil gauge to ensure consistent thickness. Work material well into any fluted rib forming indentations. Porous masonry block walls may require additional coats to obtain desired thickness.

**Curing and Drying ...** Allow material to dry at air and surface temperatures of 20° F (-6.7° C) or higher. Curing times will be affected by relative humidity, temperature and airflow. The following times are given for average conditions

**LIMITED WARRANTY**

W. R. MEADOWS, INC. warrants at the time and place we make shipment, our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. Read complete warranty. Copy furnished upon request.

**Disclaimer**

The information contained herein is included for illustrative purposes only, and to the best of our knowledge, is accurate and reliable. W. R. MEADOWS, INC. cannot however under any circumstances make any guarantee of results or assume any obligation or liability in connection with the use of this information. As W. R. MEADOWS, INC. has no control over the use to which others may put its product, it is recommended that the products be tested to determine if suitable for specific application and/or our information is valid in a particular circumstance. Responsibility remains with the architect or engineer, contractor and owner for the design, application and proper installation of each product. Specifier and user shall determine the suitability of products for specific application and assume all responsibilities in connection therewith.

and standard thicknesses. Actual times may differ, depending on specific conditions present on job at time of application. It is recommended that AIR-SHIELD LSR be allowed to air dry to a tack-free film before application of specified insulation. Maximum exposure time for AIR-SHIELD LSR is four months.

Tack-free film: 2 hours  
Full cure: 48 hours

**Cleanup ...** Uncured AIR-SHIELD LSR cleans up easily while wet with water. Cured material is best removed by xylene or by mechanical means.

**PRECAUTIONS**

AIR-SHIELD LSR is not designed to perform as a permanently exposed membrane. Maximum UV exposure period for membrane is four months. Keep containers tightly sealed. KEEP FROM FREEZING. Do not apply AIR-SHIELD LSR if rainfall or snow is forecast within 12 hours.

**TECHNICAL ASSISTANCE**

Please contact W. R. MEADOWS for specific details and/or data not outlined in this literature. Technical assistance, from design to product application, is available upon request.

**LEED INFORMATION**

May help contribute to LEED credits:

- EA Credit 1: Optimize Energy Performance
- IEQ Credit 3.1: Construction Indoor Air Quality Management Plan - During Construction
- IEQ Credit 7.1: Thermal Comfort - Design
- MR Credit 2: Construction Waste Management
- MR Credit 5: Regional Materials

**For most recent data sheet, further LEED information, and SDS, visit [www.wrmeadows.com](http://www.wrmeadows.com).**