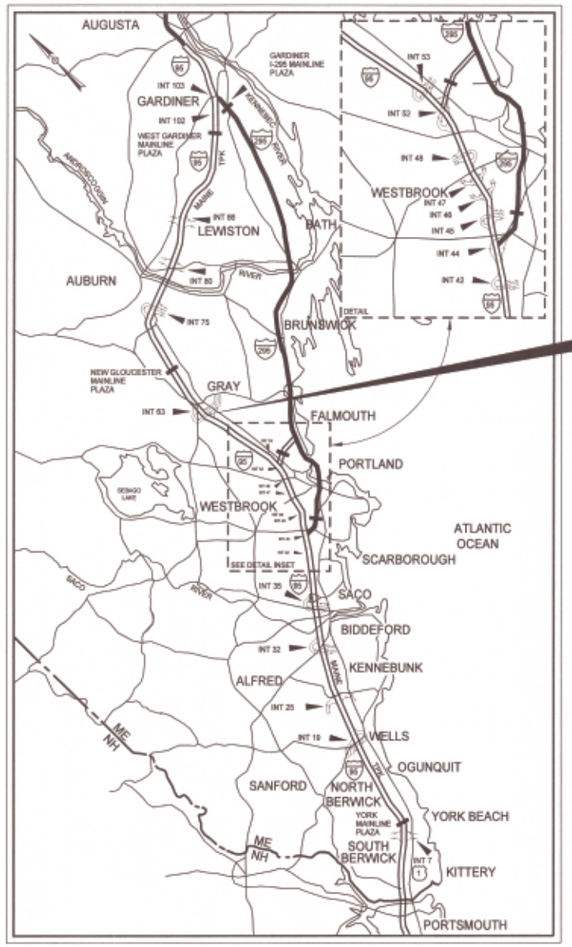
Date:4/29/2015



LOCATION MAP

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR
JAMES F. CLOUTIER, VICE CHAIR
GERARD P. CONLEY, SR., MEMBER
JOHN E. DORITY, MEMBER
FREEMAN R. GOODRICH, MEMBER
ROBERT D. STONE, MEMBER
KAREN S. DOYLE, EX-OFFICIO MEMBER

S. PETER MILLS, EXECUTIVE DIRECTOR

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
01	TITLE SHEET
02	TYPICAL SECTIONS
03-04	DETAILS
05	ESTIMATED QUANTITIES AND EARTHWORK SUMMARY
06	GENERAL NOTES
07	SIGN SUMMARIES
08-12	MAINTENANCE OF TRAFFIC PLANS
13-15	BORING LOGS
16-17	PARK AND RIDE PLANS
18-19	PRELOADING PLANS
20	PROFILES
21	LIGHTING PLAN
22	LANDSCAPING PLAN
23-25	DISTURBANCE AREAS & EROSION SEDIMENT CONTROL PLANS
26-29	CROSS SECTIONS - PARK AND RIDE DRIVE
30-32	CROSS SECTIONS - PARK AND RIDE LOT
33-34	CROSS SECTIONS - LEVEL SPREADER 2
35-36	CROSS SECTIONS - LEVEL SPREADER 3
37-39	CROSS SECTIONS - ROUTE 26A (GRAY BYPASS)
40-58	CROSS SECTIONS - PRELOADING

CONTRACT 2015.14
GRAY PARK AND RIDE
AND PRELOAD FOR GRAY INTERCHANGE
(EXIT 63)
MILE 63.3

Contract 2015.14

APPROVED:

MAINE TURNPIKE AUTHORITY

PETER S. MERFELD, P.E. - CHIEF OPERATIONS OFFICER — DATE 4/29/15

STEPHEN R. TARTRE, P.E. - DIRECTOR OF ENGINEERING & BUILDING MAINTENANCE — DATE 4/29/15

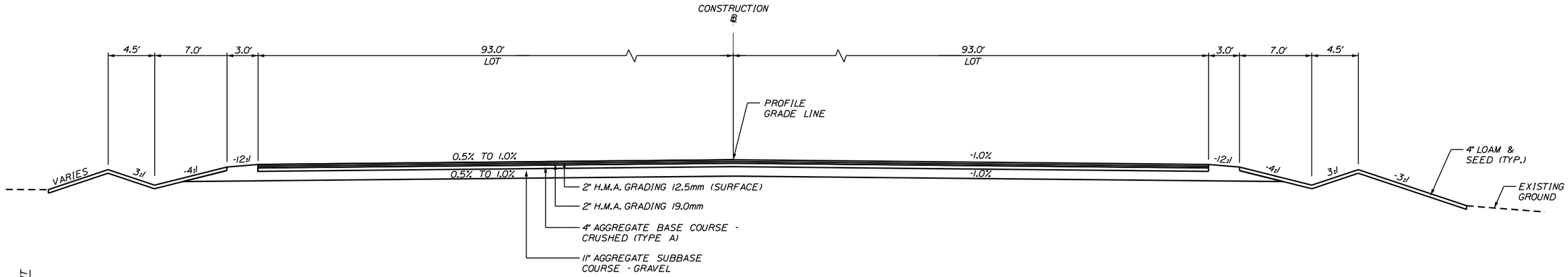
STATE OF MAINE — FRANK M. KOCZALKA — No. 12044 — LICENSED PROFESSIONAL ENGINEER

vhb Engineers Scientists Planners Designers

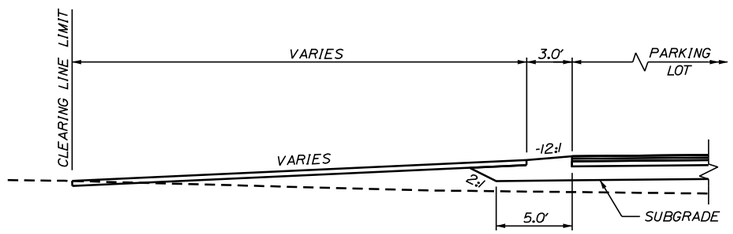
Frank M. Koczalka, P.E.
Consultant Engineer

DATE 05-01-2015

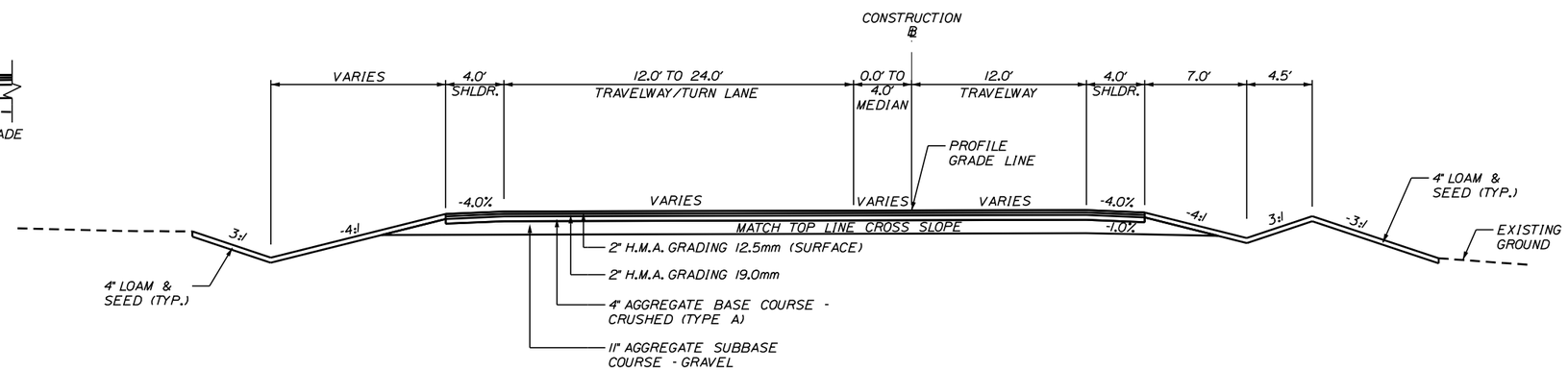
Filename: ...\Highway\MSTA\001_Title_PNR.dgn



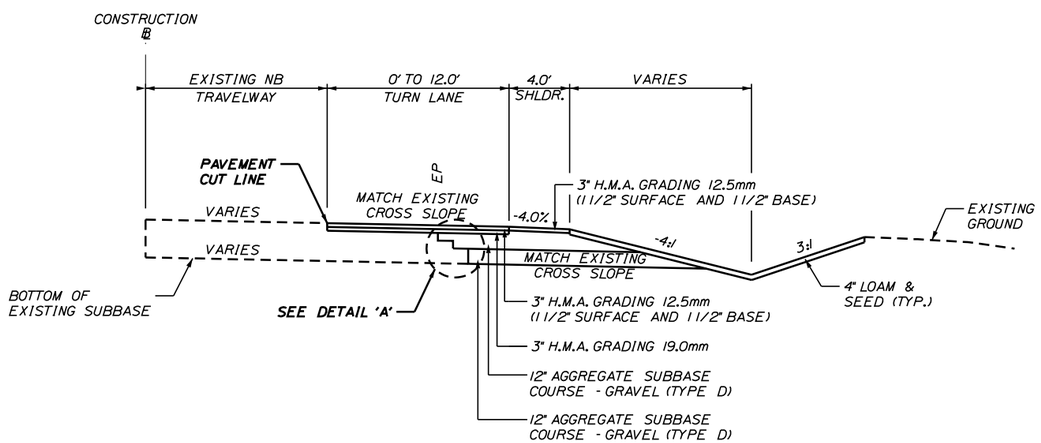
PARK AND RIDE LOT



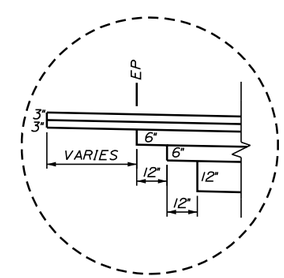
SLOPE GRADING DETAIL
STA. 21+00 TO STA. 21+90, LT
STA. 12+00 TO STA. 13+50, RT



PARK AND RIDE DRIVE



ROUTE 26A (GRAY BYPASS)
STA. 712+55 TO STA. 713+45



DETAIL 'A'

NOTES:

1. THE PAVEMENT, BASE AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.
2. WHEN SUPERELEVATION EXCEEDS THE SLOPE OF THE LOW SIDE SHOULDER, THE LOW SIDE SHOULDER SHALL HAVE THE SAME SLOPE AS THE TRAVELWAY.
3. CROWNS FOR BOTH NORMAL AND SUPERELEVATION SECTIONS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT.
4. THE SUBBASE QUANTITY CALCULATION IS BASED ON A 4" LOAM DEPTH. THE ACTUAL DEPTH MAY VARY. SEE THE GENERAL NOTES.
5. THE ALGEBRAIC DIFFERENCE BETWEEN THE SHOULDER AND TRAVELWAY CROSS SLOPES "ROLLOVER" SHALL NOT EXCEED 8%.
6. THE STATIONING SHOWN UNDER EACH TYPICAL IS APPROXIMATE.
7. ITEM 203.25 - GRANULAR BORROW (FOR UNDERWATER BACKFILL) TO BE USED FOR COMMON BORROW AT THE PARK AND RIDE DRIVE AND LOT.
8. ITEM 203.24 - COMMON BORROW TO BE USED AT THE ROUTE 26A WIDENING.

Scale:

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

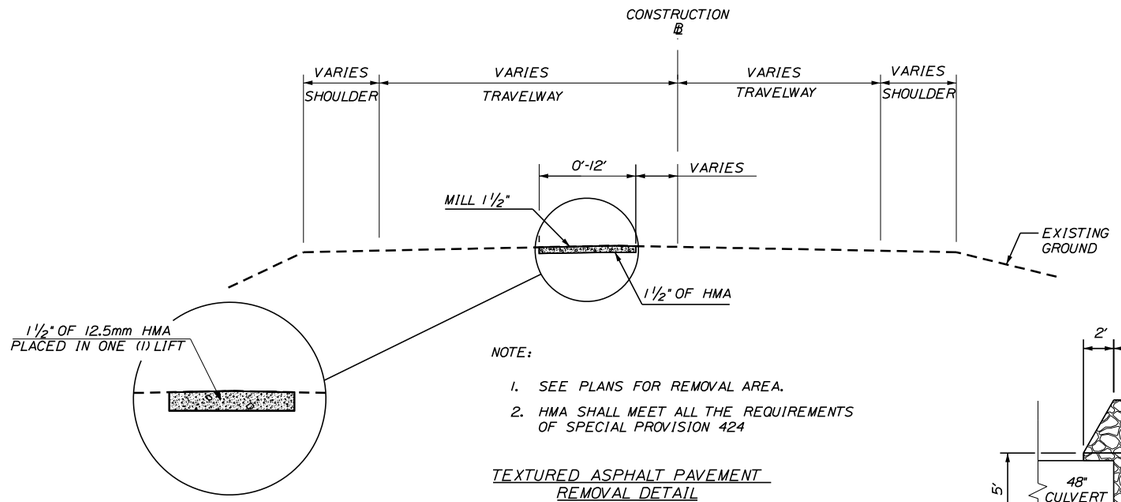
GRAY PARK AND RIDE
(EXIT 63)

TYPICAL SECTIONS

SHEET NUMBER: 02

CONTRACT:2015.14

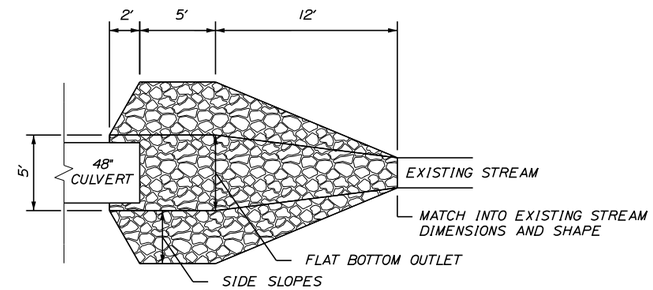
Date:5/4/2015
Filename: ...\MSTA\002_Typicals_PNR.dgn



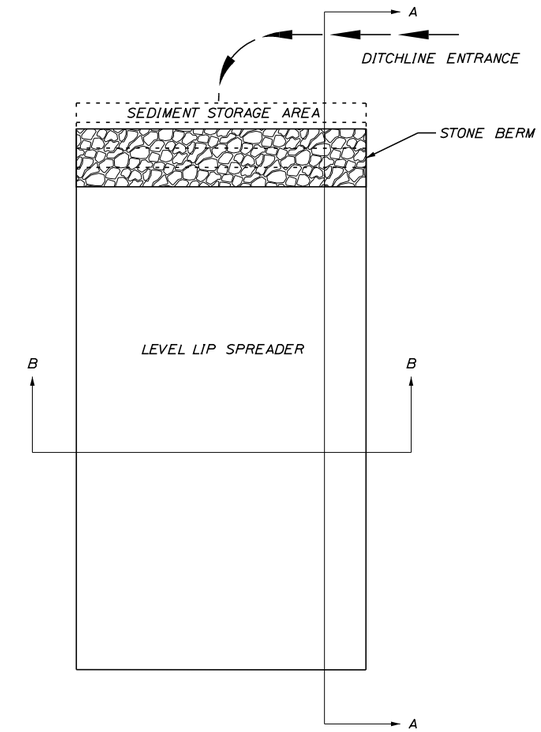
NOTE:

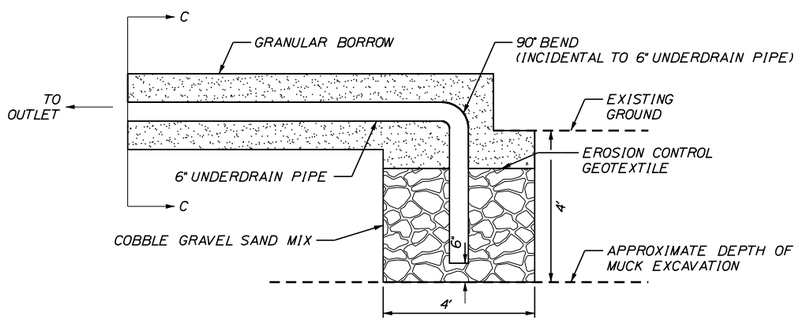
1. SEE PLANS FOR REMOVAL AREA.
2. HMA SHALL MEET ALL THE REQUIREMENTS OF SPECIAL PROVISION 424

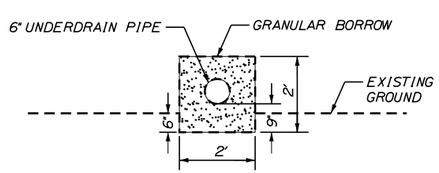
TEXTURED ASPHALT PAVEMENT REMOVAL DETAIL



OUTLET CHANNEL DETAIL #1

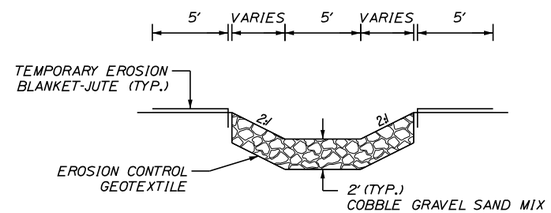






SECTION C-C

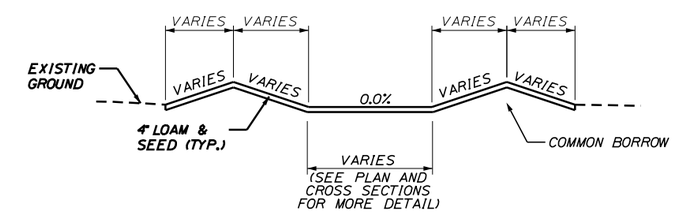
UNDERDRAIN DETAIL



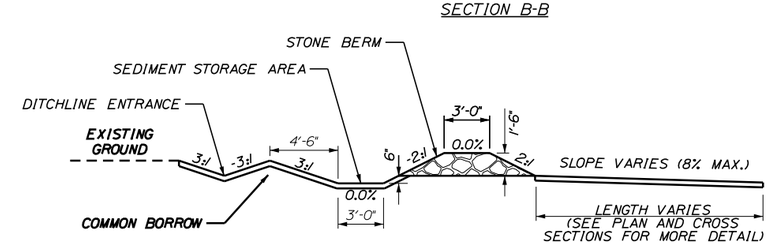
NOTE:

1. THIS DETAIL ILLUSTRATES THE PROPOSED CROSS SECTION AT THE END OF THE 48" CULVERT.
2. THE WIDTH OF THE OUTLET CHANNEL IS TO BE NARROWED TO MATCH EXISTING WIDTH BY THE LIMIT OF WORK.
3. THE SIDE SLOPES OF THE OUTLET CHANNEL ARE TO BE STEEPENED TO MATCH EXISTING WIDTH BY THE LIMIT OF WORK.

OUTLET CHANNEL DETAIL #2



SECTION B-B



SECTION A-A

LEVEL LIP SPREADER DETAIL

Date:5/4/2015

Filename: ...\MSTA\003_Details_PNR.dgn

Scale:

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

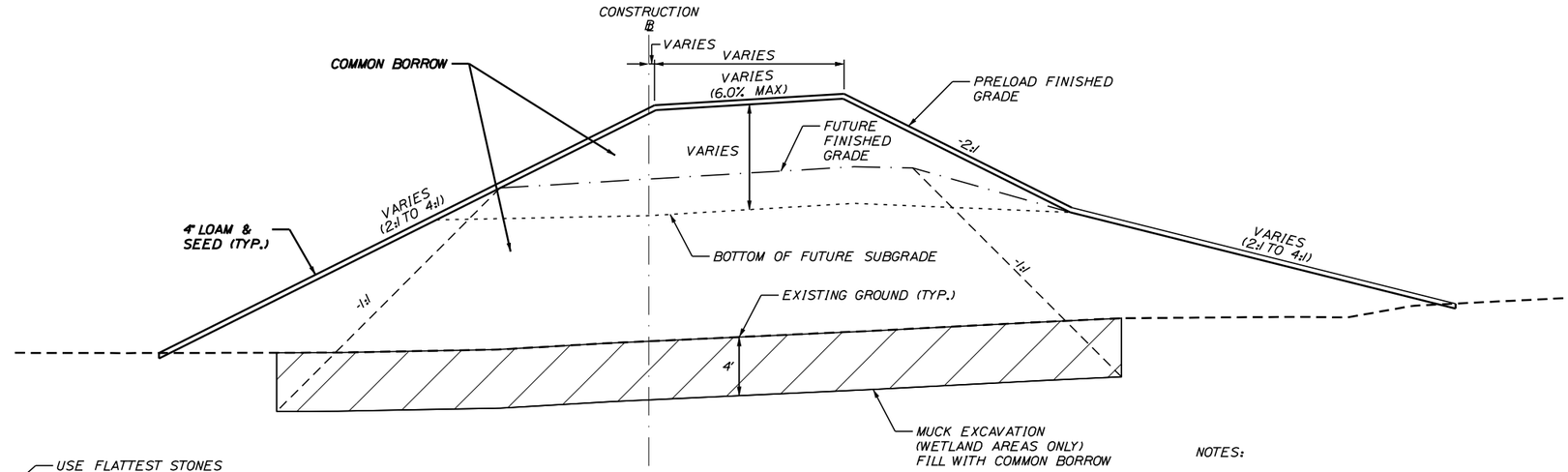
MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE (EXIT 63)

DETAILS

SHEET NUMBER: 03

CONTRACT:2015.14

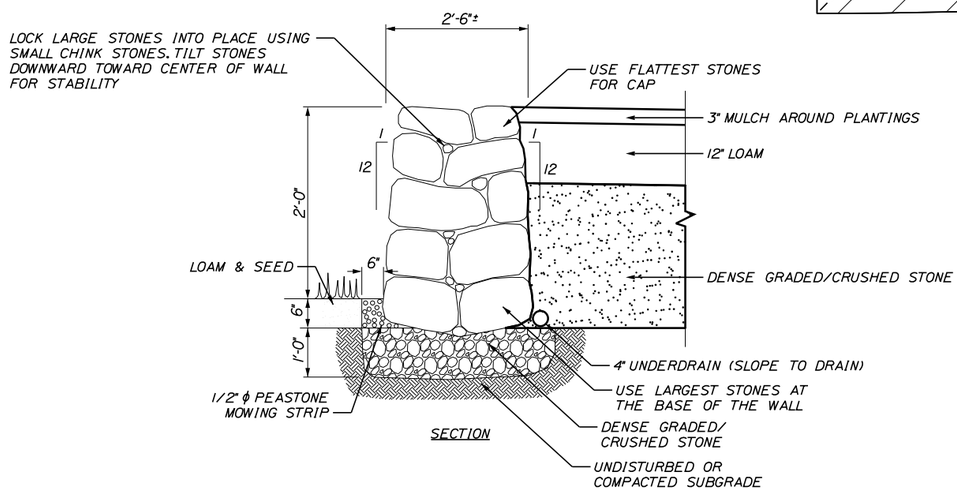


PRELOAD TYPICAL

NOTES:

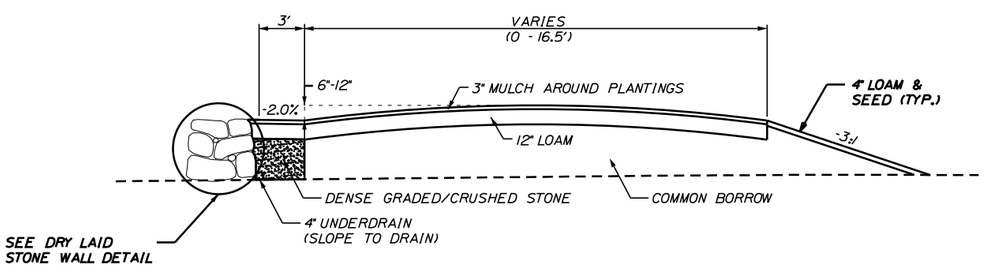
1. MUCK EXCAVATION LIMITS ARE APPROXIMATE AND ARE TO BE DETERMINED BASED ON ACTUAL FIELD CONDITIONS. MUCK EXCAVATION IS NOT REQUIRED OUTSIDE OF THE 1:1 SLOPE LIMITS.

2. THE COMMON BORROW TO BE PLACED WITHIN PRE-LOAD AREA #1 BETWEEN STATIONS 121+50 - 122+75 (SB ON RAMP) AND STATIONS 207+10 - 208+35 (SB OFF RAMP) SHALL BE FREE OF BOULDERS, LEDGE, AND OTHER ACCEPTABLE OBJECTS GREATER THAN 6" IN DIAMETER.

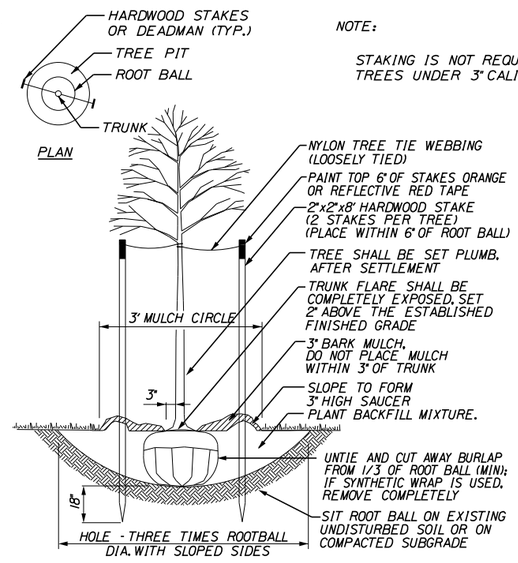


SECTION

DRY LAID STONE WALL DETAIL



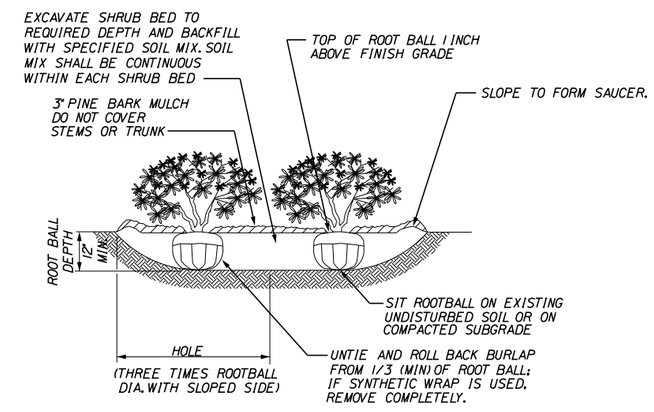
DRY LAID STONE WALL PLANTER DETAIL



NOTE:

STAKING IS NOT REQUIRED FOR TREES UNDER 3" CALIPER.

TREE PLANTING (FOR TREES UNDER 4" CALIPER)



NOTE:

LOOSEN ROOTS AT THE OUTER EDGE OF ROOTBALL OF CONTAINER GROWN SHRUBS.

SHRUB BED PLANTING

Date:5/4/2015

Filename: ...\MSTA\003_Details_PNR.dgn

Scale:

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE (EXIT 63)

DETAILS

SHEET NUMBER: 04

CONTRACT:2015.14

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.202	Removing Pavement Surface	125	SY
203.20	Common Excavation	9500	CY
203.24	Common Borrow	68700	CY
203.25	Granular Borrow (for Underwater Backfill)	4000	CY
304.09	Aggregate Base Course - Crushed	800	CY
304.10	Aggregate Subbase Course - Gravel	2350	CY
403.207	Hot Mix Asphalt, 19.0 mm HMA	690	TON
403.208	Hot Mix Asphalt, 12.5 mm, HMA Surface	675	TON
403.213	Hot Mix Asphalt, 12.5 mm, Base	30	TON
409.15	Bituminous Tack Coat, Applied	200	GAL
419.30	Sawing Bituminous Pavement	270	LF
527.342	Work Zone Crash Cushions - TL-2	1	UNIT
603.19	24" Culvert Pipe Opt I	90	LF
603.191	24" Corrugated Metal Pipe	88	LF
603.231	48" Corrugated Metal Pipe	170	LF
605.09	6" Underdrain Type B	65	LF
606.3605	Guardrail - Remove, Modify and Reset, Single Rail	250	LF
610.08	Plain Riprap	14	CY
610.18	Stone Ditch Protection	60	CY
610.19	Cobble Gravel Sand Mix	20	CY
613.3191	Temporary Erosion Blanket - Jute	30	SY
614.1	Bike Rack	1	UNIT
614.2	Dry Laid Stone Wall	30	LF
615.07	Loam	2560	CY
618.1401	Seeding Method Number 2, Plan Quantity	136	UNIT
618.1411	Seeding Method Number 3, Plan Quantity	63	UNIT
619.1201	Mulch - Plan Quantity	200	UNIT
619.1202	Temporary Mulch	1	LS
620.58	Erosion Control Geotextile	230	SY
621.144	Sm Decid Tr (2"-2.50" Cal) Gp A	6	EA
621.158	Flowering Crab (2"-2.50" Cal)	6	EA
621.286	Lg Decid Tr (3"-3.50" Cal) Gp B	11	EA
621.385	Evergreen Shrubs 6" - 8" Group A	31	EA
621.536	Decid Shrubs (12"-18") Gp B	18	EA
621.80	Establishment Period	1	LS
626.21	Metallic Conduit	40	LF
626.22	Non-Metallic Conduit	1800	LF
626.33	30" Foundation	7	EA
626.35	Controller Cabinet Foundation	2	EA
627.18	12" Solid White Pavement Marking	35	LF
627.733	4" White or Yellow Painted Pavement Marking Line	4200	LF
627.75	White or Yellow Pavement and Curb Marking	95	SF
627.77	Removing Existing Pavement Markings	70	SF
629.05	Hand Labor, Straight Time	40	HR
629.26	Instrumentation	1	LS
631.12	All-Purpose Excavator (Including Operator)	20	HR
631.14	Grader (Including Operator)	20	HR
631.171	Truck - Small (Including Operator)	20	HR
631.22	Front End Loader (Including Operator)	40	HR
634.160	Highway Lighting	1	LS
634.2041	Luminaires - LED	7	EA
634.210	Conventional Light Standard	7	EA
645.109	Remove and Reset Sign	3	EA
645.252	Signs Type 1 - Supplied by Authority	1	LS
645.30	Flashing Arrow	1	EA
652.33	Drums	165	EA
652.34	Cones	25	EA
652.35	Construction Signs	618	SF
652.361	Maintenance of Traffic Control Devices	1	LS
652.41	Portable Changeable Message Sign	2	EA
656.5	Baled Hay, In Place	190	EA
656.632	30 Inch Temporary Silt Fence	4050	LF
659.10	Mobilization	1	LS

COMMON EXCAVATION FOR ESTIMATE

COMMON EXCAVATION (FROM CROSS SECTIONS)	2,476			
GRUBBING IN FILL	2,067			
MUCK EXCAVATION	4,916			
TOTAL COMMON EXCAVATION			9,459	
ITEM 203.20 COMMON EXCAVATION		**SAY**	**9,500**	**CY**

FILL FOR BORROW CALCULATIONS

COMMON FILL (FROM CROSS SECTIONS)	66,805	
GRUBBING IN FILL	2,067	
MUCK EXCAVATION	4,916	
TOTAL FILL		73,788

ROCK EXCAVATION FOR ESTIMATE

ROCK EXCAVATION (FROM CROSS SECTIONS)	0	
TOTAL ROCK EXCAVATION		0

UNCLASSIFIED EXCAVATION FOR ESTIMATE

TOTAL COMMON EXCAVATION	9,459	
TOTAL ROCK EXCAVATION	0	
TOTAL UNCLASSIFIED EXCAVATION		9,459

AVAILABLE COMMON EXCAVATION FOR BORROW CALCULATIONS

(1) TOTAL COMMON EXCAVATION		9,459
DEDUCTIONS:		
GRUBBING IN CUT	1,177	
GRUBBING IN FILL	2,067	
MUCK EXCAVATION	4,916	
(2) TOTAL DEDUCTIONS		8,160
TOTAL AVAILABLE COMMON EXCAVATION (1) MINUS (2)		1,299
TOTAL AVAILABLE STRUCT. EXCAVATIONS (USUALLY UNDERDRAIN ONLY)		
TOTAL AVAILABLE NON-ROCK EXCAVATION		1,299

COMPUTATION OF GRANULAR BORROW FOR ESTIMATE

GRANULAR BORROW (FOR UNDERWATER BACKFILL)	3,985			
GRANULAR BORROW =	3,985	x 1.00=	3,985	
ITEM 203.25 GRANULAR BORROW (FOR UNDERWATER BACKFILL)			**SAY** **4,000**	**CY**

COMPUTATION FOR COMMON BORROW FOR ESTIMATE

(3)TOTAL FILL				73,788
TOTAL AVAIL. NON-ROCK EXCAV.	1,299	x 0.85 =	1,104	
TOTAL AVAIL. ROCK EXCAV.	0	x 1.33 =	0	
TOTAL AVAIL. STR. ROCK EXCAV.	0	x 1.33 =	0	
(4)TOTAL AVAILABLE EXCAVATION			=	1,104
BORROW NEEDED = TOTAL FILL MINUS TOTAL AVAILABLE EXCAVATION				72,683
GRANULAR BORROW(FOR UNDERWATER BACKFILL)				3,985
TOTAL FILL MINUS REQUIRED GRAN. BORR. WITHIN FILL				68,698
COMMON BORROW =	68,698	x 1.00 =		68,698
ITEM 203.24 COMMON BORROW			**SAY**	**68,700** **CY**

Date:5/4/2015

Filename: ...\005_Earthwork_Summary_PNR.dgn

Scale:

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE (EXIT 63)

ESTIMATED QUANTITIES AND EARTHWORK SUMMARY

SHEET NUMBER: 05

CONTRACT:2015.14

GENERAL

1. All work shall conform to the 2002 Maine Department of Transportation Standard Specifications for Highway and Bridges, except as modified by Maine Turnpike Authority's General and Special Provisions.

2. All standard details shall be in conformance with the Maine Department of Transportation (MaineDOT) Standard Details Highway and Bridges, December 2002 and MaineDOT Best Management Practices for Erosion and Sediment Control latest revisions unless otherwise included in these plans.

3. No separate payment for superintendent or foreman will be made for the supervision of equipment being paid for under the equipment rental items.

4. All clearing has been completed under a previous Maine Turnpike Authority contract - 2014.02. Any additional clearing will be incidental to this contract.

5. Temporary concrete barrier will be supplied by the Maine Turnpike Authority.

6. Geotechnical information furnished or referred to in this plan set is for the use of the bidders and the contractor. No assurance is given that the information or interpretations will be representative of actual subsurface conditions at the construction site. The Maine Turnpike Authority will not be responsible for the bidders' or contractor's interpretations of, or conclusions drawn from, the geotechnical information.

7. Contractor shall be responsible for maintenance of all existing traffic control devices and signs upon start of contract.

8. The survey is a combination of aerial and ground survey with the interface between the two types of survey bring blended. The contractor shall confirm actual elevations where the proposed work is matching into existing pavement surfaces.

UTILITIES

1. The utilities involved in this contract are as follows:

   Central Maine Power Co.
   Time Warner Cable

2. All utility facilities shall be adjusted by the respective utilities unless otherwise notes or planned.

3. 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 prior to the start of the work.

4. The contractor shall notify the resident 10 days prior to construction so the resident can arrange for Maine Turnpike Authority underground utility location. All proposed sign locations and excavation locations shall be marked at the notification time. Excavating will not be permitted until the Authority has located and marked its' underground utilities, or notified the resident there are no underground utilities in the marked areas.

PAVING

1. Where proposed pavement joins existing pavement, the existing pavement shall be saw cut along a smooth line to a neat, even, vertical joint, as directed by the resident. Broken or raveled edges shall not be permitted, all work necessary for the preparation of the joint shall be considered incidental to the related contact items.

2. All joints between existing and proposed hot bituminous pavement shall be butted. Payment shall be incidental to the related paving items.

3. Any necessary cleaning of existing pavement prior to paving shall be incidental to the related paving items.

EROSION CONTROL

1. The anticipated Erosion Control Devices are shown on the Disturbance Areas & Erosion Sediment Control Plans.

2. Loam shall be placed to a nominal depth of 4 inches in all areas unless otherwise noted or directed.

3. Loam has been estimated for 100% of the disturbed slope areas. Actual placement of the loam shall be as designated by the resident.

4. Unless otherwise noted Seeding Method No. 2 shall be utilized on slopes 3:1 or flatter. Seeding Method No. 3 shall be utilized on all steep slopes (greater than 3:1).

5. Refer to Section 105.8.2 Permit Requirements and Special Provision 656 Temporary Soil Erosion and Water Pollution Control for additional details regarding erosion control.

DRAINAGE

1. Unless otherwise noted the culvert sizes shown on the plans are for smoothlined pipe.

2. Inlets and outlets of all culverts shall be riprapped unless otherwise noted on the plans or directed by the resident.

3. The level lip spreaders shall conform to the Department of Environmental Protection's Stormwater Manual; Chapter 500.

LANDSCAPING

1. The proposed planting location of the trees at the intersection of Route 26 and Route 26A will be determined and coordinated with the resident and MTA representatives. The plantings will consist of 8 red maple trees.

2. The landscaping stone wall and sign in the front of the Park and Ride shall be located in coordination with the resident and MTA representatives.

FUTURE SB RAMP WORK

1. The muck excavation, common borrow, and preload are for future construction of the SB on and off ramps and the SB on ramp toll plaza.

2. This work is priority and shall be completed by July 31, 2015 as stipulated in the contract book.

3. MTA has material that is anticipated to meet the requirements for item 203.24 - Common Borrow in the Bennett Road pit. The contractor can utilize this material for construction purposes of the SB ramps work.

Date:5/4/2015

Filename: ...\MSTA\006_Gen_Notes_PNR.dgn

Scale:

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

Vanasse Hangen Brustlin, Inc.
550 Southborough Dr.
Suite 105B
South Portland, ME 04106
TEL (207) 889-3150
FAX (207) 253-5596

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

GENERAL NOTES

SHEET NUMBER: 06

CONTRACT:2015.14

TEMPORARY TRAFFIC CONTROL

CONSTRUCTION SIGN SUMMARY

Sign	Text Dimensions (Inches) Letter Height	Text Dimensions (Inches) Vertical Spacing	Size	Quantity and Color
CS-3 (EXPECT STOPPED TRAFFIC)	7" 7" 7"	4" 4"	48"x48"	2 - Black on Orange
G20-2 (END ROAD WORK)	Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		48"x24"	7 - Black on Orange
G20-5aP (WORK ZONE)			36"x24"	2 - Black on Orange
R2-1(50) (SPEED LIMIT 50)			48"x60"	2 - Black on White
R2-6aP (FINES DOUBLE)			36"x24"	2 - Black on White
R2-12 (END WORK ZONE SPEED LIMIT)			36"x54"	2 - Black on White
W3-4 (BE PREPARED TO STOP)			48"x48"	3 - Black on Orange
W3-5(50) (SPEED LIMIT 50)			48"x48"	2 - Black on Orange
W4-2(R)			48"x48"	2 - Black on Orange
W5-4 (RAMP NARROWS)			48"x48"	2 - Black on Orange
W11-10 (MOD) (TRUCKS ENTERING)	8" 8"	6"	48"x48"	2 - Black on Orange
W13-1P (25 MPH)	Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		30"x30"	2 - Black on Orange
W16-2P (500 FEET)			30"x24"	2 - Black on Orange

TEMPORARY TRAFFIC CONTROL

CONSTRUCTION SIGN SUMMARY

Sign	Text Dimensions (Inches) Letter Height	Text Dimensions (Inches) Vertical Spacing	Size	Quantity and Color
W20-1 (AHEAD) (ROAD WORK AHEAD)	Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		48"x48"	10 - Black on Orange
W20-1 (1 MILE) (ROAD WORK 1 MILE)			48"x48"	2 - Black on Orange
W20-5R (RIGHT LANE CLOSED ½ MILE)			48"x48"	2 - Black on Orange
W24-1			48"x48"	1 - Black on Orange

NOTE: ALL PERMANENT SIGNING WILL BE PROVIDED BY MAINE TURNPIKE AUTHORITY FOR THE CONTRACTOR TO INSTALL ON NEW SUPPORTS

Date:5/4/2015

Filename: ...\MSTA\007_SignSummary_PNR.dgn

Scale:

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	MS		Checked	MG	---
Drawn	JR		In Charge of	PC	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: R. NORWOOD

GRAY PARK AND RIDE (EXIT 63)

SIGN SUMMARIES

SHEET NUMBER: 07

CONTRACT:2015.14

TEMPORARY TRAFFIC CONTROL NOTES

1. This project includes five work areas:
   - Proposed entrance to the new park & ride lot at STA 713+91 along ME 26A;
   - Along the driveway to the existing park & Ride lot south of US Route 202;
   - Along the existing I-95 southbound off ramp near STA 215+50, Left;
   - Along I-95 southbound at the Bennett Road pit access road; and
   - At the intersection of ME 26 and ME 26A.

   The traffic control plans for each area are described below and shown on the following traffic control plans.

2. All traffic control equipment and devices shall conform to the latest edition of the Maine Department of Transportation (MaineDOT) Standard Specifications and applicable traffic control standards and practices of the Maine Turnpike Authority (MTA).

3. All traffic control equipment and layouts shall conform to the 2009 edition of the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), Chapter 6. All traffic control signs, sign support structures, channelizing devices, portable changeable message signs (PCMS), and other traffic control equipment along the roadside shall meet or exceed NCHRP 350 test level 3 (TL-3) requirements regardless of where implemented on the project.

4. All traffic control signs shall have ASTM 4956 Type IV, Type VIII or Type IX super high intensity or prismatic fluorescent retroreflective sheeting and shall be maintained in like-new condition. All orange construction signs shall be fluorescent orange with Type VIII, IX or XI sheeting. Placement of signs shall be adjusted to avoid obstructing existing signs and to ensure proper sight lines to the construction signs as determined by the Resident.

5. Any signs, equipment, or devices found to be damaged or unserviceable shall be replaced at the Contractor's expense.

6. All lane closures shall require approval of the Resident a minimum of two working days in advance of the lane closure.

TRAFFIC CONTROL PLAN AT ME 26A AND PROPOSED PARK & RIDE ENTRANCE

1. Drums shall close off the park & ride construction area from ME 26A. A minimum 14-foot travel lane shall be maintained at all times.

2. The drums identified for the paving in the median shall be in place only when work will occur in the median.

3. For construction on new park & ride driveway, Contractor may use W24-1 sign as part of traffic control when traffic is shifted to the median / left turn lanes for lateral buffer.

TRAFFIC CONTROL PLAN AT PRE-LOAD AREA #1 (AT EXISTING PARK & RIDE DRIVEWAY)

1. Contractor shall install a stone construction entrance along the edge of the existing park & ride driveway. The rest of the perimeter of the fill area along the park & ride driveway shall have temporary construction fencing. The costs associated with the construction entrance and construction fencing shall be paid for under Item 652.361 Maintenance of Traffic Control Devices.

TRAFFIC CONTROL PLAN AT PRE-LOAD AREA #2 (AT FUTURE SOUTHBOUND OFF-RAMP)

1. Contractor shall remove 250 LF of guardrail along the left side of the existing loop ramp from US 202 to I-95 southbound in the area of the Pre-Load Area construction. A temporary impact attenuator shall be installed that the remaining blunt end of guardrail.

2. Contractor shall install a stone construction entrance along the left edge of the existing loop ramp. The Contractor shall measure the distance from the temporary travel way to the slope break behind the guardrail to determine if there is a 24' wide clear zone with slopes 4:1 or flatter. If not, the Contractor shall coordinate with the Resident to provide a solution to meet the 24' width with slopes at 4:1 or flatter. All costs associated with the stone entrance and any slope modifications are incidental to item 652.361 Maintenance of Traffic Control Devices.

3. At the completion of the Pre-Load fill, the Contractor shall remove the temporary impact attenuator, replace the segment of removed guardrail, and restore ramps to pre-existing conditions

TRAFFIC CONTROL PLAN ALONG I-95 SOUTHBOUND AT BENNETT ROAD (GRAVEL PIT ACCESS)

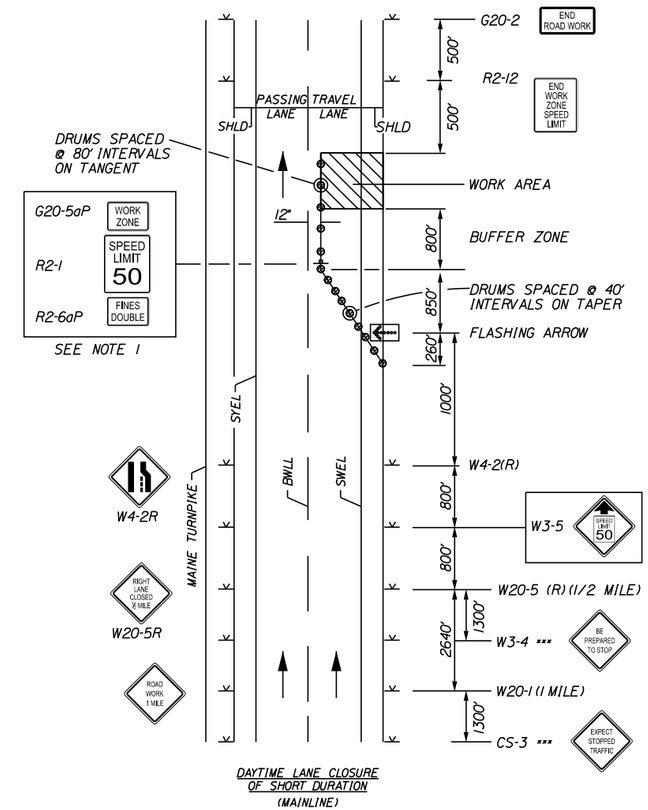
1. If the Bennett Road gravel pit will be used for the Pre-Load fill, and if the Contractor will use the gated access between Bennett Road and I-95 southbound at access I-95, the Contractor shall conform to the following traffic control requirements.

2. An MTA single lane closure shall be established for the right lane of I-95 southbound. The end of the lane closure taper shall be no closer to the Bennett Road overpass than 600 feet. A detail for a single lane closure is shown to the right.

3. The Contractor shall coordinate with MTA to activate the existing PCMS located to the north of the Bennett Road overpass when trucks are entering the roadway.

TRAFFIC CONTROL PLAN AT ME 26 AND ME 26A INTERSECTION (LANDSCAPE PLANTINGS)

1. Contractor shall provide traffic control signs and channelizing devices in accordance with MUTCD Typical Application #1 (TA-1), with a Road Work Ahead sign for each approach to the intersection.



DAYTIME LANE CLOSURE OF SHORT DURATION
(MAINLINE)

SINGLE LANE CLOSURE SIGNS ON EASELS

(TYPICAL FOR I-95 SB AT BENNETT ROAD)

1. For easel set up only, this sign is not bracketed. One sign assembly is placed at the end of the taper. signs may be split onto two easels.

Date:5/4/2015

Filename: ...\MSTA\008_TCPPlan1_PNR.dgn

Scale:

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	MS		Checked	MG	---
Drawn	JR		In Charge of	PC	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: R. NORWOOD

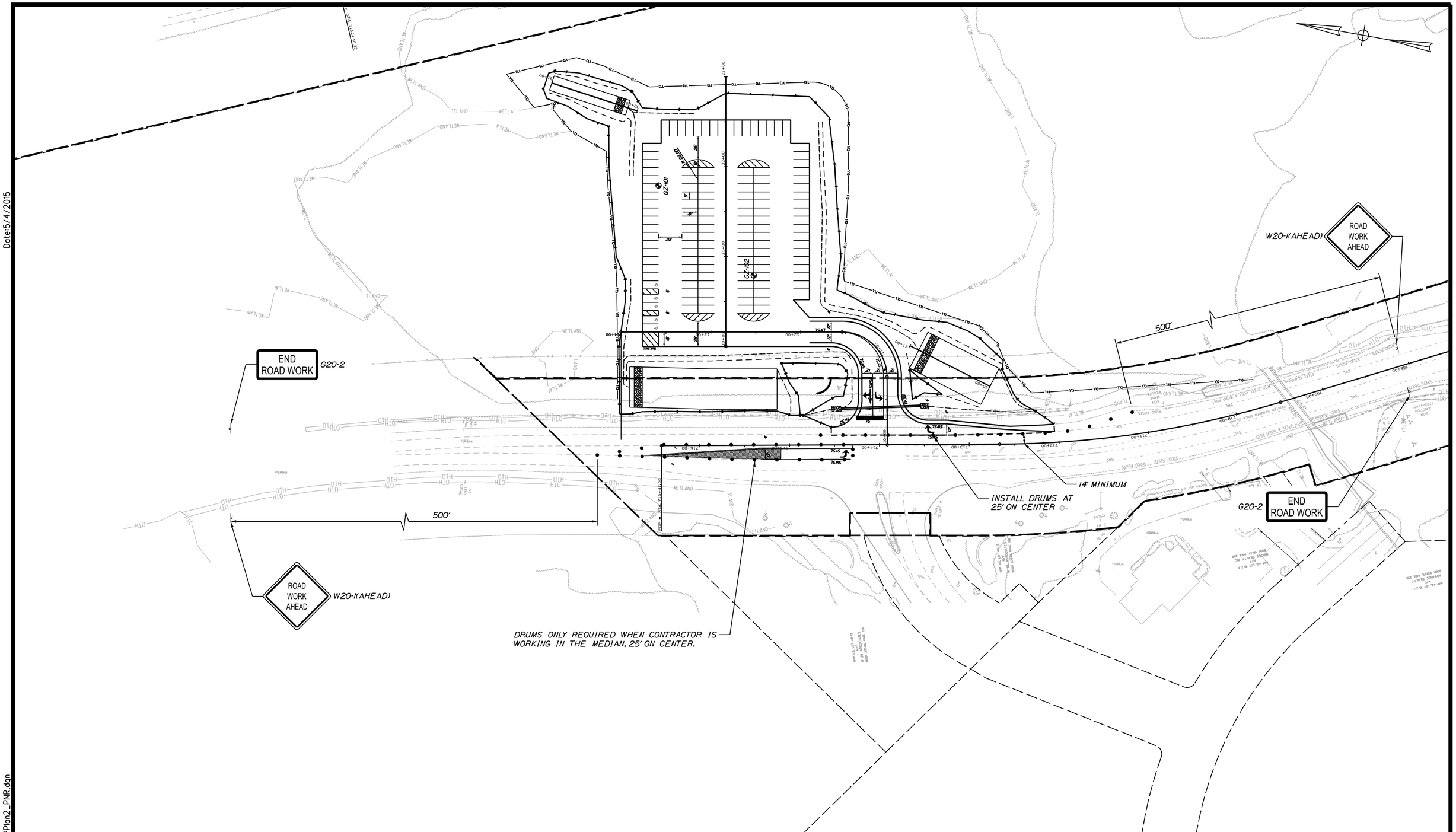
GRAY PARK AND RIDE
(EXIT 63)

MAINTENANCE OF TRAFFIC PLANS (1 OF 5)

SHEET NUMBER: 08

CONTRACT:2015.14

Date:5/4/2015



Scale:

50 0 50 100

Scale in Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	MS		Checked	MG	---
Drawn	JR		In Charge of	PC	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: R. NORWOOD

GRAY PARK AND RIDE
(EXIT 63)

MAINTENANCE OF TRAFFIC PLANS (2 OF 5)

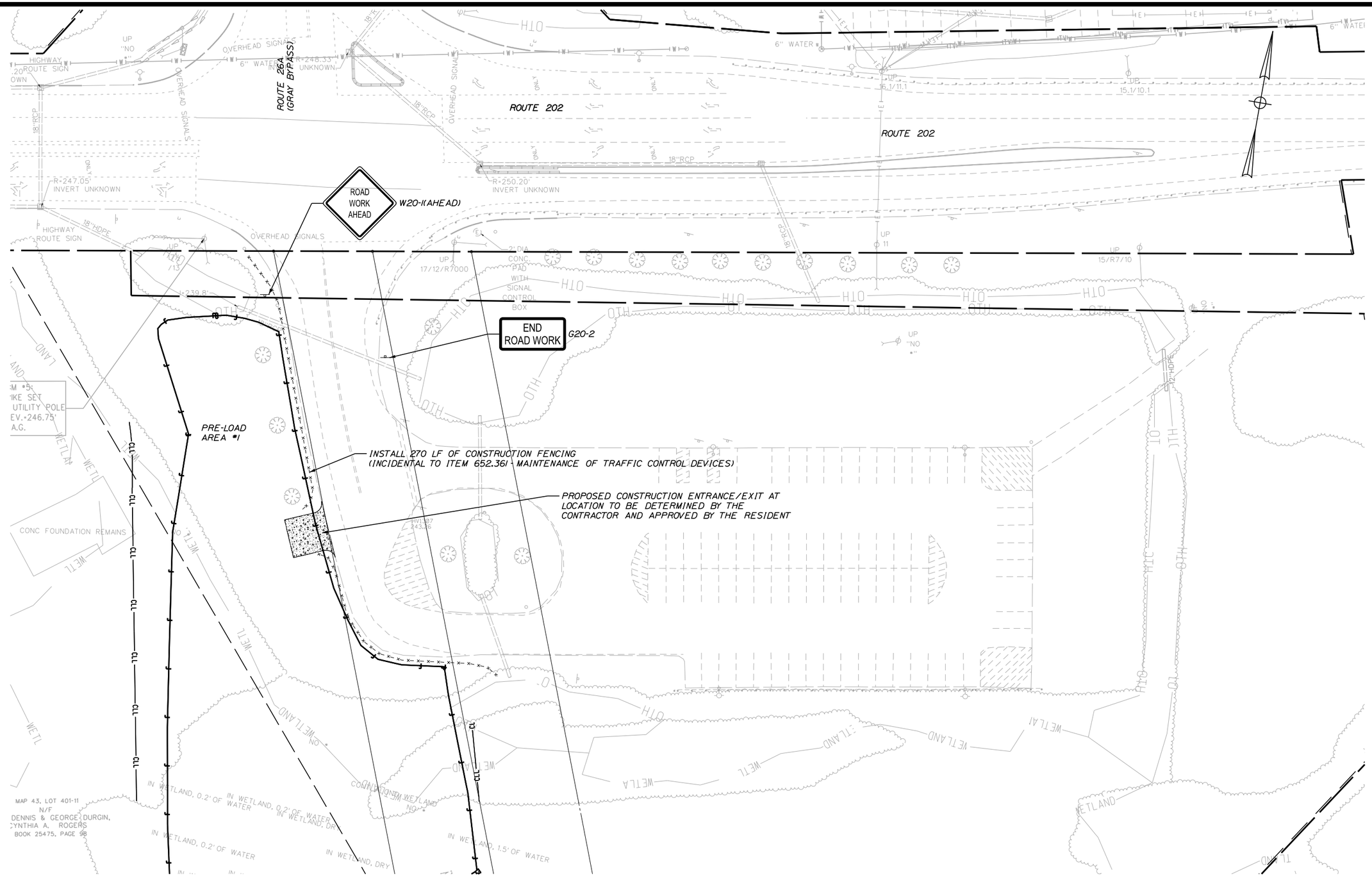
SHEET NUMBER: 09

CONTRACT:2015.14

09 OF 58

Filename: ...\MSTA\009_TCPPlan2_PNR.dgn

Date:5/4/2015



Filename: ...\MSTA\010_TCPPlan3_PNR.dgn

Scale: 25 0 25 50
Scale in Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	MS		Checked	MG	---
Drawn	JR		In Charge of	PC	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: R. NORWOOD

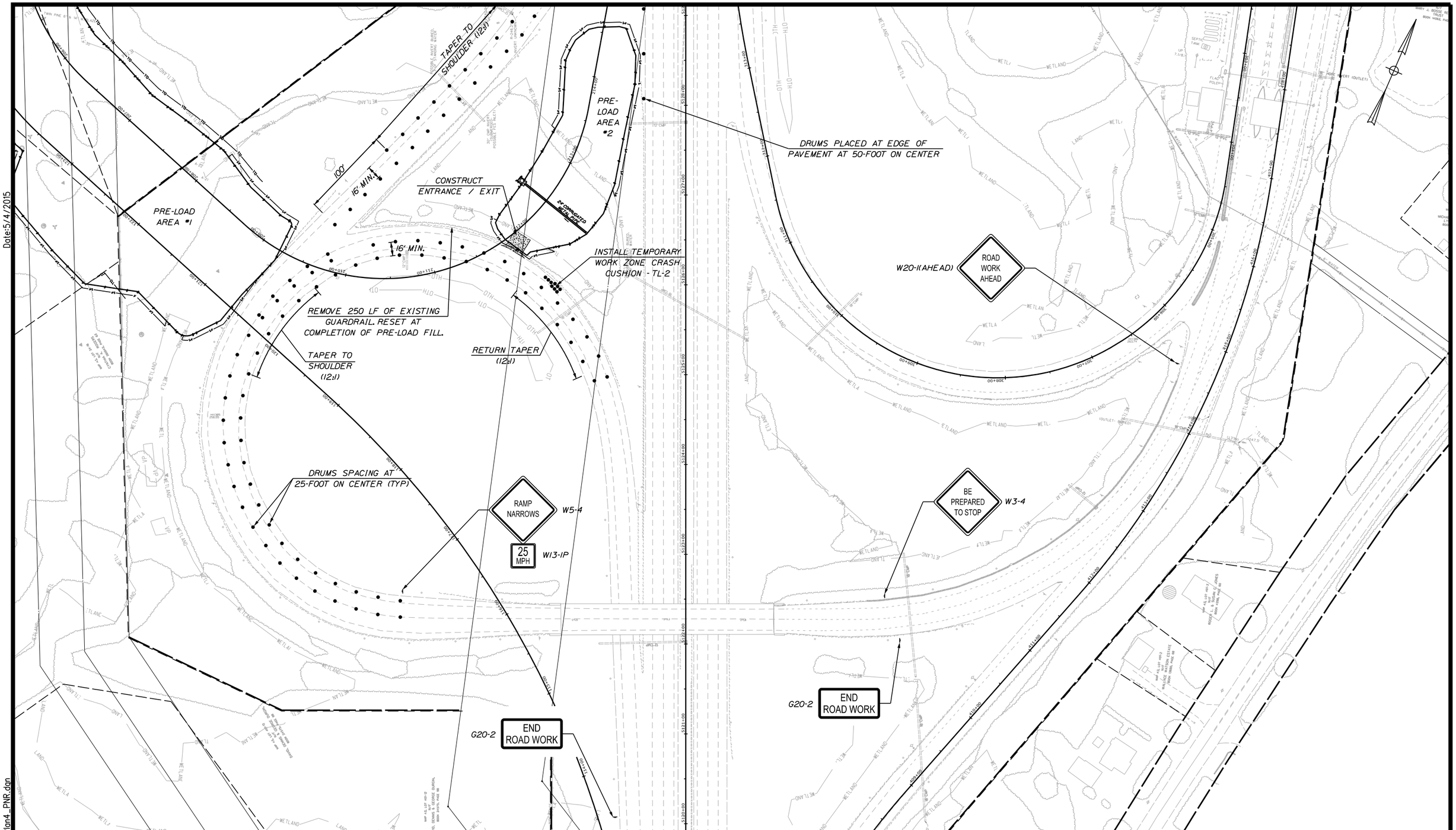
GRAY PARK AND RIDE
(EXIT 63)

MAINTENANCE OF TRAFFIC PLANS (3 OF 5)

SHEET NUMBER: 10

CONTRACT:2015.14

Date:5/4/2015



Filename: ...\MSTA\011_TCPPlan4_PNR.dgn

Scale: 50 0 50 100
Scale in Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	MS		Checked	MG	---
Drawn	JR		In Charge of	PC	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

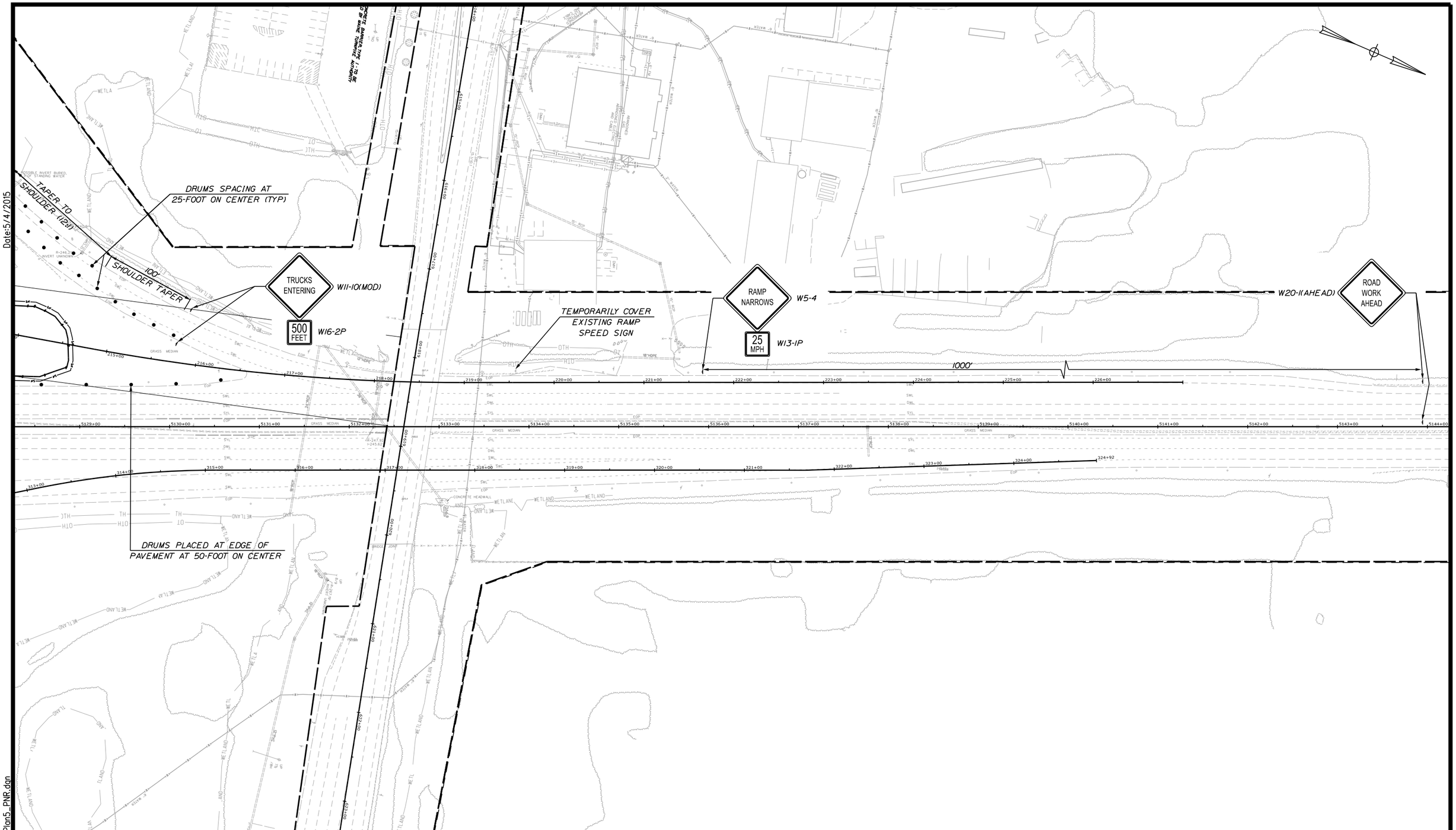
MTA PROJECT MANAGER: R. NORWOOD

GRAY PARK AND RIDE
(EXIT 63)

MAINTENANCE OF TRAFFIC PLANS (4 OF 5)

SHEET NUMBER: 11

CONTRACT:2015.14



Date:5/4/2015

Filename: ...\MSTA\012_TCPPlan5_PNR.dgn

Scale: 50 0 50 100

Scale in Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	MS		Checked	MG	---
Drawn	JR		In Charge of	PC	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: R. NORWOOD

GRAY PARK AND RIDE
(EXIT 63)

MAINTENANCE OF TRAFFIC PLANS (5 OF 5)

SHEET NUMBER: 12

CONTRACT:2015.14

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority
Exit 63
Gray, Maine

EXPLORATION NO.: GZ-101
SHEET: 1 of 1
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: HSA

Boring Location: See Plan
Ground Surface Elev. (ft.): 244
Final Boring Depth (ft.): 21
Date Start - Finish: 11/6/2014 - 11/6/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 2 1/4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
11/6/14	1410	8.0'	20 min

Depth (ft)	Casing Blows/ Core Rate	No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	14	1 1 7 10	8	S-1: Top 6": Topsoil. Bottom 8": Medium stiff, gray-brown, Clayey SILT, some fine to medium Sand. (ML)			0.5	TOPSOIL	243.5
		S-2	2.0-4.0	24	16	8 10 11 13	21	S-2: Very stiff, brown-gray, CLAY & SILT, trace Sand. (CL)				SILTY CLAY	
5		S-3	4.0-6.0	24	20	2 3 6 6	9	S-3: Stiff, gray and brown, Silty CLAY, little fine Sand. (CL)			6		238.0
10		S-4	9.0-11.0	24	20	1 1 2 2	3	S-4: Soft to medium stiff, gray, Silty CLAY, trace fine Sand. (CL)					
15		S-5	14.0-16.0	24	24	WOR		S-5: Soft to medium stiff, gray, Silty CLAY. (CL) Note: Approximately 1/8" seam of coarse to medium Sand at 15.0'.	1			SILTY CLAY	
20		S-6	19.0-21.0	24	3	WOR		S-6: Soft to medium stiff, gray, Silty CLAY, wet. (CL)					
								End of exploration at 21 feet.	2		21		223.0
25													
30													

REMARKS
1 - Soil appeared very wet at top of 14.0' sample.
2 - No refusal.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-101

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority
Exit 63
Gray, Maine

EXPLORATION NO.: GZ-102
SHEET: 1 of 3
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: HSA & Rod Probe

Boring Location: See Plan
Ground Surface Elev. (ft.): 242.5
Final Boring Depth (ft.): 82
Date Start - Finish: 11/6/2014 - 11/6/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 2 1/4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
11/6/14	1230	11.5'	20 min

Depth (ft)	Casing Blows/ Core Rate	No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	14	1 1 1 5	2	S-1: Top 6": Very loose, dark brown, fine to medium SAND and Clayey Silt, with organic material (roots). (SM) Bottom 8": Gray, Silty CLAY, trace fine Sand. (CL)			0.5	TOPSOIL	242.0
												SILTY CLAY	
5		S-2	4.0-6.0	24	18	7 7 9 11	16	S-2: Very stiff, gray, Silty CLAY, trace fine Sand. (CL)			6		236.5
10		S-3	9.0-11.0	24	20	1 1 2 1	3	S-3: Soft to medium stiff, gray, Silty CLAY, wet. (CL)					
15		S-4	14.0-16.0	24	24	1 1 WOH	1	S-4: Soft to medium stiff, gray, Silty CLAY, wet. (CL)					
												SILTY CLAY	
20		S-5	19.0-21.0	24	20	WOR		S-5: Soft to medium stiff, gray, Silty CLAY, wet. (CL)					
25		S-6	24.0-26.0	24	6	WOR		S-6: Soft to medium stiff, gray, Silty CLAY, wet. (CL)					
30		S-7	29.0-	24	10	WOR		S-7: Soft to medium stiff, gray, Silty CLAY, wet. (CL)					

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-102

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority
Exit 63
Gray, Maine

EXPLORATION NO.: GZ-102
SHEET: 2 of 3
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: HSA & Rod Probe

Boring Location: See Plan
Ground Surface Elev. (ft.): 242.5
Final Boring Depth (ft.): 82
Date Start - Finish: 11/6/2014 - 11/6/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 2 1/4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
11/6/14	1230	11.5'	20 min

Depth (ft)	Casing Blows/ Core Rate	No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
			31.0										
35		S-8	34.0-36.0	24	16	WOR		S-8: Soft to medium stiff, gray, Silty CLAY, wet. (CL)					
	WOR								1				
	WOR												
40	1 WOR												
	WOR												
	WOR												
	1												
45	1 WOR											SILTY CLAY	
	WOR												
	WOR												
50	WOR 1												
	1												
	2												
55	1												
	3												
	4												
	8												
	3												
	3												
	3												
60	3										60		182.5

REMARKS
1 - Began rod probe at 36.0' bgs. Blows per foot to drive AW rod are recorded on log under casing blows.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-102

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority
Exit 63
Gray, Maine

EXPLORATION NO.: GZ-102
SHEET: 3 of 3
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: HSA & Rod Probe

Boring Location: See Plan
Ground Surface Elev. (ft.): 242.5
Final Boring Depth (ft.): 82
Date Start - Finish: 11/6/2014 - 11/6/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 2 1/4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
11/6/14	1230	11.5'	20 min

Depth (ft)	Casing Blows/ Core Rate	No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
	28												
	11												
	8												
	9												
	13												
65	12												
	11												
	15												
	18												
70	15												
	13												
	15												
	13												
	13												
	16												
75	20												
	19												
	21												
	24												
80	24												
	20												
	37												
85													
90													

REMARKS
2 - No refusal.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-102

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority
Exit 63
Gray, Maine

EXPLORATION NO.: GZ-109
SHEET: 1 of 2
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: B. Cardali
Drilling Co.: New England Boring Contractors
Foreman: Rich Leonard

Type of Rig: ATV
Rig Model:
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 242
Final Boring Depth (ft.): 33
Date Start - Finish: 12/2/2014 - 12/2/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
NOT MEASURED			

Depth (ft)	Casing Blows/ Core Rate	No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	15	2 15 25 15	40	S-1: Top 6": Topsoil. Bottom 9": Dense, medium to coarse SAND and Gravel. (SP)			0.5	TOPSOIL	241.5
		S-2	2.0-4.0	24	17	11 14 13 11	27	S-2: Medium dense, gray, fine to medium SAND, trace Silt. (SP)				SAND	
5		S-3	4.0-6.0	24	24	5 7 8 10	15	S-3: Top 12": Medium dense, gray, fine to medium SAND, trace Silt. Bottom 12": Stiff, gray, Silty CLAY. (CL)			5		237.0
10		S-4	10.0-12.0	24	24	4 4 5 4	9	S-4: Stiff, gray, Silty CLAY. (CL)					
15		S-5	15.0-17.0	24	18	4 2 1 WOR	3	S-5: Soft to medium stiff, gray, Silty CLAY, some fine to medium Sand. (CL)				SILTY CLAY	
20		S-6	20.0-22.0	24	24	WOR/24"		S-6: Soft to medium stiff, gray, Silty CLAY. (CL)					
25		S-7	25.0-	24	24			S-7: Gray, Silty CLAY. (CL)					
		V-1	27.0	7				V-1: Field Vane, T_{max} = 70/30 in.-lbs (Su = 180/75 psf)					
		V-2	25.4-26.0	7				V-2: Field Vane, T_{max} = 290/55 in.-lbs (Su = 750/140 psf)	1		27		215.0
			26.4-27.0						2			POSSIBLE GLACIAL TILL	
30											29.5	WEATHERED ROCK	212.5

REMARKS
1 - Tapered vane with 2.5" diameter, 4.5" height and 45 degree taper was used for field vane tests. T_{max} = measured torque, Su = calculated undrained shear strength.
2 - Medium to coarse Sand with Gravel in tip of spoon.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-109

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority
Exit 63
Gray, Maine

EXPLORATION NO.: GZ-109
SHEET: 2 of 2
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: B. Cardali
Drilling Co.: New England Boring Contractors
Foreman: Rich Leonard

Type of Rig: ATV
Rig Model:
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 242
Final Boring Depth (ft.): 33
Date Start - Finish: 12/2/2014 - 12/2/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
NOT MEASURED			

Depth (ft)	Casing Blows/ Core Rate	No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
									3			WEATHERED ROCK	
									4		33		209.0
								End of exploration at 33 feet.					
35												POSSIBLE BEDROCK	
40													
45													
50													
55													
60													

REMARKS
3 - Possible weathered rock based on increased drilling resistance and observations of wash return.
4 - Roller bit refusal, possible top of bedrock.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-109

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority
Exit 63
Gray, Maine

EXPLORATION NO.: GZ-112
SHEET: 1 of 2
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 247.5
Final Boring Depth (ft.): 38.6
Date Start - Finish: 11/14/2014 - 11/14/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 3

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
11/14/14	0730	6.2'	0

Depth (ft)	Casing Blows/ Core Rate	No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	6	3 5 11 8	16	S-1: Medium dense, dark brown, fine SAND and Silt, trace roots and leaves. (SM)	1			TOPSOIL	
		S-2	2.0-4.0	24	10	6 7 10 12	17	S-2: Medium dense, brown, fine to coarse SAND and Gravel, trace Silt. (SP)	2		2		245.5
5		S-3	4.0-6.0	24	16	6 6 20 29	26	S-3: Medium dense, fine to coarse SAND and Gravel, trace Silt. (SP)				FILL	
10		S-4	6.0-8.0	24	6	36 19 10 7	29	S-4: Medium dense, brown, fine to coarse SAND, some Gravel, trace Silt. (SP)			6 / 6.5	241.5 / COBBLE / BOULDER FILL	241.0
		S-5	8.0-10.0	24	4	6 8 11 15	19	S-5: Very stiff, gray, CLAY & SILT, some fine to coarse Sand and Gravel. (CL)			8		239.5
		S-6	10.0-12.0	24	12	8 7 8 6	15	S-6: Stiff, gray, Silty CLAY, trace fine to medium Sand. (CL)					
		S-7	12.0-14.0	24	0	5 4 5 5	9	S-7: No recovery.					
15		S-8	14.0-16.0	24	12	6 5 5 4	10	S-8: Stiff, gray, Silty CLAY, trace Sand, trace Gravel. (CL)				SILTY CLAY	
		S-9	16.0-18.0	24	24	WOH/18", 1		S-9: Soft to medium stiff, gray, Silty CLAY. (CL)					
20		S-10	20.0-22.0	24	24	WOH		S-10: Very loose, gray, fine SAND and Clayey Silt. (SM)			20.5		227.0
									3			PROBABLE SAND OR GLACIAL TILL	
25													
	2												
30	12												

REMARKS
1 - Moved 15.0'-20.0' southwest of original location.
2 - Used Auto Hammer for boring, rope too icy.
3 - Begin rod at 22.0' bgs. Blows per foot to advance AW rod probe are recorded on log under casing blows column.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-112

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority
Exit 63
Gray, Maine

EXPLORATION NO.: GZ-112
SHEET: 2 of 2
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 247.5
Final Boring Depth (ft.): 38.6
Date Start - Finish: 11/14/2014 - 11/14/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 3

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
11/14/14	0730	6.2'	0

Depth (ft)	Casing Blows/ Core Rate	No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
	10												
	7												
	21												
	26												
	40												
35	54											PROBABLE SAND OR GLACIAL TILL	
	37												
	18												
	20												
	30/0"								4		38.6		208.9
40								End of exploration at 38.6 feet.					
45													
50													
55													
60													

REMARKS
4 - Rod probe refusal.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-112

Date:5/4/2015

Filename: ...\MSTA\013_Boring_Logs_PNR.dgn

Scale:

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

Vanasse Hangen Brustlin, Inc.
550 Southborough Dr.
Suite 105B
South Portland, ME 04106
TEL (207) 889-3150
FAX (207) 253-5596

MAINE TURNPIKE

MTA PROJECT MANAGER: ---

THE GOLD STAR MEMORIAL HIGHWAY

GRAY PARK AND RIDE
(EXIT 63)

BORING LOGS (1 OF 3)

SHEET NUMBER: 13

CONTRACT:2015.14

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority, Exit 63, Gray, Maine

EXPLORATION NO.: GZ-121
SHEET: 1 of 1
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: B. Cardali
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 251
Final Boring Depth (ft.): 12
Date Start - Finish: 12/2/2014 - 12/2/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
12/5/14	1240	Dry	3 days

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description Modified Burmister	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	12	2 2 3 6	5	S-1 : Topsoil.	1		0.3	TOPSOIL	250.7
		S-2	2.0-4.0	24	18	6 8 8 8	16	S-2 : Very stiff, gray, Silty CLAY, some fine to medium Sand. (CL)			2.5	TOPSOIL	248.5
5		S-3	4.0-6.0	24	24	10 13 16 16	29	S-3 : Very stiff, gray, Silty CLAY, trace fine to medium Sand. (CL)				SILTY CLAY	
10		S-4	10.0-12.0	24	20	6 23 44 42	67	S-4 : Top 14": Dense, brown, fine to medium SAND and Gravel, trace Silt. (SM) Bottom 6": Rock fragments.			10		241.0
								End of exploration at 12 feet.			11.7	GLACIAL TILL	239.3
											12	POSSIBLE BOULDER OR WEATHERED ROCK	239.0
15													
20													
25													
30													

Equipment Installed: Stand Pipe (0), Filter Sand (10')

REMARKS: 1 - Top of Well Standpipe is 2.6' above ground surface. Top of PVC well riser is 2.1' above ground surface.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-121

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority, Exit 63, Gray, Maine

EXPLORATION NO.: GZ-122
SHEET: 1 of 2
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: SSA/Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 241.5
Final Boring Depth (ft.): 39.5
Date Start - Finish: 11/11/2014 - 11/11/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 3

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size: NX

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
11/11/14		4.5'	0

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	12	1 1 2 6	3	S-1: Very loose, brown, fine SAND, little Silt, trace roots. (SM)			0.2	TOPSOIL	241.3
		S-2	2.0-4.0	24	17	6 9 9 7	18	S-2: Medium dense, brown and gray, fine SAND, little Silt. (SM)				SAND	
5		S-3	4.0-6.0	24	15	6 6 7 4	13	S-3: Stiff, brown, SILT, some fine Sand. (ML)			4		237.5
												SILT	
											8		233.5
10		S-4	10.0-12.0	24	10	7 5 8 11	13	S-4: Medium dense, gray, fine to coarse SAND, some Gravel, little Silt. (SM)					
15		S-5	15.0-17.0	24	8	30 13 9 10	22	S-5: Medium dense, gray, fine to coarse SAND, some Gravel, little Silt. (SM)				GLACIAL TILL	
20		S-6	20.0-22.0	24	3	22 21 17 16	38	S-6: Dense, black and gray, GRAVEL, some coarse Sand, little Silt. (GM)			20		221.5
												POSSIBLE WEATHERED ROCK	
25		S-7	25.0-26.3	15	10	34 91 100/3"	R	S-7: Very dense, gray-brown, GRAVEL and fine to coarse Sand, little Silt. (Weathered Rock) (GP-GM)			26.3		215.2
	55 54 55 58	C-1	26.5-31.5	60	50	RQD = 58%		C-1: Gray, medium to hard, slightly weathered, fine grained, GRANITE. Joints are very close to moderately close, moderately dipping, undulating, rough, discolored, moderately open.		1		BEDROCK	
30													

REMARKS: 1 - Advanced casing to 26.5' bgs and began coring.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-122

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority, Exit 63, Gray, Maine

EXPLORATION NO.: GZ-122
SHEET: 2 of 2
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: SSA/Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 241.5
Final Boring Depth (ft.): 39.5
Date Start - Finish: 11/11/2014 - 11/11/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 3

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size: NX

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
11/11/14		4.5'	0

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
35	49 10 62 50 42 47 46 47	C-2	31.5-34.5	36	30.5	RQD = 17%		C-2: Gray, medium to hard, slightly weathered, fine grained, GRANITE. Joints are very close to close, moderately dipping, undulating, rough, discolored, partially open to open.				BEDROCK	
		C-3	34.5-39.5	60	60	RQD = 85%		C-3: Gray, hard, slightly weathered, fine grained, GRANITE. Joints are close to wide, moderately dipping, undulating, rough, discolored, partially open.			39.5		202.0
40								End of exploration at 39.5 feet.					
45													
50													
55													
60													

REMARKS:

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-122

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority, Exit 63, Gray, Maine

EXPLORATION NO.: GZ-123
SHEET: 1 of 1
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: HSA

Boring Location: See Plan
Ground Surface Elev. (ft.): 245
Final Boring Depth (ft.): 10
Date Start - Finish: 11/11/2014 - 11/11/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 2 1/4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
11/11/14	0700	6.7'	0

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	13	1 1 3 8	4	S-1: Loose, brown and gray, fine to medium SAND, little Silt, trace Gravel, with roots in top 4". (SM)			0.3	TOPSOIL	244.7
		S-2	2.0-3.3	15	12	11 44 50/3"	R	S-2: Very dense, gray, fine to medium SAND, some Gravel, little Silt. (SM)				GLACIAL TILL	
5		S-3	4.0-6.0	24	15	28 22 22 35	44	S-3: Dense, brown and gray, fine to coarse SAND and Gravel, trace Silt. (SM)			8		237.0
											1 2	POSSIBLE BOULDER OR BEDROCK	
10								End of exploration at 10 feet.			10		235.0
15													
20													
25													
30													

REMARKS: 1 - Advanced roller bit through increased resistance from 8.0'-10.0' bgs (possible boulder or bedrock). 2 - Auger refusal.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-123

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority, Exit 63, Gray, Maine

EXPLORATION NO.: GZ-124
SHEET: 1 of 1
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 246.5
Final Boring Depth (ft.): 26.7
Date Start - Finish: 11/11/2014 - 11/11/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size: NX

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
11/11/14	0640	8.3'	12 hrs

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	6	1 1 1 1	2	S-1: Very loose, dark brown, fine to medium SAND, little Silt, trace roots. (SM)			0.3	TOPSOIL	246.2
		S-2	2.0-4.0	24	19	1 2 3 7	5	S-2: Loose, brown, fine SAND and Silty Clay. (SM)				SAND	
5		S-3	4.0-6.0	24	18	5 5 8 10	13	S-3: Stiff, gray/brown, CLAY & SILT, trace fine Sand. (CL)			4		242.5
												SILTY CLAY	
10	17 27 83 65 84	S-4	10.0-12.0	24	10	15 20 29 24	49	S-4: Top 12": Very stiff, gray, Silty CLAY and fine to coarse SAND, little Gravel. (CL) Bottom 12": Very dense, gray to black, fine to coarse SAND and Gravel, little Silt. (SM)			11		235.5
												GLACIAL TILL	
15		S-5	15.0-17.0	24	12	16 25 37 33	62	S-5: Very dense, gray-brown, GRAVEL and fine to coarse Sand, some Silt. (Weathered Rock) (GM)			15		231.5
												WEATHERED ROCK	
20		S-6	20.0-21.2	14	8	49 62 53/2"	R	S-6: Very dense, gray, fine to coarse SAND, some Gravel, little Silt. (Weathered Rock) Split spoon refusal. (SM)			21.2		225.3
		C-1	21.7-26.7	60	56	RQD = 68%		C-1: Gray, moderately hard to hard, fresh, medium grained GRANITE. Joints are fresh, high angle.				BEDROCK	
25													
								End of exploration at 26.7 feet.			26.7		219.8
30													

REMARKS:

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-124

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority, Exit 63, Gray, Maine

EXPLORATION NO.: GZ-125
SHEET: 1 of 1
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 248
Final Boring Depth (ft.): 25.7
Date Start - Finish: 11/11/2014 - 11/11/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
11/11/14	1600	8.8'	50 min

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	15	1 1 1 1	2	S-1: Very loose, brown, fine to medium SAND and Silt, trace roots. (SM)			0.2	TOPSOIL	247.8
		S-2	2.0-4.0	24	17	3 7 5 4	12	S-2: Medium dense, brown, fine to medium SAND, some Silt. (SM)				SAND	
5		S-3	4.0-6.0	24	18	3 6 6 6	12	S-3: Stiff, gray, Silty CLAY, little fine Sand. (CL)			4		244.0
												SILTY CLAY	
10		S-4	10.0-11.2	14	10	37 25 50/2"	R	S-4: Very dense, gray and brown, fine to coarse SAND, some Silt, some Gravel. (SM)			10		238.0
15	78 72 43 81 80	S-5	15.0-17.0	24	12	16 21 23 18	44	S-5: Dense, gray and brown, fine to coarse SAND, some Gravel, some Silt. (SM)				GLACIAL TILL	
20	56 59 20 77 71	S-6	20.0-22.0	24	9	17 12 14 15	26	S-6: Medium dense, gray, fine to coarse SAND, some Gravel, little Silt. (SM)					
25		S-7	25.0-25.7	8	4	24 50/2"	R	S-7: Dense, gray, fine to medium SAND and Gravel, little Silt. Split spoon refusal. (SM)			25.7		222.3
								End of exploration at 25.7 feet.					
30													

REMARKS:

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-125

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority, Exit 63, Gray, Maine

EXPLORATION NO.: GZ-126
SHEET: 1 of 1
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 246.5
Final Boring Depth (ft.): 19.5
Date Start - Finish: 11/10/2014 - 11/10/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
11/10/14		8.2'	0

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	10	1 1 1 5	2	S-1: Top 6": Topsoil. Bottom 4": Loose, brown, fine SAND, some Silt, trace roots, leaves. (SM)			0.5	TOPSOIL	246.0
		S-2	2.0-4.0	24	14	4 10 12 12	22	S-2: Dense, brown, fine SAND, little Silt (seams, lenses). (SM)				SAND	
5		S-3	4.0-6.0	24	18	7 6 8 8	14	S-3: Stiff, gray-brown, CLAY & SILT, trace fine Sand. (CL)			4		242.5
												CLAY & SILT	
10	10 20 67 40 59/6"	S-4	10.0-12.0	24	12	WOH 1 1 8	2	S-4: Soft to medium stiff, gray-brown, CLAY & SILT, little fine Sand. (CL)		1	11.5		235.0
15		S-5	15.0-17.0	24	10	11 9 9 17	18	S-5: Medium dense, gray, fine to medium SAND, some Gravel, little Silt. (SM)				GLACIAL TILL	
	30/1"									2 3			
20								End of exploration at 19.5 feet.			19.5		227.0
25													
30													

REMARKS: 1 - Top of Glacial Till strata inferred from drilling behavior and observations of washwater. Coarse Sand to fine Gravel encountered at 11.5', mixed with Clay & Silt. 2 - Advanced roller bit from 18.2'-19.5' bgs with significant resistance (possible weathered rock). 3 - Roller bit refusal.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-126

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority, Exit 63, Gray, Maine

EXPLORATION NO.: GZ-130
SHEET: 1 of 1
PROJECT NO: 09.0025829.00
REVIEWED BY: J. Baron

Logged By: B. Cardali
Drilling Co.: New England Boring Contractors
Foreman: Rich Leonard

Type of Rig: ATV
Rig Model:
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 239
Final Boring Depth (ft.): 27.5
Date Start - Finish: 12/4/2014 - 12/4/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
12/4/14	0830	5.0'	0

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	15	1 6 6 10	12	S-1: Medium dense, brown, fine to coarse SAND, trace Silt. (SM)				SAND	
		S-2	2.0-4.0	24	4	9 12 10 11	22	S-2: Very stiff, gray, Silty CLAY, little fine to medium Sand. (CL)			2		237.0
5		S-3	4.0-6.0	24	11	10 8 7 9	15	S-3: Stiff, gray, Silty CLAY. (CL)				SILTY CLAY	
10		S-4	10.0-12.0	24	24	2 2 3 2	5	S-4: Medium stiff, gray, Silty CLAY. (CL)					
15		S-5	15.0-17.0	24	13	19 26 20 32	46	S-5: Dense, brown, medium to coarse SAND, little Silt, trace Gravel, wet. (SM)			15		224.0
20	61 36 34 28 30	S-6	20.0-22.0	24	3	22 15 13 11	28	S-6: Medium dense, brown, fine to coarse SAND and Gravel, trace Silt, wet. (SM)				GLACIAL TILL	
25		S-7	25.0-27.0	24	1	9 4 7 20	11	S-7: Medium dense, brown, fine to coarse SAND and Gravel, trace Silt, wet. (SM)		1 2	27.5	POSSIBLE BOULDER OR BEDROCK	211.5
								End of exploration at 27.5 feet.					
30													

REMARKS: 1 - Advanced roller bit from 27.0'-27.5' bgs with significant resistance, possible boulder or bedrock. 2 - Roller bit refusal.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-130

Scale:

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

Vanasse Hangen Brustlin, Inc.
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE (EXIT 63)

BORING LOGS (2 OF 3)

SHEET NUMBER: 14

CONTRACT:2015.14

Date:5/4/2015

Filename: ...\MSTA\013_Boring_Logs_PNR.dgn

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority
Exit 63
Gray, Maine

EXPLORATION NO.: GZ-131
SHEET: 1 of 1
PROJECT NO: 00.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 245
Final Boring Depth (ft.): 26.6
Date Start - Finish: 11/12/2014 - 11/12/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
NOT MEASURED			

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	12	1 1 3 5	4	S-1: Medium stiff, gray, Silty CLAY, little fine to medium Sand, trace roots. (CL)			0.3	TOPSOIL	244.7
		S-2	2.0-4.0	24	12	3 6 6 4	12	S-2: Stiff, gray to brown, CLAY & SILT, trace fine to medium Sand. (CL)					
5		S-3	4.0-6.0	24	14	2 4 6 10	10	S-3: Stiff, gray, Silty CLAY, trace fine Sand. (CL)				SILTY CLAY	
10		S-4	10.0-12.0	24	24	1 1 1 2	2	S-4: Soft to medium stiff, gray, Silty CLAY, trace fine Sand. (CL)			12		233.0
15		S-5	15.0-17.0	24	19	WOH 14 13 14	27	S-5: Dense, gray to brown, fine to coarse SAND, some Gravel, trace Silt. (SM)				GLACIAL TILL	
20		S-6	20.0-22.0	14	5	11 14 14 17	28	S-6: Dense, brown, fine to coarse SAND and Gravel, trace Silt. (SM)					
25		S-7	25.0-26.6	19	8	5 7 5 50/1"	12	S-7: Medium dense, brown, fine to coarse SAND, some Gravel, trace Silt. (SM) Split spoon refusal.			26.6		218.4
								End of exploration at 26.6 feet.					

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-131

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority
Exit 63
Gray, Maine

EXPLORATION NO.: GZ-132
SHEET: 1 of 1
PROJECT NO: 00.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 234.5
Final Boring Depth (ft.): 22
Date Start - Finish: 11/12/2014 - 11/12/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 3

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
NOT MEASURED			

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	15	1 1 1 7	2	S-1: Top 12": Very loose, dark brown, fine SAND and Silt. Roots and leaves. (SM) Bottom 3": Gray, fine SAND and Clayey Silt. (SM)			1	TOPSOIL	233.5
		S-2	2.0-4.0	24	18	10 10 8 7	18	S-2: Very stiff, gray to brown, CLAY & SILT, some fine Sand. (Varves) (CL)				CLAY & SILT WITH FINE SAND	
5		S-3	4.0-6.0	24	24	8 9 8 3	17	S-3: Top 18": Medium dense, brown, fine SAND, little Silt. (SM) Bottom 6": Brown/gray, Silty CLAY, little fine Sand. (CL)			5.5		229.0
10		S-4	10.0-12.0	24	24	WOH/18		S-4: Soft to medium stiff, gray, Silty CLAY, wet. (CL)				SILTY CLAY	
15	120 124 26 33 39	S-5	15.0-17.0	24	12	12 29 18 32	47	S-5: Dense, gray, fine to coarse SAND and Silty Clay. (SM)					
20	60 190	S-6	20.0-20.7	8	3	33 50/2"	R	S-6: Very dense, GRAVEL. (GP) Split spoon refusal.		1/2	19.5	GLACIAL TILL	215.0
								End of exploration at 22 feet.			22		212.5

REMARKS

1 - Change in strata inferred based on change in observed drilling behavior.
2 - Roller bit refusal.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-132

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority
Exit 63
Gray, Maine

EXPLORATION NO.: GZ-142
SHEET: 1 of 1
PROJECT NO: 00.0025829.00
REVIEWED BY: J. Baron

Logged By: N. Williams
Drilling Co.: New England Boring Contractors
Foreman: Brad Enos

Type of Rig: ATV
Rig Model:
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 235
Final Boring Depth (ft.): 24.5
Date Start - Finish: 11/13/2014 - 11/13/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
11/13/14	1500	7.2'	0

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	5	1 1 1 2	2	S-1: Soft, gray, SILT & CLAY, some fine Sand, trace roots. (CL)			0.3	TOPSOIL	234.7
		S-2	2.0-4.0	24	19	2 4 8 8	12	S-2: Stiff, gray/brown, SILT & CLAY, little fine Sand. (CL)					
5		S-3	4.0-6.0	24	15	3 5 6 6	11	S-3: Stiff, gray/brown, Silty CLAY, trace fine Sand, trace root fibers. (CL)				SILTY CLAY	
10		S-4	10.0-12.0	24	24	WOR/24"		S-4: Soft to medium stiff, gray, Silty CLAY, trace fine Sand. (CL)					
15		S-5	15.0-17.0	24	10	3 WOH WOH WOH	0	S-5: Very loose, gray, fine to medium SAND, trace Silt. (SM)			15	SAND	220.0
20	40 92 79 11 42 22 20/6"	S-6	20.0-22.0	24	5	10 12 25 16	37	S-6: Dense, black to gray, fine to coarse SAND and Gravel, little Silt. (Weathered Rock) (SM)		1	20	WEATHERED ROCK	215.0
25								End of exploration at 24.5 feet.			23.5 24.5	POSSIBLE BEDROCK	211.5 210.5

REMARKS

1 - Casing and roller bit refusal at 24.5' bgs.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-142

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Maine Turnpike Authority
Exit 63
Gray, Maine

EXPLORATION NO.: GZ-143
SHEET: 1 of 1
PROJECT NO: 00.0025829.00
REVIEWED BY: J. Baron

Logged By: B. Cardali
Drilling Co.: New England Boring Contractors
Foreman: Rich Leonard

Type of Rig: ATV
Rig Model:
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 236
Final Boring Depth (ft.): 27
Date Start - Finish: 12/3/2014 - 12/3/2014

H. Datum:
V. Datum:

Hammer Type: Donut
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 4

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size:

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
NOT MEASURED			

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
		S-1	0.0-2.0	24	4	3 9 11 4	20	S-1: Medium dense, brown, fine to medium SAND, trace Gravel, trace Silt. (SM)					
		S-2	2.0-4.0	24	6	3 3 3 2	6	S-2: Loose, brown, fine to medium SAND, trace Gravel. (SP)				FILL	
5		S-3	4.0-6.0	24	4	2 2 1 2	3	S-3: Loose, brown, fine to medium SAND, trace Gravel, trace Silt. (SM)			6		230.0
10		S-4	10.0-12.0	24	18	1 2 2 2	4	S-4: Soft to medium stiff, gray, Silty CLAY, trace fine to medium Sand. (CL)				SILTY CLAY	
15		S-5	15.0-17.0	24	24	2 2 2 2	4	S-5: Soft to medium stiff, gray, Silty CLAY. (CL)					
20		S-6	20.0-22.0	24	7	16 13 19 25	32	S-6: Dense, gray, medium to coarse SAND and Gravel, trace Silt. (SM)			20	GLACIAL TILL	216.0
											22.5	POSSIBLE WEATHERED ROCK	213.5
								End of exploration at 27 feet.		1	27	POSSIBLE BEDROCK	209.0

REMARKS

1 - Advanced roller bit through increased resistance from 22.5'-27.0' bgs, possible weathered rock.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: GZ-143

Date:5/4/2015

Filename: ...\MSTA\013_Boring_Logs_PNR.dgn

Scale:

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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South Portland, ME 04106
TEL (207) 889-3150
FAX (207) 253-5596

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

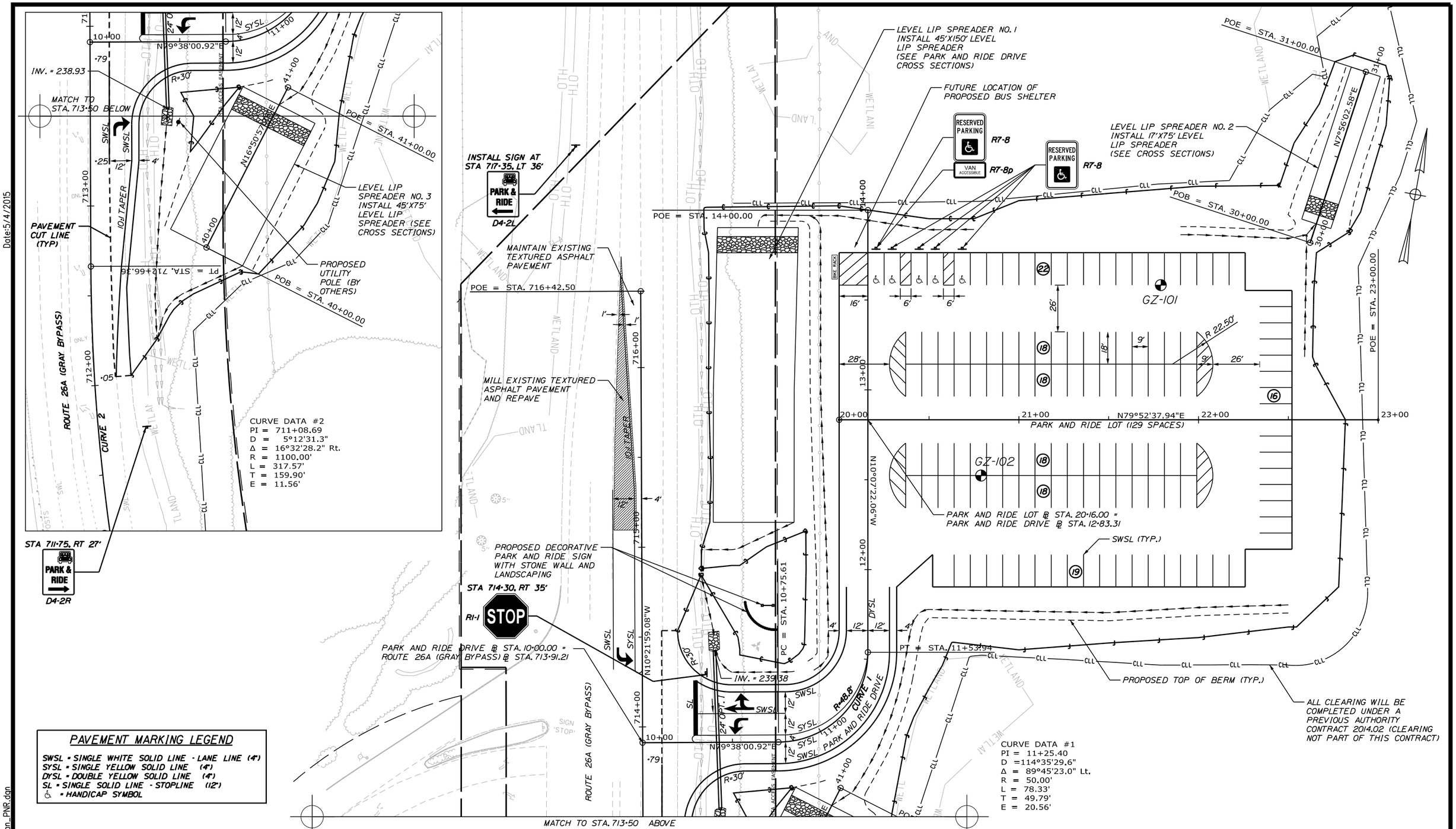
MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

BORING LOGS (3 OF 3)

SHEET NUMBER: 15

CONTRACT:2015.14



Date:5/4/2015

Filename: ...\MSTA\016_HDPlan_PNR.dgn

Scale:
25 0 25 50
Scale in Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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Suite 105B
South Portland, ME 04106
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

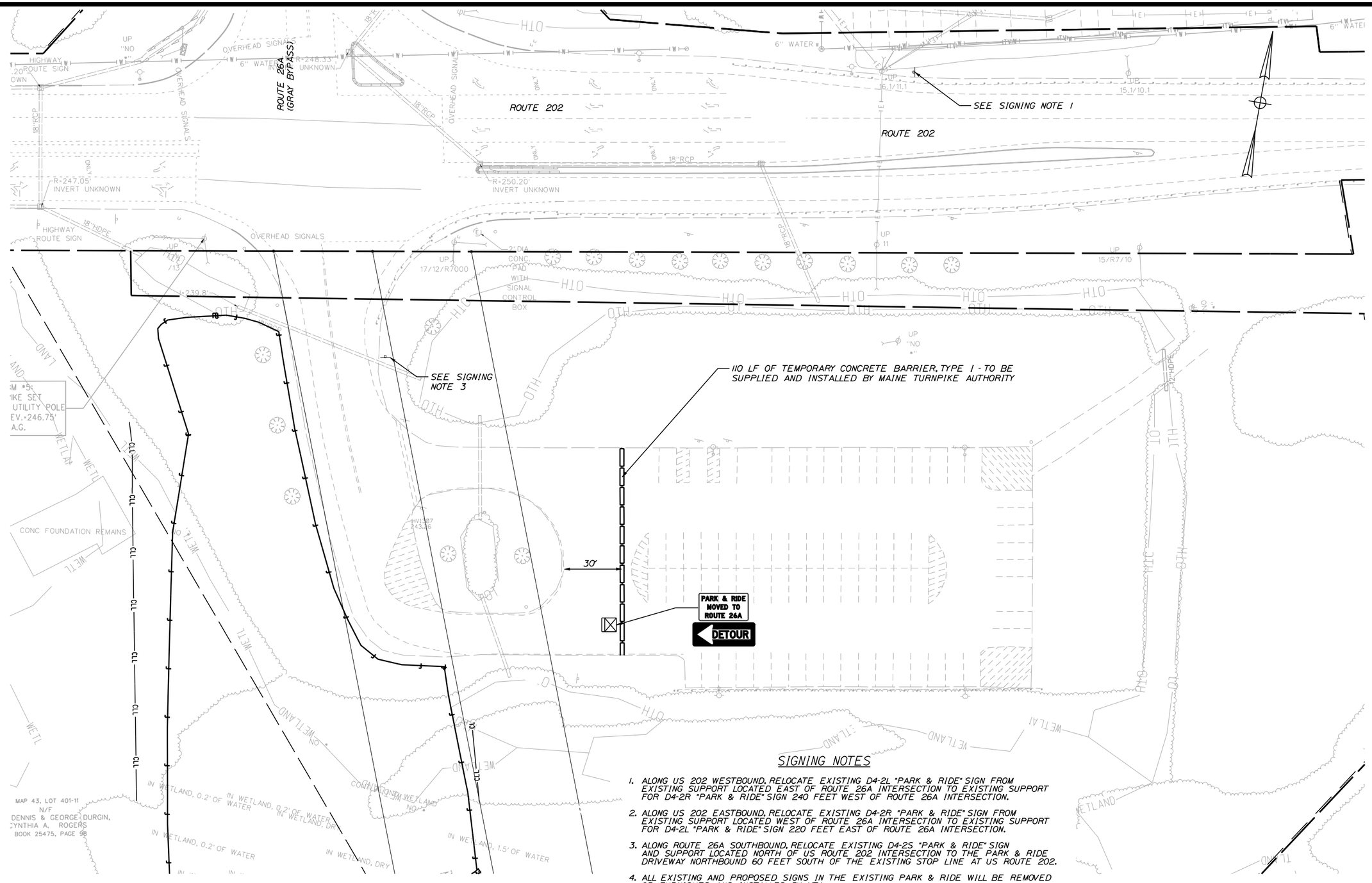
MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE (EXIT 63)

PARK AND RIDE PLANS (1 OF 2)

SHEET NUMBER: 16

CONTRACT:2015.14



SIGNING NOTES

1. ALONG US 202 WESTBOUND, RELOCATE EXISTING D4-2L "PARK & RIDE" SIGN FROM EXISTING SUPPORT LOCATED EAST OF ROUTE 26A INTERSECTION TO EXISTING SUPPORT FOR D4-2R "PARK & RIDE" SIGN 240 FEET WEST OF ROUTE 26A INTERSECTION.
2. ALONG US 202 EASTBOUND, RELOCATE EXISTING D4-2R "PARK & RIDE" SIGN FROM EXISTING SUPPORT LOCATED WEST OF ROUTE 26A INTERSECTION TO EXISTING SUPPORT FOR D4-2L "PARK & RIDE" SIGN 220 FEET EAST OF ROUTE 26A INTERSECTION.
3. ALONG ROUTE 26A SOUTHBOUND, RELOCATE EXISTING D4-2S "PARK & RIDE" SIGN AND SUPPORT LOCATED NORTH OF US ROUTE 202 INTERSECTION TO THE PARK & RIDE DRIVEWAY NORTHBOUND 60 FEET SOUTH OF THE EXISTING STOP LINE AT US ROUTE 202.
4. ALL EXISTING AND PROPOSED SIGNS IN THE EXISTING PARK & RIDE WILL BE REMOVED OR FURNISHED AND INSTALLED BY MTA.

Scale: 25 0 25 50
Scale in Feet

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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FAX (207) 253-5596

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE (EXIT 63)

PARK AND RIDE PLANS (2 OF 2)

SHEET NUMBER: 17

CONTRACT:2015.14

Date:5/4/2015

Filename: ...\MSTA\017_HDPlan_PNR.dgn

Date:5/4/2015

CURVE DATA #8
PI = 205+37.68
D = 24°48'12.1"
Δ = 54°02'14.3" Lt.
R = 231.00'
L = 217.86'
T = 117.80'
E = 28.30'

CURVE DATA #7
PI = 124+99.13
D = 19°05'54.9"
Δ = 54°02'14.3" Rt.
R = 300.00'
L = 282.94'
T = 152.98'
E = 36.75'

PC = STA. 204+19.88
PT = STA. 206+37.75
PC = STA. 123+46.15
PT = STA. 126+29.09

S17°14'51.48"E
N17°14'51.48"W
N76°01'12.40"E

INV. = 231.50
INV. = 232.00
INV. = 230.69
INV. = 231.00

48" CORRUGATED METAL PIPE
6" UND. PIPE

ALL CLEARING WILL BE COMPLETED UNDER A PREVIOUS AUTHORITY CONTRACT 2014.02 (CLEARING NOT PART OF THIS CONTRACT)

GZ-112 GZ-143 GZ-132 GZ-109 GZ-142 GZ-121 GZ-122 GZ-123 GZ-124 GZ-125 GZ-126

ROUTE 202

Filename: ...\018_HDPlan_Preloading_PNR.dgn

Scale: 25 0 25 50
Scale in Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

Vanasse Hangen Brustlin, Inc.
550 Southborough Dr.
Suite 105B
South Portland, ME 04106
TEL (207) 889-3150
FAX (207) 253-5596

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

PRELOADING PLANS (1 OF 2)

SHEET NUMBER: 18

CONTRACT:---

Date:5/4/2015

ALL CLEARING WILL BE COMPLETED UNDER A PREVIOUS AUTHORITY CONTRACT 2014.02 (CLEARING NOT PART OF THIS CONTRACT)

PT = STA. 206+37.75

PC = STA. 208+73.05

PT = STA. 213+63.87

CURVE DATA #3
PI = 212+87.56
D = 24°48'12.1"
Δ =121°44'18.9" Lt.
R = 231.00'
L = 490.81'
T = 414.50'
E = 243.52'

INV. = 238.72

INV. = 239.30

24" CORRUGATED METAL PIPE

S71°17'05.81"E

N71°17'05.81"W

N13°01'24.72"W

N23°28'24.12"W

CURVE #3

GZ-121 GZ-122 GZ-123 GZ-124 GZ-125 GZ-126 GZ-129 GZ-131

120+00 121+00 122+00 123+00 207+00 208+00 209+00 210+00 211+00 212+00 213+00 214+00 5125+00 5126+00 5127+00 5128+00

POSSIBLE INVERT BURIED, TOP OF STANDING WATER

R-245.21' INVERT UNKNOWN

30" CMP INVERT SUBMERGED POSSIBLE FES INLET

Filename: ...\019_HDPlan_Preloading_PNR.dgn

Scale: 25 0 25 50
Scale in Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

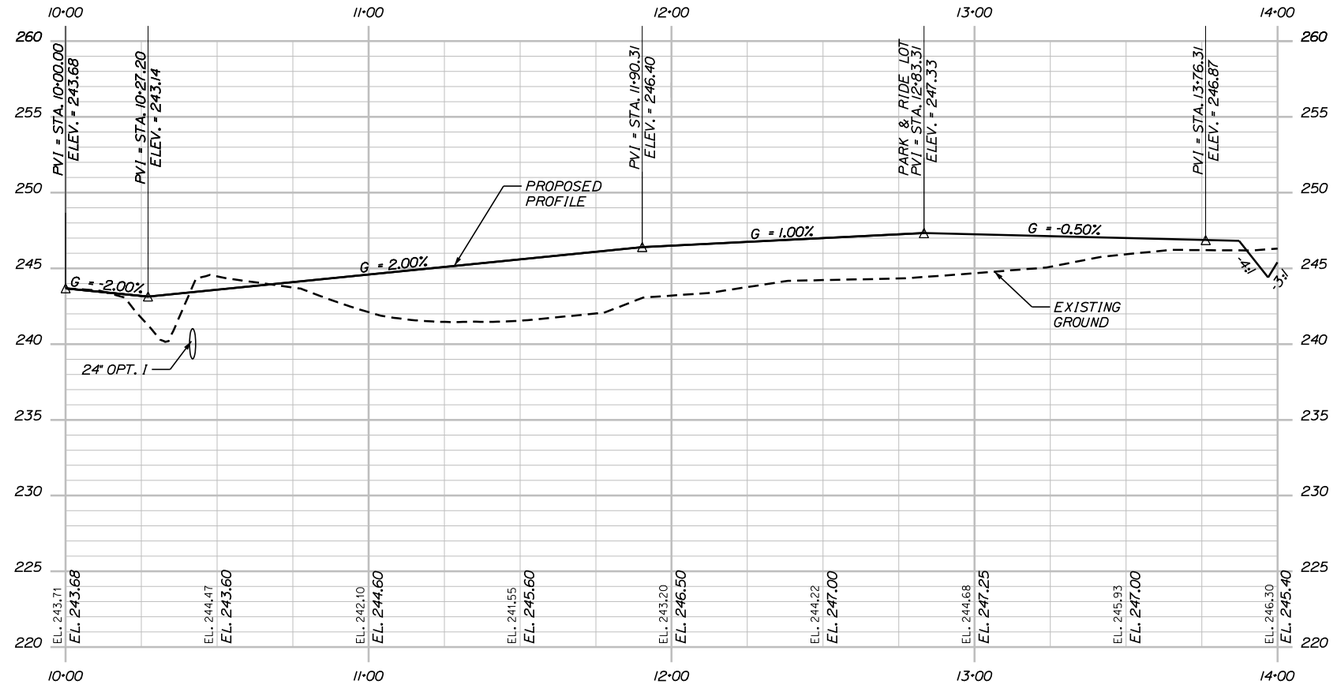
MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

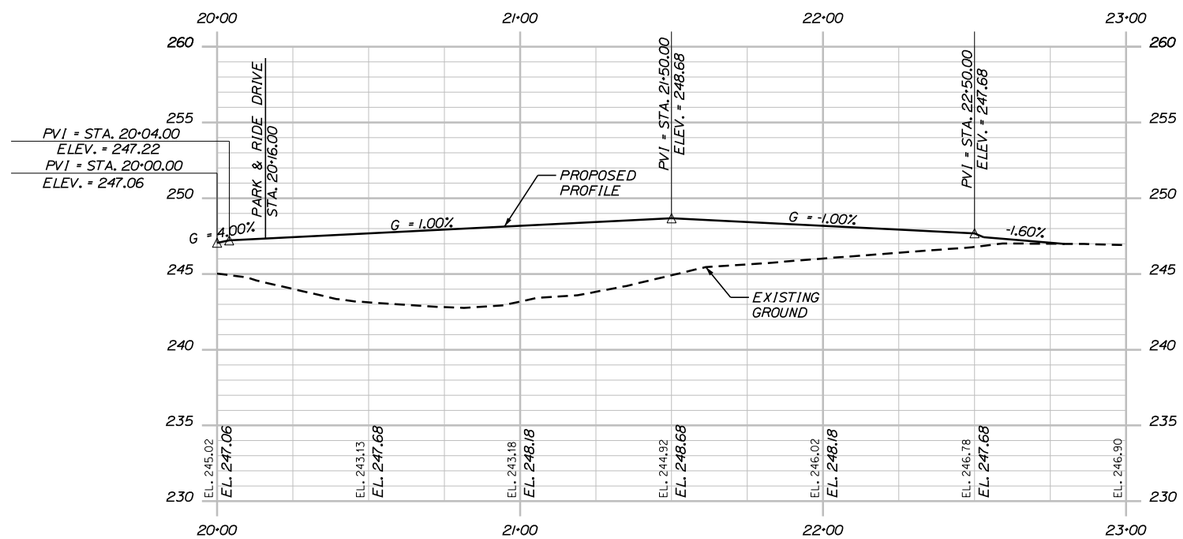
PRELOADING PLANS (2 OF 2)

SHEET NUMBER: 19

CONTRACT:---



PARK AND RIDE DRIVE



PARK AND RIDE LOT

Date:5/4/2015

Filename: ...\MSTA\020_Profile_PNR.dgn

Scale: 25 0 25 50

Scale in Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

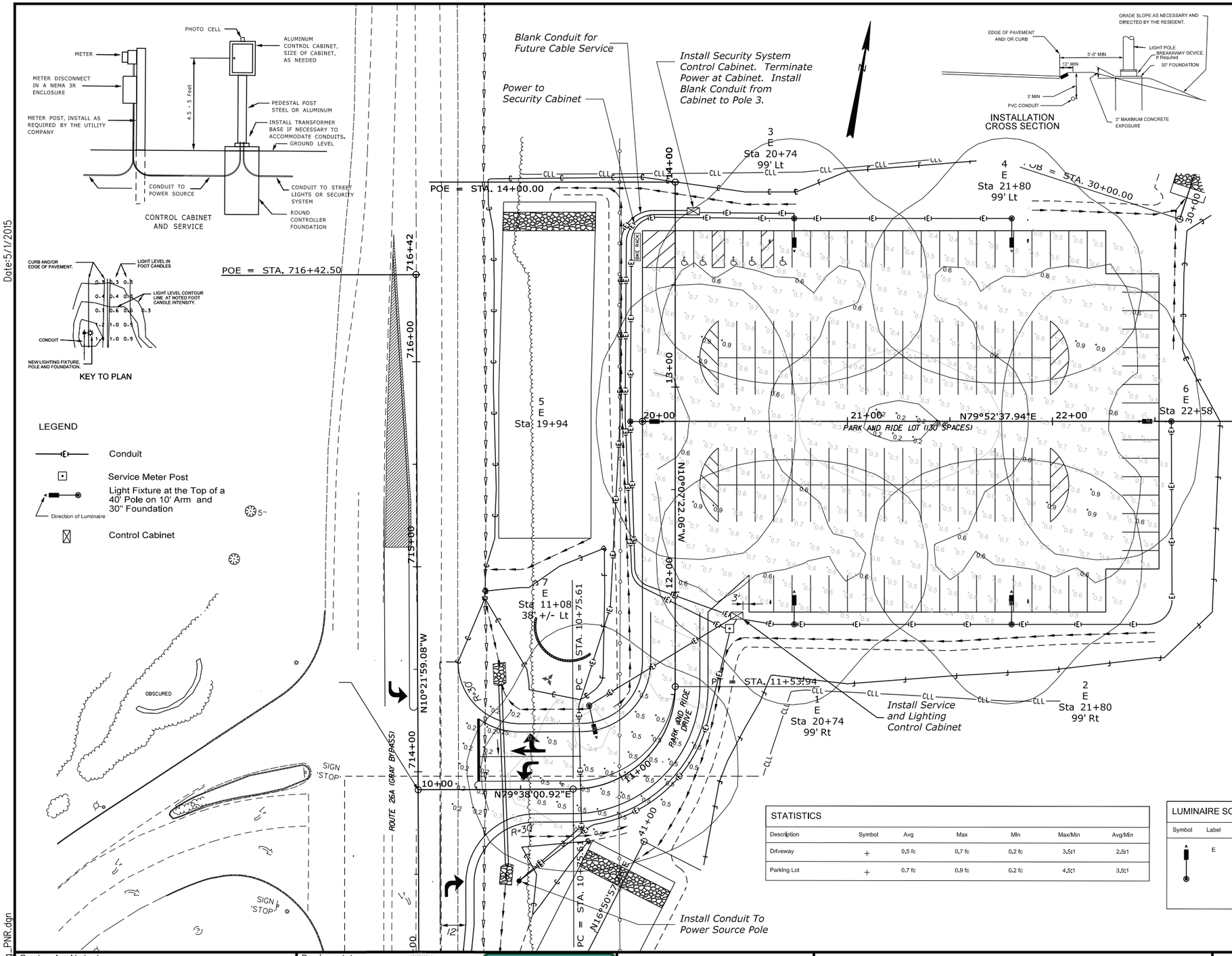
MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

PROFILES

SHEET NUMBER: 20

CONTRACT:2015.14



GENERAL NOTES LIGHTING & SECURITY

1. SCOPE OF WORK - INSTALL HIGHWAY LIGHTING AS SHOWN ON THIS PLAN. INSTALL CONDUIT, WIRING, FOUNDATIONS, POLES, L.E.D. LUMINAIRES AND RELATED HARDWARE.
2. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO APPLICABLE PROVISIONS OF THE 2002 MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND STANDARD DETAILS, NATIONAL ELECTRICAL CODE AND ANY REQUIREMENTS OF THE POWER COMPANY.
3. THE CONTRACTOR SHALL FIELD VERIFY POLE LOCATIONS TO AVOID NATURAL AND BUILT SITE FEATURES THAT WOULD CONFLICT WITH PROPER INSTALLATION OF POLE FOUNDATIONS.
4. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO ENSURE AWARENESS OF SITE CONDITIONS THAT COULD AFFECT THE BID.
5. ALL LIGHTING CIRCUITS ARE TO BE PHOTOCELL ACTIVATED BY PHOTOCELL ON CONTROL CABINET.
6. LIGHTING FIXTURE VOLTAGE SHALL BE 120 VOLTS.
7. LIGHTING FIXTURES SHALL BE IES FULL CUTOFF, LIGHT EMITTING DIODE (LED) FIXTURES, IES DISTRIBUTION TYPE 3 MEDIUM.
8. INSTALL LIGHTING FIXTURES ON 40-FOOT POLES WITH 10 FOOT BRACKET ARMS. POLES MAY BE EITHER ALUMINUM OR GALVANIZED STEEL.
9. ALL FIXTURES SHALL BE GASKETED AND HAVE SURGE PROTECTION AND A DOUBLE FUSE KIT. ALL FIXTURES SHALL BE GRAY. THE LIGHTING LAYOUT WAS DONE USING CREE LEDway LED ROADWAY LIGHTING LUMINAIRES, CATALOG NUMBER: STR-LWY-3MP- ** -08-D-UL-700-43K(700mA); 7 FIXTURES, 80 LED TYPE 3 MEDIUM WITH PARTIAL BACKLIGHT SHIELD.
LED COLOR TEMPERATURE FOR FIXTURES INSTALLED SHALL BE 4300K.
IF DIFFERENT FIXTURES ARE PROPOSED, THEY SHALL BE IES FULL CUTOFF OR CUTOFF, TYPE 3 IES DISTRIBUTION, LED LUMINAIRES. B.U.G. RATINGS SHALL BE EQUAL TO OR BETTER THAN THE DESIGNED FIXTURES. THE CONTRACTOR MUST DEMONSTRATE THAT THE PROPOSED FIXTURES WILL REASONABLY EQUAL THE LIGHT LEVELS AND DISTRIBUTIONS SHOWN ON THE PLANS, IN THE OPINION OF MTA.
10. EVALUATION OF ALTERNATIVE LED LUMINAIRES THAT MAY BE PROPOSED BY THE CONTRACTOR FOR SUBSTITUTION WILL REQUIRE SUBMITTAL OF THE FOLLOWING, AT MINIMUM:
IES LM-79-08 ABSOLUTE TESTING REPORT FOR THE PROPOSED ALTERNATIVE LUMINAIRE;
IES LM-80-08 TESTING REPORT FOR LED CHIPS TO BE USED IN THE ALTERNATIVE LUMINAIRE, DOCUMENTING TESTING FOR A MINIMUM OF 8500 HOURS;
IES TM-21-11 REPORT FOR PROJECTED LONG TERM LUMEN MAINTENANCE, INCLUDING INCREMENTAL LUMEN DEPRECIATION TABLE AT 25 DEGREES CELSIUS TO A MINIMUM OF 50,000 HOURS;
IES PHOTOMETRIC FILE FROM THE MANUFACTURER FOR THE PROPOSED ALTERNATIVE LUMINAIRE;
PHOTOMETRIC PLOT, OVERLAID ON THE LAYOUT OF THE LUMINAIRE LOCATIONS FOR THIS SPECIFIC PROJECT, SHOWING LIGHT CONTOURS, ILLUMINATION STATISTICS FOR EACH OF THE LIGHTING GROUPS, AND VALUE OF LIGHT LOSS FACTOR USED IN THE ANALYSIS;
VALUES OF LLD, LDD, BALLAST FACTOR AND OTHER FACTORS USED FOR CALCULATION OF THE ASSUMED LIGHT LOSS FACTOR;
SPECIFICATION DATA REGARDING OPTICS, CHROMATIC COLOR TEMPERATURE, DRIVER, SURGE PROTECTION, HOUSING AND GASKETING.
ALTERNATIVES ALLOWABLE FOR THIS PROJECT WILL BE LIMITED TO:
- LSR SERIES LED LUMINAIRES AS MANUFACTURED BY LIGHTING SCIENCE GROUP, 1227 SOUTH PATRICK DRIVE, SATELLITE BEACH, FL 32937, (877)999-5742
- SATELLITE SERIES LED LUMINAIRES AS MANUFACTURED BY LED ROADWAY LIGHTING, 115 CHAIN LAKE DRIVE, HALIFAX, NOVA SCOTIA, B3S 1B3 CANADA, (877)533-5755

11. CONDUIT SHALL BE 2" MINIMUM, PVC SCHEDULE 40. CONDUIT UNDER PAVEMENT SHALL BE SCHEDULE 80. MINIMUM BURIAL DEPTH FOR CONDUIT SHALL BE 36".
12. THERE SHALL BE NO SPLICES OR JUNCTION BOXES BETWEEN POLES. THE WIRE IN CONDUITS SHALL BE CONTINUOUS BETWEEN POLES.
13. UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL FURNISH TO MTA A SET OF AS-BUILT PLANS FOR FUTURE REFERENCE AND SYSTEM MAINTENANCE.
14. PAYMENT UNDER ITEM 634.160, HIGHWAY LIGHTING, WILL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO PROVIDE A FULLY FUNCTIONING HIGHWAY LIGHTING SYSTEM, EXCEPT THOSE ITEMS TO BE PAID UNDER OTHER RELATED BID ITEMS IN THE CONTRACT.
15. ALL LIGHT BASES SHALL HAVE A GROUND ROD LOCATED IN THE FOUNDATION THAT IS BONDED TO THE GROUNDING CONDUCTOR. PAYMENT FOR THE GROUND ROD SHALL BE INCLUDED IN ITEM 634.160, HIGHWAY LIGHTING.
16. PAYMENT UNDER ITEM 634.21, CONVENTIONAL LIGHT STANDARD, WILL INCLUDE BUT NOT BE LIMITED TO NEW POLES AND TRANSFORMER BASES.
17. INSTALL SERVICE AND CONTROL CABINETS AT LOCATIONS SHOWN. THE CONTRACTOR SHALL INSTALL A METER DISCONNECT IN A NEMA 3R CABINET ON THE METER POST, WITH SEPARATE BREAKERS FOR LIGHTING AND A FUTURE SECURITY CAMERA SYSTEM. ALL CABINETS SHALL BE LOCKABLE.
18. CABINETS SHALL BE MARKED WITH ARC FLASH HAZARD TYPE 1, 2, 3 OR 4 AND THE APPROPRIATE PPE REQUIRED.
19. SECURITY SYSTEM CABINET SHALL BE THE SAME SIZE AND TYPE USED FOR THE LIGHTING CONTROL CABINET, UNLESS OTHERWISE DIRECTED BY MTA. PAYMENT FOR THE CABINET AND PEDESTAL POST WILL BE INCIDENTAL TO ITEM 634.160. INSTALLATION OF OTHER SECURITY SYSTEM EQUIPMENT AND SECURITY SYSTEM WIRING BEYOND THE CABINET IS NOT PART OF THIS CONTRACT. BLANK CONDUIT FOR THE FUTURE SECURITY SYSTEM SHALL BE INSTALLED AS SHOWN AND WILL BE PAID UNDER ITEM 626.22.
20. BREAKAWAY DEVICES WILL NOT BE REQUIRED ON THIS PROJECT.
21. WIRE SHALL BE #12 STRANDED COPPER XHHW-2.
22. FOUNDATION LENGTH FOR LIGHT POLE FOUNDATIONS SHALL BE 10' MINIMUM.

STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Driveway	+	0.5 fc	0.7 fc	0.2 fc	3.5:1	2.5:1
Parking Lot	+	0.7 fc	0.9 fc	0.2 fc	4.5:1	3.5:1

LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	E	7	STR-LWY-3MP-**-08-D-UL-700-43K (700mA) CONFIGURED FROM STR-LWY-3MP-**-04-D-UL-700-43K or BXSL0M04D-UD7 (700mA)	CONFIGURED FROM 40 LED TYPE III MEDIUM 700mA 4300K LEDway WITH PARTIAL BACKLIGHT SHIELD	CONFIGURED FROM FORTY WHITE LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-UP	STR-LWY-3MP-__-08-D-UL-700-43K-CONFIGURED.IES	Absolute	0.81	187

Scale: As Noted

25 0 25 50

Scale in Feet

No.	Revision	By	Date

Designed by:

STATE OF MAINE ALBERT L. GODFREY LICENSED PROFESSIONAL ENGINEER 5/1/15

TMSI

	By	Date		By	Date
Designed	ALG	May, 2015	Checked	ALG	5-1-15
Drawn	RAL	Feb, 2015	In Charge of	ALG	5-1-15

TERRA MAGNA SERVICES, INC.
414 WATER STREET
GARDINER, MAINE 04345
TEL (207) 582-0111

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: R. NORWOOD

GRAY PARK AND RIDE (EXIT 63)

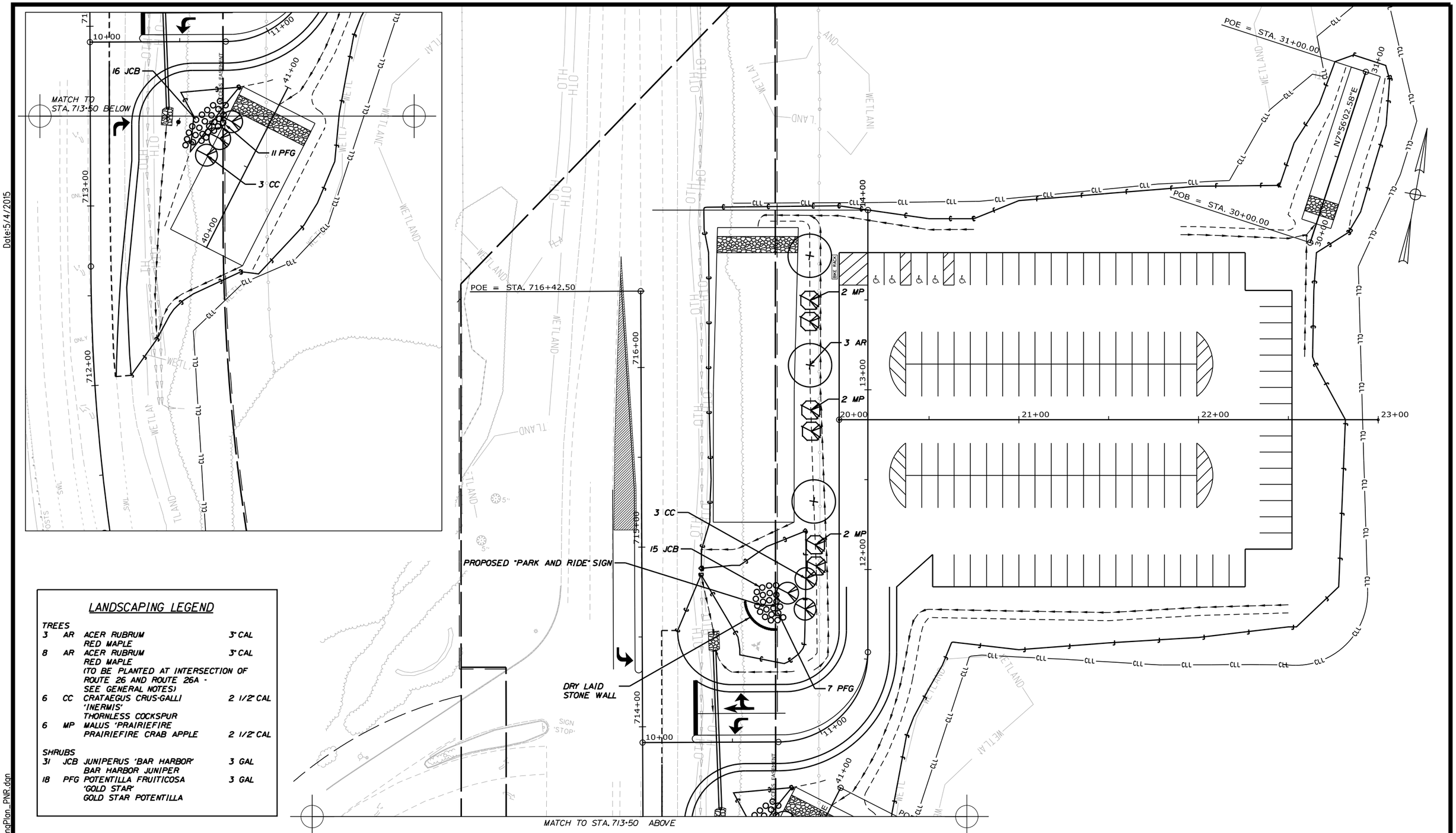
LIGHTING PLAN

SHEET NUMBER: 21

CONTRACT:2015.14

21OF 58

Filename: ...\MSTA\Lighting_PNR.dgn



LANDSCAPING LEGEND

TREES			
3	AR	ACER RUBRUM RED MAPLE	3" CAL
8	AR	ACER RUBRUM RED MAPLE (TO BE PLANTED AT INTERSECTION OF ROUTE 26 AND ROUTE 26A - SEE GENERAL NOTES)	3" CAL
6	CC	CRATAEGUS CRUS-GALLI 'INERMIS' THORNLESS COCKSPUR	2 1/2" CAL
6	MP	MALUS 'PRAIRIEFIRE' PRAIRIEFIRE CRAB APPLE	2 1/2" CAL
SHRUBS			
31	JCB	JUNIPERUS 'BAR HARBOR' BAR HARBOR JUNIPER	3 GAL
18	PFG	POTENTILLA FRUITICOSA 'GOLD STAR' GOLD STAR POTENTILLA	3 GAL

Date:5/4/2015

Filename: ...\022_LandscapingPlan_PNR.dgn

Scale: 25 0 25 50
Scale in Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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FAX (207) 253-5596

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

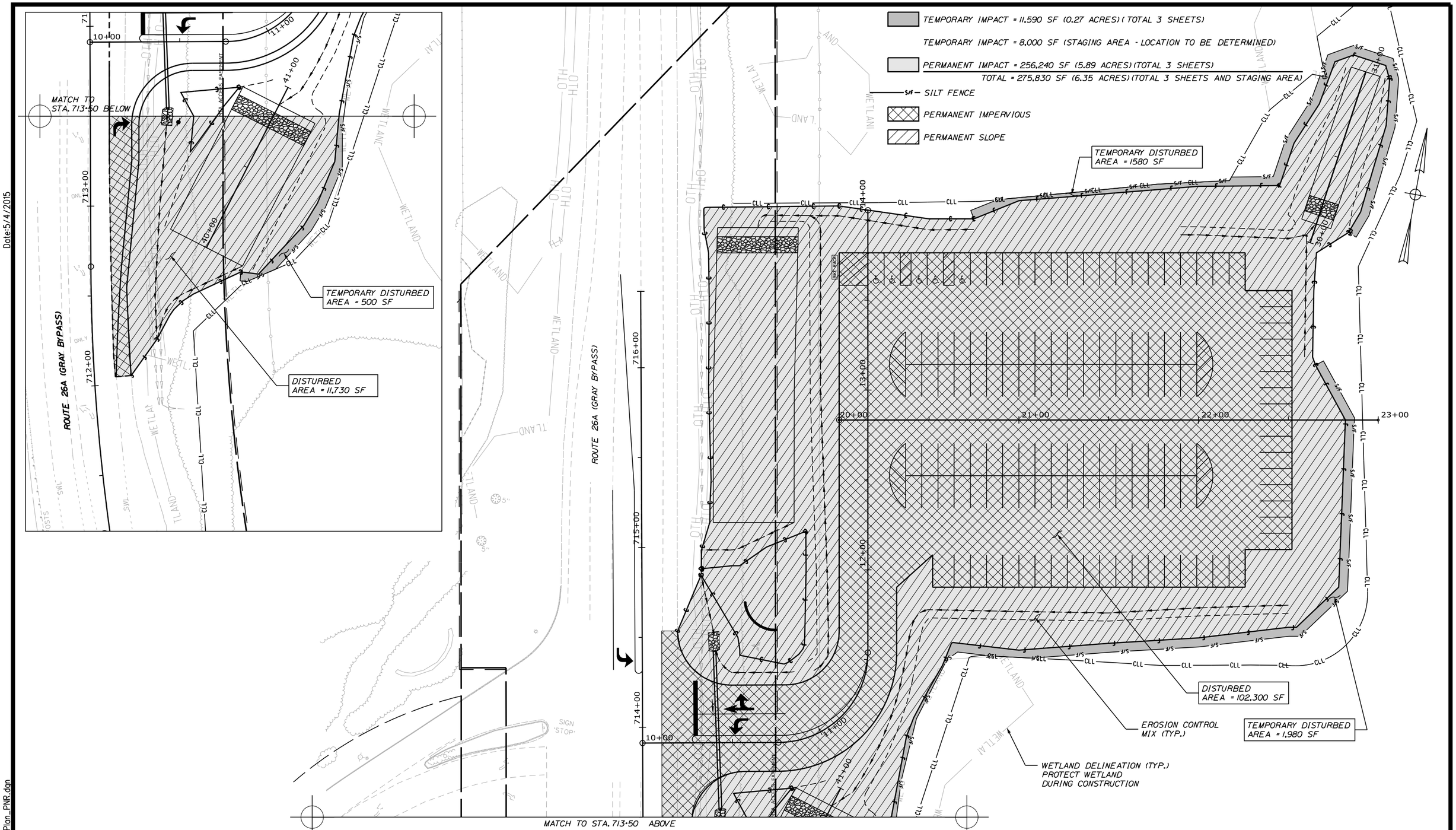
GRAY PARK AND RIDE (EXIT 63)

LANDSCAPING PLAN

SHEET NUMBER: 22

CONTRACT:2015.14

Date:5/4/2015



Scale:

25 0 25 50

Scale in Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE (EXIT 63)

DISTURBANCE AREAS & EROSION SEDIMENT CONTROL (1 OF 3)

SHEET NUMBER: 23

CONTRACT:2015.14

Filename: ...\MSTA\023_ESCPlan_PNR.dgn

Date:5/4/2015

PROTECT WETLAND DURING CONSTRUCTION (TYP.)

CURVE DATA #8
PI = 205+37.68
D = 24°48'12.1"
Δ = 54°02'14.3" Lt.
R = 231.00'
L = 217.86'
T = 117.80'
E = 28.30'

TEMPORARY DISTURBED AREA = 120 SF

PC = STA. 204+19.88

PT = STA. 206+37.75

CONT. ON SHEET 19

ROUTE 202

S17°14'51.48"E

N17°14'51.48"W

N76°01'12.40"E

18" CORRUGATED METAL PIPE

8" CORRUGATED METAL PIPE

PC = STA. 123+46.15

PT = STA. 126+29.09

TEMPORARY DISTURBED AREA = 1,270 SF

DISTURBED AREA = 68,890 SF

TEMPORARY DISTURBED AREA = 1,950 SF

WETLAND DELINEATION (TYP.)

TBM #5 SPIKE SET IN UTILITY POLE ELEV.=246.75' 1' A.G.

CONC FOUNDATION REMAINS

MAP 43, LOT 401-11 N/F DAVID, DENNIS & GEORGE DURGIN, CYNTHIA A. ROGERS BOOK 25475, PAGE 98

MAP 43, LOT 24-19 N/F DAVID, DENNIS & GEORGE DURGIN, CYNTHIA A. ROGERS BOOK 25475, PAGE 98

CURVE DATA #7
PI = 124+99.13
D = 19°05'54.9"
Δ = 54°02'14.3" Rt.
R = 300.00'
L = 282.94'
T = 152.98'
E = 36.75'

TEMPORARY IMPACT
PERMANENT IMPACT
S/F — SILT FENCE
PERMANENT IMPERVIOUS
PERMANENT SLOPE

Scale: 25 0 25 50
Scale in Feet

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE (EXIT 63)

DISTURBANCE AREAS & EROSION SEDIMENT CONTROL (2 OF 3)

SHEET NUMBER: 24

CONTRACT:---

24 OF 58

Filename: ...\024_ESCPlan_Preload_PNR.dgn

WETLAND DELINEATION (TYP.)
PROTECT WETLAND
DURING CONSTRUCTION

DISTURBED
AREA = 52,270 SF

TEMPORARY DISTURBED
AREA = 730 SF

PC = STA. 208+73.05

PT = STA. 213+63.87

TEMPORARY DISTURBED
AREA = 1,800 SF

DISTURBED
AREA = 21,050 SF

CURVE DATA #3
PI = 212+87.56
D = 24°48'12.1"
Δ =121°44'18.9" Lt.
R = 231.00'
L = 490.81'
T = 414.50'
E = 243.52'

N13°01'24.72"W

S71°17'05.81"E

N71°17'05.81"W

N23°28'24.12"W

CURVE #3

24" CORRUGATED METAL PIPE

TEMPORARY DISTURBED
AREA = 370 SF

TEMPORARY DISTURBED
AREA = 820 SF

TEMPORARY DISTURBED
AREA = 470 SF

GZ-122
GZ-123
GZ-124
GZ-125
GZ-126
GZ-131
GZ-129

120+00
121+00
122+00
123+00
206+37.75
207+00
208+00
209+00
210+00
211+00
212+00
213+00
214+00
5125+00
5126+00
5127+00
5128+00

TEMPORARY IMPACT
PERMANENT IMPACT
SILT FENCE
PERMANENT IMPERVIOUS
PERMANENT SLOPE

CONT. ON SHEET 18

Date:5/4/2015

Filename: ...\025_ESCPlan_Preload_PNR.dgn

Scale: 25 0 25 50
Scale in Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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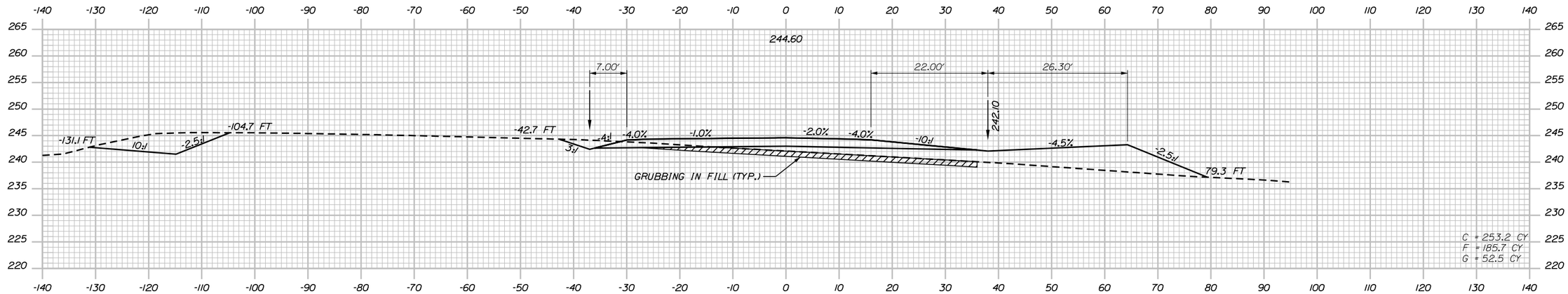
MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

DISTURBANCE AREAS &
EROSION SEDIMENT CONTROL (3 OF 3)

SHEET NUMBER: 25

CONTRACT:---



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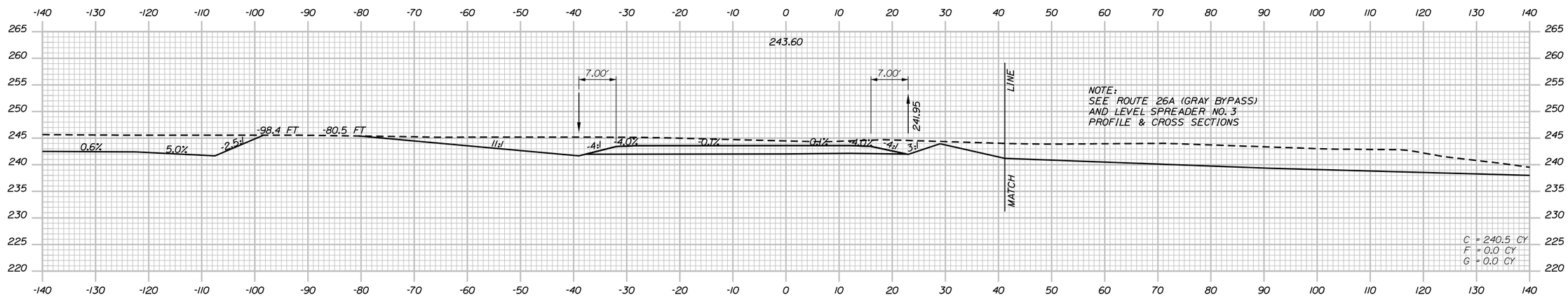
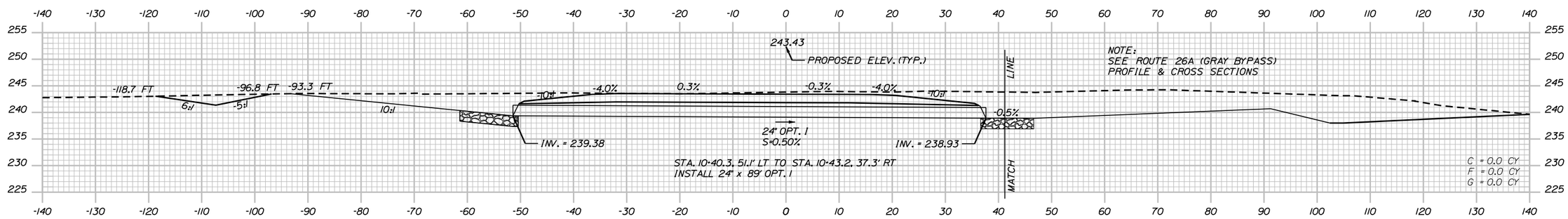


10+50.00



10+41.95 (SKEWED)

Scale: 10 0 10 20
Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

PARK AND RIDE DRIVE
CROSS SECTION 1 OF 4

SHEET NUMBER: 26

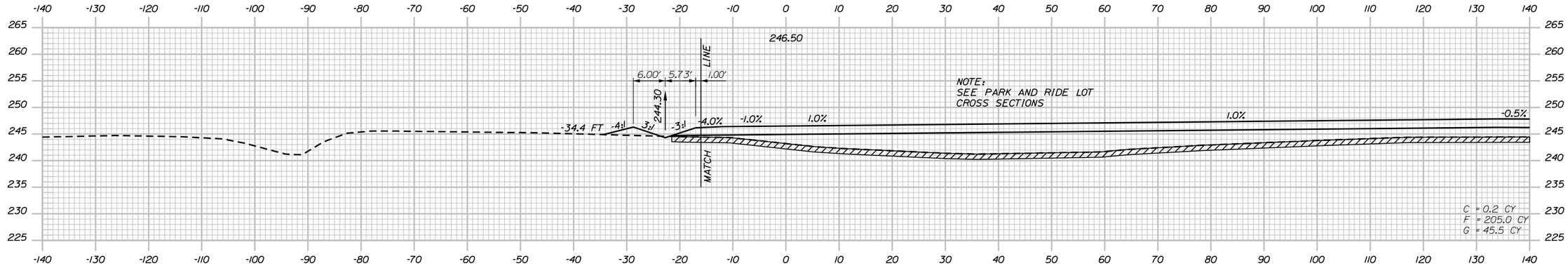
CONTRACT:2015.14

26 OF 58

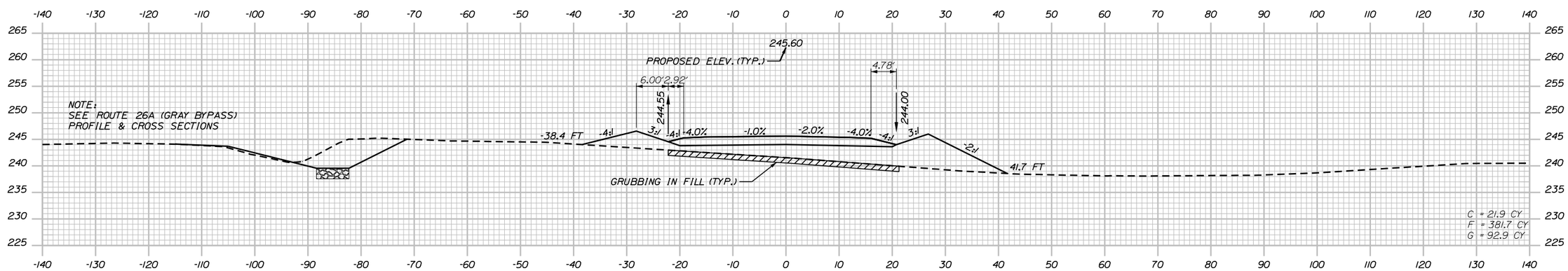
Sta. 10+38.5 to Sta. 11+00.00

Date:5/4/2015

Filename: ...\te\Highway\MSTA\Xsect_PNR.dgn



12+00.00



11+50.00

Scale: 10 0 10 20
Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE (EXIT 63)

PARK AND RIDE DRIVE CROSS SECTION 2 OF 4

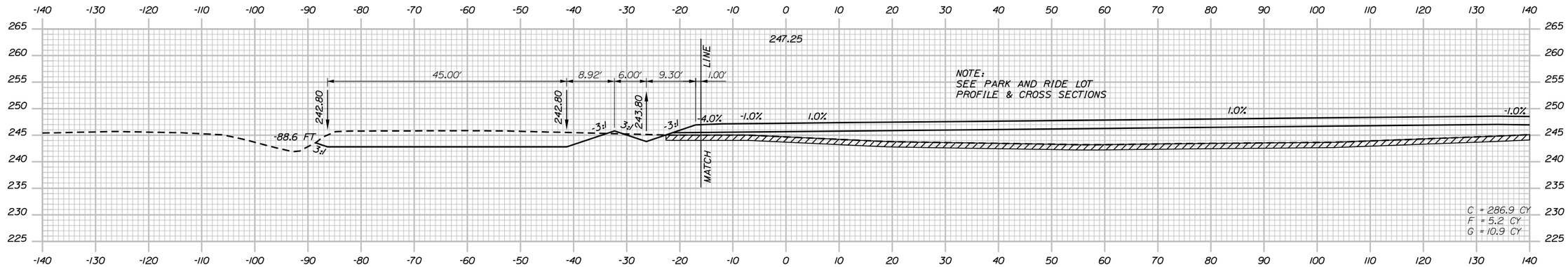
SHEET NUMBER: 27

CONTRACT:2015.14

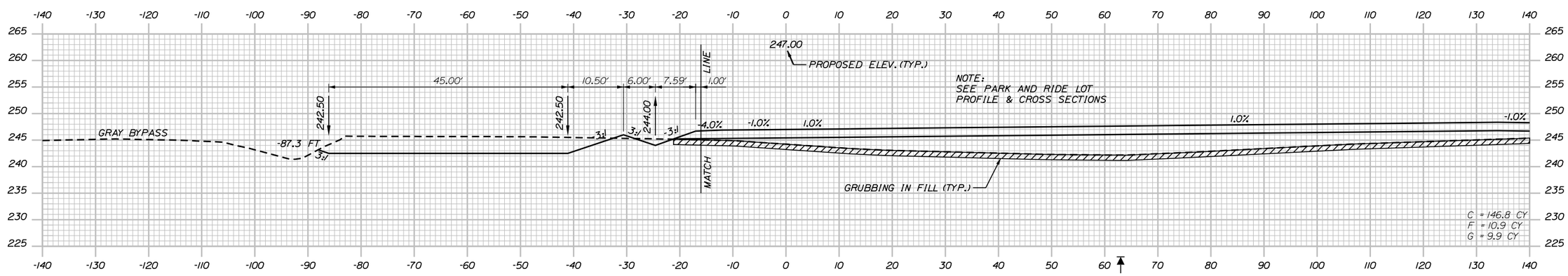
Sta. 11+50.00 to Sta. 12+00.00

Date:5/4/2015

Filename: ...\te\Highway\MSTAXsect_PNR.dgn



13+00.00



12+50.00

Scale: 10 0 10 20
Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

Vanasse Hangen Brustlin, Inc.
550 Southborough Dr.
Suite 105B
South Portland, ME 04106
TEL (207) 889-3150
FAX (207) 253-5596

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

PARK AND RIDE DRIVE
CROSS SECTION 3 OF 4

SHEET NUMBER: 28

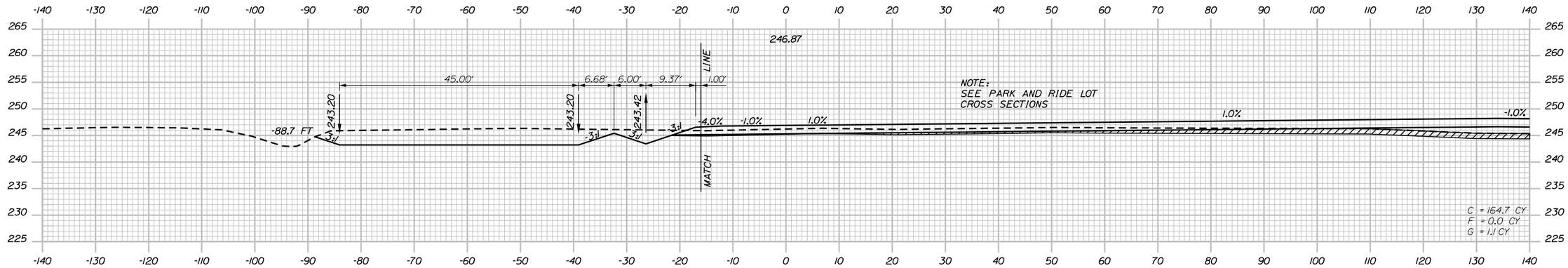
CONTRACT:2015.14

28 OF 58

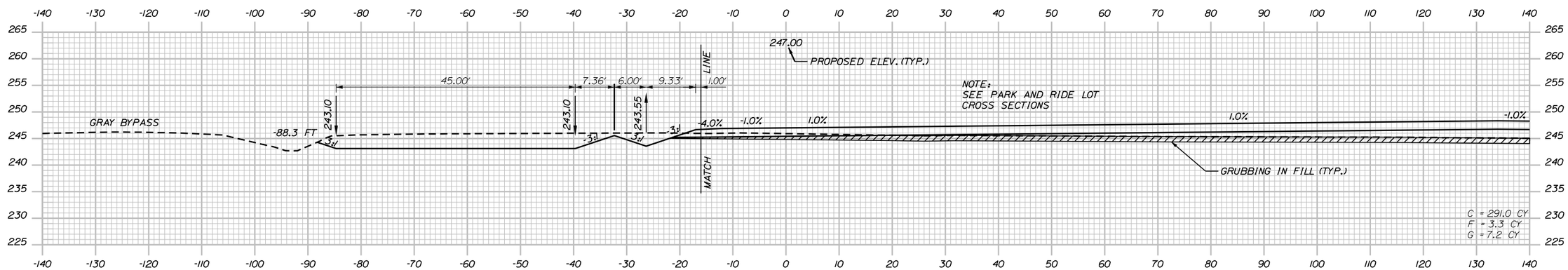
Sta. 12+50.00 to Sta. 13+00.00

Date:5/4/2015

Filename: ...\te\Highway\MSTAXXsect_PNR.dgn



13+76.31



13+50.00

Date:5/4/2015

Filename: ...\te\Highway\MSTA\Xsect_PNR.dgn

Scale: 10 0 10 20 Scale of Feet

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

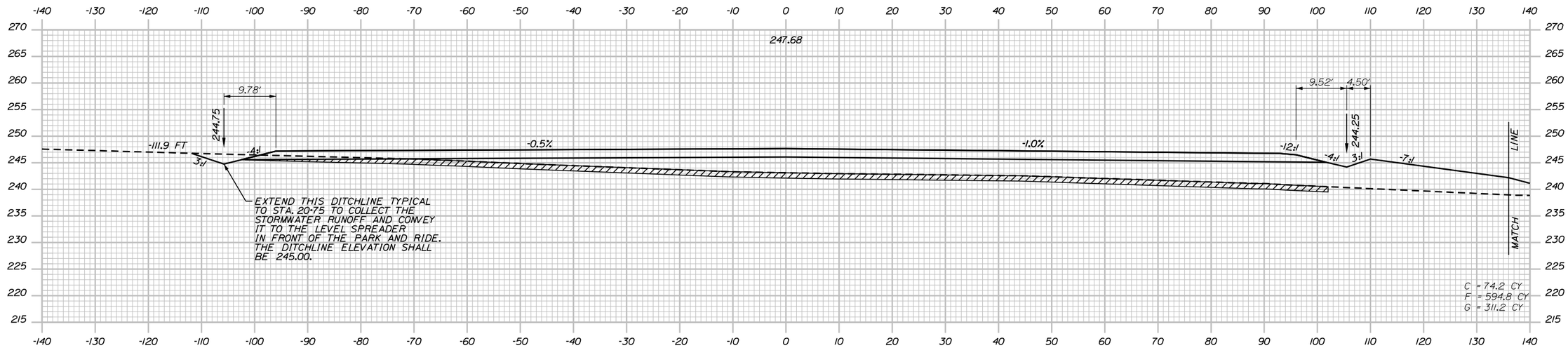
PARK AND RIDE DRIVE
CROSS SECTION 4 OF 4

SHEET NUMBER: 29

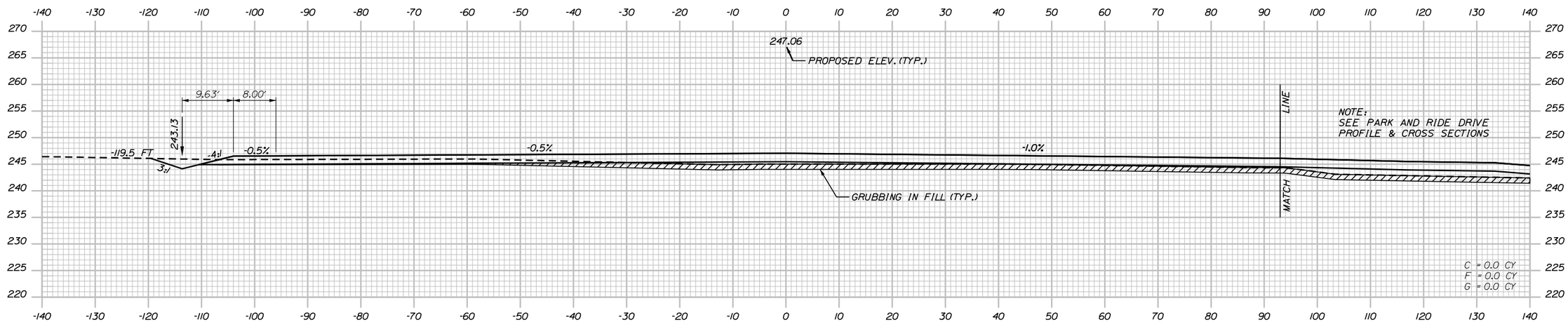
CONTRACT:2015.14

29 OF 58

Sta. 13+50.00 to Sta. 13+76.31



20+50.00



20+00.00

Date:5/4/2015

Filename: ...\te\Highway\MSTA\Xsect_PNR.dgn

Scale:

10 0 10 20

Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

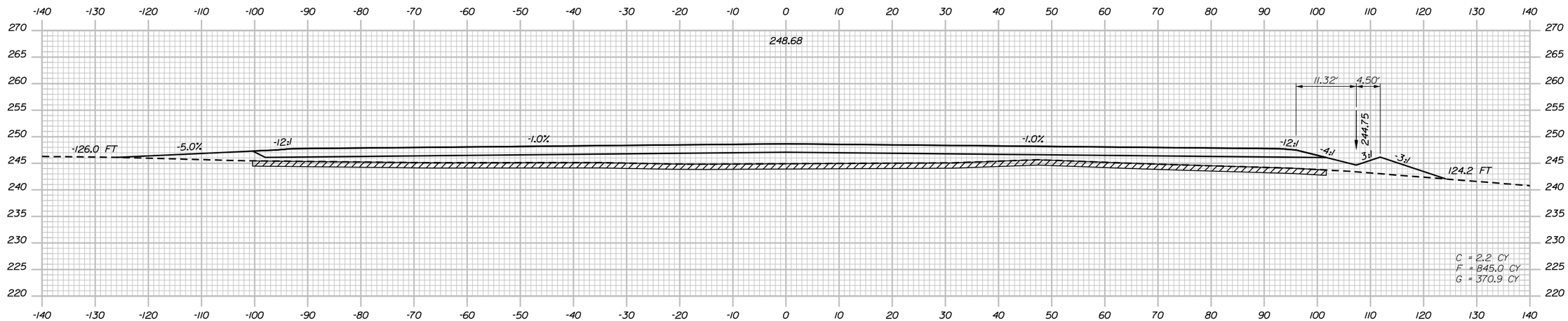
GRAY PARK AND RIDE
(EXIT 63)

PARK AND RIDE LOT
CROSS SECTION 1 OF 3

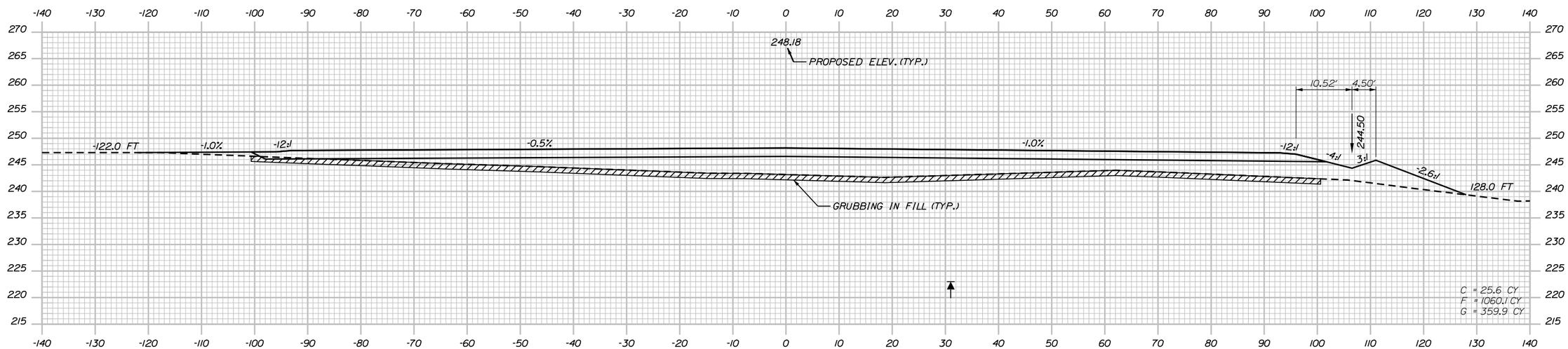
SHEET NUMBER: 30

CONTRACT:2015.14

Sta. 20+00.00 to Sta. 20+50.00



21+50.00



21+00.00

Date:5/4/2015

Filename: ...\te\Highway\MSTA\Xsect_PNR.dgn

Scale: 10 0 10 20 Scale of Feet

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE (EXIT 63)

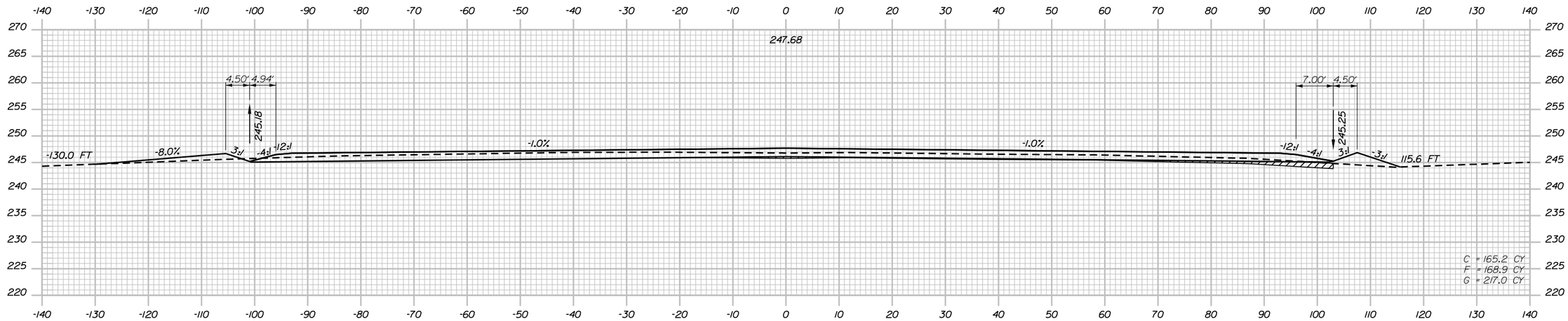
PARK AND RIDE LOT
CROSS SECTION 2 OF 3

SHEET NUMBER: 31

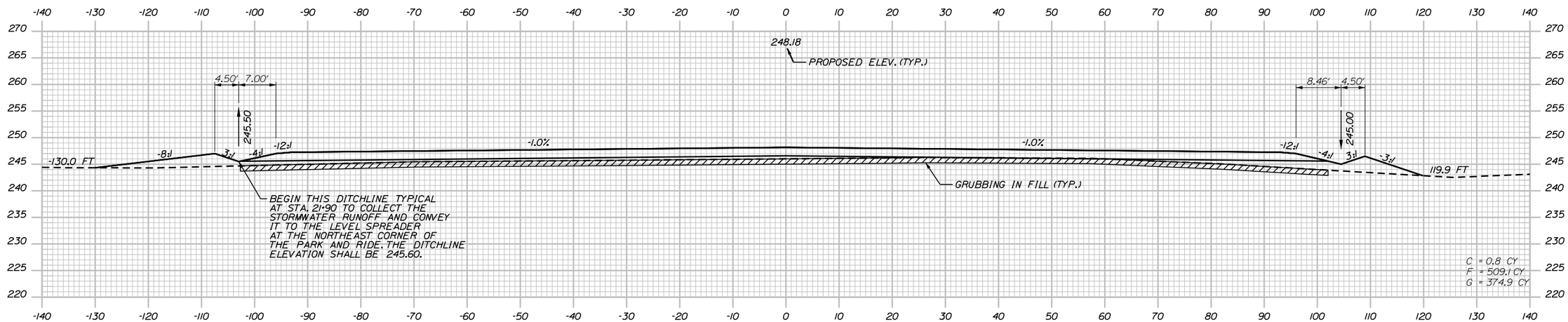
CONTRACT:2015.14

31 OF 58

Sta. 21+00.00 to Sta. 21+50.00



22+50.00



22+00.00

Date:5/4/2015

Filename: ...\te\Highway\MSTA\Xsect_PNR.dgn

Scale: 10 0 10 20 Scale of Feet

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

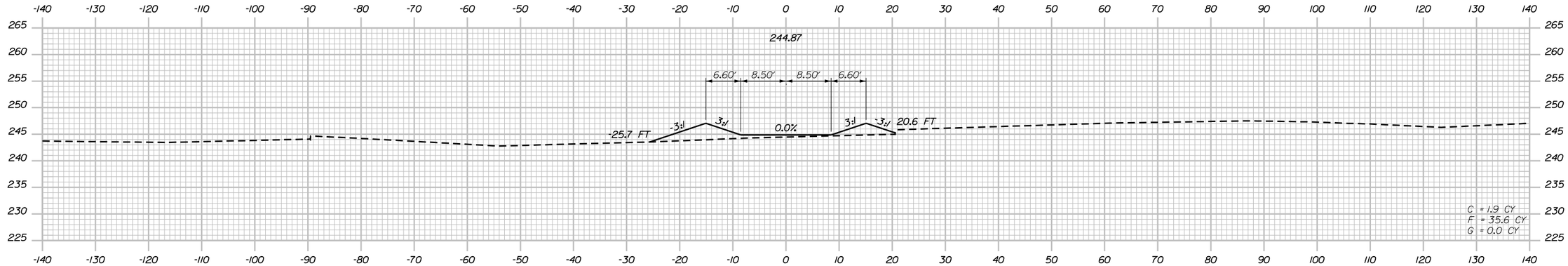
GRAY PARK AND RIDE (EXIT 63)

PARK AND RIDE LOT
CROSS SECTION 3 OF 3

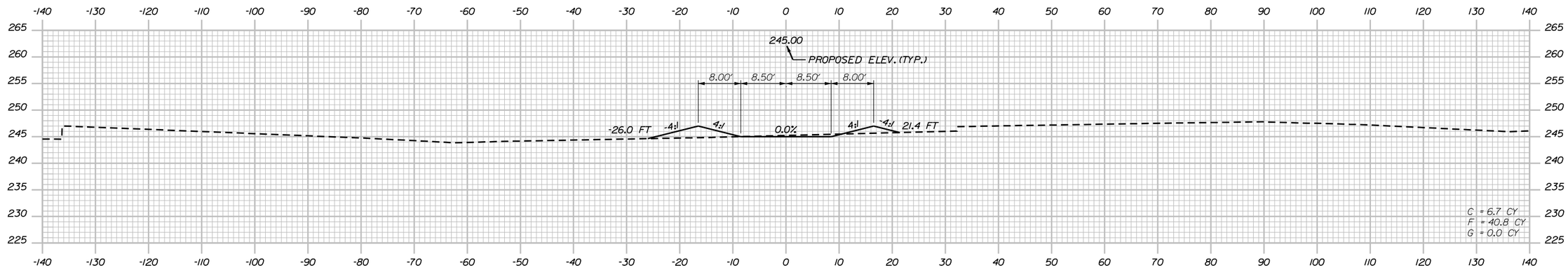
SHEET NUMBER: 32

CONTRACT:2015.14

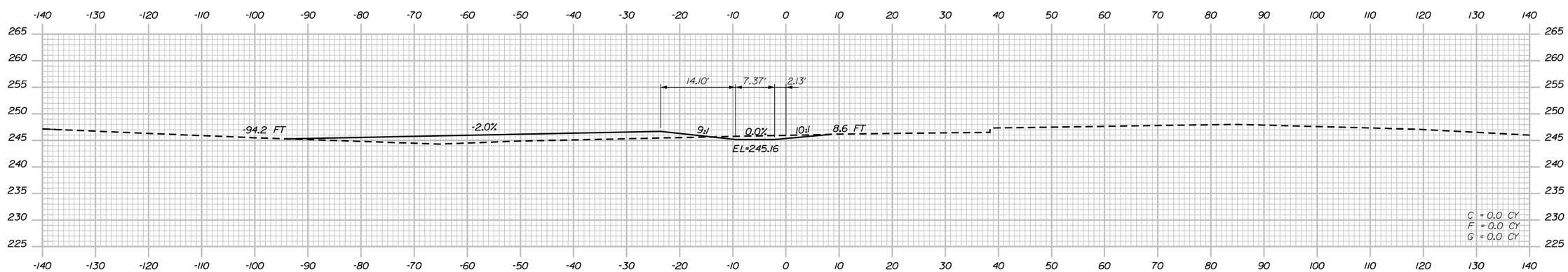
Sta. 22+00.00 to Sta. 22+50.00



30+50.00



30+25.00



30+00.00

Scale:
10 0 10 20
Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

PARK AND RIDE LEVEL SPREADER NO. 2
CROSS SECTION 1 OF 2

SHEET NUMBER: 33

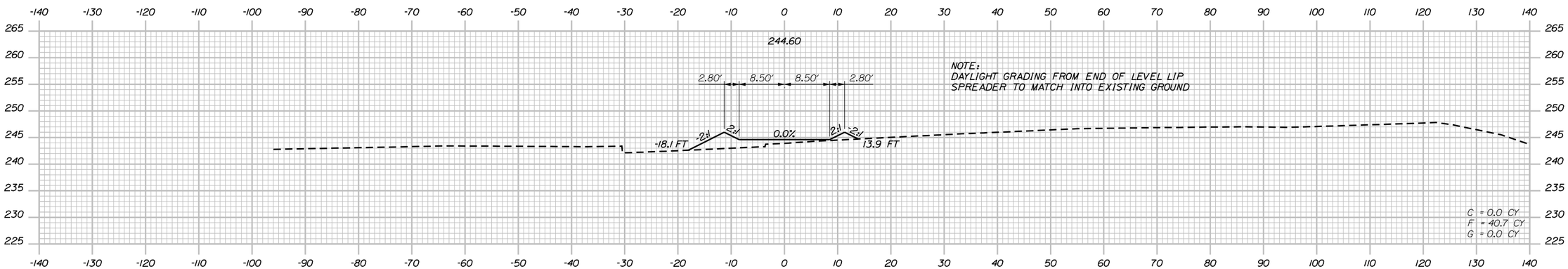
CONTRACT:2015.14

33 OF 58

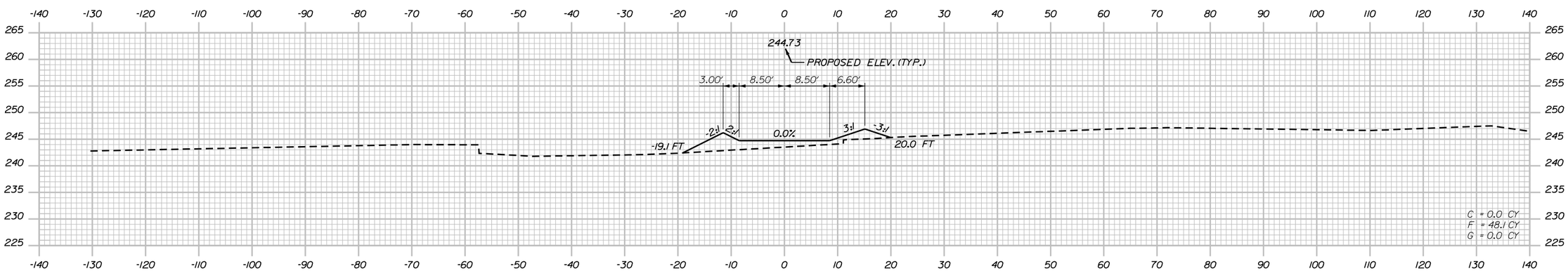
Date:5/4/2015

Filename: ...\te\Highway\MSTA\Xsect_PNR.dgn

Sta. 30+00.00 to Sta. 30+50.00



31+00.00



30+75.00

Date:5/4/2015

Filename: ...\te\Highway\MSTAXsect_PNR.dgn

Scale: 10 0 10 20 Scale of Feet

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MTA PROJECT MANAGER: ---

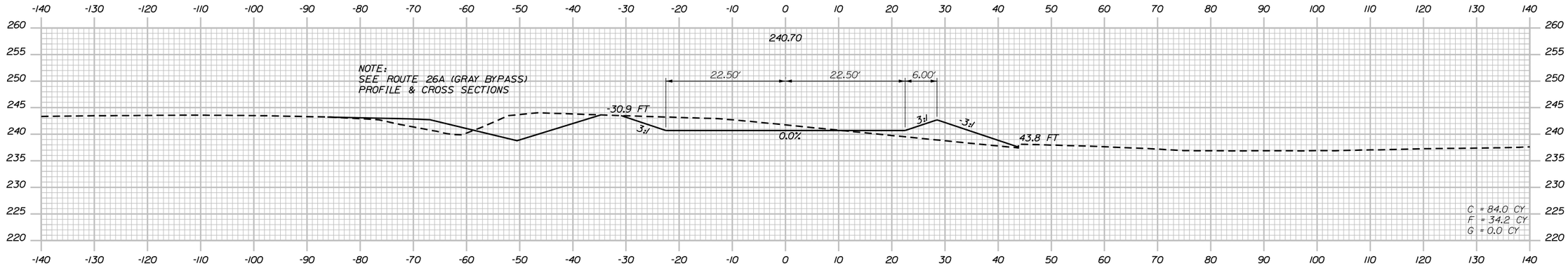
GRAY PARK AND RIDE
(EXIT 63)

PARK AND RIDE LEVEL SPREADER NO. 2
CROSS SECTION 2 OF 2

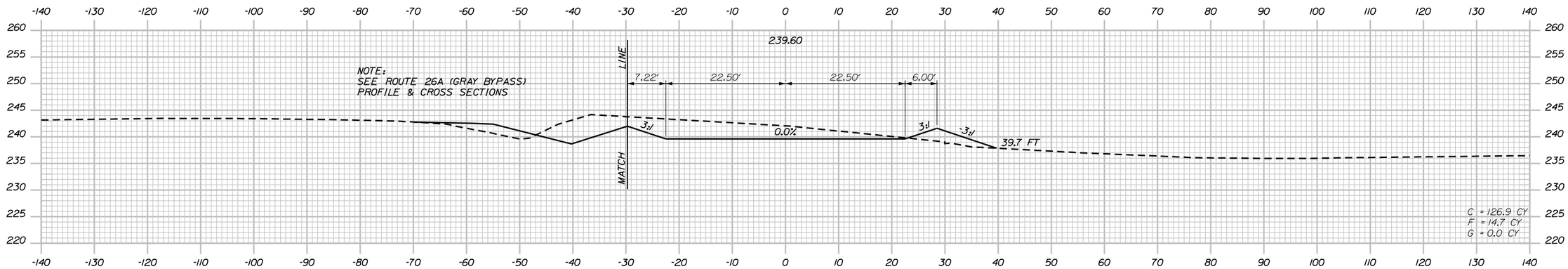
SHEET NUMBER: 34

CONTRACT:2015.14

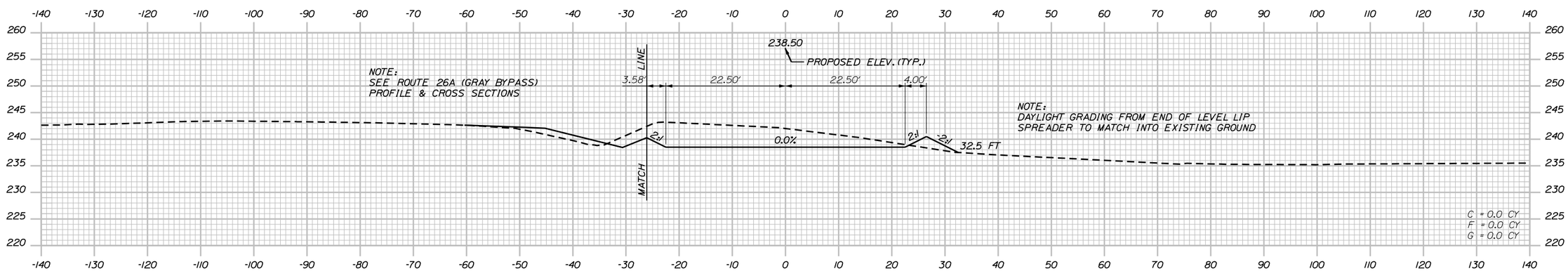
Sta. 30+75.00 to Sta. 31+00.00



40+50.00



40+25.00



40+00.00

Scale: 10 0 10 20 Scale of Feet

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

PARK AND RIDE LEVEL SPREADER NO. 3
CROSS SECTION 1 OF 2

SHEET NUMBER: 35

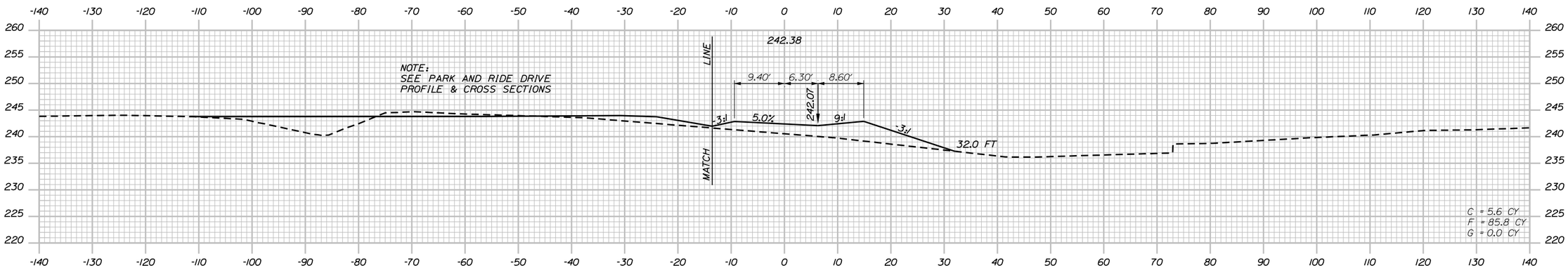
CONTRACT:2015.14

35 OF 58

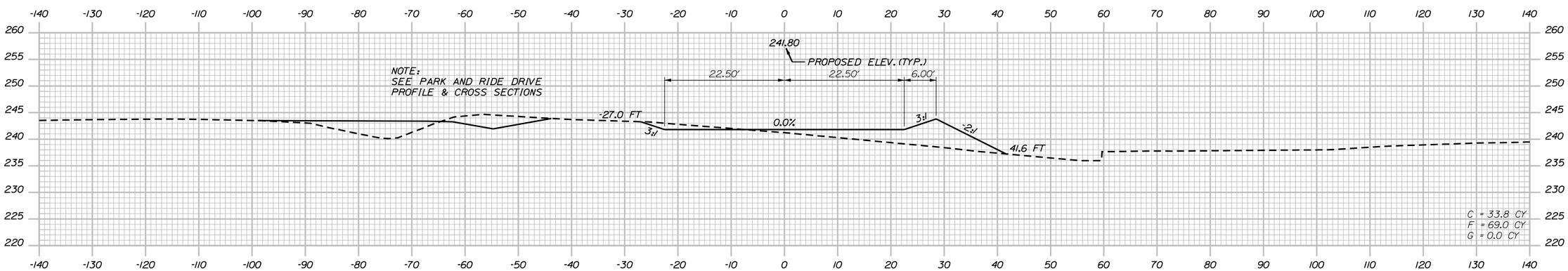
Date:5/4/2015

Filename: ...\te\Highway\MSTAXsect_PNR.dgn

Sta. 40+00.00 to Sta. 40+50.00



41+00.00



40+75.00

Scale: 10 0 10 20 Scale of Feet

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

PARK AND RIDE LEVEL SPREADER NO. 3
CROSS SECTION 2 OF 2

SHEET NUMBER: 36

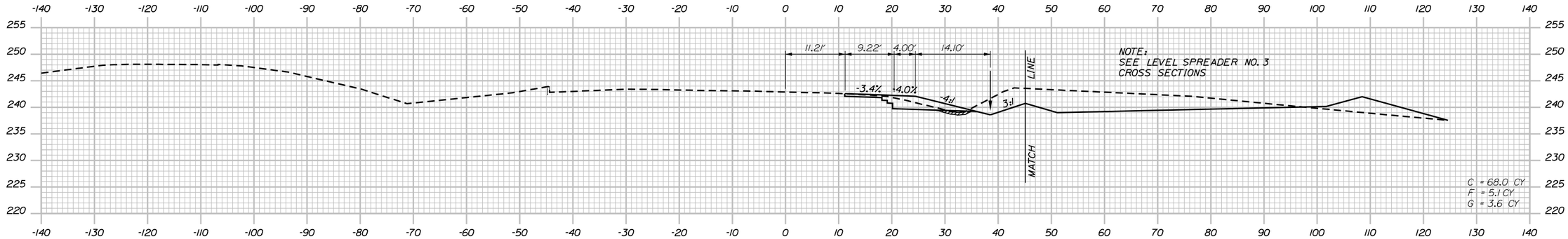
CONTRACT:2015.14

36 OF 58

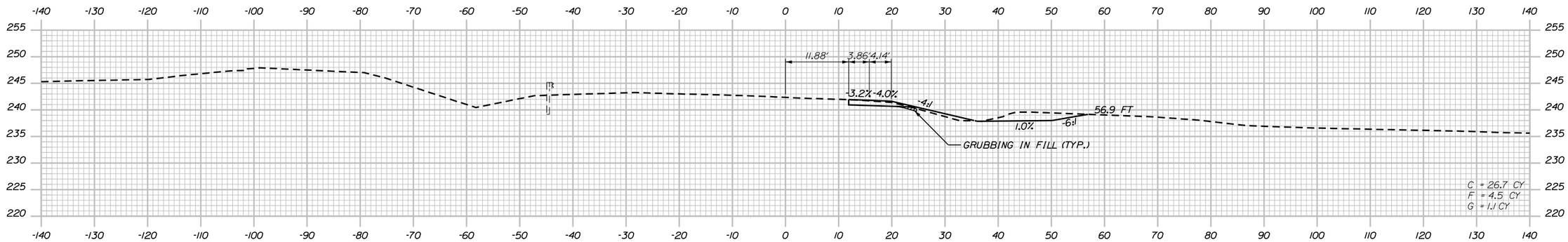
Sta. 40+75.00 to Sta. 41+00.00

Date:5/4/2015

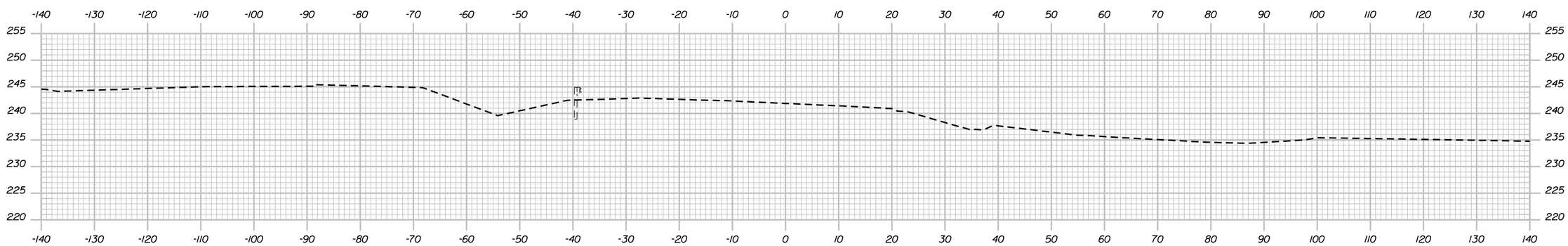
Filename: ...\te\Highway\MSTAXsect_PNR.dgn



713+00.00



712+50.00



712+00.00

Date:5/4/2015

Filename: ...\te\Highway\MSTA\Xsect_PNR.dgn

Scale: 10 0 10 20 Scale of Feet

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

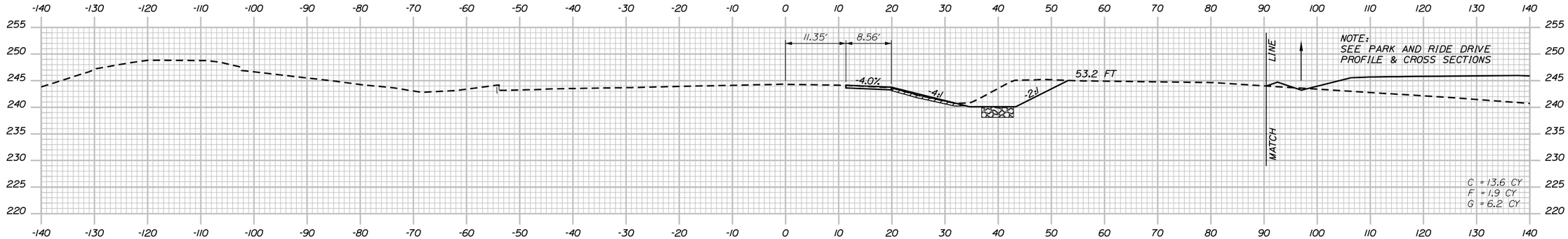
ROUTE 26A (GRAY BYPASS)
CROSS SECTION 1 OF 3

SHEET NUMBER: 37

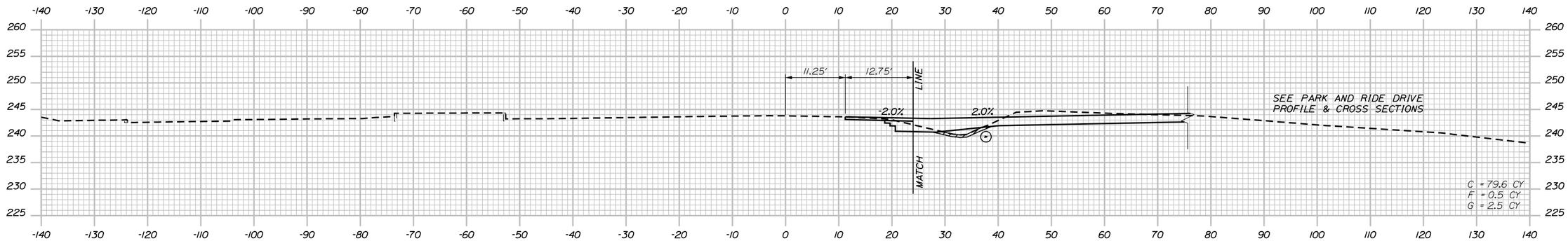
CONTRACT:2015.14

37 OF 58

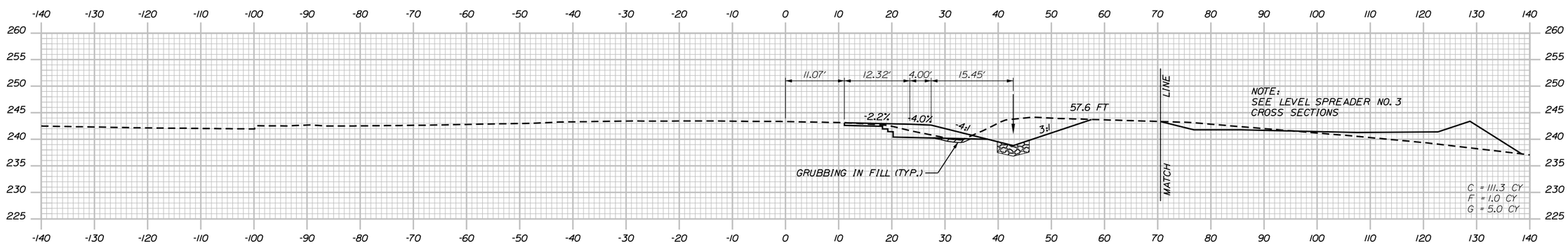
Sta. 712+00.00 to Sta. 713+00.00



714+50.00



714+00.00



713+50.00

Date:5/4/2015

Filename: ...\te\Highway\MSTA\Xsect_PNR.dgn

Scale: 10 0 10 20
Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

ROUTE 26A (GRAY BYPASS)
CROSS SECTION 2 OF 3

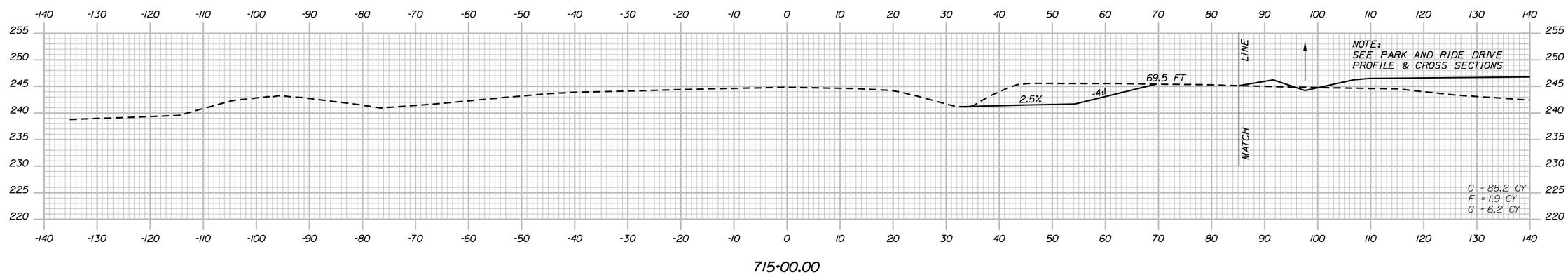
SHEET NUMBER: 38

CONTRACT:2015.14

38 OF 58

Sta. 713+50.00 to Sta. 714+50.00

Date:5/4/2015



Filename: ...\te\Highway\MSTAXsect_PNR.dgn

Scale: 10 0 10 20
Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE (EXIT 63)

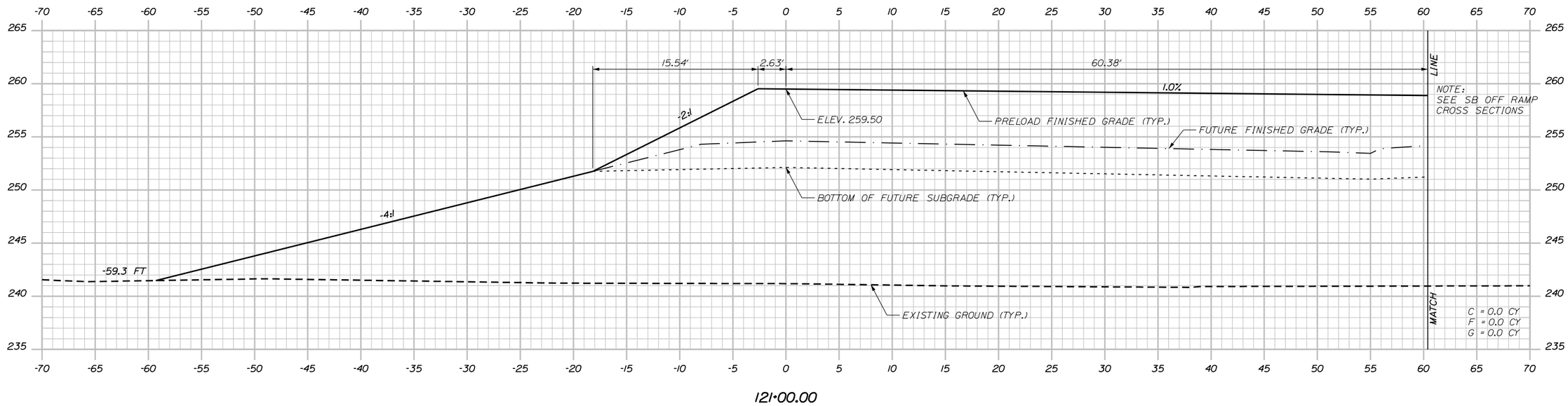
ROUTE 26A (GRAY BYPASS) CROSS SECTION 3 OF 3

SHEET NUMBER: 39

CONTRACT:2015.14

Sta. 715+00.00 to Sta. 715+00.00

Date:5/4/2015



NOTE: THE GRADING OF THE PRELOAD SHOULD BE TIED INTO EXISTING GROUND WITH A 2:1 SLOPE AND NOT IMPACT THE EXISTING RAMPS.

Filename: ...\MSTA\Xsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

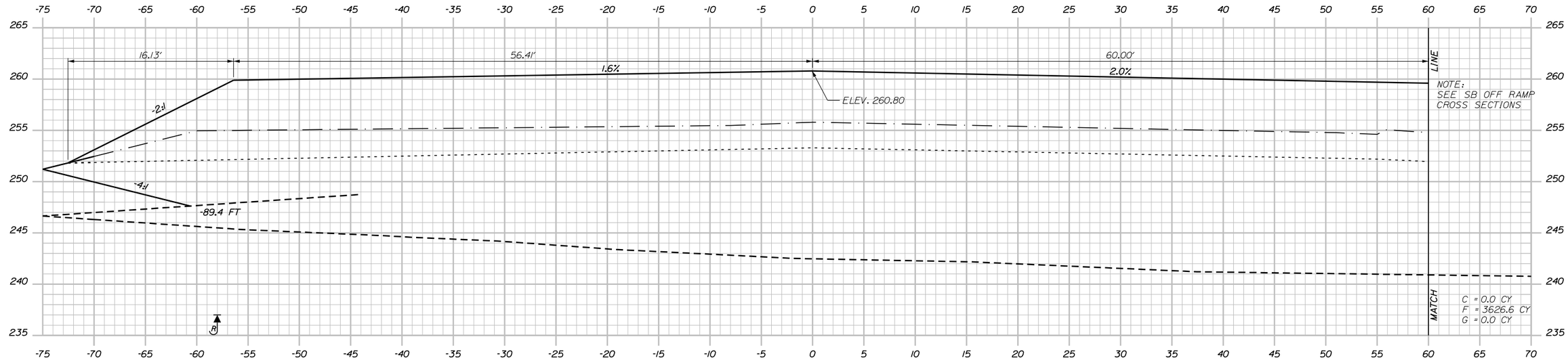
GRAY PARK AND RIDE
(EXIT 63)

SB ON RAMP
PRELOADING CROSS SECTIONS

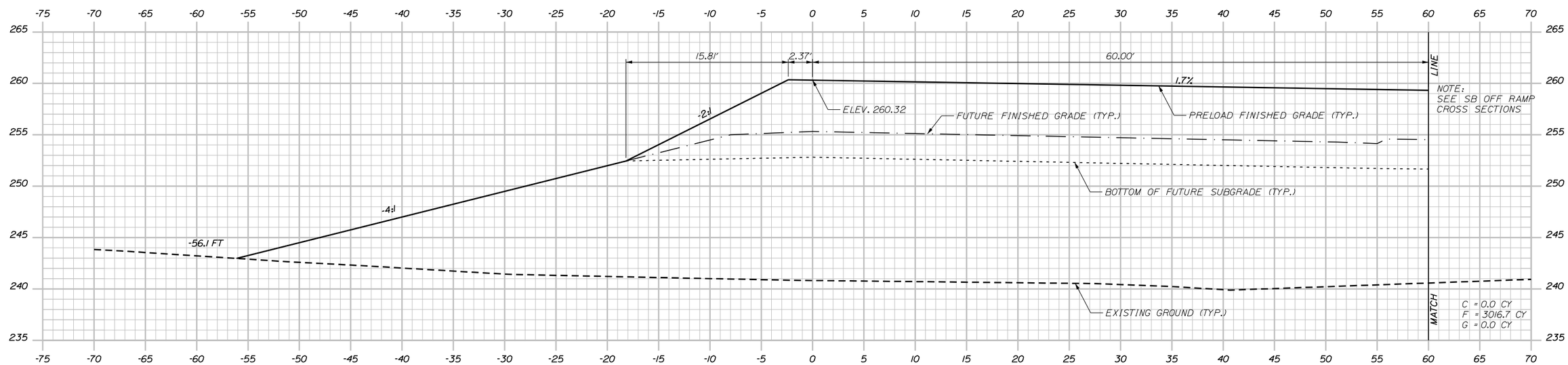
SHEET NUMBER: 40

CONTRACT:---

Sta. 120+50.00 to Sta. 121+00.00



122+00.00



121+50.00

Date:5/4/2015

Filename: ...\MSTA\Xsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

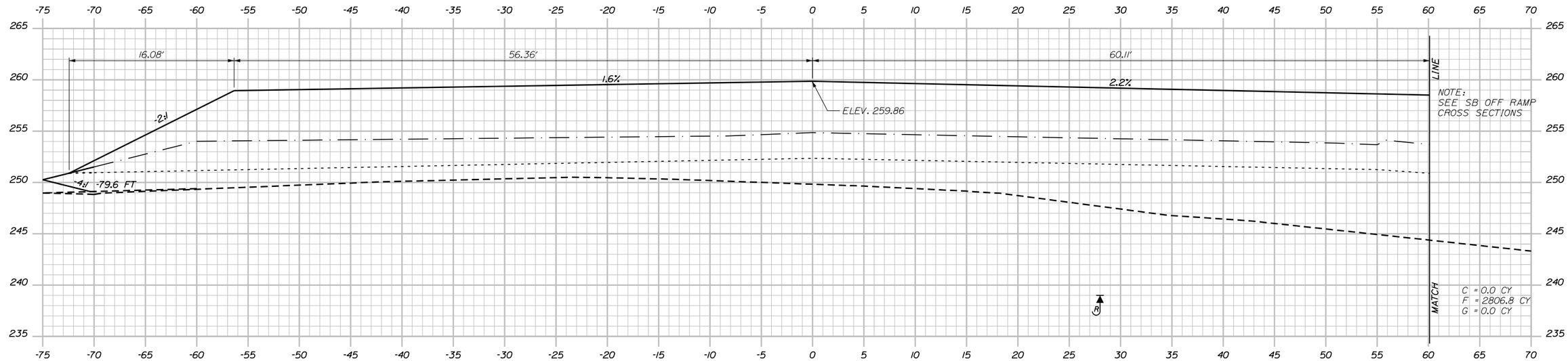
GRAY PARK AND RIDE
(EXIT 63)

SB ON RAMP
PRELOADING CROSS SECTIONS

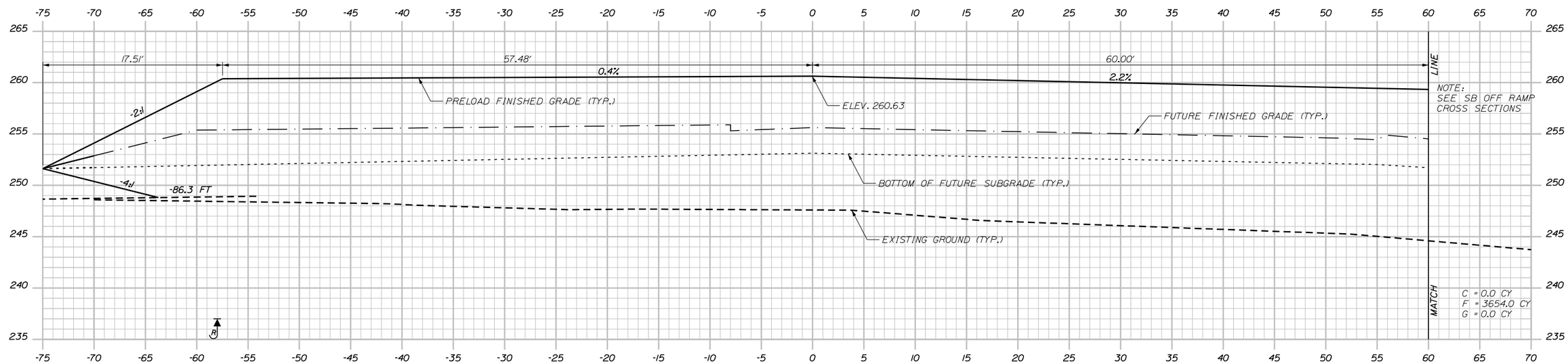
SHEET NUMBER: 41

CONTRACT:---

Sta. 121+50.00 to Sta. 122+00.00



123+00.00



122+50.00

Date:5/4/2015

Filename: ...\MSTA\Xsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

Vanasse Hangen Brustlin, Inc.
550 Southborough Dr.
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

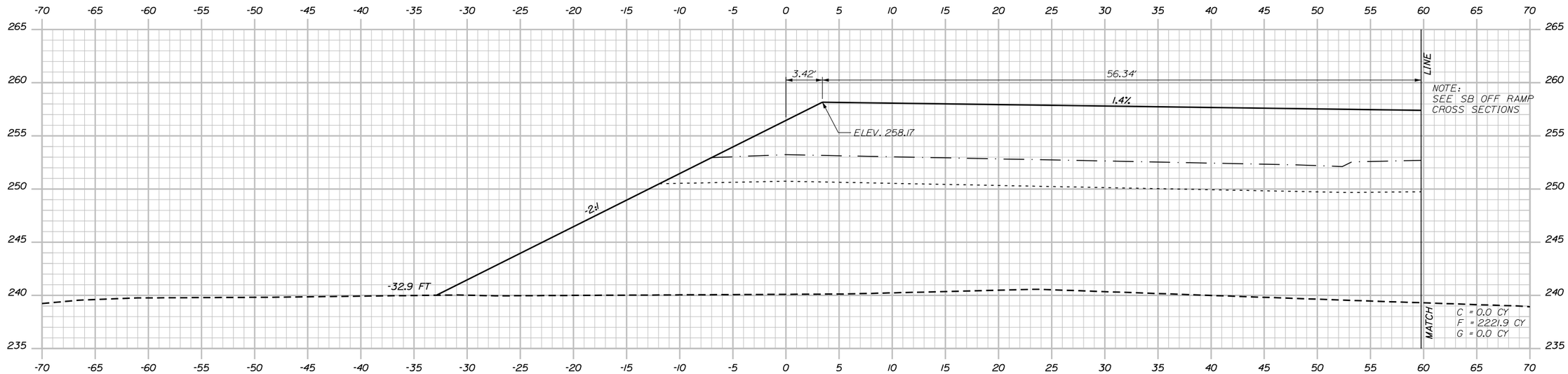
GRAY PARK AND RIDE
(EXIT 63)

SB ON RAMP
PRELOADING CROSS SECTIONS

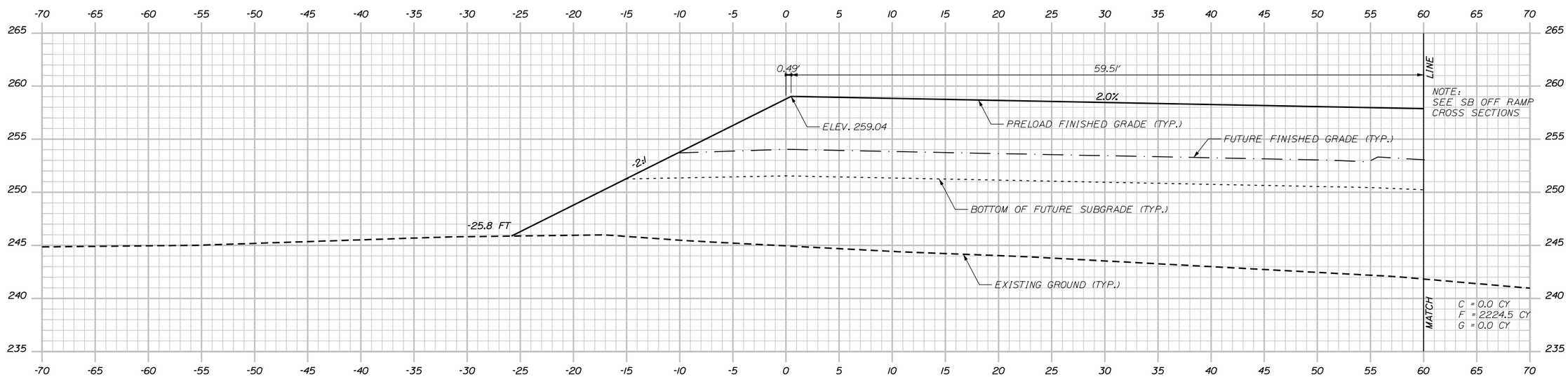
SHEET NUMBER: 42

CONTRACT:---

Sta. 122+50.00 to Sta. 123+00.00



124+00.00



123+50.00

Date:5/4/2015

Filename: ...\MSTA\Xsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

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MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

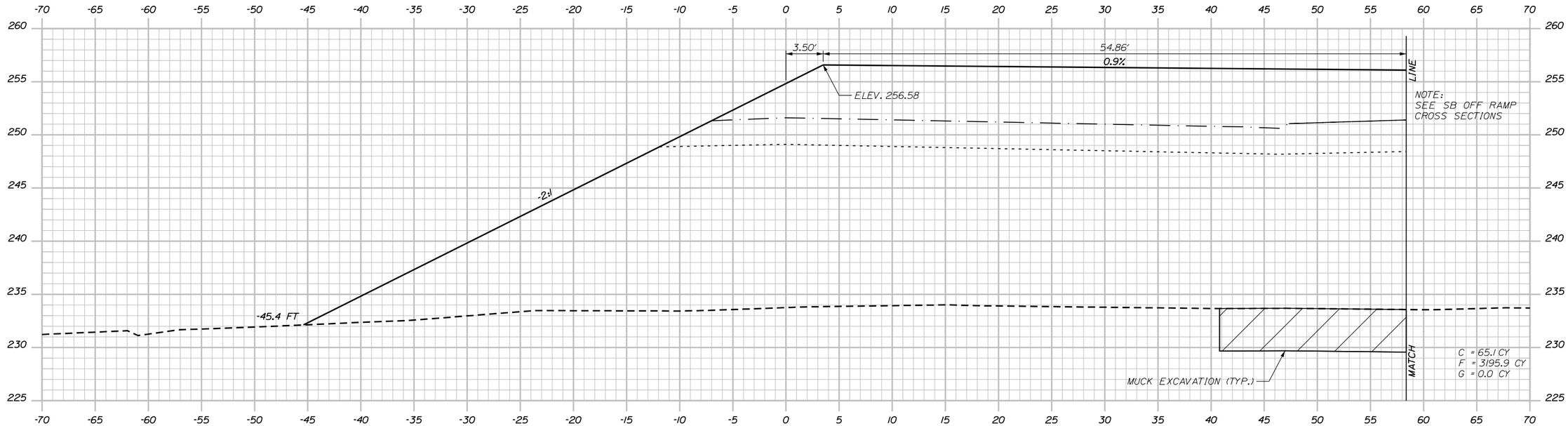
SB ON RAMP
PRELOADING CROSS SECTIONS

SHEET NUMBER: 43

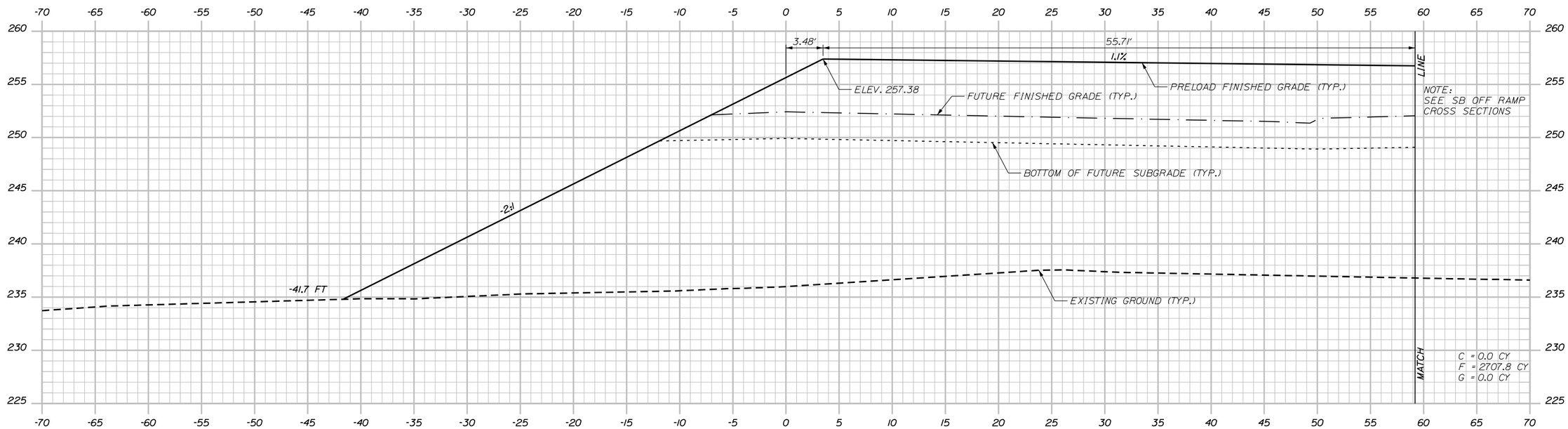
CONTRACT:---

43 OF 58

Sta. 123+50.00 to Sta. 124+00.00



125+00.00



124+50.00

Date:5/4/2015

Filename: ...\MSTAXsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

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CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

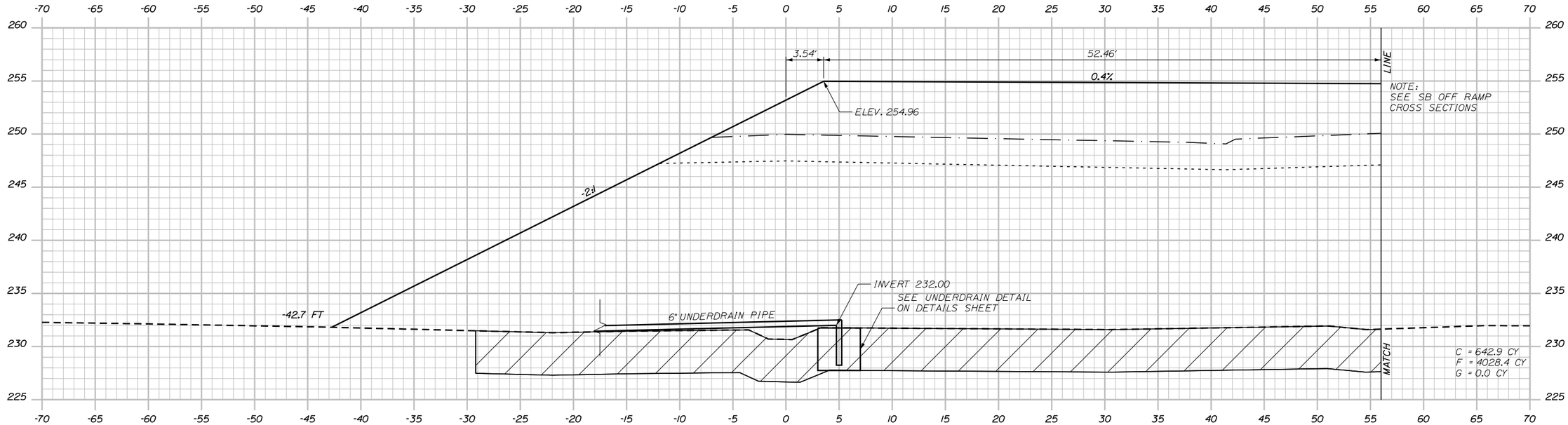
SB ON RAMP
PRELOADING CROSS SECTIONS

SHEET NUMBER: 44

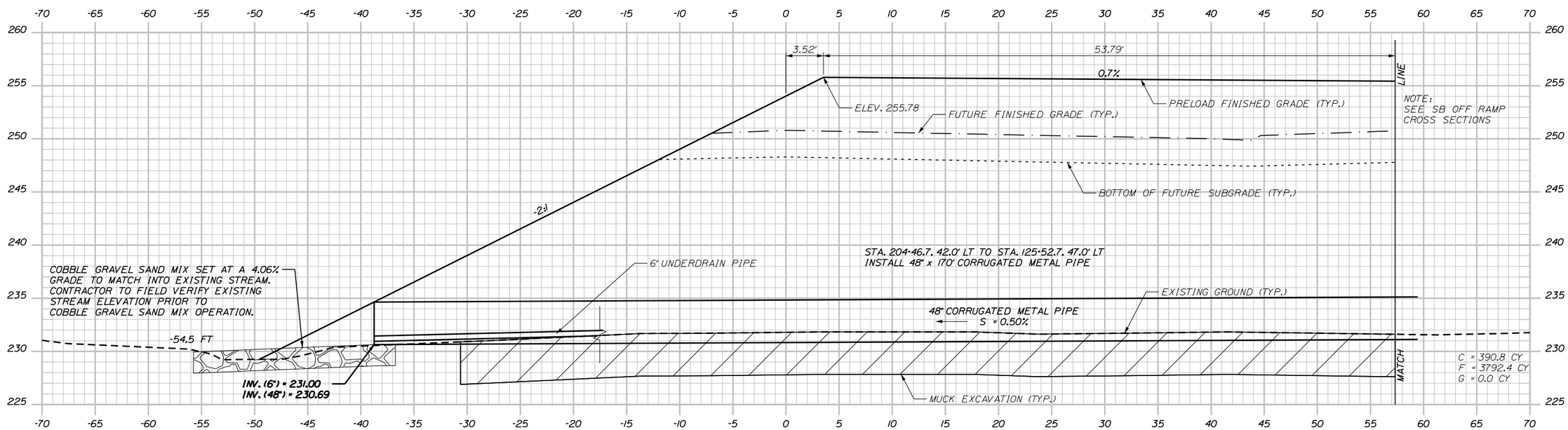
CONTRACT:---

44 OF 58

Sta. 124+50.00 to Sta. 125+00.00



126+00.00



125+50.00

Date:5/4/2015

Filename: ...\MSTA\Sect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

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CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MTA PROJECT MANAGER: ---

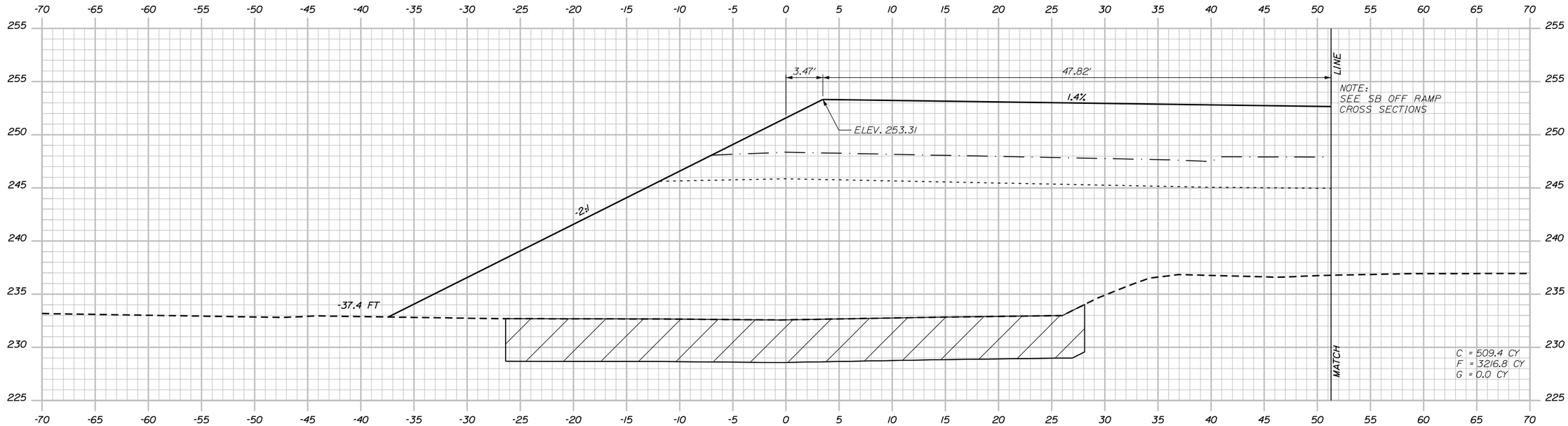
GRAY PARK AND RIDE
(EXIT 63)

SB ON RAMP
PRELOADING CROSS SECTIONS

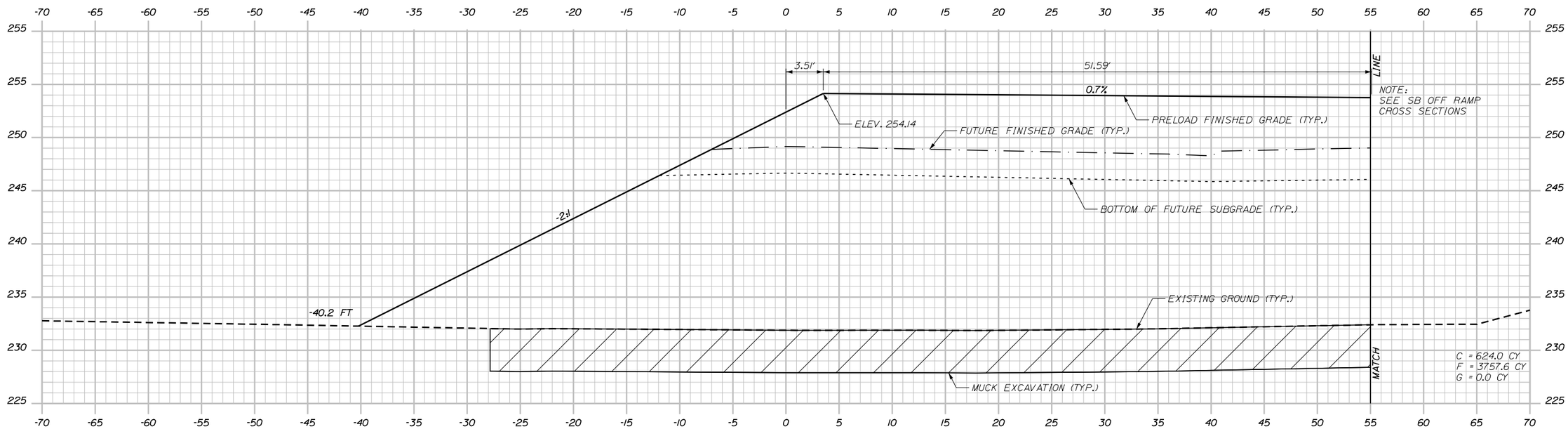
SHEET NUMBER: 45

CONTRACT:---

Sta. 125+50.00 to Sta. 126+00.00



127+00.00



126+50.00

Date:5/4/2015

Filename: ...\MSTAXsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

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CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

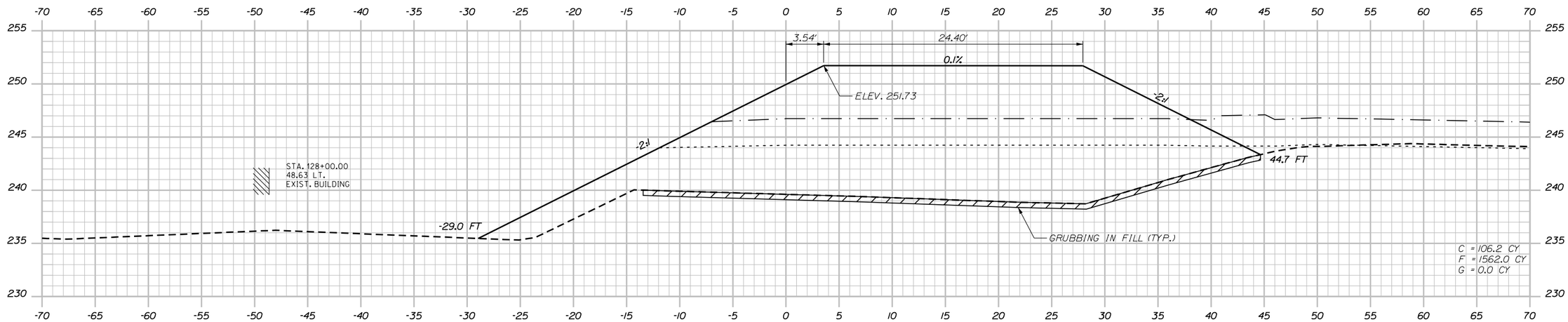
SB ON RAMP
PRELOADING CROSS SECTIONS

SHEET NUMBER: 46

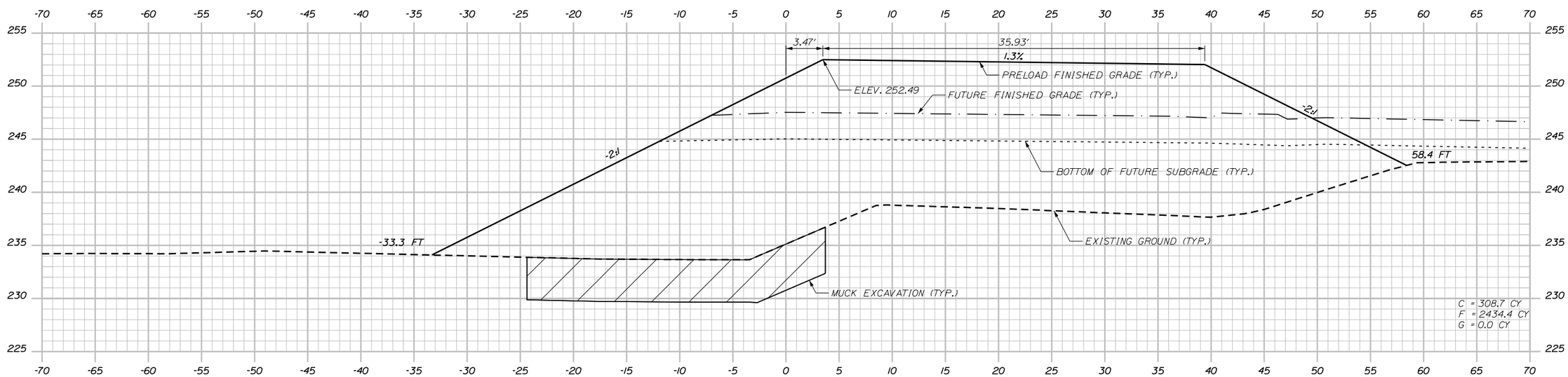
CONTRACT:---

46 OF 58

Sta. 126+50.00 to Sta. 127+00.00



128+00.00



127+50.00

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

SB ON RAMP
PRELOADING CROSS SECTIONS

SHEET NUMBER: 47

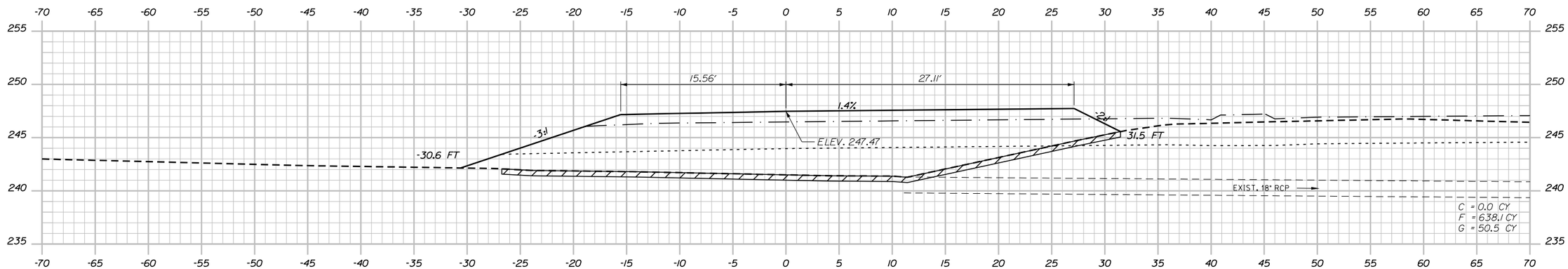
CONTRACT:---

Sta. 127+50.00 to Sta. 128+00.00

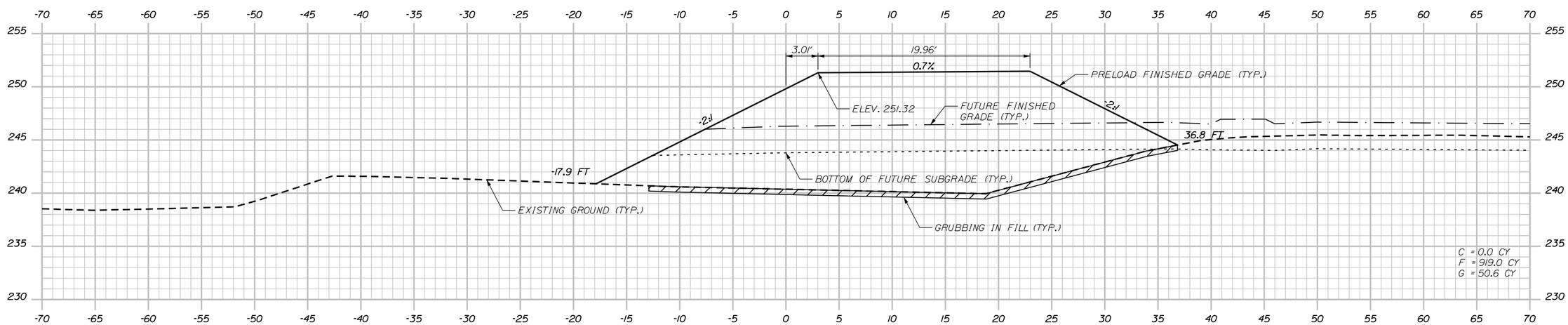
Date:5/4/2015

Filename: ...\MSTA\Xsect_Preload_PNR.dgn

NOTE: THE GRADING OF THE PRELOAD SHOULD BE TIED INTO EXISTING GROUND WITH A 2:1 SLOPE AND NOT IMPACT THE EXISTING DRAINAGE PATTERN.



129+00.00



128+50.00

Date:5/4/2015

Filename: ...\MSTA\Xsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

SB ON RAMP
PRELOADING CROSS SECTIONS

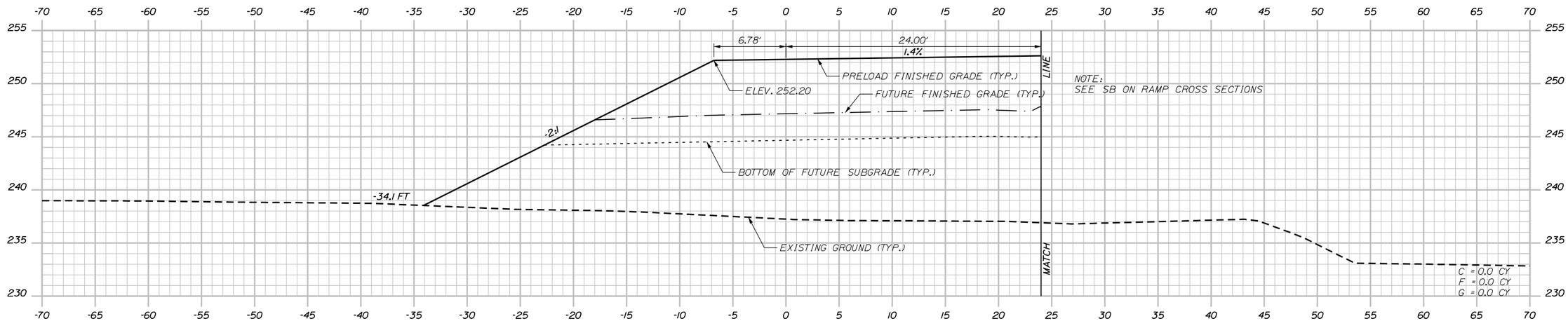
SHEET NUMBER: 48

CONTRACT:---

48 OF 58

Sta. 128+50.00 to Sta. 129+00.00

Date:5/4/2015



NOTE: THE GRADING OF THE PRELOAD SHOULD BE TIED INTO EXISTING GROUND WITH A 2:1 SLOPE AND NOT IMPACT THE EXISTING PARK AND RIDE DRIVEWAY.

Filename: ...\MSTA\Xsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

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CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

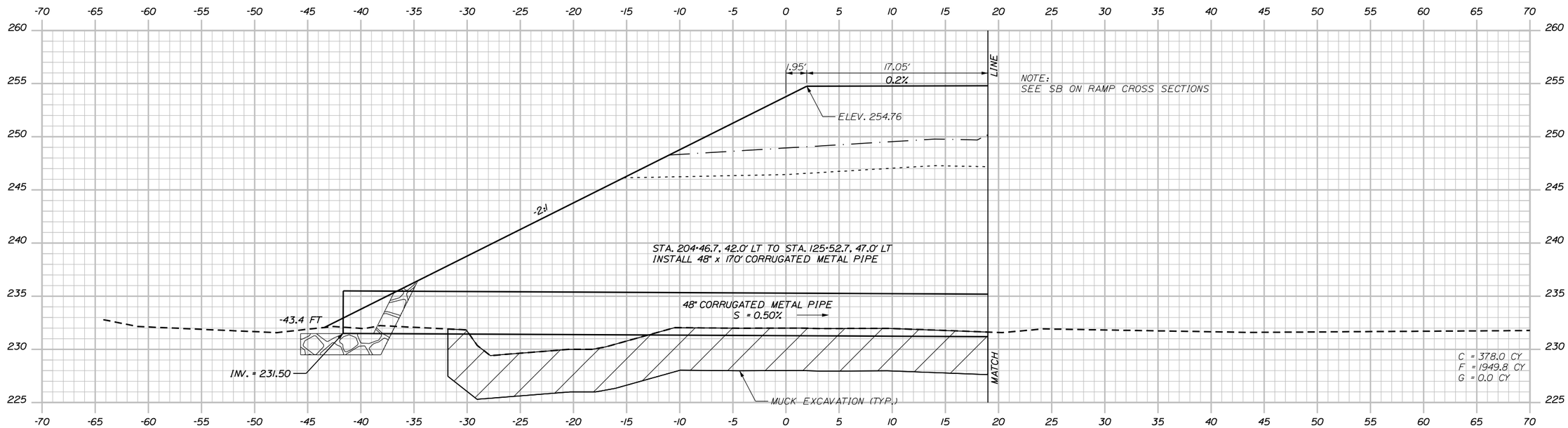
GRAY PARK AND RIDE
(EXIT 63)

SB OFF RAMP
PRELOADING CROSS SECTIONS

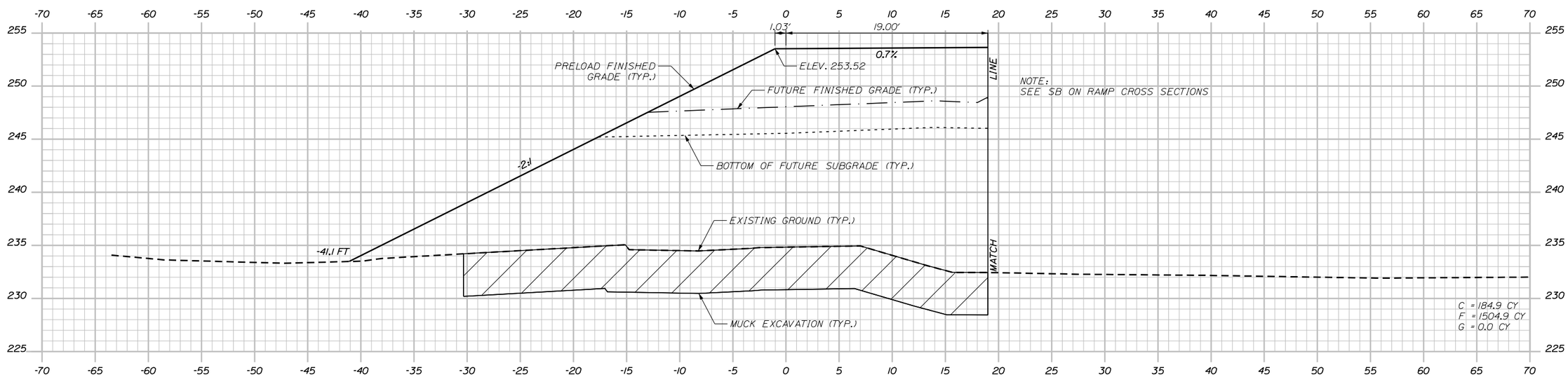
SHEET NUMBER: 49

CONTRACT:---

Sta. 203+00.00 to Sta. 203+50.00



204+50.00



204+00.00

Date:5/4/2015

Filename: ...\MSTA\Xsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

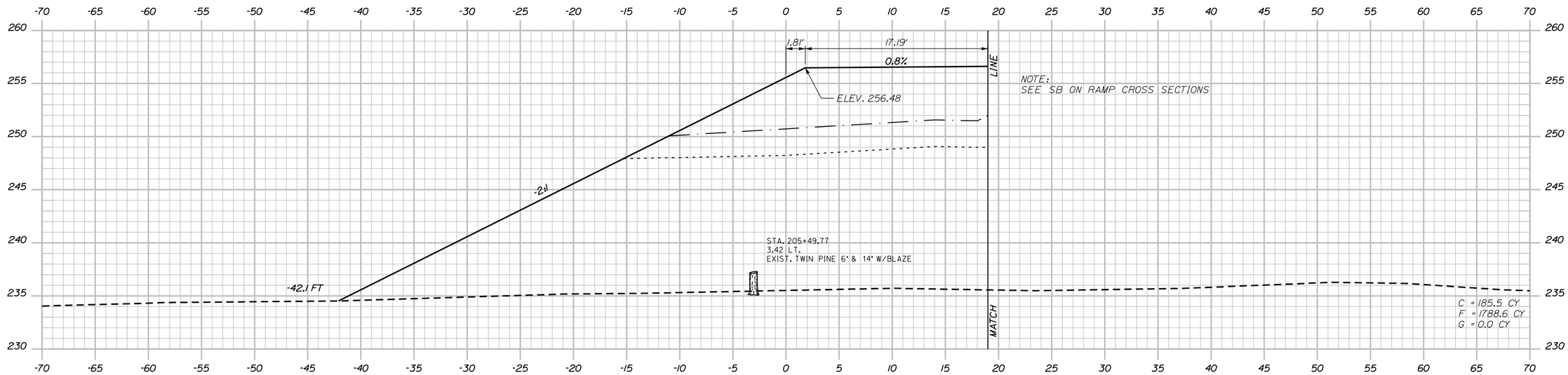
SB OFF RAMP
PRELOADING CROSS SECTIONS

SHEET NUMBER: 50

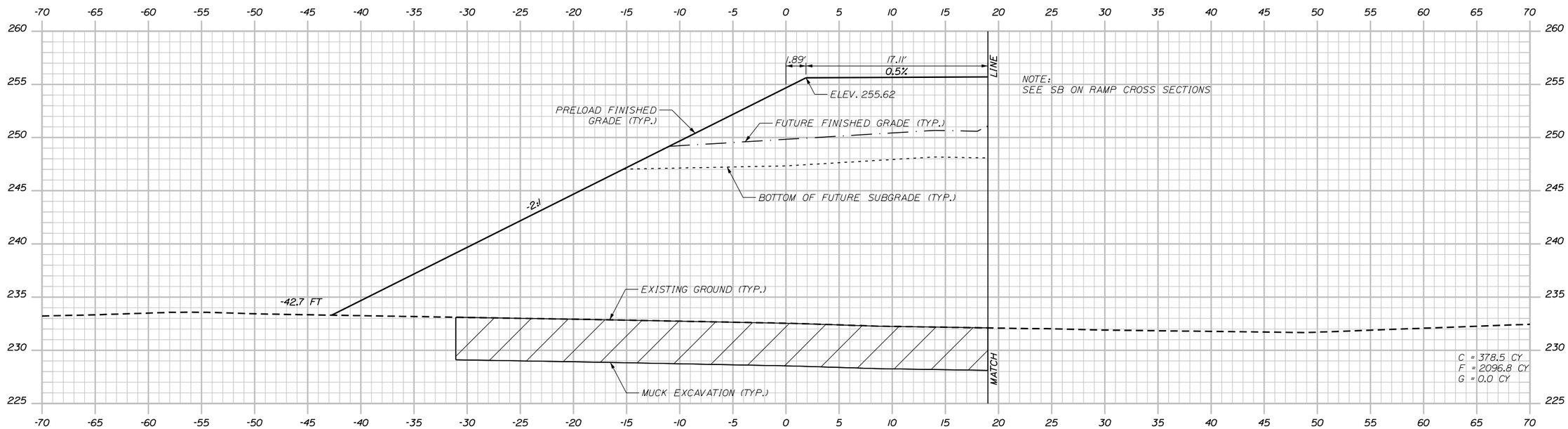
CONTRACT:---

50 OF 58

Sta. 204+00.00 to Sta. 204+50.00



205+50.00



205+00.00

Date:5/4/2015

Filename: ...\MSTAXsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

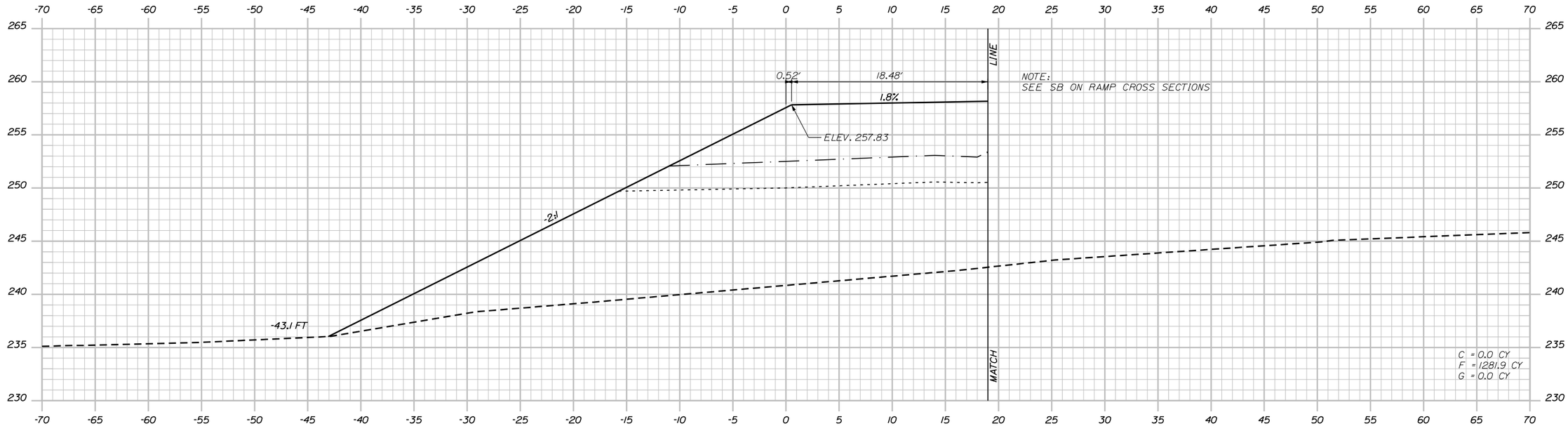
SB OFF RAMP
PRELOADING CROSS SECTIONS

SHEET NUMBER: 51

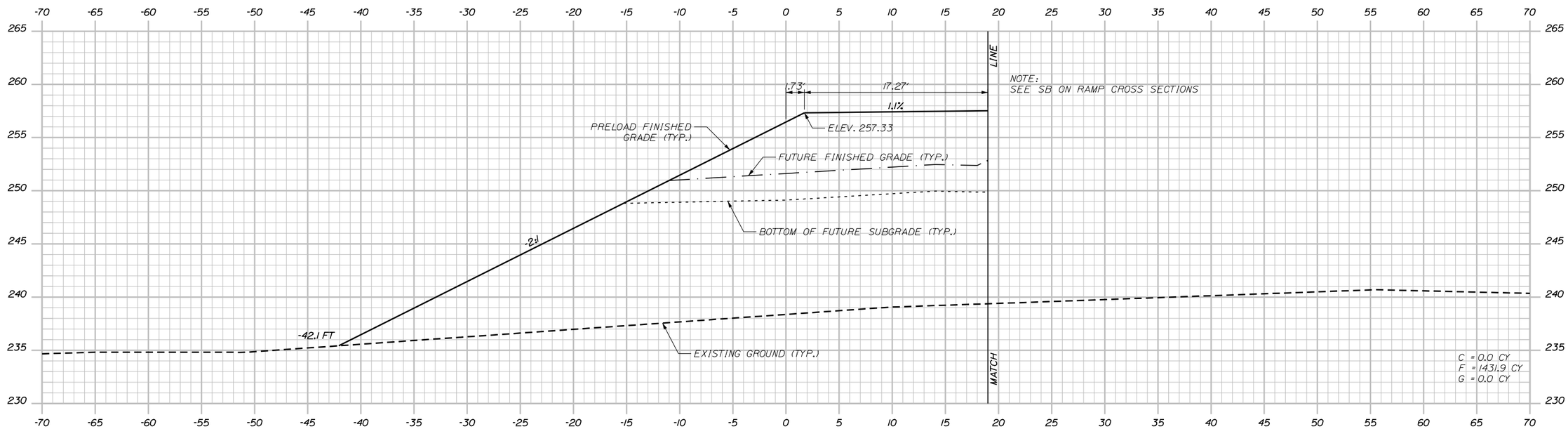
CONTRACT:---

51 OF 58

Sta. 205+00.00 to Sta. 205+50.00



206+50.00



206+00.00

Date:5/4/2015

Filename: ...\MSTAXsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

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CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

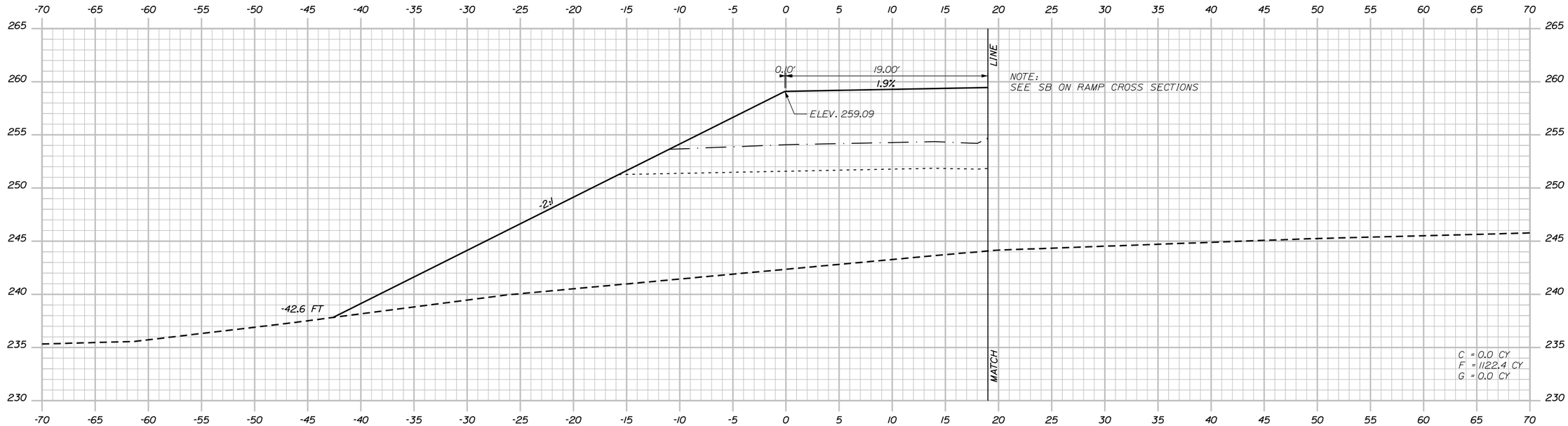
SB OFF RAMP
PRELOADING CROSS SECTIONS

SHEET NUMBER: 52

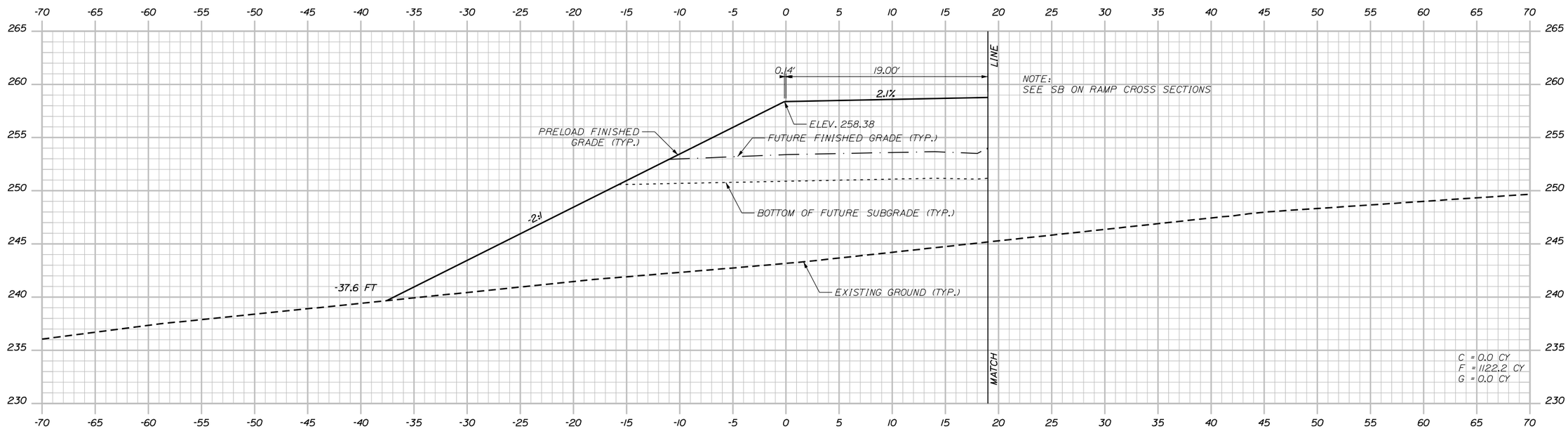
CONTRACT:---

52 OF 58

Sta. 206+00.00 to Sta. 206+50.00



207+50.00



207+00.00

Date:5/4/2015

Filename: ...\MSTAXsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

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CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

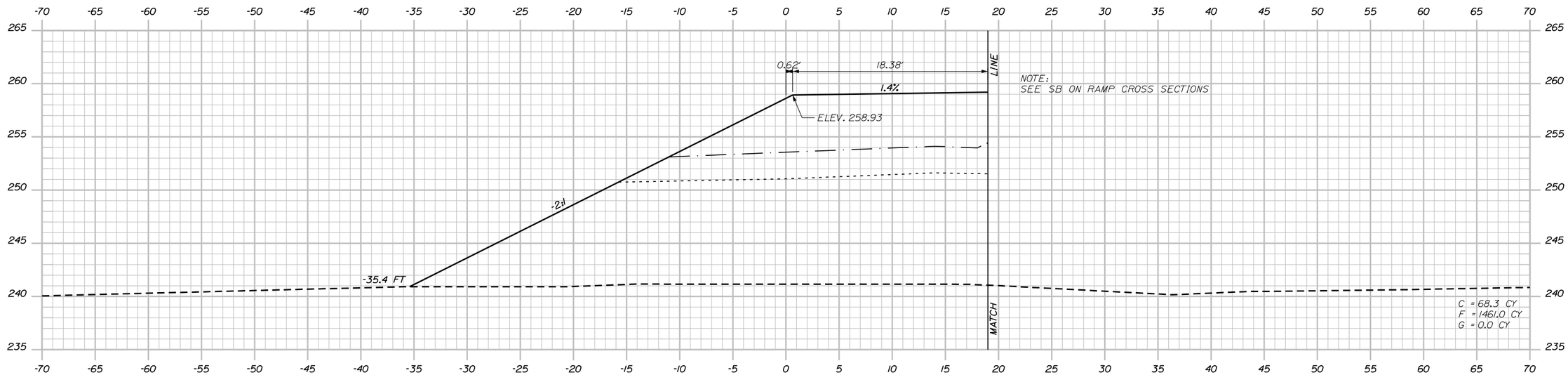
SB OFF RAMP
PRELOADING CROSS SECTIONS

SHEET NUMBER: 53

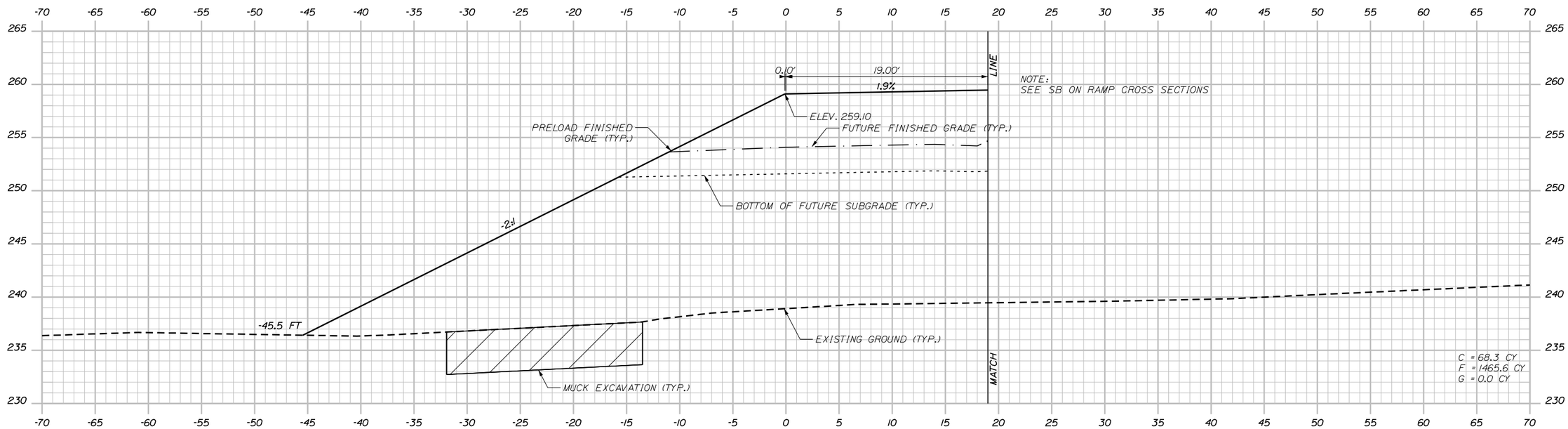
CONTRACT:---

53 OF 58

Sta. 207+00.00 to Sta. 207+50.00



208+50.00



208+00.00

Date:5/4/2015

Filename: ...\MSTAXsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

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CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

SB OFF RAMP
PRELOADING CROSS SECTIONS

SHEET NUMBER: 54

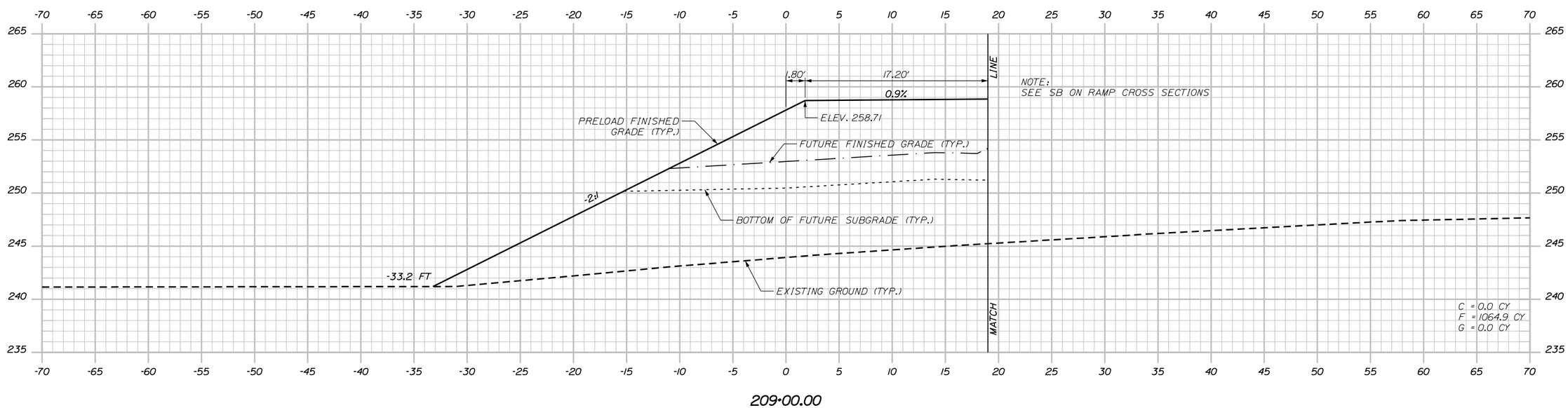
CONTRACT:---

54 OF 58

Sta. 208+00.00 to Sta. 208+50.00

Date:5/4/2015

NOTE: THE GRADING OF THE PRELOAD SHOULD BE TIED INTO EXISTING GROUND WITH A 2:1 SLOPE AND NOT IMPACT THE EXISTING RAMPS.



209+00.00

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

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CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

SB OFF RAMP
PRELOADING CROSS SECTIONS

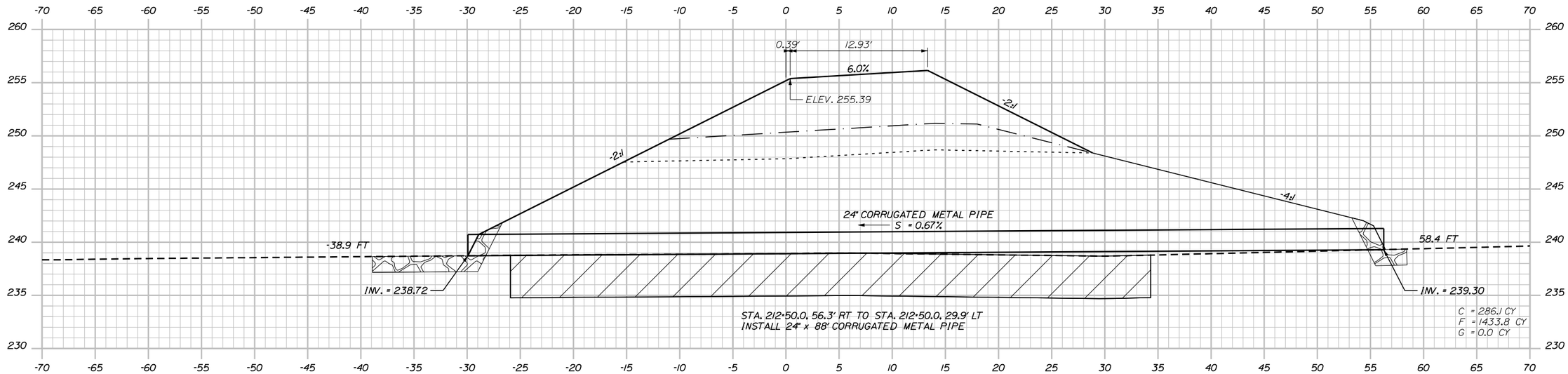
SHEET NUMBER: 55

CONTRACT:---

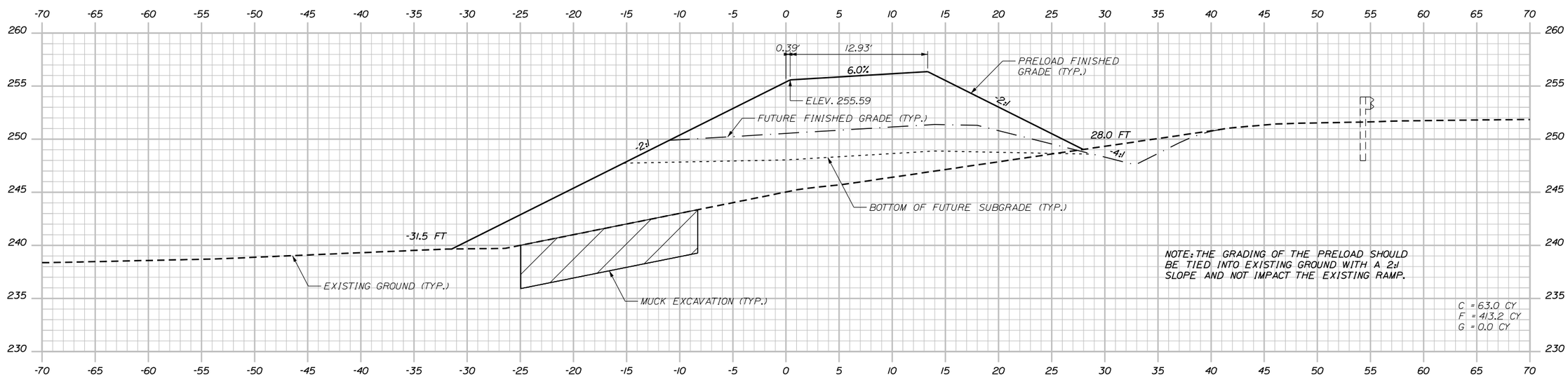
55 OF 58

Filename: ...\MSTA\Xsect_Preload_PNR.dgn

Sta. 209+00.00 to Sta. 209+50.00



212+50.00



212+00.00

Date:5/4/2015

Filename: ...\MSTA\Xsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

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CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

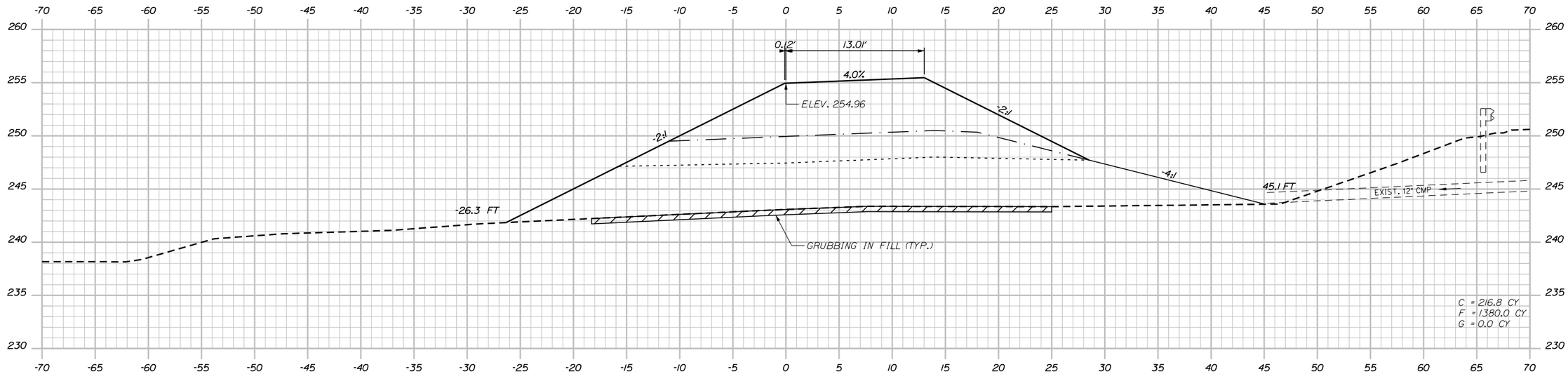
SB OFF RAMP
PRELOADING CROSS SECTIONS

SHEET NUMBER: 56

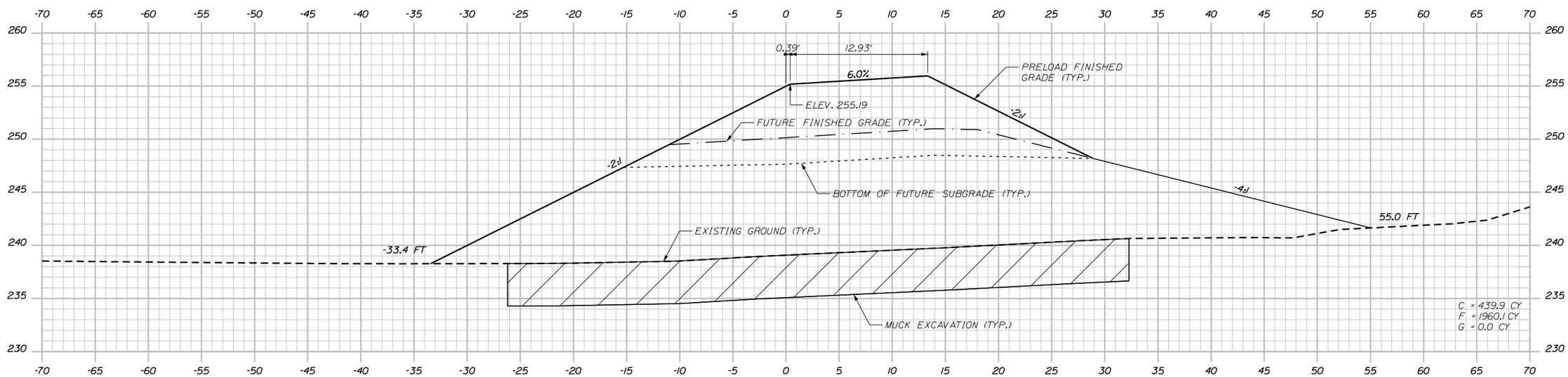
CONTRACT:---

56 OF 58

Sta. 212+00.00 to Sta. 212+50.00



213+50.00



213+00.00

Date:5/4/2015

Filename: ...\MSTA\Xsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

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CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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FAX (207) 253-5596

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: ---

GRAY PARK AND RIDE
(EXIT 63)

SB OFF RAMP
PRELOADING CROSS SECTIONS

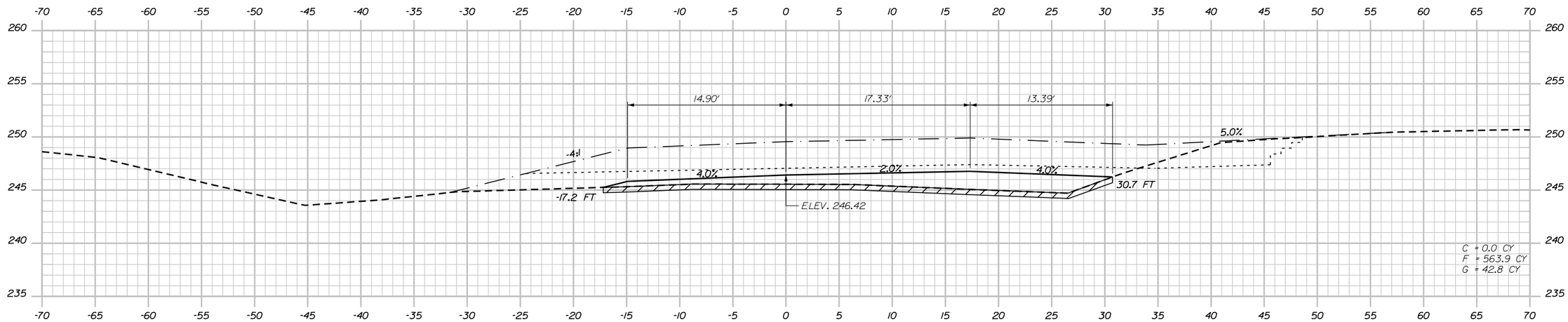
SHEET NUMBER: 57

CONTRACT:---

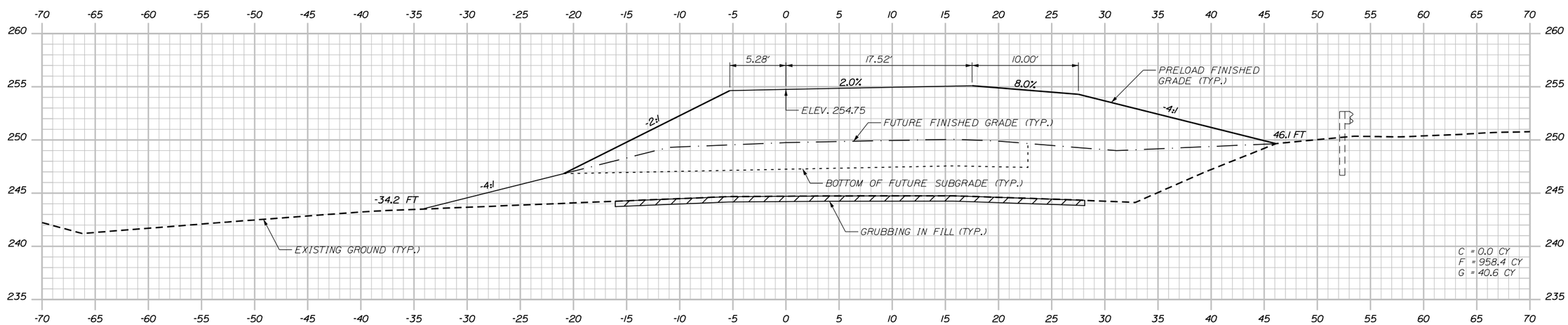
57 OF 58

Sta. 213+00.00 to Sta. 213+50.00

NOTE: THE GRADING OF THE PRELOAD SHOULD BE TIED INTO EXISTING GROUND WITH A 6:1 SLOPE.



214+50.00



214+00.00

Date:5/4/2015

Filename: ...\MSTA\Xsect_Preload_PNR.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

vhb Engineers Scientists Planners Designers

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	---		Checked	P.C.	---
Drawn	---		In Charge of	---	---

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GRAY PARK AND RIDE
(EXIT 63)

SB OFF RAMP
PRELOADING CROSS SECTIONS

SHEET NUMBER: 58

CONTRACT:---

58 OF 58

Sta. 214+00.00 to Sta. 214+03.48