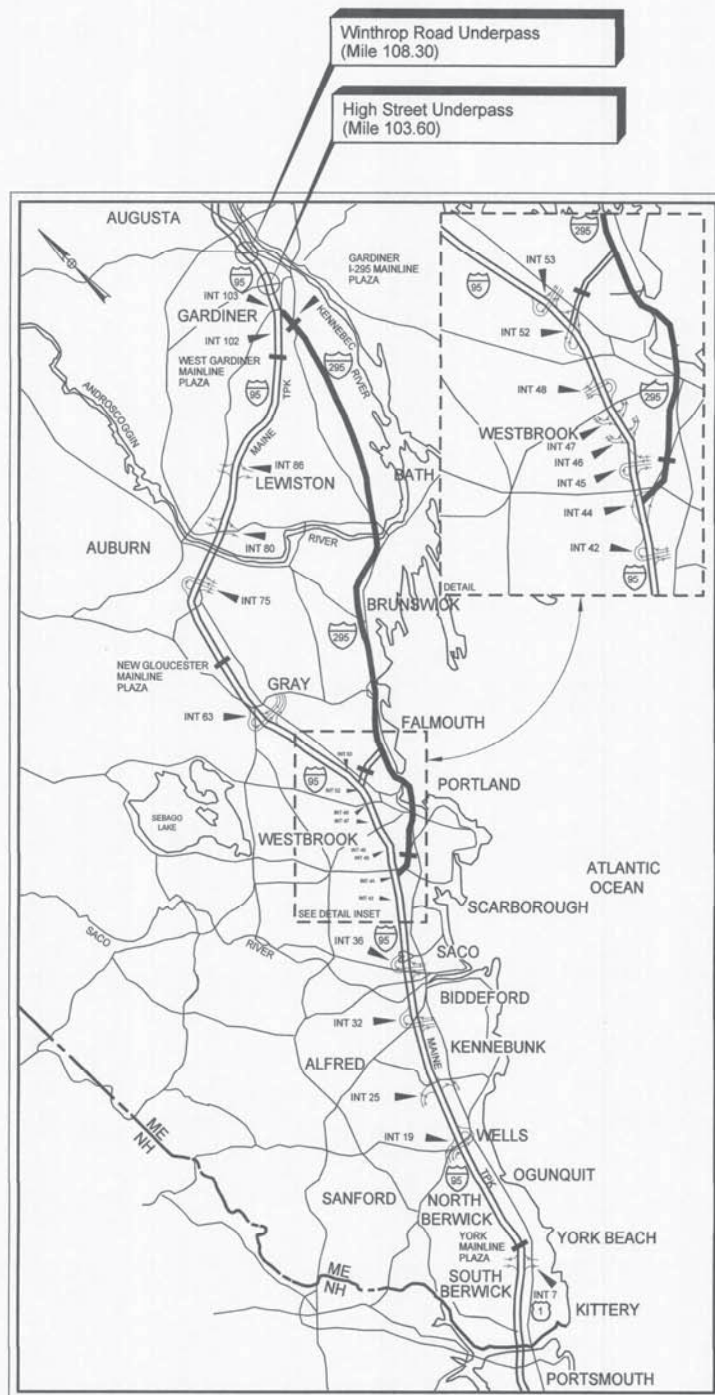


Date: 1/20/2017

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LOCATION MAP

APPROVED:

MAINE TURNPIKE AUTHORITY

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

1/23/17
DATE

Stephen R. Tartre
STEPHEN R. TARTRE, P.E. - DIRECTOR OF ENGINEERING & BUILDING MAINTENANCE

1/23/17
DATE



THE GOLD STAR
MEMORIAL HIGHWAY

MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR
ROBERT D. STONE, VICE CHAIR
MICHAEL J. CIANCHETTE, MEMBER
BRYAN P. CUTCHEN, MEMBER
JOHN E. DORITY, MEMBER
KAREN S. DOYLE, EX-OFFICIO MEMBER

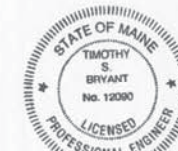
S. PETER MILLS, EXECUTIVE DIRECTOR

CONTRACT 2017.04 BRIDGE REPAIR HIGH STREET UNDERPASS (MM 103.60)

SUPERSTRUCTURE REPLACEMENT WINTHROP ROAD UNDERPASS (MM 108.30)

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4	Typical Details
5	Fencing Details
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9 to 11	Work Zone Plans (3 Sheets)
12	Bridge Plan and Elevation
13	Superstructure Transverse Section
14	Abutment No. 1 Repairs
15	Abutment No. 2 Repairs
16	Pier No. 1 Repairs
17	Pier No. 2 Repairs
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84	Right of Way Map



Timothy S. Bryant
Timothy S. Bryant, P.E.
Consultant Project Manager

1/20/2017
DATE

Contract 2017.04

Date:1/20/2017

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ESTIMATED QUANTITIES					
ITEM NO.	DESCRIPTION	UNIT	Winthrop Road	High Street	Quantity Total
202.10	Removing Existing Superstructure-Property of Contractor	LS	1		1
202.17	Removing Existing Structural Concrete (45 CY)	LS	1		1
202.202	Removing Pavement Surface	SY	150	950	1100
203.20	Common Excavation	CY	858		858
203.25	Granular Borrow	CY	105		105
304.10	Aggregate Subbase Course - Gravel	CY	770		770
403.208	Hot Mix Asphalt, 12.5 mm Nominal Max. Size	TON		125	125
403.209	Hot Mix Asphalt, 9.5 mm Nominal Max. Size (Sidewalks, Drives, Islands, and Incidentals)	TON	10		10
403.210	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size	TON	340		340
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size, (Base and Intermediate Base Course)	TON	340		340
409.15	Bituminous Tack Coat - Applied	GAL	170	50	220
502.21	Structural Concrete, Abutments and Retaining Walls	CY	42		42
502.23	Structural Concrete Piers	CY	28		28
502.25	Structural Concrete Superstructure Slab (20 CY)	LS	1		1
502.58	Ultra High Performance Structural Concrete (41 CY)	LS	1		1
502.701	Bridge Drain Grate Modification	EA		4	4
503.12	Reinforcing Steel, Fabricated and Delivered	LB	1721		1721
503.13	Reinforcing Steel, Placing	LB	1721		1721
503.14	Epoxy-Coated Reinforcing Steel, Fabricated and Delivered	LB	13748		13748
503.15	Epoxy-Coated Reinforcing Steel, Placing	LB	13748		13748
504.702	Structural Steel Fabricated and Delivered, Welded (145,100 LB)	LS	1		1
504.71	Structural Steel Erection (145,100 LB)	LS	1		1
505.08	Shear Connectors (4,828 EA)	LS	1		1
506.9102	Zinc-Rich Coating System (Shop Applied)	LS	1		1
507.0821	Steel Bridge Railing, 3 Bar (558 LF)	LS	1		1
508.14	High Performance Waterproofing Membrane (61 SY)	LS	1		1
508.15	Membrane Waterproofing (1,395 SY)	LS	0.52	0.48	1
514.06	Curing Box for Concrete Cylinders	EA	1		1
515.201	Pigmented Protective Coating for Concrete Surfaces	SY	875	440	1315
515.202	Clear Protective Coating for Concrete Surfaces	SY		425	425
518.10	Abutment Repairs	SF	11	43	54
518.20	Pier Repairs	SF	265	37	302
518.4	Epoxy Injection Crack Repair	LF	6		6
518.80	Partial Depth Concrete Deck Repiar	SF		600	600
520.2211	Expansion Joint Modification	EA		2	2
520.23	Asphaltic Plug Joint	LF	66		66
520.234	Expansion Device - Silicone Coated and Pre-compressed Seal	LF	96		96
523.52	Bearing Installation	EA	25		25
523.5402	Laminated Elastomeric Bearings, Expansion	EA	10		10
523.5404	PTFE Elastomeric Bearings, Expansion	EA	15		15
524.40	Protective Shielding - Steel Girders	SY	960		960
526.306	Temporary Concrete Barrier, Type I - Supplied by Authority (925 LF)	LS	0.5	0.5	1
527.341	Work Zone Crash Cushions -TL-3	UNIT	2	2	4
534.7601	Precast Approach Slab	LS	1		1
535.302	Full Depth Precast Concrete Deck Panels	LS	1		1
606.1728	W-Beam to 3-Bar Bridge Rail Transition	EA	4		4
606.244	Guardrail Type 3d - Single Rail, 7 Foot Posts	LF	937.5		938
606.241	Guardrail Type 3d - 15' Radius and Less	LF	12.5		13
606.242	Guardrail Type 3d - Over 15' Radius	LF	12.5		13
606.259	Anchorage Assembly	EA	1		1
606.265	Terminal End - Single Rail - Galvanized Steel	EA	1		1
606.353	Reflectorized Flexible Guardrail Marker	EA	3		3
606.81	Tangent Guardrail Terminal - Energy Absorbing	EA	1		1
607.17	Chain Link Fence - 6 Foot	LF	375		375
607.23	Chain Link Fence Gate	EA	2		2
607.32	Bracing Assembly Type I - Metal Posts	EA	12		12
607.33	Bracing Assembly Type II - Metal Posts	EA	8		8
607.431	Snow Fence	LF	224		224
609.11	Vertical Curb Type I	LF	148		148
610.08	Plain Riprap	CY	240		240
610.18	Stone Ditch Protection	CY	47		47
613.319	Erosion Control Blanket	SY	1100		1100
615.07	Loam	CY	155		155
618.14	Seeding Method Number 2	UNIT	1.5		2
618.141	Seeding Method Number 3	UNIT	11		11
619.1201	Mulch - Plan Quantity	UNIT	12.5		13
619.1202	Temporary Mulch	LS	1		1
620.58	Erosion Control Geotextile	SY	340		340
627.712	4 inch White or Yellow Pavement Marking Line	LF	1000		1000
629.05	Hand Labor, Straight Time	HR	60	30	90
631.12	All Purpose Excavator (Including Operator)	HR	20	10	30
631.171	Truck - Small (Including Operator)	HR	20	10	30
631.36	Foreman	HR	20	10	30
639.18	Field Office, Type A	EA	1		1

* Quantities are Estimated Only

ESTIMATED QUANTITIES					
ITEM NO.	DESCRIPTION	UNIT	Winthrop Road	High Street	Quantity Total
645.272	Regulatory, Warning and Bridge Number Signs, Type I - Supplied by Authority	EA	2		2
652.30	Flashing Arrow	EA	2	2	4
652.312	Type III Barricades	EA	8	10	18
652.33	Drum	EA	90	90	180
652.34	Cone	EA	50	50	100
652.35	Construction Signs	SF	1577	1680	3257
652.361	Maintenance of Traffic Control Devices	LS	0.5	0.5	1
652.38	Flagger	HR	100		100
652.41	Portable Changeable Message Sign	EA	2	2	4
652.45	Truck Mounted Attenuator	CD	120	20	140
656.50	Baled Hay, In place	EA	15		15
656.632	30 inch Temporary Silt Fence	LF	2050		2050
659.10	Mobilization	LS		1	

* Quantities are Estimated Only

EARTHWORK SUMMARY - WINTHROP ROAD

COMMON EXCAVATION FOR ESTIMATE

	Winthrop Road
Common Excavation	611 CY
Grubbing in Fill	137 CY
Subtotal	748 CY
Total Common Excavation	748 CY

FILL FOR BORROW CALCULATIONS

	Winthrop Road
Common Fill (From Cross Section)	2 CY
Grubbing in Fill	137 CY
Subtotal	139 CY
Total Fill	139 CY

AVAILABLE COMMON EXCAVATION FOR BORROW CALCULATIONS

	Winthrop Road
(1) Total Common Excavation	748 CY
Deductions:	
Grubbing	137 CY
Existing Pavement Removal	340 CY
(2) Total Deductions:	477 CY
Total Available Common Excavation	271 CY
Total Available Structural Excavation	108 CY
Total Available Non-Rock Excavation	379 CY

COMPUTATION OF COMMON BORROW FOR ESTIMATE

	Winthrop Road
(3) Total Fill	139 CY
Total Available Non-Rock Excavation	379 CY
(4) Total Available Excavation	<u>240 CY</u>
(5) Total Surplus	<u>240 CY</u>

Scale: AS NOTED

Designed by:



VANASSE HANGEN BRUSTLIN, INC.
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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT NO. 2017.04

ESTIMATED QUANTITIES AND EARTHWORK

VHB: 55106.00 SHEET NUMBER: 2
CONTRACT: 2017.04 2 OF 84

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed		1/2017	Checked		1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

Date:1/20/2017

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GENERAL CONSTRUCTION NOTES

1. All details shall be in conformance with Maine Department of Transportation (MaineDOT) Standard Details Highways and Bridges latest revision, and MaineDOT Best Management Practices for Erosion and Sediment Control latest revision unless otherwise included in these plans.
2. During construction, the roads will be closed to traffic for a time period specified in the Special Provisions.
3. For construction limits and right of way lines, refer to General Plan. There are no permanent or temporary easements associated with this project. All work must be completed within the existing Right of Way.
4. Chain link fence gates shall be 3 feet wide single gates. A gate shall be located on each side of the turnpike roadway. Exact location of the gate shall be determined in the field by the Resident.
5. Connections to existing fence shall be incidental to the proposed fence items.
6. At Winthrop Road, the existing ROW fence within the limits of work, as shown on the plans or as directed by the Resident, shall be removed and disposed. This work shall be incidental to the proposed fence items.
7. The Contractor shall submit his proposed staging area(s) and field trailer location to the Resident for approval prior to starting work.
8. All portions of the Winthrop Road Underpass existing bridge superstructure are to be removed by and become the property of the Contractor. The steel portions of the existing bridge are coated with a lead-based paint system. The Contractor is responsible for the containment, proper management and disposal of all lead-contaminated hazardous waste generated by the process of demolishing the bridge.
9. Milling of existing pavement shown at end of project shall be paid under Item 202.202 Removing Pavement Surface.
10. For additional details referenced or not shown in these drawings, see the State of Maine, Department of Transportation Standard Details, Highways and Bridges, November 2014 with updates.
11. The existing As-Built plans for both structures may be accessed at the Maine Turnpike Authority website at www.mainturnpike.com/projects-planning/construction-contracts.aspx. The completeness and correctness of these plans are not guaranteed.
12. Chamfer all exposed concrete edges $\frac{3}{4}$ " unless otherwise noted.
13. The proposed elevations are based on the NAVD 88 datum. The as-built plans are based on NGVD 29 datum.
14. The Contractor shall take all precautions necessary to avoid impacts to delineated wetland areas shown in these plans.
15. Existing steel corrugated pipe and timber drainage trough in front of the abutments at the Winthrop Road Underpass shall be removed as directed by the Resident. Payment will be considered incidental to Contract Items, see Special Provision section 202.
16. All existing substructure elevations shown in these plans are based on existing plans and limited survey. Prior to any substructure removal or fabrication of substructure reinforcing or precast elements, the Contractor shall field verify all existing substructure elevations and make adjustments as needed.

EARTHWORK NOTES

1. The clearing limits shall be 5' beyond and parallel to construction slope lines or as shown on the plans. The exact limits will be established in the field by the Resident. All clearing shall be within the existing ROW. Clearing shall be completed prior to June 1, 2017. Payment for clearing will be considered incidental to Contract items.
2. Individual trees within the slope limit lines or called to be removed on the plans shall be removed and disposed. This work shall be incidental to the contract.
3. Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.
4. Existing pavement removal in fill areas will be paid for under Item 203.20, Common Excavation. Shim material required for these areas below the subbase will be paid under Item 304.10, Aggregate Subbase Course - Gravel or Item 203.24, Common Borrow as shown in the typical section.
5. The Contractor shall minimize slope disturbances where possible, as directed by the Resident.

ABUTMENT NOTES

1. Reinforcing steel shall have a minimum concrete cover of 2 inches in walls.
2. Cover joints where waterstops are not required in accordance with Standard Detail 502(01).
3. Abutments and wingwalls shall be backfilled with Granular Borrow as shown in the plans.

GUARDRAIL NOTES

1. Composite offset blocks shall be used with guardrail type 3d.
2. Connections for proposed guardrail to existing guardrail shall be incidental to the proposed guardrail items.
3. At the end of each work day, all guardrail within work areas accessible to traffic shall have an approved crashworthy end treatment.

EROSION CONTROL NOTES

1. The anticipated erosion control devices are shown on the plans. The Contractor shall propose actual type and location of devices for approval by the Resident. Additional devices may be proposed by the Contractor to implement additional measures. Any additional measures approved by the Resident will be measured for payment.
2. Temporary seed shall be applied to all disturbed areas that will not be completed within 30 days.
3. All temporary and permanent erosion control devices shall be installed in accordance with the Maine Department of Transportation Best Management Practices.
4. Temporary stone check dams shall be installed in accordance with the Maine Department of Transportation Best Management Practices.
5. Erosion Control Blanket, Item 613.319 shall be installed on 2:1 slopes from the top to toe of slope. Loam and seed shall be placed prior to the installation of the erosion control blanket.
6. Place loam 4 inches deep on all new or reconstructed sideslopes or as directed by the Resident.
7. Unless otherwise noted or directed by the Resident, seeding method no. 2 shall be utilized on all non-guardrail slopes and seeding method no. 3 shall be utilized on all guardrail fill slopes.

UTILITY NOTES

1. 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 shall contact Dig Safe (1-888-DIG-SAFE or 811) prior to starting work. In addition, Dig Smart of Maine shall be contacted prior to starting any work within MTA right-of-way. Contractor shall be responsible for any costs. Proof of utility location from both Dig Safe and Dig Smart (when applicable) shall be submitted prior to the commencement of any work.
2. All utility facilities shall be adjusted by the respective utilities unless noted.
3. The utilities involved in this contract are:
Central Maine Power (CMP)
Fairpoint Communications
Time Warner Cable
Maine Department of Transportation

DRILLED AND ANCHORED BOLTS AND REINFORCING STEEL NOTES

1. The anchoring material shall be one of the products on the Maine Department of Transportation Prequalified List. Installation shall be in accordance with the Manufacturer's recommendations.
2. Drilling and grouting shall be incidental to Items 503.13 and 503.15.

SIGN SUPPORT NOTES

1. One street sign shall be placed on each bridge fascia. Location of Street Sign Support shall be field determined by the Resident.
2. Bolts shall be $\frac{1}{2}$ " diameter A325 Type 1 galvanized.
3. Sign Brackets shall be located within two feet of sign ends. Bracket spacing shall be 5' on center maximum.
4. Street Signs and support brackets shall be provided by the Authority.
5. Installation of the sign and supports will not be measured for payment and will be considered incidental to Item 504.71.

Scale: AS NOTED

No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed		1/2017	Checked		1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

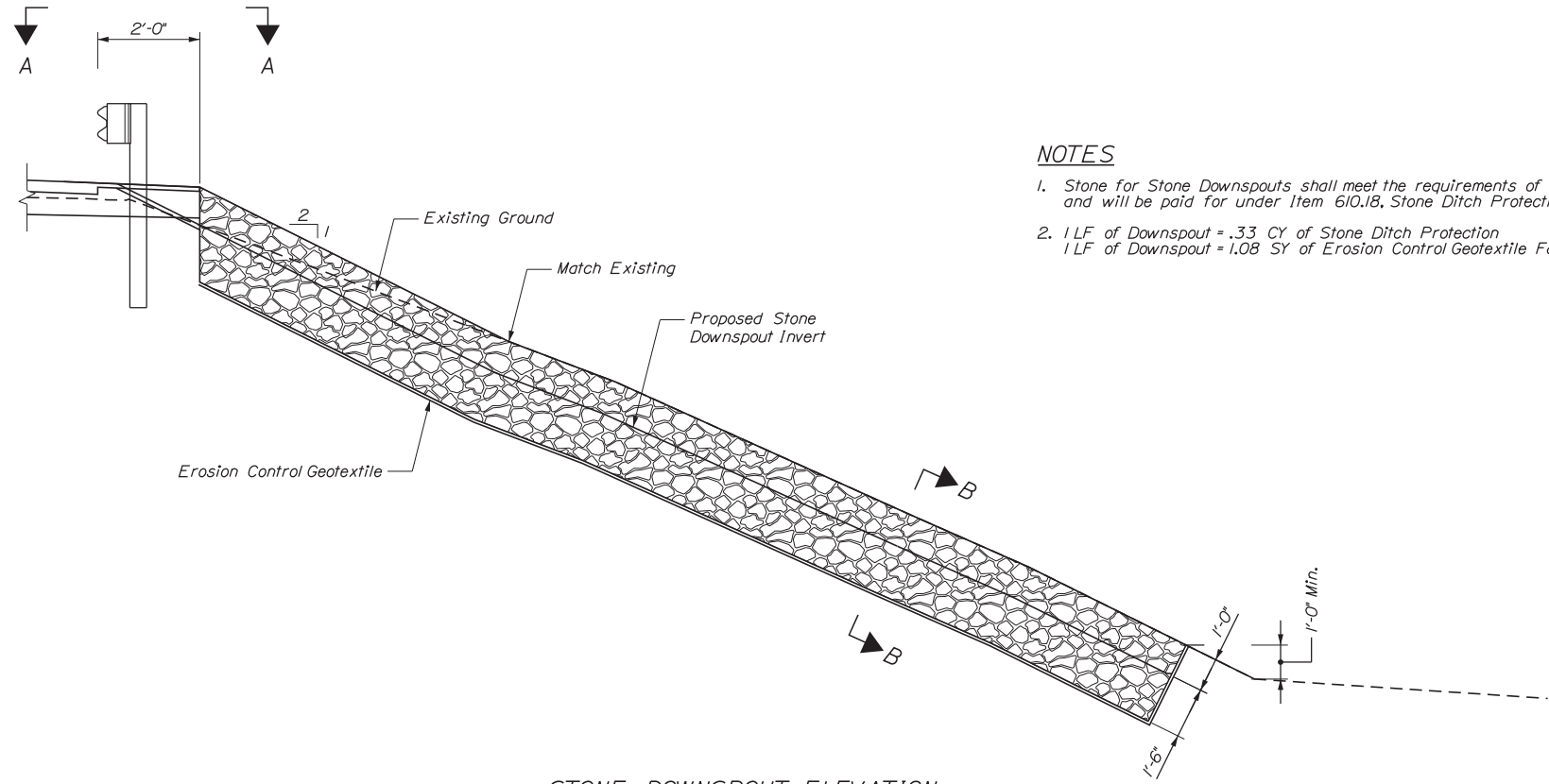
MTA PROJECT NO. 2017.04

GENERAL NOTES

VHB: 55106.00	SHEET NUMBER: 3
CONTRACT: 2017.04	3 OF 84

Date: 1/20/2017

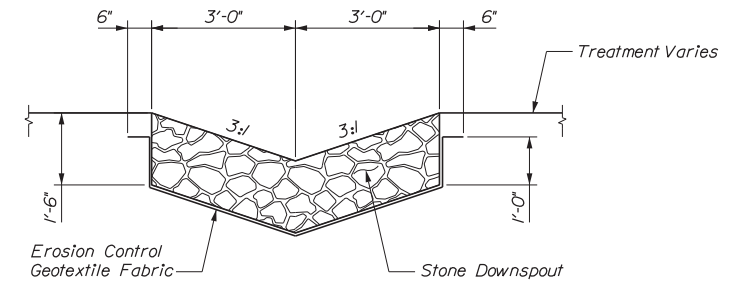
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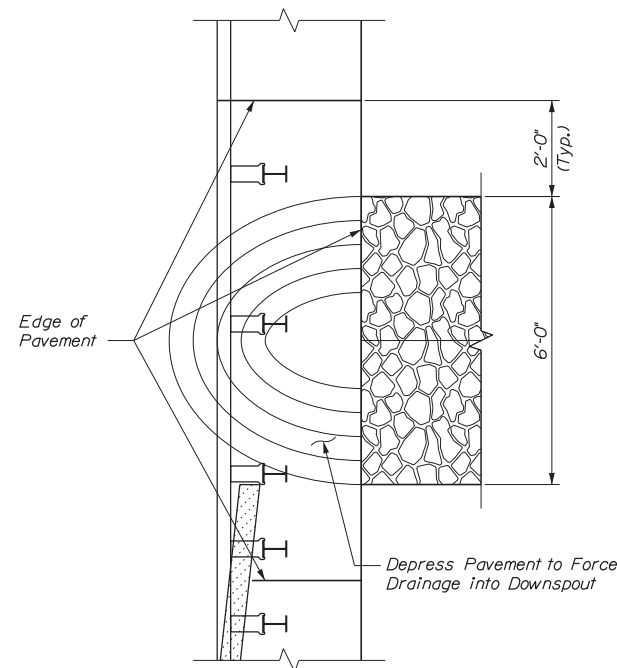
STONE DOWNSPOUT ELEVATION
Scale: $\frac{3}{8}" = 1'-0"$

NOTES

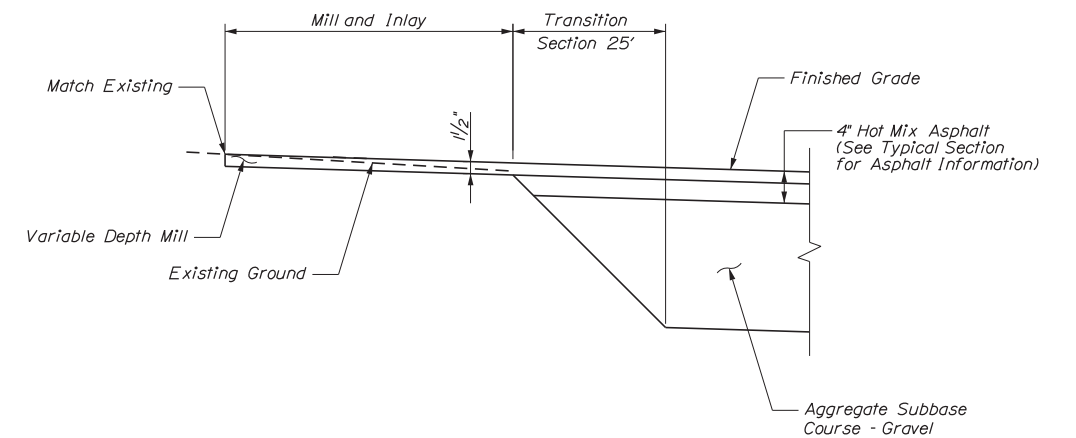
1. Stone for Stone Downspouts shall meet the requirements of MDOT Specification 703.29, and will be paid for under Item 610.18, Stone Ditch Protection.
2. 1 LF of Downspout = .33 CY of Stone Ditch Protection
1 LF of Downspout = 1.08 SY of Erosion Control Geotextile Fabric



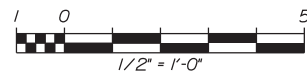
SECTION B-B
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VIEW A-A
Scale: $\frac{1}{2}" = 1'-0"$



MILL AND INLAY DETAIL
Not to Scale



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed		1/2017	Checked		1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

MTA PROJECT NO. 2017.04

TYPICAL DETAILS

VHB: 55106.00

CONTRACT: 2017.04

SHEET NUMBER: 4

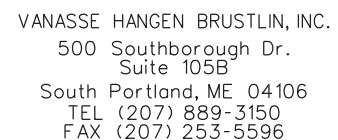
4 OF 84



Bending moments based on grade 1
(schedule 40 steel)

* Material for grade 2 end, corner & line posts and top & brace rails must meet or exceed bending moments for grade 1 steel as noted above.

1. *Brace panels shall be installed where the change in grade between any three posts exceeds 15 percent.*
2. *No additional payment will be made for longer posts necessitated by large grade differential.*
3. *Type I bracing will be used at fence ends. Type II bracing will be used at corner posts.*
4. *When ledge is encountered, steel posts shall be set and grouted 12" deep unless the posts penetrate the ground to the depth indicated on the drawings.*
5. *Concrete for post foundation shall be Class B.*
6. *Brace, gate and end posts shall be set in concrete.*
7. *Chain link fence shall be installed with barbs down.*
8. *All components of chain link fence shall be in accordance with AASHTO M181.*

Designed by:

MTA PROJECT MANAGER: Ralph Norwood, IV

MTA PROJECT NO. 2017.04

FENCING DETAILS

VHB: 55106.00

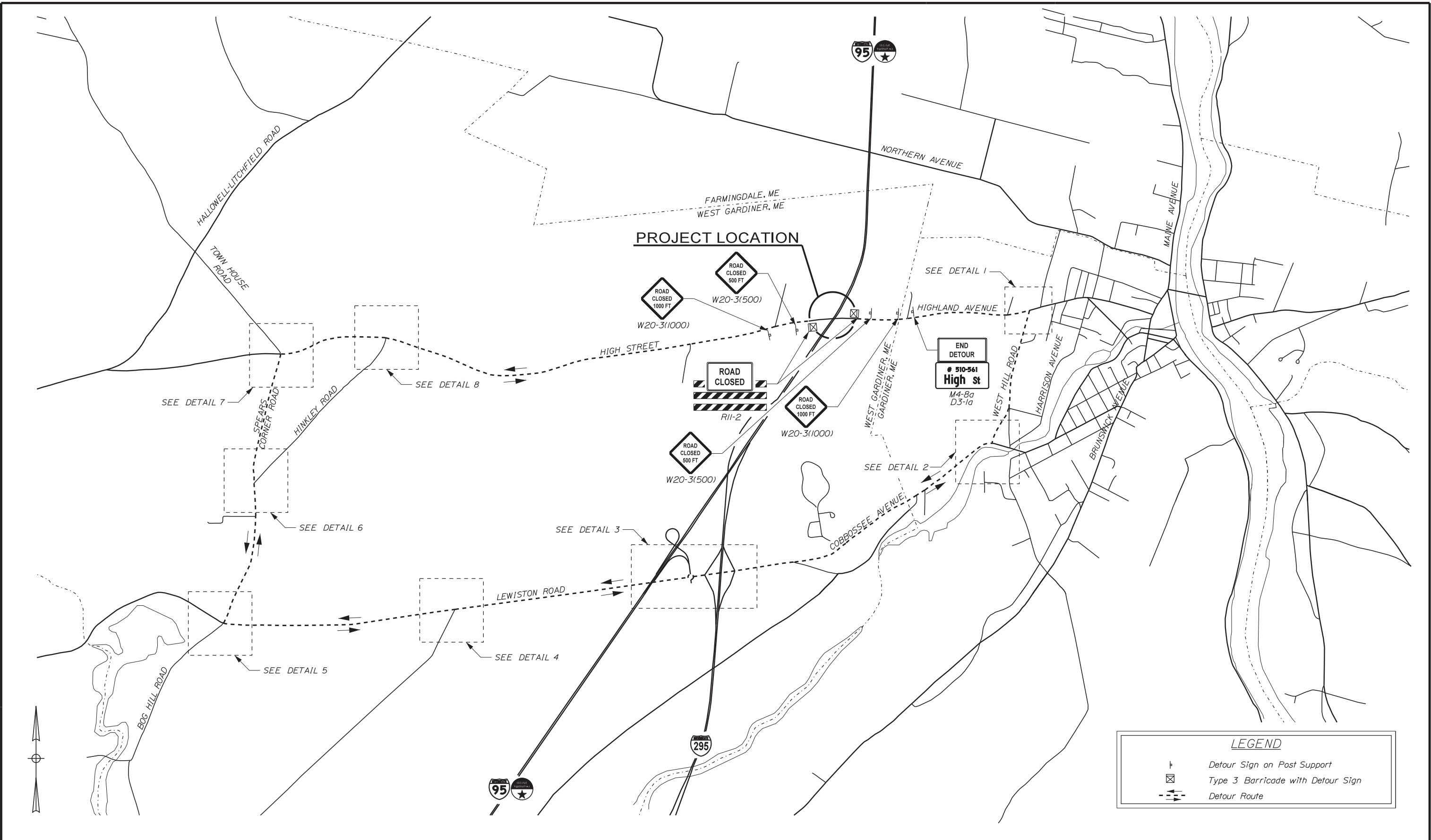
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CONTRACT: 2017.04

OF 84

Date:1/20/2017

Filename: ...MSTA006_DetourPlan_01.dgn



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No.	Revision	By	Date

Designed by:					
					
CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	EGD	1/2017	Checked	MDS	1/2017
Drawn	JAR	1/2017	In Charge of	TSB	1/2017

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

BRIDGE REPAIR
HIGH STREET UNDERPASS

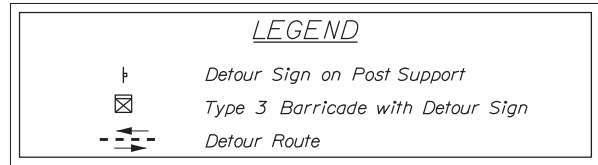
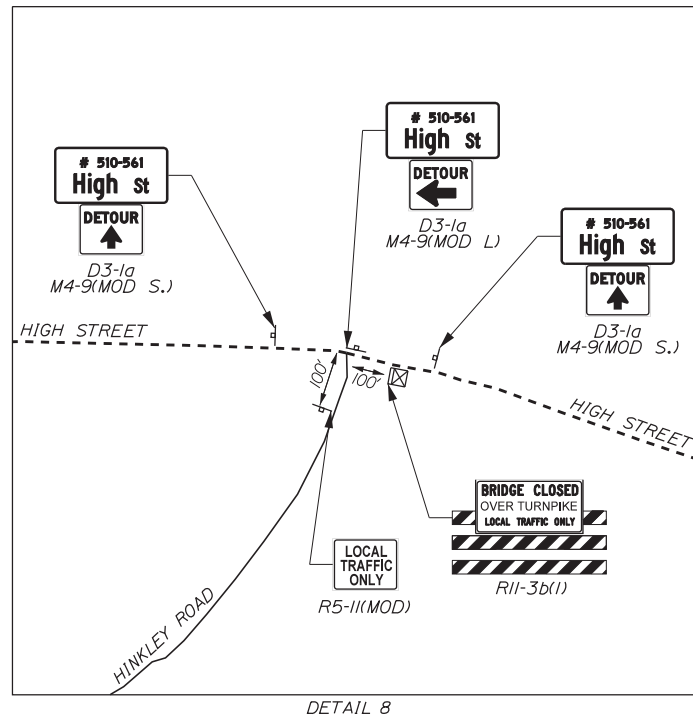
DETOUR PLAN

VHB: 55107.00	SHEET NUMBER: 6
CONTRACT: 2017.04	6 OF 84

7 OF 84

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	EGD	1/2017	Checked	MDS	1/2017
Drawn	JAR	1/2017	In Charge of	TSB	1/2017

MTA PROJECT MANAGER: Ralph Norwood, IV



SHSB - Text Dimensions Shall Conform to "Standard Highway Signs Book" - 2012 Edition.

Date:1/20/2017

Filename: ...MSTA\009_Workzone_01.dgn

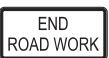
TEMPORARY TRAFFIC CONTROL GENERAL NOTES:

1. The traffic control plan for this project is to close the bridge to all traffic for a maximum of 28 days. A temporary detour is proposed along Highland Avenue, West Hill Road, Cobbossee Avenue, Lewiston Road, Spears Corner Road, and High Street to bypass the bridge. See Detour Plan for details.
2. All traffic control equipment and devices shall conform to the 2014 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, flashing arrow panels (FAP), 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 be maintained in like-new condition. 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. Where existing sign conflict with construction signs, the contractor shall temporarily remove or cover the conflicting existing sign(s) during construction. The existing sign(s) shall be uncovered or re-installed following construction.
5. Any signs, equipment, or devices found to be damaged or unserviceable shall be replaced at the Contractor's expense. Except for the temporary concrete barrier supplied by the Authority.
6. During night operations, temporary work lighting shall be directed away from approaching lanes of traffic.
7. Temporary lane closures will be required, with advanced approval, whenever work will occur within four feet of the Turnpike traveled way. Temporary lane closures shall be removed if no work is occurring.
8. All lane closures shall require approval of the Resident a minimum of two working days in advance of the lane closure.
9. Contractor shall provide advanced notice of all road closures with PCMS at least seven working days prior to the proposed closure. PCMS for the bridge closure shall be placed within 500 feet of the bridge along High Street. PCMS for turnpike mainline road closures shall be placed at least 500 feet in advance of the High Street underpass at a location approved by the Resident.
10. Approach ends of temporary concrete barrier shall be placed outside of the highway clear zone (minimum 34 feet from the traveled way along I-95) or protected by temporary impact attenuators or with guardrail overlaps as approved by the Resident.
11. At the completion of the work, the temporary detour shall be removed.

TURNPIKE RIGHT SHOULDER CLOSURES

CONSTRUCTION SIGN SUMMARY				
Sign	Text Dimensions (Inches)		Size	Quantity and Color
	Letter Height	Vertical Spacing		
G20-2		Text Dimensions Shall Conform to "Standard Highway Signs" - 2012	48"x24"	4 - Black on Orange
W20-1 (AHEAD)			48"x48"	4 - Black on Orange
W21-5aR			48"x48"	4 - Black on Orange
W21-5bR			48"x48"	4 - Black on Orange

TURNPIKE MEDIAN WORK AREA

CONSTRUCTION SIGN SUMMARY				
Sign	Text Dimensions (Inches)		Size	Quantity and Color
	Letter Height	Vertical Spacing		
G20-2		Text Dimensions Shall Conform to "Standard Highway Signs" - 2012	48"x24"	4 - Black on Orange
W20-1 (AHEAD)			48"x48"	4 - Black on Orange
W21-5aL			48"x48"	4 - Black on Orange
W21-5bL			48"x48"	4 - Black on Orange

TEMPORARY LANE & ROADWAY CLOSURES

CONSTRUCTION SIGN SUMMARY					
Sign		Text Dimensions (Inches)		Size	Quantity and Color
		Letter Height	Vertical Spacing		
CS-3		7" 7" 7"	4" 4"	48"x48"	4 - Black on Orange
G20-2		Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		48"x24"	4 - Black on Orange
G20-5aP				36"x24"	4 - Black on Orange
R2-1(50)				48"x60"	4 - Black on White
R2-6aP				36"x24"	4 - Black on White
R2-12				36"x54"	4 - Black on White
W3-4				48"x48"	4 - Black on Orange
W3-5(50)				48"x48"	4 - Black on Orange
W4-2(L)				48"x48"	4 - Black on Orange
W4-2(R)				48"x48"	4 - Black on Orange
W20-1 (1 MILE)				48"x48"	4 - Black on Orange
W20-5L				48"x48"	4 - Black on Orange
W20-5R				48"x48"	4 - Black on Orange

ABBREVIATIONS FOR ALL WORK ZONE PLANS

BWLL = BROKEN WHITE LANE LINE
SWEL = SOLID WHITE EDGE LINE
SYEL = SOLID YELLOW EDGE LINE

Scale: NOT TO SCALE

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THE GOLD STAR
MEMORIAL HIGHWAY

BRIDGE REPAIR
HIGH STREET UNDERPASS

WORK ZONE PLANS
(1 OF 3)

VHB: 55107.00

SHEET NUMBER:

9

CONTRACT: 2017.04

9 OF 84

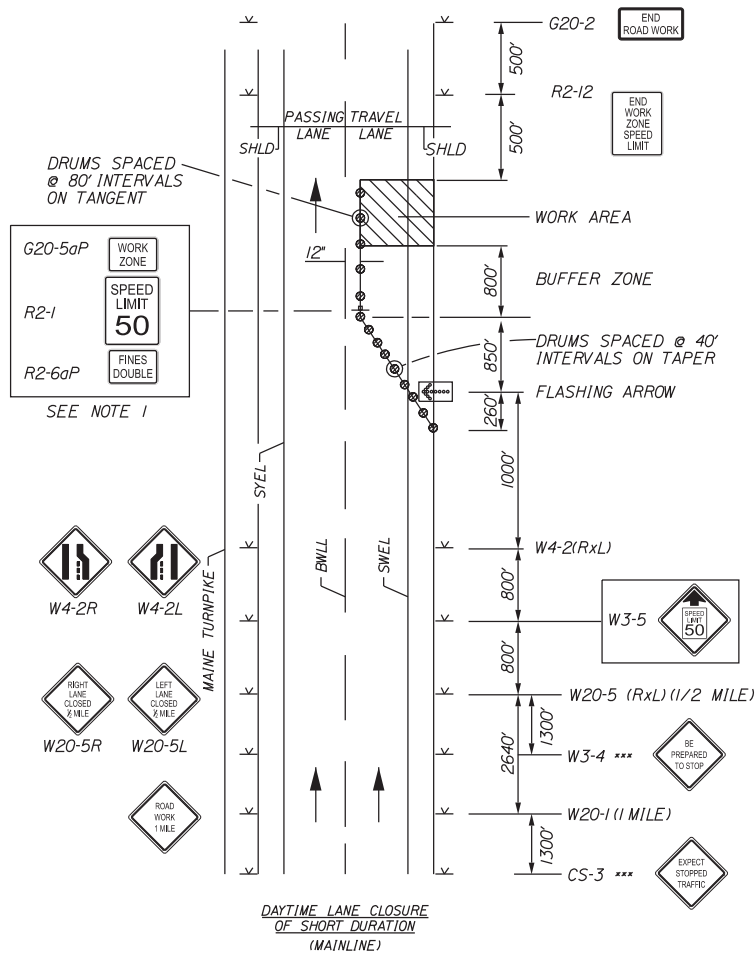
CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	EGD	1/2017	Checked	MDS	1/2017
Drawn	JAR	1/2017	In Charge of	TSB	1/2017

MTA PROJECT MANAGER: Ralph Norwood, IV

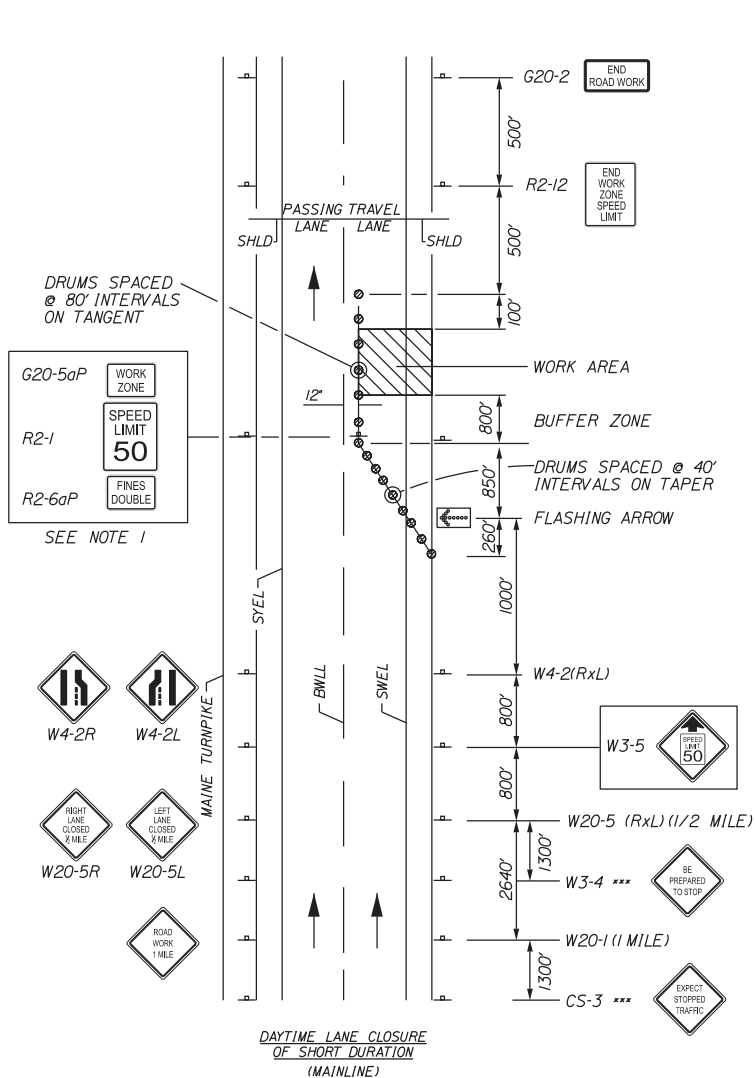
Date:1/20/2017

Filename: ...MSTA\010_Workzone_02.dgn



SINGLE LANE CLOSURE SIGNS ON EASELS

- 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.

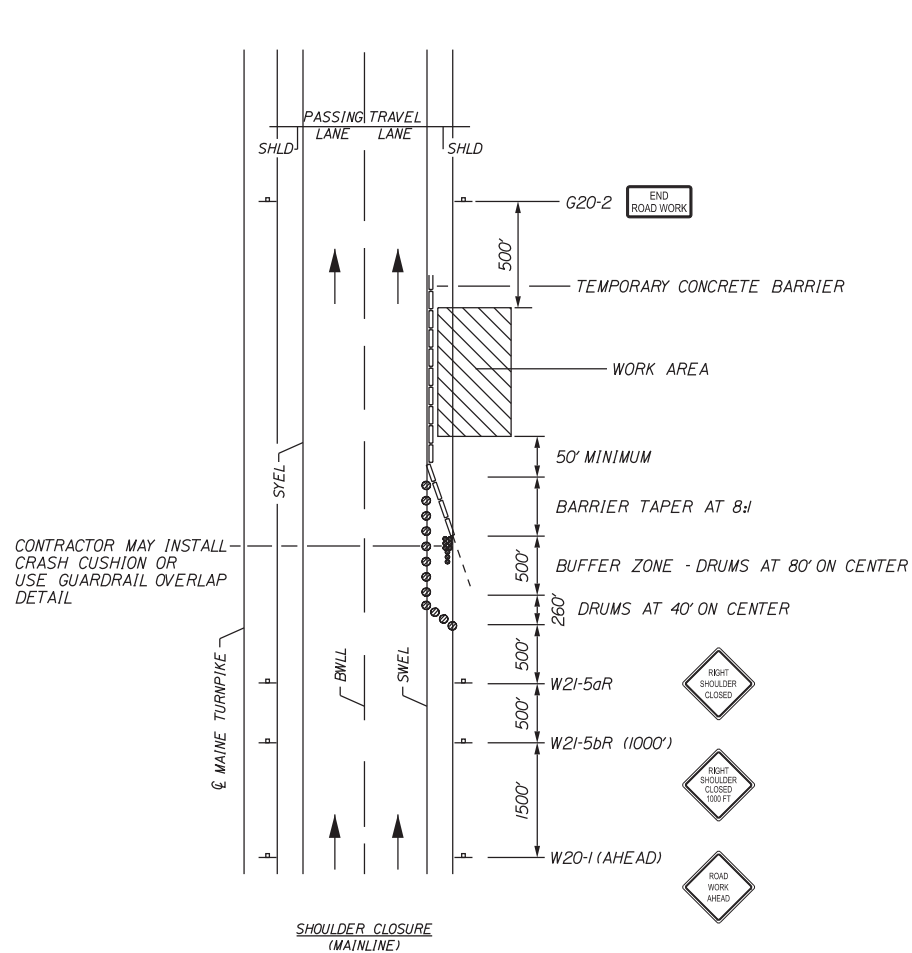
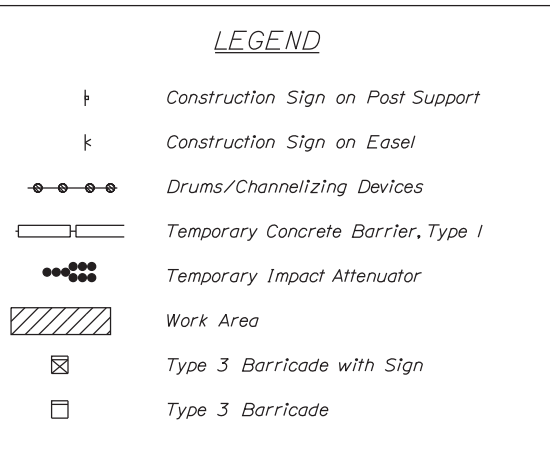


SINGLE LANE CLOSURE POST MOUNTED SIGN SETUP

- Post mounted signs shall be covered when lane closure is removed.

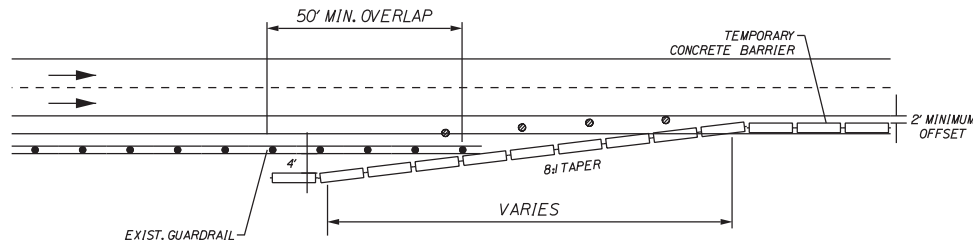
GENERAL NOTES:

- For sign details, see construction sign summary.
- Signs designated with *** shall be used during stoppages of traffic.
- When truck mounted attenuators are included in the contract (incidental or pay item), they shall not be located in the buffer zone.



SHOULDER CLOSURE

- The W20-1 and G20-2 signs are not required if the shoulder closure is within a previously established work zone.



CONCRETE BARRIER / GUARDRAIL OVERLAP DETAIL

NOTES:

- Barrier ends within the highway clear zone shall be protected by a temporary impact attenuator or lapped behind guardrail.
- If a temporary work zone crash cushion is used, the work zone crash cushion system must be founded on a level surface. Any work necessary to provide a level surface will be incidental to the work zone crash cushion item.

Scale: NOT TO SCALE

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THE GOLD STAR
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BRIDGE REPAIR
HIGH STREET UNDERPASS

WORK ZONE PLANS
(2 OF 3)

VHB: 55107.00

SHEET NUMBER: 10

CONTRACT: 2017.04

10 OF 84

CONSULTANT PROJECT MANAGER: T. Bryant

No.	Revision	By	Date

By	Date	By	Date
EGD	1/2017	MDS	1/2017
JAR	1/2017	TSB	1/2017

MTA PROJECT MANAGER: Ralph Norwood, IV

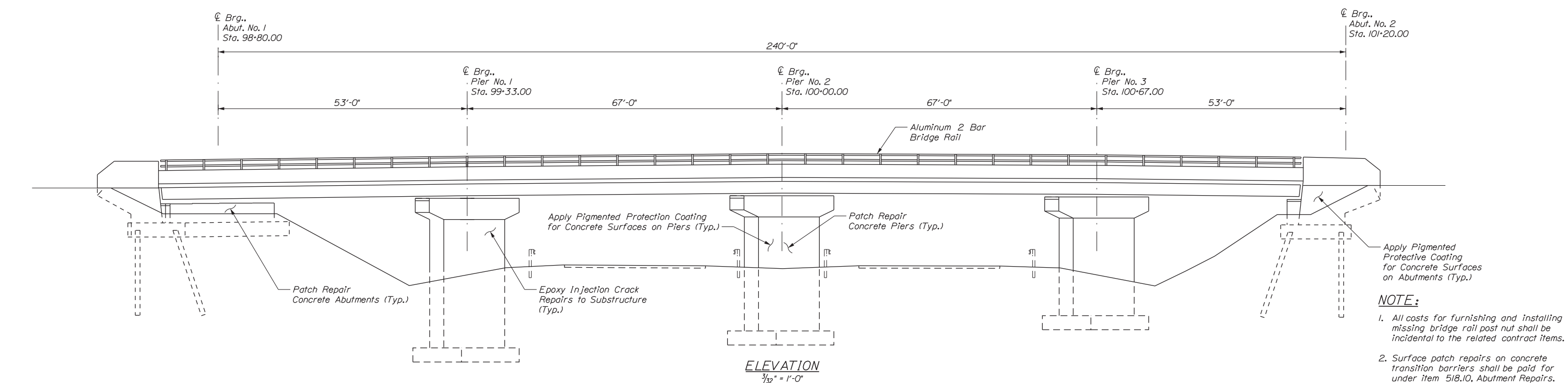
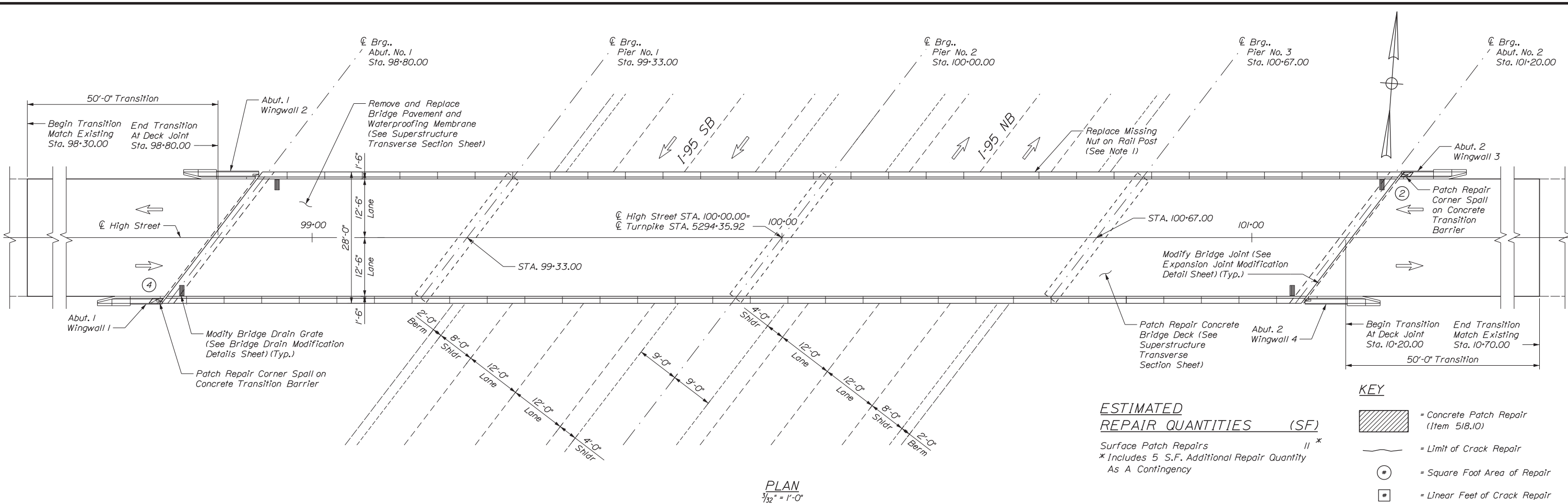
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VHB: 55107.00	SHEET NUMBER:	11
CONTRACT: 2017.04		11OF 84

Date: 1/20/2017

Filename: ...MSTA012_Plan_& Elevation.dgn



Scale: 20 14 30 3/32" = 1'-0"			
No.	Revision	By	Date

Designed by: 			
CONSULTANT PROJECT MANAGER: T. Bryant			
	By	Date	
Designed	MED	1/2017	Checked GME 1/2017
Drawn	DPD	1/2017	In Charge of TSB 1/2017

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MTA PROJECT MANAGER: Ralph Norwood, IV

BRIDGE REPAIR
HIGH STREET UNDERPASS
BRIDGE PLAN AND ELEVATION

VHB: 55107.00
CONTRACT: 2017.04

SHEET NUMBER: 12
12 OF 84

KEY

-  = Concrete Patch Repair (Item 518.10)
-  = Limit of Crack Repair
-  = Square Foot Area of Repair
-  = Linear Feet of Crack Repair

**ESTIMATED
REPAIR QUANTITIES (SF)**

Surface Patch Repairs 11 *

* Includes 5 S.F. Additional Repair Quantity
As A Contingency

NOTE:

- All costs for furnishing and installing missing bridge rail post nut shall be incidental to the related contract items.
- Surface patch repairs on concrete transition barriers shall be paid for under item 518.10, Abutment Repairs.

Date:1/20/2017

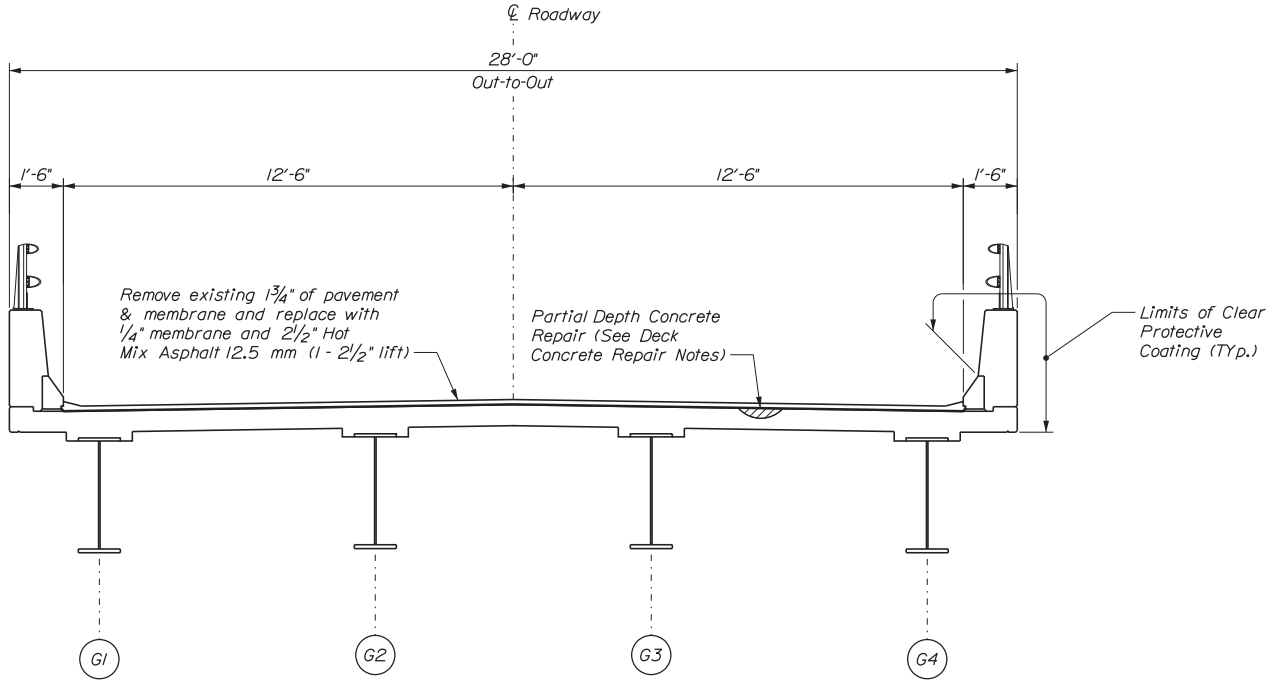
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KEY

- = Concrete Patch Repair
(Item 518.80)
- = Limit of Crack Repair
- = Square Foot Area of Repair
- = Linear Feet of Crack Repair

ESTIMATED
REPAIR QUANTITIES (SF)

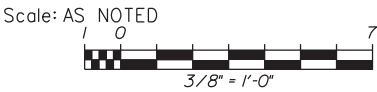
Partial Depth Concrete Repairs 600 *
* Assumes 10% of the Deck Will Require
Partial Depth Concrete Repairs.



SUPERSTRUCTURE TRANSVERSE SECTION
Scale: 3/8" = 1'-0"

DECK CONCRETE REPAIR NOTES

1. Prior to the start of deck concrete repairs, the Resident and the Contractor shall sound all deck concrete using a chain drag or other method approved by the Resident to determine the required repair limits. Work shall be paid under Item 518.80 Partial Depth Concrete Deck Repairs.
2. Sawcut 1" deep along all limits of removal.
3. Chip concrete to the depth specified in Supplemental Specification 518. If the removal limits change during the demolition process, the Contractor shall notify the Resident. The Resident and Contractor shall agree on the revised pay limits prior to the Contractor continuing the removals.
4. Prepare and patch repair areas. Install new reinforcing steel, drill and grout bars into existing concrete as required. See Supplemental Specification 518 for surface preparation materials.



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	MED	1/2017	Checked	GME	1/2017
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THE GOLD STAR
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MTA PROJECT MANAGER: Ralph Norwood, IV

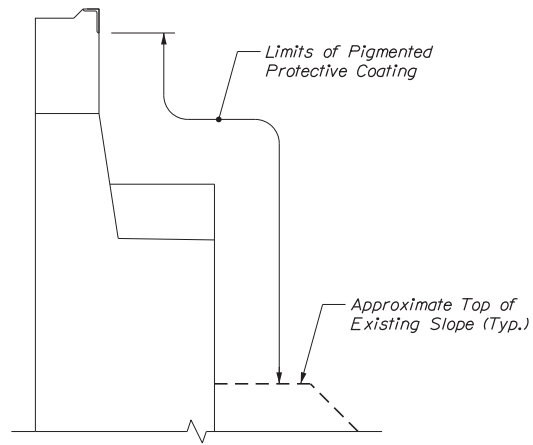
BRIDGE REPAIR
HIGH STREET UNDERPASS

SUPERSTRUCTURE
TRANSVERSE SECTION

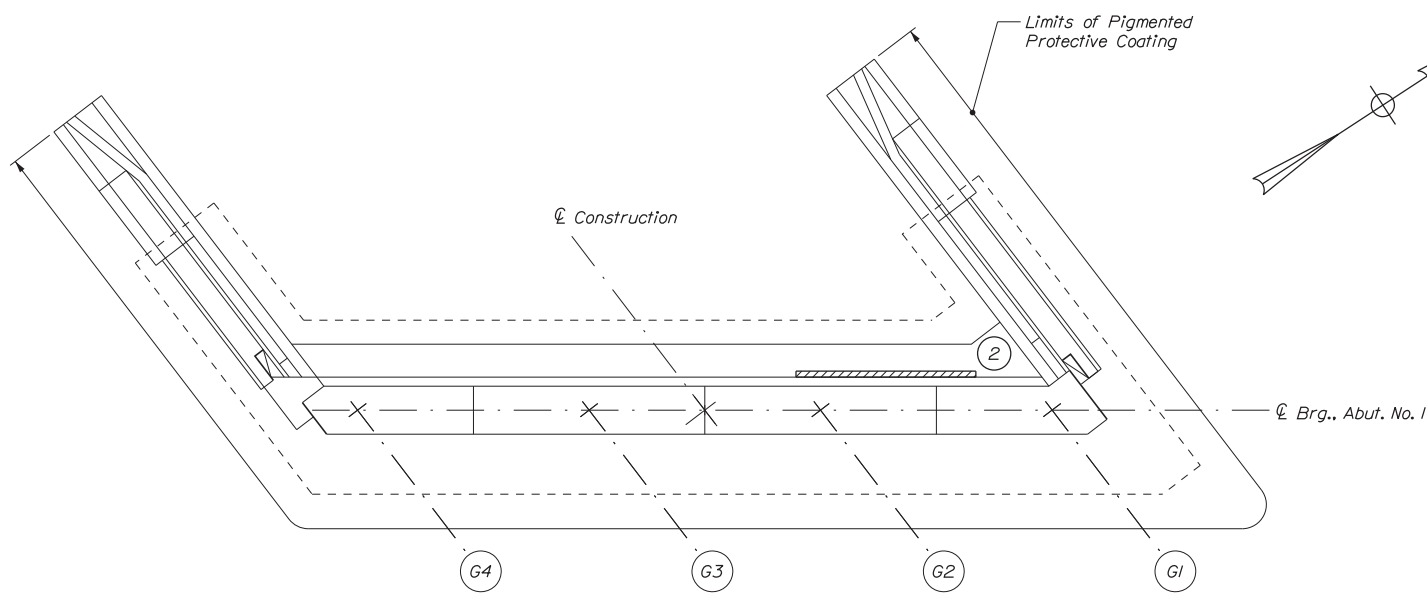
VHB: 55107.00 SHEET NUMBER: 13
CONTRACT: 2017.04 13 OF 84

Date:1/20/2017

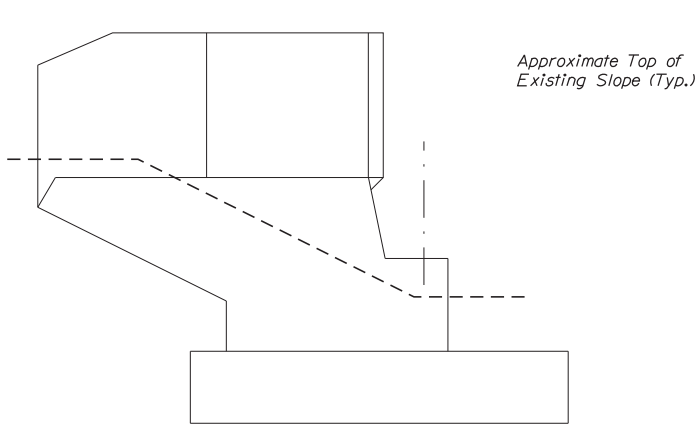
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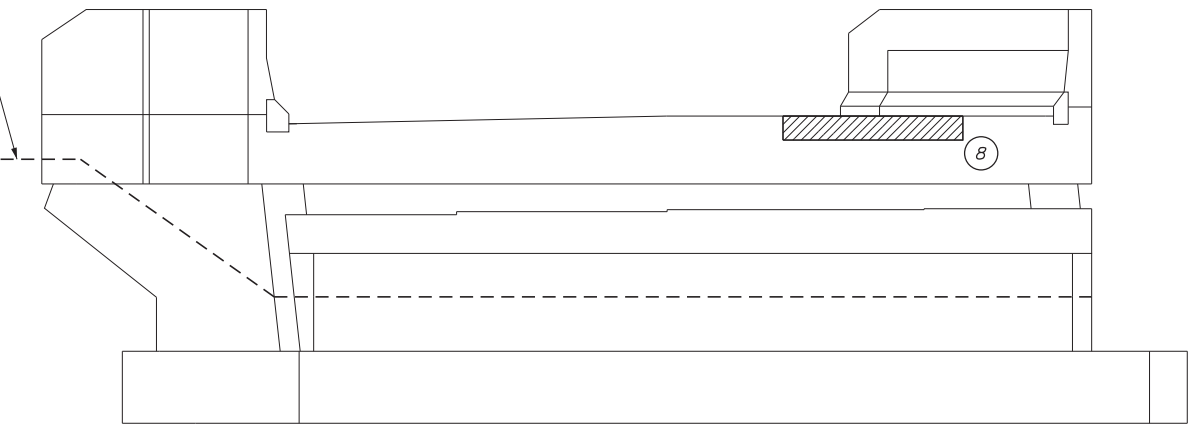
TYPICAL ABUTMENT SECTION
Not to Scale



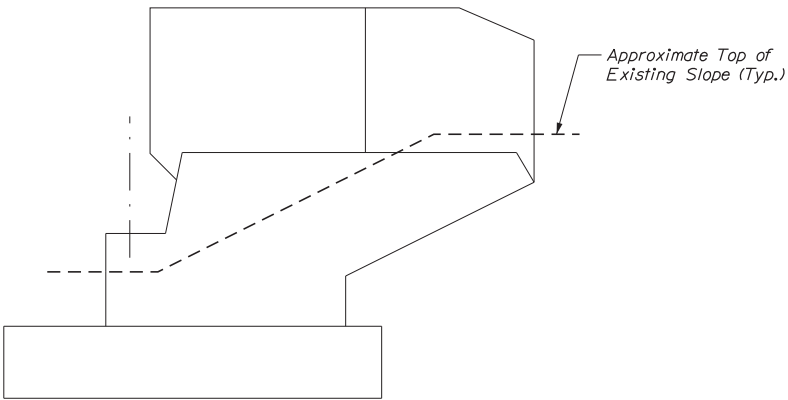
PLAN
1/4" = 1'-0"



ABUTMENT 1
SOUTH WINGWALL
1/4" = 1'-0"



ELEVATION
1/4" = 1'-0"



ABUTMENT 1
NORTH WINGWALL
1/4" = 1'-0"

KEY

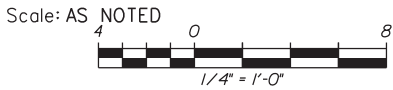
- = Concrete Patch Repair (Item 518.10)
- = Limit of Crack Repair
- = Square Foot Area of Repair
- = Linear Feet of Crack Repair

ESTIMATED
REPAIR QUANTITIES (SF)

Surface Patch Repairs 25*
* Includes 15 S.F. Additional Repair Quantity
As A Contingency

NOTE

1. For Concrete Repair Notes and Details see
Pier No. 1 Repairs Sheet.



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	MED	1/2017	Checked	GME	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

BRIDGE REPAIR
HIGH STREET UNDERPASS

ABUTMENT NO. 1 REPAIRS

VHB: 55107.00

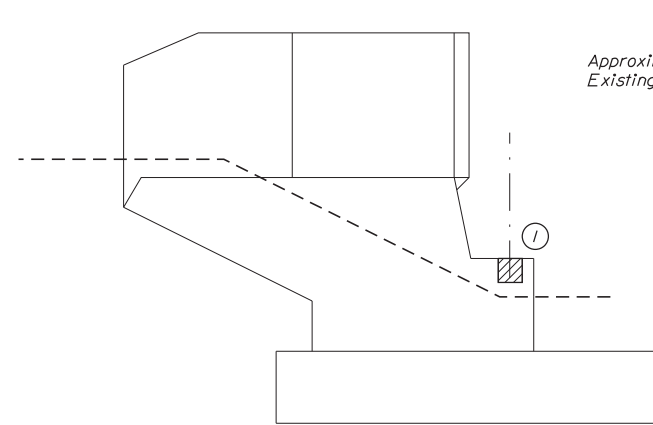
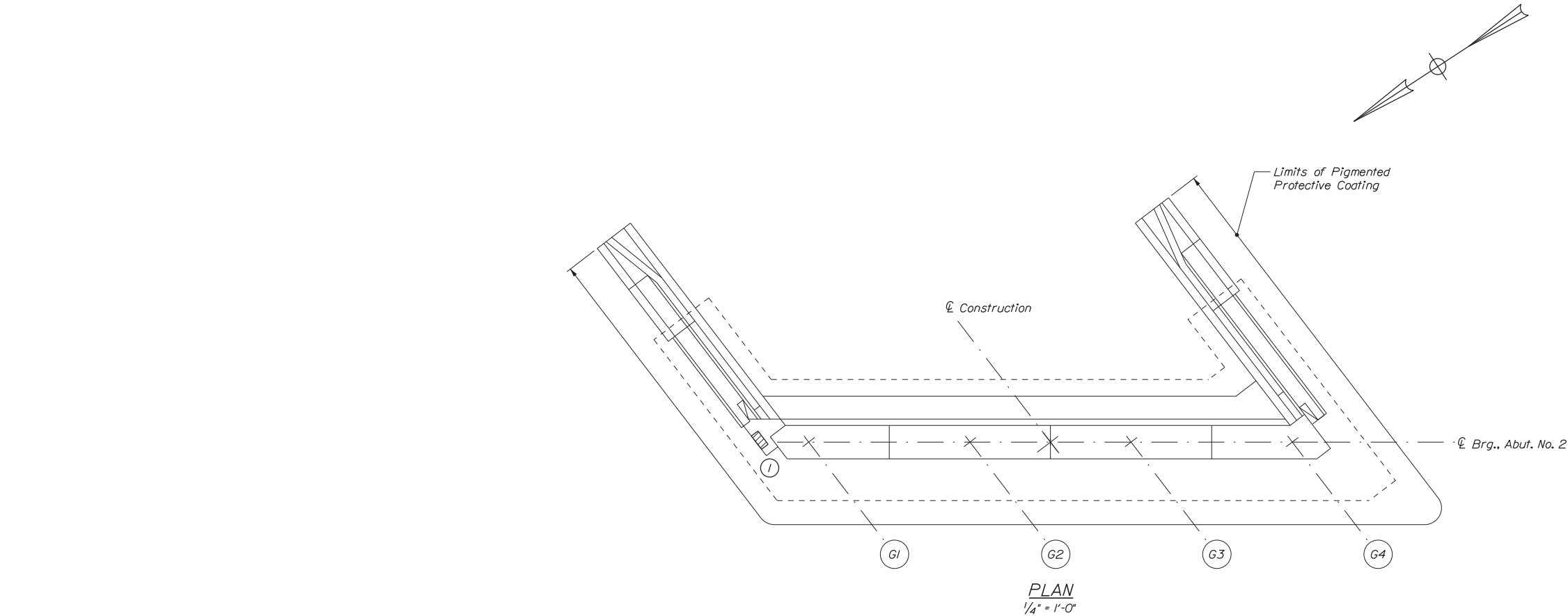
CONTRACT: 2017.04

SHEET NUMBER: 14

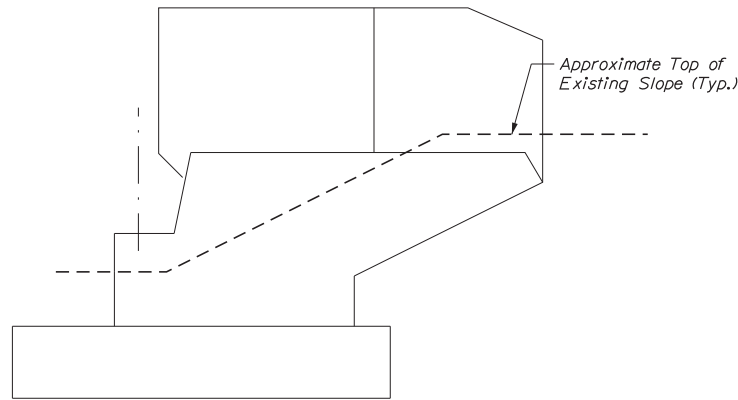
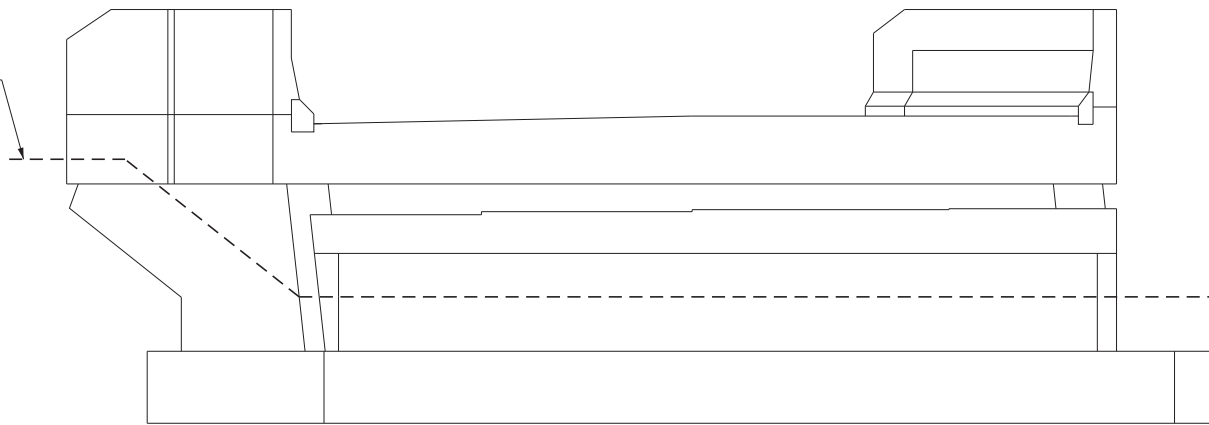
14 OF 84

Date:1/20/2017

Filename: ...\\015_Abutment_2_Repair.dgn



Approximate Top of Existing Slope (Typ.)



Approximate Top of Existing Slope (Typ.)

- KEY**
- = Concrete Patch Repair (Item 518.10)
 - = Limit of Crack Repair
 - = Square Foot Area of Repair
 - = Linear Feet of Crack Repair

ESTIMATED REPAIR QUANTITIES (SF)

Surface Patch Repairs 7 *

* Includes 5 S.F. Additional Repair Quantity As A Contingency

NOTE

1. For Concrete Repair Notes and Details see Pier No. 1 Repairs Sheet.



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	MED	1/2017	Checked	GME	1/2017
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THE GOLD STAR
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MTA PROJECT MANAGER: Ralph Norwood, IV

BRIDGE REPAIR
HIGH STREET UNDERPASS

ABUTMENT NO. 2 REPAIRS

VHB: 55107.00 SHEET NUMBER: 15
CONTRACT: 2017.04 15 OF 84

Date: 1/20/2017

Filename: ...MSTA\016_Pier_1_Repair.dgn

ESTIMATED REPAIR QUANTITIES (SF)

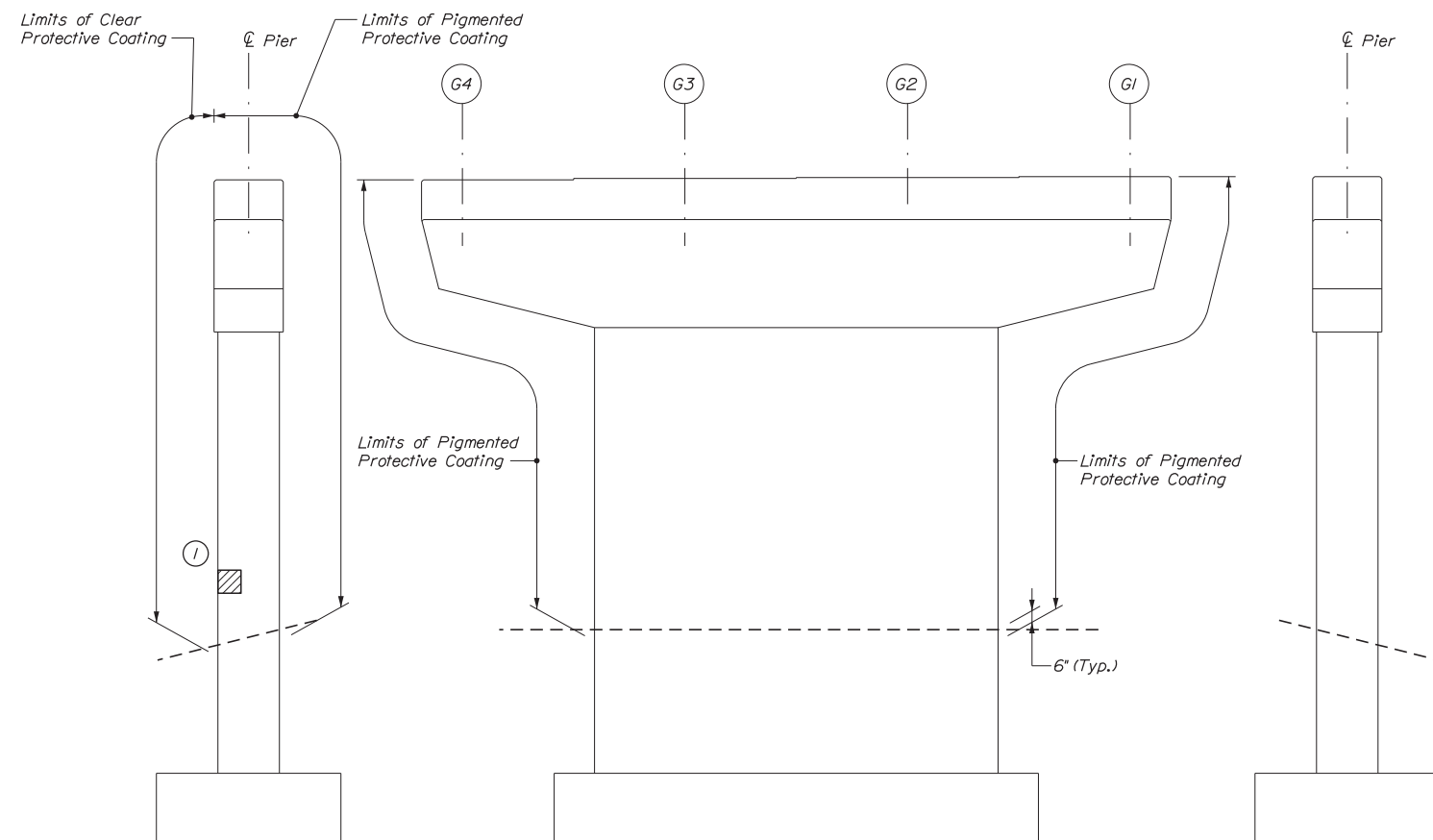
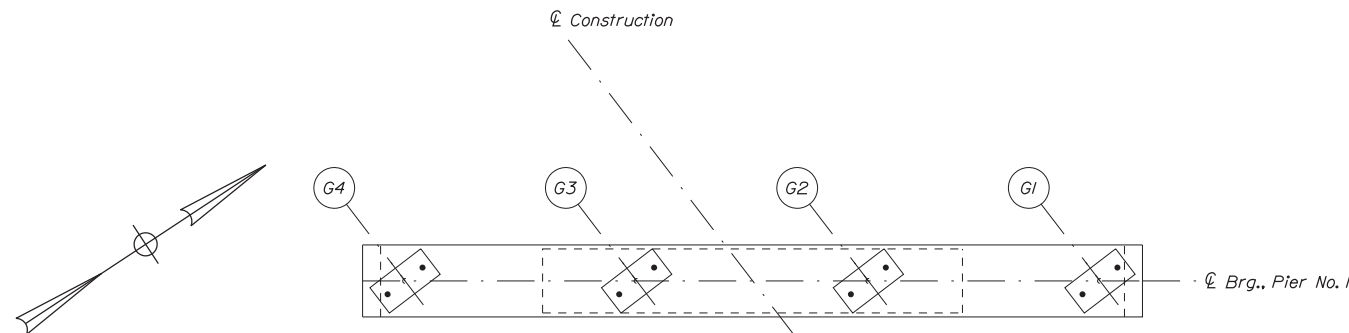
Surface Patch Repairs 7 *
* Includes 5 S.F. Additional Repair Quantity
As A Contingency

KEY

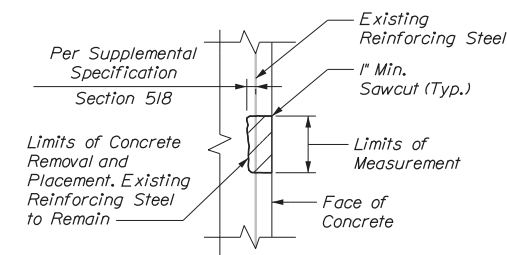
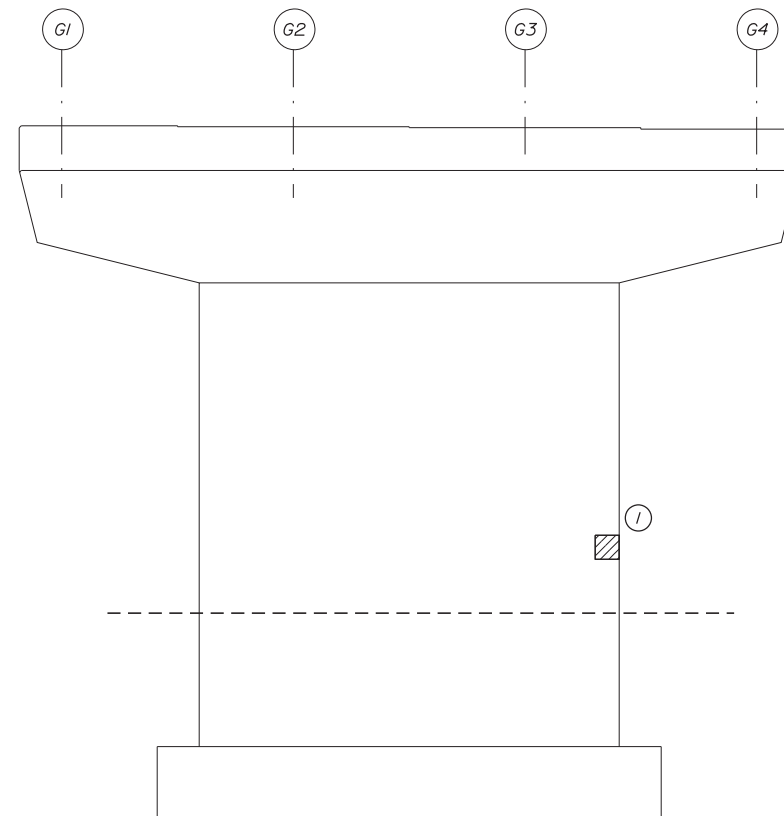
-  = Concrete Patch Repair (Item 518.20)
-  = Limit of Crack Repair
-  = Square Foot Area of Repair
-  = Linear Feet of Crack Repair

NOTES

- All costs for excavation for protective coating application shall be incidental to Item 518.20, Pier Repairs.



NORTH END
1/4" = 1'-0"



CONCRETE SURFACE REPAIR DETAIL Not to Scale

CONCRETE SURFACE REPAIR NOTES

- Prior to the start of concrete removal the Resident and the Contractor shall sound the concrete and agree on the repair limits. Estimated repair quantity may increase at the Resident's discretion.
- Saw cut 1" deep cuts along limits of removal.
- Chip concrete to depth shown. If the removal limits change during the demolition process the Contractor shall notify the Resident. The Resident and Contractor shall agree on the revised pay limits prior to the Contractor continuing the removal.
- Prepare and patch repair areas with Class AAA modified concrete.
- Perform general finishing.



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	MED	1/2017	Checked	GME	1/2017
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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

BRIDGE REPAIR
HIGH STREET UNDERPASS

PIER NO. 1 REPAIRS

VHB: 55107.00

CONTRACT: 2017.04

SHEET NUMBER: 16

16 OF 84

Date:1/20/2017

Filename: ...MSTA\017_Pier_2_Repair.dgn

ESTIMATED
REPAIR QUANTITIES (SF)

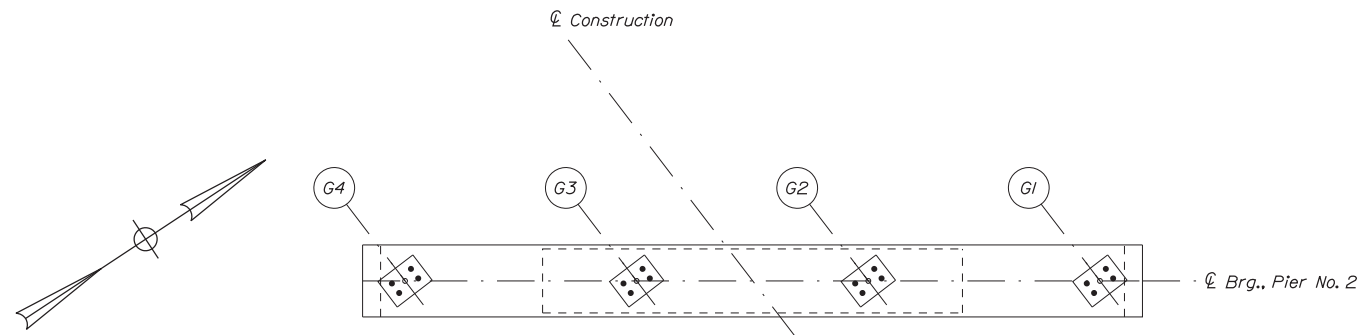
Surface Patch Repairs 23*
* Includes 15 S.F. Additional Repair Quantity
As A Contingency

KEY

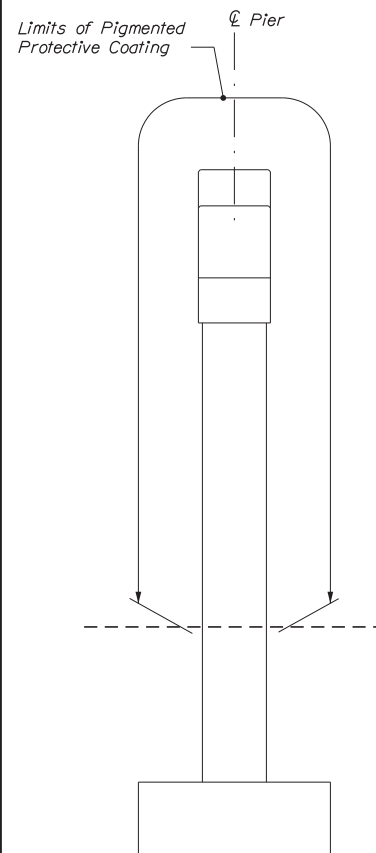
-  = Concrete Patch Repair (Item 518.20)
-  = Limit of Crack Repair
-  = Square Foot Area of Repair
-  = Linear Feet of Crack Repair

NOTES

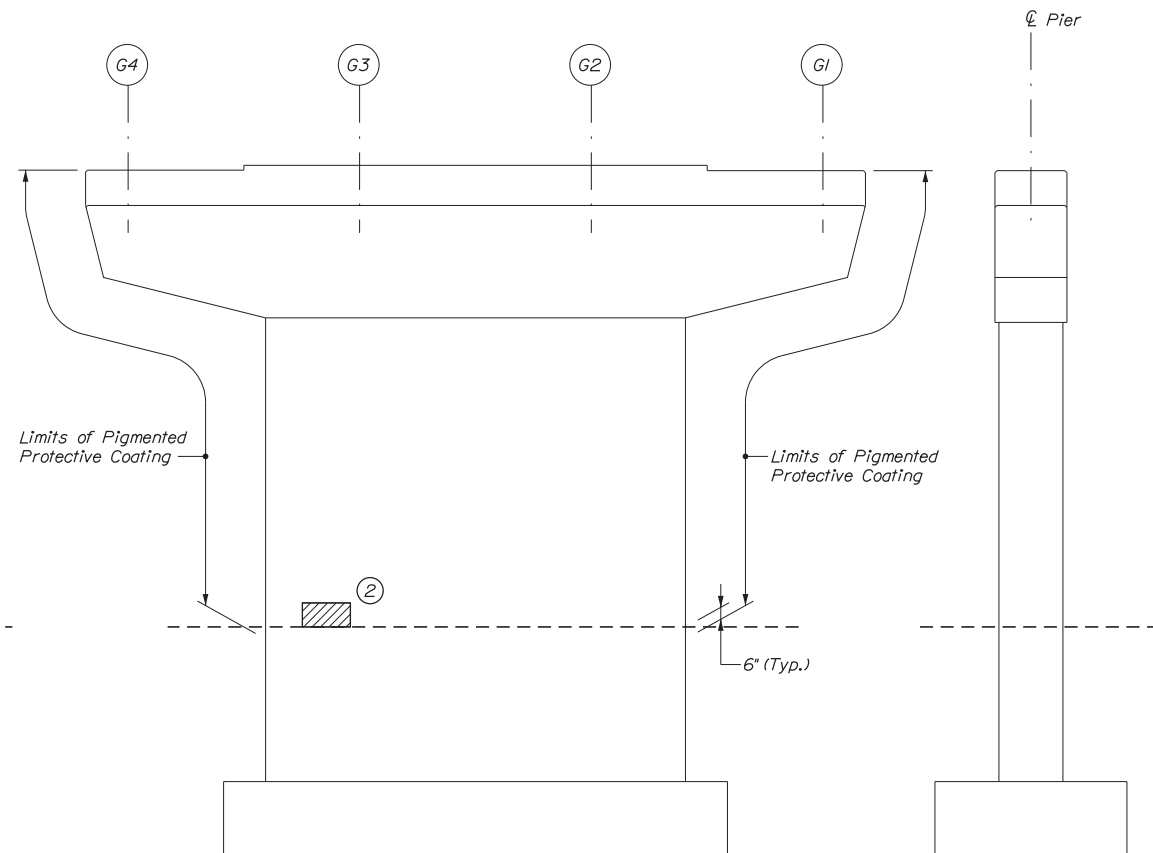
- For Concrete Repair Notes and Details see Pier No. 1 Repairs Sheet.
- All costs for excavation for protective coating application shall be incidental to Item 518.20, Pier Repairs.



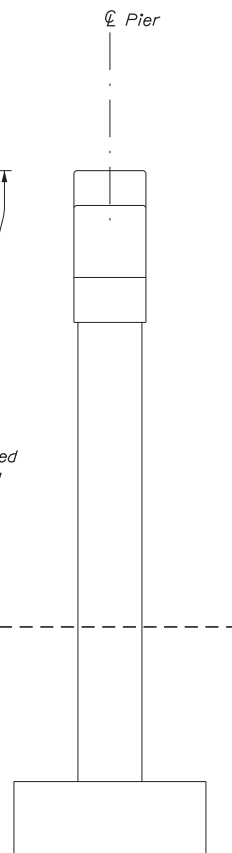
PLAN
1/4" = 1'-0"



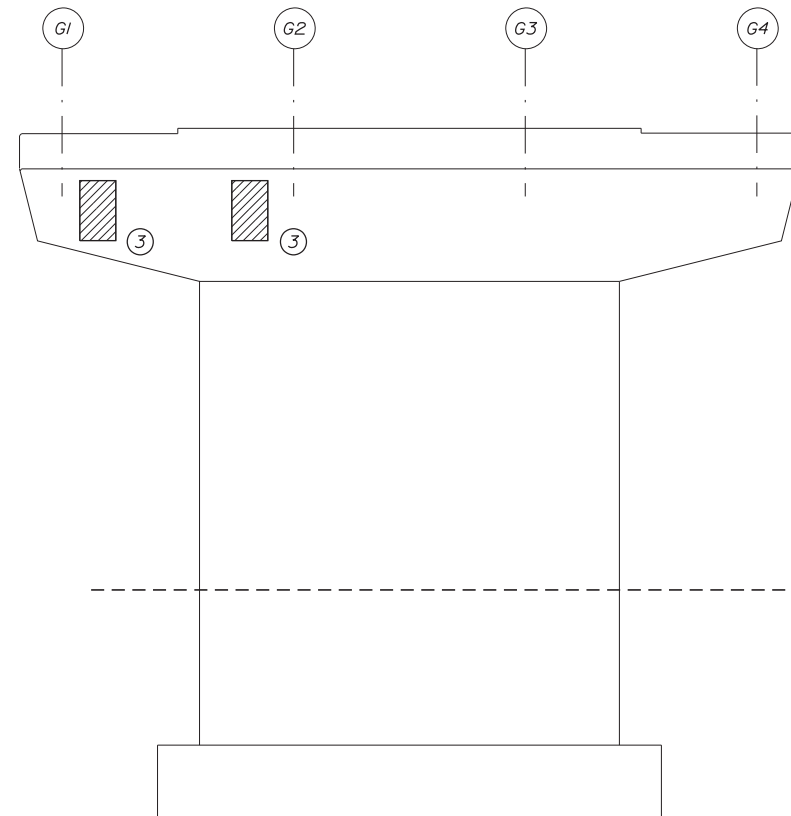
SOUTH END
1/4" = 1'-0"



EAST ELEVATION
1/4" = 1'-0"



NORTH END
1/4" = 1'-0"



WEST ELEVATION
1/4" = 1'-0"

Scale: AS NOTED

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THE GOLD STAR
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BRIDGE REPAIR
HIGH STREET UNDERPASS

PIER NO. 2 REPAIRS

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	MED	1/2017	Checked	GME	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

VHB: 55107.00

SHEET NUMBER: 17

CONTRACT: 2017.04

17 OF 84

MTA PROJECT MANAGER: Ralph Norwood, IV

Date:1/20/2017

Filename: ...\\MSTA\\018_Pier_3_Repair.dgn

ESTIMATED
REPAIR QUANTITIES (SF)

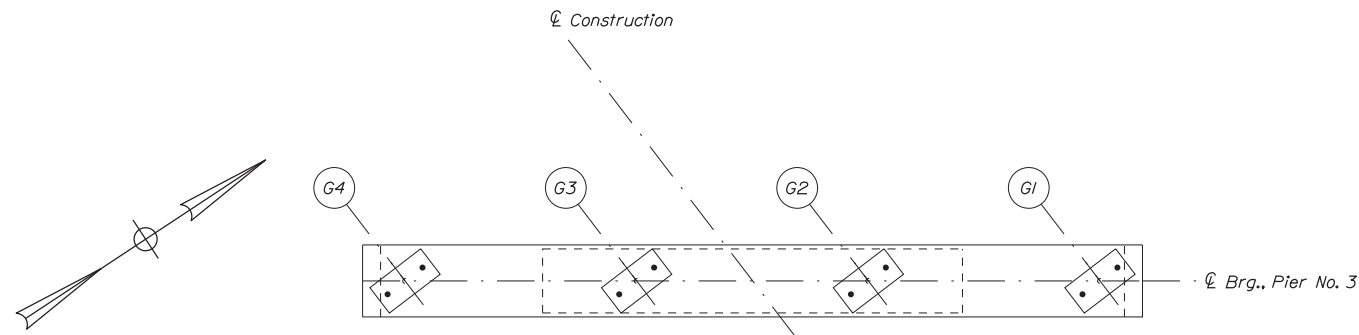
Surface Patch Repairs 7*
* Includes 5 S.F. Additional Repair Quantity
As A Contingency

KEY

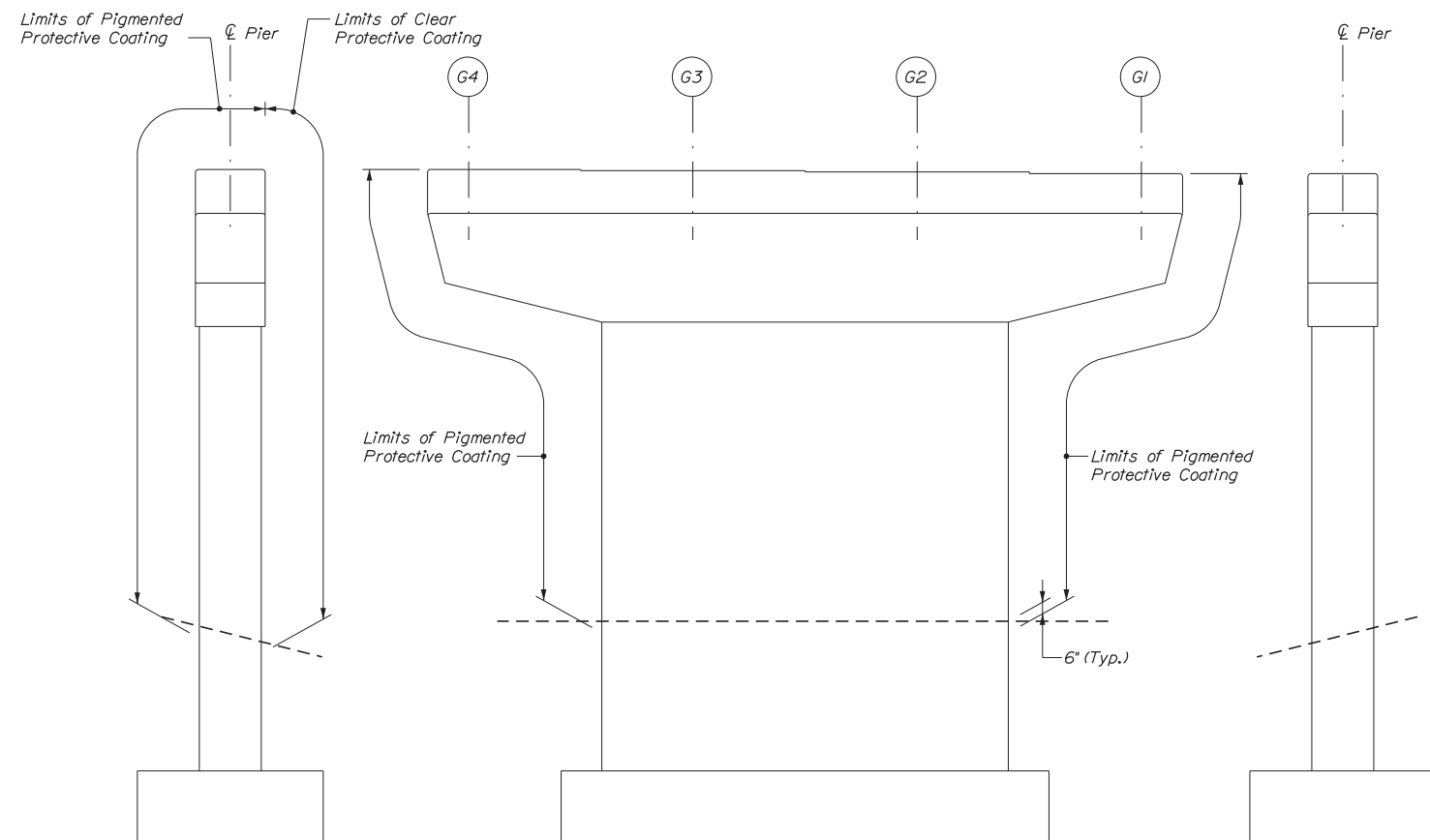
-  = Concrete Patch Repair (Item 518.20)
-  = Limit of Crack Repair
-  = Square Foot Area of Repair
-  = Linear Feet of Crack Repair

NOTES

- For Concrete Repair Notes and Details see Pier No. 1 Repairs Sheet.
- All costs for excavation for protective coating application shall be incidental to Item 518.20, Pier Repairs.



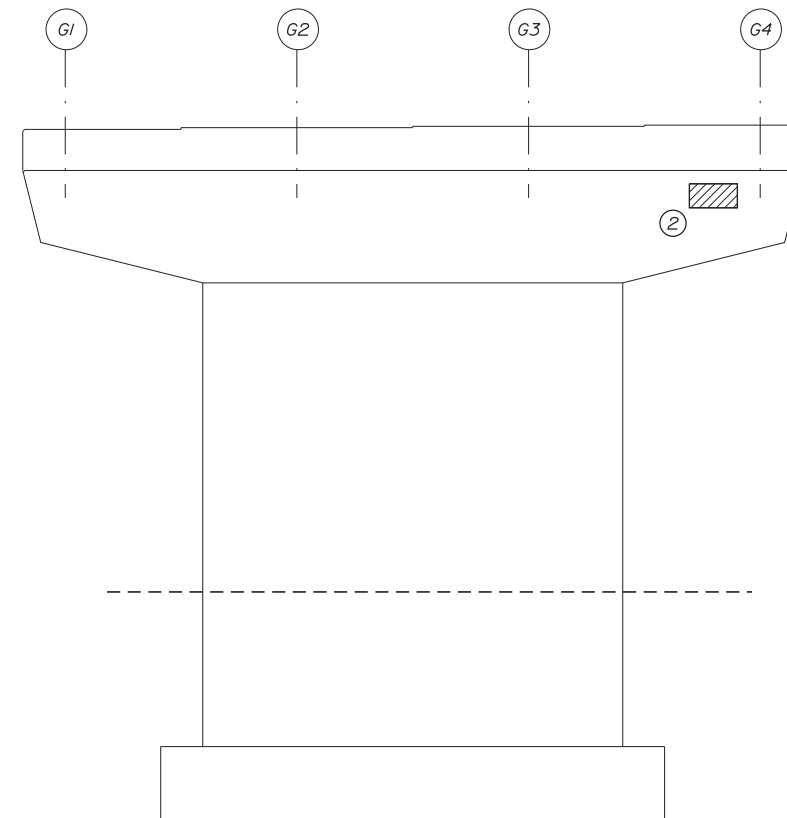
PLAN
1/4" = 1'-0"



SOUTH END
1/4" = 1'-0"

EAST ELEVATION
1/4" = 1'-0"

NORTH END
1/4" = 1'-0"



WEST ELEVATION
1/4" = 1'-0"

Scale:			
No.	Revision	By	Date

Designed by:			
			
CONSULTANT PROJECT MANAGER: T. Bryant			
	By	Date	
Designed	MED	1/2017	Checked GME 1/2017
Drawn	DPD	1/2017	In Charge of TSB 1/2017

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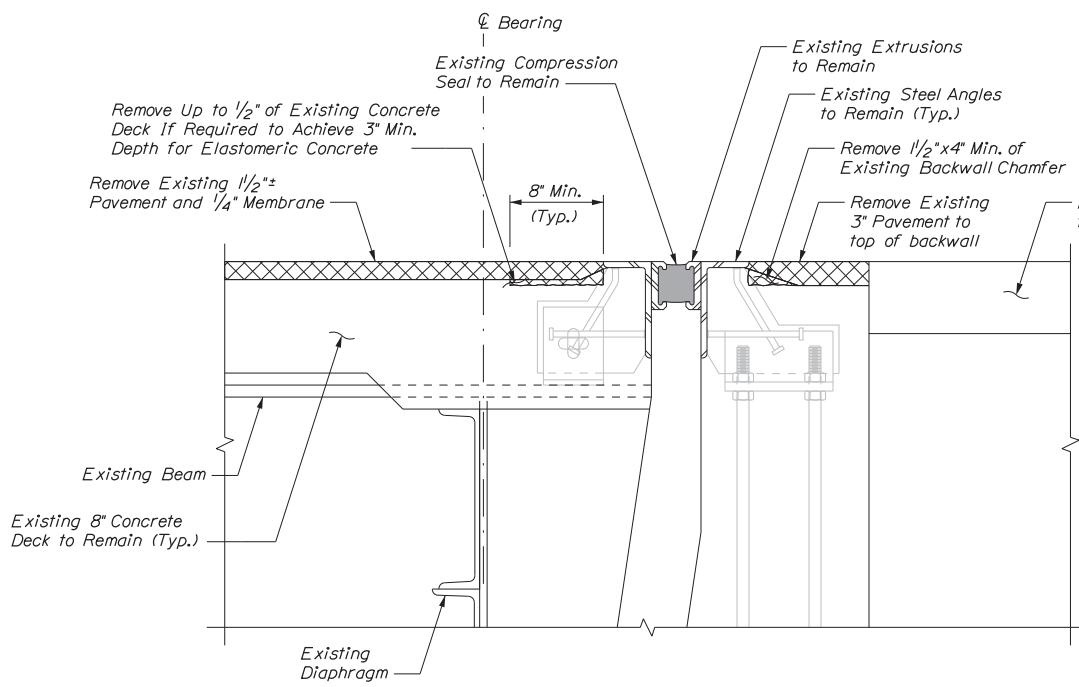
THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

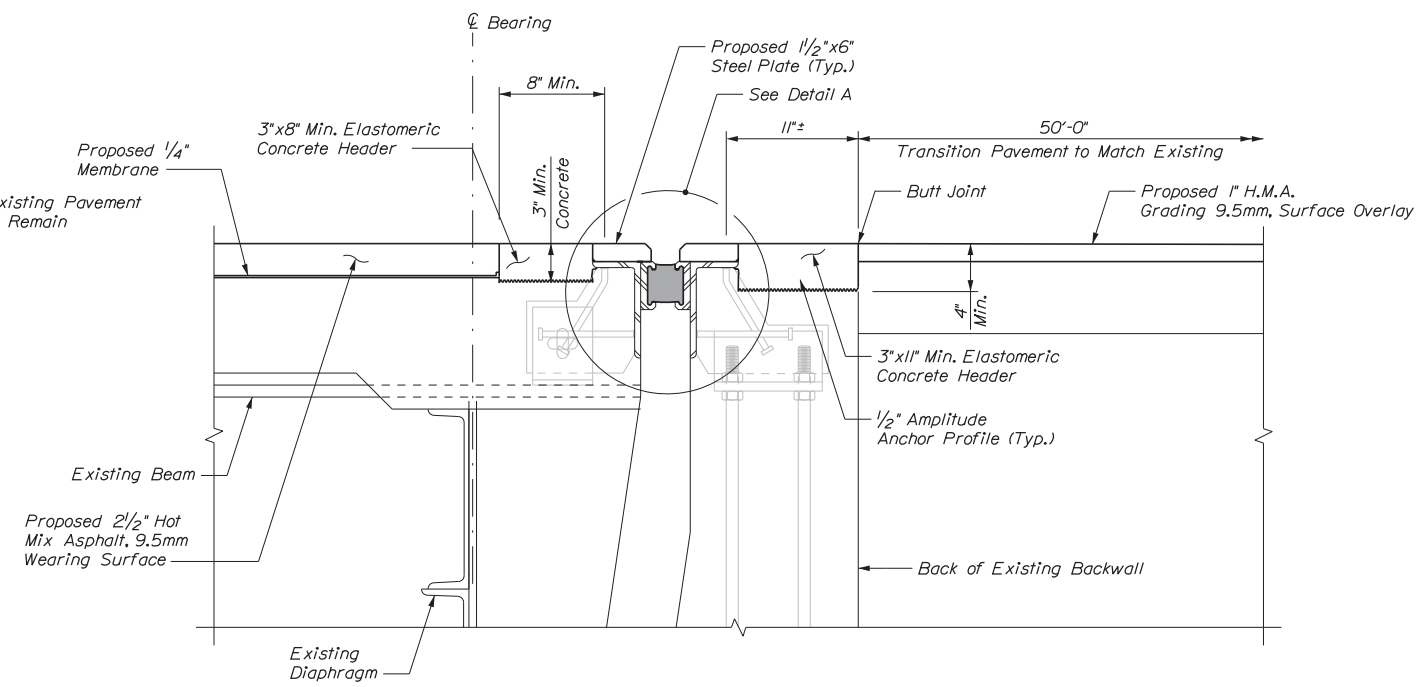
BRIDGE REPAIR HIGH STREET UNDERPASS PIER NO. 3 REPAIRS	
VHB: 55107.00 CONTRACT: 2017.04	SHEET NUMBER: 18 18 OF 84

Date:1/20/2017

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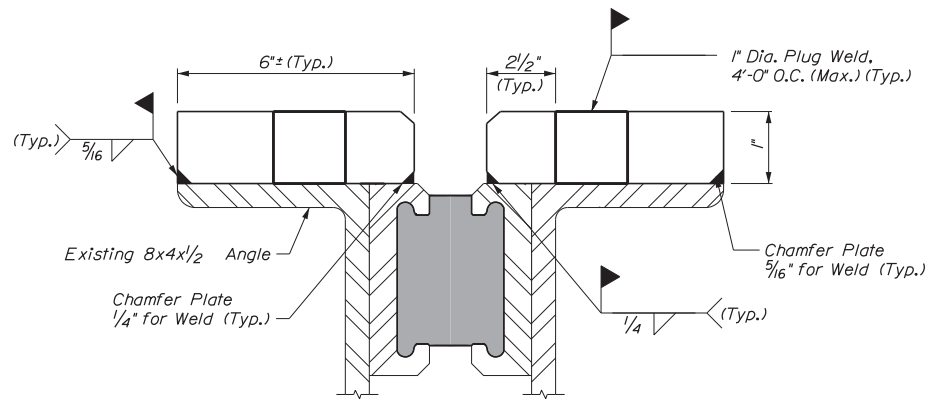
EXISTING EXPANSION JOINT SECTION



PROPOSED EXPANSION JOINT SECTION

SECTIONS AT EXPANSION JOINTS AT ABUTMENTS

Not to Scale



DETAIL A

Not to Scale

EXPANSION DEVICE NOTES

1. Contractor shall field measure existing curb plate and joint dimensions prior to development of the shop drawings.
2. Expansion joint modifications at each abutment shall be paid under Item 520.2211, Expansion Joint Modification.
3. All field welding shall be done by a AWS D1.5 Certified Welder.

Scale: NOT TO SCALE

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THE GOLD STAR
MEMORIAL HIGHWAY

BRIDGE REPAIR
HIGH STREET UNDERPASS

EXPANSION JOINT MODIFICATIONS DETAILS

VHB: 55107.00

SHEET NUMBER: 19

CONTRACT: 2017.04

19 OF 84

CONSULTANT PROJECT MANAGER: T. Bryant

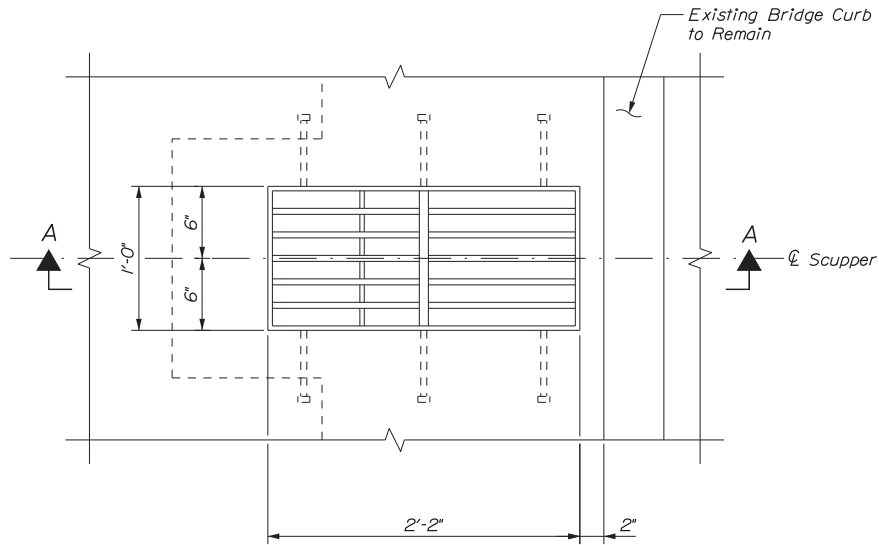
No.	Revision	By	Date

By	Date	By	Date
Designed	MED 1/2017	Checked	GME 1/2017
Drawn	KDW 1/2017	In Charge of	TSB 1/2017

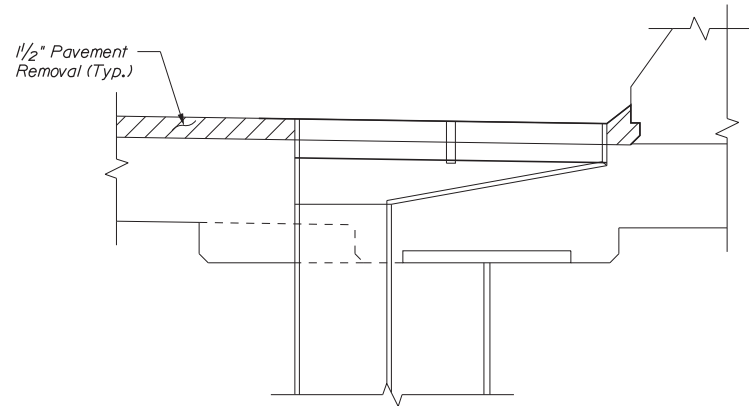
MTA PROJECT MANAGER: Ralph Norwood, IV

Date: 1/20/2017

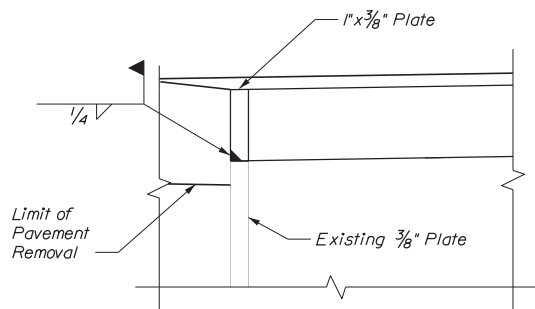
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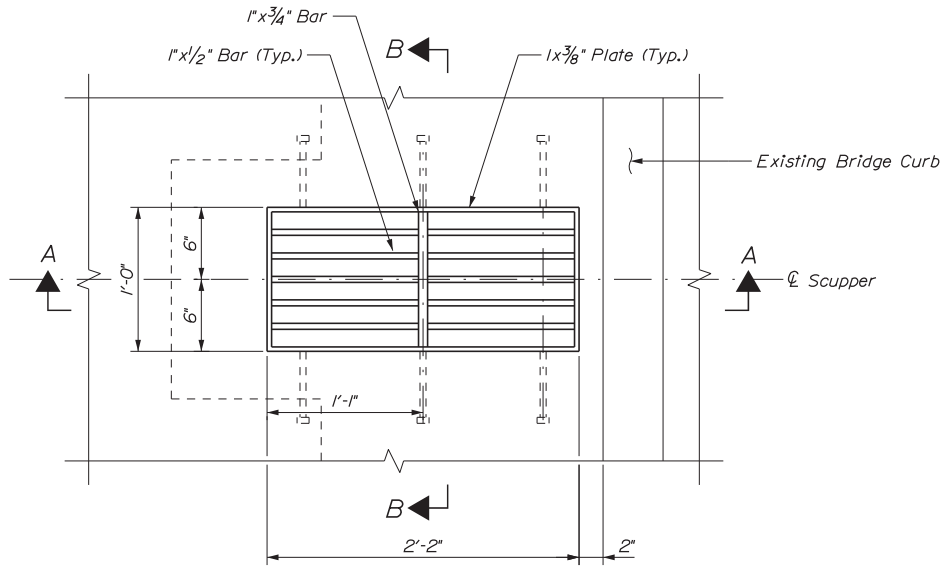
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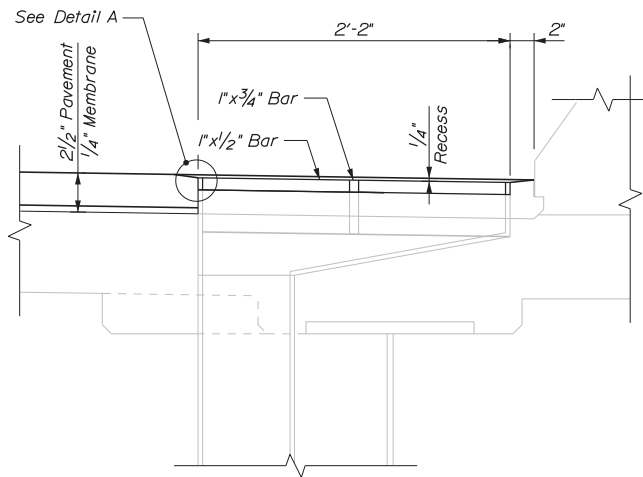
EXISTING SCUPPER SECTION A-A
Scale: 1/2" = 1'-0"



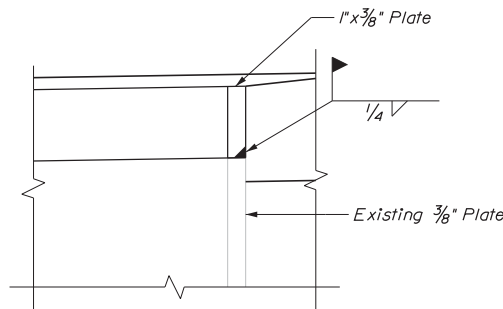
DETAIL A
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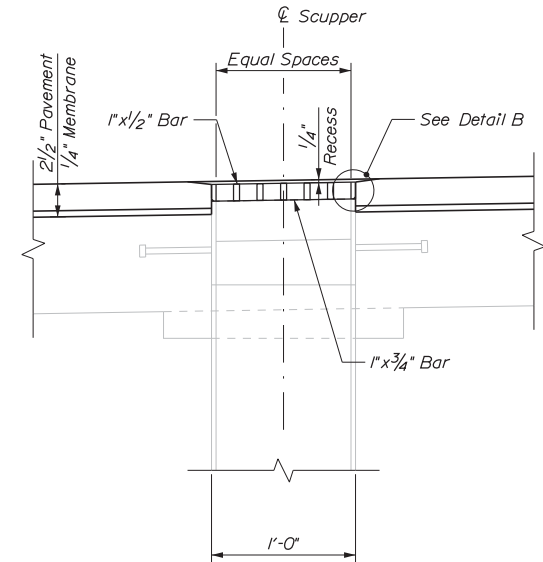
PROPOSED SCUPPER PLAN
Scale: 1/2" = 1'-0"



PROPOSED SCUPPER SECTION A-A
Scale: 1/2" = 1'-0"



DETAIL B
Not to Scale



PROPOSED SCUPPER SECTION B-B
Scale: 1/2" = 1'-0"

BRIDGE DRAIN GRATE MODIFICATION NOTES

1. Prior to starting the work, the Contractor shall field measure each drain. This information shall be used for fabrication of the drain grate extensions.
2. All plates shall conform to ASTM A 36. Drain grate extensions shall be hot dip galvanized after fabrication.
3. Prepare existing drain body and new drain top grate extension for field weld. Field weld the exterior perimeter joint between existing drain body and new top of drain. After welding, the exterior of the new top of drain shall be coated with an approved cold galvanizing compound.
4. In areas where the existing galvanizing has failed grind and cold galvanize scupper steel as directed by the Resident.
5. Payment for all labor, equipment and materials associated with the bridge drain modification will be paid for under Item 502.701, Bridge Drain Grate Modification. See Special Provision 502.



No.	Revision	By	Date

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

BRIDGE REPAIR
HIGH STREET UNDERPASS

BRIDGE DRAIN MODIFICATION DETAILS

VHB: 55107.00

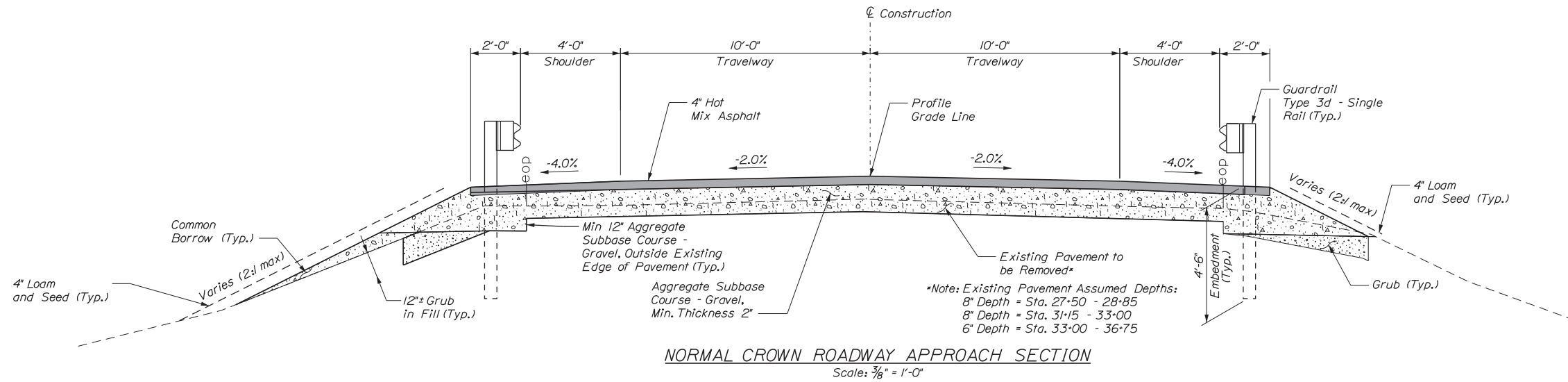
SHEET NUMBER: 20

CONTRACT: 2017.04

20 OF 84

Date: 1/20/2017

Filename: ...PlanSet\021_Roadway_Typ.dgn



HMA NOTE
Hot Mix Asphalt - Approaches
Surface: 1 1/2" HMA (9.5 mm)
Base: 2 1/2" HMA (12.5 mm)

NOTE: eop = Existing Edge of Pavement

TYPICAL ROADWAY SECTION NOTES

1. The pavement and subbase depths as shown on plans are nominal.
2. Crowns for all courses of subbase and pavement shall be straight.
3. All necessary pavement cutting shall be sawcut and done in such a manner as to leave a clean vertical face.
4. Bituminous tack coat is required between all lifts of pavement and on all existing paved or milled surfaces prior to placing proposed pavement or as directed by the resident
5. All guardrail shall be Type 3d, single rail with 7' posts.

Scale: 1" = 3'-0"			
No.	Revision	By	Date

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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT WINTHROP ROAD UNDERPASS	
TYPICAL ROADWAY SECTION	
VHB: 55106.00	SHEET NUMBER: 21
CONTRACT: 2017.04	21 OF 84

<u>Limits of Milling</u>	<u>SY</u>
Sta. 27+25 to Sta. 27+50	76.7

<i>Item 606.1728 W Beam to 3 Bar Bridge Transition</i>	<i>EA</i>
<i>Sta. 28+50.0 LT</i>	<i>1</i>
<i>Sta. 28+62.5 RT</i>	<i>1</i>
<i>Sta. 31+37.5 LT</i>	<i>1</i>
<i>Sta. 31+50.0 RT</i>	<i>1</i>

<u>Item 606.247 Guardrail Type 3d - Single Rail, 7' Posts</u>	<u>LF</u>
Sta. 27+50 LT to Sta. 28+50 LT	100
Sta. 27+50 RT to Sta. 28+62.5 RT	112.5

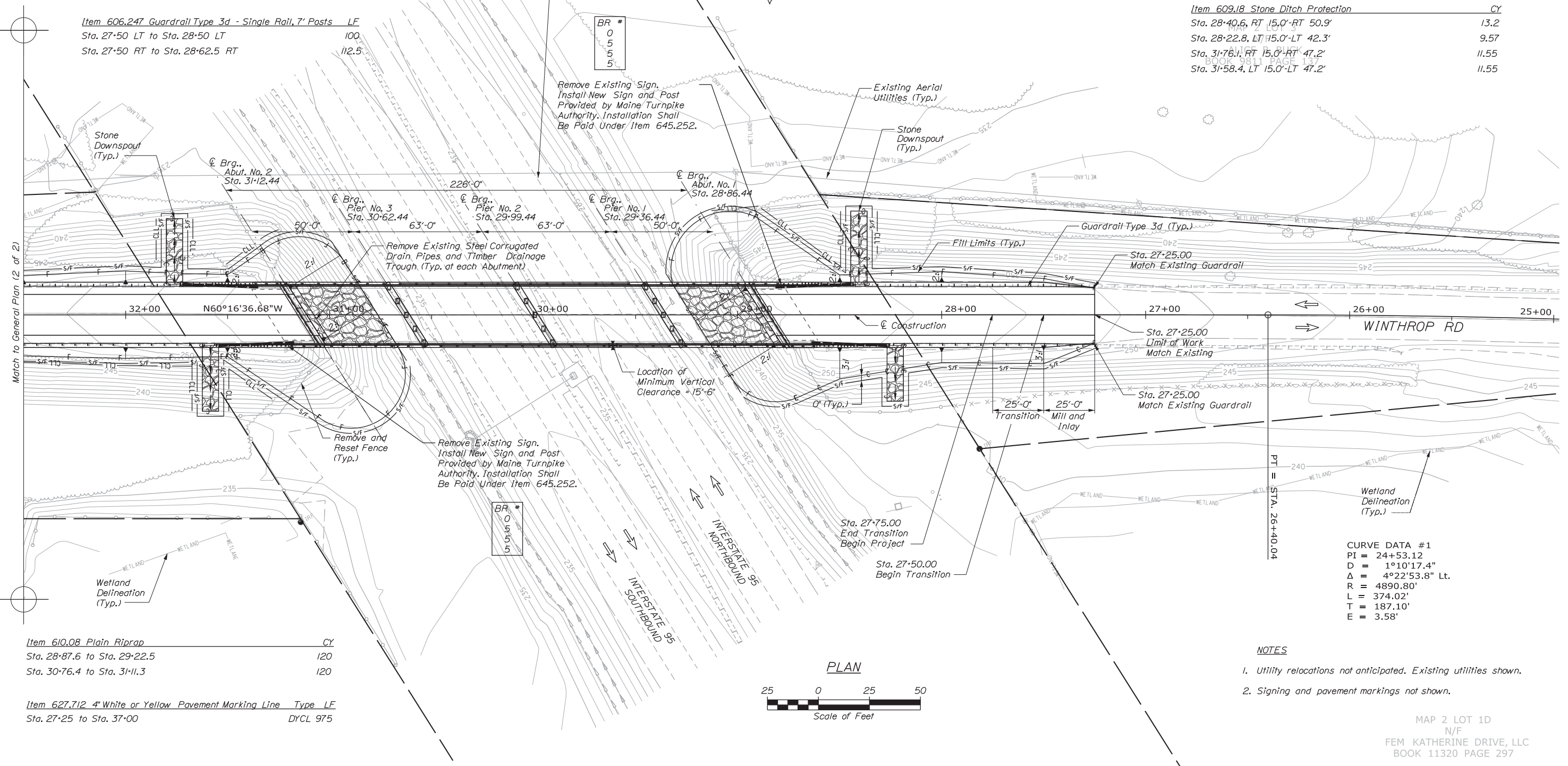
LICENSE FOR INSTALLATION GRANTED TO
ADELPHIA COMMUNICATIONS
BOOK 6564 PAGE 240
(runs pole to pole) —

<i>Item 607,17 Chain Link Fence - 6 Foot</i>	<i>LF</i>
<i>Sta. 28+56, Rt 54.4' to Sta. 29+12, Rt 50.2'</i>	<i>56</i>
<i>Sta. 29+12, RT 50.2' to Sta. 28+92, RT 16.6'</i>	<i>41.3</i>
<i>Sta. 28+72, LT 16.5' to Sta. 28+50, LT 48.8'</i>	<i>38.9</i>
<i>Sta. 28+50, LT 48.8' to Sta. 27+95, LT 44.4'</i>	<i>56.4</i>
<i>Sta. 32+06, RT 47.7' to Sta. 31+49.1, RT 54.2'</i>	<i>57.8</i>
<i>Sta. 31+49.1, RT 54.2' to Sta. 31+25.9, RT 16.3'</i>	<i>45.9</i>
<i>Sta. 31+09' LT 16.7' to Sta. 30+93, LT 46.7'</i>	<i>35.5</i>
<i>Sta. 30+93, LT 46.7' to Sta. 31+46, LT 49.7'</i>	<i>52.7</i>

<u>Item 607.23 Chain Link Fence Gate</u>	<u>EA</u>
East Approach	/
West Approach	/

<i>Item 609.11 Vertical Curb, Type 1</i>	<i>LF</i>
<i>Sta. 28+26.8 LT to 28+63.8 LT</i>	<i>37.0</i>
<i>Sta. 28+44.4 RT to 28+81.4 RT</i>	<i>37.0</i>
<i>Sta. 31+17.4 LT to 31+54.4 LT</i>	<i>37.0</i>
<i>Sta. 31+35.1 RT to 31+72.1 RT</i>	<i>37.0</i>

<i>Item 609.18 Stone Ditch Protection</i>	<i>CY</i>
Sta. 28+40.6, RT 15.0'-RT 50.9'	13.2
Sta. 28+22.8, LT 15.0'-LT 42.3'	9.57
Sta. 31+76.1, RT 15.0'-RT 47.2'	11.55
Sta. 31+58.4, LT 15.0'-LT 47.2'	11.55



NOTES

1. Utility relocations not anticipated. Existing utilities shown.
2. Signing and pavement markings not shown.

MAP 2 LOT 1D
N/F
FEM KATHERINE DRIVE, LLC
BOOK 11320 PAGE 297

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THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

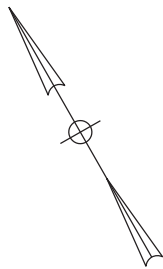
SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

GENERAL PLAN (1 OF 2)

VHB: 55106.00	SHEET NUMBER: 22
CONTRACT: 2017.04	22 OF 84

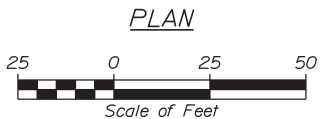
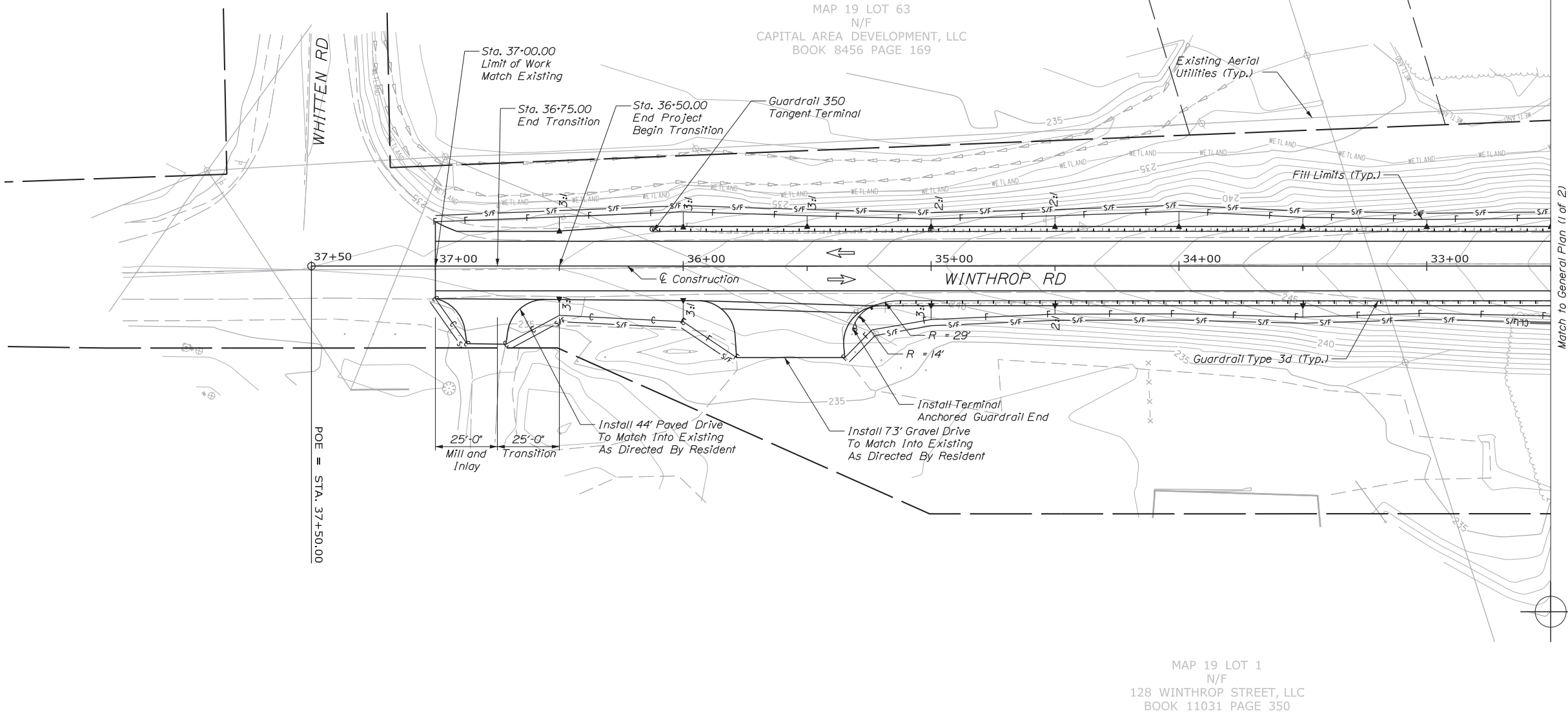
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Filename: ... \MSTA\Planset\022_Plan_01.dgn



<u>Limits of Milling</u>			<u>SY</u>
Sta. 37+00 to Sta. 36+75			71.8
<u>Construct Drives</u>			<u>Type</u>
Sta. 35+56.7 LT			Gravel
Sta. 36+79.4 LT			Paved
<u>Item 606.247 Guardrail Type 3d - Single Rail, 7' Posts</u>			<u>LF</u>
Sta. 31+37.5 LT to Sta. 35+12.5 LT			375
Sta. 31+50 RT to Sta. 35+75 RT			425
<u>Item 606.259 Anchorage Assembly</u>			<u>EA</u>
Sta. 35+31.6 LT			1

<u>Item 606.265 Terminal End - Single Rail</u>			<u>EA</u>
Sta. 35+31.6 LT			1
<u>Item 606.59 Guardrail - 15' Radius and Less - Radius</u>			<u>LF</u>
Sta. 35+24.1 LT to Sta. 35+31.6 LT			14.0 12.5
<u>Item 606.60 Guardrail - Over 15' Radius</u>			<u>LF</u>
Sta. 35+24.1 LT to Sta. 35+31.6 LT			29.0 12.5
<u>Item 606.81 Tangent Guardrail Terminal</u>			<u>EA</u>
Sta. 35+75.0 RT to Sta. 36+12.5 RT			1



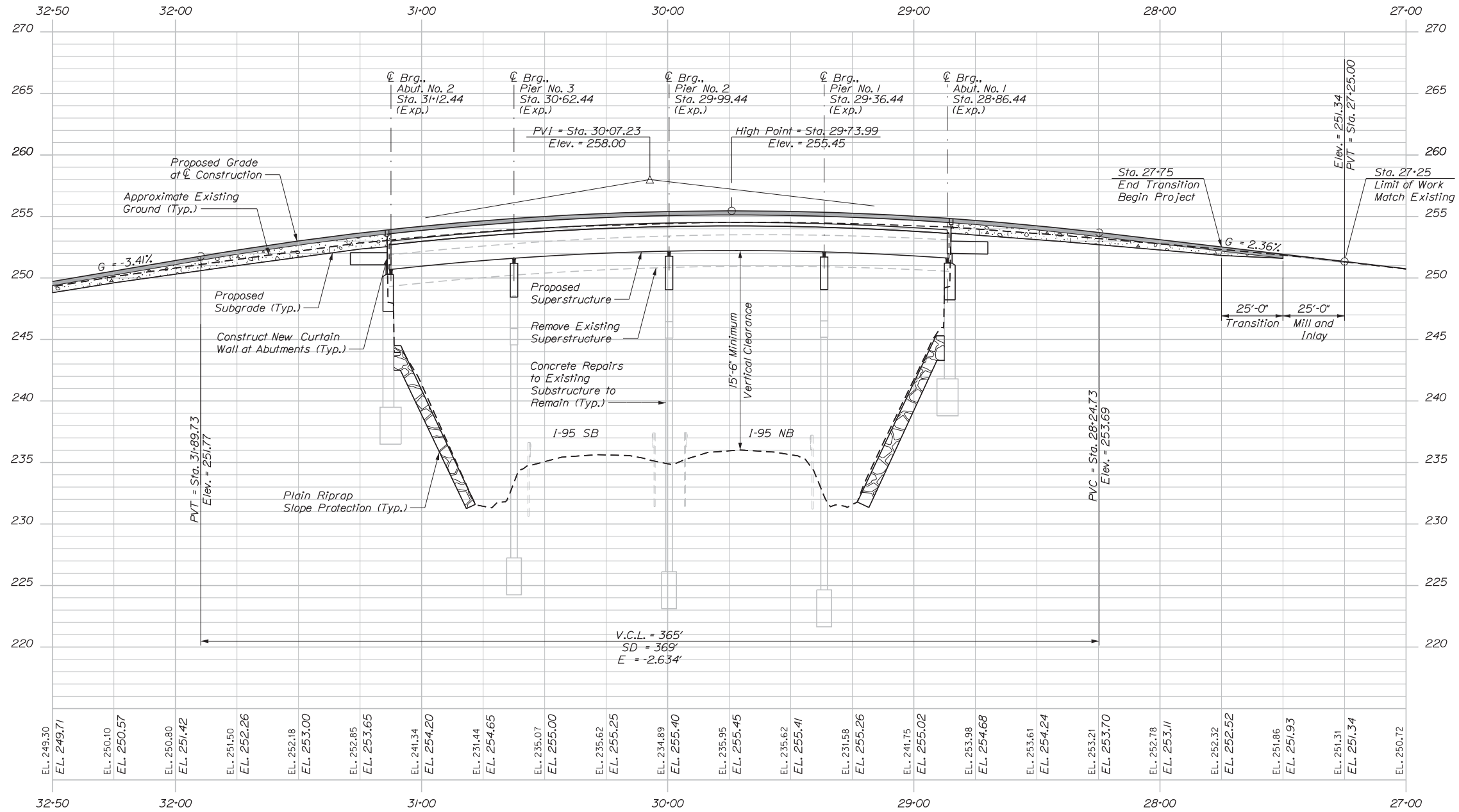
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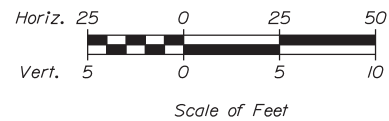
Scale:				Designed by:				VANASSE HANGEN BRUSTLIN, INC. 500 Southborough Dr. Suite 105B South Portland, ME 04106 TEL (207) 889-3150 FAX (207) 253-5596				 THE GOLD STAR MEMORIAL HIGHWAY				SUPERSTRUCTURE REPLACEMENT WINTHROP ROAD UNDERPASS GENERAL PLAN (2 OF 2)					
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: T. Bryant				MTA PROJECT MANAGER: Ralph Norwood, IV				VHB: 55106.00 CONTRACT: 2017.04				SHEET NUMBER: 23 23 OF 84					
				By	Date	Checked	By	Date													
				Designed	1/2017			1/2017													
				Drawn	DPD	1/2017	In Charge of	TSB	1/2017												

Date: 1/20/2017

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WINTHROP ROAD UNDERPASS PROFILE



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CONSULTANT PROJECT MANAGER: T. Bryant					
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Designed		1/2017	Checked		1/2017
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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

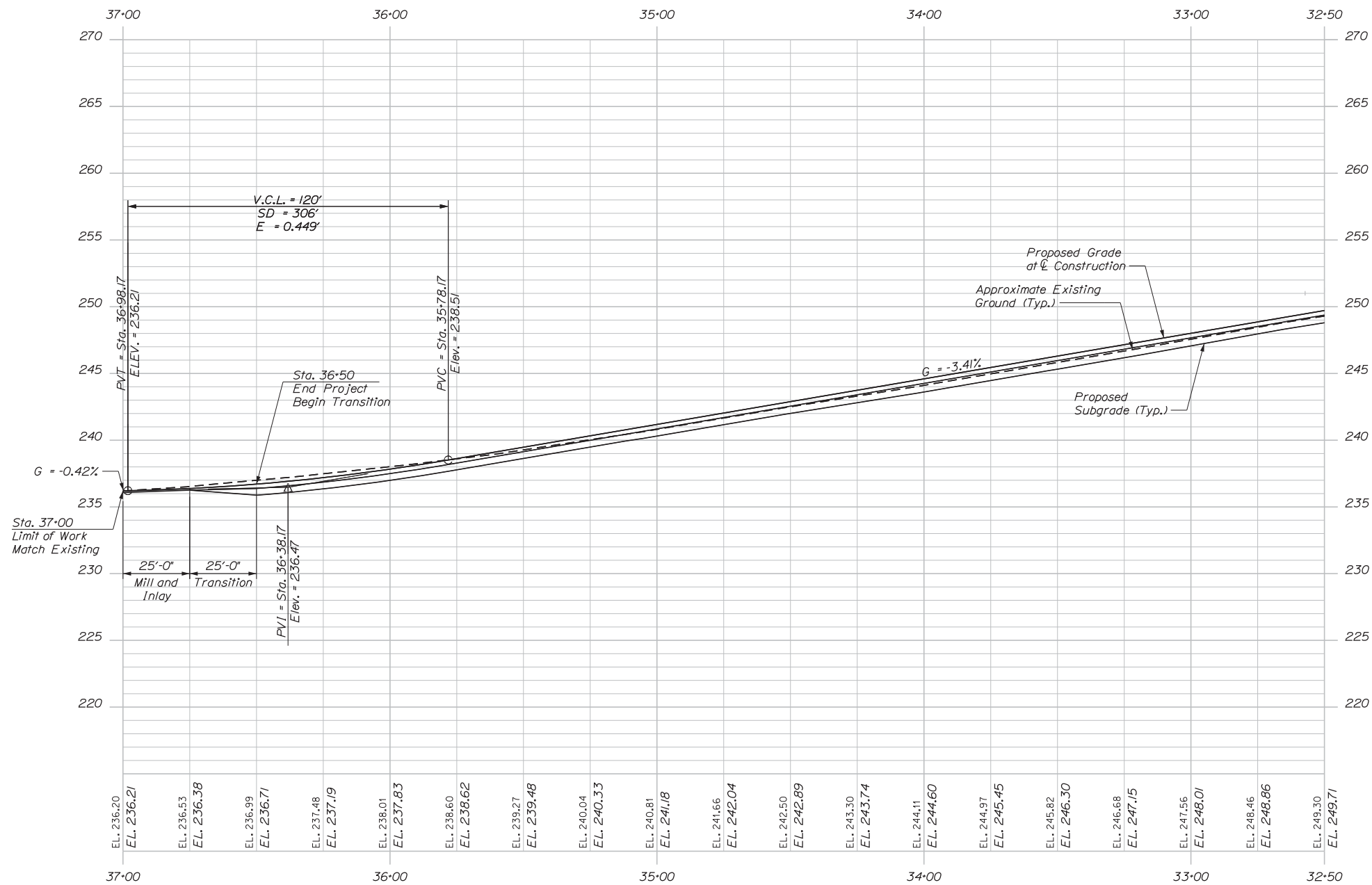
SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

PROFILE (1 OF 2)

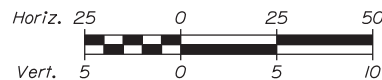
VHB: 55106.00	SHEET NUMBER: 24
CONTRACT: 2017.04	24 OF 84

Date: 1/20/2017

Filename: ...PlanSet\025_Profile_02.dgn



WINTHROP ROAD UNDERPASS PROFILE



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CONSULTANT PROJECT MANAGER: T. Bryant					
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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

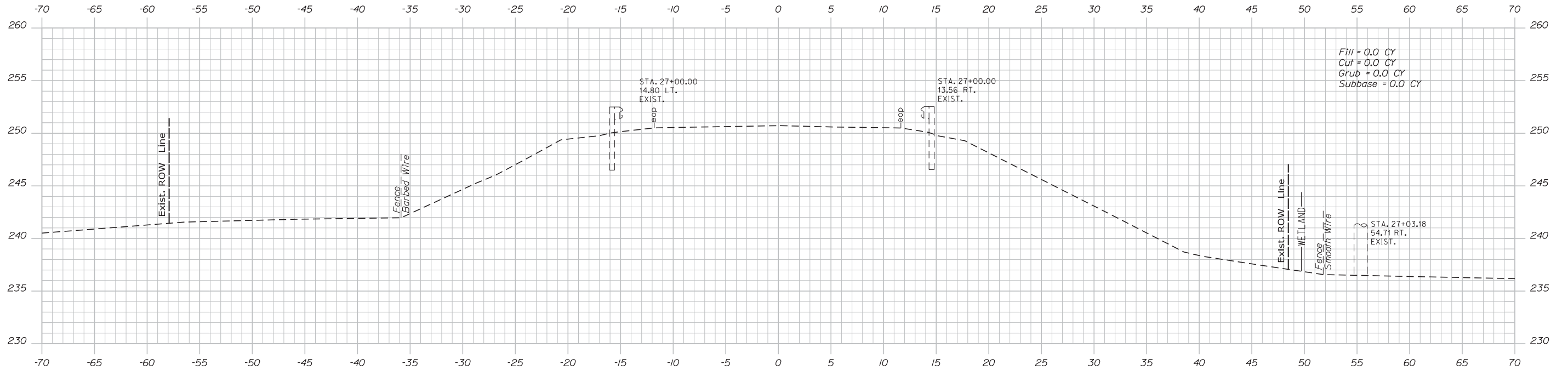
PROFILE (2 OF 2)

VHB: 55106.00
CONTRACT: 2017.04

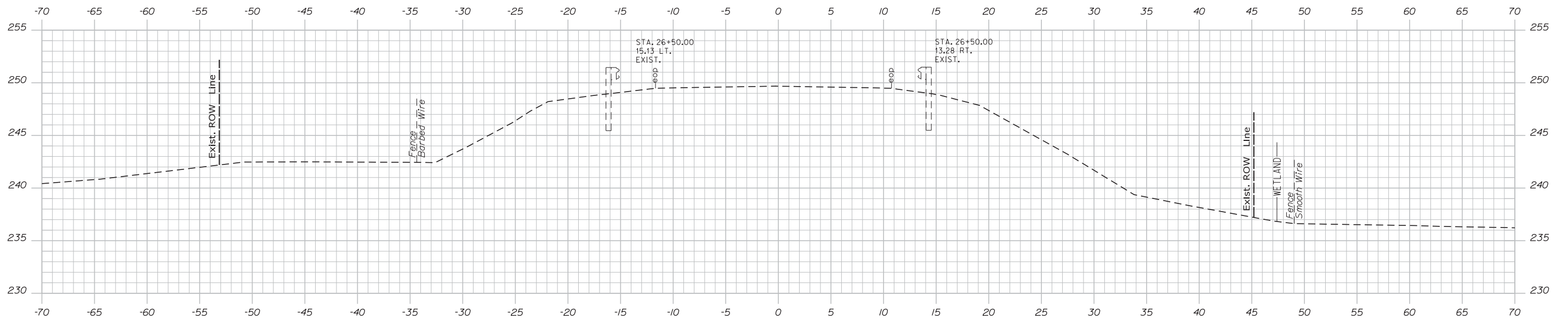
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25 OF 84

Date: 1/20/2017

Filename: ...MSTAN\PlanSet\026_Xsect_01.dgn



27+00.00



26+50.00

Scale: 1" = 5'-0"			
No.	Revision	By	Date

Designed by: 					
CONSULTANT PROJECT MANAGER: T. Bryant					
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Designed		1/2017	Checked		1/2017
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THE GOLD STAR
MEMORIAL HIGHWAY

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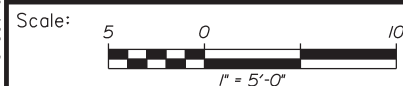
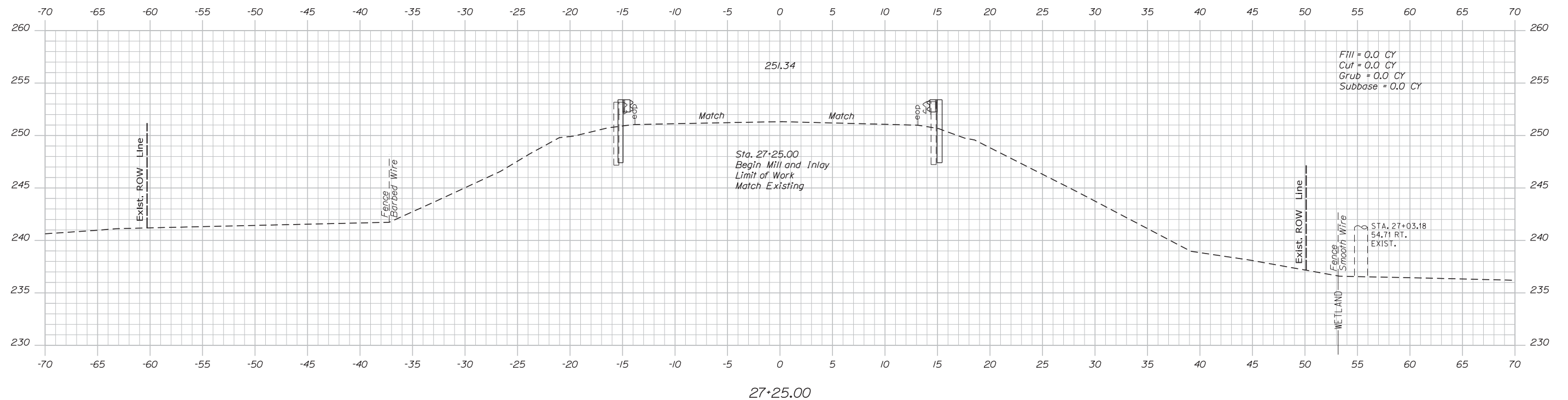
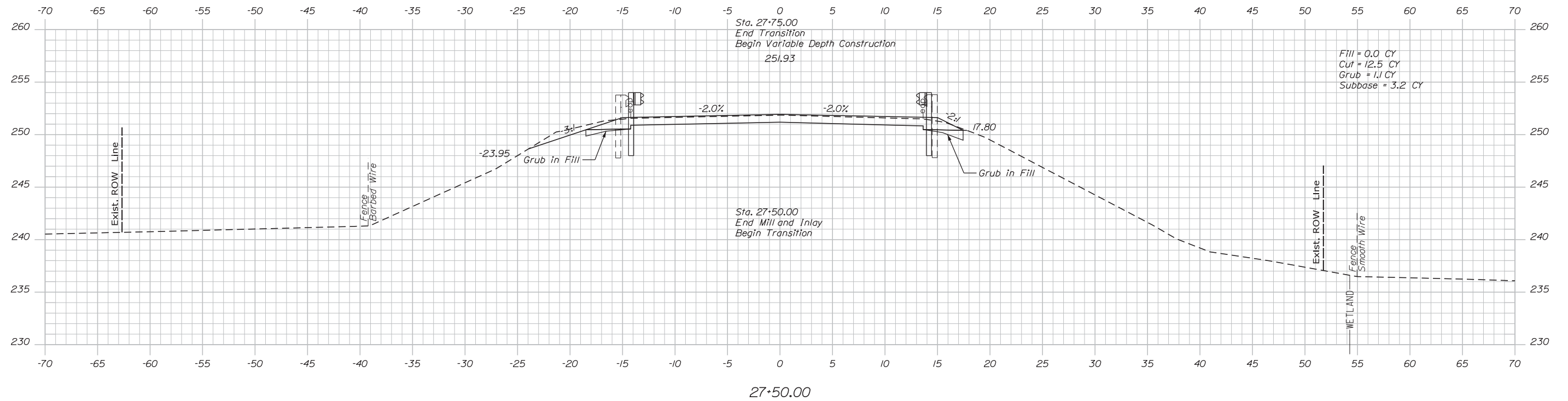
SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

CROSS SECTIONS
STA. 26+50 TO STA. 27+00

VHB: 55106.00
CONTRACT: 2017.04

SHEET NUMBER: 26
26 OF 84

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THE GOLD STAR MEMORIAL HIGHWAY

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

CROSS SECTIONS
STA. 27+25 TO STA. 27+50

VHB: 55106.00

SHEET NUMBER: 27

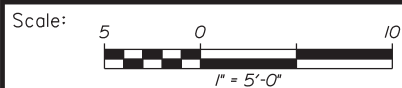
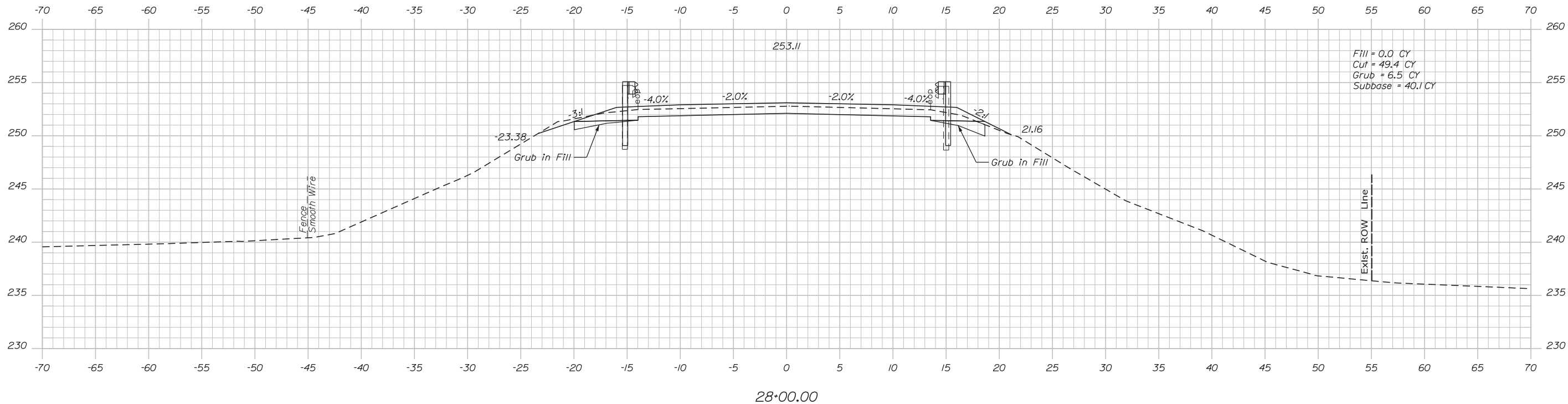
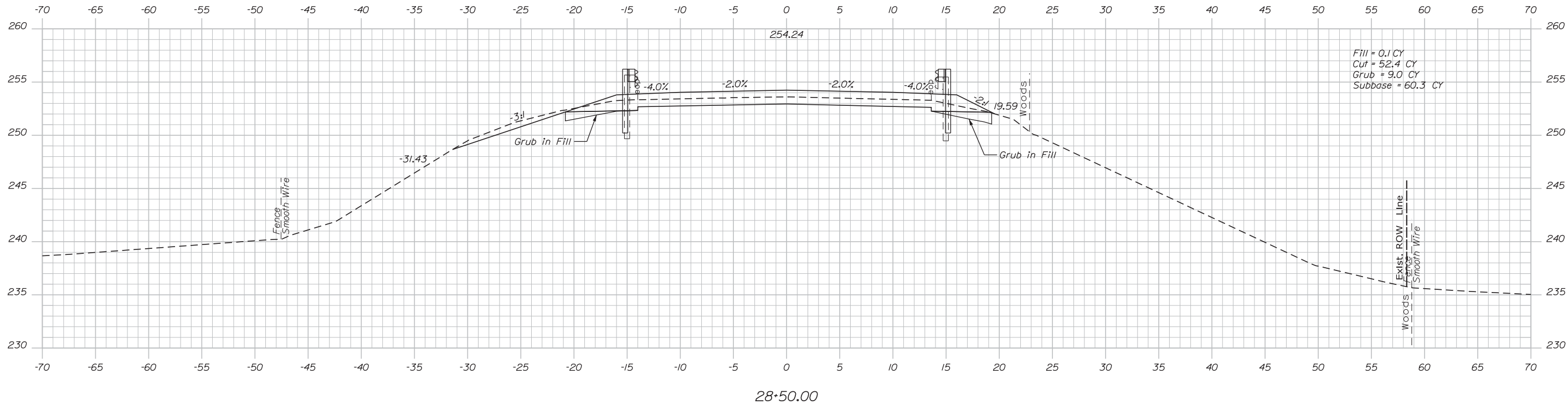
CONTRACT: 2017.04

7 OF 84

MTA PROJECT MANAGER: Ralph Norwood, IV

Date: 1/20/2017

Filename: ...\\MSTA\\PlanSet\\028_Xsect_03.dgn



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THE GOLD STAR
MEMORIAL HIGHWAY

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

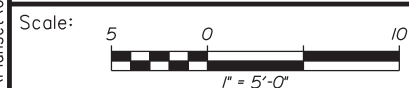
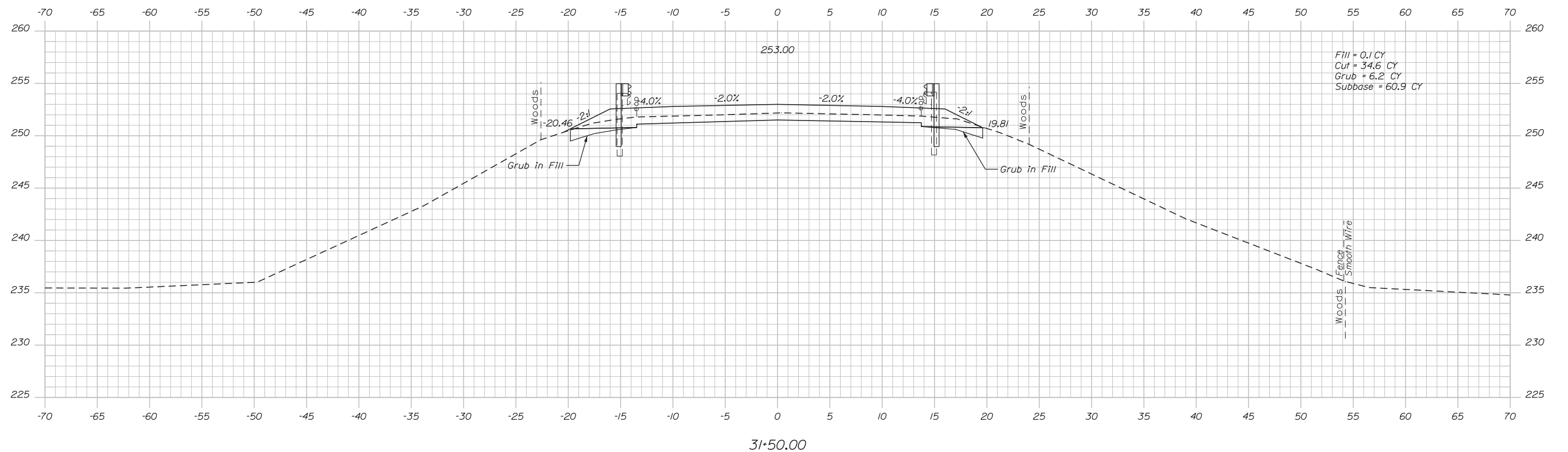
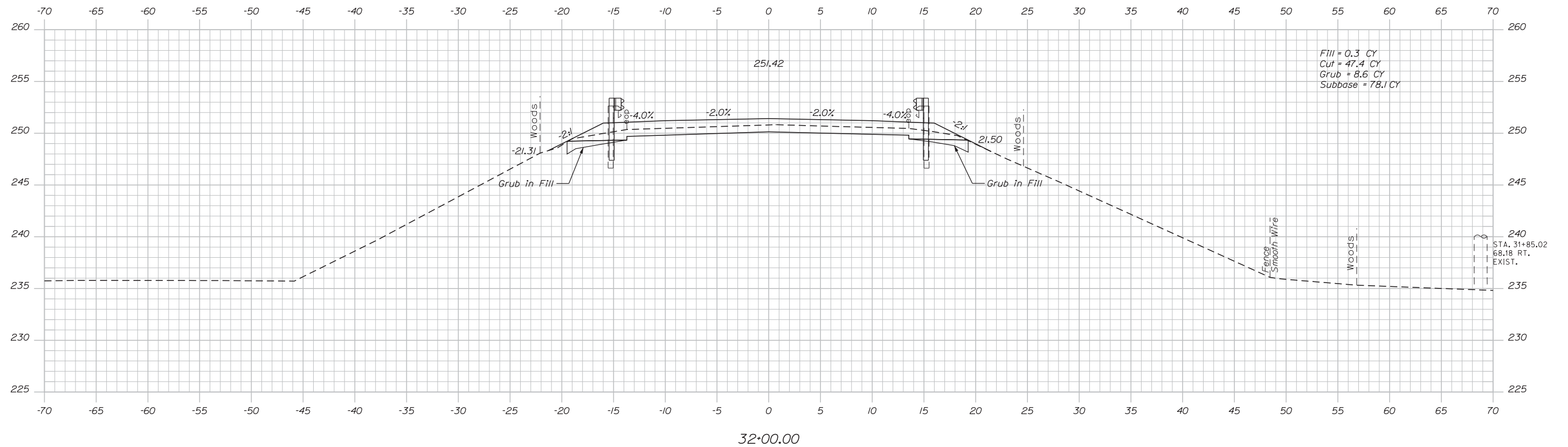
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No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
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VHB: 55106.00	SHEET NUMBER: 28
CONTRACT: 2017.04	28 OF 84

Filename: ... \MSTA\Planset\029_Xsect_04.dgn



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THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

CROSS SECTIONS
STA. 31+50 TO STA. 32+00

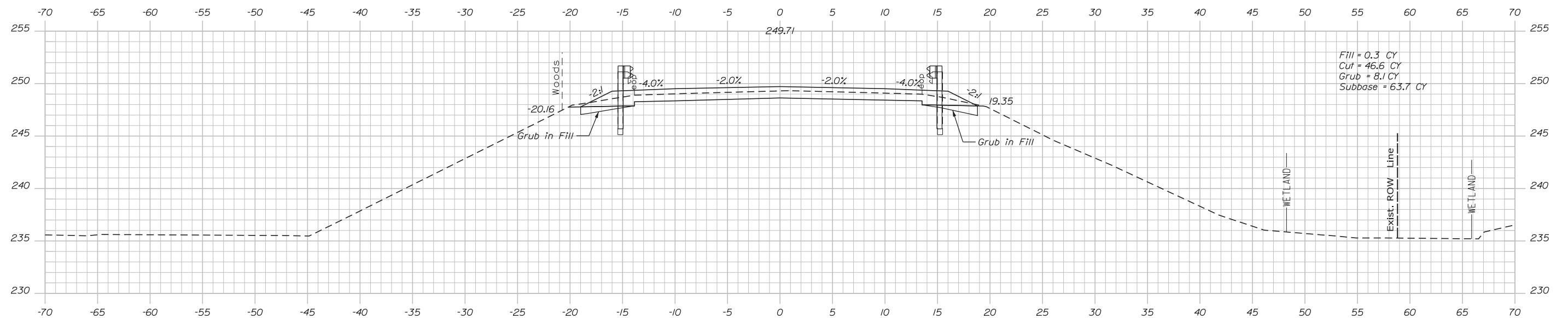
VHB: 55106.00

SHEET NUMBER:	29
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CONTRACT: 2017.04

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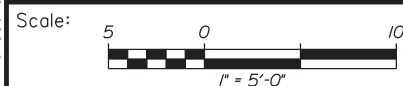
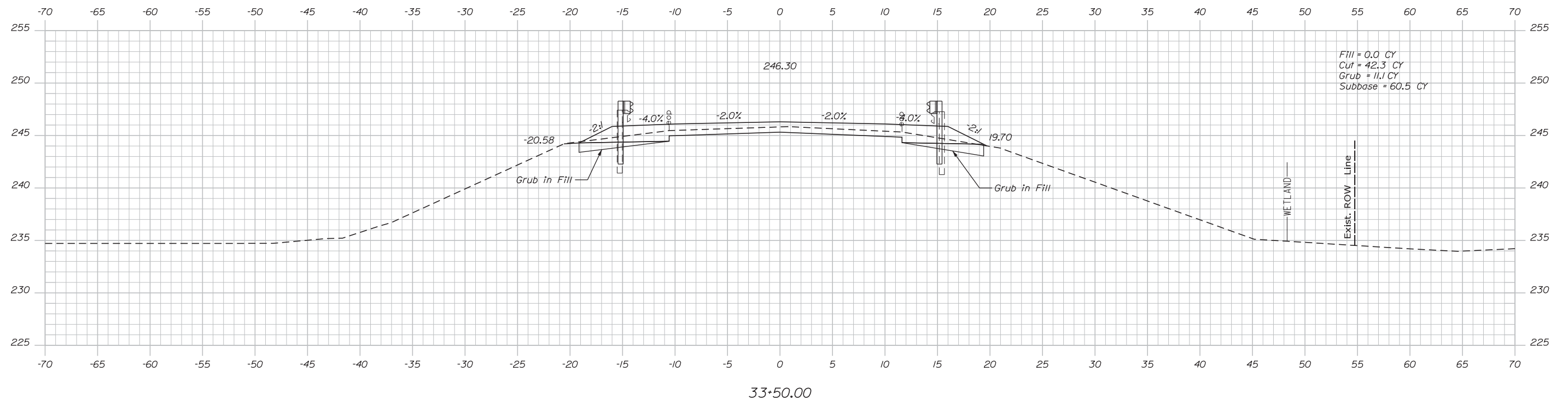
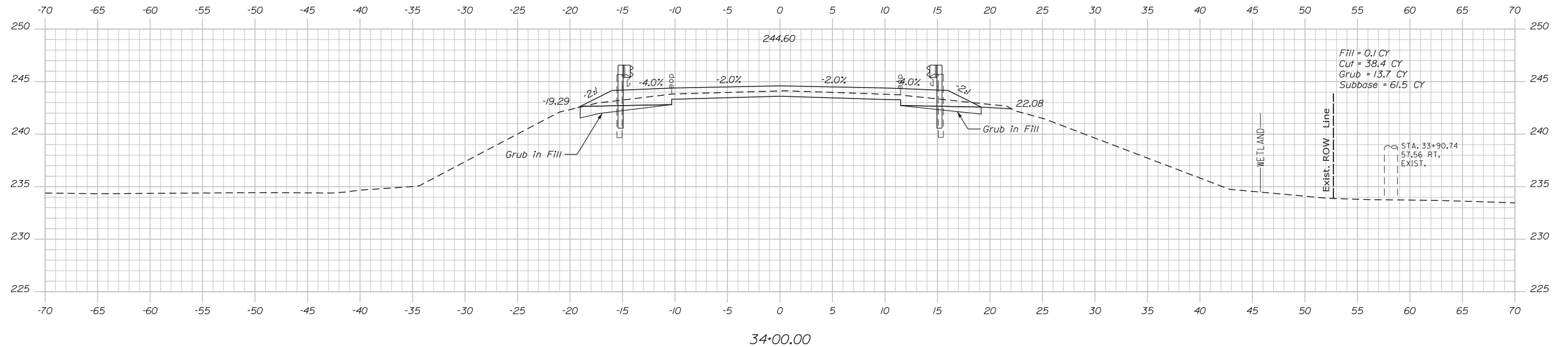
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MTA PROJECT MANAGER: Ralph Norwood, IV

Filename: ... \MSTA\Planset\031_Xsect_ 06.dgn



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THE GOLD STAR MEMORIAL HIGHWAY

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

CROSS SECTIONS
STA. 33+50 TO STA. 34+00

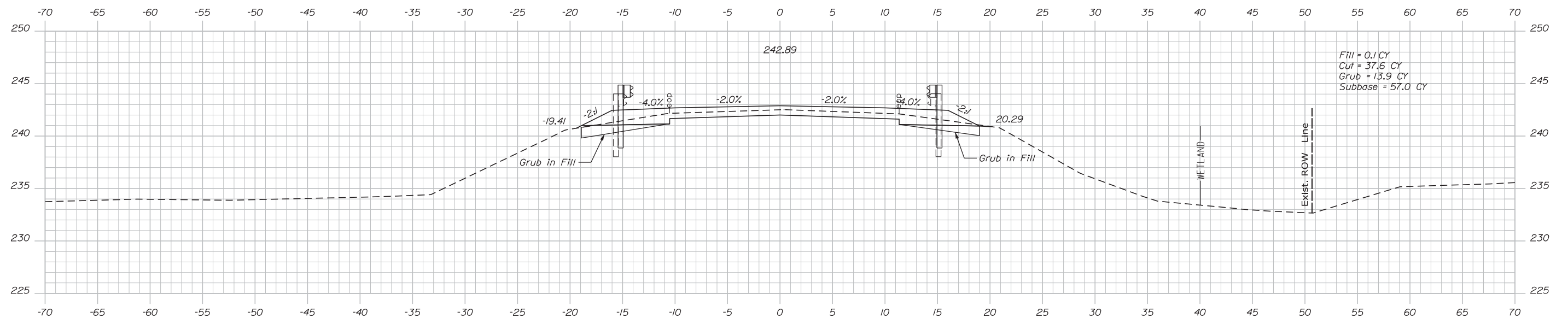
VHB: 55106.00

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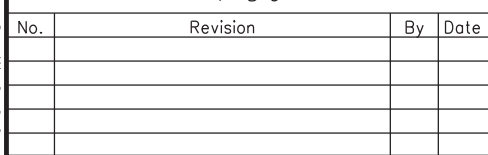
CONTRACT: 2017.04

31 OF 84

MTA PROJECT MANAGER: Ralph Norwood, IV



34+50.00



	By	Date		By	Date
Designed		1/2017	Checked		1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

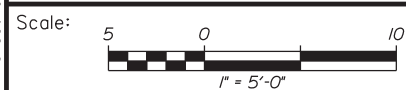
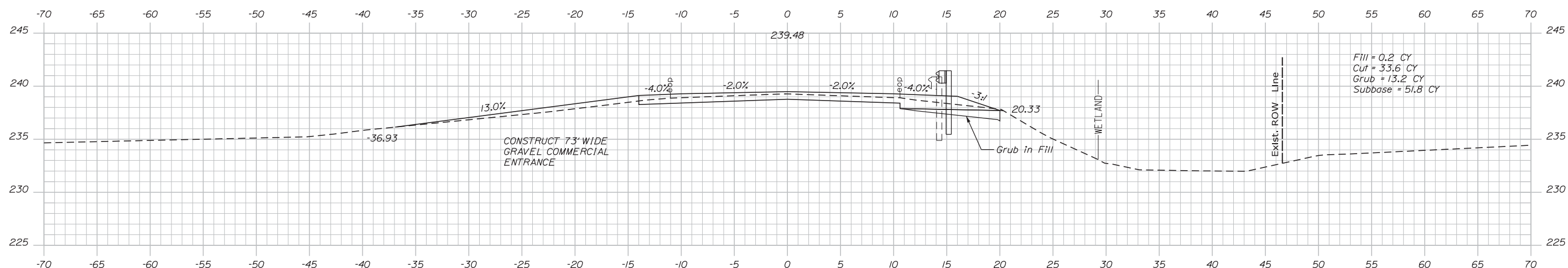
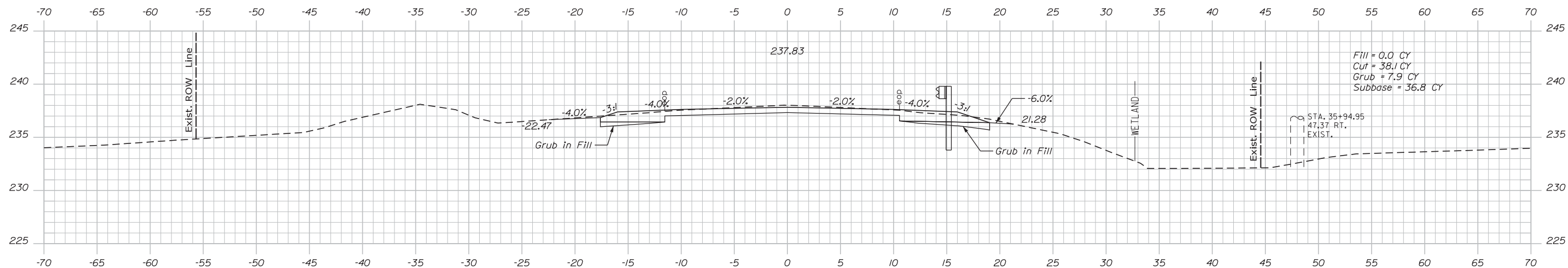
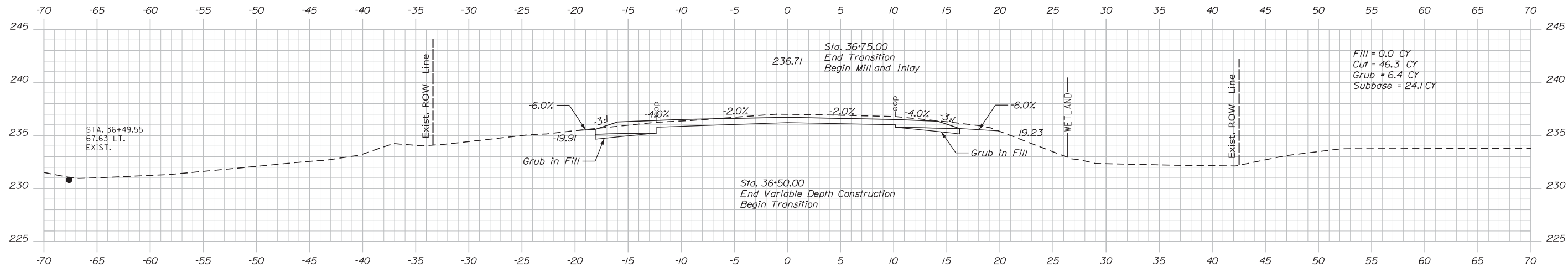


MTA PROJECT MANAGER: Ralph Norwood, IV

32 OF 84

Date: 1/20/2017

Filename: ...\\MSTAN\\PlanSet\\033_Xsect_08.dgn



No.	Revision	By	Date

Designed by: 					
CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed		1/2017	Checked		1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

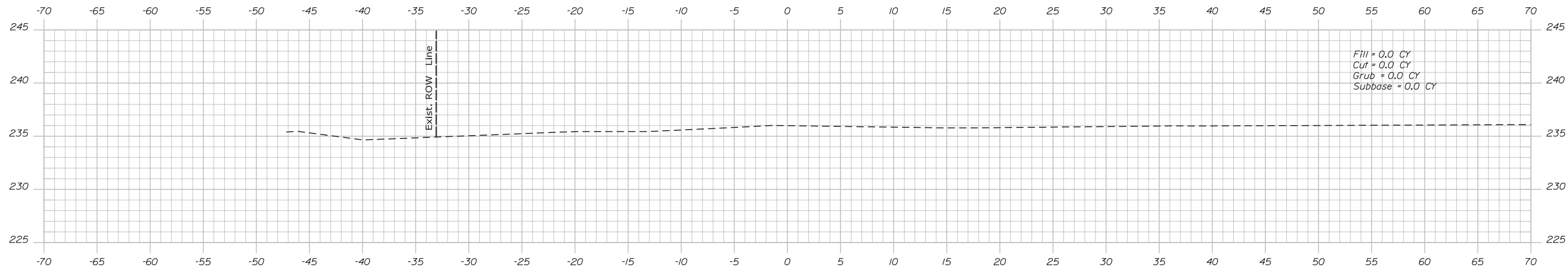
CROSS SECTIONS
STA. 35+50 TO STA. 36+50

VHB: 55106.00
CONTRACT: 2017.04

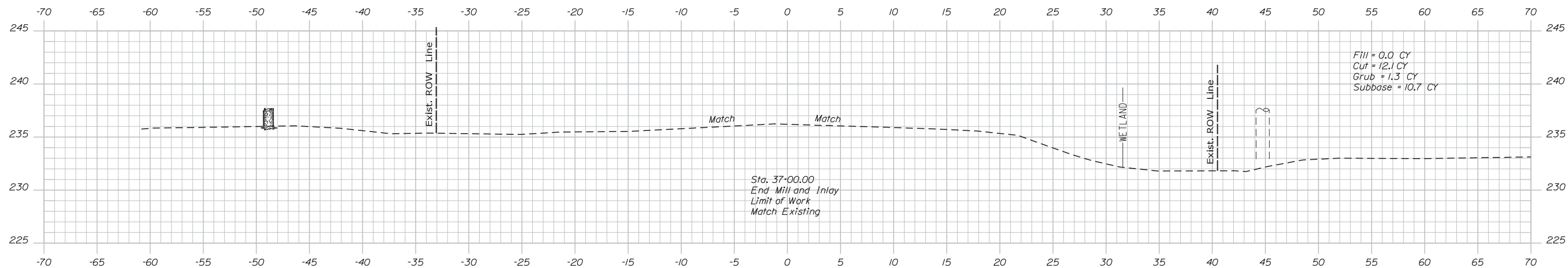
SHEET NUMBER: 33
33 OF 84

Date:1/20/2017

Filename: ...MSTAN\PlanSet\034_Xsect_09.dgn



37+50.00



37+00.00

Scale:			
No.	Revision	By	Date

Designed by:					
CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed		1/2017	Checked		1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

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THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT WINTHROP ROAD UNDERPASS

CROSS SECTIONS STA. 37+00 TO STA. 37+50

VHB: 55106.00

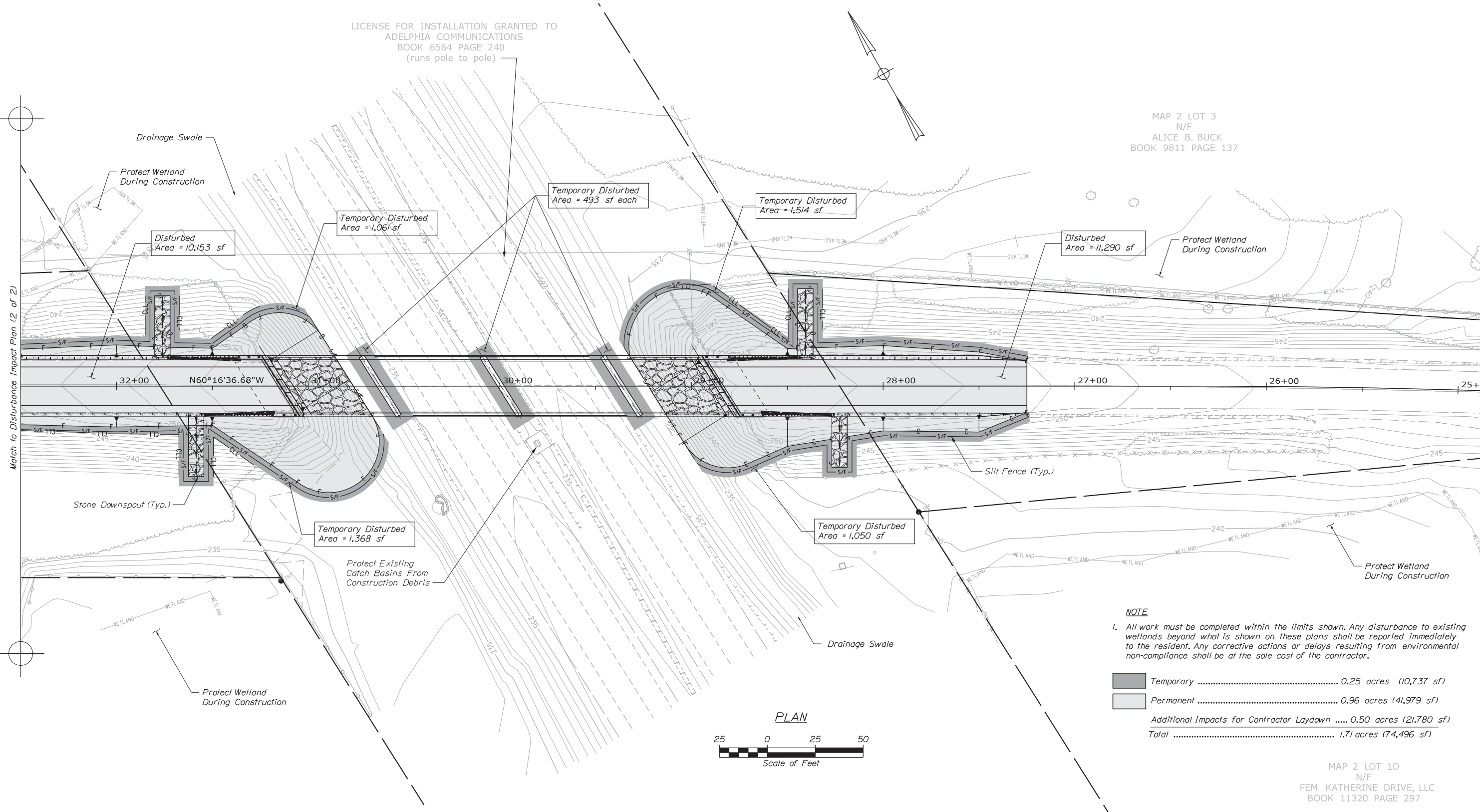
SHEET NUMBER: 34

CONTRACT: 2017.04

34 OF 84

Date: 1/20/2017

Filename: ...X035_Disturbance_Plan_01.dgn



Scale:			
No.	Revision	By	Date

Designed by:					
					
CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
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Drawn	DPD	1/2017	In Charge of	TSB	1/2017

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

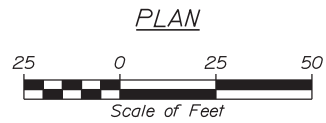
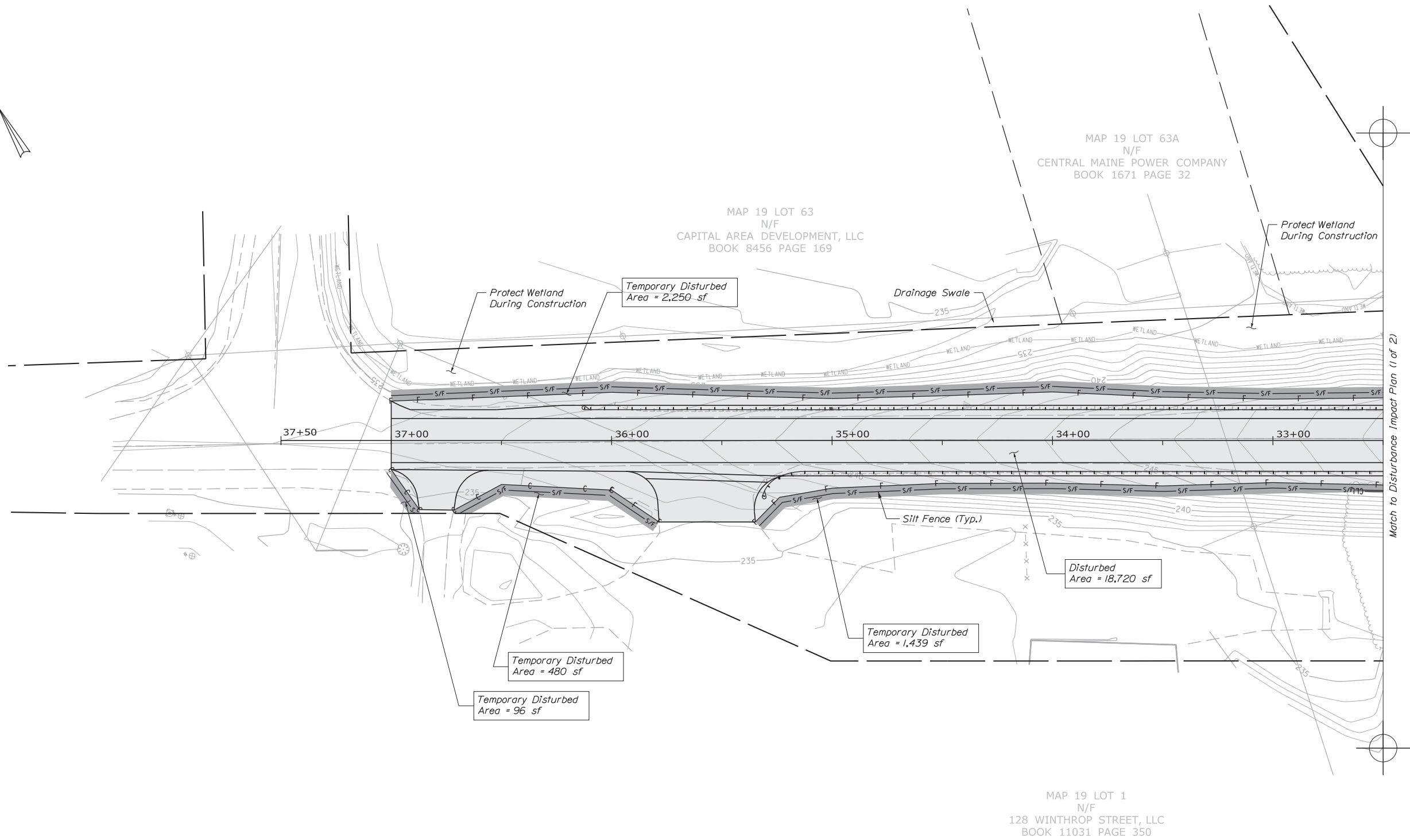
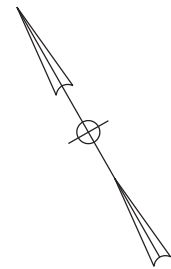
DISTURBANCE IMPACT PLAN (1 OF 2)

VHB: 55106.00
CONTRACT: 2017.04

SHEET NUMBER: 35
35 OF 84

Date:1/20/2017

Filename: ...\\036_Disturbance_Plan_02.dgn



Scale:			
No.	Revision	By	Date

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CONSULTANT PROJECT MANAGER: T. Bryant					
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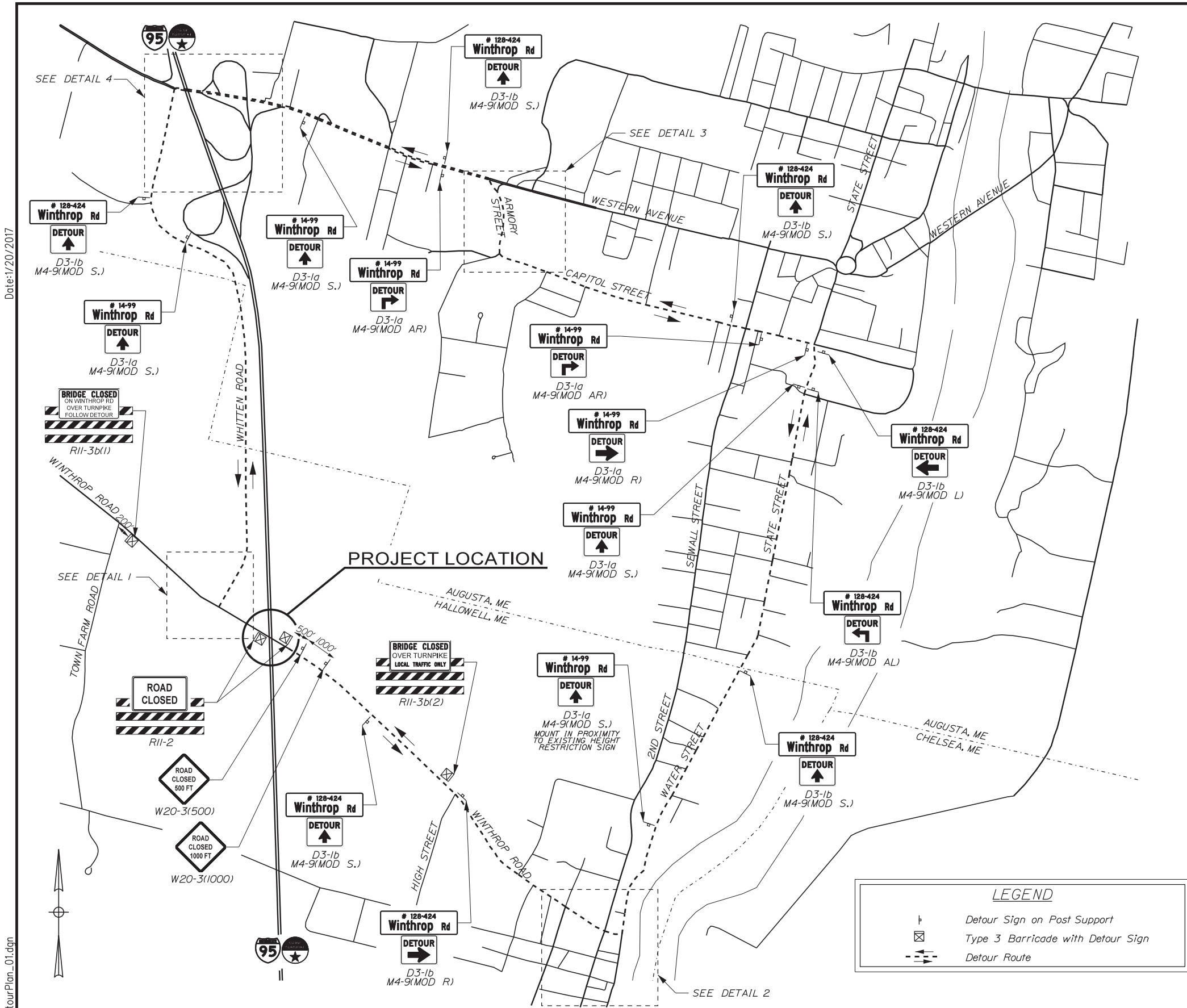
THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

DISTURBANCE IMPACT PLAN (2 OF 2)

VHB: 55106.00	SHEET NUMBER: 36
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DETOUR SIGN SUMMARY					
Sign	Text Dimensions (Inches)		Size	Quantity and Color	
	Letter Height	Vertical Spacing			
M4-8a		SHSB		24"x18"	2 - Black on Orange
M4-9 (MOD. AL)				30"x24"	5 - Black on Orange
M4-9 (MOD. AR)				30"x24"	5 - Black on Orange
M4-9 (MOD. DR)				30"x24"	1 - Black on Orange
M4-9 (MOD. L)				30"x24"	5 - Black on Orange
M4-9 (MOD. R)				30"x24"	6 - Black on Orange
M4-9 (MOD. S)				30"x24"	12 - Black on Orange
M4-10L				48"x18"	1 - Black on Orange
M4-10R				48"x18"	1 - Black on Orange
W20-3 (1000)				36"x36"	2 - Black on Orange
W20-3 (500)				36"x36"	2 - Black on Orange
D3-1a		3" 6"/4.5"	2" 2.5" 3"	48"x15"	17 - Black on Orange
D3-1b		3" 6"/4.5"	2" 2.5" 3"	48"x15"	14 - Black on Orange
D3-1c		3" 6"/4.5"	2" 2.5" 3"	48"x15"	2 - Black on Orange
D3-1d		3" 6"/4.5"	2" 2.5" 3"	48"x15"	3 - Black on Orange
R11-2		SHSB		48"x30"	2 - Black on White
R11-3b (1)		6" 5" 5" 4"	3.38" 3.38" 3.38"	60"x30"	3 - Black on White
R11-3b (2)		6" 5" 4"	3.38" 3.38"	60"x30"	3 - Black on White

SHSB - Text Dimensions Shall Conform to "Standard Highway Signs Book" - 2012 Edition.

Scale: 700 0 700 1400			
No.	Revision	By	Date

Designed by: 					
CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	EGD	1/2017	Checked	MDS	1/2017
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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

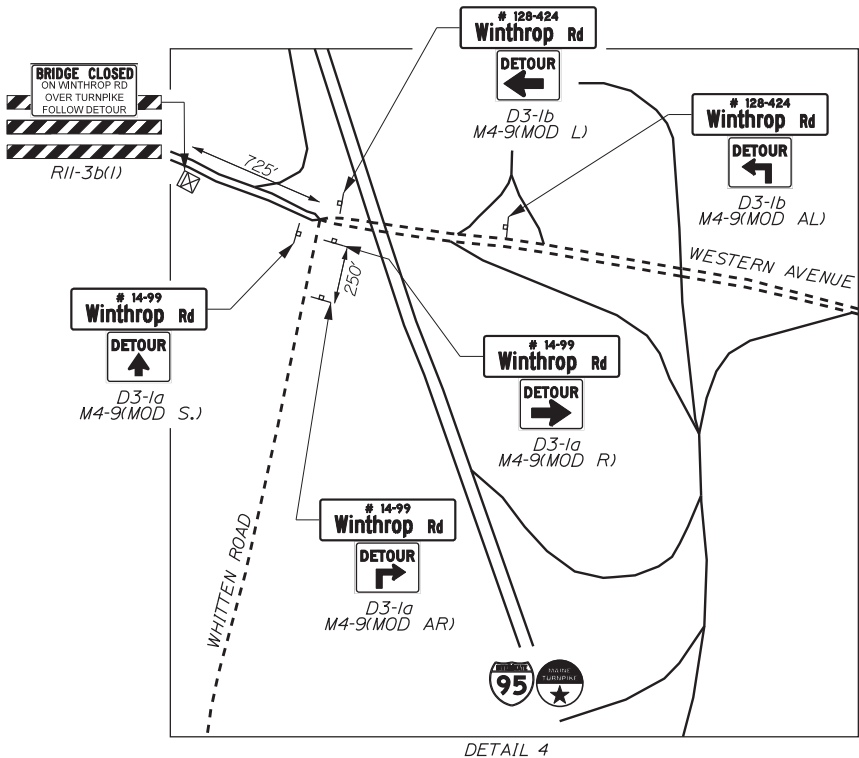
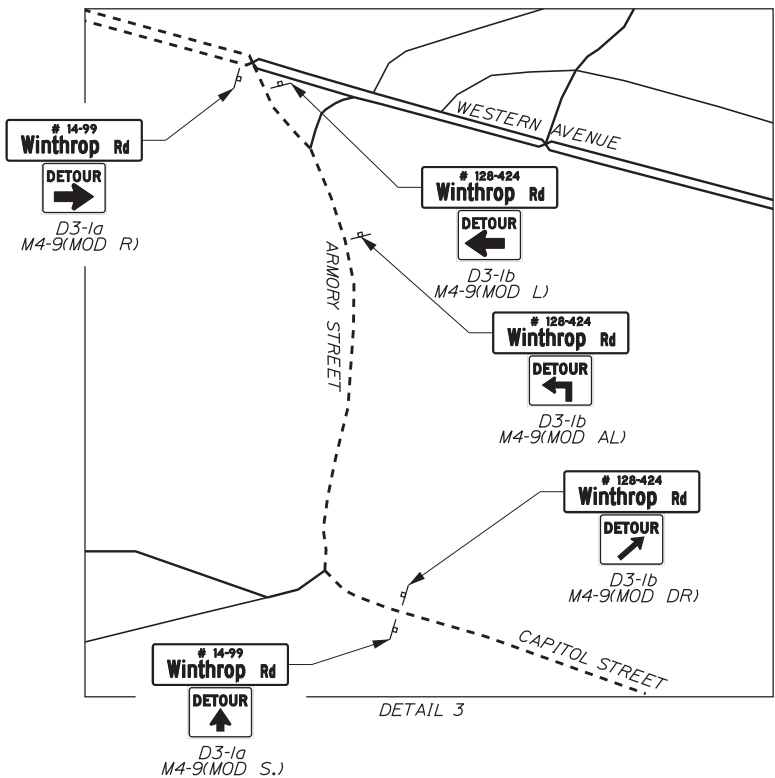
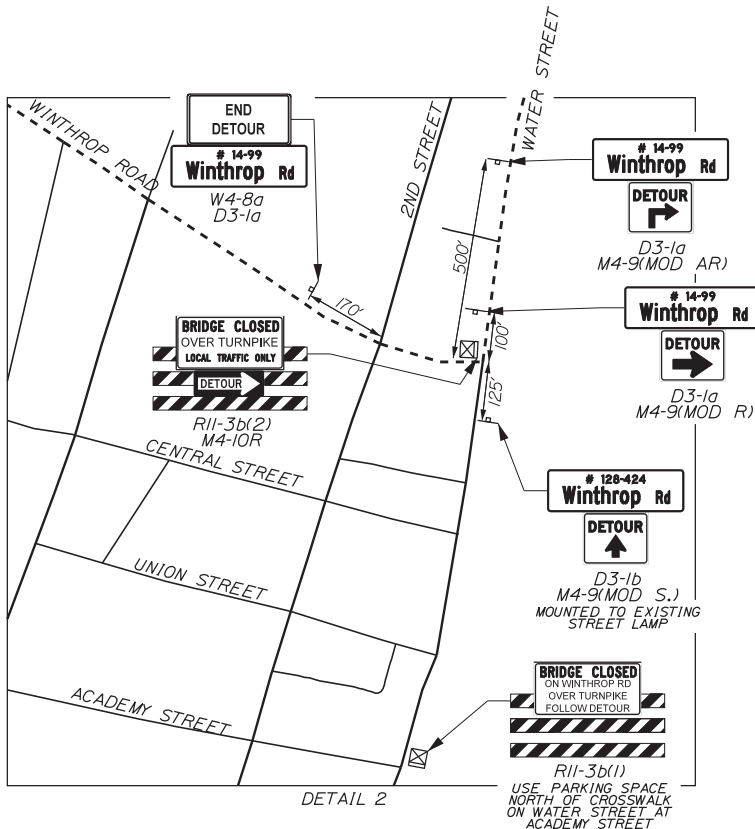
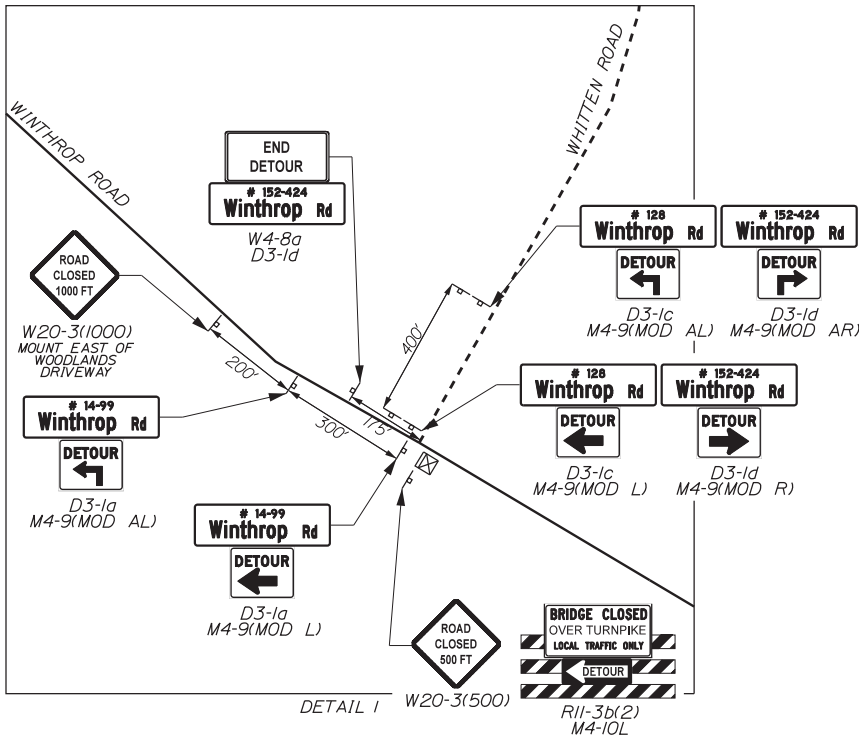
DETOUR PLAN AND SIGN SUMMARY

VHB: 55106.00
CONTRACT: 2017.04

SHEET NUMBER: 37
37 OF 84

Date: 1/20/2017

Filename: ...PlanSet\038_DetourPlan_02.dgn



Scale:

No.	Revision	By	Date

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CONSULTANT PROJECT MANAGER: T. Bryant

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Designed	EGD	1/2017	Checked	MDS	1/2017
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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

DETOUR DETAILS

VHB: 55106.00

CONTRACT: 2017.04

SHEET NUMBER: 38

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Date:1/20/2017

Filename: ...\\PlanSet\\039_Workzone_01.dgn

TEMPORARY TRAFFIC CONTROL GENERAL NOTES:

1. The traffic control plan for this project is to close the bridge to all traffic for a maximum of 55 days. A temporary detour is proposed along Winthrop Road, Whitten Road, Western Avenue, Armory Street, Capitol Street, State Street, and Water Street to bypass the bridge. See Detour Plan for details.
2. All traffic control equipment and devices shall conform to the 2014 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, flashing arrow panels (FAP), 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 be maintained in like-new condition. 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. Where existing sign conflict with construction signs, the contractor shall temporarily remove or cover the conflicting existing sign(s) during construction. The existing sign(s) shall be uncovered or re-installed following construction.
5. Any signs, equipment, or devices found to be damaged or unserviceable shall be replaced at the Contractor's expense. Except for the temporary concrete barrier supplied by the Authority.
6. During night operations, temporary work lighting shall be directed away from approaching lanes of traffic.
7. Temporary lane closures will be required, with advanced approval, whenever work will occur within four feet of the Turnpike traveled way. Temporary lane closures shall be removed if no work is occurring.
8. All lane closures shall require approval of the Resident a minimum of two working days in advance of the lane closure.
9. Contractor shall provide advanced notice of all road closures with PCMS at least seven working days prior to the proposed closure. PCMS for the bridge closure shall be placed within 500 feet of the bridge along Winthrop Road. PCMS for turnpike mainline road closures shall be placed at least 500 feet in advance of the Winthrop Road underpass at a location approved by the Resident.
10. Approach ends of temporary concrete barrier shall be placed outside of the highway clear zone (minimum 34 feet from the traveled way along I-95) or protected by temporary impact attenuators or with guardrail overlaps as approved by the Resident.
11. At the completion of the work, the temporary detour shall be removed.

TURNPIKE RIGHT SHOULDER CLOSURES

CONSTRUCTION SIGN SUMMARY				
Sign		Text Dimensions (Inches)		Quantity and Color
		Letter Height	Vertical Spacing	
G20-2		Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		4 - Black on Orange
W20-1 (AHEAD)				4 - Black on Orange
W21-5aR				4 - Black on Orange
W21-5bR				4 - Black on Orange

TURNPIKE MEDIAN WORK AREA

CONSTRUCTION SIGN SUMMARY				
Sign		Text Dimensions (Inches)		Quantity and Color
		Letter Height	Vertical Spacing	
G20-2		Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		4 - Black on Orange
W20-1 (AHEAD)				4 - Black on Orange
W21-5aL				4 - Black on Orange
W21-5bL				4 - Black on Orange

TEMPORARY LANE & ROADWAY CLOSURES

CONSTRUCTION SIGN SUMMARY				
Sign		Text Dimensions (Inches)		Quantity and Color
		Letter Height	Vertical Spacing	
CS-3		7" 7" 7"	4" 4"	4 - Black on Orange
G20-2		Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		4 - Black on Orange
G20-5aP				4 - Black on Orange
R2-11(50)				4 - Black on White
R2-6aP				4 - Black on White
R2-12				4 - Black on White
W3-4				4 - Black on Orange
W3-5(50)				4 - Black on Orange
W4-2(L)				4 - Black on Orange
W4-2(R)				4 - Black on Orange
W20-1 (1 MILE)				4 - Black on Orange
W20-5L				4 - Black on Orange
W20-5R				4 - Black on Orange

ABBREVIATIONS FOR ALL WORK ZONE PLANS

BWLL = BROKEN WHITE LANE LINE
SWEL = SOLID WHITE EDGE LINE
SYEL = SOLID YELLOW EDGE LINE

Scale: NOT TO SCALE

Designed by:



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THE GOLD STAR
MEMORIAL HIGHWAY

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
WORK ZONE PLANS
(1 OF 3)

VHB: 55106.00

SHEET NUMBER: 39

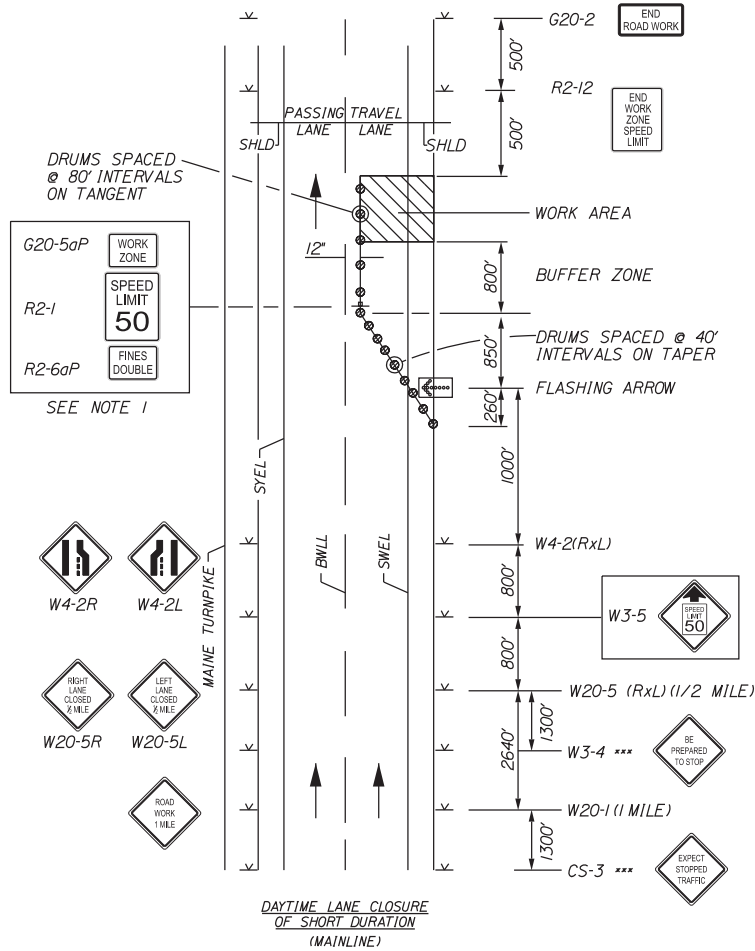
CONTRACT: 2017.04

39 OF 84

CONSULTANT PROJECT MANAGER: T. Bryant

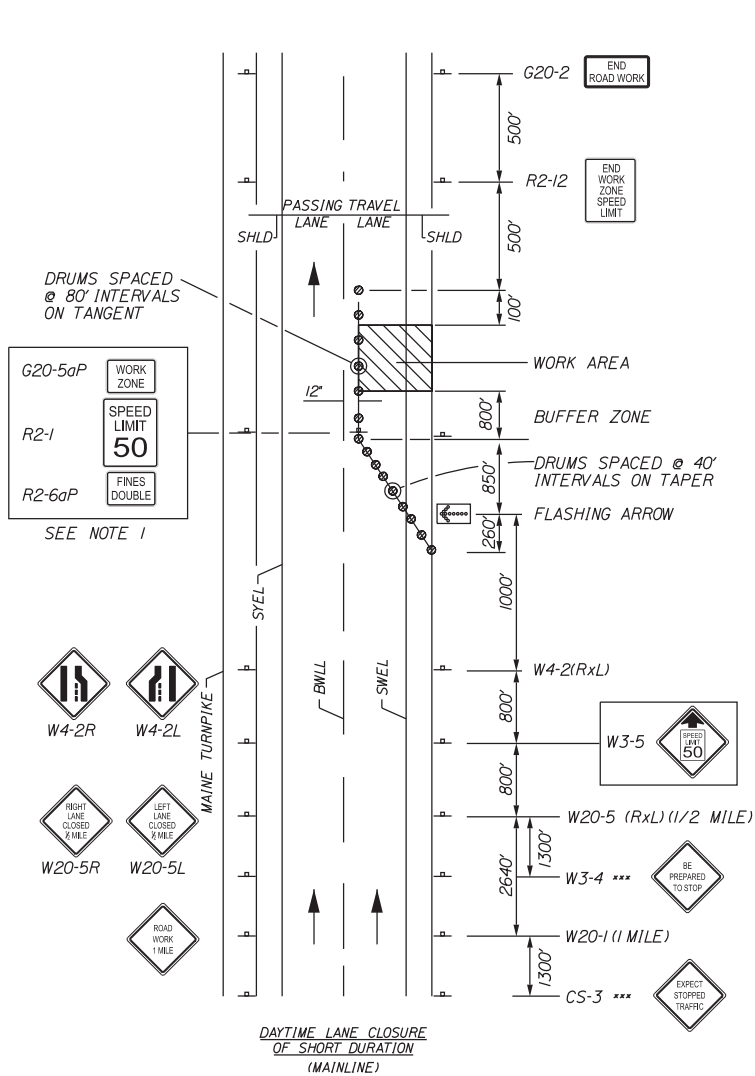
	By	Date		By	Date
Designed	EGD	1/2017	Checked	MDS	1/2017
Drawn	DAB	1/2017	In Charge of	TSB	1/2017

MTA PROJECT MANAGER: Ralph Norwood, IV



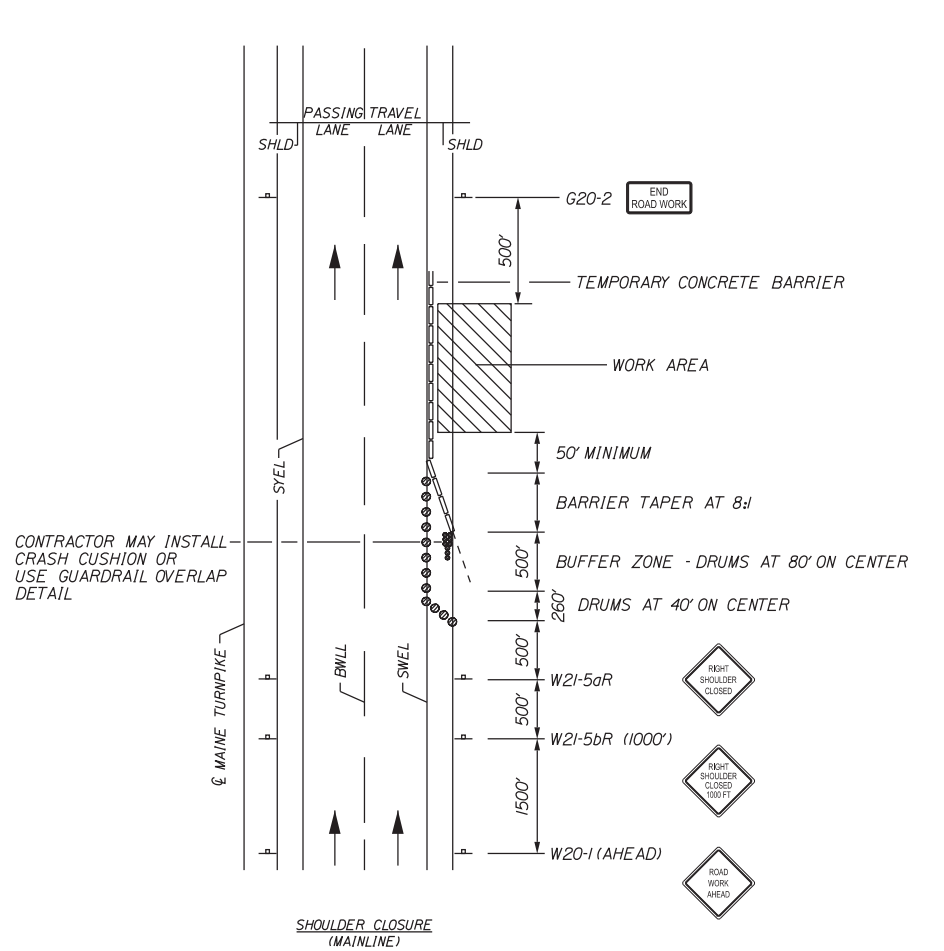
SINGLE LANE CLOSURE SIGNS ON EASELS

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.



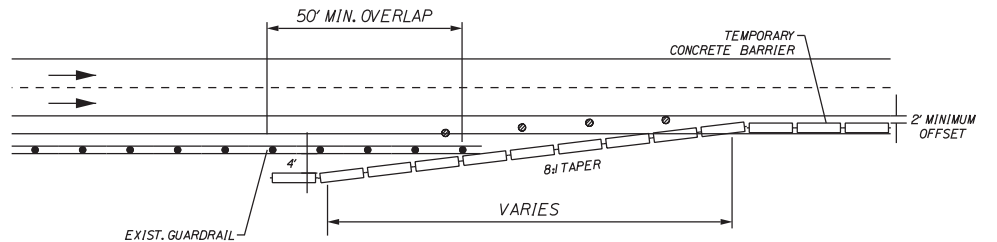
SINGLE LANE CLOSURE POST MOUNTED SIGN SETUP

1. Post mounted signs shall be covered when lane closure is removed.



SHOULDER CLOSURE

1. The W20-1 and G20-2 signs are not required if the shoulder closure is within a previously established work zone.



CONCRETE BARRIER / GUARDRAIL OVERLAP DETAIL

NOTES:

1. Barrier ends within the highway clear zone shall be protected by a temporary impact attenuator or lapped behind guardrail.
2. If a temporary work zone crash cushion is used, the work zone crash cushion system must be founded on a level surface. Any work necessary to provide a level surface will be incidental to the work zone crash cushion item.

GENERAL NOTES:

1. For sign details, see construction sign summary.
2. Signs designated with *** shall be used during stoppages of traffic.
3. When truck mounted attenuators are included in the contract (incidental or pay item), they shall not be located in the buffer zone.

LEGEND

- Construction Sign on Post Support
- Construction Sign on Easel
- Drums/Channelizing Devices
- Temporary Concrete Barrier, Type I
- Temporary Impact Attenuator
- Work Area
- Type 3 Barricade with Sign
- Type 3 Barricade

Scale: NOT TO SCALE

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THE GOLD STAR
MEMORIAL HIGHWAY

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
WORK ZONE PLANS
(2 OF 3)

VHB: 55106.00

SHEET NUMBER: 40

CONTRACT: 2017.04

40 OF 84

CONSULTANT PROJECT MANAGER: T. Bryant

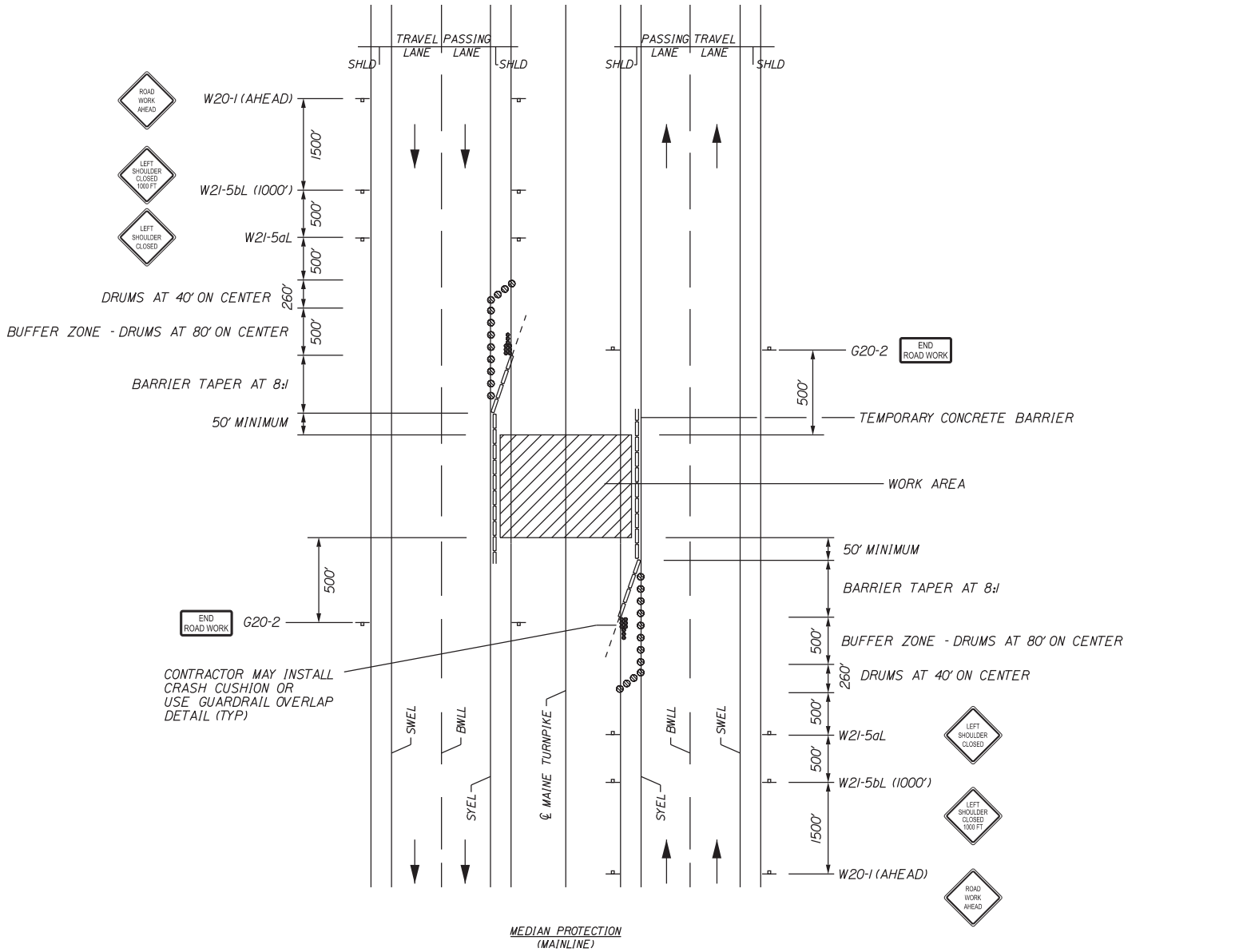
No.	Revision	By	Date

By	Date	By	Date
EGD	1/2017	MDS	1/2017
DAB	1/2017	TSB	1/2017

MTA PROJECT MANAGER: Ralph Norwood, IV

Date:1/20/2017

Filename: ...PlanSet\041_Workzone_03.dgn

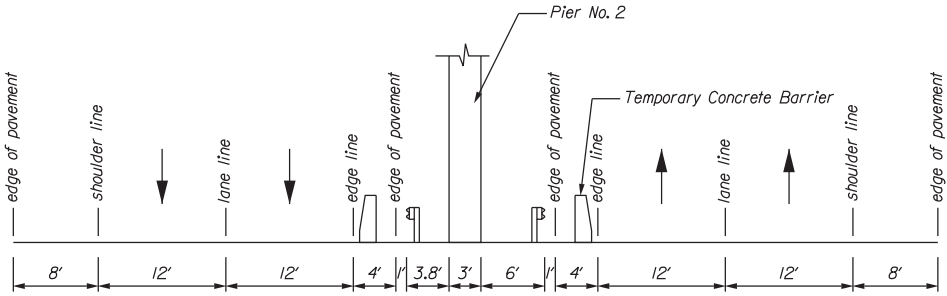


MEDIAN WORK AREA

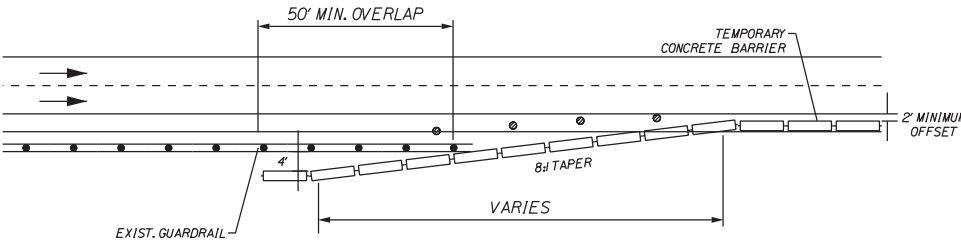
1. The W20-1 and G20-2 signs are not required if the work is within a previously established work zone.

LEGEND

- Construction Sign on Post Support
- Construction Sign on Easel
- Drums/Channelizing Devices
- Temporary Concrete Barrier, Type I
- Temporary Impact Attenuator
- Work Area
- Type 3 Barricade with Sign
- Type 3 Barricade



MEDIAN WORK TYPICAL
(Not to Scale)



CONCRETE BARRIER / GUARDRAIL OVERLAP DETAIL

GENERAL NOTES:

- For sign details, see construction sign summary.
- When truck mounted attenuators are included in the contract (incidental or pay item), they shall not be located in the buffer zone.

NOTES:

- Barrier ends within the highway clear zone shall be protected by a temporary impact attenuator or lapped behind guardrail.
- If a temporary work zone crash cushion is used, the work zone crash cushion system must be founded on a level surface. Any work necessary to provide a level surface will be incidental to the Work Zone Crash Cushion item.

Scale: NOT TO SCALE

Designed by:



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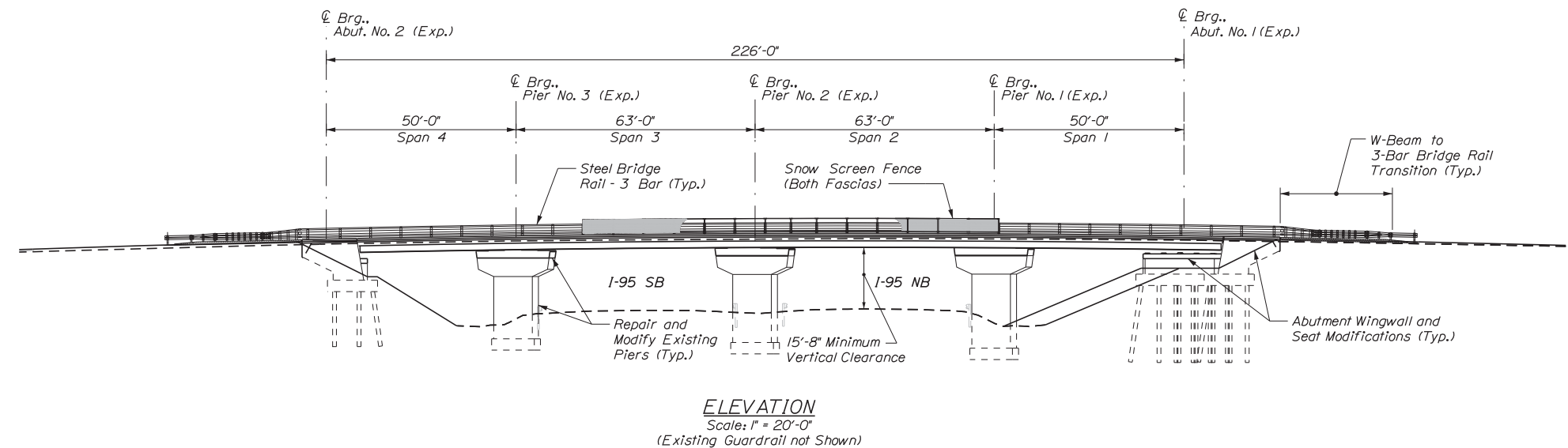
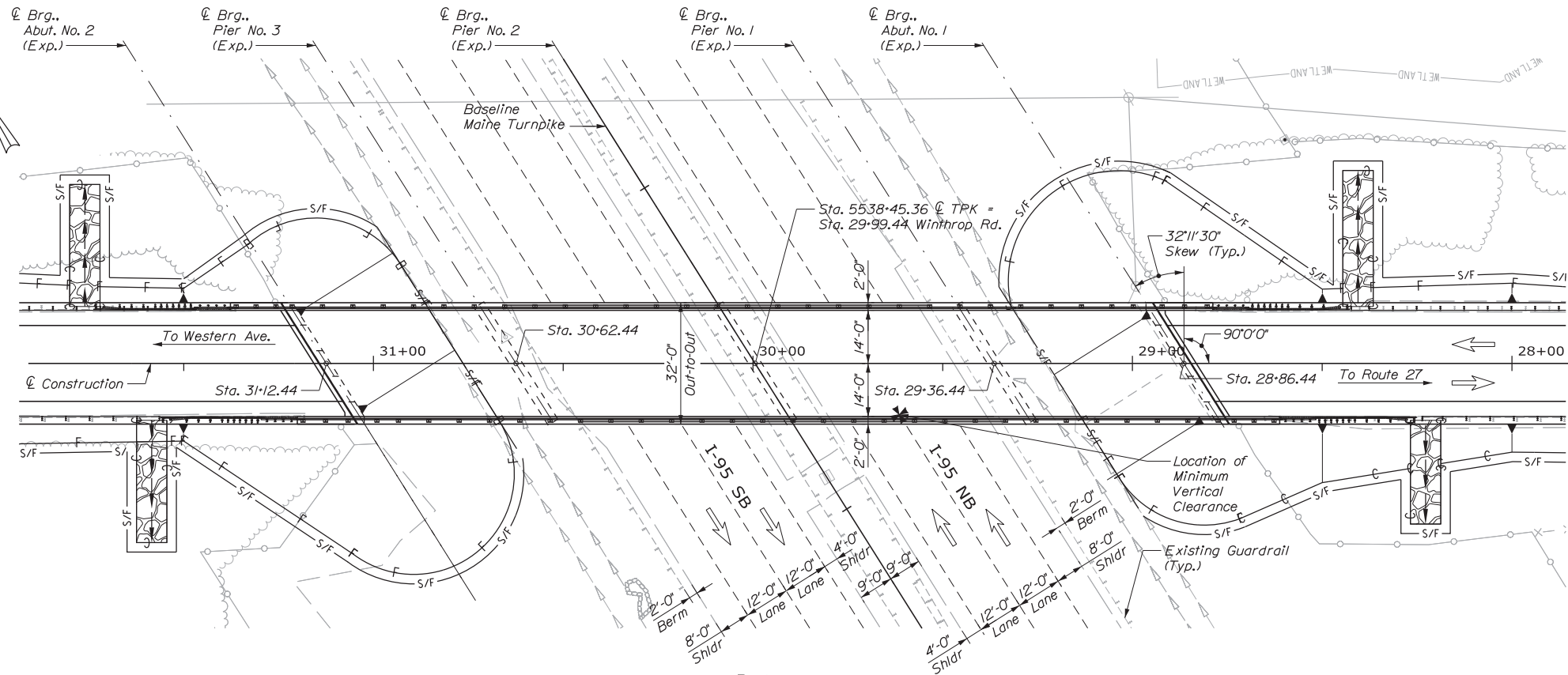
**SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
WORK ZONE PLANS
(3 OF 3)**

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	EGD	1/2017	Checked	MDS	1/2017
Drawn	DAB	1/2017	In Charge of	TSB	1/2017

Date: 1/20/2017

Filename: ...PlanSet\042_Plan_Elev_01.dgn



SPECIFICATIONS

Design: AASHTO LRFD Bridge Design Specifications, 2014
and Interims Through 2016
MaineDOT Bridge Design Guide, 2013 with updates to March 2014

Construction: State of Maine Department of Transportation
Standard Specifications, Revision of November 2014.

State of Maine Department of Transportation Standard
Details for Highways and Bridges, 2014, with all
revisions thereto.

AASHTO LRFD Bridge Construction Specifications,
Third Edition with 2015 Interims

DESIGN LOADING

Live Load HL - 93

MATERIALS

Concrete (Unless noted otherwise) Class AAA
All Precast Elements Class "P"
Precast Panel Joints and Haunches UHPC
Reinforcing Steel ASTM A615/A615M, Grade 60
(Epoxy Coated, Unless Otherwise Noted)

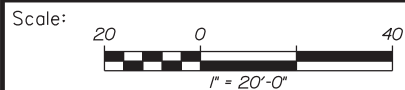
Structural Steel:
All Material (except as noted) ASTM A709/A709M, Grade 50W
High Strength Bolts (except as noted) ASTM A325, Type 3

BASIC DESIGN STRESSES

Cast-in-Place Concrete $f'c = 4,500$ psi
Concrete, UHPC (4 Day Minimum Compressive Strength) $f'c = 14,500$ psi
Concrete (Precast Deck Panels and Approach Slabs) $f'c = 6,000$ psi
Non-Shrink Grout $f'c = 6,000$ psi
Reinforcing Steel $f_y = 60,000$ psi
Structural Steel:
ASTM A 709/A 709M, Grade 50W $F_y = 50,000$ psi
ASTM A 709/A 709M, Grade 36 $F_y = 36,000$ psi
ASTM A 325 $F_u = 120,000$ psi
ASTM F1554 (Bearing Anchor Bolts) $F_y = 105,000$ psi
ASTM A 108 (Shear Studs) $F_y = 50,000$ psi

TRAFFIC DATA - WINTHROP ROAD

AADT 6,300
Heavy Trucks (% AADT) 3%
Design Speed (MPH) 40
Functional Class Major Collector



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
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THE GOLD STAR
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MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

BRIDGE PLAN AND ELEVATION

VHB: 55106.00

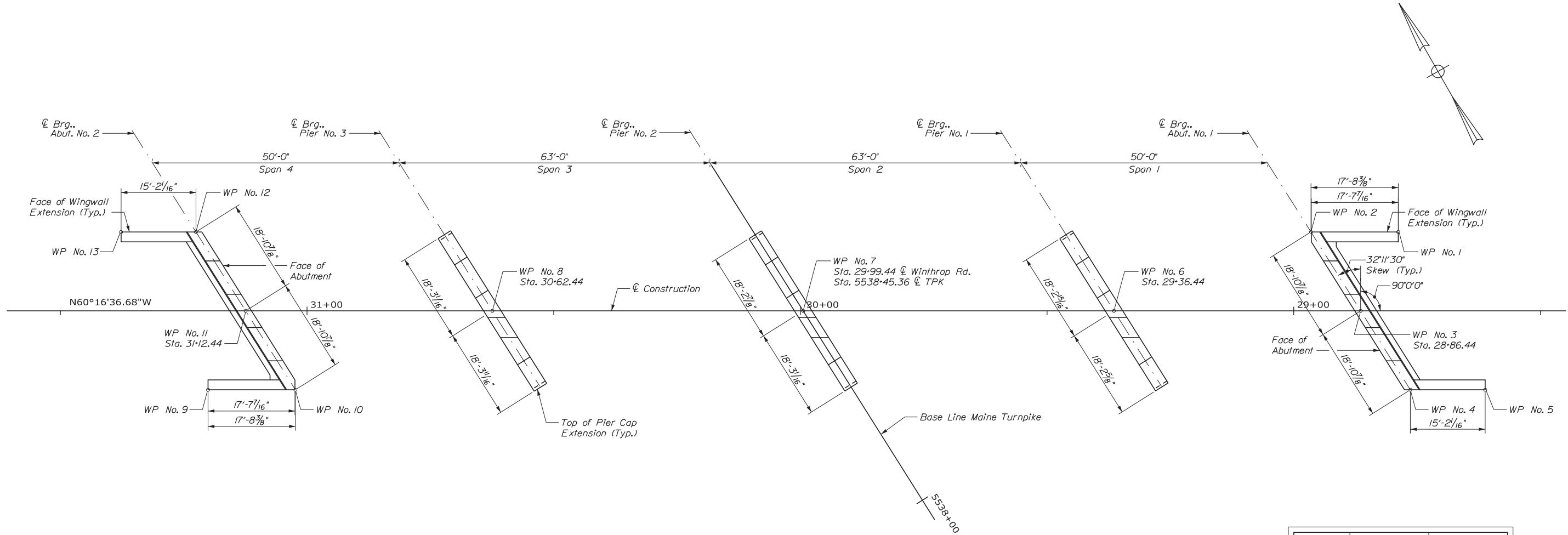
CONTRACT: 2017.04

SHEET NUMBER: 42

42 OF 84

Date:1/20/2017

Filename: ...PlanSet\043_Survey_ 01.dgn



SURVEY LAYOUT
Scale: $\frac{1}{32}'' = 1'-0''$

WP No.	Northing	Easting
1	533756.5023	3046931.8626
2	533765.2761	3046916.4949
3	533746.3869	3046917.3093
4	533727.4974	3046918.1236
5	533719.9746	3046931.3001
6	533771.1774	3046873.8877
7	533802.4129	3046819.1775
8	533833.6494	3046764.4654
9	533848.3245	3046706.4905
10	533839.5891	3046721.7909
11	533858.4399	3046721.0438
12	533877.3288	3046720.2295
13	533884.8522	3046707.0530

BRIDGE LAYOUT NOTES

- The centerline construction location and alignment of Winthrop Road is based on existing plans and survey points obtained at abutment seats and wingwalls.
- The Northings and Eastings shown are in the Maine West Zone 1802.

Scale:			
No.	Revision	By	Date

Designed by:					
CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

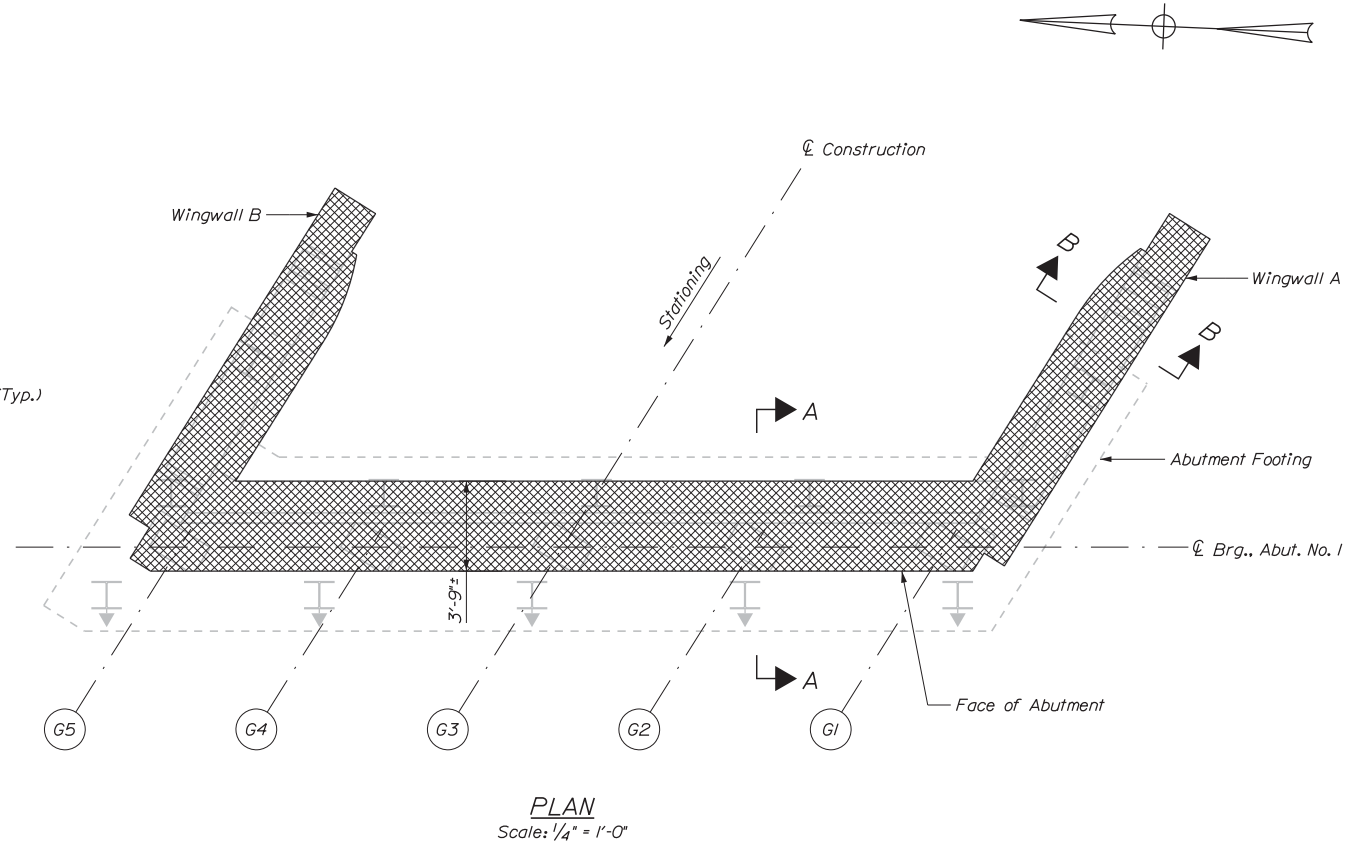
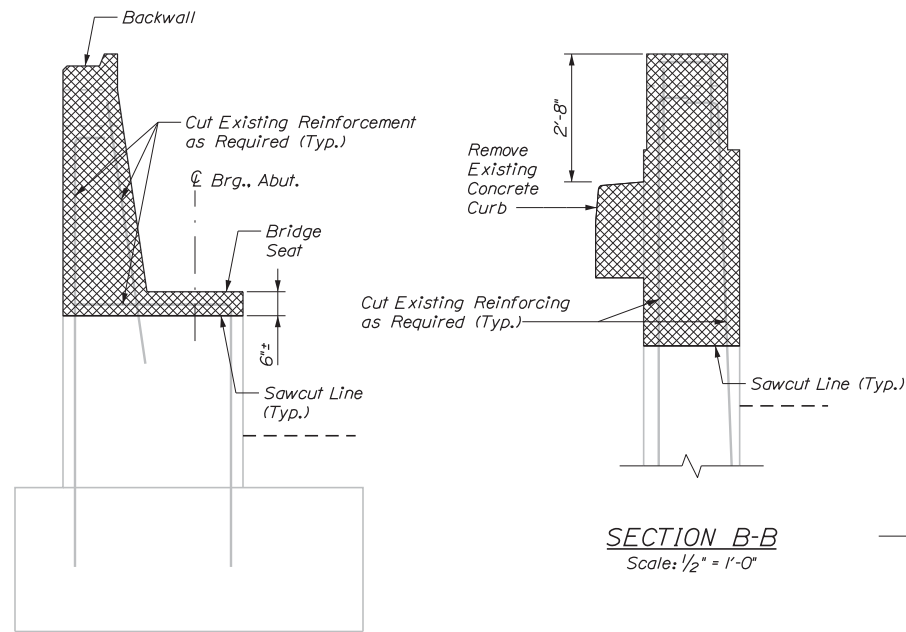
SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

BRIDGE SURVEY LAYOUT PLAN

VHB: 55106.00	SHEET NUMBER: 43
CONTRACT: 2017.04	43 OF 84

Date: 1/20/2017

Filename: ...PlanSet\044_Abut1_rem01.dgn



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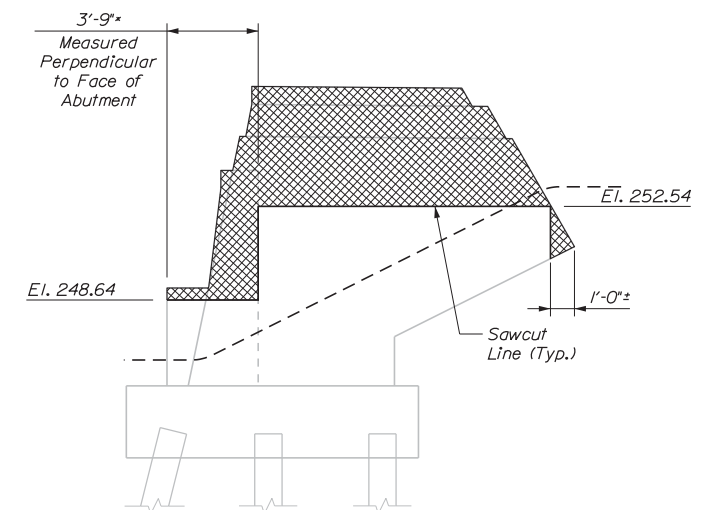
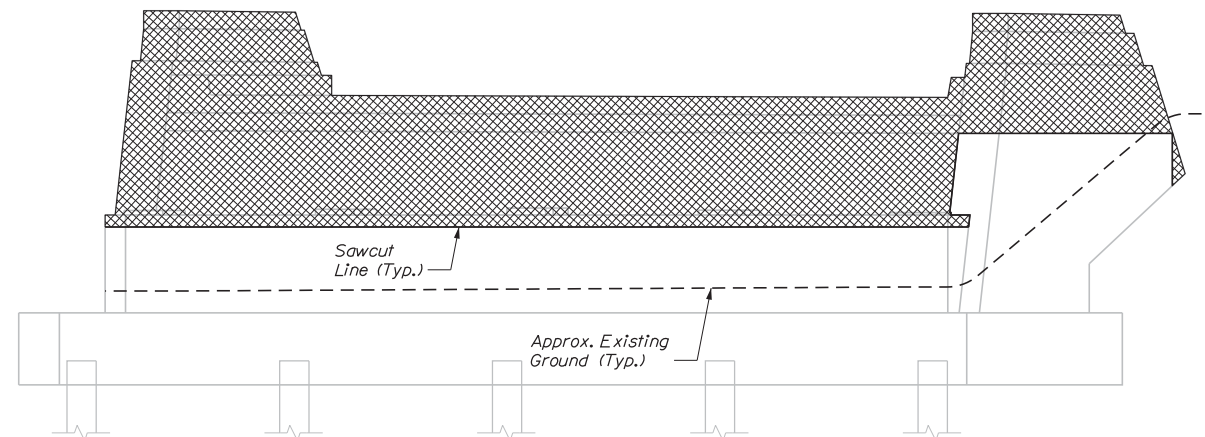
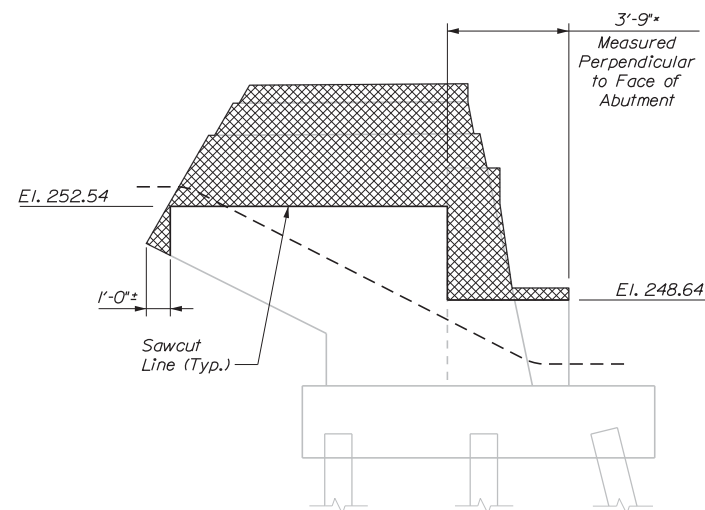
= Concrete Removal (Item 202.17)

DEMOLITION QUANTITY (CY)

Removing Existing Structural Concrete 17.5

ABUTMENT REMOVAL NOTES

- Contractor shall remove tackyl (bituminous) coating from remaining exposed abutment surfaces where present to finished grade or existing ground (whichever is lower). Cost included in Item 202.17.
- Concrete demolition, which generally includes portions of wingwalls, portions of bridge seat, and abutment backwalls, will be measured for payment under pay Item 202.17, Removing Existing Structural Concrete. This work shall include sawcutting and removing existing concrete and reinforcing steel to the limits shown in the plans.
- Excavation required to complete partial abutment removal and construction will not be measured for payment and considered incidental to Item 202.17. Backfill of the repair areas shall be measured for payment under pay Item 203.25, Granular Borrow as shown in the plans.



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**THE GOLD STAR
MEMORIAL HIGHWAY**

**SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
ABUTMENT NO. 1
REMOVAL**

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	KDW	1/2017	In Charge of	TSB	1/2017

MTA PROJECT MANAGER: Ralph Norwood, IV

VHB: 55106.00

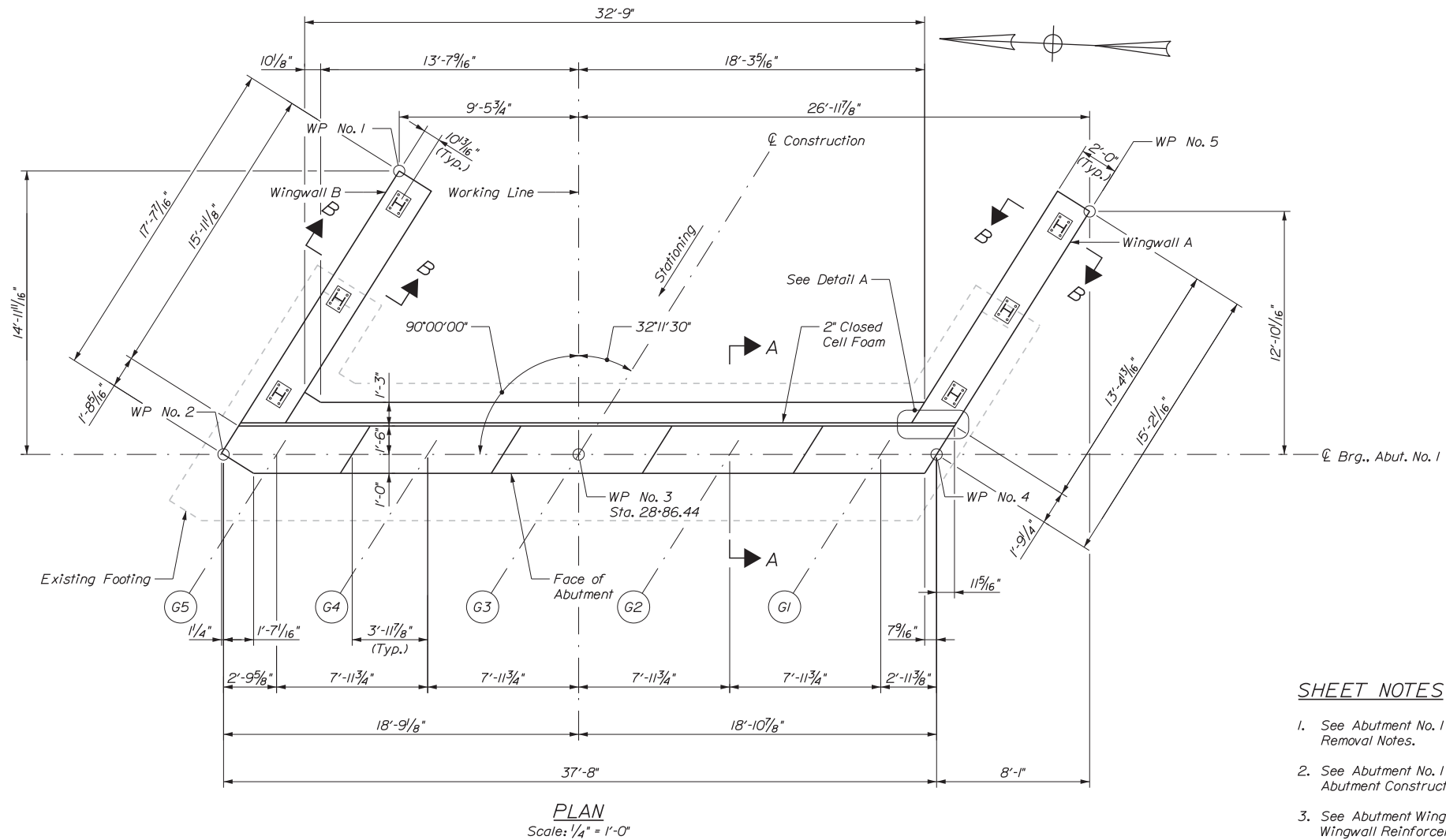
SHEET NUMBER: 44

CONTRACT: 2017.04

44 OF 84

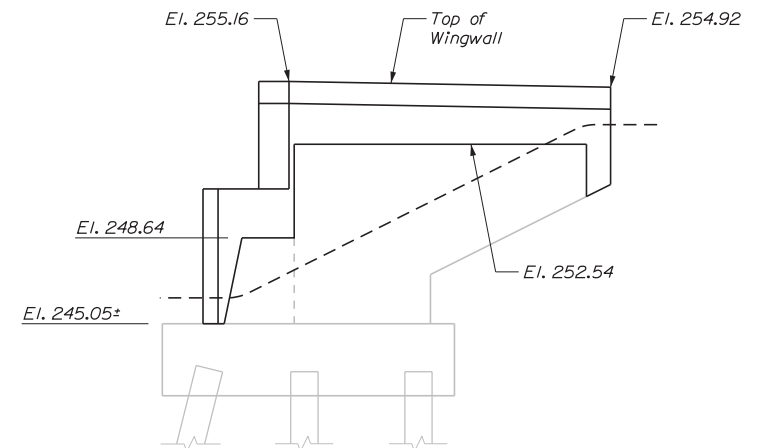
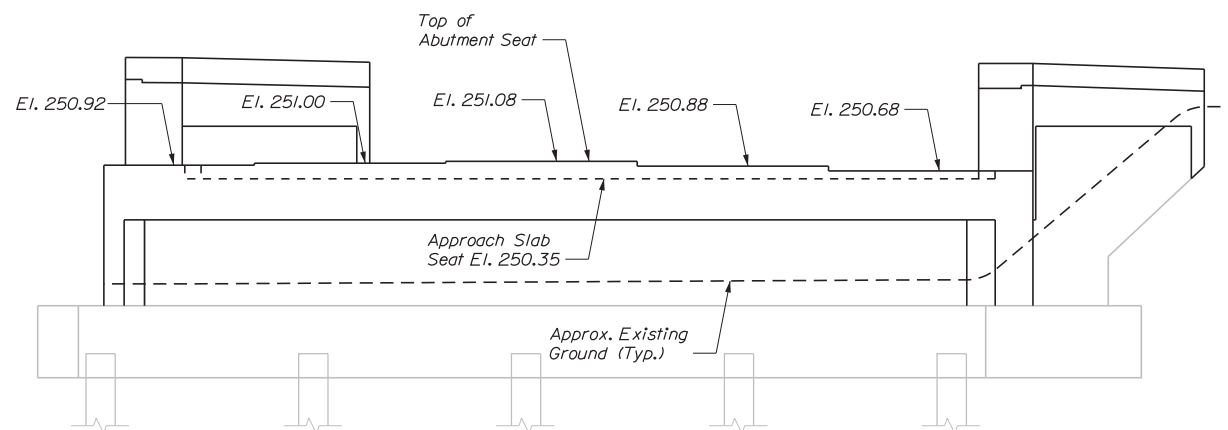
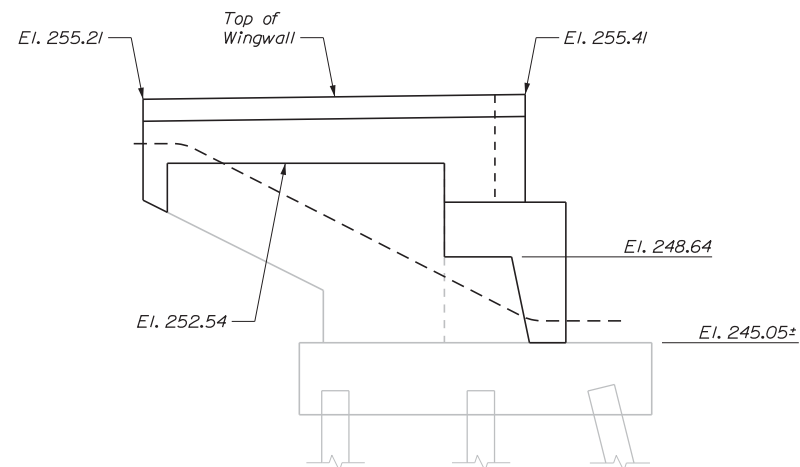
Date: 1/20/2017

Filename: ...PlanSet\045_Abut1_rep01.dgn



SHEET NOTES

1. See Abutment No. 1 Removal Sheet for Abutment Removal Notes.
2. See Abutment No. 1 Reinforcement Sheet for Abutment Construction Notes.
3. See Abutment Wingwalls Reinforcement Sheet for Wingwall Reinforcement.
4. See Miscellaneous Abutment Details Sheet for Section A-A, Section B-B and Detail A.



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

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THE GOLD STAR
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MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
ABUTMENT NO. 1
REPAIR AND MODIFICATIONS

VHB: 55106.00

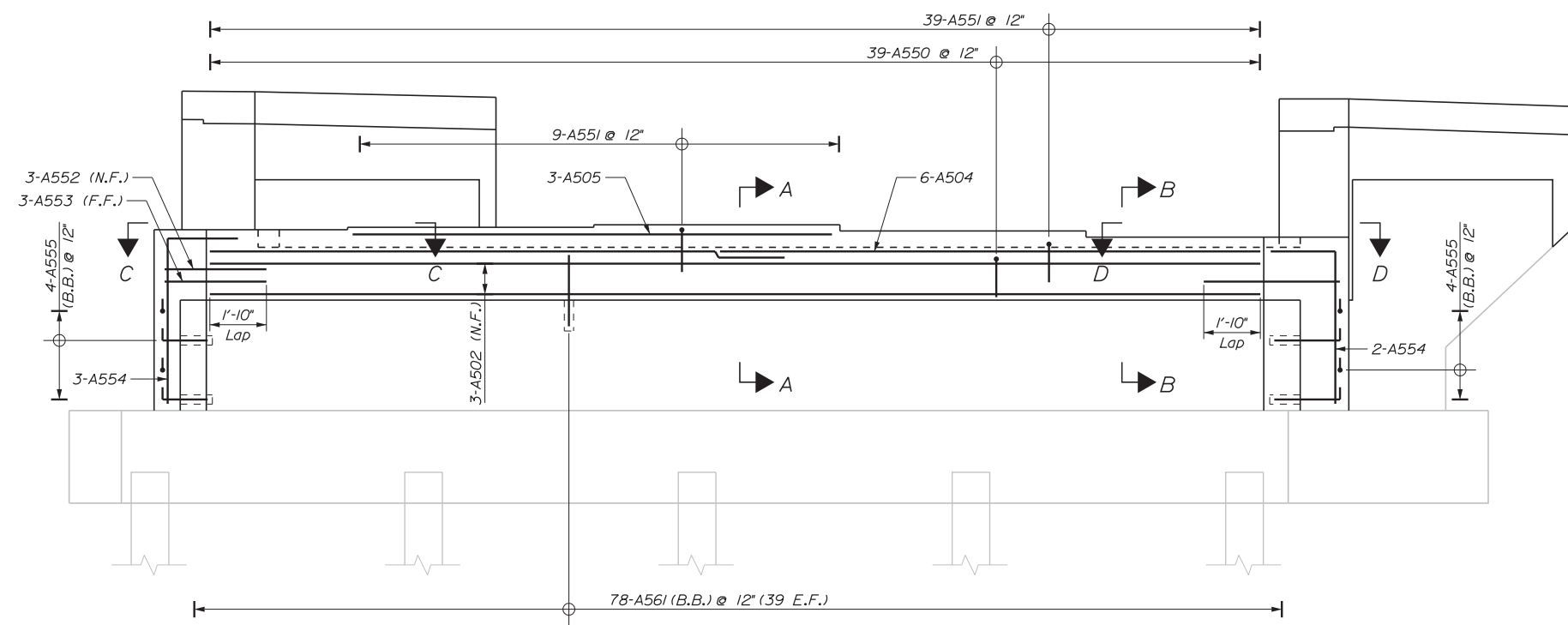
CONTRACT: 2017.04

SHEET NUMBER: 45

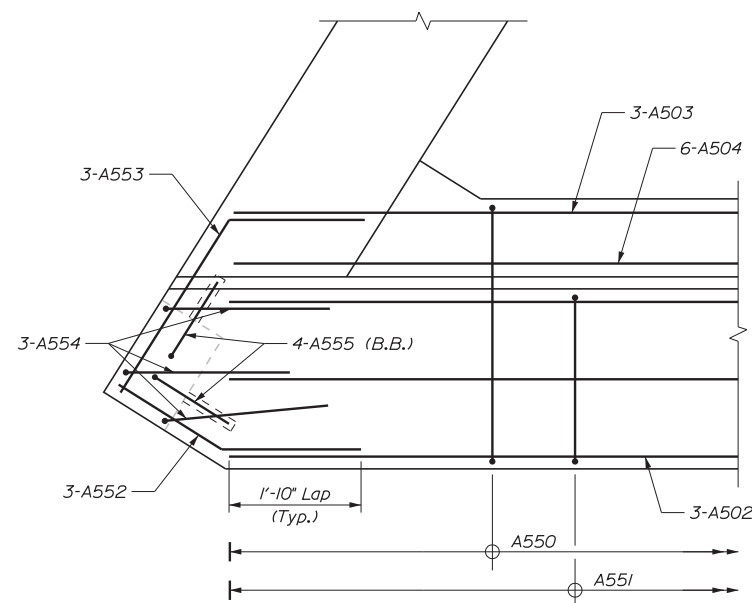
45 OF 84

Date: 1/20/2017

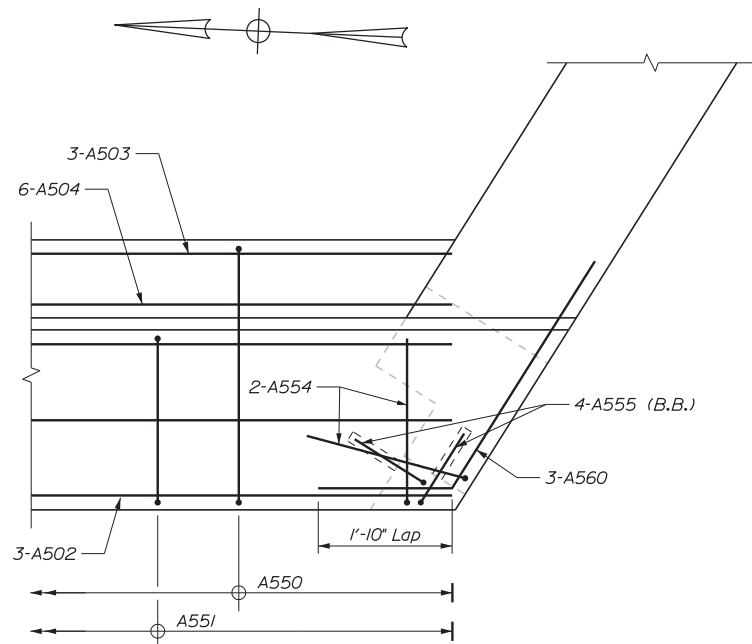
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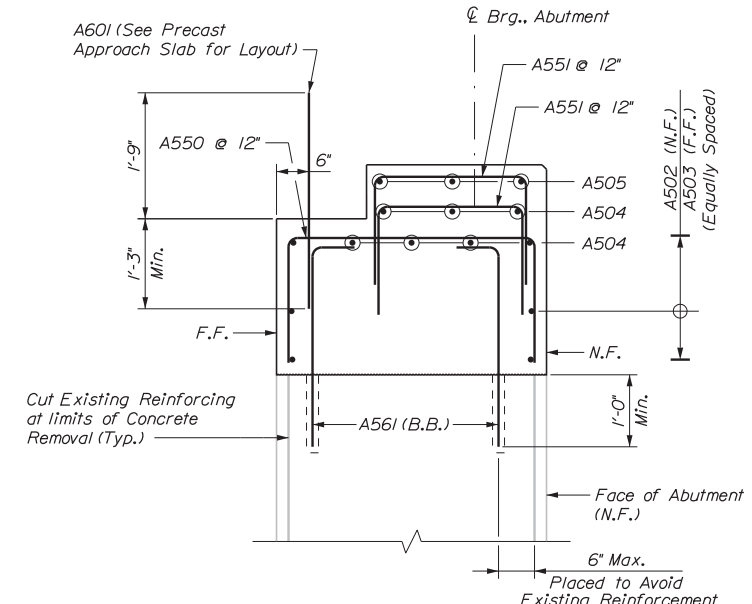
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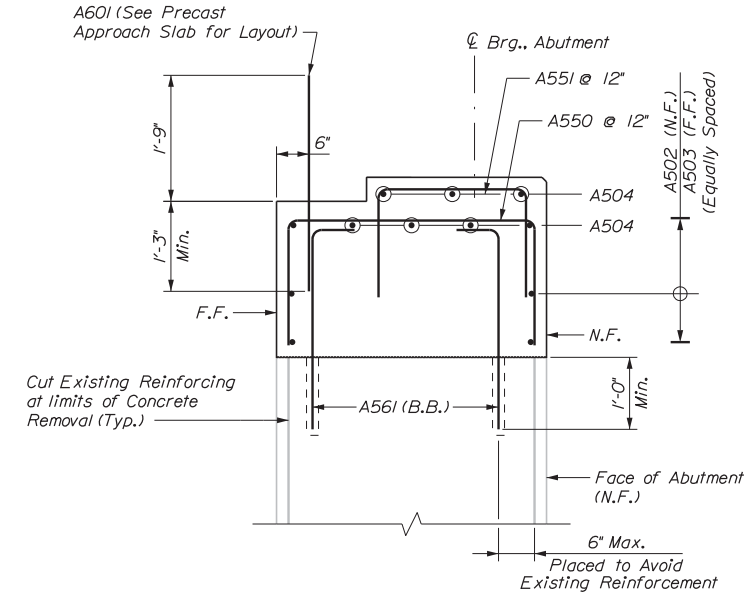
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Scale: 3/4" = 1'-0"



SECTION D-D
Scale: 3/4" = 1'-0"



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



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

ABUTMENT CONSTRUCTION NOTES

1. Remove abutment seat concrete and reinforcing steel within the limits shown, including bearing anchor bolts. Retain and protect existing reinforcing steel where noted.
2. Install new reinforcing steel, drill and grout bars into existing concrete as required.
3. Install form work and fill forms with class AAA concrete. Bearing pedestals shall be cast monolithically with the abutment seat concrete.
4. Perform general finishing.
5. Bearing anchor rods shall be placed prior to installing diaphragms.

REINFORCING KEY

N.F. = Near Face
F.F. = Far Face
E.F. = Each Face
B.B. = Black Bar
▲ = Cut in Field

Scale: 1" = 0' 7"			
3/8" = 1'-0"			
No.	Revision	By	Date

Designed by: 					
CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph Norwood, IV

**SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS**

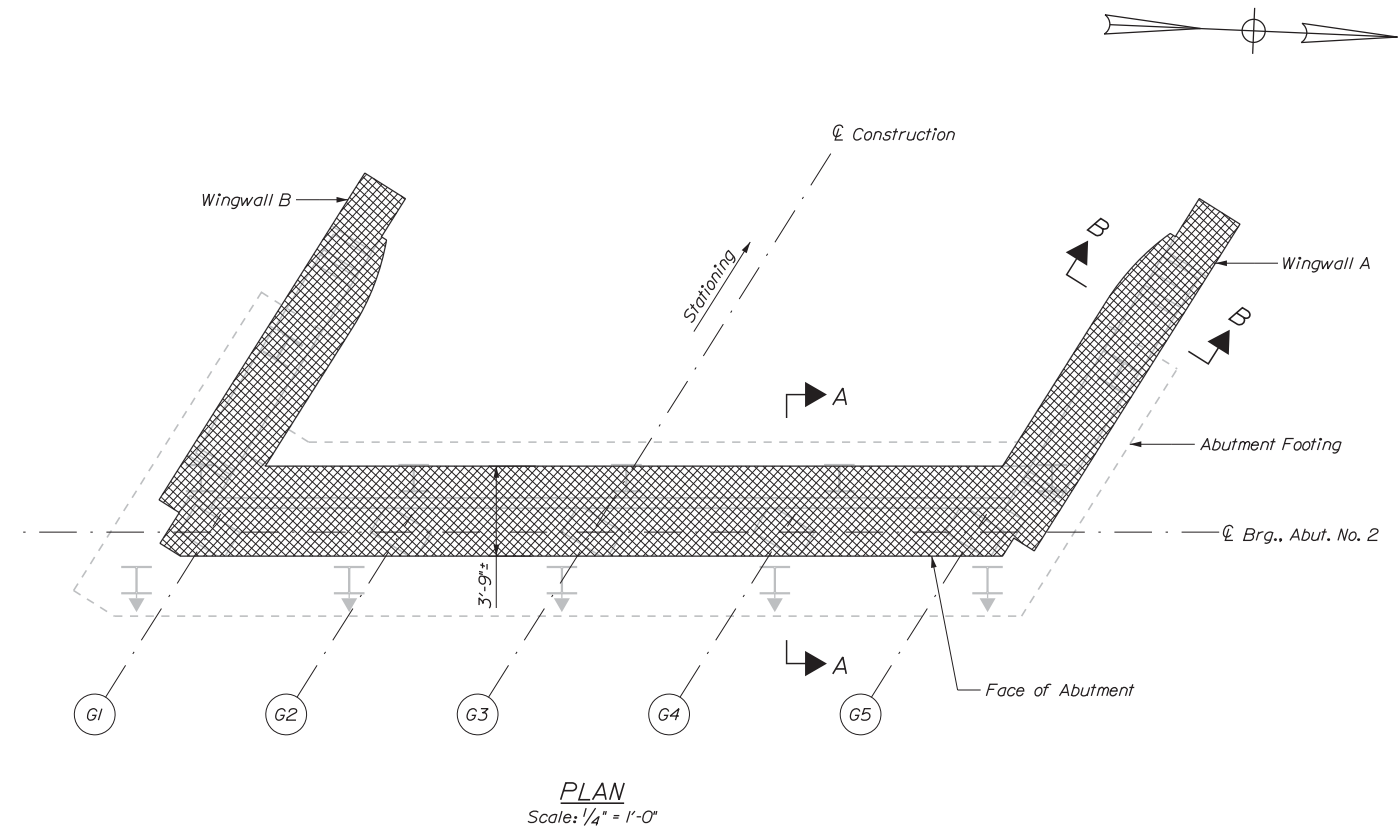
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REINFORCEMENT**

VHB: 55106.00
CONTRACT: 2017.04

SHEET NUMBER: 46
46 OF 84

Date:1/20/2017

Filename: ...PlanSet\047_Abut2_rem01.dgn



KEY

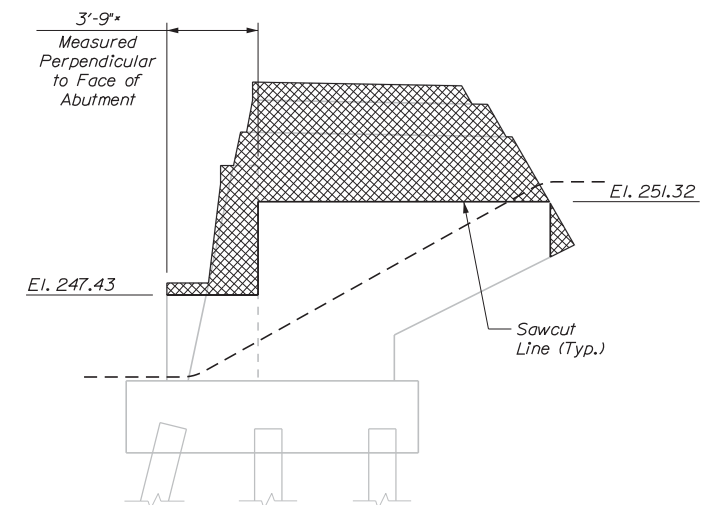
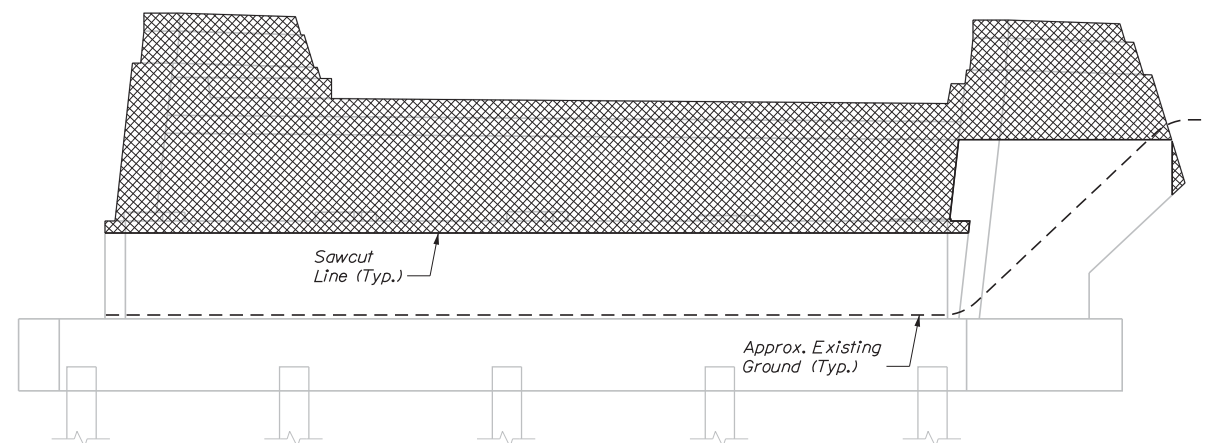
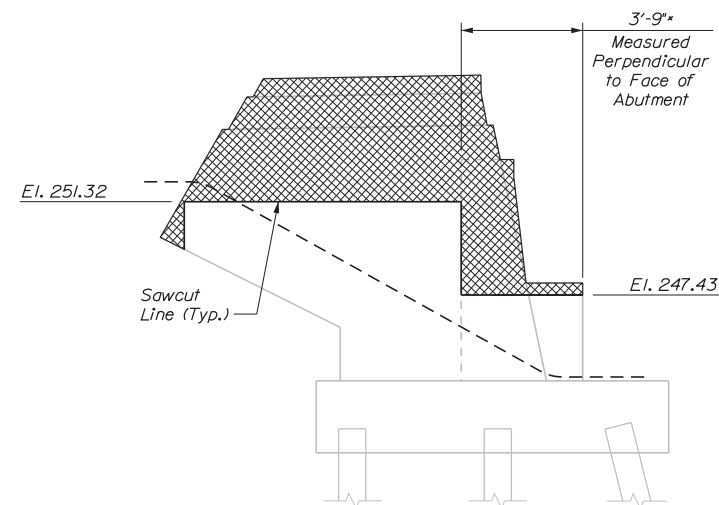
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(Item 202.17)

DEMOLITION QUANTITY (CY)

Removing Existing Structural Concrete 17.5

SHEET NOTES

1. See Abutment No. 1 Removal Sheet for Abutment Removal Notes.
2. See Abutment No. 1 Removal Sheet for Sections A-A and B-B.



Scale:			
No.	Revision	By	Date

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CONSULTANT PROJECT MANAGER: T. Bryant					
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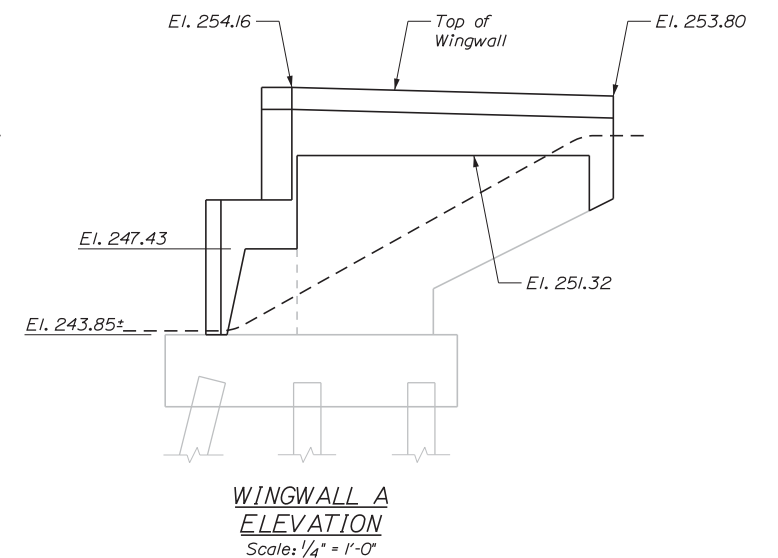
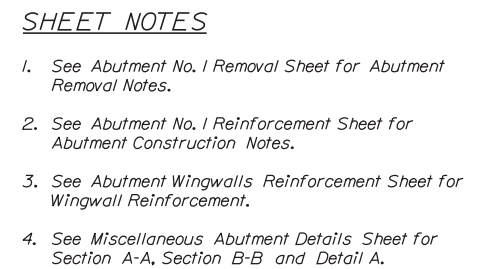
THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

ABUTMENT NO. 2
REMOVAL

VHB: 55106.00	SHEET NUMBER: 47
CONTRACT: 2017.04	47 OF 84



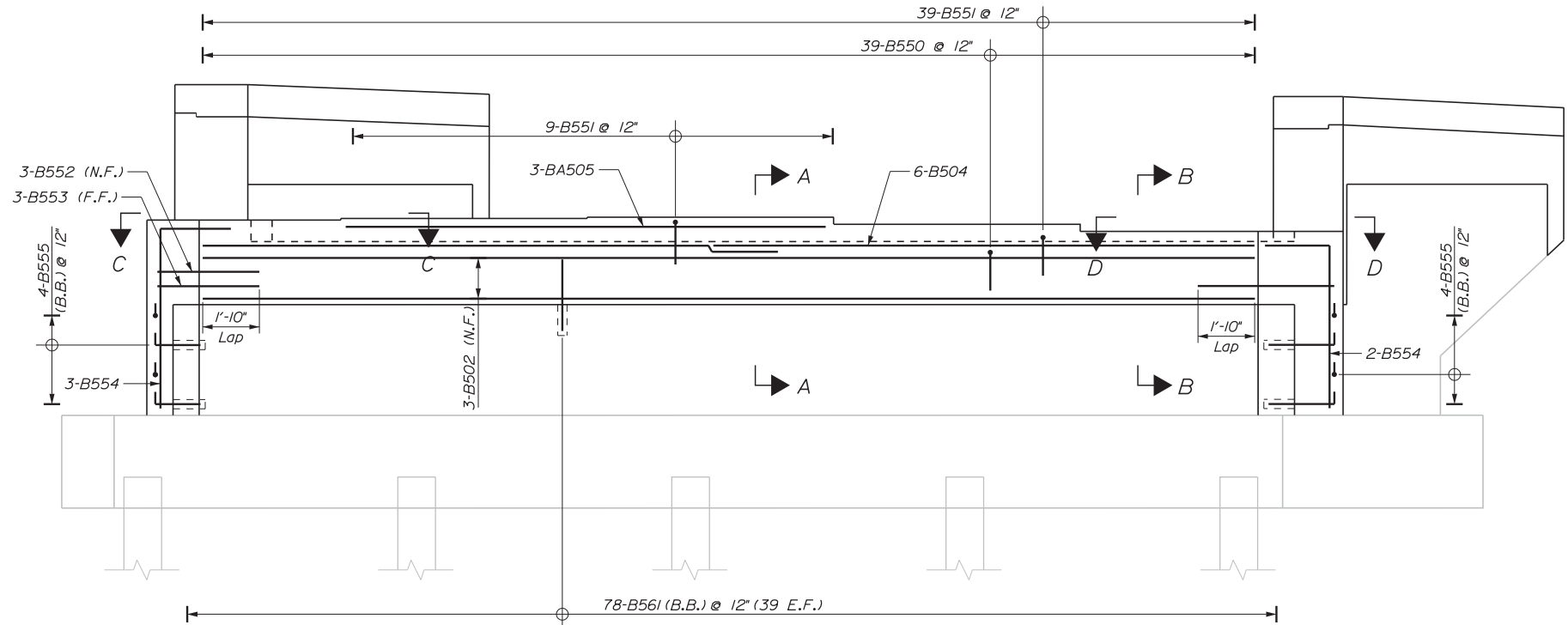
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No.	Revision	By	Date						
				CONSULTANT PROJECT MANAGER: T. Bryant					
					By	Date		By	Date
				Designed	AFP	1/2017	Checked	WPR	1/2017
				Drawn	KDW	1/2017	In Charge of	TSB	1/2017

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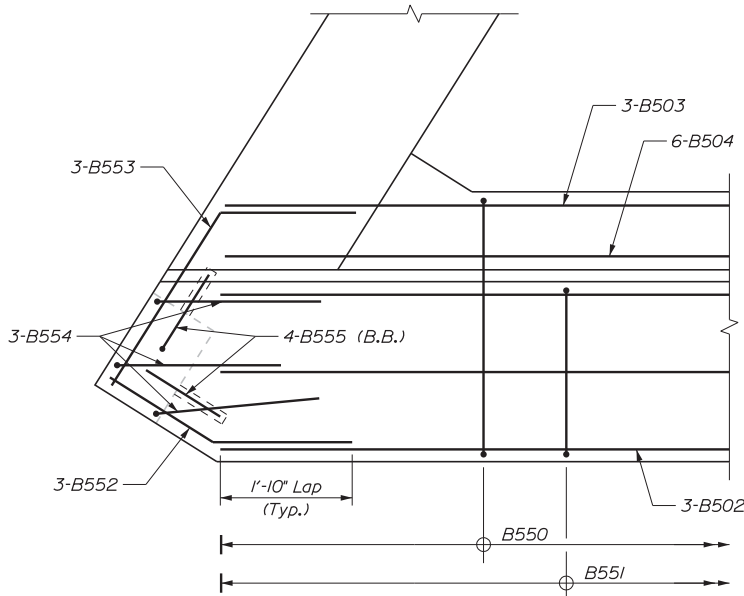
VHB: 55106.00	SHEET NUMBER: 48
CONTRACT: 2017.04	48 OF 84

Date: 1/20/2017

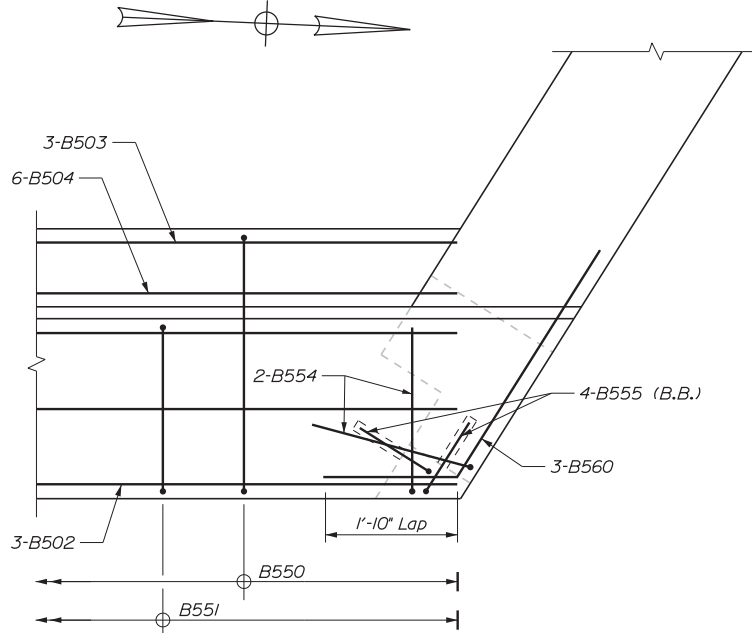
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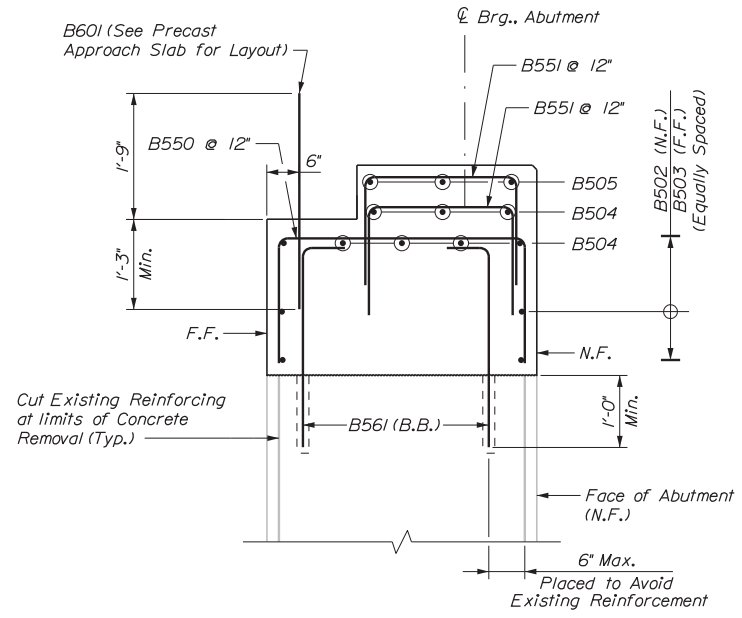
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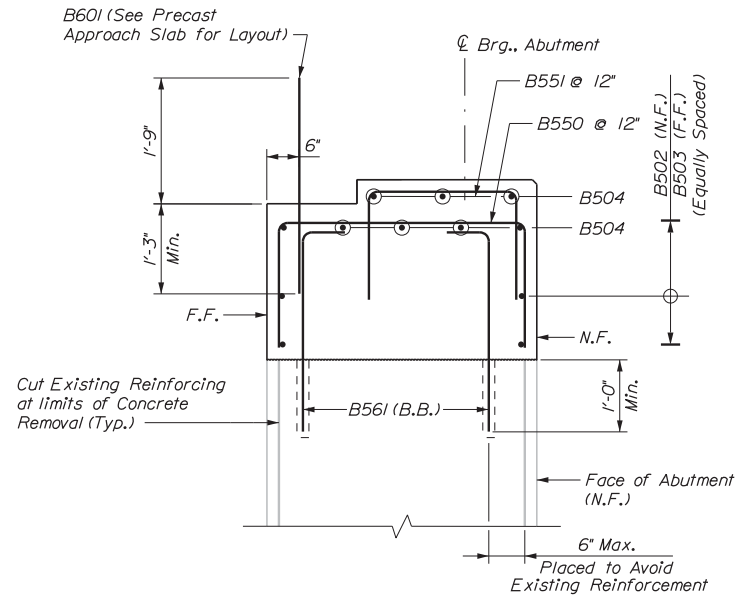
SECTION C-C
Scale: 3/4" = 1'-0"



SECTION D-D
Scale: 3/4" = 1'-0"



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



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

NOTE

1. See Abutment No. 1 Reinforcement for Abutment Construction Notes.

REINFORCING KEY

N.F. = Near Face
F.F. = Far Face
E.F. = Each Face
B.B. = Black Bar
▲ = Cut in Field



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant					
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MTA PROJECT MANAGER: Ralph Norwood, IV

**SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
ABUTMENT NO. 2
REINFORCEMENT**

VHB: 55106.00

SHEET NUMBER:

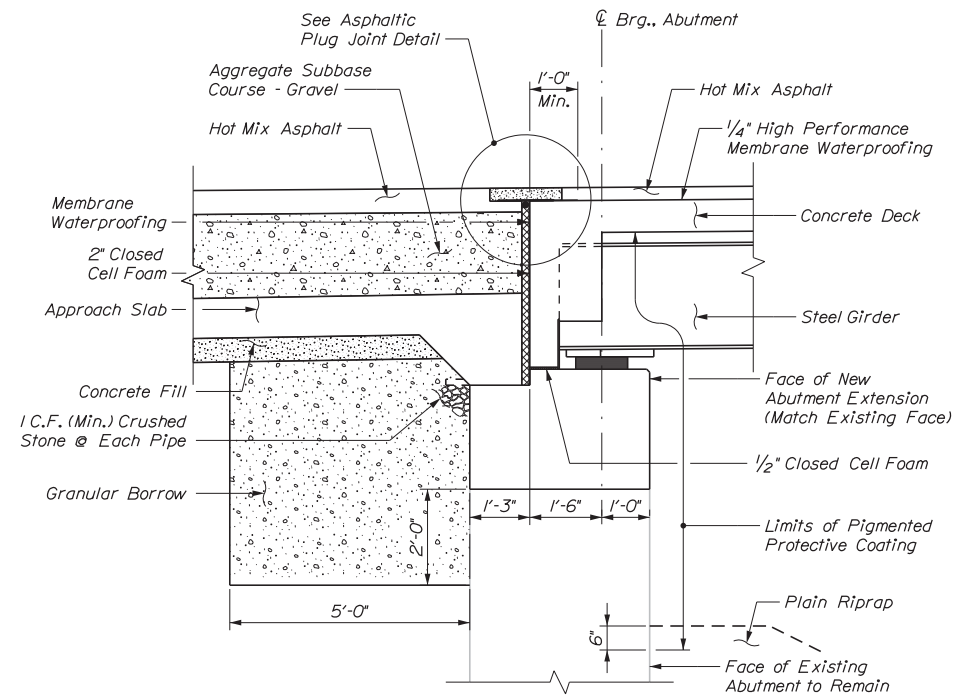
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CONTRACT: 2017.04

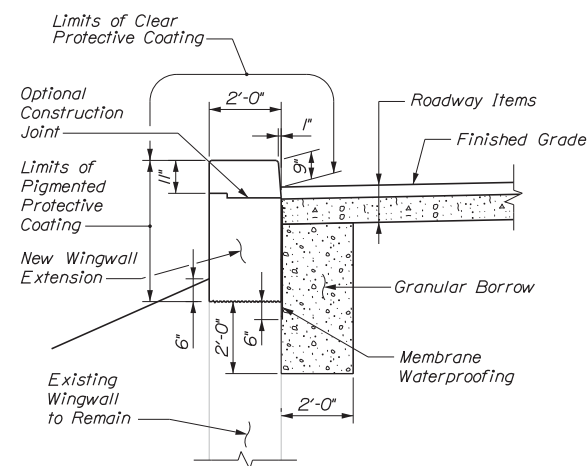
49 OF 84

Date: 1/20/2017

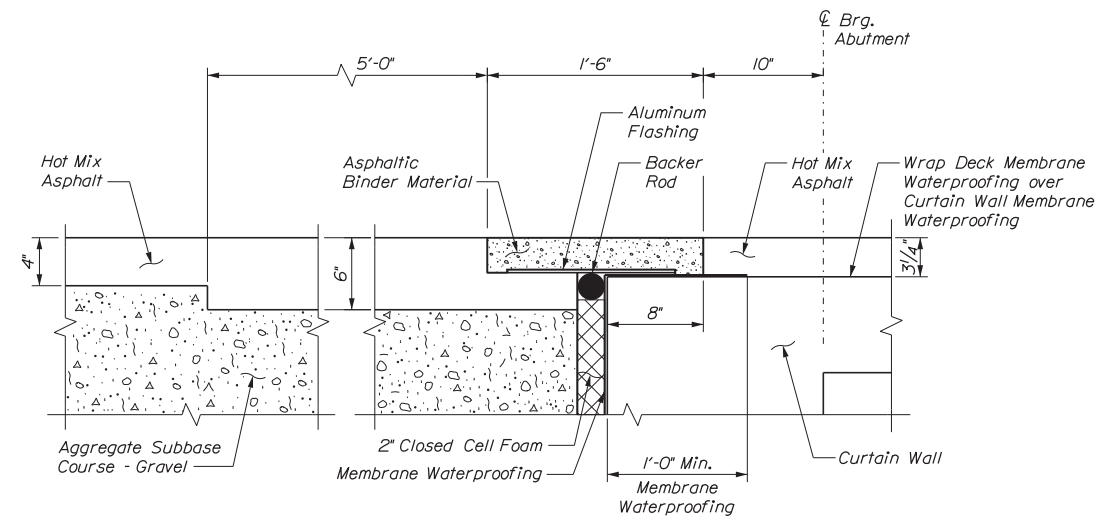
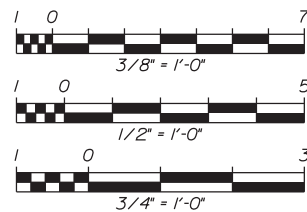
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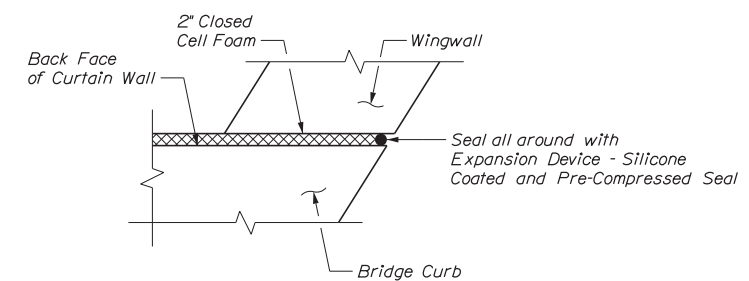
SECTION A-A
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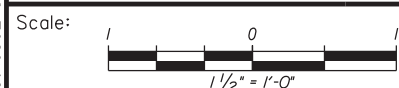
SECTION B-B
Scale: 3/8" = 1'-0"



ASPHALTIC PLUG JOINT DETAIL
Scale: 1/2" = 1'-0"



DETAIL A
Scale: 3/4" = 1'-0"



No.	Revision	By	Date

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MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

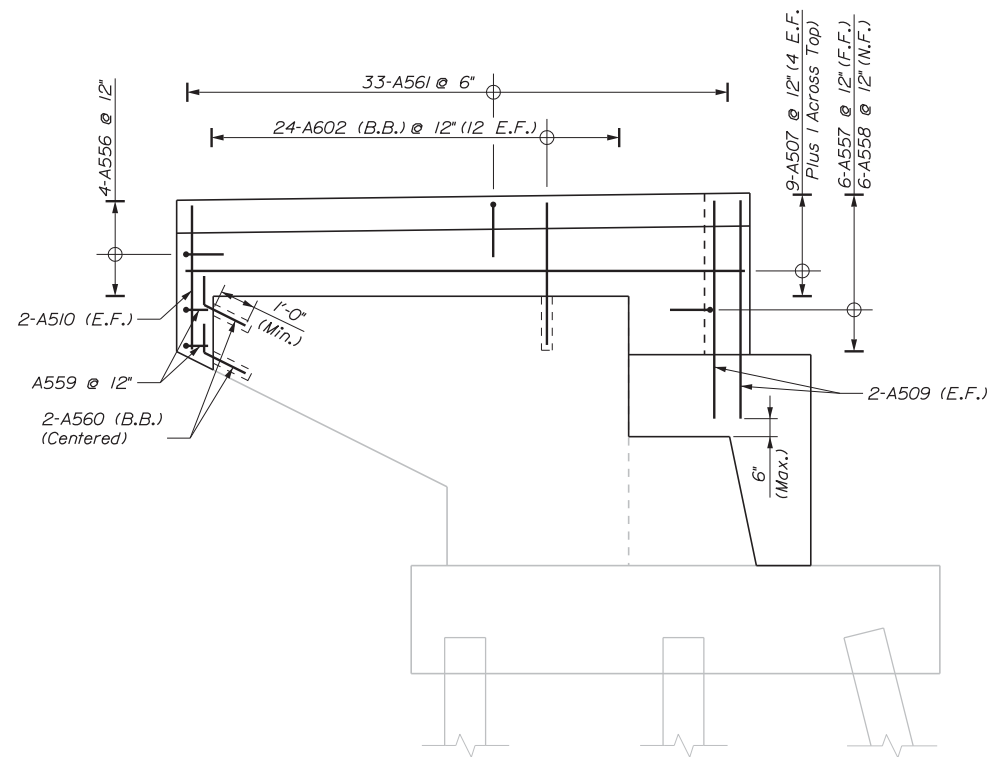
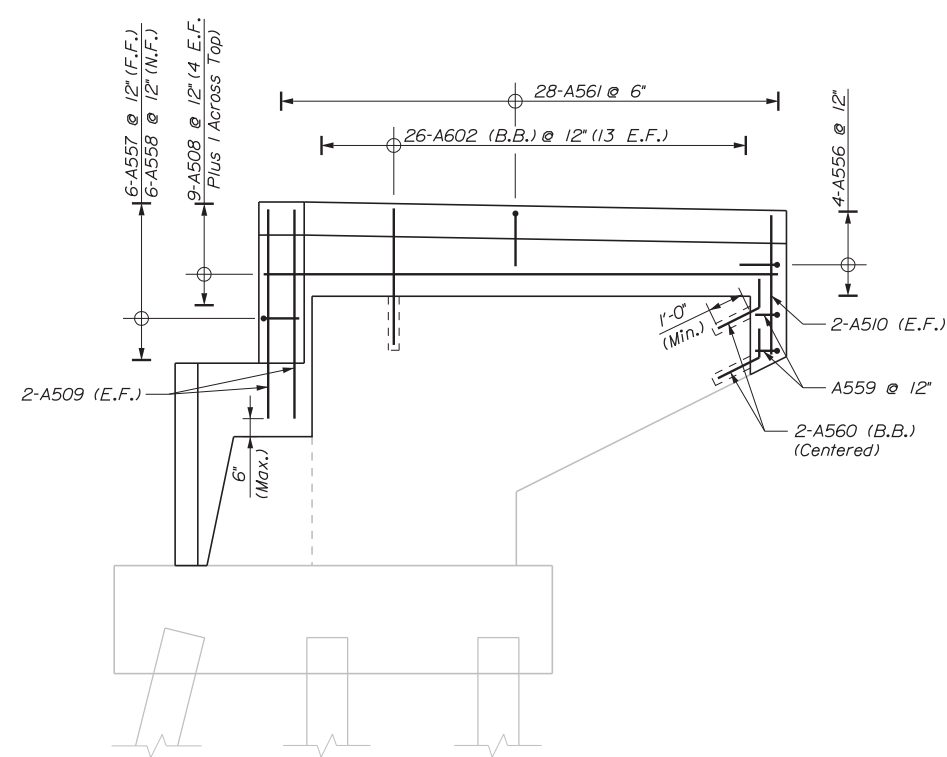
MISCELLANEOUS ABUTMENT DETAILS

VHB: 55106.00

SHEET NUMBER: 50

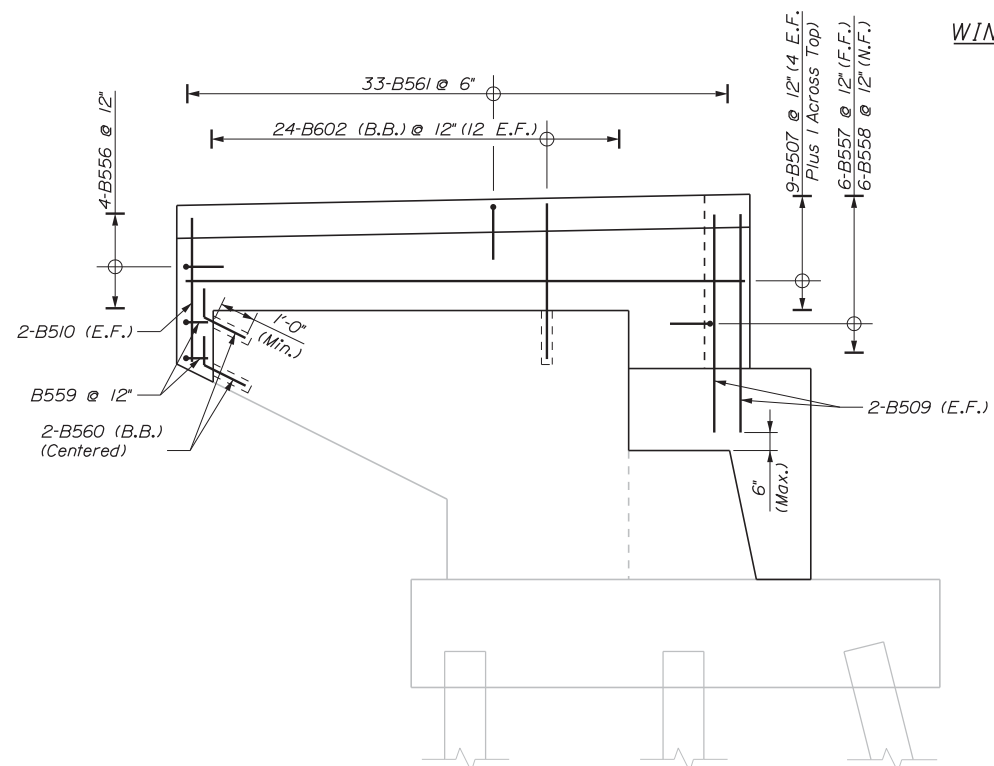
CONTRACT: 2017.04

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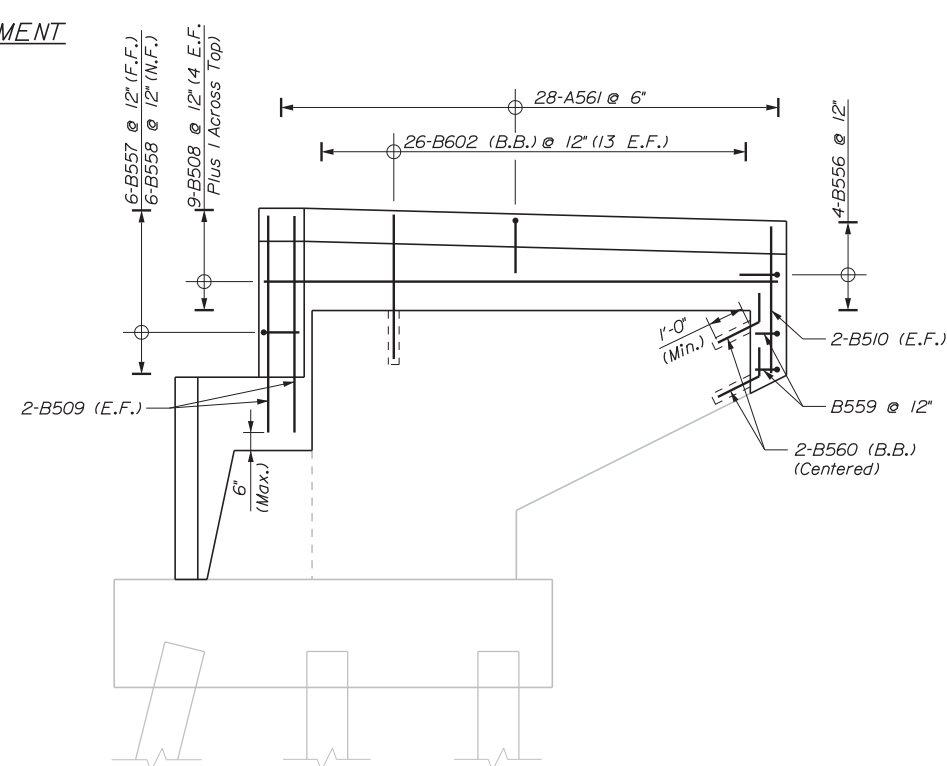
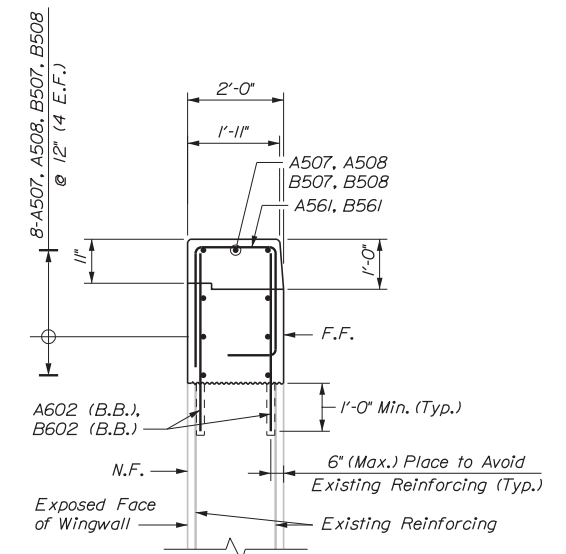
WINGWALL BWINGWALL A

ABUTMENT NO.1
WINGWALLS REINFORCEMENT

Scale: $\frac{3}{8}" = 1'-0"$



WINGWALL B

WINGWALL A

TYPICAL
WINGWALL SECTION
Scale: $\frac{1}{2}" = 1'-0"$

REINFORCING KEY

N.F. = Near Face
F.F. = Far Face
E.F. = Each Face
B.B. = Black Bar
▲ = Cut in Field

Scale:

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THE GOLD STAR MEMORIAL HIGHWAY

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

ABUTMENT WINGWALLS REINFORCEMENT

VHB: 55106.00

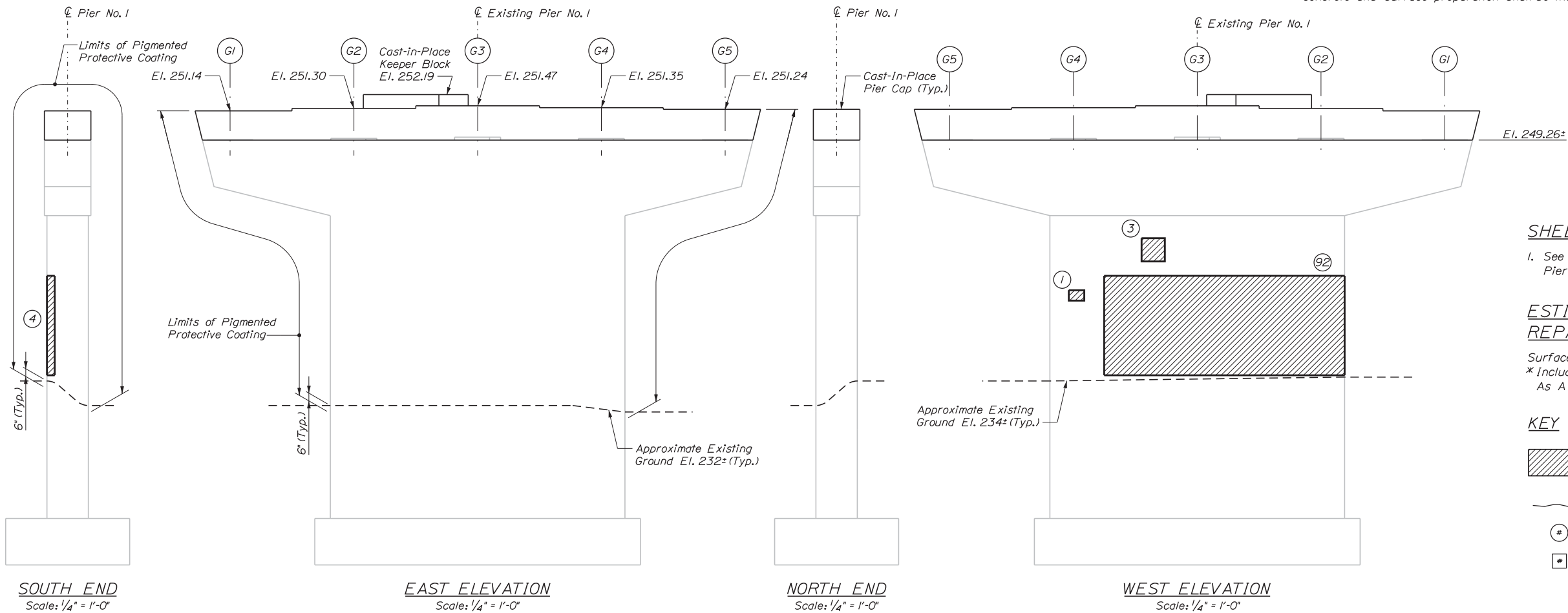
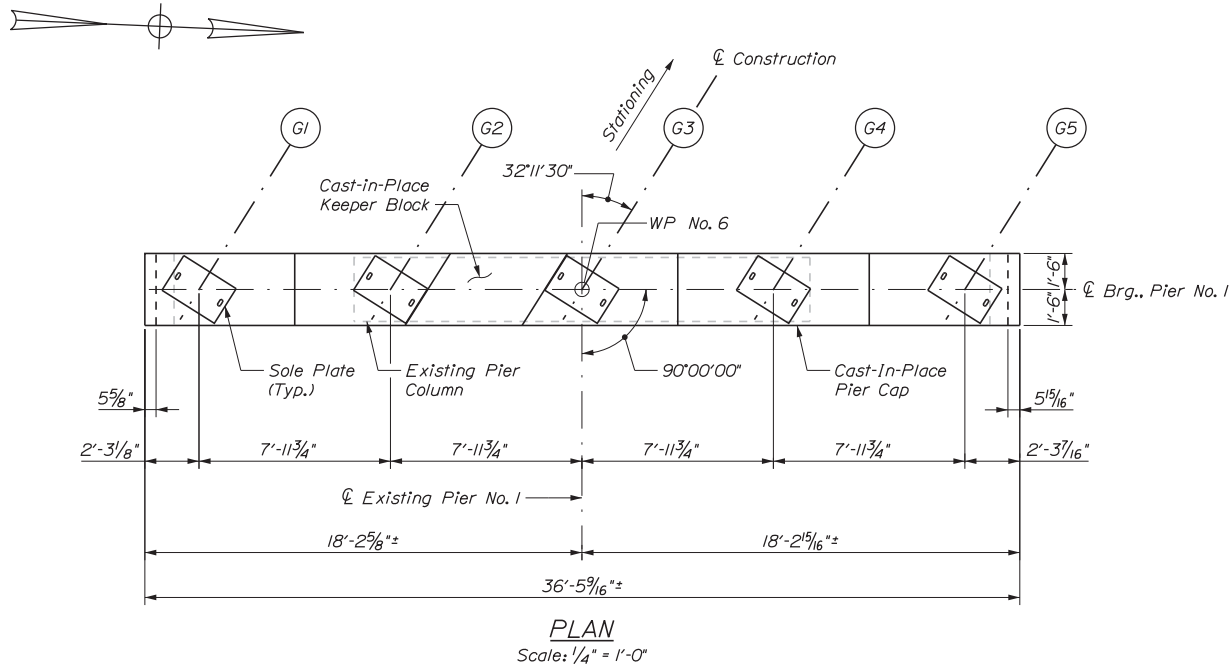
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CONTRACT: 2017.04

51 OF 84

Date: 1/20/2017

Filename: ...MSTAN\PlanSet\052_Pier_01.dgn



PIER REPAIR AND MODIFICATIONS NOTES

1. Pier repair work shall include: providing access for pier inspection and pier surface patch repairs.
2. Where pier surface patch repairs are specified the work shall include removal of unsound concrete and placement and curing of the repair materials. Repairs shall be measured for payment under Item 518.20, Pier Repairs.
3. All existing anchor rods shall be cut and removed to one inch above existing pier cap.
4. Actual repair areas will be determined by the Resident during construction. If pier surface patch repairs are required to extend more than 1/3 the width of the column stem the work shall be sequenced such that removal of the column concrete is limited to no more than 1/3 of the column width at any one time. The removal restrictions do not apply to the ends of the pier column stem or if work is only being done to one pier face and the depth of the repair is less than 6". At the direction of the Resident, the removal restrictions may be waived if the work is performed while the superstructure is not in place.
5. Pier cap modifications shall not be performed when traffic is active on the roadway above unless authorized by the Resident.
6. Prior to the placement of pier extension concrete, The Contractor shall intentionally roughen the top surface of the existing pier caps to 1/4" anchor profile or as directed by The Resident. Cost for intentionally roughening surface shall be incidental to Item 502.23.
7. All exposed pier surfaces shall be coated with a protective coating for concrete surfaces as shown.
8. Bearing anchor rods shall be placed before installing diaphragms.
9. All excavation required for the pier repair and protective coating application shall be incidental to Item 518.20.
10. Prior to the placement of the precast concrete pier caps, the Contractor shall prepare the area in accordance with Supplemental Specification Section 518. All costs for removal of unsound concrete and surface preparation shall be incidental to Item 502.23.

SHEET NOTE

1. See Concrete Surface Repair Detail and Notes on Pier No. 2 Repairs and Modifications sheet.

ESTIMATED REPAIR QUANTITIES (SF)

Surface Patch Repairs 125*
* Includes 25 S.F. Additional Repair Quantity As A Contingency

KEY

- = Concrete Patch Repair (Item 518.20)
- = Top of Pier Cap Surface Patch Repair (See Pier Repair and Modifications Note 10)
- = Square Foot Area of Repair
- = Linear Feet of Crack Repair



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

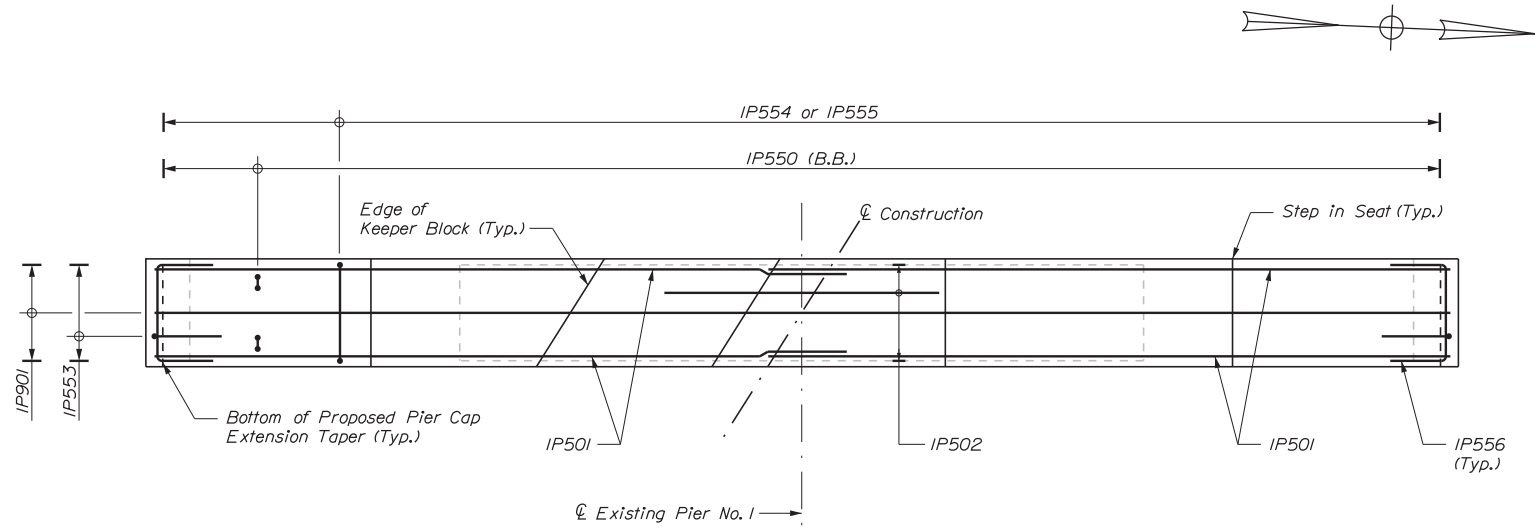
SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

PIER NO. 1 REPAIRS AND MODIFICATIONS

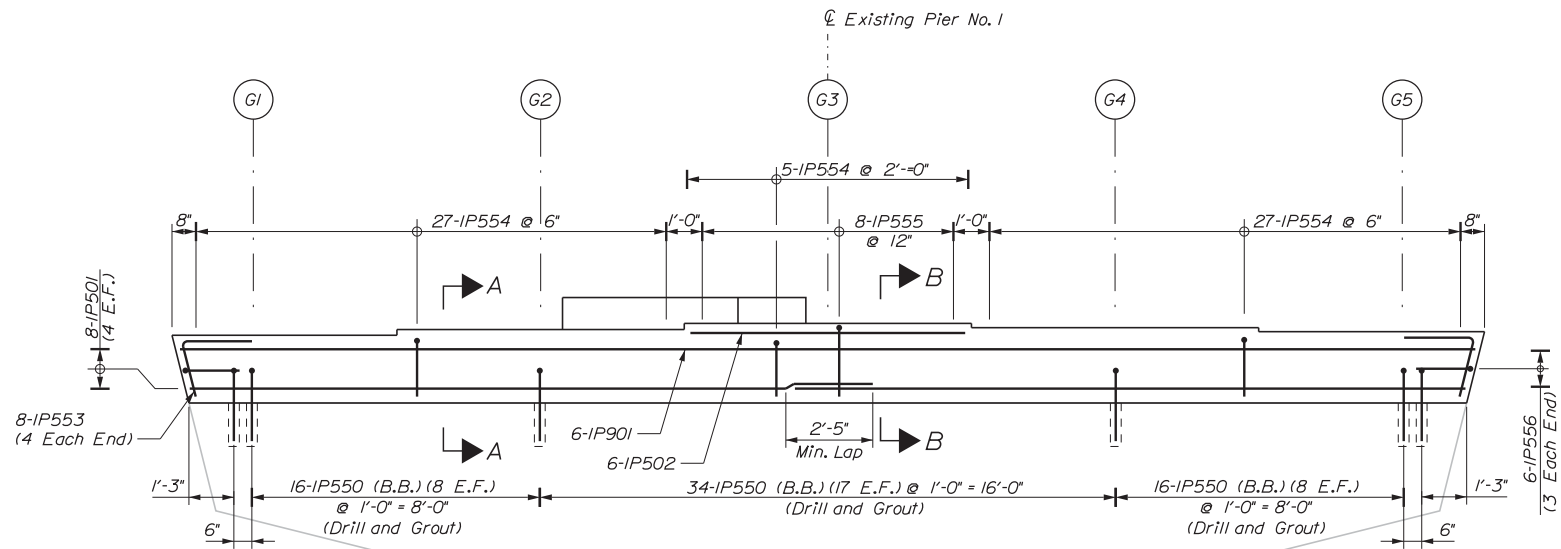
VHB: 55106.00 SHEET NUMBER: 52
CONTRACT: 2017.04 52 OF 84

Date: 1/20/2017

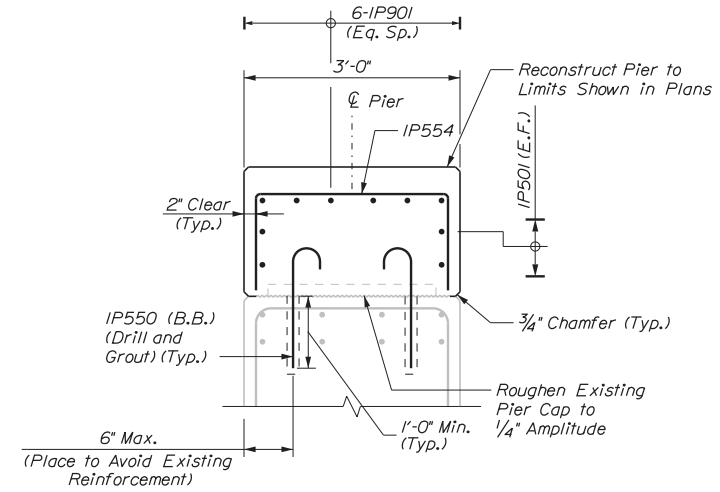
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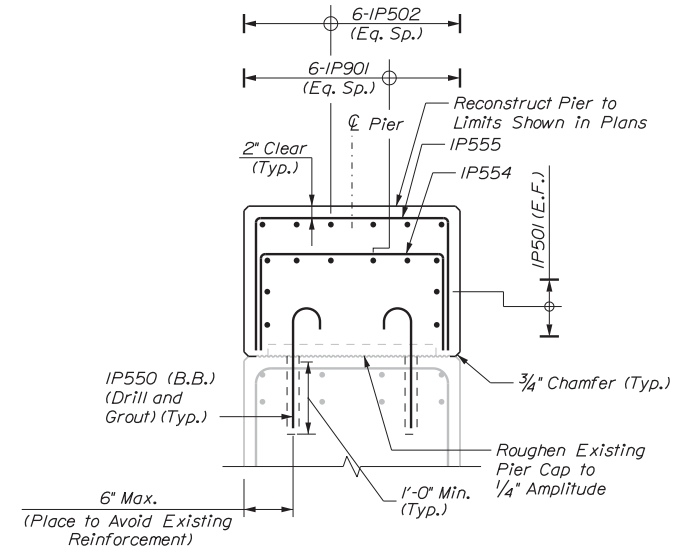
PLAN
Scale: 3/8" = 1'-0"



ELEVATION
Scale: 3/8" = 1'-0"



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



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

NOTES

1. Adjust longitudinal reinforcement to ensure anchor rods and reinforcement do not conflict.
2. Prior to drilling and grouting proposed reinforcement, the Contractor shall field locate the existing longitudinal reinforcement in the top of the existing pier caps.

SHEET NOTE

1. See Pier Repair and Modifications Notes on Pier No. 1 Repairs and Modifications Sheet.

REINFORCING KEY

N.F. = Near Face
F.F. = Far Face
E.F. = Each Face
▲ = Cut in Field
B.B. = Black Bar

Scale:			
No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

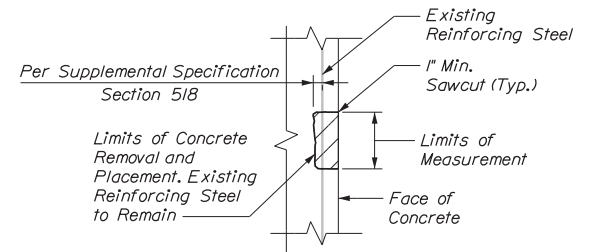
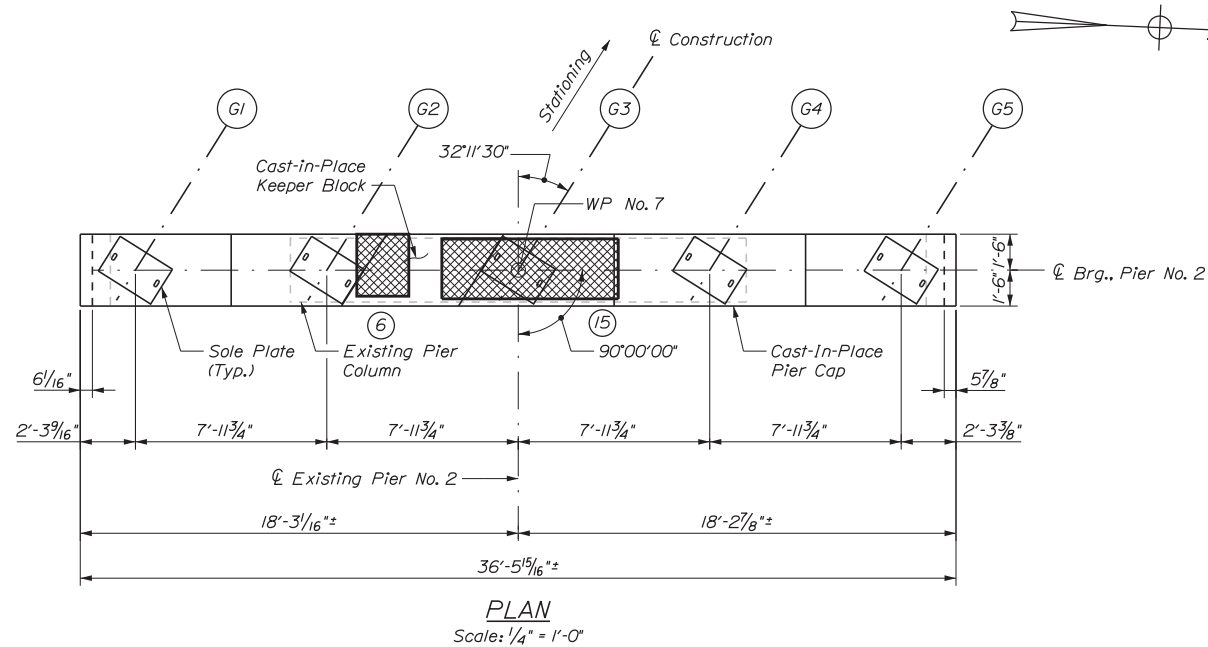
PIER CAP NO. 1 REINFORCEMENT

VHB: 55106.00
CONTRACT: 2017.04

SHEET NUMBER: 53
53 OF 84

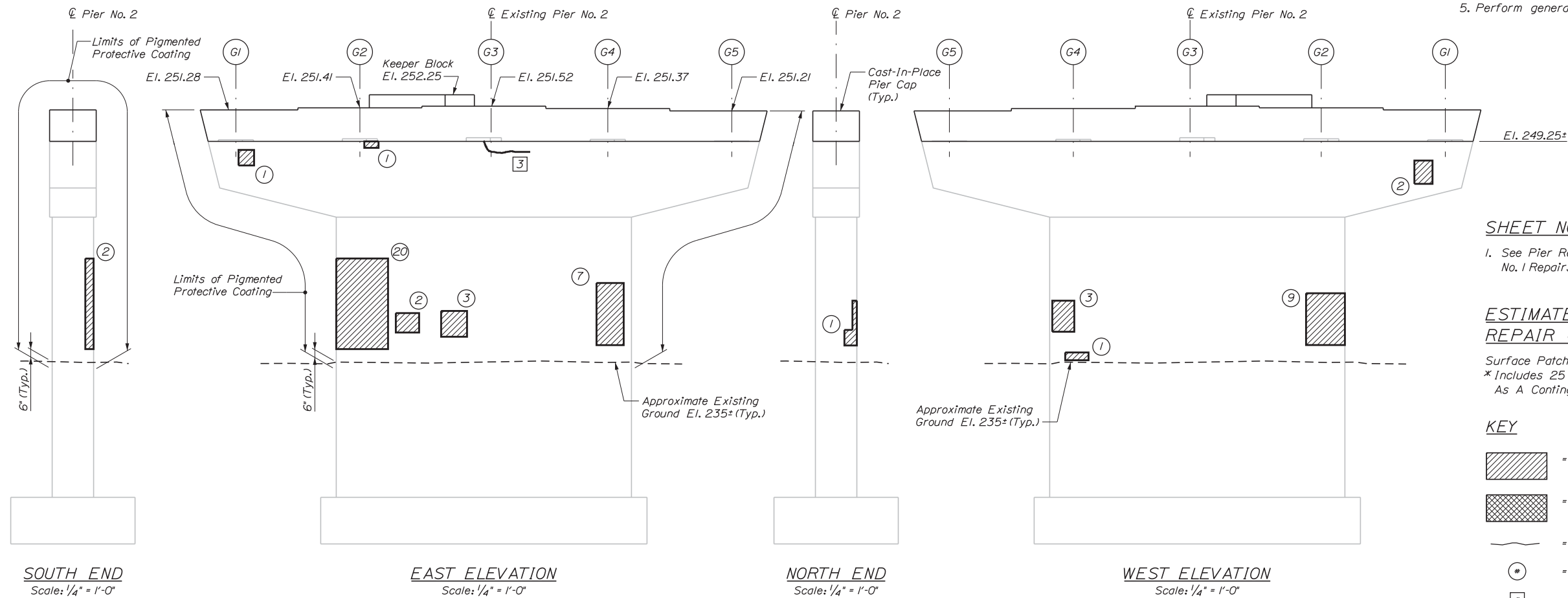
Date: 1/20/2017

Filename: ...MSTAN\PlanSet\054_Pier_02.dgn



CONCRETE SURFACE REPAIR NOTES

1. Prior to the start of concrete removal the Resident and the Contractor shall sound the concrete and agree on the repair limits. Estimated repair quantity may increase at the Resident's discretion.
2. Saw cut 1" deep cuts along limits of removal.
3. Chip concrete to depth shown. If the removal limits change during the demolition process the Contractor shall notify the Resident. The Resident and Contractor shall agree on the revised pay limits prior to the Contractor continuing the removal.
4. Prepare and patch repair areas with Class AAA modified concrete.
5. Perform general finishing.



SHEET NOTE

1. See Pier Repair and Modifications Notes on Pier No. 1 Repairs and Modifications sheet.

ESTIMATED REPAIR QUANTITIES (SF)

Surface Patch Repairs 98*
* Includes 25 S.F. Additional Repair Quantity As A Contingency

KEY

- [Hatched Box] = Concrete Patch Repair (Item 518.20)
- [Cross-hatched Box] = Removal of Unsound Concrete (See Pier Repair and Modifications Note 10)
- [Dashed Line] = Limit of Crack Repair
- [Star in Circle] = Square Foot Area of Repair
- [Star in Square] = Linear Feet of Crack Repair



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
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MTA PROJECT MANAGER: Ralph Norwood, IV

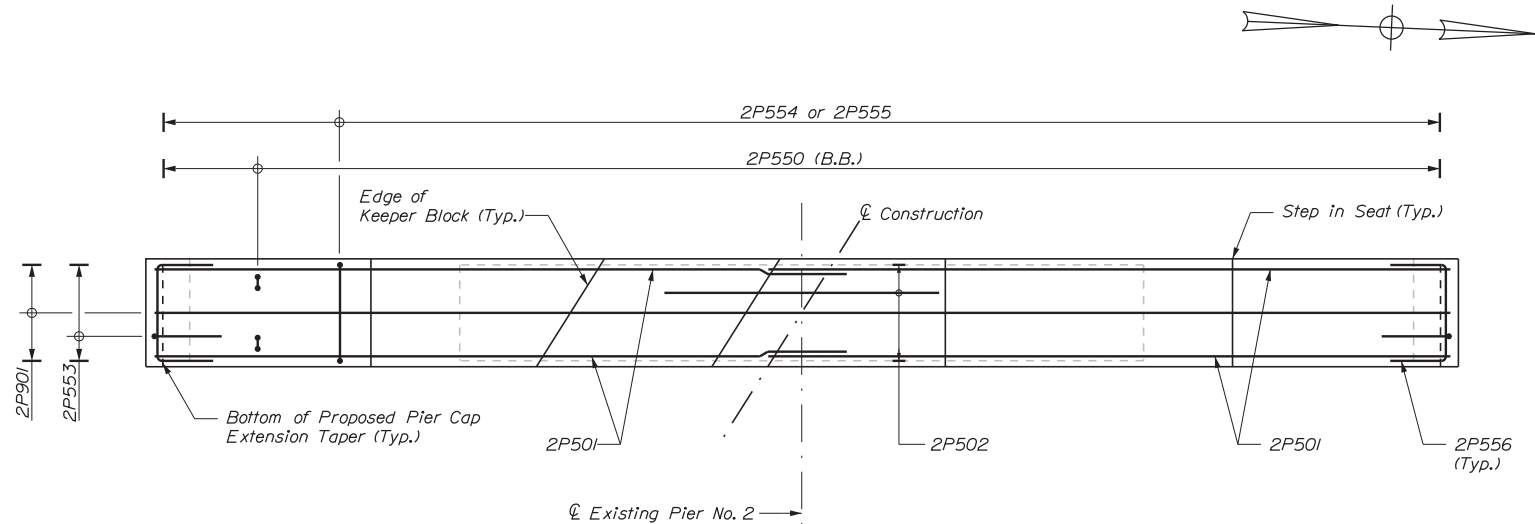
SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

PIER NO. 2 REPAIRS AND MODIFICATIONS

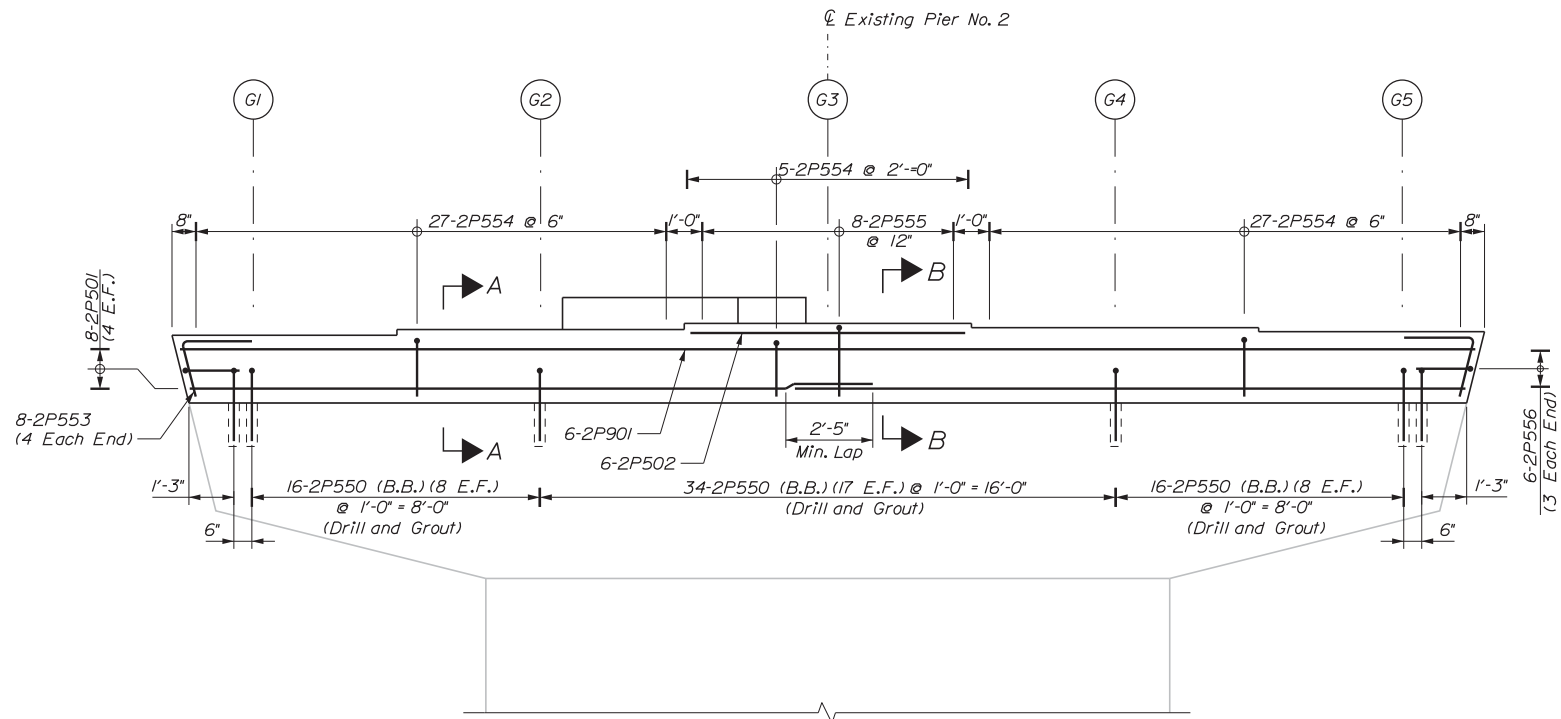
VHB: 55106.00 SHEET NUMBER: 54
CONTRACT: 2017.04 54 OF 84

Date:1/20/2017

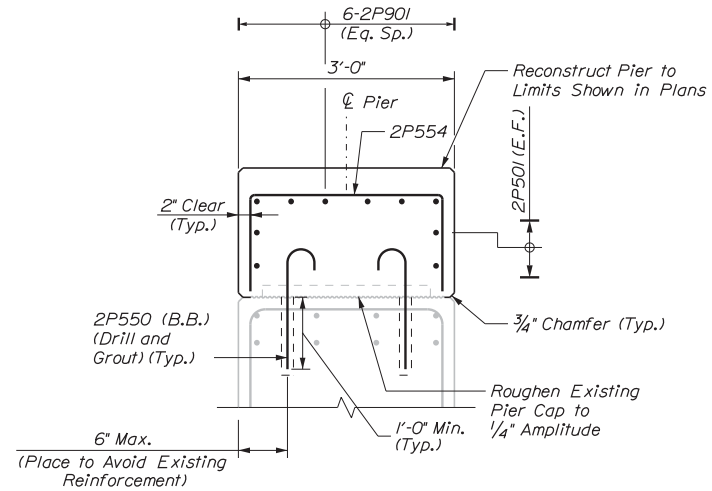
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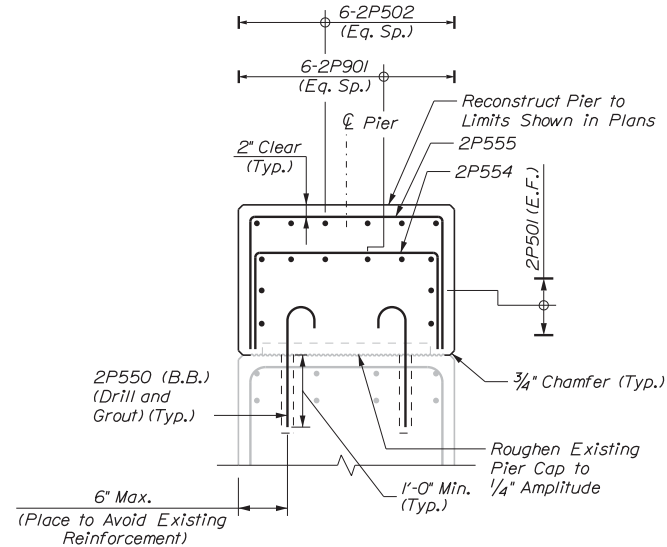
PLAN
Scale: 3/8" = 1'-0"



ELEVATION
Scale: 3/8" = 1'-0"



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



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

NOTE

1. Adjust longitudinal reinforcement to ensure anchor rods and reinforcement do not conflict.

SHEET NOTE

1. See Pier Repair and Modifications Notes on Pier No. 1 Repairs and Modifications Sheet.

REINFORCING KEY

N.F. = Near Face
F.F. = Far Face
E.F. = Each Face
▲ = Cut in Field
B.B. = Black Bar

Scale:			
No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
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THE GOLD STAR
MEMORIAL HIGHWAY

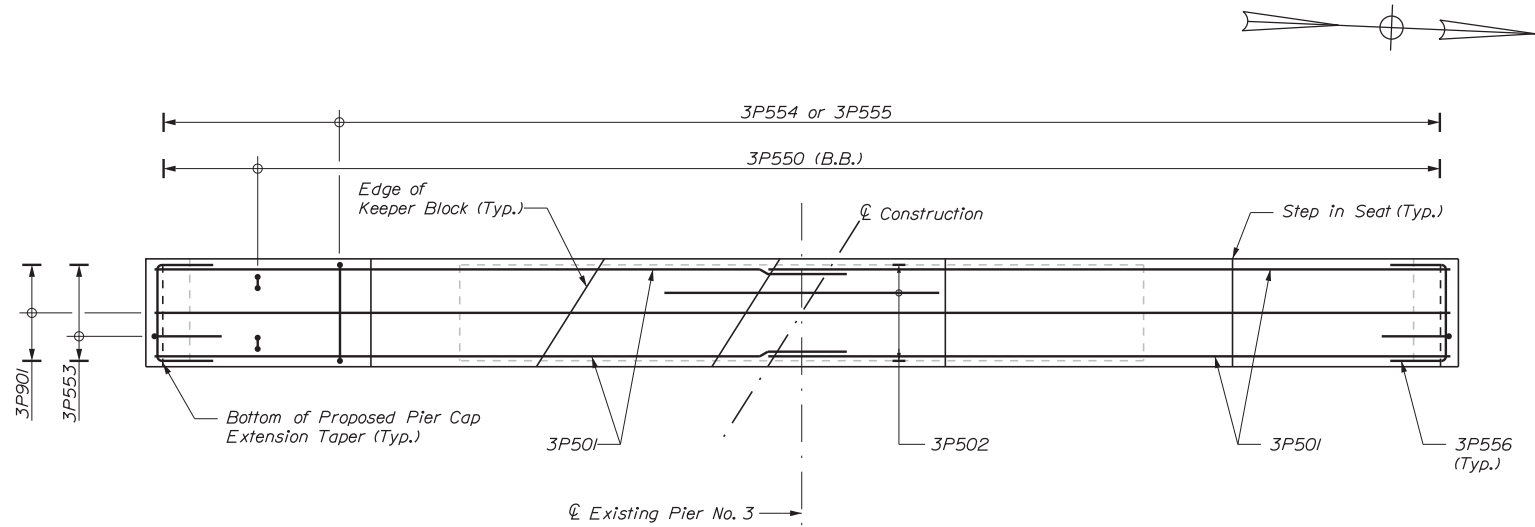
MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT WINTHROP ROAD UNDERPASS	
PIER CAP NO. 2 REINFORCEMENT	
VHB: 55106.00	SHEET NUMBER: 55
CONTRACT: 2017.04	55 OF 84

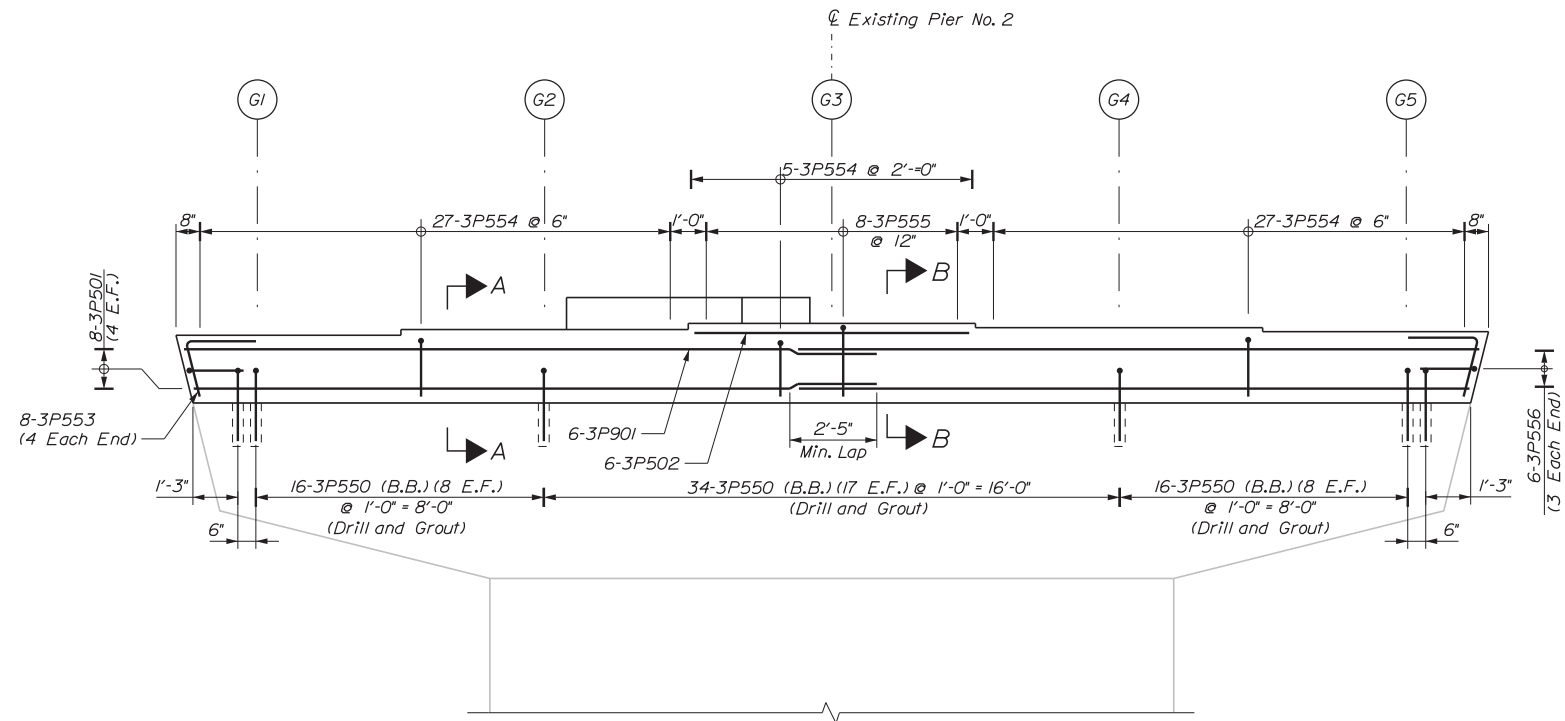
VHB: 55106.00	SHEET NUMBER: 56
CONTRACT: 2017.04	56 OF 84

Date: 1/20/2017

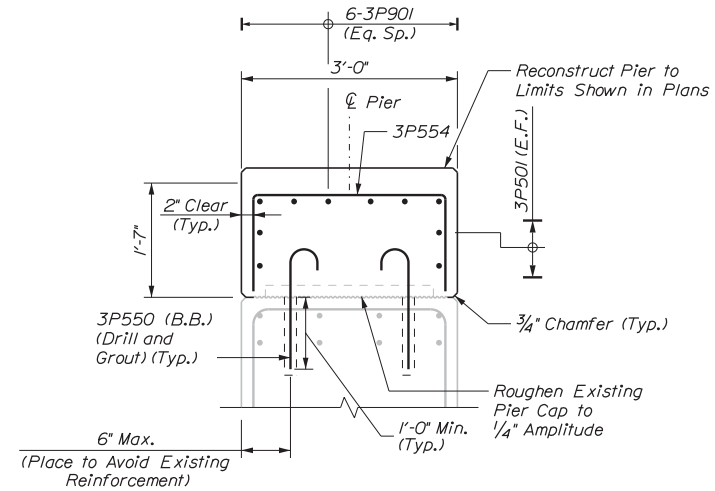
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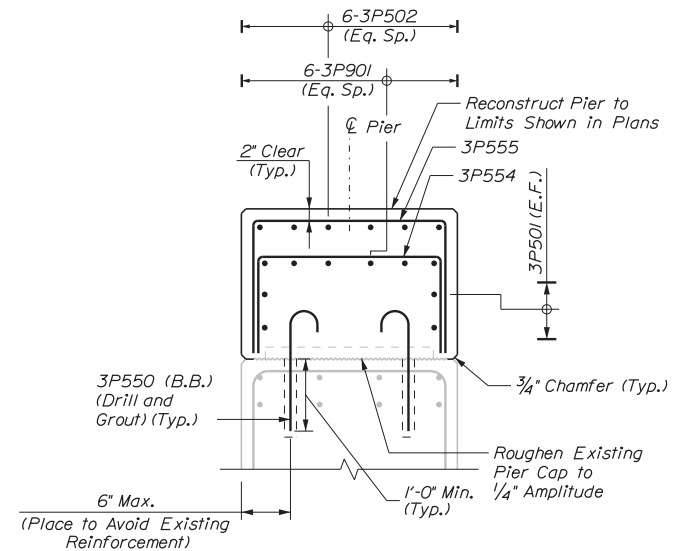
PLAN
Scale: 3/8" = 1'-0"



ELEVATION
Scale: 3/8" = 1'-0"



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



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

NOTE

1. Adjust longitudinal reinforcement to ensure anchor rods and reinforcement do not conflict.

SHEET NOTE

1. See Pier Repair and Modifications Notes on Pier No. 1 Repairs and Modifications Sheet.

REINFORCING KEY

N.F. = Near Face
F.F. = Far Face
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Scale:			
No.	Revision	By	Date

Designed by:			
			
CONSULTANT PROJECT MANAGER: T. Bryant			
	By	Date	
Designed	AFP	1/2017	Checked WPR 1/2017
Drawn	DPD	1/2017	In Charge of TSB 1/2017

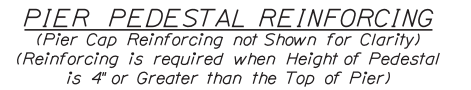
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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT WINTHROP ROAD UNDERPASS	
PIER CAP NO. 3 REINFORCEMENT	
VHB: 55106.00	SHEET NUMBER: 57
CONTRACT: 2017.04	57 OF 84



Scarify Shall be Normal to the Long Axis of the Pier Cap

3'-0"

PLAN

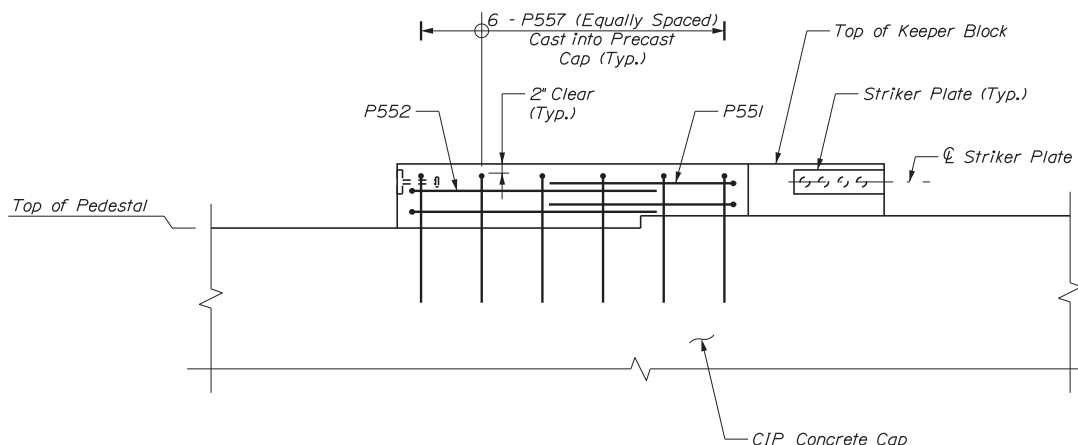
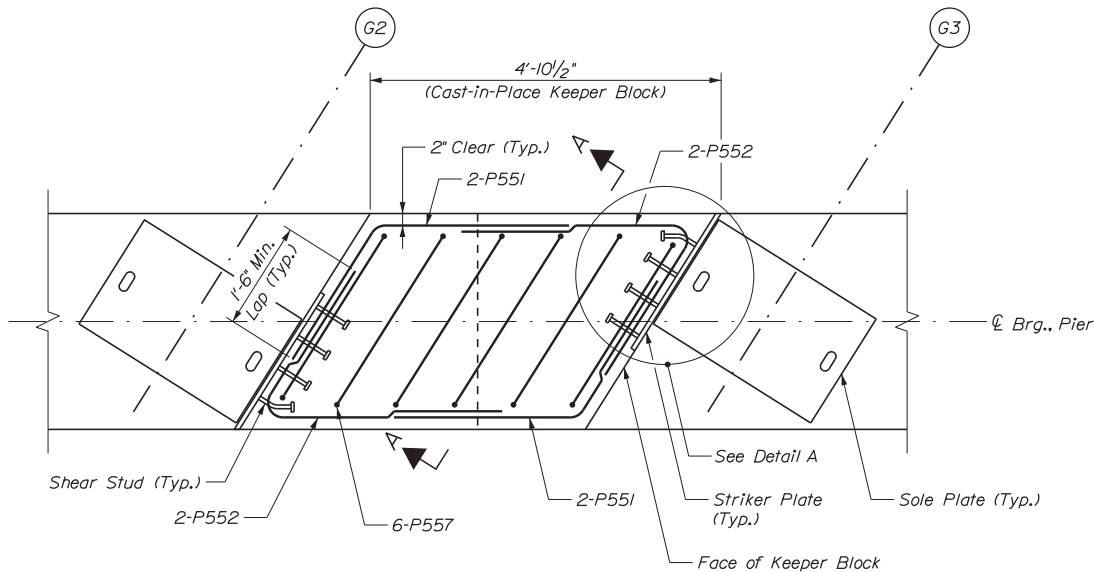
Top of Existing Pier Cap or Bottom of Precast Cap Void

1/4"

VHB: 55106.00	SHEET NUMBER: 58
CONTRACT: 2017.04	58 OF 84

Date: 1/20/2017

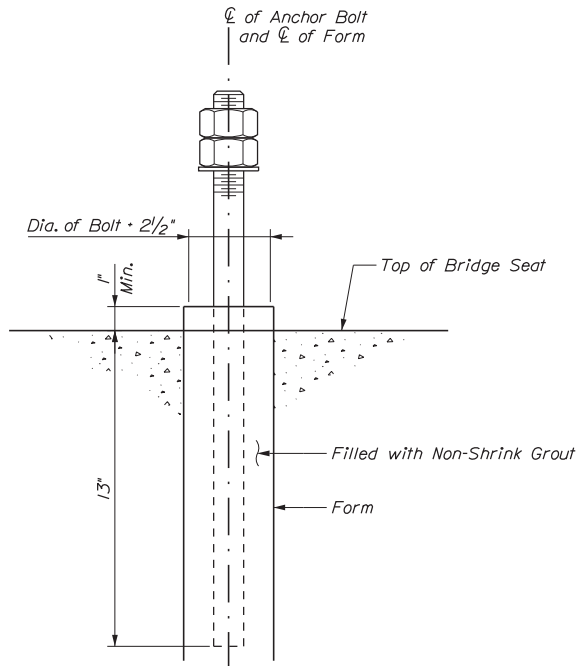
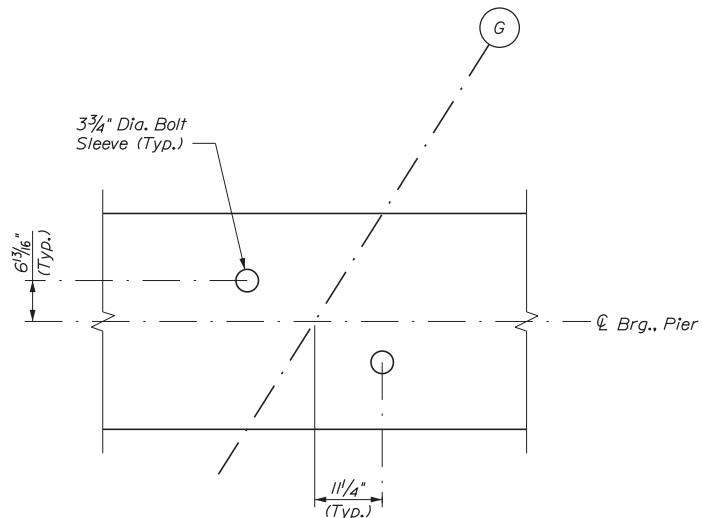
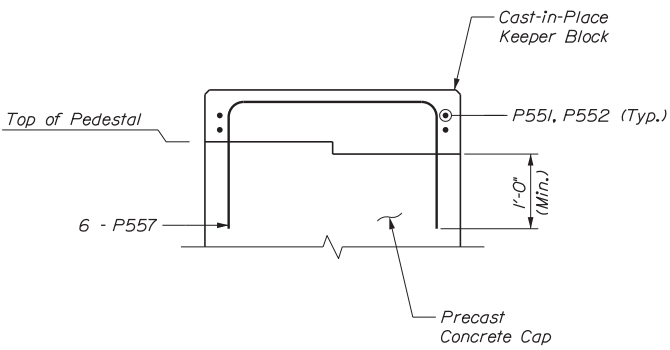
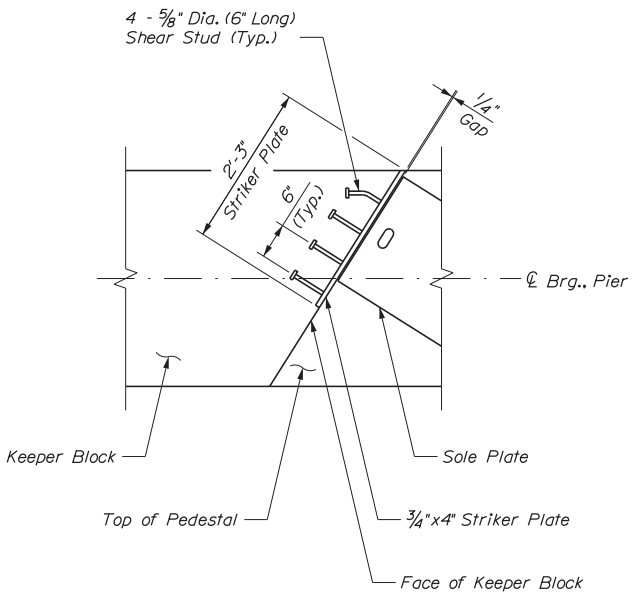
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KEEPER BLOCK REINFORCING

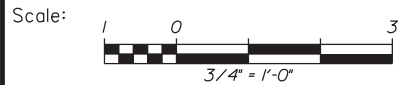
Scale: 3/4" = 1'-0"

CL STRIKER PLATE ELEVATIONS		
	G2	G3
Pier No. 1	251.77	251.94
Pier No. 2	251.88	252.00
Pier No. 3	251.35	251.42



NOTES

- Forms shall be un-oiled, held in place accurately by template, and removed after concrete has hardened.
- Anchor bolts shall be set accurately and installing forms to be included in the substructure concrete item.
- Anchor bolt sleeves are not required if the pier cap extensions are constructed of cast-in-place concrete.



No.	Revision	By	Date

Designed by:			
CONSULTANT PROJECT MANAGER: T. Bryant			
	By	Date	
Designed	AFP	1/2017	Checked WPR 1/2017
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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
KEEPER BLOCK DETAILS

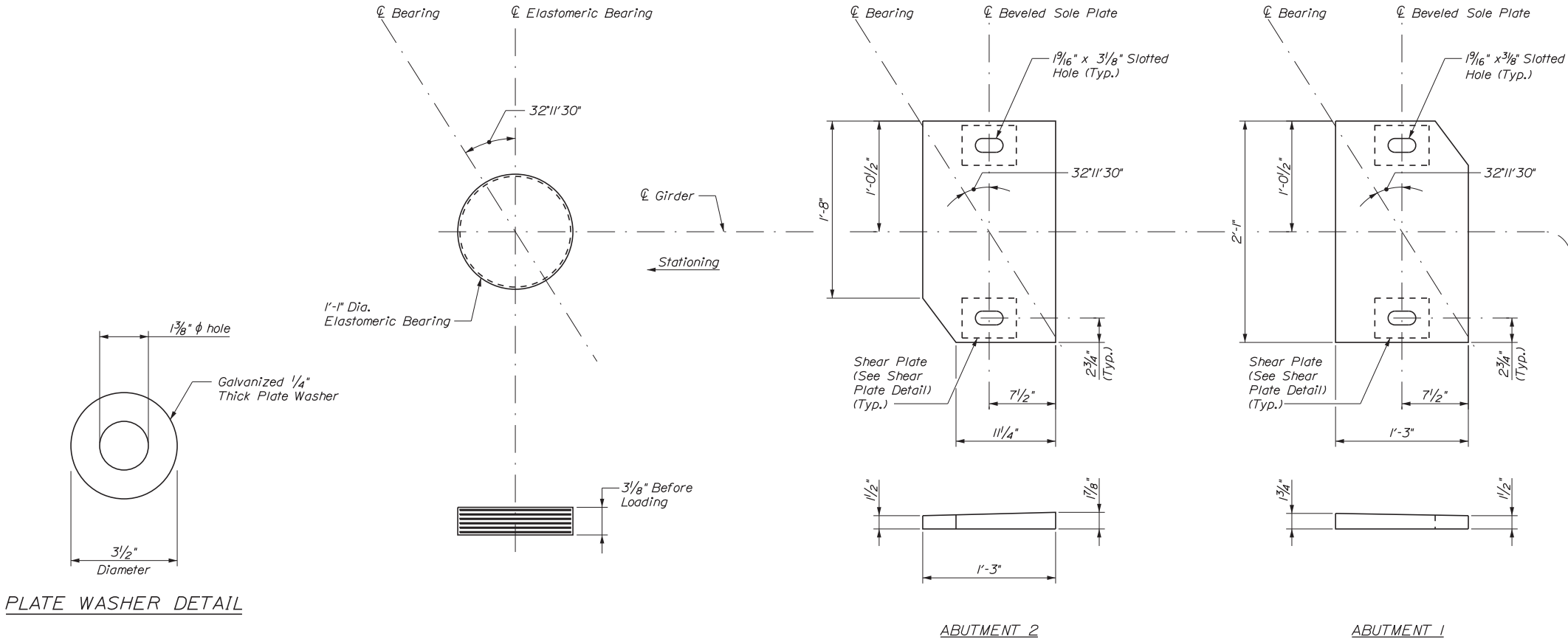
Date:1/20/2017

ELASTOMERIC BEARING NOTES

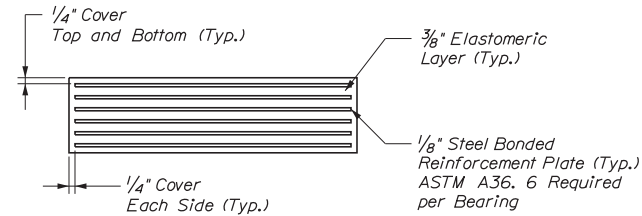
1. Elastomeric shall be virgin neoprene (polychloroprene) with a durameter of 50.
2. Vulcanizing of the elastomer to the sole plate at the abutments and to the load plates at the piers shall be done during the primary mold process.
3. Sole plates, shear plates, and load plates shall meet the requirements of ASTM A709/A709M, Grade 50.
4. Sole plates, shear plates, and load plates shall be painted (shop applied).
5. Horizontal PTFE at pier expansion bearings shall be dimpled and lubricated. Lubrication shall be supplied and installed per the bearing manufactures recommendation to ensure a coefficient of friction less than or equal to 0.04 at 68 degrees F. Cost included in bearing item.
6. All bearings shall be marked prior to shipping. The marks shall include the bearing location on the bridge and a direction arrow which points upstation. All marks shall be permanent and shall be visible after the bearing is installed.
7. Bearings shall be covered during transit.
8. All necessary precautions shall be taken to protect bearing components from field weld flash and spatter.
9. The bearings are designed so that the superstructure may be erected when the ambient air temperature is within the range of 65 degrees F and 90 degrees F. If the ambient air temperature is outside this range, the bridge shall be jacked and the bearings shall be reset as directed by the resident.
10. Shear plates shall not block slotted holes in sole plate.

ANCHOR ROD NOTES

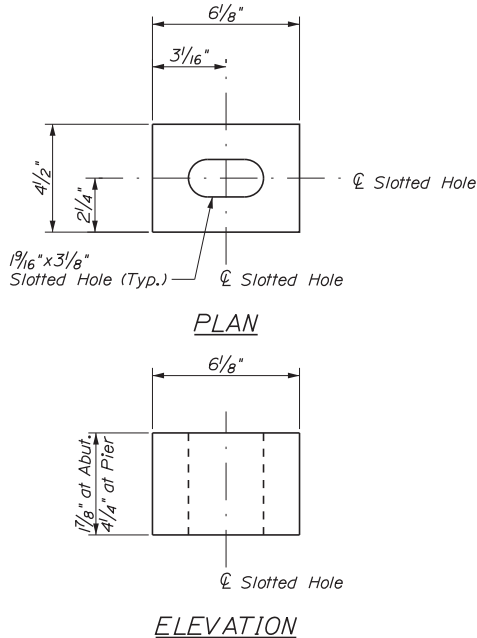
1. All anchor rods, nuts, and plate washers shall be galvanized after fabrication in accordance with ASTM A153. Anchor rods shall be fully threaded.
2. Burr threads on anchor rod after nuts tightened snug to prevent removal. Touch up damage galvanized areas with zinc-rich paint. Cost included in bearing item.
3. Anchor rods shall be placed prior to installing girder end diaphragms.



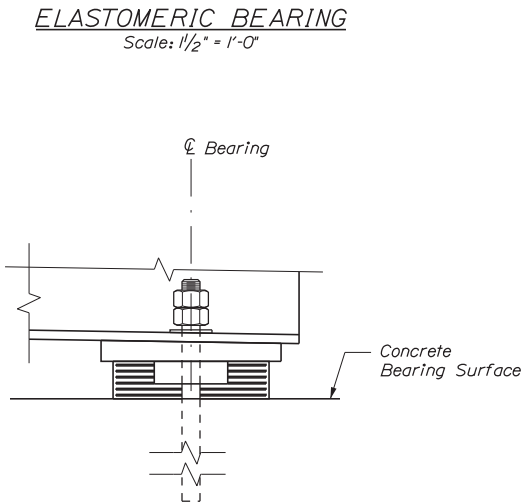
BEARING DESIGN CRITERIA		
LOADS	ABUTMENTS	PIERS
Unfactored Dead Load (Max.)	22.9k	77.7k
Unfactored Live Load (Max.)	76.7k	135.6k
DESIGN METHOD A		



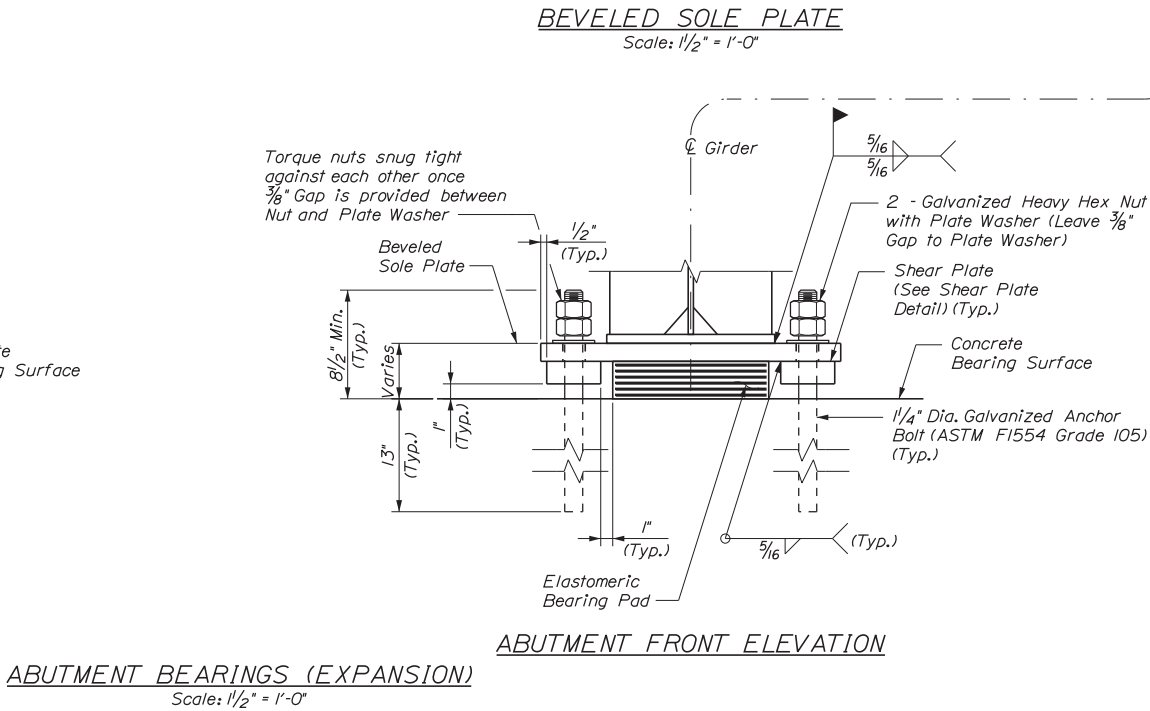
ELASTOMERIC BEARING DETAIL
Not to Scale



SHEAR PLATE DETAIL
Not to Scale



ABUTMENT SIDE ELEVATION



ABUTMENT BEARINGS (EXPANSION)
Scale: 1 1/2" = 1'-0"

BEVELED SOLE PLATE
Scale: 1 1/2" = 1'-0"

Filename: ...PlanSet\060_bearing_01.dgn

No.	Revision	By	Date

Designed by:			
CONSULTANT PROJECT MANAGER: T. Bryant			
	By	Date	
Designed	AFP	1/2017	Checked WPR 1/2017
Drawn	KDW	1/2017	In Charge of TSB 1/2017

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MAINE
TURNPIKE

THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

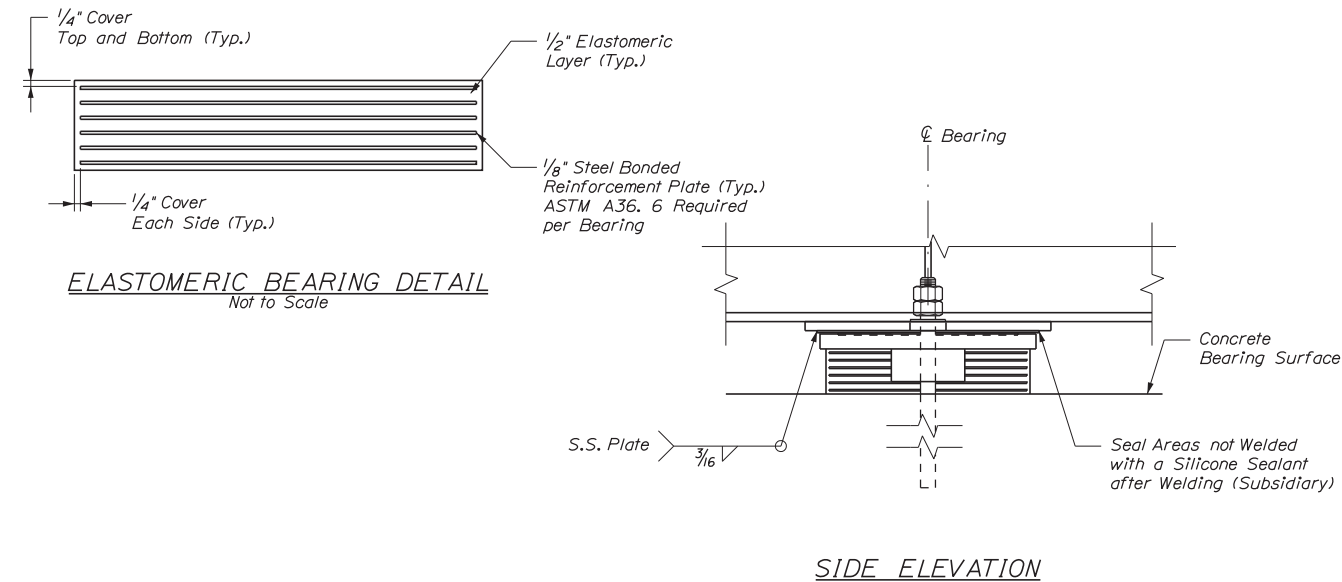
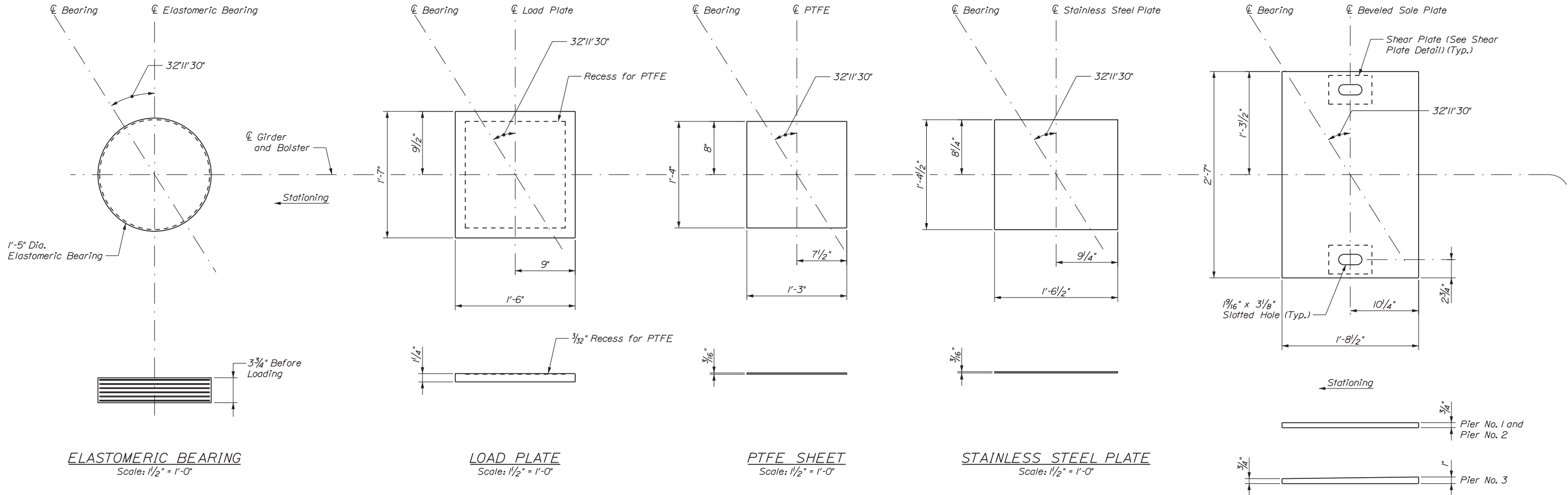
ABUTMENT BEARING DETAILS

VHB: 55106.00
CONTRACT: 2017.04

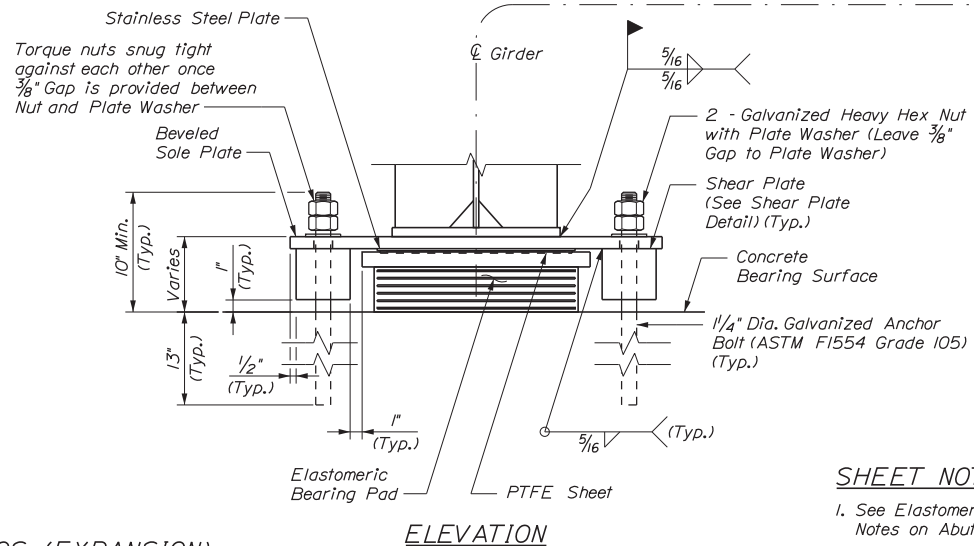
SHEET NUMBER: 60
60 OF 84

Date: 1/20/2017

Filename: ...PlanSet\061_bearing_02.dgn



PIER BEARINGS (EXPANSION)
Scale: 1 1/2" = 1'-0"



SHEET NOTES

1. See Elastomeric Bearing and Anchor Rod Notes on Abutment Bearing Details Sheet.
2. See Plate Washer Detail and Shear Plate Detail on Abutment Bearings Details Sheet.



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	KDW	1/2017	In Charge of	TSB	1/2017

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

PIER BEARING DETAILS

VHB: 55106.00

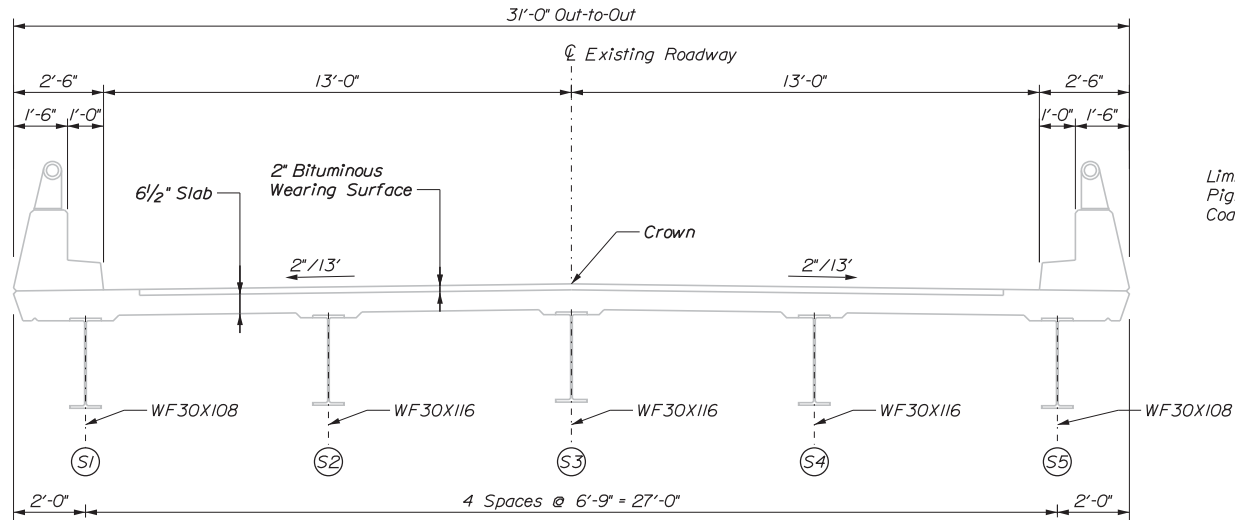
CONTRACT: 2017.04

SHEET NUMBER: 61

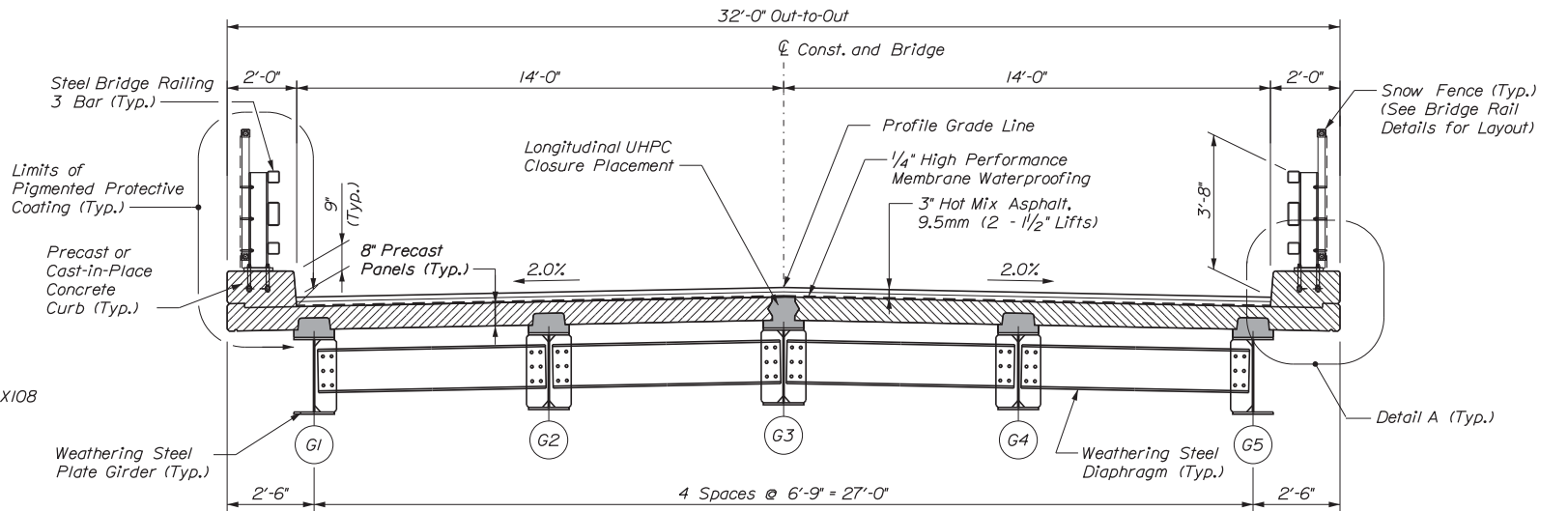
61 OF 84

Date: 1/20/2017

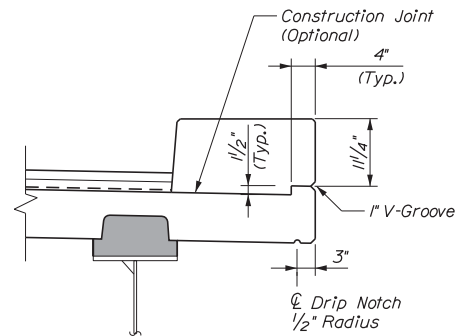
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EXISTING SUPERSTRUCTURE SECTION
Scale: 3/8" = 1'-0"



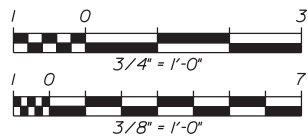
PROPOSED SUPERSTRUCTURE SECTION
Scale: 3/8" = 1'-0"



DETAIL A
Scale: 3/4" = 1'-0"

SUPERSTRUCTURE NOTES

1. All bridge curb concrete, including inside faces, top and outside faces, approach curb and deck fascia shall have a rubbed finish prior to the application of the Clear Protective Coating for Concrete Surface.
2. The concrete deck shall be given a smooth ordinary finish.
3. Prior to installing the proposed shear studs the Contractor shall clean the girder top flange so that it is free of debris, rust, scale, oil and other contaminants that would adversely affect the welding operation. All the grinding shall be performed in the longitudinal direction of the beam. Payment for preparing girder top flange for installation of proposed shear studs shall be incidental to Item 505.09.
4. Protective shielding shall be required per Special Provision Section 524.
5. The theoretical blocking used for design of the structure is 3 1/2" inches at the centerline of bearing at the abutments and piers.
6. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.
7. Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.
8. See Framing Plan and Girder Elevation sheet for Structural Steel notes.
9. Install 1" diameter PVC deck drains per Standard Detail 502(03) and Special Provision Section 502.17 as required and as directed by the Resident. Drains shall extend 1'-0" below bottom flange.



Scale: AS NOTED

Designed by:



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THE GOLD STAR
MEMORIAL HIGHWAY

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
TYPICAL BRIDGE SECTIONS
AND DETAILS

VHB: 55106.00

SHEET NUMBER: 62

CONTRACT: 2017.04

62 OF 84

CONSULTANT PROJECT MANAGER: T. Bryant

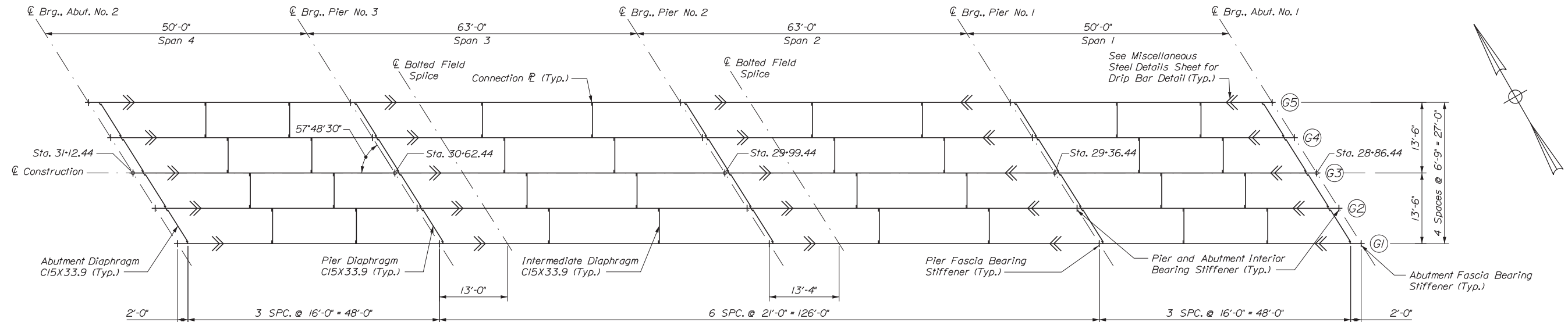
No.	Revision	By	Date

By	Date	By	Date
Designed	AFP 1/2017	Checked	WPR 1/2017
Drawn	DPD 1/2017	In Charge of	TSB 1/2017

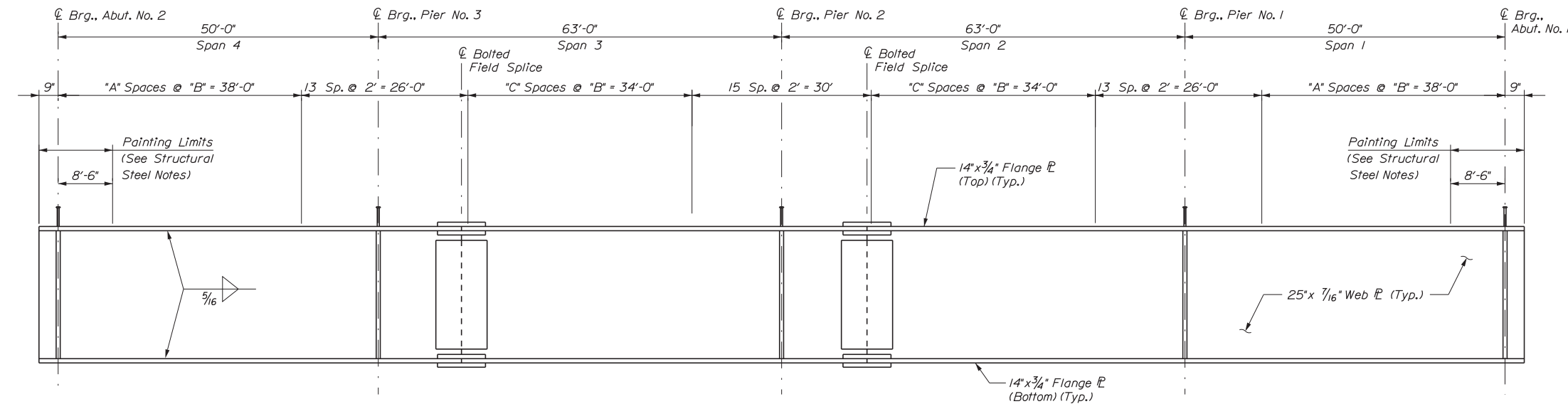
MTA PROJECT MANAGER: Ralph Norwood, IV

Date: 1/20/2017

Filename: ...PlanSet\063_Framing_01.dgn



FRAMING PLAN
Scale: $\frac{3}{32}" = 1'-0"$



GIRDER ELEVATION AND STUD LAYOUT
(Connection Plates and Drip Bars not Shown)
Not to Scale

STRUCTURAL STEEL NOTES

- No transverse butt weld splices will be allowed in the flange plates or web plates within 10 feet or 10 percent of the span length (whichever is greater) from the points of maximum negative moment or maximum positive moment. Butt weld splices in flanges shall be not less than 18 inches from transverse butt welds in the web plates and no transverse web or flange butt welds shall be located within 18 inches of other transverse welds (e.g. connection plates to web welds) on either flange or web. No transverse butt weld splices will be allowed in areas of stress reversal.
- Bearing stiffeners and girder ends shall be plumb after erection and dead loading of the structure. Intermediate web stiffeners may be either plumb or normal to the top flange. Girder webs may be plumb in the no-load condition or full dead load condition for erection purposes.
- Diaphragm connection plates may be either plumb or normal to the top flange.
- All bolts shall be $\frac{7}{8}"$ diameter ASTM A325 Type 3 high strength bolts. Holes shall be $\frac{15}{16}"$ unless otherwise noted. Bolts shall be installed with heads down at all bottom flange connections and heads up at all top flange connections. In painted areas, bolts shall be Type 1 galvanized.
- Prior to erection of structural steel the Contractor shall submit a detailed erection plan for approval.
- Bearing stiffeners shall be mill-to-bear on the bottom flange and tight fit to the top flange.
- All faying surfaces, with the exception of field splices, shall be painted or sealed in accordance with FHWA Technical Advisory T5140.22, Section 4.c.2.c to prevent the formation of pack rust.
- All plan dimensions provided are horizontal at 45 degrees F without accounting for profile grade, unless otherwise noted.
- Bolted field splice locations may be mirrored at centerline bearing Pier No. 2.
- Bearing anchor rods shall be placed prior to installing girder end diaphragms.
- All structural steel, including connection plates, diaphragms, bearing load plates, sole plates, and curtain wall blackout plates shall be painted within 8'-6" of the center line of bearing at both abutments. All new painted surfaces where the existing protective coating has been removed or damaged due to construction activities shall be touched-up with an approved paint system recommended by the manufacturer of the paint system being repaired, as noted in Special Provision Section 506.

SHEAR STUD DIMENSIONS

Girder	No. Studs Per Row	A	B	C	Stud Size	No. of Studs
G1	4	57	8"	51	3/4 x 3	1032
G2	4	57	8"	51	3/4 x 3	1032
G3	2	76	6"	68	7/8 x 7	660
G4	4	57	8"	51	3/4 x 3	1032
G5	4	57	8"	51	3/4 x 3	1032



No.	Revision	By	Date

Designed by:



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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

FRAMING PLAN
AND GIRDER ELEVATION

VHB: 55106.00

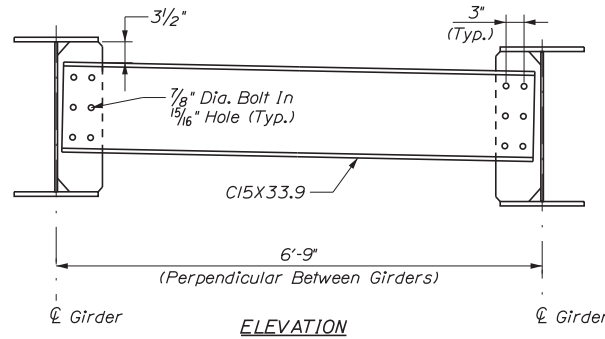
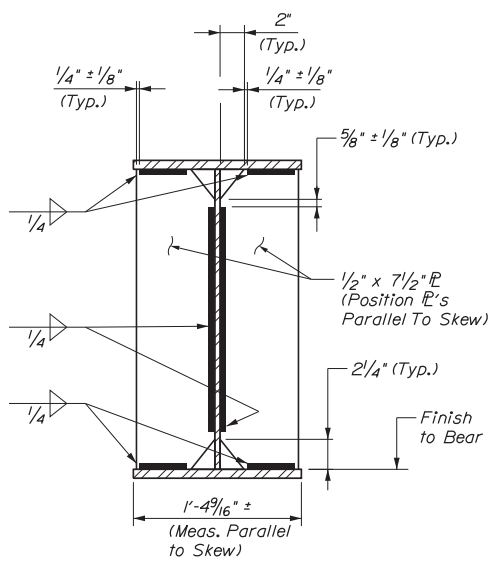
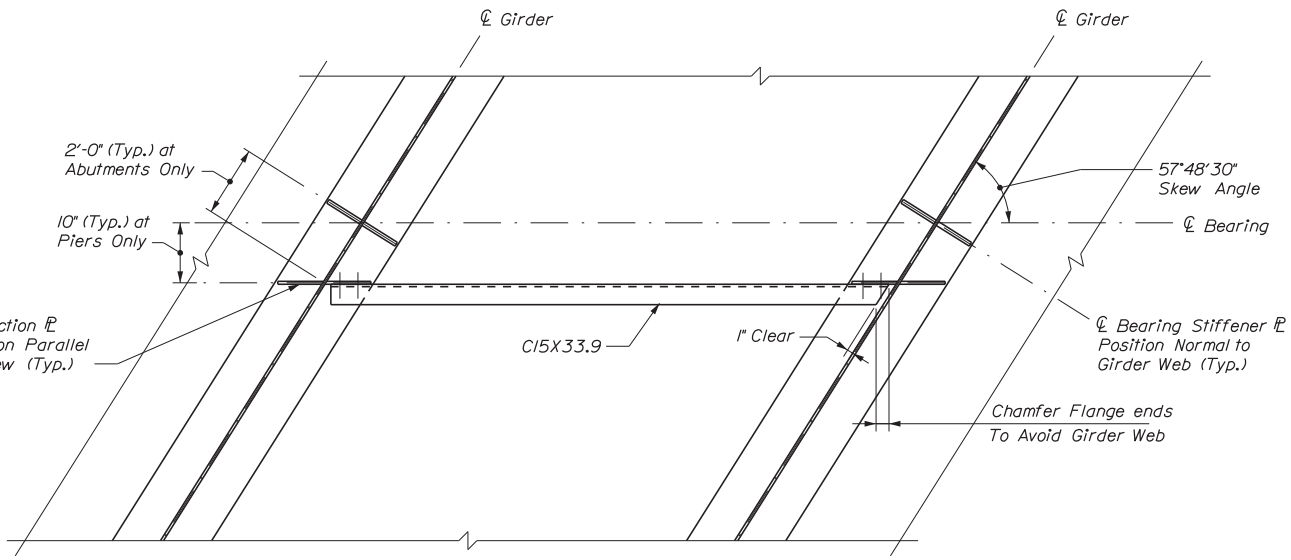
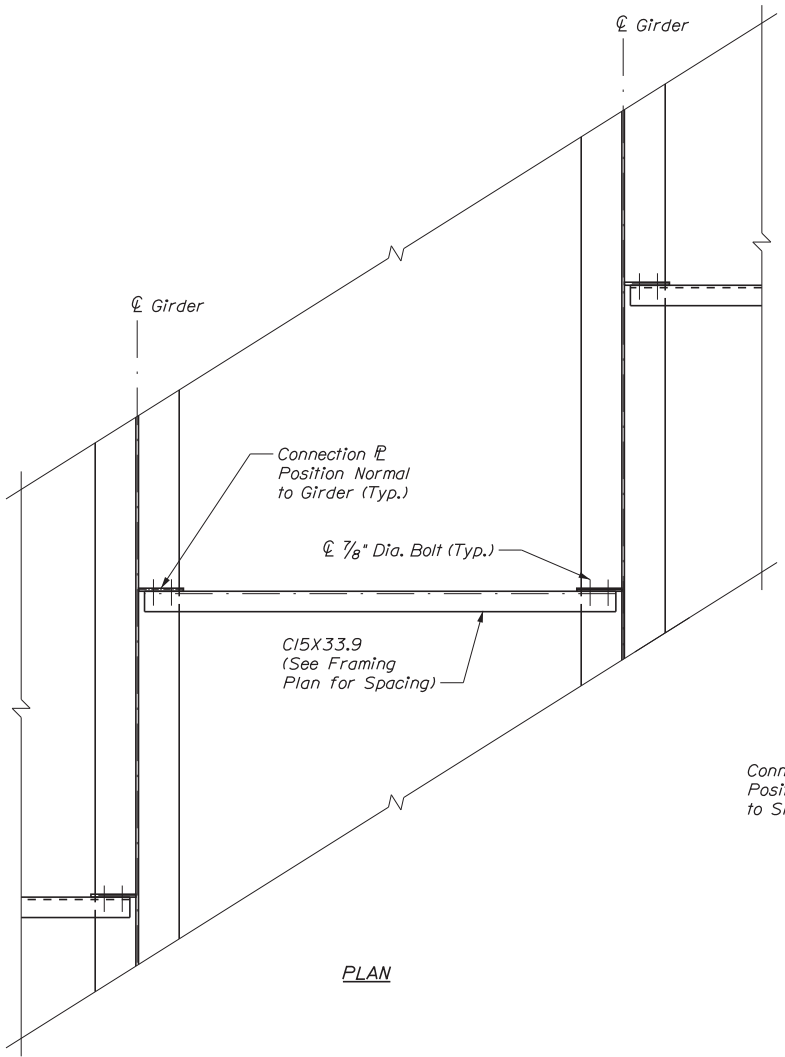
CONTRACT: 2017.04

SHEET NUMBER: 63

63 OF 84

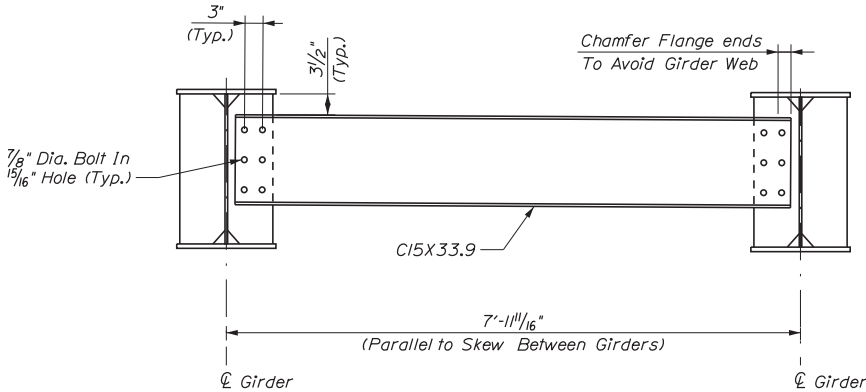
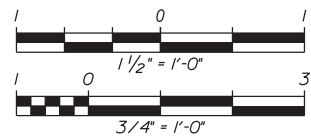
Date: 1/20/2017

Filename: ...PlanSet\064_diaphragm_01.dgn



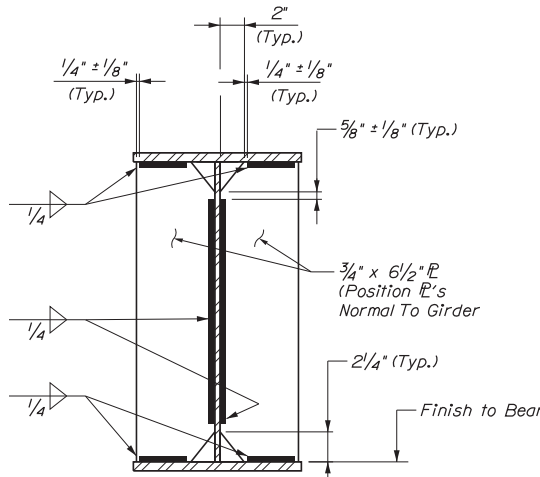
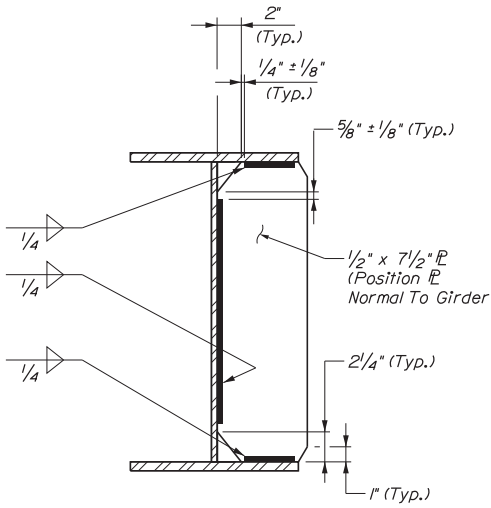
INTERMEDIATE DIAPHRAGM

Scale: 3/4" = 1'-0"



ABUTMENT AND PIER DIAPHRAGM

Scale: 3/4" = 1'-0"



Scale:				
No.	Revision	By	Date	

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

VANASSE HANGEN BRUSTLIN, INC.
500 Southborough Dr.
Suite 105B
South Portland, ME 04106
TEL (207) 889-3150
FAX (207) 253-5596



THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

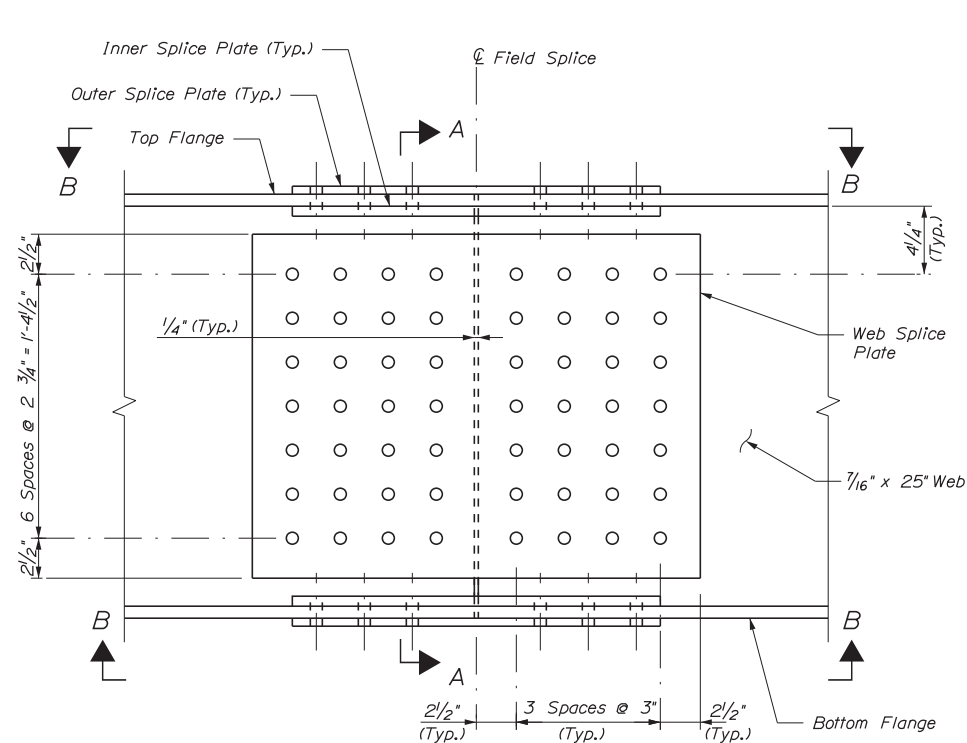
DIAPHRAGM DETAILS

VHB: 55106.00
CONTRACT: 2017.04

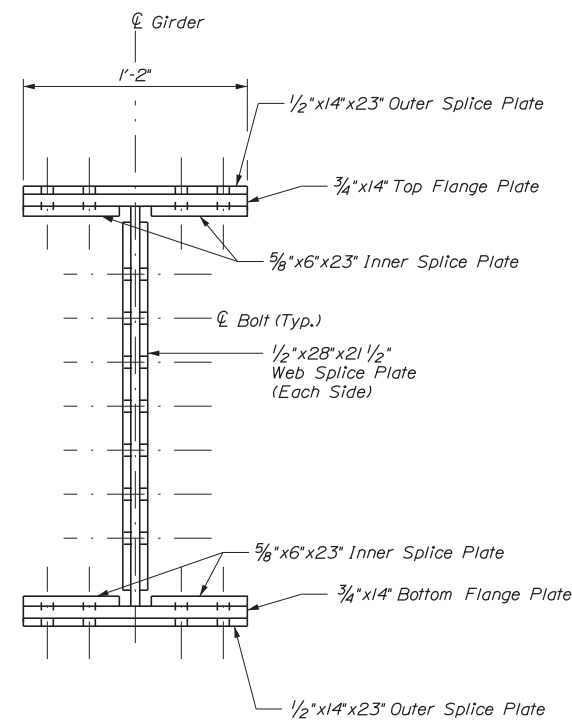
SHEET NUMBER: 64
64 OF 84

Date: 1/20/2017

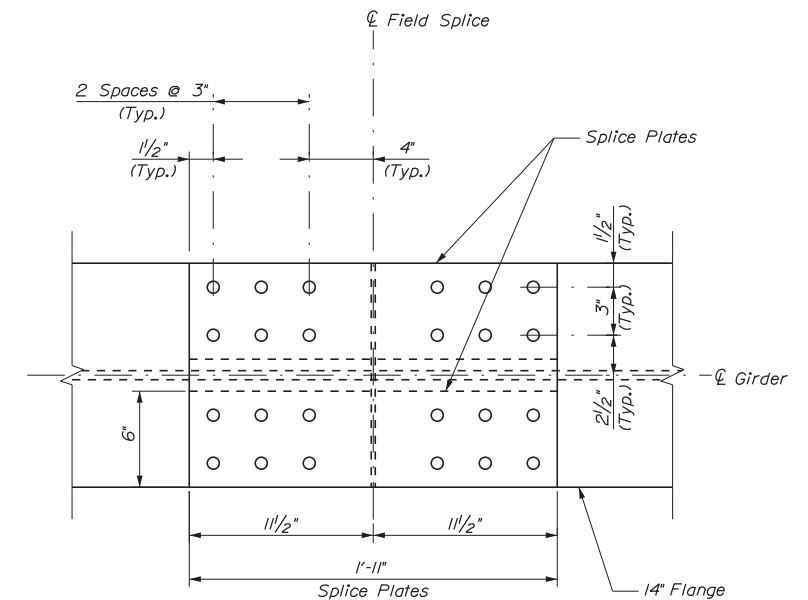
Filename: ...MSTAN\PlanSet\065_beam_01.dgn



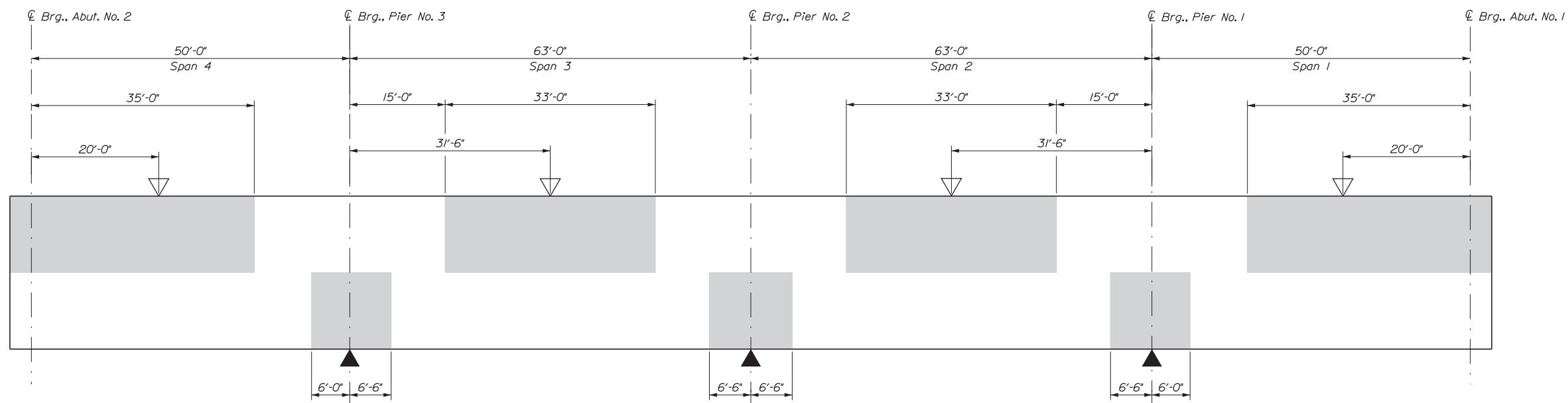
BOLTED FIELD SPLICE ELEVATION
Not to Scale



SECTION A-A
Not to Scale



VIEW B-B
Not to Scale



SCHEMATIC GIRDER STRESS DIAGRAM
Not to Scale

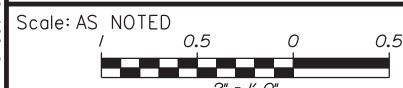
KEY:



Indicates Areas Always in Compression.
All Other Areas are in Tension or have
Stress Reversals.

▽ Point of Maximum Positive Moment

▲ Point of Maximum Negative Moment



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

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

MTA PROJECT MANAGER: Ralph Norwood, IV

**SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS**

FIELD SPLICE AND STRESS DIAGRAM

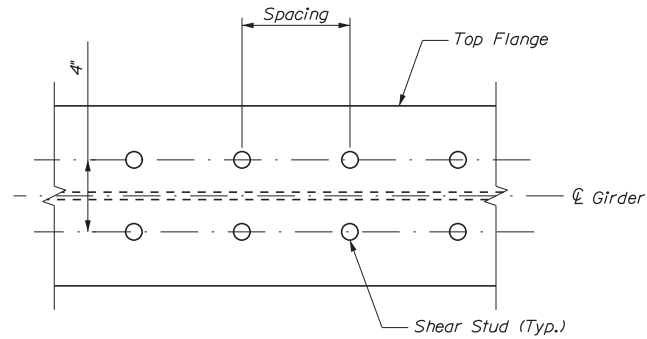
VHB: 55106.00

SHEET NUMBER: 65

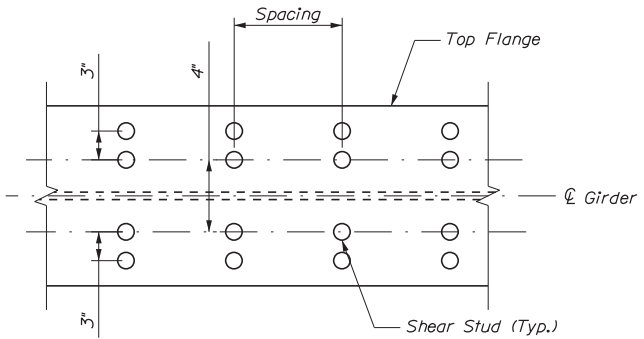
CONTRACT: 2017.04

65 OF 84

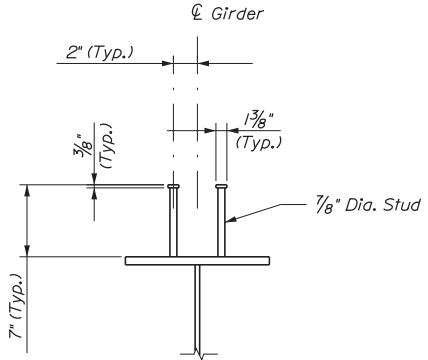
Date:1/20/2017



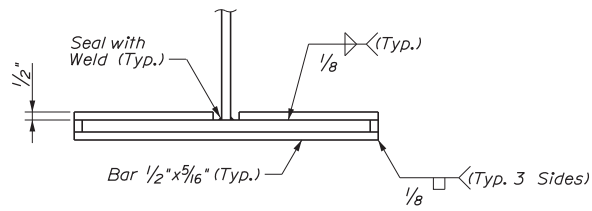
SHEAR CONNECTOR LAYOUT G3
(Adjust Shear Connector Spacing as Required Around Splice Plate Bolts)
Not to Scale



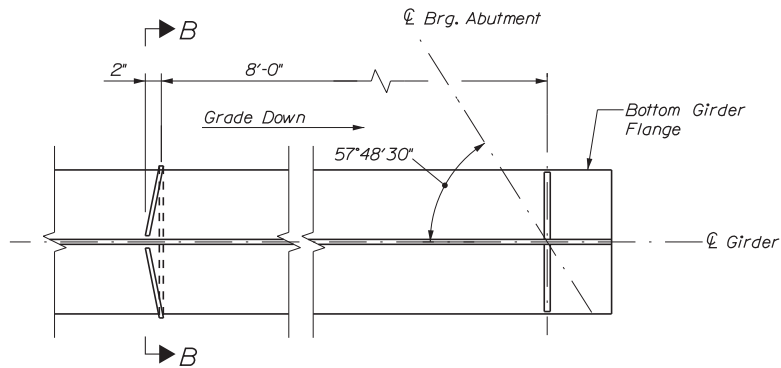
SHEAR CONNECTOR LAYOUT G1, G2, G4, G5
(Adjust Shear Connector Spacing as Required Around Splice Plate Bolts)
Not to Scale



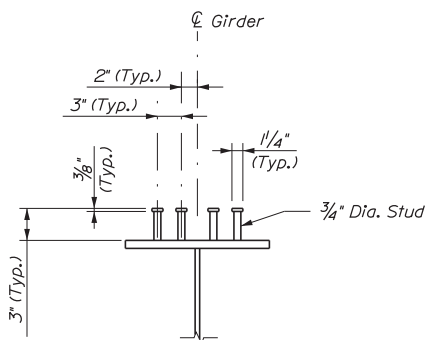
SHEAR CONNECTOR DETAIL - G3
Not to Scale



SECTION B-B
Not to Scale



FLANGE DRIP BAR DETAIL
(Abutment Location Shown, Pier Location Similar)
Not to Scale



SHEAR CONNECTOR DETAIL - G1, G2, G4, G5
Not to Scale

Filename: ...\\MSTAN\\PlanSet\\066_beam_02.dgn



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph Norwood, IV

**SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS**

MISCELLANEOUS GIRDER DETAILS

Date:1/20/2017

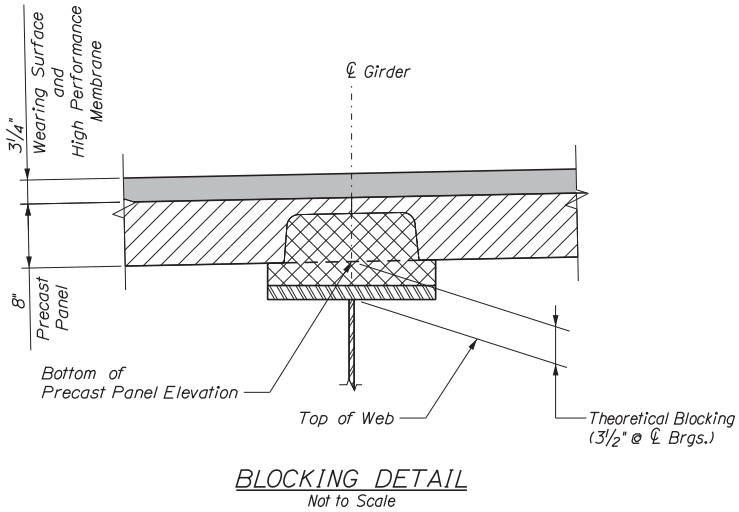
Filename: ...\\MSTA\\PlanSet\\067_table_01.dgn

TABLE OF DEFLECTIONS (in)												
Girder	Load	Span No. 4										
		10/10	9/10	8/10	7/10	6/10	5/10	4/10	3/10	2/10	1/10	0/10
G1 & G5	Steel Dead Load	0.00	-0.02	-0.04	-0.05	-0.06	-0.06	-0.05	-0.03	-0.02	0.00	0.00
	Precast Panel Dead Load	0.00	-0.11	-0.21	-0.27	-0.30	-0.28	-0.24	-0.17	-0.09	-0.02	0.00
	UHPC Dead Load	0.00	-0.02	-0.05	-0.06	-0.07	-0.06	-0.05	-0.04	-0.02	-0.01	0.00
	Superimposed Dead Load	0.00	-0.02	-0.04	-0.06	-0.06	-0.06	-0.05	-0.04	-0.02	0.00	0.00
	Sum	0.00	-0.18	-0.33	-0.44	-0.48	-0.46	-0.39	-0.27	-0.15	-0.04	0.00
G2 & G4	Steel Dead Load	0.00	-0.02	-0.04	-0.06	-0.06	-0.06	-0.05	-0.03	-0.02	-0.01	0.00
	Precast Panel Dead Load	0.00	-0.13	-0.23	-0.30	-0.33	-0.32	-0.27	-0.19	-0.10	-0.03	0.00
	UHPC Dead Load	0.00	-0.03	-0.05	-0.06	-0.07	-0.07	-0.06	-0.04	-0.02	-0.01	0.00
	Superimposed Dead Load	0.00	-0.02	-0.04	-0.05	-0.06	-0.06	-0.05	-0.04	-0.02	0.00	0.00
	Sum	0.00	-0.20	-0.36	-0.48	-0.52	-0.50	-0.42	-0.30	-0.16	-0.04	0.00
G3	Steel Dead Load	0.00	-0.02	-0.04	-0.06	-0.06	-0.06	-0.05	-0.03	-0.02	-0.01	0.00
	Precast Panel Dead Load	0.00	-0.12	-0.22	-0.29	-0.32	-0.31	-0.26	-0.18	-0.10	-0.03	0.00
	UHPC Dead Load	0.00	-0.03	-0.06	-0.07	-0.08	-0.08	-0.06	-0.05	-0.02	-0.01	0.00
	Superimposed Dead Load	0.00	-0.02	-0.04	-0.05	-0.06	-0.06	-0.05	-0.04	-0.02	0.00	0.00
	Sum	0.00	-0.20	-0.36	-0.48	-0.53	-0.50	-0.42	-0.30	-0.16	-0.04	0.00
Girder	Load	Span No. 3										
		10/10	9/10	8/10	7/10	6/10	5/10	4/10	3/10	2/10	1/10	0/10
G1 & G5	Steel Dead Load	0.00	-0.01	-0.03	-0.05	-0.07	-0.08	-0.07	-0.05	-0.03	-0.01	0.00
	Precast Panel Dead Load	0.00	-0.06	-0.16	-0.28	-0.36	-0.38	-0.35	-0.27	-0.16	-0.05	0.00
	UHPC Dead Load	0.00	-0.01	-0.04	-0.06	-0.08	-0.09	-0.08	-0.06	-0.03	-0.01	0.00
	Superimposed Dead Load	0.00	-0.02	-0.05	-0.08	-0.10	-0.11	-0.10	-0.08	-0.05	-0.02	0.00
	Sum	0.00	-0.10	-0.29	-0.47	-0.61	-0.65	-0.60	-0.46	-0.27	-0.09	0.00
G2 & G4	Steel Dead Load	0.00	-0.01	-0.03	-0.06	-0.07	-0.08	-0.07	-0.06	-0.03	-0.01	0.00
	Precast Panel Dead Load	0.00	-0.06	-0.19	-0.31	-0.40	-0.43	-0.40	-0.30	-0.18	-0.06	0.00
	UHPC Dead Load	0.00	-0.01	-0.04	-0.06	-0.08	-0.09	-0.08	-0.06	-0.04	-0.01	0.00
	Superimposed Dead Load	0.00	-0.02	-0.05	-0.08	-0.10	-0.11	-0.10	-0.08	-0.05	-0.02	0.00
	Sum	0.00	-0.11	-0.31	-0.51	-0.66	-0.71	-0.65	-0.50	-0.29	-0.09	0.00
G3	Steel Dead Load	0.00	-0.01	-0.03	-0.06	-0.07	-0.08	-0.07	-0.06	-0.03	-0.01	0.00
	Precast Panel Dead Load	0.00	-0.06	-0.18	-0.30	-0.39	-0.42	-0.38	-0.29	-0.17	-0.05	0.00
	UHPC Dead Load	0.00	-0.02	-0.04	-0.08	-0.10	-0.10	-0.10	-0.07	-0.04	-0.01	0.00
	Superimposed Dead Load	0.00	-0.02	-0.05	-0.08	-0.10	-0.11	-0.10	-0.08	-0.05	-0.02	0.00
	Sum	0.00	-0.11	-0.31	-0.52	-0.66	-0.71	-0.65	-0.50	-0.29	-0.09	0.00

TABLE OF DEFLECTIONS (in)												
Girder	Load	Span No. 2										
		10/10	9/10	8/10	7/10	6/10	5/10	4/10	3/10	2/10	1/10	0/10
G1 & G5	Steel Dead Load	0.00	-0.01	-0.03	-0.05	-0.07	-0.08	-0.07	-0.05	-0.03	-0.01	0.00
	Precast Panel Dead Load	0.00	-0.05	-0.16	-0.27	-0.35	-0.38	-0.36	-0.28	-0.16	-0.06	0.00
	UHPC Dead Load	0.00	-0.01	-0.03	-0.06	-0.08	-0.09	-0.08	-0.06	-0.04	-0.01	0.00
	Superimposed Dead Load	0.00	-0.02	-0.05	-0.08	-0.10	-0.11	-0.10	-0.08	-0.05	-0.02	0.00
	Sum	0.00	-0.09	-0.27	-0.46	-0.60	-0.65	-0.61	-0.47	-0.29	-0.10	0.00
G2 & G4	Steel Dead Load	0.00	-0.01	-0.03	-0.06	-0.07	-0.08	-0.07	-0.06	-0.03	-0.01	0.00
	Precast Panel Dead Load	0.00	-0.06	-0.18	-0.30	-0.40	-0.43	-0.40	-0.31	-0.19	-0.06	0.00
	UHPC Dead Load	0.00	-0.01	-0.04	-0.06	-0.08	-0.09	-0.08	-0.06	-0.04	-0.01	0.00
	Superimposed Dead Load	0.00	-0.02	-0.05	-0.08	-0.10	-0.11	-0.10	-0.08	-0.05	-0.02	0.00
	Sum	0.00	-0.09	-0.29	-0.50	-0.65	-0.71	-0.66	-0.51	-0.31	-0.11	0.00
G3	Steel Dead Load	0.00	-0.01	-0.03	-0.06	-0.07	-0.08	-0.07	-0.06	-0.03	-0.01	0.00
	Precast Panel Dead Load	0.00	-0.05	-0.17	-0.29	-0.38	-0.42	-0.39	-0.30	-0.18	-0.06	0.00
	UHPC Dead Load	0.00	-0.01	-0.04	-0.07	-0.10	-0.10	-0.10	-0.08	-0.04	-0.02	0.00
	Superimposed Dead Load	0.00	-0.02	-0.05	-0.08	-0.10	-0.11	-0.10	-0.08	-0.05	-0.02	0.00
	Sum	0.00	-0.09	-0.29	-0.50	-0.65	-0.71	-0.66	-0.52	-0.31	-0.11	0.00
Girder	Load	Span No. 1										
		10/10	9/10	8/10	7/10	6/10	5/10	4/10	3/10	2/10	1/10	0/10
G1 & G5	Steel Dead Load	0.00	0.00	-0.02	-0.03	-0.05	-0.06	-0.06	-0.05	-0.04	-0.02	0.00
	Precast Panel Dead Load	0.00	-0.02	-0.09	-0.17	-0.24	-0.28	-0.30	-0.27	-0.21	-0.11	0.00
	UHPC Dead Load	0.00	-0.01	-0.02	-0.04	-0.05	-0.06	-0.07	-0.06	-0.05	-0.02	0.00
	Superimposed Dead Load	0.00	0.00	-0.02	-0.04	-0.05	-0.06	-0.06	-0.06	-0.04	-0.02	0.00
	Sum	0.00	-0.04	-0.15	-0.27	-0.39	-0.46	-0.48	-0.44	-0.33	-0.18	0.00
G2 & G4	Steel Dead Load	0.00	-0.01	-0.02	-0.03	-0.05	-0.06	-0.06	-0.06	-0.04	-0.02	0.00
	Precast Panel Dead Load	0.00	-0.03	-0.10	-0.19	-0.27	-0.32	-0.33	-0.30	-0.23	-0.13	0.00
	UHPC Dead Load	0.00	-0.01	-0.02	-0.04	-0.06	-0.07	-0.07	-0.06	-0.05	-0.03	0.00
	Superimposed Dead Load	0.00	0.00	-0.02	-0.04	-0.05	-0.06	-0.06	-0.05	-0.04	-0.02	0.00
	Sum	0.00	-0.04	-0.16	-0.30	-0.42	-0.50	-0.52	-0.48	-0.36	-0.20	0.00
G3	Steel Dead Load	0.00	-0.01	-0.02	-0.03	-0.05	-0.06	-0.06	-0.06	-0.04	-0.02	0.00
	Precast Panel Dead Load	0.00	-0.03	-0.10	-0.18	-0.26	-0.31	-0.32	-0.29	-0.22	-0.12	0.00
	UHPC Dead Load	0.00	-0.01	-0.02	-0.05	-0.06	-0.08	-0.08	-0.07	-0.06	-0.03	0.00
	Superimposed Dead Load	0.00	0.00	-0.02	-0.04	-0.05	-0.06	-0.06	-0.05	-0.04	-0.02	0.00
	Sum	0.00	-0.04	-0.16	-0.30	-0.42	-0.50	-0.53	-0.48	-0.36	-0.20	0.00

NOTE

The camber due to the weight of the curb was included with the camber for the "Precast Panel Dead Load".
If the contractor elects to cast-in-place the curbs the engineer shall be notified so that this table can be revised.



Scale: AS NOTED

Designed by:



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THE GOLD STAR
MEMORIAL HIGHWAY

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

TABLE OF DEFLECTIONS

VHB: 55106.00

SHEET NUMBER: 67

CONTRACT: 2017.04

67 OF 84

MTA PROJECT MANAGER: Ralph Norwood, IV

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

Date:1/20/2017

Filename: ...MSTA\Planset\068_camber_01.dgn

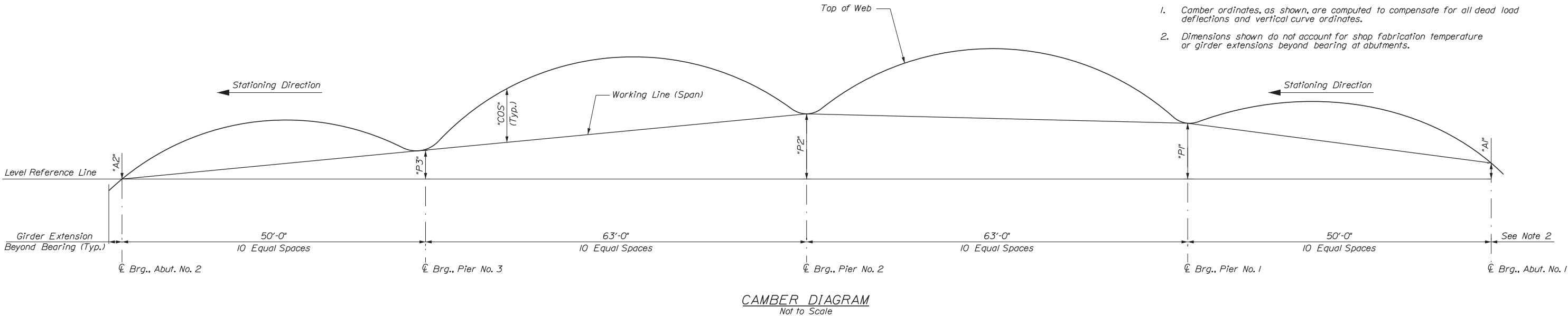
TABLE OF CAMBER ORDINATES PER SPAN ("COS") (in) @ 10TH POINTS											
Span No. 4											
Girder	℄ Brg., Abut. No. 2	4.90	4.80	4.70	4.60	4.50	4.40	4.30	4.20	4.10	℄ Brg., Pier No. 3
1	0.00	0.39	0.71	0.93	1.05	1.05	0.96	0.77	0.53	0.25	0.00
2	0.00	0.41	0.74	0.97	1.09	1.10	0.99	0.80	0.54	0.26	0.00
3	0.00	0.41	0.74	0.97	1.09	1.10	0.99	0.80	0.54	0.26	0.00
4	0.00	0.41	0.74	0.97	1.09	1.10	0.99	0.80	0.54	0.26	0.00
5	0.00	0.39	0.71	0.93	1.05	1.05	0.96	0.77	0.53	0.25	0.00
Span No. 3											
Girder	℄ Brg., Pier No. 3	3.90	3.80	3.70	3.60	3.50	3.40	3.30	3.20	3.10	℄ Brg., Pier No. 2
1	0.00	0.44	0.89	1.26	1.51	1.59	1.50	1.25	0.87	0.42	0.00
2	0.00	0.45	0.91	1.30	1.56	1.65	1.55	1.29	0.89	0.43	0.00
3	0.00	0.45	0.91	1.30	1.56	1.65	1.55	1.29	0.89	0.43	0.00
4	0.00	0.45	0.91	1.30	1.56	1.65	1.55	1.29	0.89	0.43	0.00
5	0.00	0.44	0.89	1.26	1.51	1.59	1.50	1.25	0.87	0.42	0.00
Span No. 2											
Girder	℄ Brg., Pier No. 2	2.90	2.80	2.70	2.60	2.50	2.40	2.30	2.20	2.10	℄ Brg., Pier No. 1
1	0.00	0.42	0.87	1.25	1.50	1.59	1.51	1.26	0.89	0.44	0.00
2	0.00	0.43	0.89	1.29	1.55	1.65	1.56	1.30	0.91	0.45	0.00
3	0.00	0.43	0.89	1.29	1.55	1.65	1.56	1.30	0.91	0.45	0.00
4	0.00	0.43	0.89	1.29	1.55	1.65	1.56	1.30	0.91	0.45	0.00
5	0.00	0.42	0.87	1.25	1.50	1.59	1.51	1.26	0.89	0.44	0.00
Span No. 1											
Girder	℄ Brg., Pier No. 1	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	℄ Brg., Abut. No. 1
1	0.00	0.25	0.53	0.77	0.96	1.05	1.05	0.93	0.71	0.39	0.00
2	0.00	0.26	0.54	0.80	0.99	1.10	1.09	0.97	0.74	0.41	0.00
3	0.00	0.26	0.54	0.80	0.99	1.10	1.09	0.97	0.74	0.41	0.00
4	0.00	0.26	0.54	0.80	0.99	1.10	1.09	0.97	0.74	0.41	0.00
5	0.00	0.25	0.53	0.77	0.96	1.05	1.05	0.93	0.71	0.39	0.00

TABLE OF CAMBER DIMENSIONS (ft)					
Girder	A2	P3	P2	P1	A1
1	0.00	0.83	1.31	1.17	0.61
2	0.00	0.86	1.39	1.29	0.76
3	0.00	0.90	1.47	1.41	0.91
4	0.00	0.93	1.54	1.52	1.06
5	0.00	0.96	1.62	1.64	1.21

BOTTOM OF SLAB ELEVATIONS @ 10TH POINTS											
Span No. 4											
Girder	℄ Brg., Abut. No. 2	4.90	4.80	4.70	4.60	4.50	4.40	4.30	4.20	4.10	℄ Brg., Pier No. 3
1	252.91	253.02	253.13	253.23	253.33	253.41	253.48	253.55	253.62	253.68	253.74
2	252.96	253.08	253.19	253.29	253.39	253.47	253.55	253.62	253.69	253.75	253.82
3	253.00	253.12	253.24	253.35	253.44	253.54	253.62	253.69	253.76	253.83	253.90
4	252.77	252.90	253.02	253.13	253.23	253.32	253.41	253.49	253.56	253.63	253.70
5	252.54	252.67	252.79	252.90	253.01	253.10	253.19	253.27	253.35	253.43	253.50
Span No. 3											
Girder	℄ Brg., Pier No. 3	3.90	3.80	3.70	3.60	3.50	3.40	3.30	3.20	3.10	℄ Brg., Pier No. 2
1	253.74	253.82	253.91	253.99	254.05	254.11	254.15	254.18	254.20	254.21	254.22
2	253.82	253.91	254.00	254.08	254.15	254.21	254.26	254.29	254.31	254.33	254.35
3	253.90	253.99	254.08	254.17	254.25	254.31	254.36	254.40	254.42	254.44	254.47
4	253.70	253.80	253.90	253.99	254.07	254.14	254.19	254.23	254.26	254.29	254.31
5	253.50	253.60	253.70	253.80	253.88	253.96	254.01	254.06	254.09	254.12	254.16
Span No. 2											
Girder	℄ Brg., Pier No. 2	2.90	2.80	2.70	2.60	2.50	2.40	2.30	2.20	2.10	℄ Brg., Pier No. 1
1	254.22	254.24	254.26	254.28	254.29	254.28	254.26	254.22	254.18	254.13	254.08
2	254.35	254.37	254.40	254.42	254.43	254.43	254.41	254.38	254.34	254.29	254.24
3	254.47	254.49	254.53	254.55	254.56	254.57	254.55	254.53	254.49	254.45	254.41
4	254.31	254.35	254.38	254.41	254.43	254.43	254.43	254.40	254.37	254.33	254.29
5	254.16	254.19	254.23	254.26	254.28	254.29	254.29	254.27	254.25	254.21	254.18
Span No. 1											
Girder	℄ Brg., Pier No. 1	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	℄ Brg., Abut. No. 1
1	254.08	254.04	254.01	253.97	253.93	253.88	253.82	253.76	253.69	253.60	253.52
2	254.24	254.21	254.18	254.15	254.11	254.07	254.01	253.95	253.88	253.80	253.72
3	254.41	254.38	254.35	254.32	254.29	254.24	254.19	254.14	254.07	253.99	253.91
4	254.29	254.27	254.25	254.22	254.19	254.15	254.10	254.05	253.98	253.91	253.83
5	254.18	254.16	254.14	254.11	254.08	254.05	254.01	253.95	253.89	253.83	253.75

CAMBER NOTES

1. Camber ordinates, as shown, are computed to compensate for all dead load deflections and vertical curve ordinates.
2. Dimensions shown do not account for shop fabrication temperature or girder extensions beyond bearing at abutments.



Scale: AS NOTED

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THE GOLD STAR
MEMORIAL HIGHWAY

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
TOP OF PRECAST PANEL ELEVATIONS
AND CAMBER ORDINATES AND DIAGRAM

VHB: 55106.00

SHEET NUMBER: 68

CONTRACT: 2017.04

68 OF 84

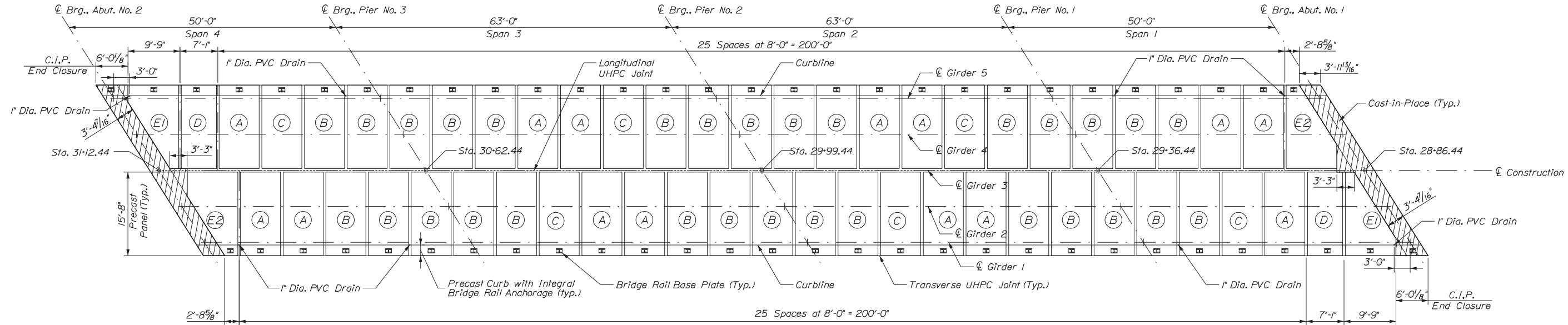
CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

MTA PROJECT MANAGER: Ralph Norwood, IV

Date:1/20/2017

Filename: ...\\069_Deck-Panels_Plan_01.dgn



TOP OF PRECAST PANEL ELEVATIONS @ 10TH POINTS											
Span No. 4											
Girder	℄ Brg., Abut. No. 2	4.90	4.80	4.70	4.60	4.50	4.40	4.30	4.20	4.10	℄ Brg., Pier No. 3
1	253.58	253.68	253.78	253.88	253.97	254.05	254.13	254.21	254.28	254.34	254.41
2	253.62	253.73	253.83	253.93	254.03	254.11	254.20	254.28	254.35	254.42	254.49
3	253.67	253.78	253.89	253.99	254.08	254.18	254.26	254.34	254.42	254.49	254.56
4	253.44	253.55	253.66	253.77	253.87	253.96	254.05	254.14	254.22	254.29	254.37
5	253.20	253.32	253.44	253.55	253.65	253.75	253.84	253.93	254.01	254.09	254.17
Span No. 3											
Girder	℄ Brg., Pier No. 3	3.90	3.80	3.70	3.60	3.50	3.40	3.30	3.20	3.10	℄ Brg., Pier No. 2
1	254.41	254.49	254.56	254.63	254.69	254.74	254.79	254.82	254.85	254.87	254.89
2	254.49	254.57	254.65	254.72	254.79	254.84	254.89	254.93	254.96	254.99	255.01
3	254.56	254.65	254.74	254.81	254.88	254.94	255.00	255.04	255.08	255.11	255.13
4	254.37	254.46	254.55	254.63	254.70	254.77	254.82	254.87	254.91	254.95	254.98
5	254.17	254.27	254.36	254.44	254.52	254.59	254.65	254.70	254.75	254.79	254.82
Span No. 2											
Girder	℄ Brg., Pier No. 2	2.90	2.80	2.70	2.60	2.50	2.40	2.30	2.20	2.10	℄ Brg., Pier No. 1
1	254.89	254.91	254.92	254.92	254.92	254.91	254.89	254.87	254.83	254.79	254.75
2	255.01	255.03	255.05	255.06	255.06	255.06	255.04	255.02	254.99	254.95	254.91
3	255.13	255.16	255.18	255.19	255.20	255.20	255.19	255.17	255.14	255.11	255.07
4	254.98	255.01	255.03	255.05	255.06	255.06	255.06	255.04	255.02	254.99	254.96
5	254.82	254.85	254.88	254.91	254.92	254.93	254.93	254.92	254.90	254.88	254.85
Span No. 1											
Girder	℄ Brg., Pier No. 1	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	℄ Brg., Abut. No. 1
1	254.75	254.71	254.67	254.63	254.58	254.52	254.47	254.40	254.34	254.26	254.18
2	254.91	254.88	254.84	254.80	254.76	254.71	254.65	254.59	254.53	254.46	254.38
3	255.07	255.04	255.01	254.97	254.93	254.89	254.83	254.78	254.72	254.65	254.58
4	254.96	254.93	254.90	254.87	254.83	254.79	254.74	254.69	254.63	254.57	254.50
5	254.85	254.82	254.80	254.77	254.73	254.69	254.65	254.60	254.54	254.48	254.42

SUPERSTRUCTURE PLAN
Scale: 1" = 10'-0"

PANEL ERECTION NOTES

- Contractor shall exercise care to ensure panels are located within 1/4"± longitudinal of the required panel position.
- Panels shall be secured to prevent moving or shifting prior to curing of UHPC girder haunches.
- Preset vertical adjustment assembly to anticipated height prior to placing panels on girders.
- Top of panel elevations shall be checked prior to placement of UHPC.
- Panels shall be aligned such that the back face of each curb form a straight line from end to end of the bridge.
- Panels shall be erected such that the back face of each curb is vertical once the panels are erected with Specified cross slope.
- Panels shall not be subjected to construction vehicle live load until the UHPC has been placed in all transverse and longitudinal joints and has achieved a minimum compressive strength of 14,500 psi.

UHPC PLACEMENT SEQUENCE

UHPC shall be placed in the positive moment regions prior to placement in the negative moment regions (See Field Splice and Stress Diagram sheet).

JS1000 shall be placed in the girder haunches first (Girders G1, G2, G4, G5). Contractor can choose either JS1000 or JS1212 in the exposed transverse and longitudinal joints.

PANEL HEIGHT ADJUSTMENT PROCEDURE

- Pre-adjust leveling devices based on blocking distances.
- Set panels in place along girders.
- Make final adjustments to panel height using leveling screws. If more than 1/2" of movement is required, the panel must be re-supported by the crane prior to adjusting the leveling screws.
- Once proper elevation is verified, confirm all leveling devices are snug and in contact with girder flanges.

NOTES

- The panel layout and dimensions provided are suggested and may be modified with the Engineer's approval. Final panel layout and dimensions shall be shown on precast panel shop drawings.
- All dimensions provided are plan dimensions. The fabrication dimensions accounting for the profile and slope of the proposed deck shall be shown in the precast panel shop drawings.
- UHPC shall reach a minimum compressive strength of 14.5 ksi prior to applying the wearing surface.
- Form a V-groove on the fascias at the horizontal joint between the curb and slab.
- The theoretical blocking used for design of the structure is 3/2" from the top of the web at the centerline bearings of the abutments and piers.
- UHPC for girder haunches and panel joints shall be JS1000 or JS1212. Both UHPC mixes are manufactured by Lafarge. It is anticipated that the JS1000 will be the choice by the Contractor, however, the Contractor may propose an accelerated construction schedule for a quicker completion of the project by using the JS1212.
- Cast-in-place end closure placements at abutments may be cast after the precast panels have been placed.
- UHPC shall be placed as recommended by the manufacturer to minimize cold joints, and to strategically locate cold joints so that they do not interfere with structural performance.

CONCRETE QUANTITIES (CY)		
Precast Panel (Deck & Curb)	C.I.P. Closure Pour (Deck Only)	U.H.P.C. (Transverse, Longitudinal, Curb Joints + Girder Haunches)
183	9	41

LEGEND:

- Cast-In-Place (CIP) Closure Pour
- Precast Concrete Panel ID

Scale: 1" = 10'-0"			
No.	Revision	By	Date

Designed by: 			
CONSULTANT PROJECT MANAGER: T. Bryant			
	By	Date	
Designed	AFP	1/2017	Checked
Drawn	DPD	1/2017	In Charge of

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THE GOLD STAR
MEMORIAL HIGHWAY

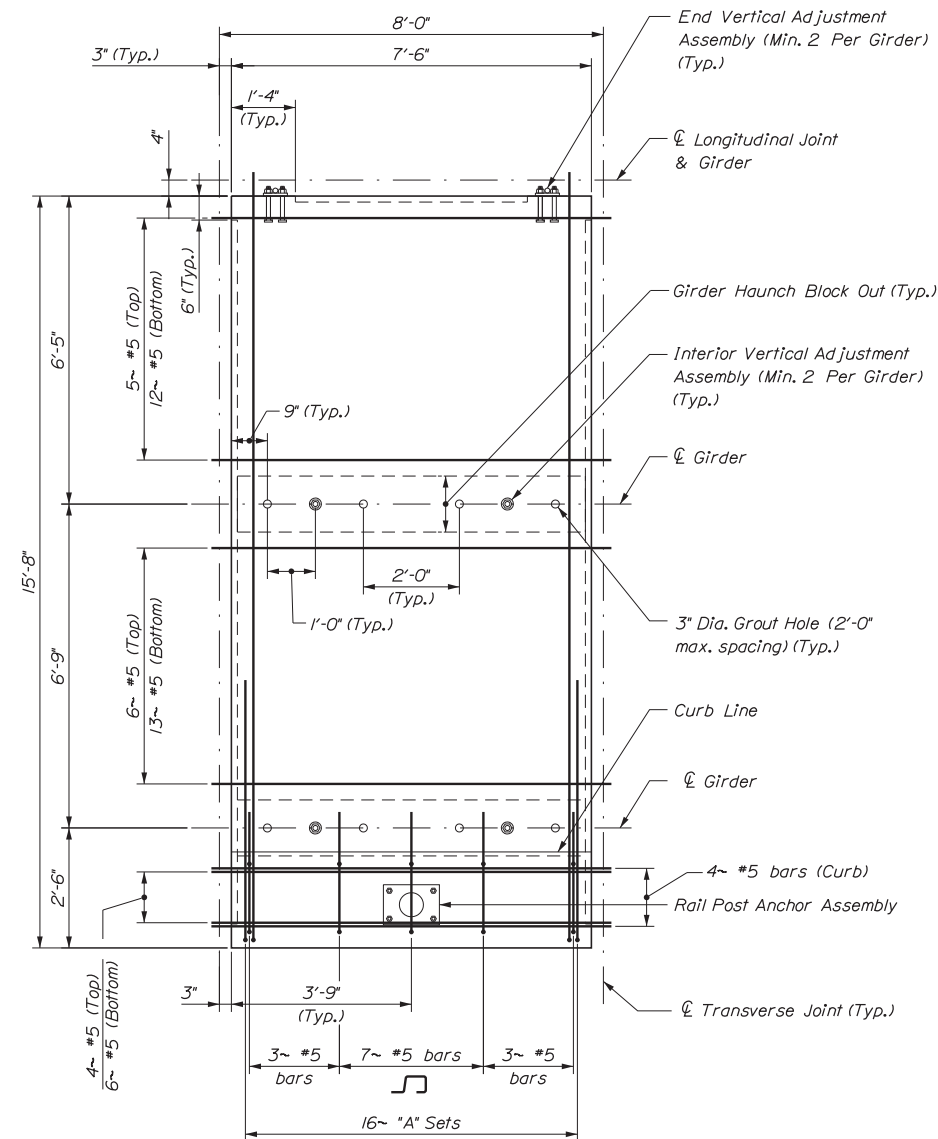
MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

DECK PANEL LAYOUT PLAN

VHB: 55106.00
CONTRACT: 2017.04

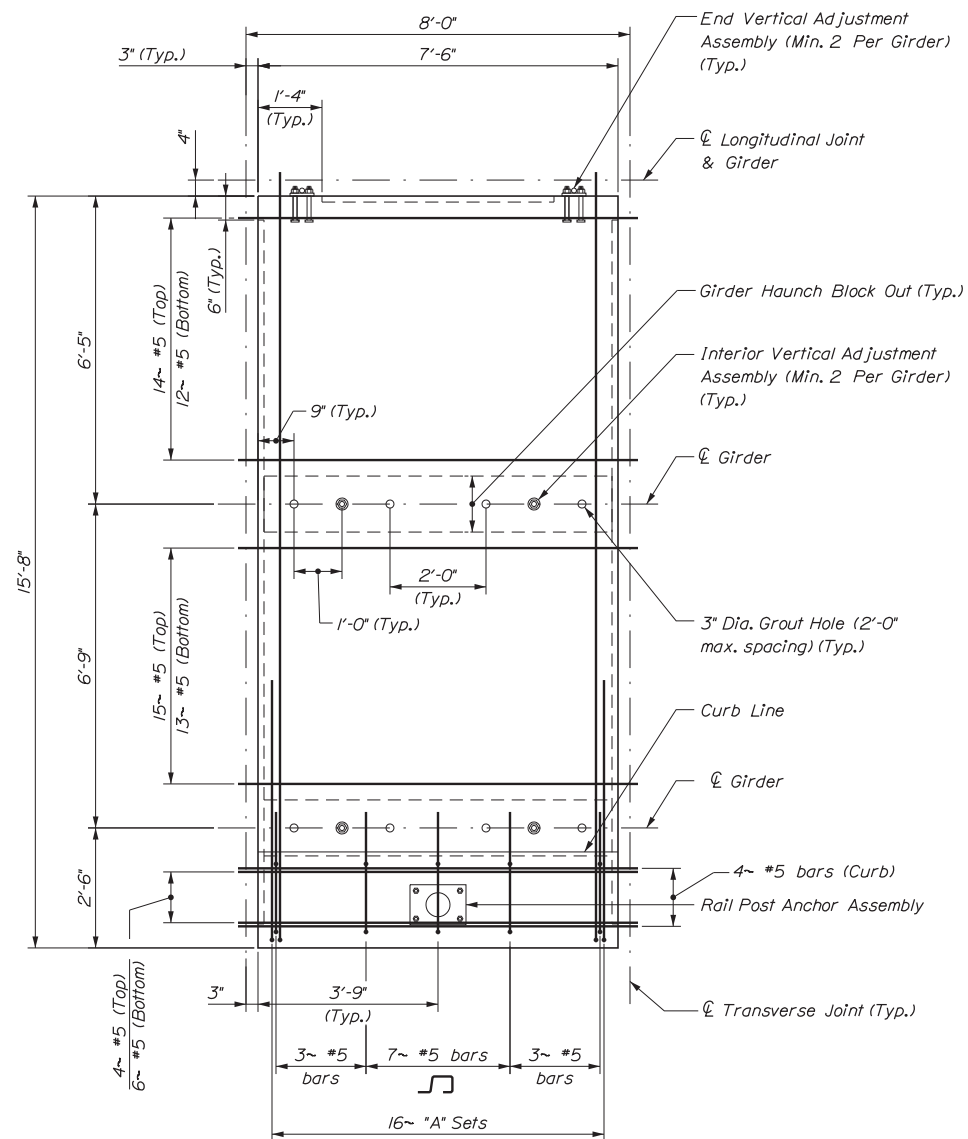
SHEET NUMBER: 69
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PANEL "A" - PLAN
Scale: $\frac{1}{2}" = 1'-0"$

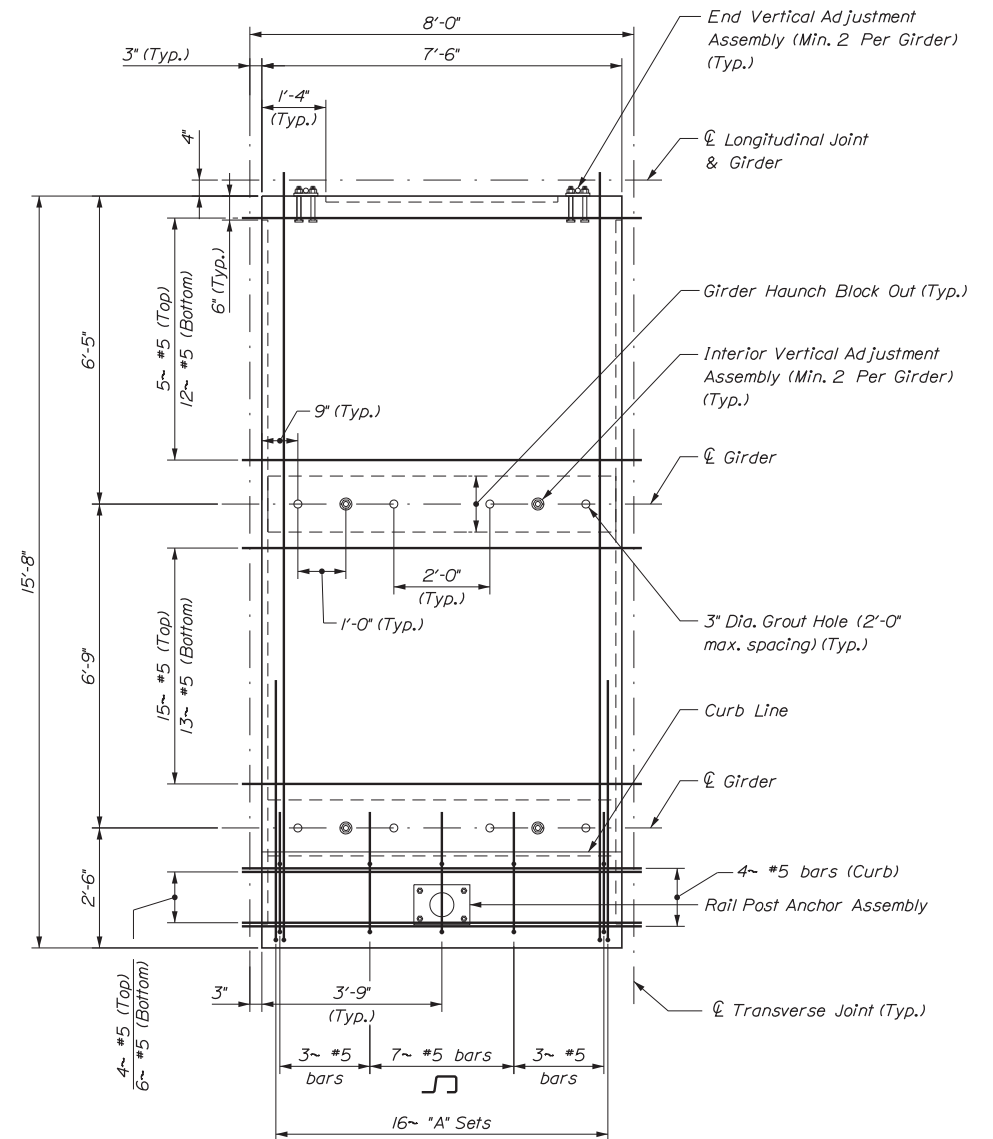
DECK PANEL NOTES

- 1. The details shown are suggested. Alternative details may be submitted for approval. Details and layout of vertical adjustment devices shall be signed and sealed by a Maine licensed Professional Engineer and submitted as part of the precast panel shop drawings.*
- 2. Bar reinforcing protruding from sides of panels shall be laterally offset (non-contract lap splice) from reinforcing in adjacent panels to allow lap splicing without field bending, bars may be offset up to one-half bar spacing.*
- 3. A machine or similar bolt shall provide smooth and detailed vertical adjustment to the panel after placement of the girders.*
- 4. The location, spacing, and final details of the vertical adjustment devices shall be designed for at least 50% more than the load of the precast panel, curb, and construction loading as determined by the Contractor.*



PANEL "B" - PLAN
Scale: $\frac{1}{2}" = 1'-0"$

5. The bolts for the vertical adjustment devices shall be completely removed. The voids shall be filled with an approved grout after the girder haunch has been placed and cured.
6. The cost of bridge rail post anchor assemblies vertical adjustment devices, including furnishing, installing, removing, and all work required for grouting voids shall be incidental to Pay item 535.302, Full Depth Concrete Deck Panels.
7. Contractor shall exercise care in lifting, handling, storing and transporting the precast deck panels to prevent cracking or damage. Panels shall have lifting devices as designed by a licensed Professional Engineer and approved by the Resident.
8. A set retarder shall be applied to all bulkheads and to all girder haunch blockouts. After form stripping, the set retarder shall be thoroughly cleaned off keyways and girder haunch blockouts using a water blast to create an exposed aggregate finish.



PANEL "C" - PLAN
Scale: $1/2" = 1'-0"$

REINFORCING BAR SETS		
Set	Number of bars in set	Bars
A	1	#6 
	1	#5 
	1	#5 

9. Panel surface shall be given a smooth bull float or wood float finish.
10. Mechanical couplers shall be provided on #5 straight and #5 bent bars in "B" sets along with straight #5 bars in "C" sets for panels E1 and E2.
11. Unless otherwise specified all deck reinforcing bars shall have the following minimum clear cover:
- Top cover: $2" (\cdot \frac{1}{4}" - 0")$
Bottom cover: $1\frac{3}{4}" (\cdot \frac{1}{8}" - 0")$
Side cover: $2" (\cdot \frac{1}{4}" - 0")$



No.	Revision	By	Date

Designed by:



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THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
DECK PANEL PLANS
(1 OF 2)

VHB:	55106.00
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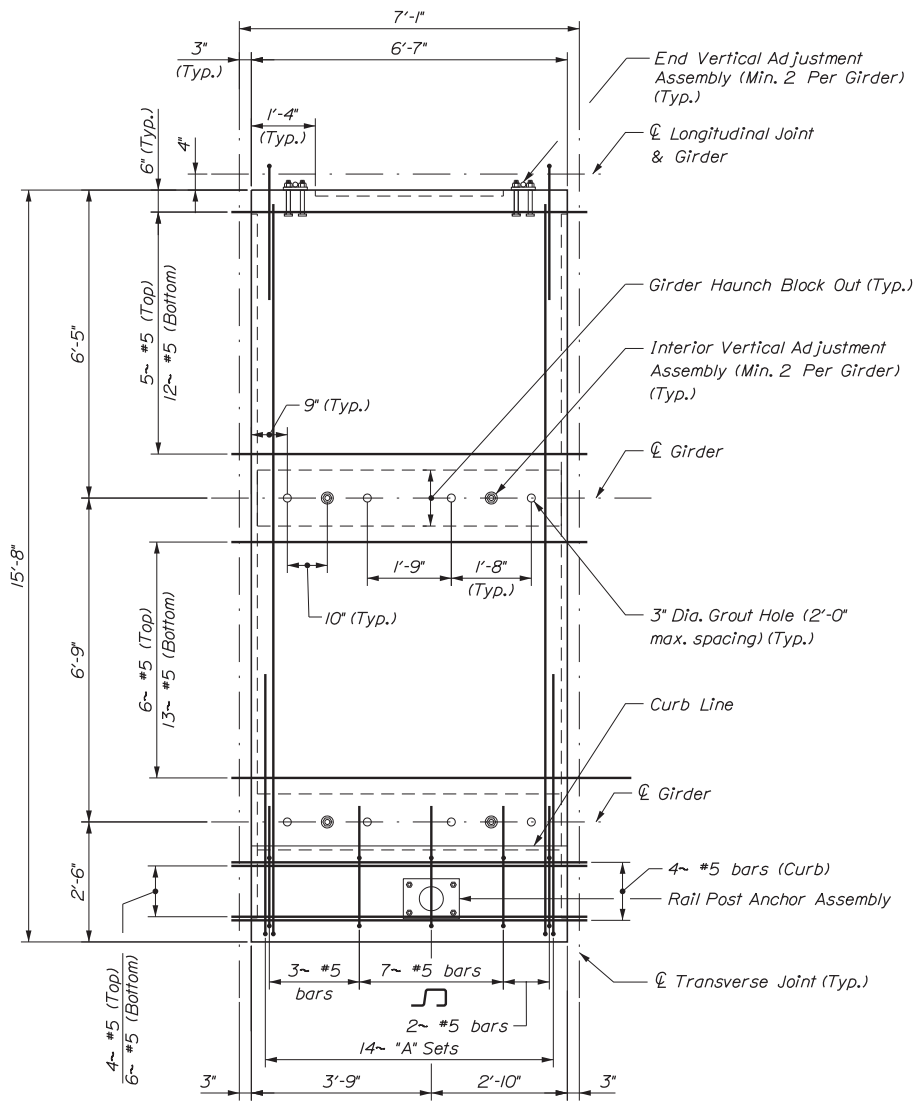
CONTRACT: 2017.04

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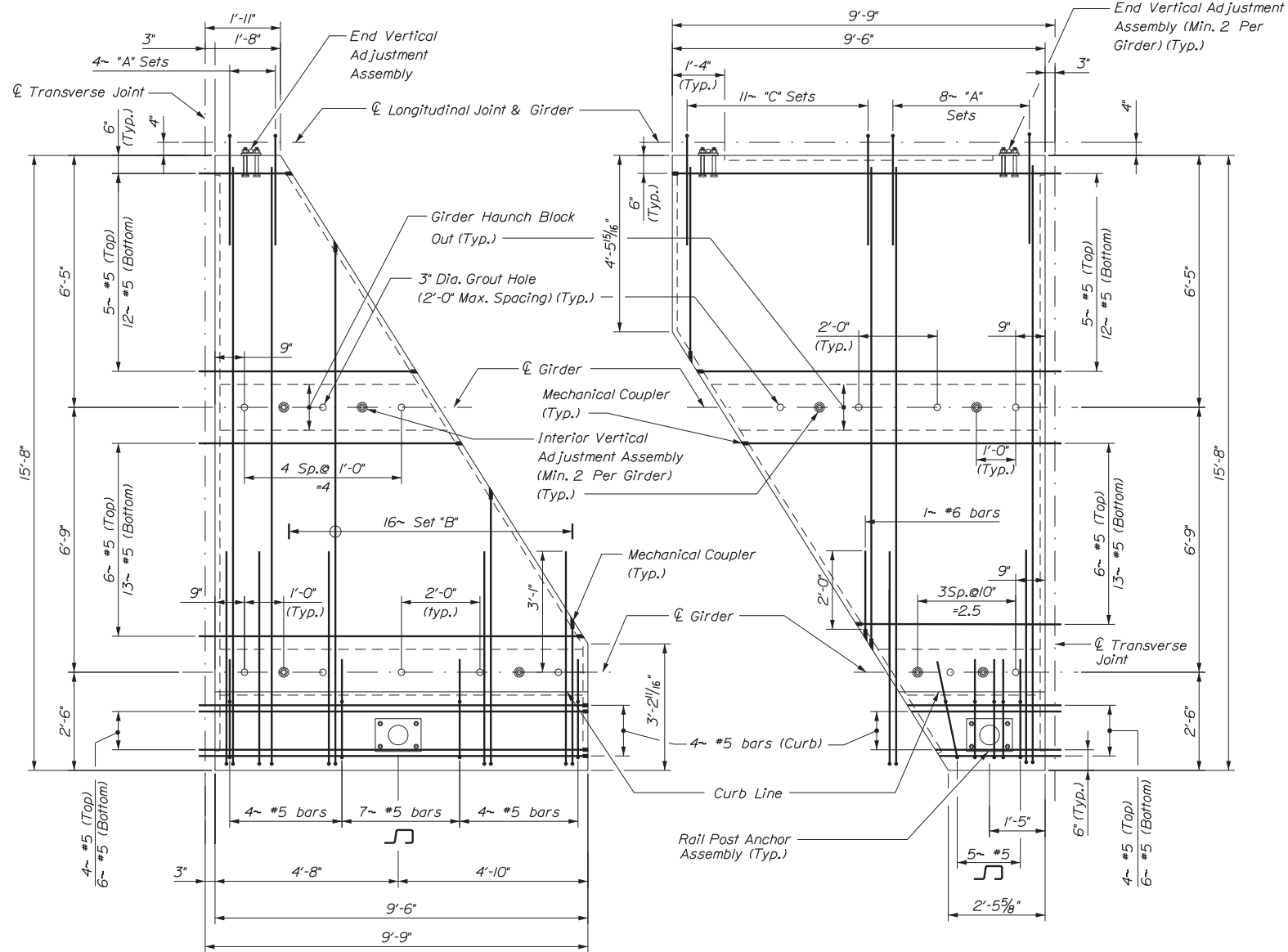
0 OF 84

Date:1/20/2017

Filename: ...PlanSet\071_Deck-Panels_02.dgn



PANEL "D" - PLAN
Scale: 1/2" = 1'-0"



PANEL "E1" - PLAN
Scale: 1/2" = 1'-0"

PANEL "E2" - PLAN
Scale: 1/2" = 1'-0"

SHEET NOTE

1. See Deck Panel Plans (1 of 2) Sheet for Deck Panel Notes.

REINFORCING BAR SETS		
Set	Number of bars in set	Bars
A	1	#6
	1	#5
	1	#5
B	1	#6
	1	#5
	1	#5
C	2	#5



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
DECK PANEL PLANS
(2 OF 2)

VHB: 55106.00

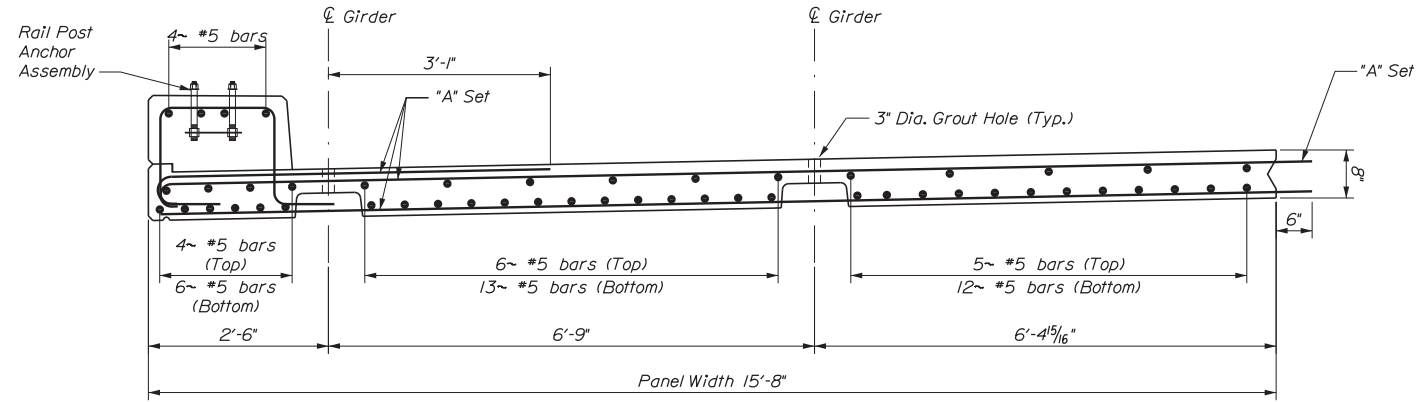
CONTRACT: 2017.04

SHEET NUMBER: 71

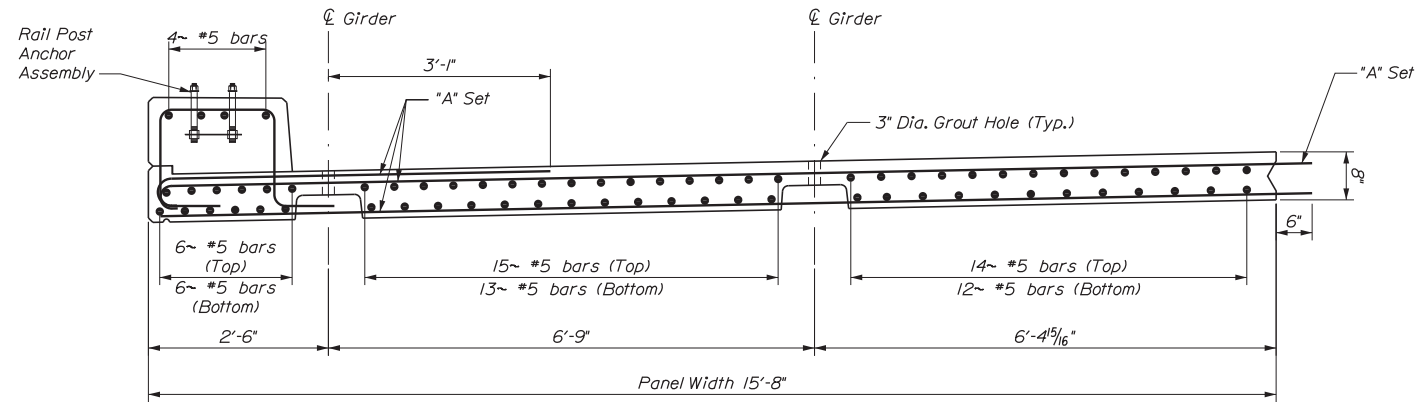
71 OF 84

Date: 1/20/2017

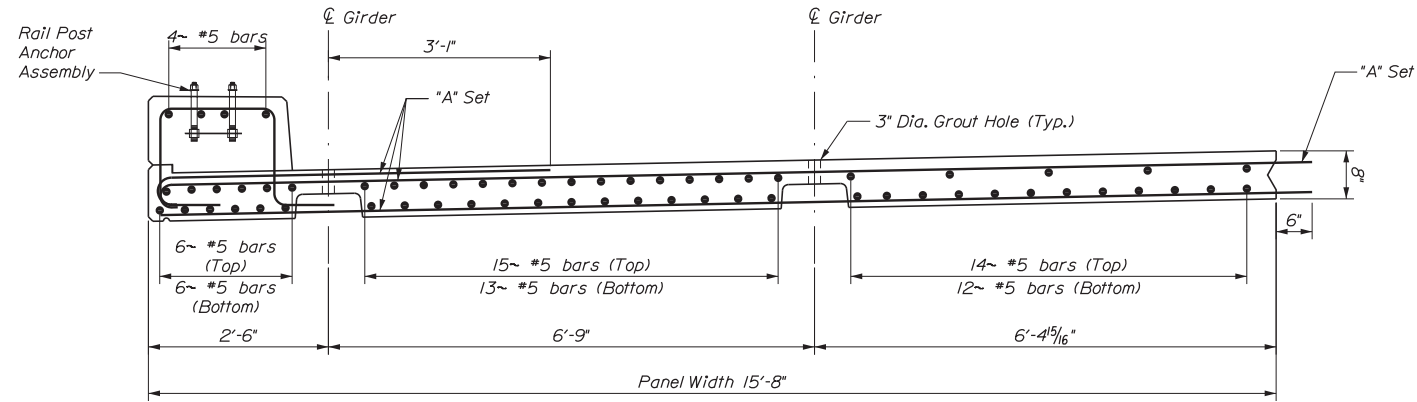
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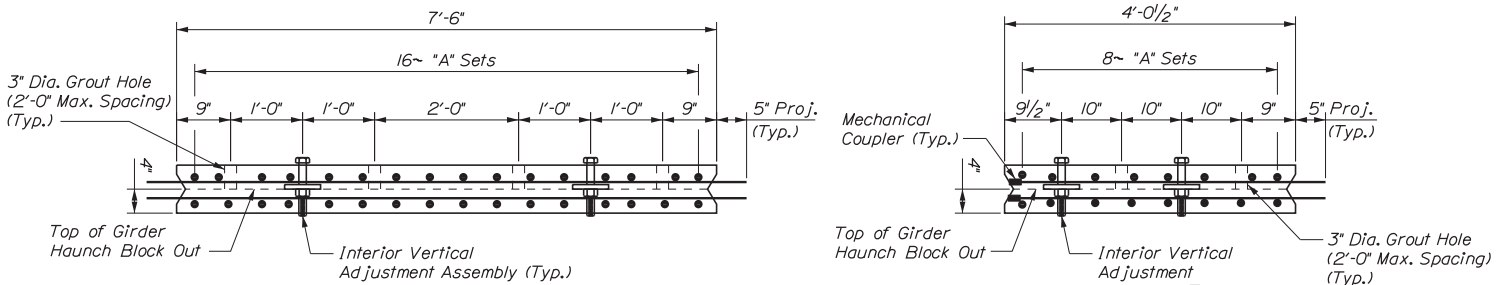
PANEL "A" - TRANSVERSE SECTION
(Panel "D", "E", and "E2" at full section similar)
Scale: 3/4" = 1'-0"



PANEL "B" - TRANSVERSE SECTION
Scale: 3/4" = 1'-0"

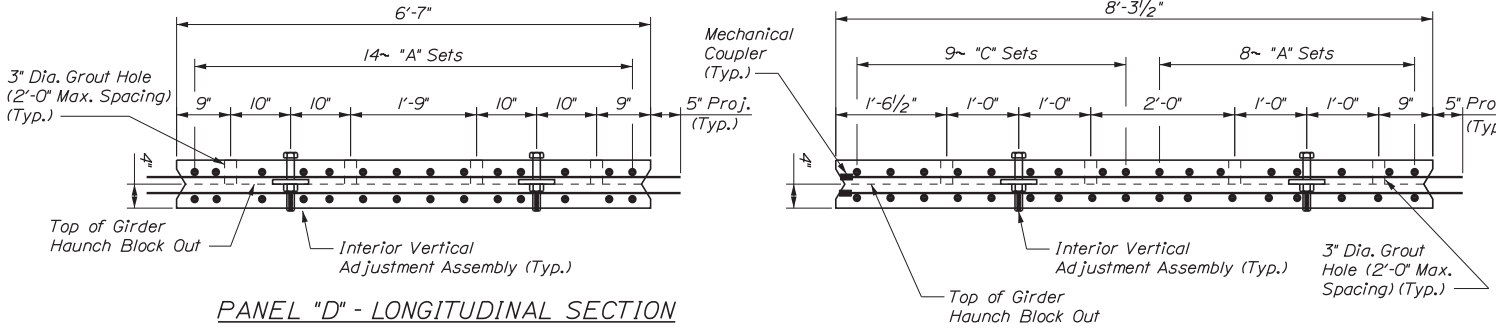


PANEL "C" - TRANSVERSE SECTION
Scale: 3/4" = 1'-0"



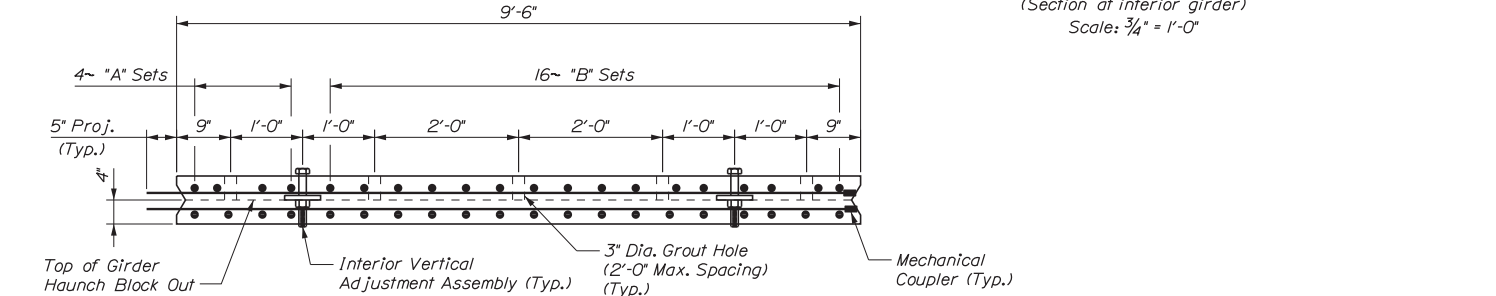
PANEL "A" - LONGITUDINAL SECTION
(Panel "B", and "C" similar)
Scale: 3/4" = 1'-0"

PANEL "E2" - LONGITUDINAL SECTION
(Section at exterior girder)
Scale: 3/4" = 1'-0"

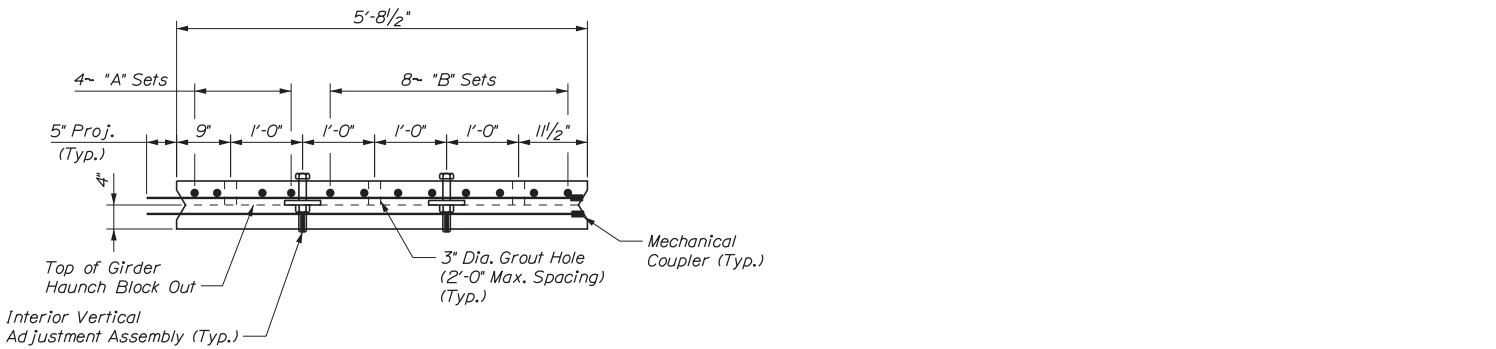


PANEL "D" - LONGITUDINAL SECTION
Scale: 3/4" = 1'-0"

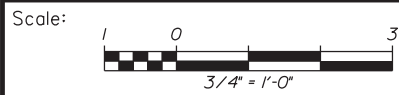
PANEL "E2" - LONGITUDINAL SECTION
(Section at interior girder)
Scale: 3/4" = 1'-0"



PANEL "E" - LONGITUDINAL SECTION
(Section at Exterior Girder)
Scale: 3/4" = 1'-0"



PANEL "E" - LONGITUDINAL SECTION
(Section at Interior Girder)
Scale: 3/4" = 1'-0"



No.	Revision	By	Date

Designed by: 					
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	By	Date		By	Date
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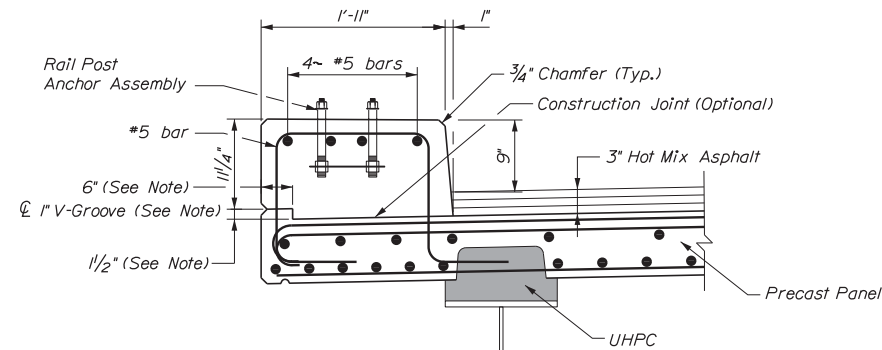
MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
DECK PANEL SECTIONS

VHB: 55106.00
CONTRACT: 2017.04
SHEET NUMBER: 72
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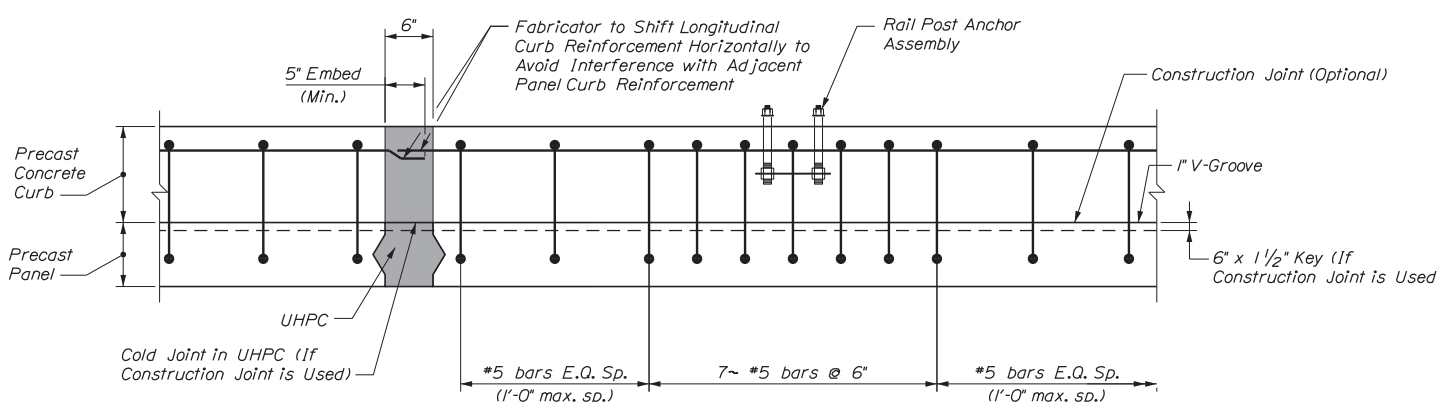
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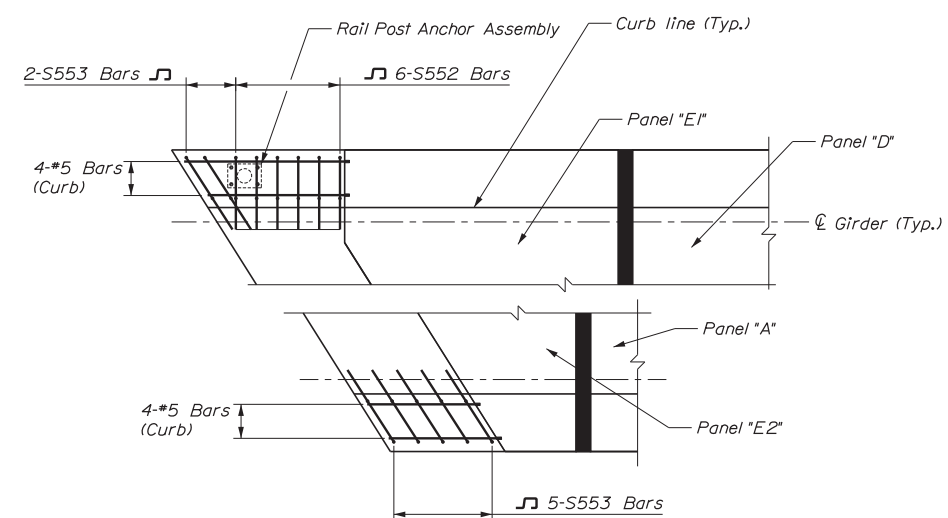


NOTE: Key in Deck Portion of Panel Required if Construction Joint is Used.
1" V-Groove Required with or without Construction Joint.

CONCRETE CURB DETAIL
Scale: 1" = 1'-0"

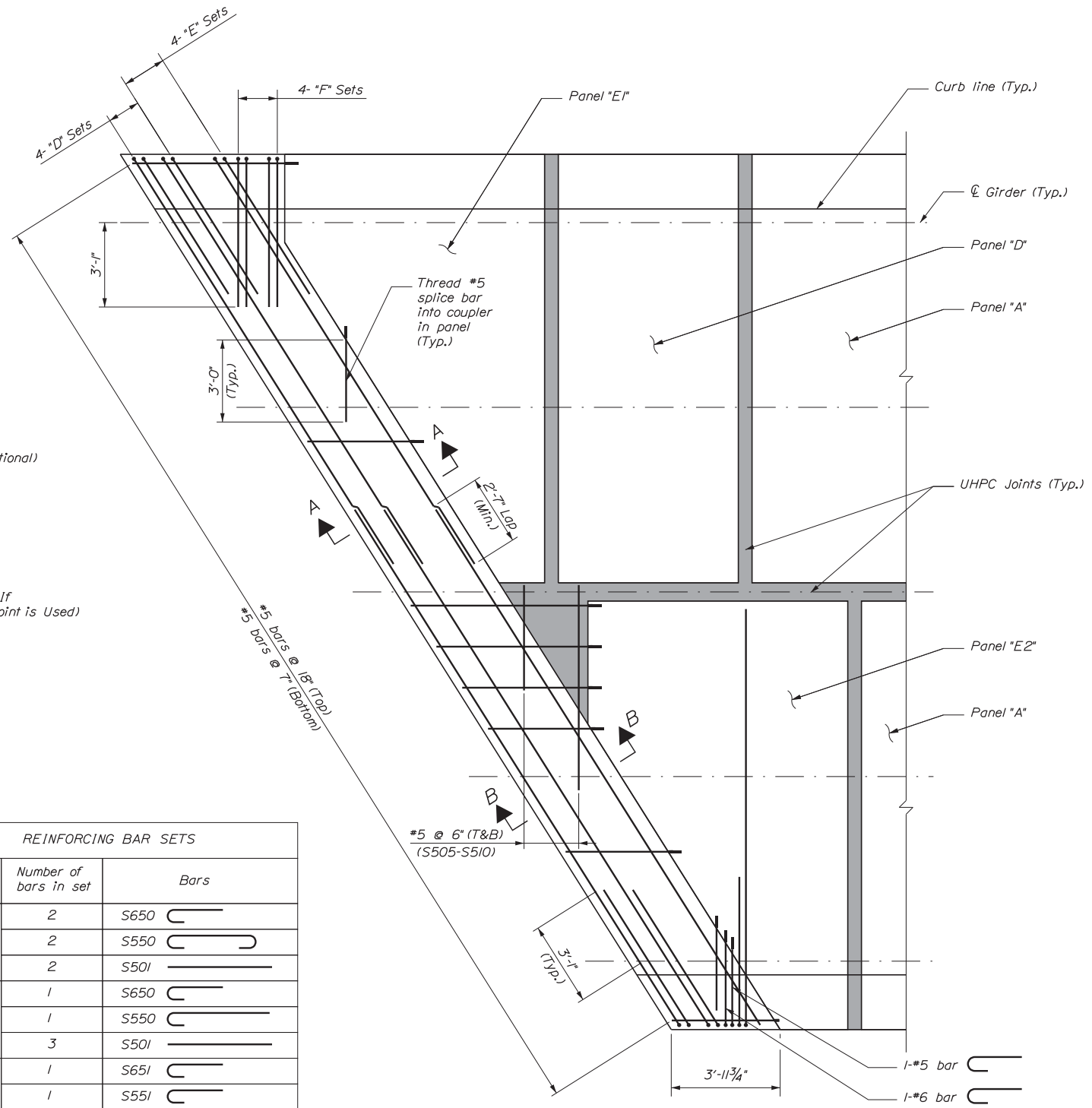


TRANSVERSE JOINT AT CURB
(Panel reinforcement not shown for clarity)
Scale: 1" = 1'-0"



CURB END CLOSURE JOINT PLAN
(Abutment no. 2 shown, Abutment no. 1 similar)
N.T.S.

REINFORCING BAR SETS		
Set	Number of bars in set	Bars
D	2	S650
	2	S550
	2	S501
E	1	S650
	1	S550
	3	S501
F	1	S651
	1	S551
	1	S502



DECK END CLOSURE JOINT PLAN
(Abutment no. 2 shown, Abutment no. 1 similar)
Scale: 3/8" = 1'-0"

SHEET NOTE
1. See Deck End Reinforcement Sheet for Section A-A and Section B-B

Scale: 1" = 1'-0"			
No.	Revision	By	Date

Designed by:			
CONSULTANT PROJECT MANAGER: T. Bryant			
	By	Date	
Designed	AFP	1/2017	Checked WPR 1/2017
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MTA PROJECT MANAGER: Ralph Norwood, IV

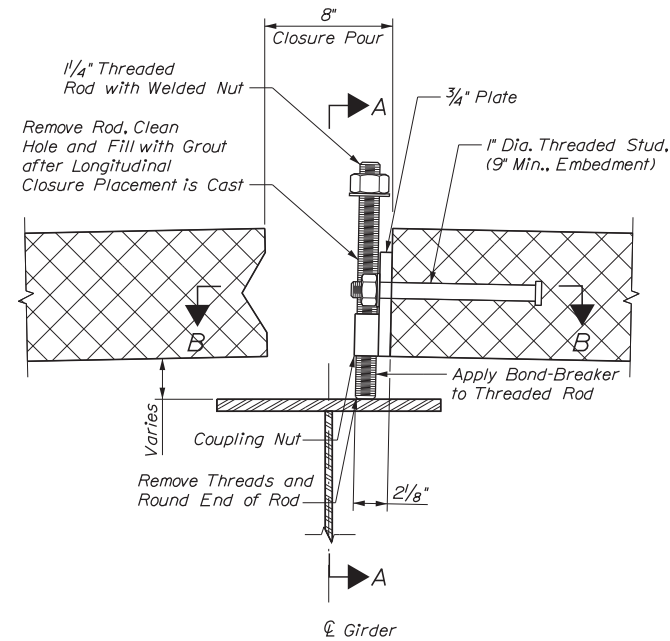
SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
DECK PANEL DETAILS
(1 OF 2)

VHB: 55106.00
CONTRACT: 2017.04

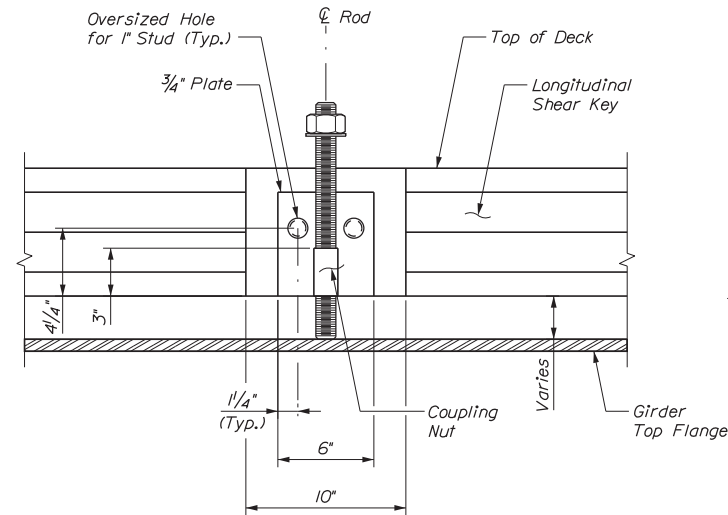
SHEET NUMBER: 73
73 OF 84

Date:1/20/2017

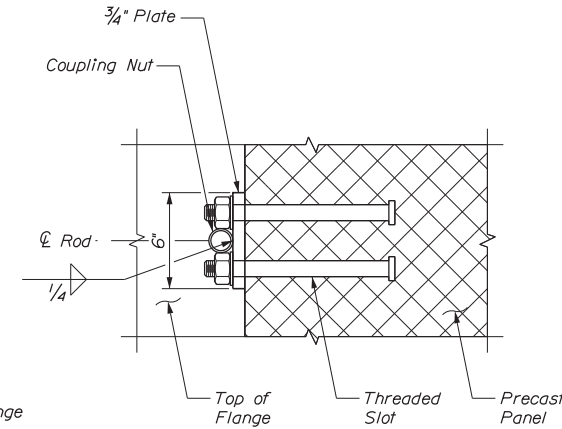
Filename: ...\\074_Deck-Panel_Details_02.dgn



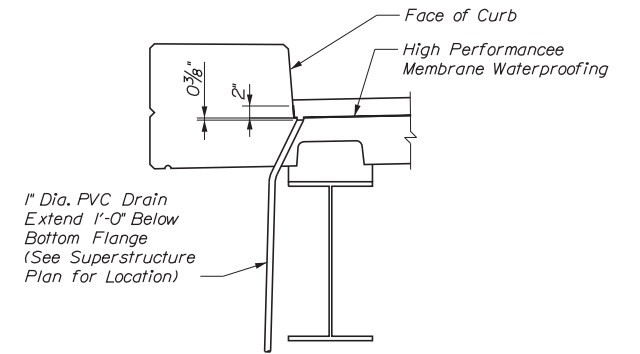
END VERTICAL ADJUSTMENT
ASSEMBLY DETAIL
Not to Scale



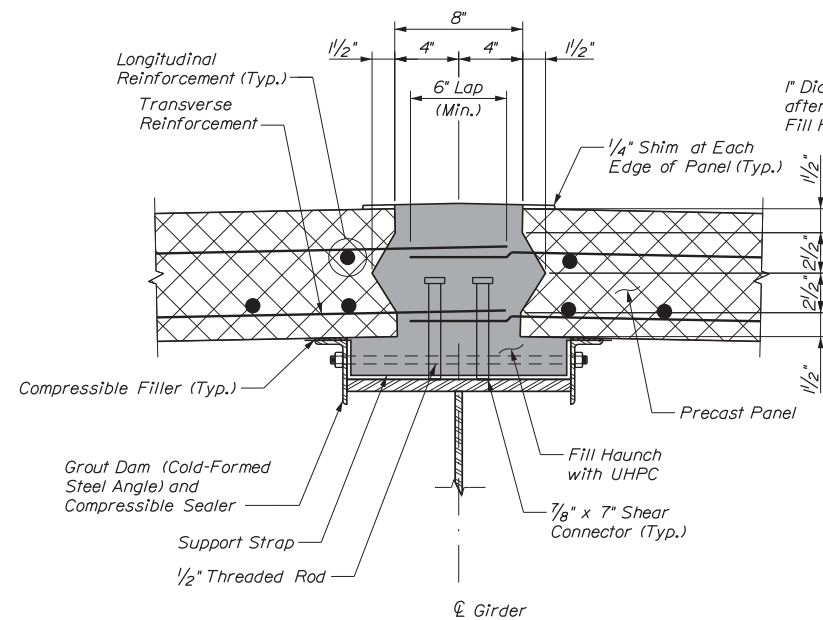
SECTION A-A
Not to Scale



SECTION B-B
Not to Scale

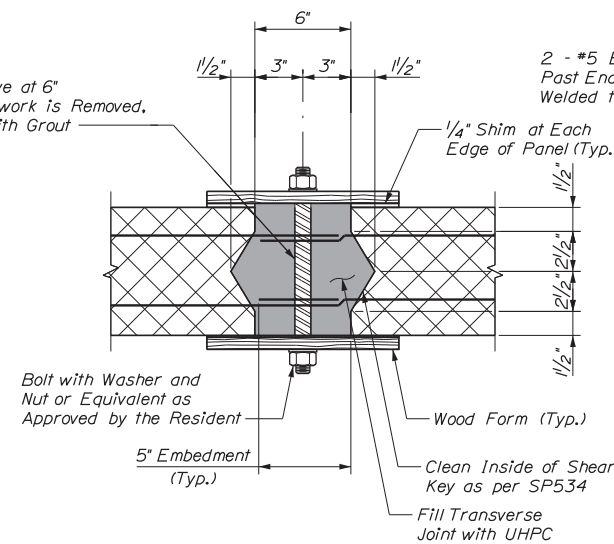


GUTTER DETAIL
Not to Scale



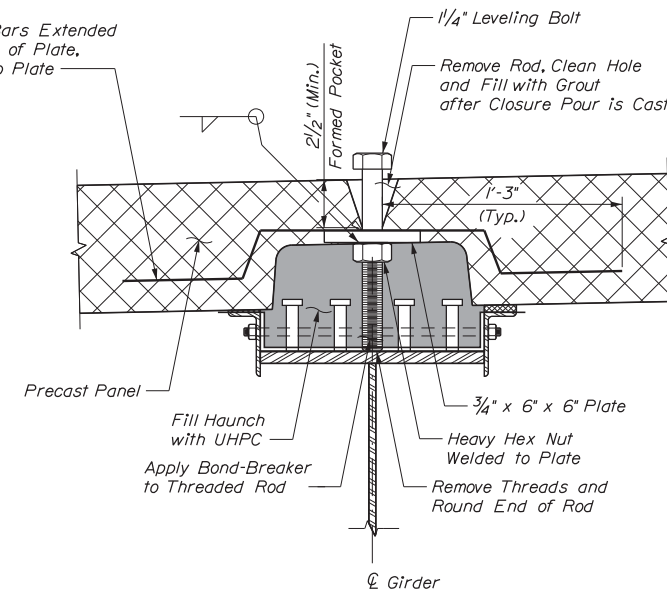
LONGITUDINAL CLOSURE PLACEMENT
Not to Scale

Note: Contractor has the option to weld the steel angle grout dams to the top flange only in the compression regions shown on the "Field Splice and Stress Diagram" sheet. In the tension and stress reversal regions, the steel angle grout dams shall be connected using the detail shown above.

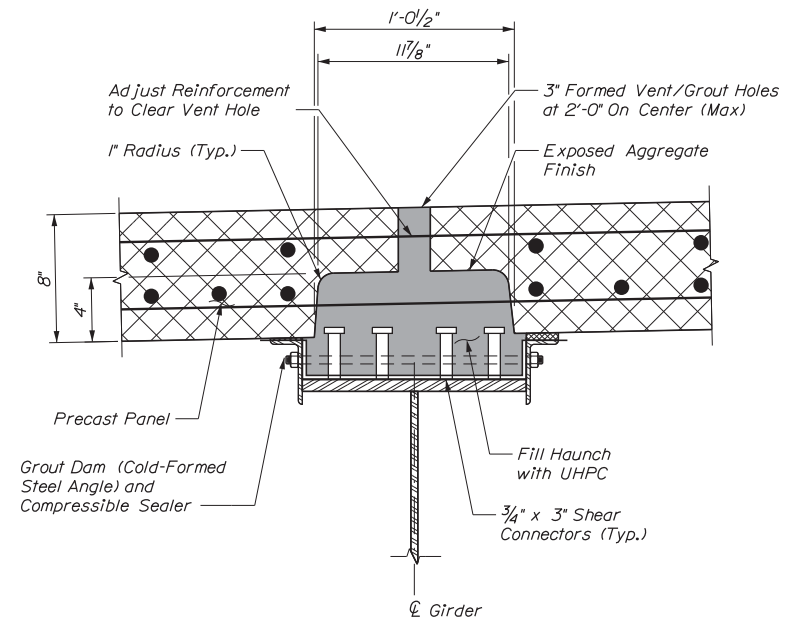


TRANSVERSE UHPC JOINT DETAIL
(Typical Joint)
Not to Scale

Note: The above form is shown as an option. Contractor can submit an alternate method to the Engineer for approval.



INTERIOR VERTICAL ADJUSTMENT
ASSEMBLY DETAIL
Not to Scale



HAUNCH FORMING
DETAIL
Not to Scale

NOTE

1. The vertical adjustment hardware shown in the details are schematic. Design of the hardware to resist the loads shown on the plans shall be performed by a Professional Engineer licensed in the State of Maine and submitted together with the precast panel shop drawings.



No.	Revision	By	Date

Designed by: 					
CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	KDW	1/2017	In Charge of	TSB	1/2017

VANASSE HANGEN BRUSTLIN, INC.
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South Portland, ME 04106
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FAX (207) 253-5596



THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
DECK PANEL DETAILS
(2 OF 2)

VHB: 55106.00

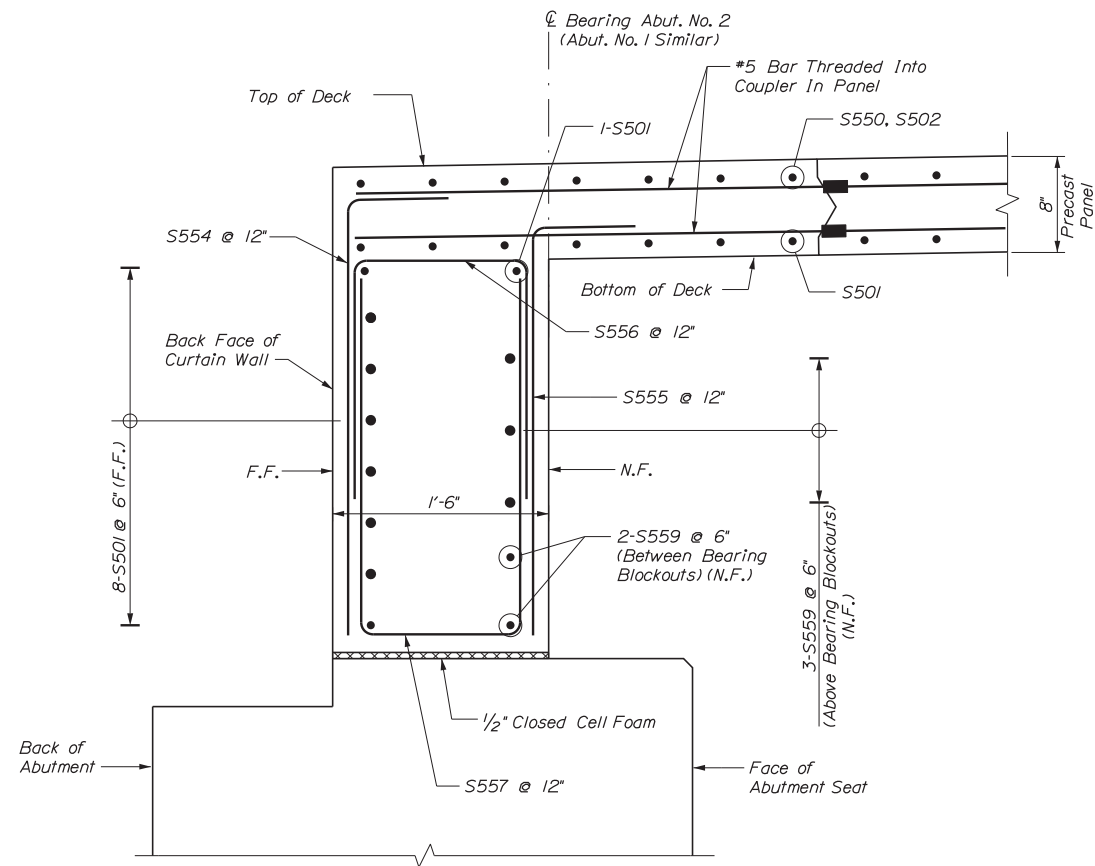
SHEET NUMBER: 74

CONTRACT: 2017.04

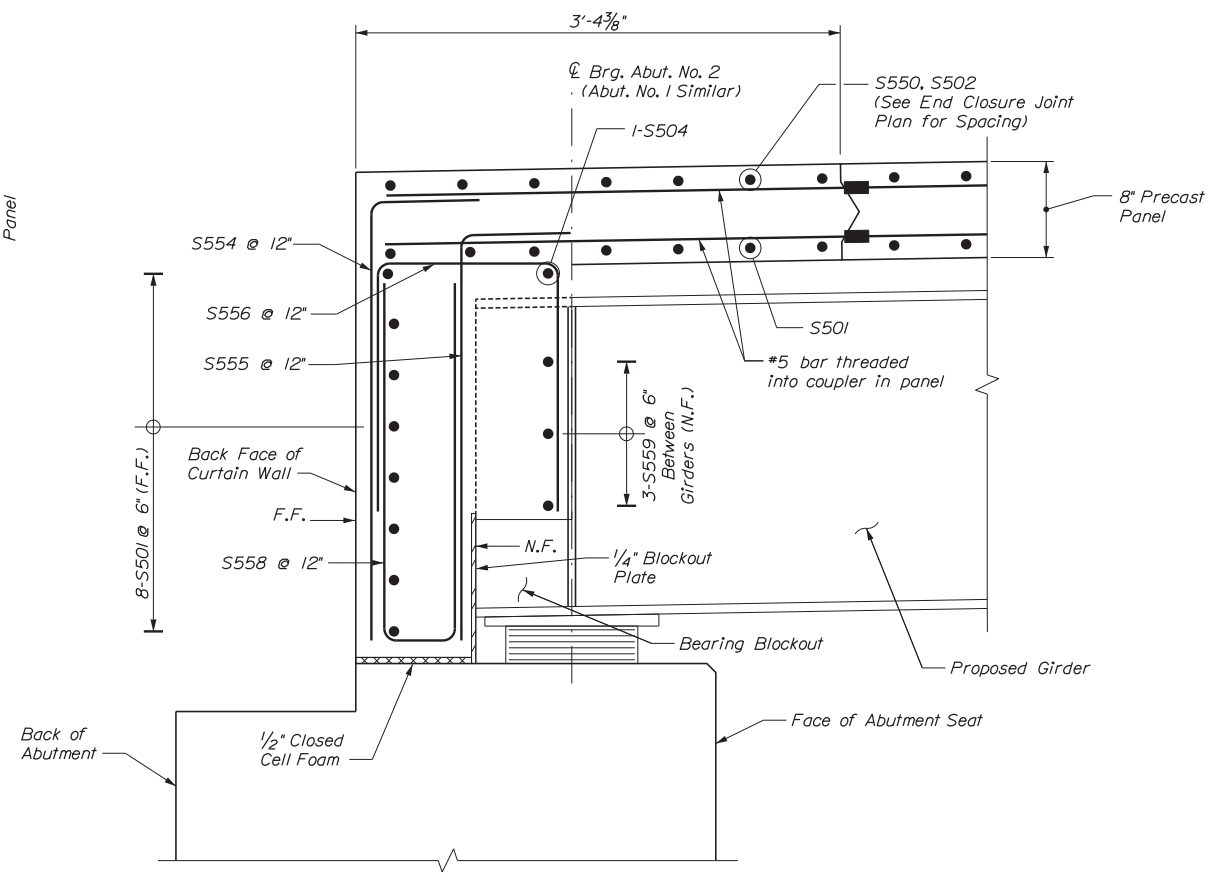
74 OF 84

Date: 1/20/2017

Filename: ...\\075_Deck_Reinf_Details_01.dgn



SECTION A-A
(Pavement not Shown)
Scale: 1 1/2" = 1'-0"



SECTION B-B
(Pavement not Shown)
Scale: 1 1/2" = 1'-0"

SHEET NOTE

1. See Deck Panel Layout Plan for location of Section A-A and Section B-B.

REINFORCING KEY

N.F. = Near Face
F.F. = Far Face
E.F. = Each Face
▲ = Cut in Field

Scale: 1 1/2" = 1'-0"			
No.	Revision	By	Date

Designed by: 					
CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph Norwood, IV

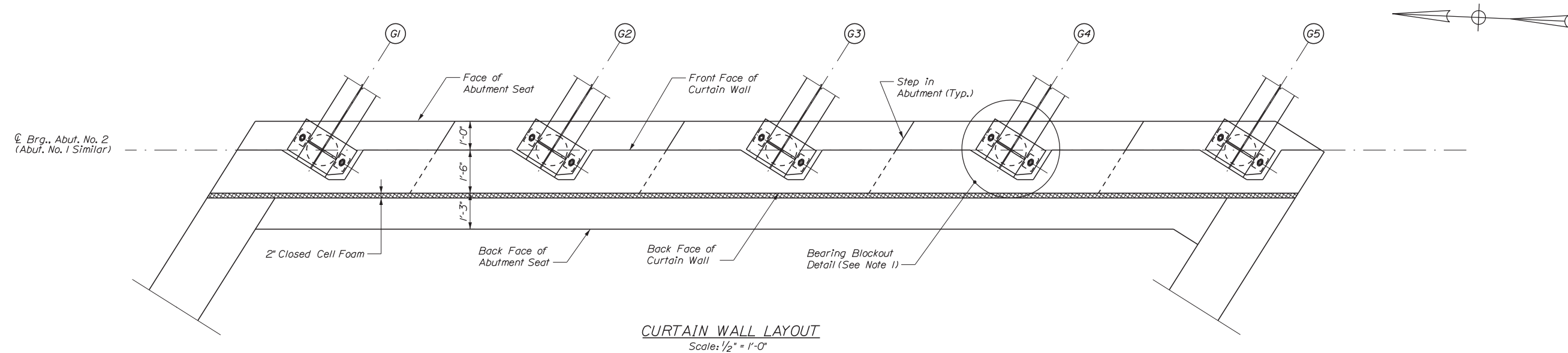
**SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS**

DECK END REINFORCEMENT

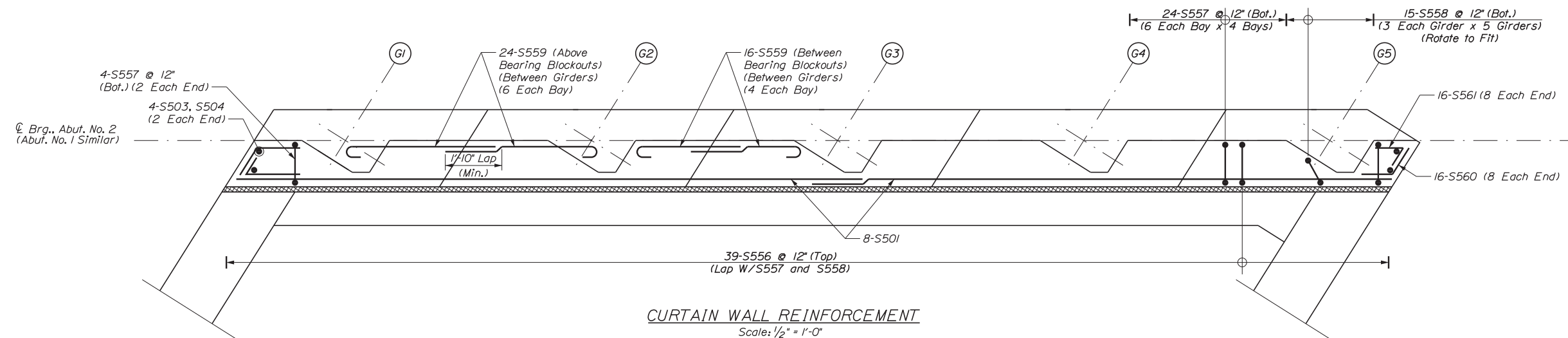
VHB: 55106.00	SHEET NUMBER: 75
CONTRACT: 2017.04	75 OF 84

Date: 1/20/2017

Filename: ...\\076_Curtain_Wall_01.dgn



CURTAIN WALL LAYOUT
Scale: 1/2" = 1'-0"



CURTAIN WALL REINFORCEMENT
Scale: 1/2" = 1'-0"

NOTE

1. See Curtain Wall Details (2 of 2) for Bearing Blockout Detail.

REINFORCING KEY

N.F. = Near Face
F.F. = Far Face
E.F. = Each Face
▲ = Cut in Field

Scale:				
No.	Revision	By	Date	

Designed by:					
					
CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	KDW	1/2017	In Charge of	TSB	1/2017

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**THE GOLD STAR
MEMORIAL HIGHWAY**

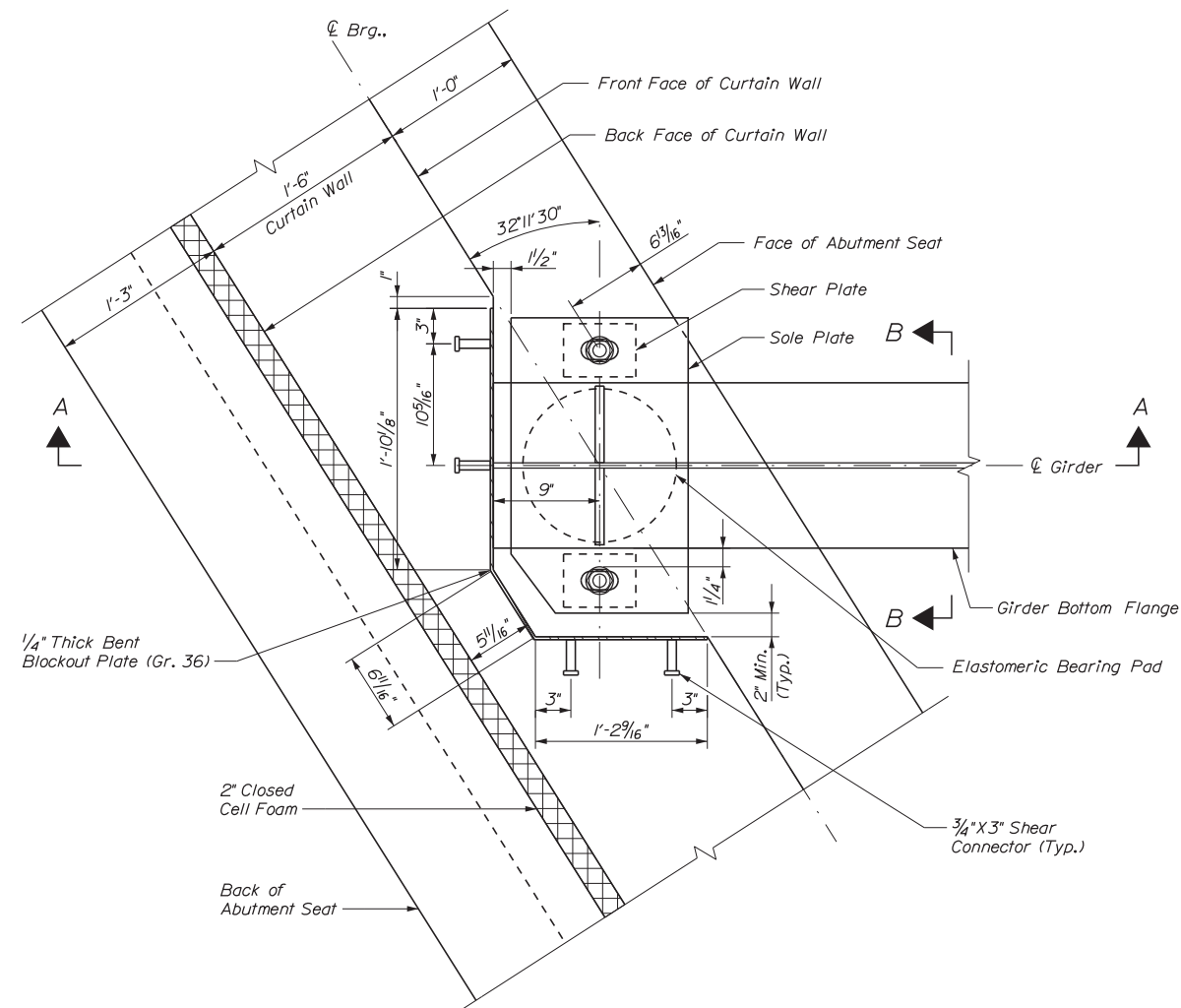
MTA PROJECT MANAGER: Ralph Norwood, IV

**SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
CURTAIN WALL DETAILS
(1 OF 2)**

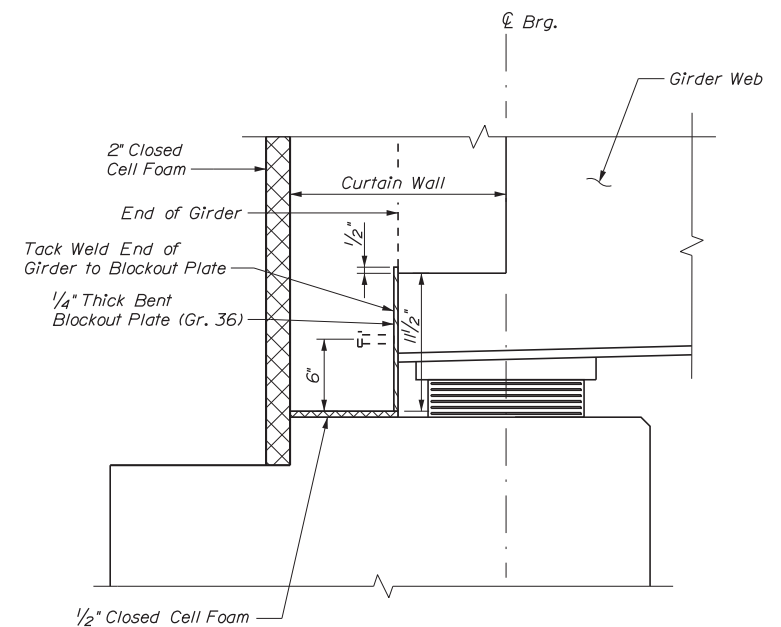
VHB: 55106.00	SHEET NUMBER: 76
CONTRACT: 2017.04	76 OF 84

Date: 1/20/2017

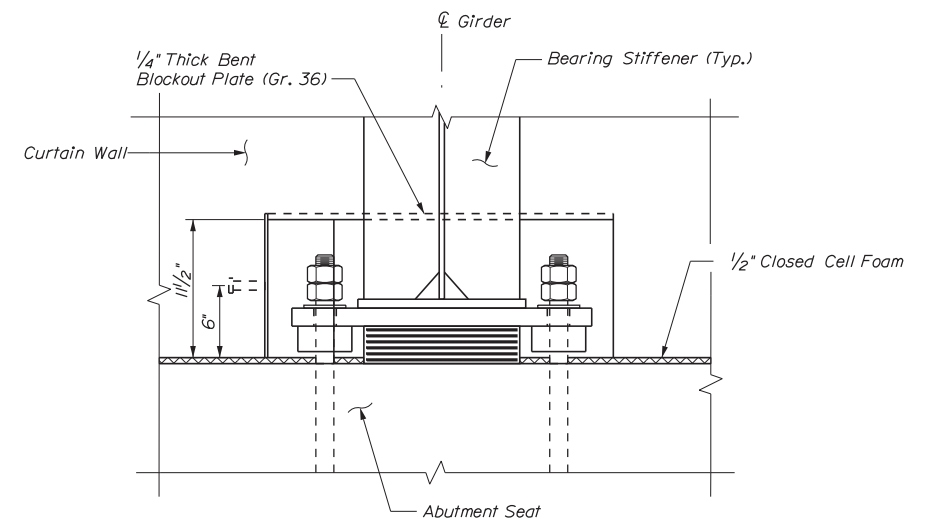
Filename: ...\\077_Curtain_Wall_02.dgn



PLAN
Scale: 1/2" = 1'-0"



SECTION A-A
Scale: 1/2" = 1'-0"



SECTION B-B
Scale: 1/2" = 1'-0"



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	KDW	1/2017	In Charge of	TSB	1/2017

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
CURTAIN WALL DETAILS
(2 OF 2)

VHB: 55106.00

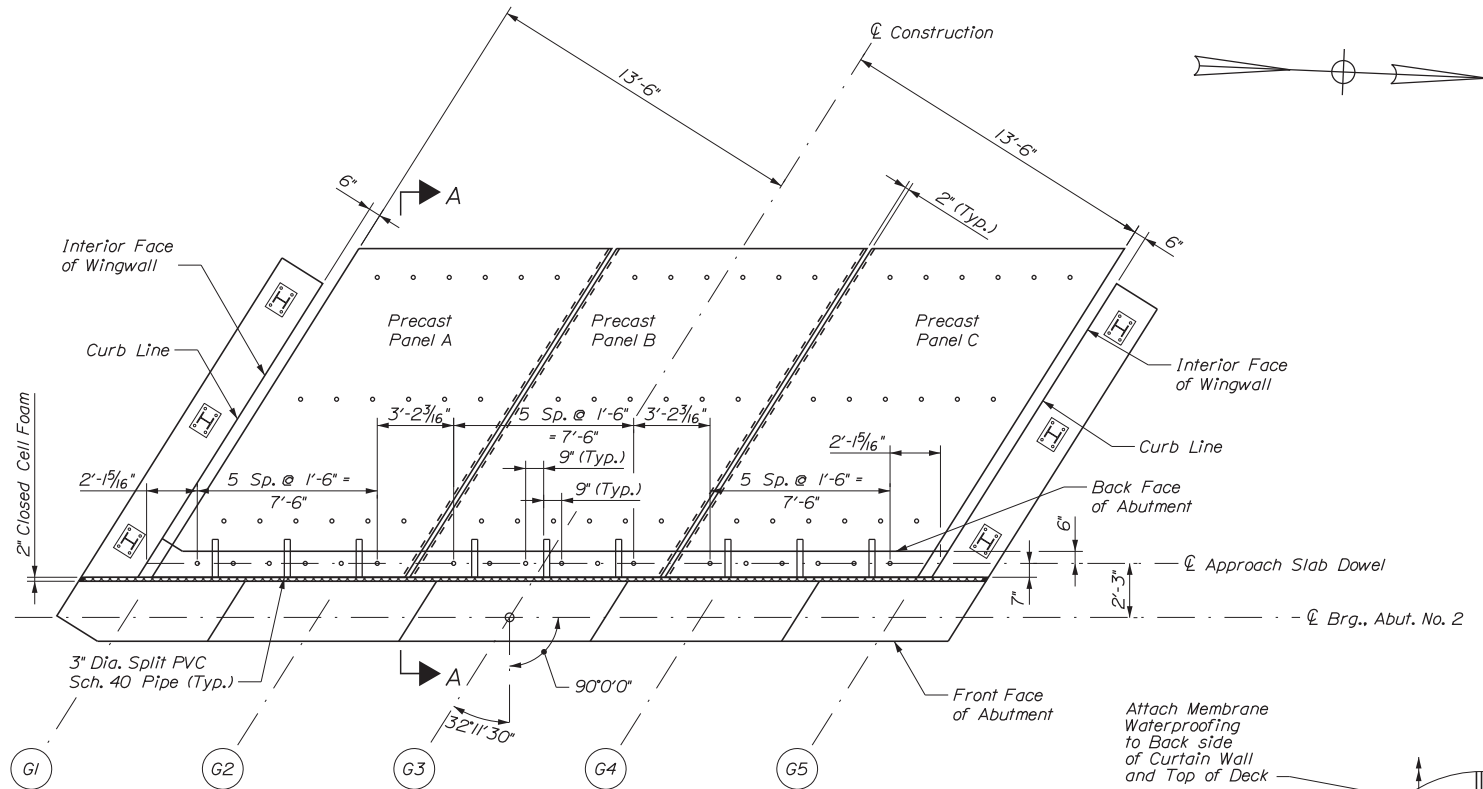
CONTRACT: 2017.04

SHEET NUMBER: 77

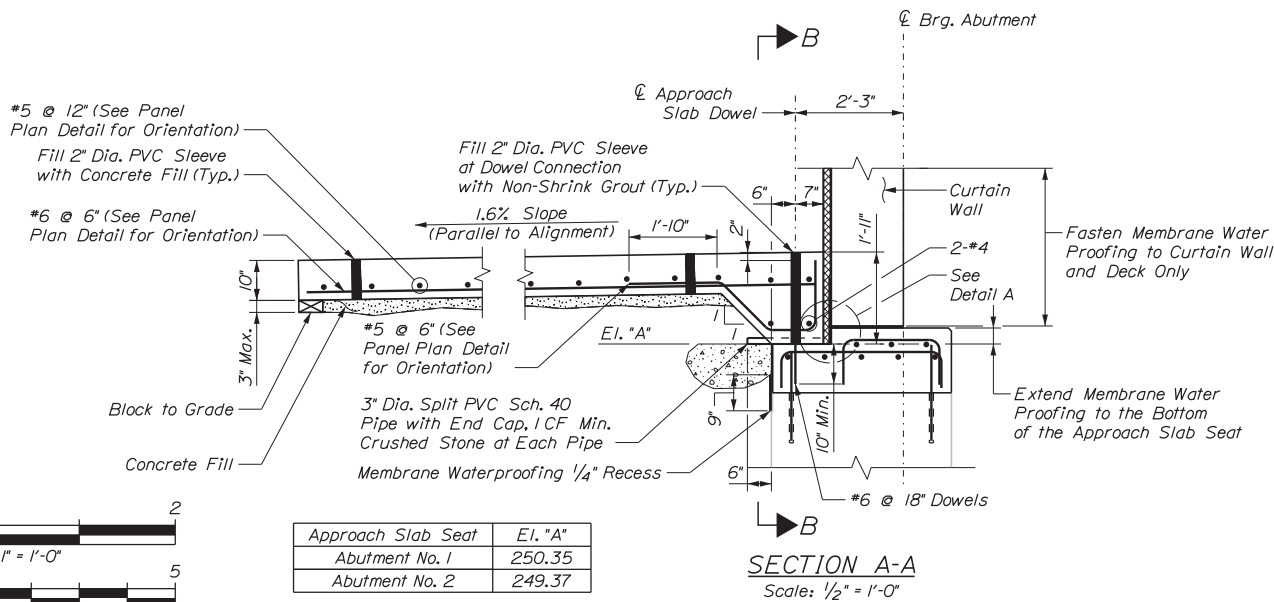
77 OF 84

Date: 1/20/2017

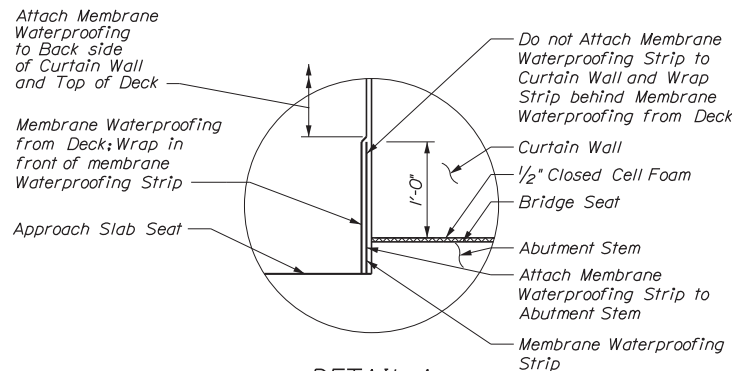
Filename: ...078_Precast_Approach_Slab_01.dgn



PLAN
(Abutment No. 2 Shown, Abutment No. 1 Similar)
Scale: 1/4" = 1'-0"



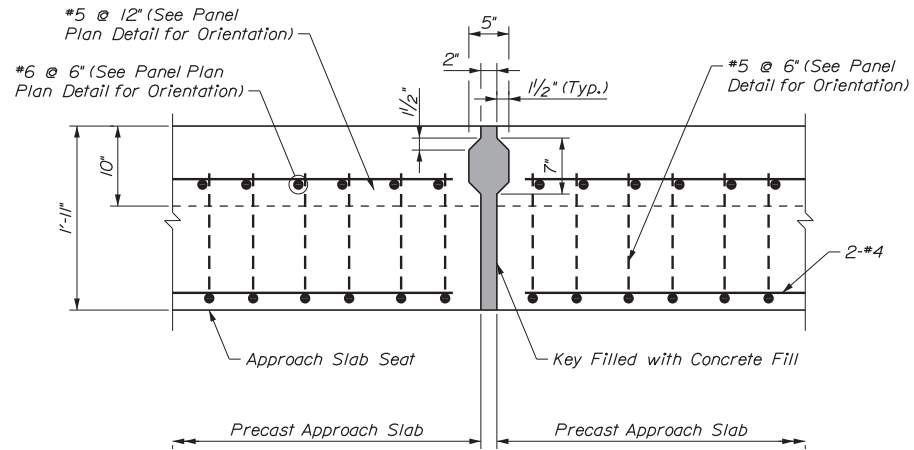
SECTION A-A
Scale: 1/2" = 1'-0"



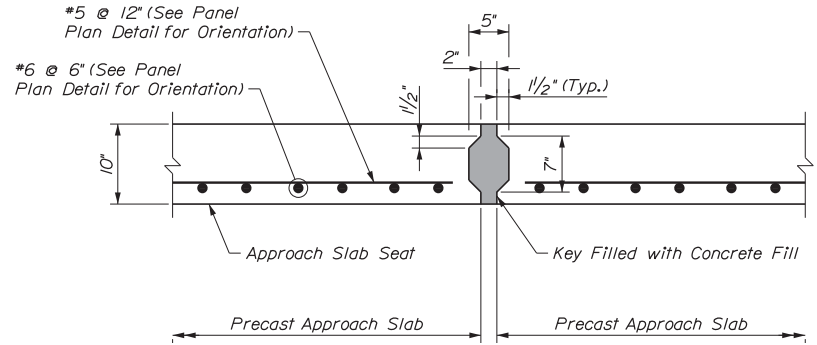
DETAIL A
Not to Scale

NOTES

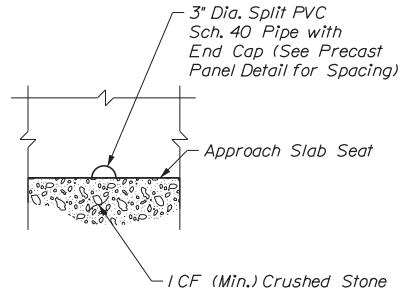
- At the Contractor's option, the precast approach slabs may be constructed of cast-in-place concrete. If the Contractor elects to construct the approach slabs using cast-in-place concrete, the Contractor shall be responsible for detail of all reinforcing. The cast-in-place concrete approach slabs will be paid for under Item 534.7601, Precast Approach Slab, which shall include full compensation for the approach slab, reinforcing and all incidentals, as noted in Special Provision Section 534.
- Contractor Shall Determine the requirements of any additional reinforcement for lifting and placing of the Precast Concrete Approach Slab Panels. Precaster shall be made aware of any additional reinforcement by the Contractor prior to casting the Concrete Approach Slab Panels.



TYPICAL KEY DETAIL AT APPROACH SLAB SEAT
Scale: 1" = 1'-0"



TYPICAL KEY DETAIL
Scale: 1" = 1'-0"



SECTION B-B
Not to Scale

Scale:			
No.	Revision	By	Date

Designed by:			
CONSULTANT PROJECT MANAGER: T. Bryant			
	By	Date	
Designed	AFP	1/2017	Checked WPR 1/2017
Drawn	DPD	1/2017	In Charge of TSB 1/2017



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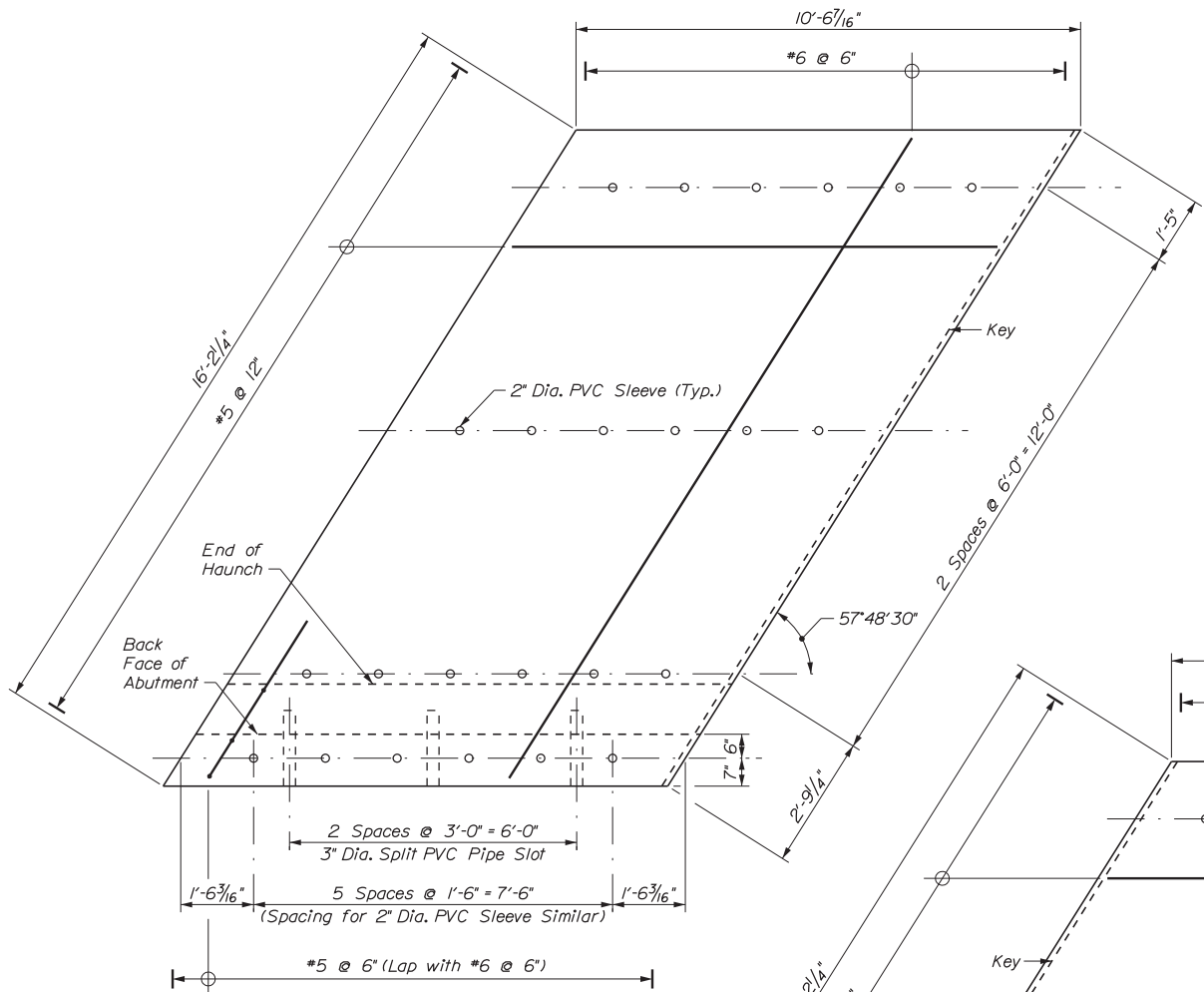
THE GOLD STAR
MEMORIAL HIGHWAY

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
PRECAST APPROACH SLAB
(1 OF 2)

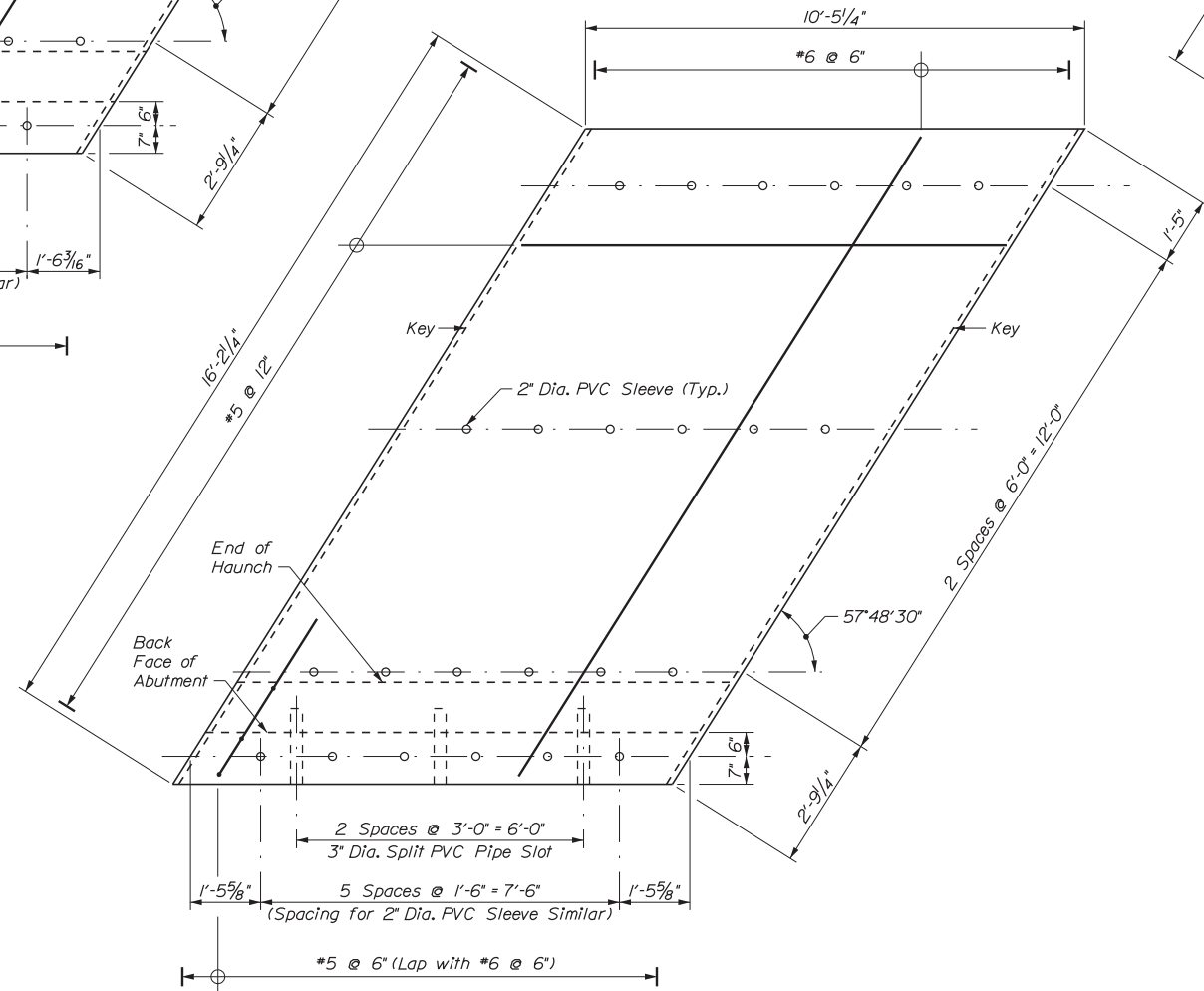
VHB: 55106.00	SHEET NUMBER: 78
CONTRACT: 2017.04	78 OF 84

Date: 1/20/2017

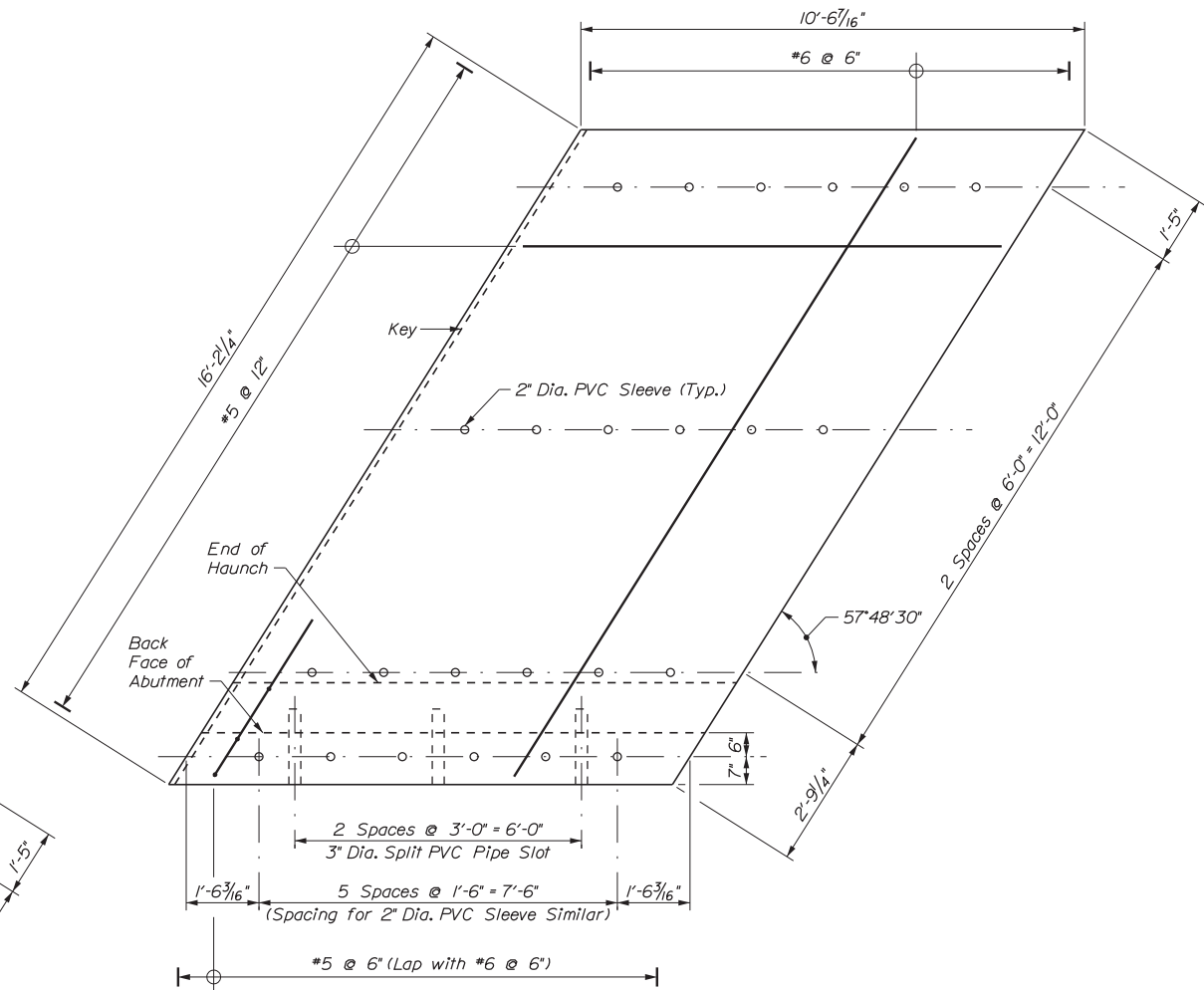
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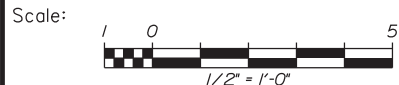
PANEL "A" - PLAN
Scale: 1/2" = 1'-0"



PANEL "B" - PLAN
Scale: 1/2" = 1'-0"



PANEL "C" - PLAN
Scale: 1/2" = 1'-0"



No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

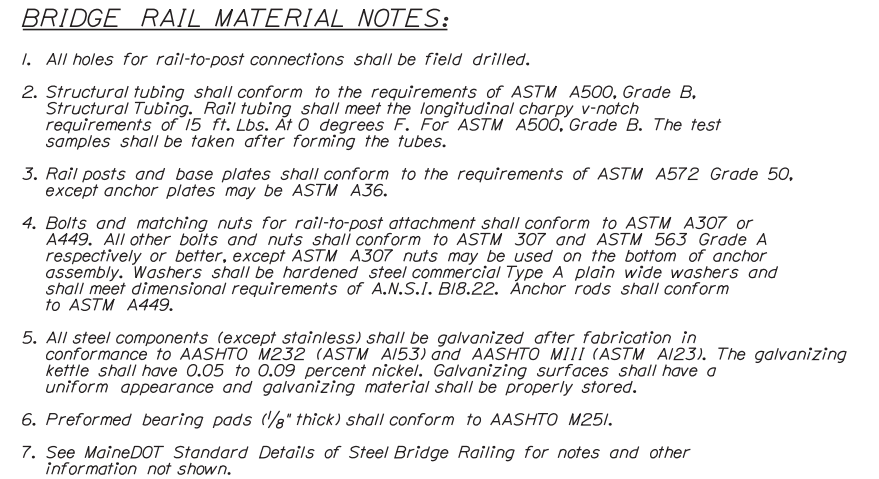
VANASSE HANGEN BRUSTLIN, INC.
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South Portland, ME 04106
TEL (207) 889-3150
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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

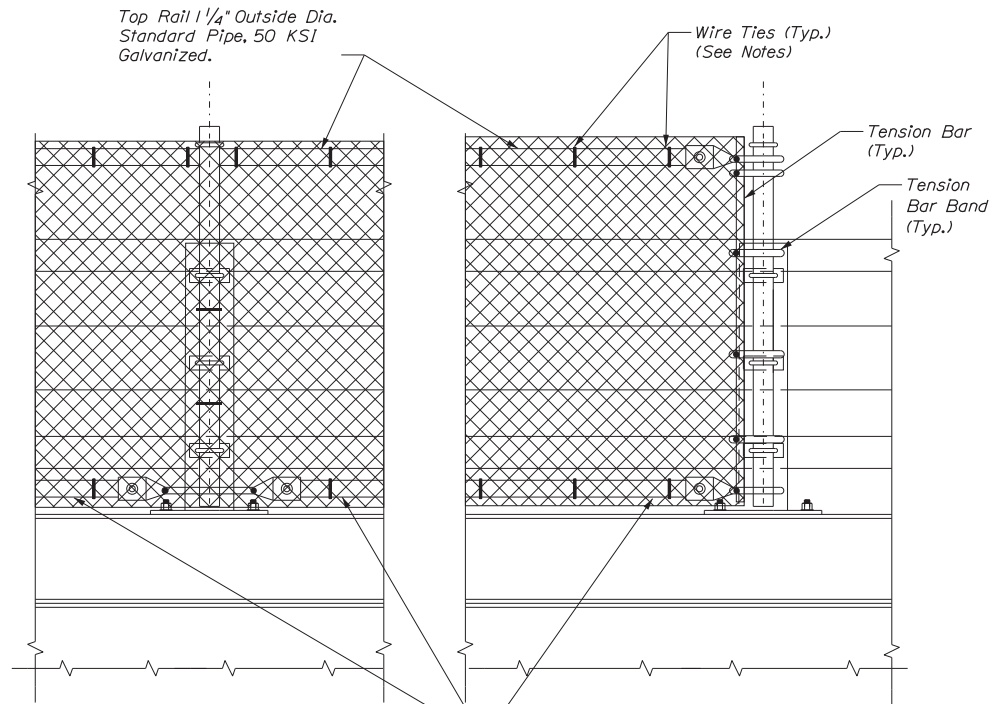
SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
PRECAST APPROACH SLAB
(2 OF 2)



Scale: AS NOTED				Designed by:				VANASSE HANGEN BRUSTLIN, INC. 500 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: Ralph Norwood, IV				SUPERSTRUCTURE REPLACEMENT WINTHROP ROAD UNDERPASS BRIDGE RAIL DETAILS			
No.	Revision		By	Date	CONSULTANT PROJECT MANAGER: T. Bryant								VHB: 55106.00 SHEET NUMBER: 80						
					Designed	By	Date	Checked	By	Date	CONTRACT: 2017.04 80 OF 84								
					Drawn	DPD	1/2017	In Charge of	TSB	1/2017									

Date:1/20/2017

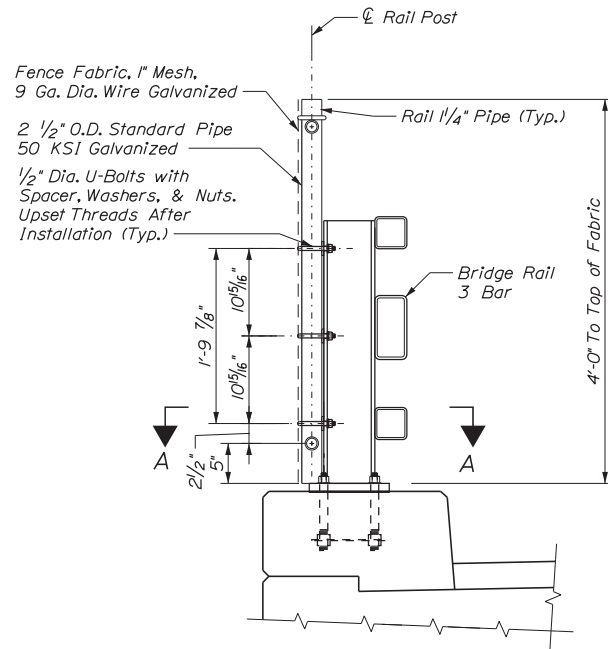
Filename: ...MSTAN\PlanSet\082_Snow_01.dgn



ELEVATION
INTERIOR POST

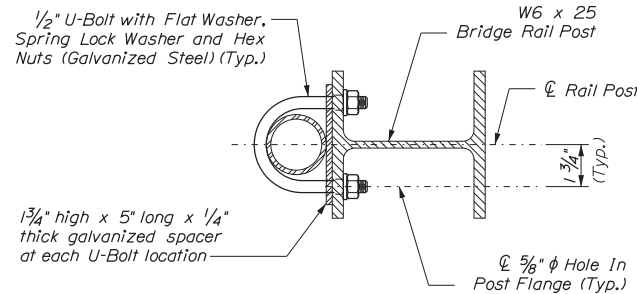
ELEVATION
END POST

ELEVATION - SNOW FENCE
Scale: 1" = 1'-0"



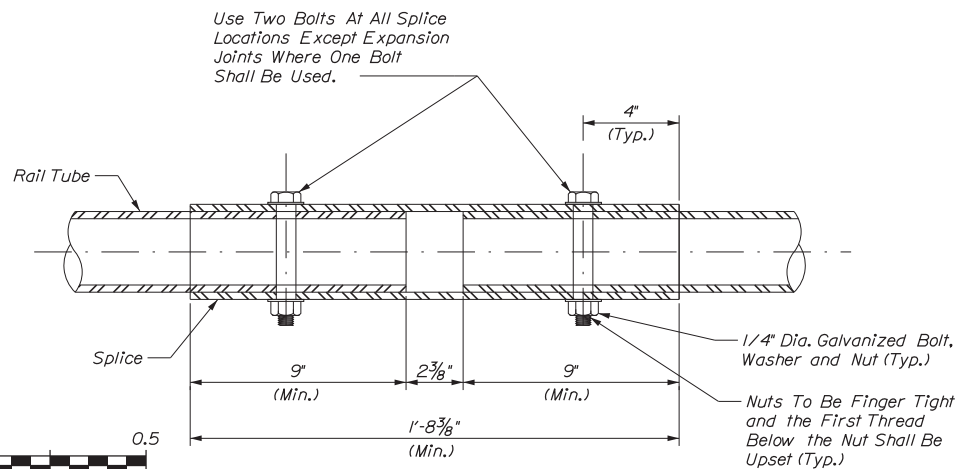
SNOW FENCE CONNECTION DETAIL

Scale: 1" = 1'-0"



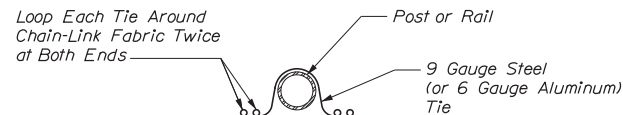
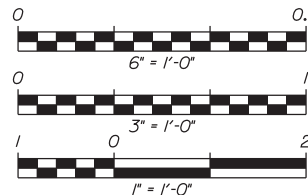
SECTION A-A

Scale: 3" = 1'-0"



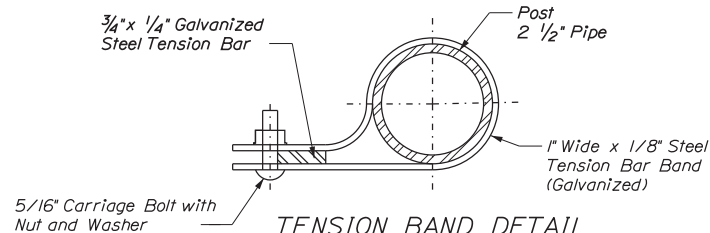
TYPICAL RAIL SPLICE DETAIL
(TOP & BOTTOM RAIL)

Not to Scale



DOUBLE PIGTAILED TIE

Not to Scale



TENSION BAND DETAIL

Scale: 6" = 1'-0"

SNOW FENCE NOTES

- Chain-link fabric shall be 9 gauge steel, zinc-coated conforming to AASHTO M181, Type I, Class D (ASTM A392), aluminum-coated conforming to AASHTO M181, Type II (ASTM A491). Chain-link fabric shall be knuckled on top and bottom. The size of wire mesh (fabric) shall be 1 1/2".
- Wire ties shall be standard round 9 gauge zinc- or aluminum-coated steel or 6 gauge aluminum alloy conforming to ASTM F626. All ties shall be wrapped around chain-link fabric twice (double pigtailed) at both ends. Space ties @ 6" o.c. to bottom rail and @ 12" o.c. to all posts and other rails. Mechanical/Power fastened fence ties acceptable.
- Post, rail pipe and splice sleeve shall be hot-dip galvanized steel conforming to AASHTO M181, Grade I (ASTM F1083) or aluminum alloy conforming to AASHTO M181 (ASTM B429, alloy 6063-T6). All pipe shall be schedule 40, standard weight. Nominal pipe sizes are shown on the drawing.
- Tension bars and bar bands shall be steel or aluminum alloy conforming to AASHTO M181 (ASTM F626). Steel components shall be hot-dip galvanized in accordance with AASHTO M111 (ASTM A123) or AASHTO M232 (ASTM A153) as applicable.
- All bolts and nuts shall be steel conforming to ASTM A307 and ASTM A563 Grade A respectively. Washers shall be hardened steel commercial Type A plain and shall meet the dimensional requirements of ANSI B18.22. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M111 (ASTM A123) or AASHTO M232 (ASTM A153) as applicable.
- Rail may be field cut (sawn) to fit post spacing. Galvanized rail, cut or drilled as allowed.
- See Bridge Rail Details Sheet for additional details.
- Post Caps Shall Be Securely Attached to Posts.

Scale: AS NOTED

Designed by:



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THE GOLD STAR
MEMORIAL HIGHWAY

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

SNOW FENCE DETAILS

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

MTA PROJECT MANAGER: Ralph Norwood, IV

VHB: 55106.00

SHEET NUMBER: 82

CONTRACT: 2017.04

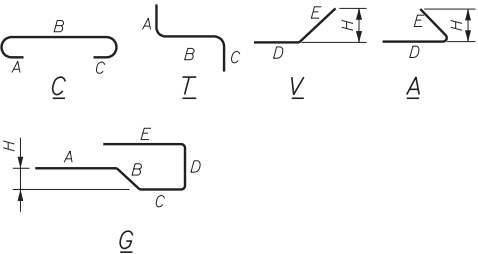
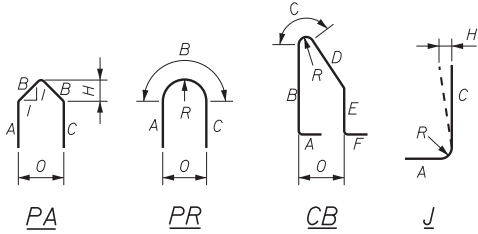
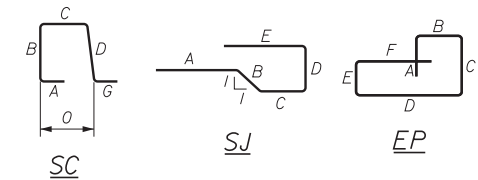
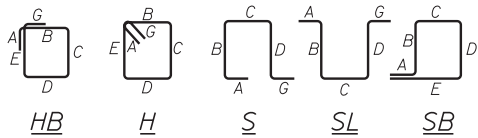
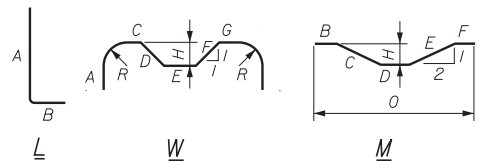
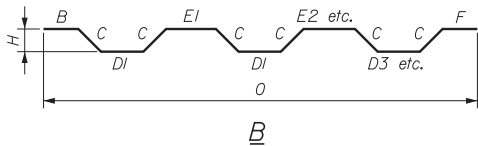
82 OF 84

Date: 1/20/2017

Filename: ...\\Planset\\083_Reinsch_01.dgn

STRAIGHT BARS							BENT BARS																	
MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION		
S501	76	19'-9 ³ / ₈ "	Superstructure					S550	24	20'-4 ³ / ₈ "	C	0'-7"	19'-9 ³ / ₈ "	0'-0"									Superstructure	
S502	8	5'-5"		S551	8	6'-0"	C	0'-7"	5'-5"	0'-0"														
S503	4	2'-11"		S552	12	5'-9"	S	0'-10"	1'-3"	1'-7"	1'-3"							0'-10"						
S504	4	3'-1 ³ / ₄ "		S553	14	6'-0 ¹ / ₂ "	S	0'-10"	1'-3"	1'-10 ¹ / ₂ "	1'-3"							0'-10"						
S505	4	3'-8"		S554	78	4'-8"	L	2'-10"	1'-10"															
S506	4	4'-5"		S555	78	4'-2"	L	2'-4"	1'-10"															
S507	4	5'-3"		S556	78	3'-7 ³ / ₄ "	S	0'-0"	1'-2 ¹ / ₈ "	1'-2"	1'-2 ¹ / ₈ "							0'-0"						
S508	4	6'-1"		S557	56	5'-7 ³ / ₄ "	S	0'-0"	2'-2 ¹ / ₈ "	1'-2"	2'-2 ¹ / ₈ "							0'-0"						
S509	4	6'-10"		S558	30	5'-1 ³ / ₄ "	S	0'-0"	2'-2 ¹ / ₈ "	0'-8"	2'-2 ¹ / ₈ "							0'-0"						
S510	4	7'-8"		S559	80	6'-11 ³ / ₄ "	C	0'-7"	5'-9 ³ / ₄ "	0'-7"														
								S560	32	2'-6"	V				1'-3"	1'-3"			1'-0"					
A502	3	34'-9 ⁵ / ₈ "	Abutment No. 1					S561	32	2'-6"	A				1'-3"	1'-3"			1'-0"					
A503	3	37'-4"		S650	24	6'-8"	C	0'-8"	6'-0"	0'-0"														
A504	12	21'-2 ³ / ₄ "		S651	8	6'-1"	C	0'-8"	5'-5"	0'-0"														
A505	3	15'-7 ¹ / ₂ "							A550	39	6'-1"	S	0'-0"	1'-4"	3'-5"	1'-4"			0'-0"				Abutment No. 1	
A507	9	15'-7 ¹ / ₈ "							A551	48	5'-2"	S	0'-0"	1'-6"	2'-2"	1'-6"			0'-0"					
A508	9	13'-0 ³ / ₄ "							A552	3	3'-4 ¹ / ₂ "	V				1'-6 ¹ / ₂ "	1'-10"			1'-0"				
A509	4	6'-3 ¹ / ₄ "							A553	3	4'-9"	V				2'-11"	1'-10"			1'-6"				
A510	4	3'-8"							A554	5	7'-1"	L	5'-3"	1'-10"										
A601	18	3'-0"							A555(BB)	8	2'-6"	L	1'-4"	1'-2"										
A602(BB)	50	3'-8 ¹ / ₂ "							A560	3	4'-9 ¹ / ₄ "	V				2'-11 ¹ / ₄ "	1'-10"			1'-6 ⁵ / ₈ "				
B502	3	34'-9 ⁵ / ₈ "	Abutment No. 2					A561(BB)	78	3'-11 ¹ / ₂ "	L	2'-6 ¹ / ₂ "	0'-7"											
B503	3	36'-11 ¹ / ₄ "							A556	8	5'-4"	S	0'-0"	1'-10"	1'-8"	1'-10"			0'-0"					Abutment No. 1 Wingwalls
B504	12	21'-2 ³ / ₄ "							A557	12	2'-7"	V				0'-11"	1'-8"			0'-11"				
B505	3	15'-7 ¹ / ₂ "							A558	12	2'-7"	A				0'-11"	1'-8"			0'-11"				
B507	9	15'-7 ¹ / ₈ "							A559	4	3'-0"	S	0'-0"	0'-8"	1'-8"	0'-8"			0'-0"					
B508	9	13'-0 ³ / ₄ "							A560(BB)	4	3'-0"	V				1'-6"	1'-6"			1'-4"				
B509	4	6'-3 ¹ / ₄ "							A561	61	6'-2"	S	0'-10"	1'-10"	1'-8"	1'-10"			0'-0"					
B510	4	3'-8"																						
B601	18	3'-0"																						
B602(BB)	50	3'-8 ¹ / ₂ "							B550	39	6'-7"	S	0'-0"	1'-7"	3'-5"	1'-7"			0'-0"				Abutment No. 2	
IP501	8	20'-0"	Pier No. 1					B551	48	5'-2"	S	0'-0"	1'-6"	2'-2"	1'-6"			0'-0"						
IP502	6	7'-7 ¹ / ₂ "							B552	3	3'-4 ¹ / ₂ "	V				1'-6 ¹ / ₂ "	1'-10"			1'-0"				
IP901	6	36'-0"							B553	3	4'-9"	V				2'-11"	1'-10"			1'-6"				
								B554	5	7'-4"	L	5'-6"	1'-10"											
2P501	8	20'-0"	Pier No. 2					B555(BB)	8	2'-6"	L	1'-4"	1'-2"											
2P502	6	7'-7 ¹ / ₂ "							B560	3	4'-9 ¹ / ₄ "	V				2'-11 ¹ / ₄ "	1'-10"			1'-6 ⁵ / ₈ "				
2P901	6	36'-0"							B561(BB)	78	3'-4 ¹ / ₄ "	L	2'-9 ¹ / ₄ "	0'-7"										
3P501	8	20'-0"	Pier No. 3					B556	8	5'-4"	S	0'-0"	1'-10"	1'-8"	1'-10"			0'-0"				Abutment No. 2 Wingwalls		
3P502	6	7'-7 ¹ / ₂ "							B557	12	2'-7"	V				0'-11"	1'-8"			0'-11"				
3P901	6	36'-0"							B558	12	2'-7"	A				0'-11"	1'-8"			0'-11"				
								B559	4	3'-0"	S	0'-0"	0'-8"	1'-8"	0'-8"			0'-0"						
								B560(BB)	4	3'-0"	V				1'-6"	1'-6"			1'-4"					
								B561	61	6'-2"	S	0'-10"	1'-10"	1'-8"	1'-10"			0'-0"						
								IP550(BB)	70	2'-7"	C	0'-7"	2'-0"	0'-0"										Pier No. 1
								IP551	4	4'-9 ¹ / ₄ "	V				2'-3 ¹ / ₄ "	2'-6"			2'-2"					
								IP552	4	4'-9 ¹ / ₄ "	A				2'-3 ¹ / ₄ "	2'-6"			2'-2"					
								IP553	8	3'-11 ¹ / ₂ "	A				2'-5"	1'-6 ¹ / ₂ "			1'-6"					
								IP554	59	5'-9"	S	0'-0"	1'-6 ¹ / ₂ "	2'-8"	1'-6 ¹ / ₂ "			0'-0"						
								IP555	8	6'-5"	S	0'-0"	1'-10 ¹ / ₂ "	2'-8"	1'-10 ¹ / ₂ "			0'-0"						
								IP556	6	7'-6"	S	0'-0"	2'-5"	2'-8"	2'-5"			0'-0"						
								IP557	6	6'-8"	S	0'-0"	1'-8 ³ / ₄ "	3'-2 ¹ / ₂ "	1'-8 ³ / ₄ "			0'-0"						
								2P550(BB)	70	2'-7"	C	0'-7"	2'-0"	0'-0"									Pier No. 2	
								2P551	4	4'-9 ¹ / ₄ "	V				2'-3 ¹ / ₄ "	2'-6"			2'-2"					
								2P552	4	4'-9 ¹ / ₄ "	A				2'-3 ¹ / ₄ "	2'-6"			2'-2"					
								2P553	8	3'-11 ¹ / ₂ "	A				2'-5"	1'-6 ¹ / ₂ "			1'-6"					
								2P554	59	5'-11"	S	0'-0"	1'-7 ¹ / ₂ "	2'-8"	1'-7 ¹ / ₂ "			0'-0"						
								2P555	8	6'-5"	S	0'-0"	1'-11 ¹ / ₄ "	2'-8"	1'-11 ¹ / ₄ "			0'-0"						
								2P556	6	7'-6"	S	0'-0"	2'-5"	2'-8"	2'-5"			0'-0"						
								2P557	6	6'-6 ¹ / ₂ "	S	0'-0"	1'-8"	3'-2 ¹ / ₂ "	1'-8"			0'-0"						
								3P550(BB)	70	2'-7"	C	0'-7"	2'-0"	0'-0"										Pier No. 3
								3P551	4	4'-9 ¹ / ₄ "	V				2'-3 ¹ / ₄ "	2'-6"			2'-2"					
								3P552	4	4'-9 ¹ / ₄ "	A				2'-3 ¹ / ₄ "	2'-6"			2'-2"					
								3P553	8	3'-11 ¹ / ₂ "	A				2'-5"	1'-6 ¹ / ₂ "			1'-6"					
								3P554	59	6'-0"	S	0'-0"	1'-8"	2'-8"	1'-8"			0'-0"						
								3P555	8	6'-10"	S	0'-0"	2'-1"	2'-8"	2'-1"			0'-0"						
								3P556	6	7'-6"	S	0'-0"	2'-5"	2'-8"	2'-5"			0'-0"						
								3P557	6	6'-5 ¹ / ₂ "	S	0'-0"	1'-7 ¹ / ₂ "	3'-2 ¹ / ₂ "	1'-7 ¹ / ₂ "			0'-0"						
								Note: Bars with the suffix "BB" are to be uncoated black bars																
MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION		

TYPE - BENDING DIAGRAMS



All dimensions are out-to-out of bar.
Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 315 and ACI Standard 318.
Reinforcing Bar: ASTM A615/A615M, Grade 60

GENERAL NOTES

1. The first digit following the letter(s) of the mark indicate the size of the bar:
Mark "A502" = bar size #5
Mark "P805" = bar size #8
Mark "S650" = bar size #6

Scale: NOT TO SCALE

No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: T. Bryant

By	Date	By	Date
AFP	1/2017	WPR	1/2017
DPD	1/2017	TSB	1/2017

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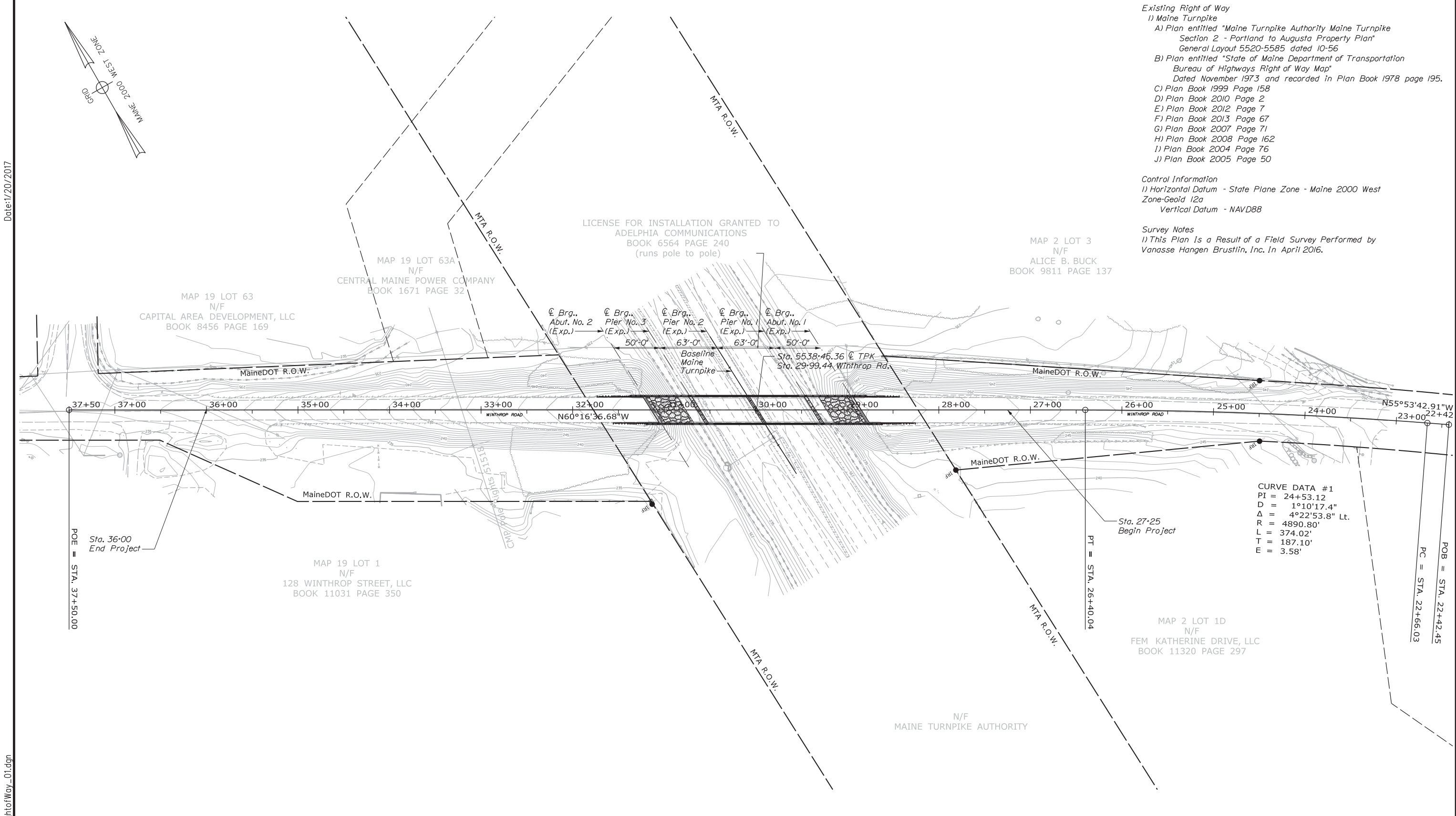
THE GOLD STAR
MEMORIAL HIGHWAY
MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS
REINFORCING STEEL SCHEDULE
VHB: 55106.00
CONTRACT: 2017.04

SHEET NUMBER: 83
83 OF 84

Date:1/20/2017

Filename: ...\\PlanSet\\084_RightofWay_01.dgn



Existing Right of Way
I) Maine Turnpike
A) Plan entitled "Maine Turnpike Authority Maine Turnpike Section 2 - Portland to Augusta Property Plan" General Layout 5520-5585 dated 10-56
B) Plan entitled "State of Maine Department of Transportation Bureau of Highways Right of Way Map" Dated November 1973 and recorded in Plan Book 1978 page 195.
C) Plan Book 1999 Page 158
D) Plan Book 2010 Page 2
E) Plan Book 2012 Page 7
F) Plan Book 2013 Page 67
G) Plan Book 2007 Page 71
H) Plan Book 2008 Page 162
I) Plan Book 2004 Page 76
J) Plan Book 2005 Page 50

Control Information
I) Horizontal Datum - State Plane Zone - Maine 2000 West Zone-Geoid 12a
Vertical Datum - NAVD88

Survey Notes
I) This Plan Is a Result of a Field Survey Performed by Vanasse Hangen Brustlin, Inc. In April 2016.

CURVE DATA #1
PI = 24+53.12
D = 1°10'17.4"
Δ = 4°22'53.8" Lt.
R = 4890.80'
L = 374.02'
T = 187.10'
E = 3.58'

POB = STA. 22+42.45
PC = STA. 22+66.03
PT = STA. 26+40.04
Sta. 27+25 Begin Project

Scale: 50 0 50 100
Scale of Feet

No.	Revision	By	Date

Designed by:


CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	AFP	1/2017	Checked	WPR	1/2017
Drawn	DPD	1/2017	In Charge of	TSB	1/2017

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph Norwood, IV

SUPERSTRUCTURE REPLACEMENT
WINTHROP ROAD UNDERPASS

RIGHT OF WAY MAP

VHB: 55106.00
CONTRACT: 2017.04

SHEET NUMBER: 84
84 OF 84