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THE GOLD STAR
MEMORIAL HIGHWAY

MAINE TURNPIKE AUTHORITY

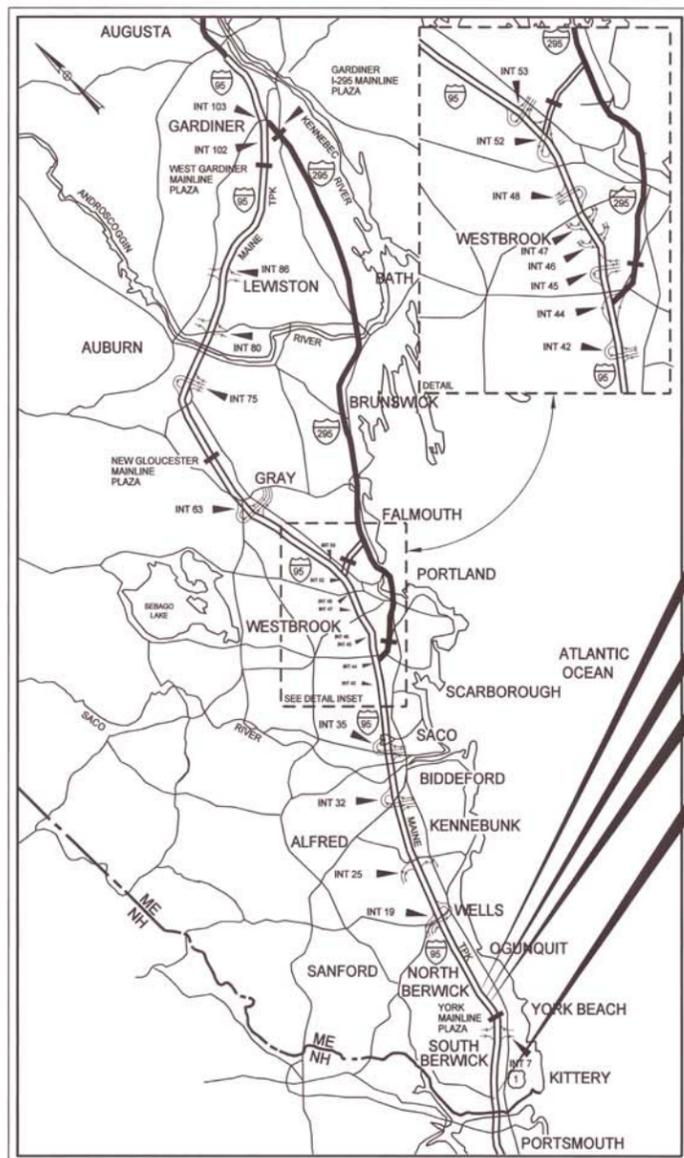
DANIEL E. WATHEN, CHAIR
JAMES F. CLOUTIER, VICE CHAIR
GERARD P. CONLEY, SR., MEMBER
JOHN E. DORITY, MEMBER
FREEMAN R. GOODRICH, MEMBER
ROBERT D. STONE, MEMBER
KAREN S. DOYLE, EX-OFFICIO MEMBER

S. PETER MILLS, EXECUTIVE DIRECTOR

CONTRACT 2015.04 SOUTHERLY BRIDGE REPAIRS

ROUTE 1 ON-RAMP (RAMP H) UNDERPASS BRIDGE (MM 1.8)
ROUTE 1 SB OVER I-95 NB ON-RAMP (RAMP M) BRIDGE
MOUNTAIN ROAD UNDERPASS BRIDGE (MM 10.6)
CLAY HILL ROAD UNDERPASS BRIDGE (MM 11.9)

CAPE NEDDICK RIVER CULVERT (MM 9.6)
JOSIAS RIVER CULVERT (MM 11.8)



LOCATION MAP

- Josias River Culvert
Mile 11.8
Clay Hill Road Underpass
Mile 11.9
- Mountain Road Underpass
Mile 10.6
- Cape Neddick River Culvert
Mile 9.6
- Route 1 On-Ramp Underpass
Ramp "H" Mile 1.8
Route 1 SB Over I-95 NB On-Ramp
Ramp "M"

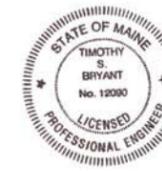
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APPROVED: MAINE TURNPIKE AUTHORITY

Peter S. Merfeld
PETER S. MERFELD, P.E. - CHIEF OPERATIONS OFFICER
12/9/14
DATE

Stephen R. Tartre
STEPHEN R. TARTRE, P.E., - DIRECTOR OF ENGINEERING & BUILDING MAINTENANCE
12/9/14
DATE



VHB Vanasse Hangen Brustlin, Inc.

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

12-05-2014
DATE

Contract 2015.04

Date: 12/15/2014

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ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITIES					Quantity Total
			Route 1 On-Ramp (Ramp H) Bridge	Route 1 SB Over I-95 On-Ramp (Ramp M) Bridge	Mountain Road Bridge	Clay Hill Road Bridge	Cape Neddick River Culvert	
202.17	Removing Existing Structural Concrete (1 CY)*	LS				1		1
202.2021	Removing Pavement Surface - Bridge Deck	SY	5			640		645
203.2	Common Excavation	CY					45	125
203.25	Granular Borrow	CY					60	140
403.210	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size	TON	5			105		110
409.15	Bituminous Tack Coat, Applied	GAL				20		20
419.30	Sawing Bituminous Pavement	LF	25					25
502.601	Structural Concrete, End Posts (1 CY)*	LS				1		1
502.701	Bridge Drain Grate Modification	EA	2					2
503.12	Reinforcing Steel, Fabricated and Delivered	LB				100		100
503.13	Reinforcing Steel, Placing	LB				100		100
506.1421	Field Painting of Existing Structural Steel - Route 1 On-Ramp	LS	1					1
506.1422	Field Painting of Existing Structural Steel - Clay Hill	LS				1		1
506.1711	Surface Preparation of Existing Structural Steel - Route 1 On-Ramp	LS	1					1
506.1712	Surface Preparation of Existing Structural Steel - Clay Hill	LS				1		1
506.91081	Containment System and Pollution Control - Route 1 On-Ramp	LS	1					1
506.91082	Containment System and Pollution Control - Clay Hill	LS				1		1
506.91091	Disposal of Hazardous or Toxic Material - Route 1 On-Ramp	LS	1					1
506.910912	Disposal of Hazardous or Toxic Material - Clay Hill	LS				1		1
507.0926	Furnish Aluminum Bridge Railing Components	LS			1			1
507.0928	Aluminum Bridge Railing - Rail Section Replace	LF	28					28
508.14	High Performance Waterproofing Membrane (640 SY)*	LS				1		1
511.0711	Cofferdam - Cape Neddick River Culvert	LS					1	1
511.0712	Cofferdam - Josias River Culvert	LS					1	1
514.06	Curing Box for Concrete Cylinders	EA			1			1
515.201	Pigmented Protective Coating for Concrete Surfaces	SY	180	105		290		575
515.202	Clear Protective Coating for Concrete Surfaces	SY					50	100
518.15	Culvert Surface Patch Repair - Above Waterline	SF					770	1350
518.17	Miscellaneous Culvert Concrete Repairs	CY					20	41
518.391	Repairing Granite Curb Joint and Bedding Mortar	LF				85		85
518.4	Epoxy Injection Crack Repair	LF	32.5			4.5	108	239
518.45	Special Crack Repair	GAL					41	111
518.5	Full Depth Concrete Repair	SF					5.5	5.5
518.6313	Abutment and Bridge Seat Repairs	SF	9			160		169
518.6314	Pier Repairs	SF				140.5		140.5
518.75	Fascia and Overhang Repairs	SF	12			7		19
518.80	Partial Depth Concrete Deck Repairs	SF				600		600
520.2211	Expansion Joint Modifications	EA				1		1
521.32	Fabric Trough for Finger Joint	EA	2					2
526.306	Temporary Concrete Barrier, Type 1 - Supplied by Authority	LS				1		1
527.341	Work Zone Crash Cushions - TL-3	UNIT	1			1	1	4
602.3	Flowable Concrete Fill	CY				1		1
607.431	Snow Fence	LF	284	80	261	285		910
610.08	Plain Riprap	CY					25	25
615.07	Loam	CY					15	35
618.1401	Seeding Method Number 2, Plan Quantity	UNIT					1	3
619.1201	Mulch, Plan Quantity	UNIT					1	3
620.58	Erosion Control Geotextile	SY					225	545
627.712	4 Inch White or Yellow Pavement Marking Line	LF				427		427
629.05	Hand Labor, Straight Time	HR		20			20	40
631.1	Air Compressor (Including Operator)	HR		20			20	40
631.11	Air Tool (Including Operator)	HR		20			20	40
631.12	All Purpose Excavator (Including Operator)	HR		20			20	40
631.171	Truck - Small (Including Operator)	HR		20			20	40
631.18	Chain Saw Rental (Including Operator)	HR		20			20	40
631.36	Foreman	HR		20			20	40
645.106	Demount Regulatory, Warning, Confirmation & Route Marker Assembly	EA				2		2
652.30	Flashing Arrow	EA	1				1	3
652.312	Type III Barricades	EA				2		2
652.33	Drum	EA	106	15		11	34	200
652.34	Cones	EA	12	12	23	23		70
652.35	Construction Signs	SF	520	100	65	381	352	1770
652.361	Maintenance of Traffic Control Devices	LS				1		1
652.38	Flaggers	HR			160	80		240
652.41	Portable Changeable Message Sign	EA	1				2	5
652.45	Truck Mounted Attenuator	CD	5	3	2	5	5	25
656.632	30 inch Temporary Silt Fence	LF					285	615
659.10	Mobilization	LS				1		1
	* Quantities Estimated							

Scale: AS NOTED

No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

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THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
 SOUTHERLY BRIDGE REPAIRS

QUANTITIES

VHB: 55032.00 SHEET NUMBER: 2
 CONTRACT: 2015.04 2 OF 36

SPECIFICATIONS

Design: AASHTO LRFD Bridge Design Specifications, 2012 with 2013 Interims.
 Construction: State of Maine Department of Transportation Standard Specifications, Revision of December 2002.
 State of Maine Department of Transportation Standard Details for Highways and Bridges, Revision of December of 2002, with all revisions thereto.
 AASHTO LRFD Bridge Construction Specifications, Third Edition with 2010 Interims

DESIGN LOADING

Live Load (for existing components)..... HS 20-44

NEW MATERIALS

Concrete (Unless noted otherwise)..... Class AAA - Modified Reinforcing Steel..... ASTM A615/A615M, Grade 60
 Structural Steel:
 All Material (except as noted)..... ASTM A709/A709M, Grade 36
 High Strength Bolts (except as noted)..... ASTM A325, Type 1

BASIC DESIGN STRESSES (NEW MATERIALS)

Concrete..... $f'c = 4,500$ psi
 Reinforcing Steel..... $f_y = 60,000$ psi
 Structural Steel:
 ASTM A 709/A 709M, Grade 36..... $F_y = 36,000$ psi
 ASTM A 325..... $F_u = 120,000$ psi

TRAFFIC DATA (I-95)

AADT..... 45,100
 Design Speed (MPH) (for existing)..... 70
 Functional Class..... Urban Interstate

TRAFFIC DATA (ROUTE 1 ON-RAMP UNDERPASS BRIDGE)

AADT..... 4920
 Design Speed (MPH) (for existing)..... 35
 Functional Class..... Urban Interstate

TRAFFIC DATA (CLAY HILL ROAD UNDERPASS BRIDGE)

AADT..... 755
 Design Speed (MPH) (for existing)..... 35
 Functional Class..... Rural Local

TRAFFIC DATA (ROUTE 1 SB OVER I-95 NB ON-RAMP)

AADT..... 9480
 Design Speed (MPH) (for existing)..... 35
 Functional Class..... Minor Arterial

TRAFFIC DATA (MOUNTAIN ROAD UNDERPASS)

AADT..... 1333
 Design Speed (MPH) (for existing)..... 35
 Functional Class..... Rural Local

GENERAL CONSTRUCTION NOTES

- All details shall be in conformance with Maine Department of Transportation (MaineDOT) 2002 Standard Details for Highways and Bridges with all updates and MaineDOT Best Management Practices for Erosion and Sediment Control latest revision unless otherwise included in these plans.
- There are no permanent or temporary easements associated with this project. All work shall be completed within the existing Right of Way.
- The Contractor shall submit his proposed staging area(s) and field trailer location to the Resident for approval prior to starting work.
- Any portions of the existing bridges or culverts removed by the Contractor shall become the property of the Contractor. The steel portions of the existing bridges 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 work of this project.
- For additional details referenced or not shown in these drawings, see the State of Maine, Department of Transportation Standard Details, Highways and Bridges, December 2002 with updates.
- Copies of the As-Built plans are posted on the Maine Turnpike Authority website at www.maineturnpike.com/project-and-planning/construction-contracts. The completeness and accuracy of these plans is not guaranteed.
- Chamfer all exposed new concrete edges $\frac{3}{4}$ " unless otherwise noted.
- The proposed elevations shown in these plans are based on NAVD 88 datum. The as-built plans are based on the NGVD 29 datum.
- Pigmented protective coating for concrete surfaces shall be applied to the following areas:
 All exposed concrete surfaces of the piers at Route 1 On-Ramp (Ramp H) Bridge, Route 1 SB over I-95 On-Ramp (Ramp M) Bridge and Clay Hill Road Bridge.
 All exposed concrete surfaces of the abutments at Route 1 On-Ramp (Ramp H) Bridge and Clay Hill Road Bridge.
- Clear protective coating for concrete surfaces shall be applied to all exposed concrete surfaces of the culvert wingwalls at both culverts.
- Areas of river debris removal at the culverts shall be completed on a time and material basis using the hourly pay items included in the contract. The limits of river debris removal shall be as directed by the Resident. All debris removed shall be disposed of outside the limits of the turnpike right-of-way in accordance with the Maine Department of Environmental Protection Solid Waste Regulations. Debris shall not be allowed to float downstream.

EROSION CONTROL

- The anticipated erosion control devices are shown on the General Plans for each structure.
- All temporary and permanent erosion control devices shall be installed in accordance with the Maine Department of Transportation Best Management Practices.

UTILITIES

- Existing utilities on these plans were compiled from existing plans and various other sources. Locations are not guaranteed to be accurate nor is it guaranteed that all utilities are shown. No separate or additional compensation will be allowed to the Contractor due to any variance between the data shown on the plans and the actual field conditions encountered. No work shall be started until the owners of the various utilities are notified by the Contractor of the proposed construction. The Contractor is also required to call Dig Safe at 1-888-344-7233 at least 72 hours prior to the start of the work.
- The Contractor shall notify the Resident 10 days prior to construction so the Resident can arrange for Maine Turnpike underground utility location. All proposed sign locations and excavation locations shall be marked at the notification time. Excavation will not be permitted until the Authority has located and marked its underground utilities, or notified the Resident there are no underground utilities in the marked areas.

 The Authority has programmed two field visits for Maine Turnpike utility coordination on this project. Should the Contractor need additional sign locations and/or additional excavation locations marked, or should the Contractor fail to maintain the Authority's previously established Dig Safe marks, the Authority shall deduct the added marking costs from the Contractor's payments.
- The Contractor shall protect all existing utilities from damage during construction as directed by the Resident and approved by the utility owners.

SUPERSTRUCTURE NOTES

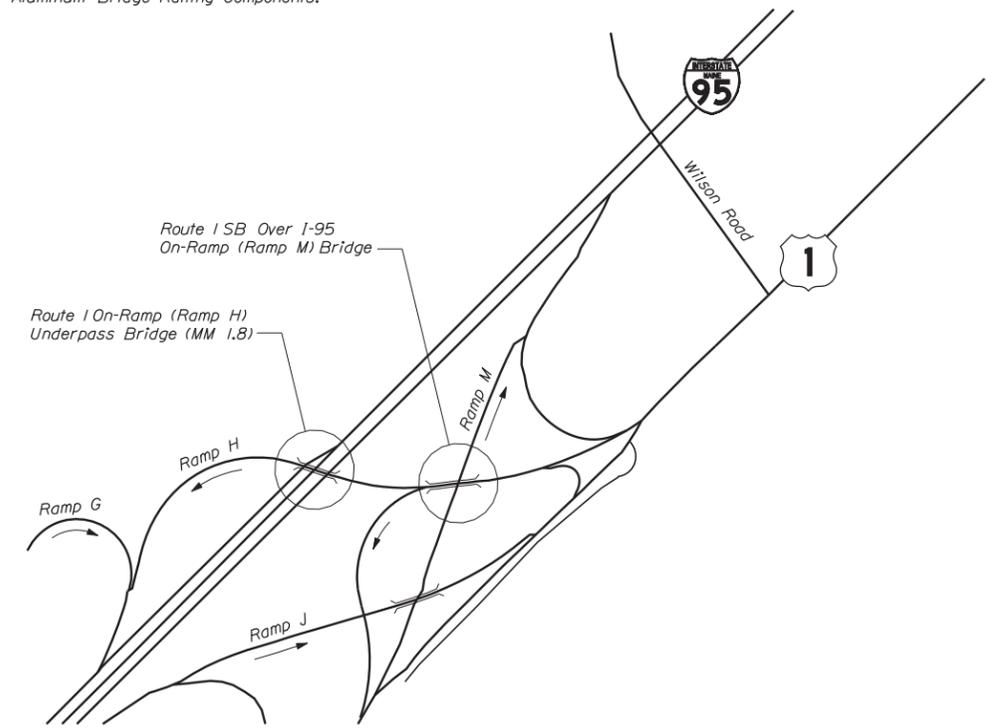
- Mortar for bedding and for joints in granite curb on bridges where required shall be an approved non-shrink mortar.
- Existing rest area/highway signs attached to the south and north fascias of the Ramp H Bridge shall remain visible to traffic during construction.

BEARING NOTES

- Bearings at the abutments of Route 1 On-Ramp (Ramp H) Underpass Bridge and Clay Hill Road Underpass Bridge shall be cleaned and painted in accordance with Special Provision 506.

BRIDGE RAIL REHABILITATION NOTES

- At the Route 1 On-Ramp (Ramp H) Bridge replace the individual section of bent bottom rail between existing splices where noted on the Bridge Plan and Elevation Sheet. Field measure the length of the rail sections requiring replacement and provide the measurements to the Resident. The Maine Turnpike Authority will supply used rail sections from existing stockpiles for the Contractor to install. The Contractor shall supply all hardware for the replacement rail sections. Contractor shall pick up the used rail sections from the Maine Turnpike Authority Stockpiles. All costs for transporting and installing the replacement rail sections, including removal of the existing rails and cutting over-long replacement sections to the required length if necessary, shall be included in Item 507.0928, Aluminum Bridge Railing - Rail Section Replace.
- Replace missing bridge rail post anchor bolt nuts where noted on the Mountain Road Bridge Plan and Elevation Sheet. All costs for furnishing and installing the missing anchor bolt nuts noted on the Bridge Plan and Elevation Sheet shall be included in Item 507.0926, Furnish Aluminum Bridge Railing Components.



KITTERY RAMP BRIDGES KEY PLAN

Date: 12/16/2014

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Designed by:



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**THE GOLD STAR
 MEMORIAL HIGHWAY**

MTA PROJECT NO. 2015.04
 SOUTHERLY BRIDGE REPAIRS

GENERAL NOTES

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

MTA PROJECT MANAGER: Ralph C. Norwood IV

VHB: 55032.00
 CONTRACT: 2015.04

SHEET NUMBER: 3
 3 OF 36

MAINTENANCE OF TRAFFIC GENERAL NOTES

- The maintenance of traffic plan along I-95 for the Clay Hill Road underpass bridge, Cape Neddick River Culvert, and Josias River Culvert of this project is for long term temporary shoulder closures along both the I-95 northbound and southbound roadways using temporary concrete barrier. The temporary concrete barrier will be supplied by the Authority. Temporary lane closures are anticipated to set up the long term shoulder closures.
- The maintenance of traffic plan along Clay Hill Road for the Clay Hill Road underpass bridge is to close the Clay Hill Road bridge to all traffic for the duration of the topside construction. A temporary detour is proposed along Clay Hill Road, Logging Road, US Route 1, Agamenticus Road/Mountain Road and Greenleaf Parsons Road to bypass the bridge. See Clay Hill Road underpass bridge closure detour plan (Sheet 08) for details. Also see Special Provisions for more information.
- The maintenance of traffic plan for the US Route 1 SB over I-95 NB On-Ramp (Ramp M) bridge and the US Route 1 On-Ramp (Ramp H) underpass bridge involves daily off-peak single lane closures on the overpasses, maintaining a minimum 12-foot travel lane at all times.
- The maintenance of traffic plan for the Mountain Road underpass bridge requires an alternating one-way operation using flaggers on Mountain Road.
- For traffic control purposes, it is assumed that work occurring on US Route 1 On-Ramp bridges (Ramp H and Ramp M) will occur simultaneously requiring only one lane closure for both locations. Additionally it is assumed that work occurring at the Josias River Culvert and the Clay Hill Road underpass bridge will occur simultaneously requiring only one shoulder closure for both locations.
- For a worst case scenario for the temporary traffic control plans it is assumed the detour, two turnpike shoulder closures, one turnpike lane closure, one ramp lane closure, and one local road single lane closure (flagging operations) will be active at the same time. However, the Contractor shall not install shoulder closures on the left side and right side of a roadway simultaneously.
- All traffic control equipment and devices shall conform to the latest edition of the Maine Department of Transportation (MaineDOT) Standard Specifications and applicable traffic control standards and practices of the Maine Turnpike Authority (MTA).
- 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.
- All traffic control signs shall have ASTM 4956 Type IV, Type VIII or Type IX super high intensity or prismatic fluorescent retroreflective sheeting and shall be maintained in like-new condition. All orange construction signs shall be fluorescent orange with Type VIII, IX or XI sheeting. Placement of signs shall be adjusted to avoid obstructing existing signs and to ensure proper sight lines to the construction signs as determined by the Resident.
- 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.
- During night operations, temporary work lighting shall be directed away from approaching lanes of traffic.
- Temporary lane closures will be required, with advanced approval, whenever work will occur within four feet of the I-95 traveled way. Temporary lane closures shall be removed if no work is occurring. See Special Provisions for more information.
- All lane closures shall require approval of the Resident a minimum of two working days in advance of the lane closure.
- Contractor shall provide advanced notice of all changes in traffic patterns, to include lane closures, with PCMS at least seven working days prior to the implementation of the traffic pattern change. PCMS for bridge closures shall be placed within 500 feet of the bridge along Clay Hill Road. PCMS for turnpike mainline road closures shall be placed at least 500 feet in advance of the US Route 1 On-Ramp (Ramp H) overpass at a location approved by the Resident.
- In the event that lane closure(s) begin to cause back-ups in through traffic of more than five minutes, the Contractor shall deploy the additional signs as indicated in the single lane closure set-up details.
- The Authority will supply the temporary concrete traffic barrier for the project. MTA will provide the barriers at the Crosby Maintenance Yard at Mile 45.8 Southbound in South Portland for Contractor pick-up. At the conclusion of the project, Contractor shall return the barriers to the Crosby Maintenance Yard.
- 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.
- At the completion of the work at each bridge, the temporary traffic controls shall be removed.

TURNPIKE 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"	8 - Black on Orange
W20-1 (AHEAD)			48"x48"	8 - Black on Orange
W21-5aL			48"x48"	8 - Black on Orange
W21-5aR			48"x48"	8 - Black on Orange
W21-5bL			48"x48"	8 - Black on Orange
W21-5bR			48"x48"	8 - Black on Orange

TEMPORARY SINGLE AND DOUBLE LANE CLOSURES

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

TEMPORARY SINGLE LANE CLOSURE ON RAMP

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		36"x18"	2 - Black on Orange
W4-2(L)			36"x36"	2 - Black on Orange
W4-2(R)			36"x36"	2 - Black on Orange
W20-1 (AHEAD)			36"x36"	2 - Black on Orange
W20-5L			36"x36"	2 - Black on Orange
W20-5R			36"x36"	2 - Black on Orange

ABBREVIATIONS FOR ALL WORK ZONE PLANS

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

Date:12/15/2014

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Designed by:



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**THE GOLD STAR
 MEMORIAL HIGHWAY**

MTA PROJECT NO. 2015.04
 SOUTHERLY BRIDGE REPAIRS
 MAINTENANCE OF TRAFFIC DETAILS
 (1 OF 4)

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	MLG	11/14	Checked	MDS	11/14
Drawn	JAR	11/14	In Charge of	TSB	11/14

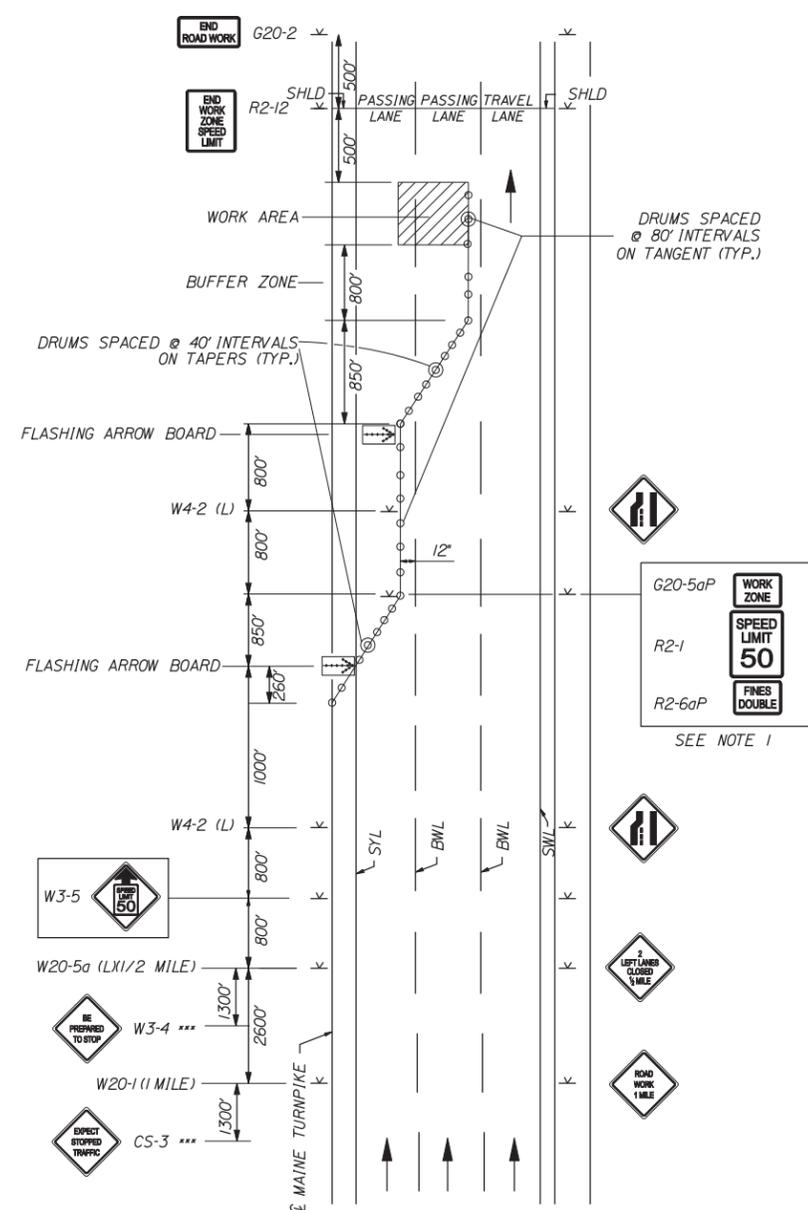
MTA PROJECT MANAGER: Ralph C. Norwood IV

VHB: 55032.00
 CONTRACT: 2015.04

SHEET NUMBER: 4
 4 OF 36

Date: 12/15/2014

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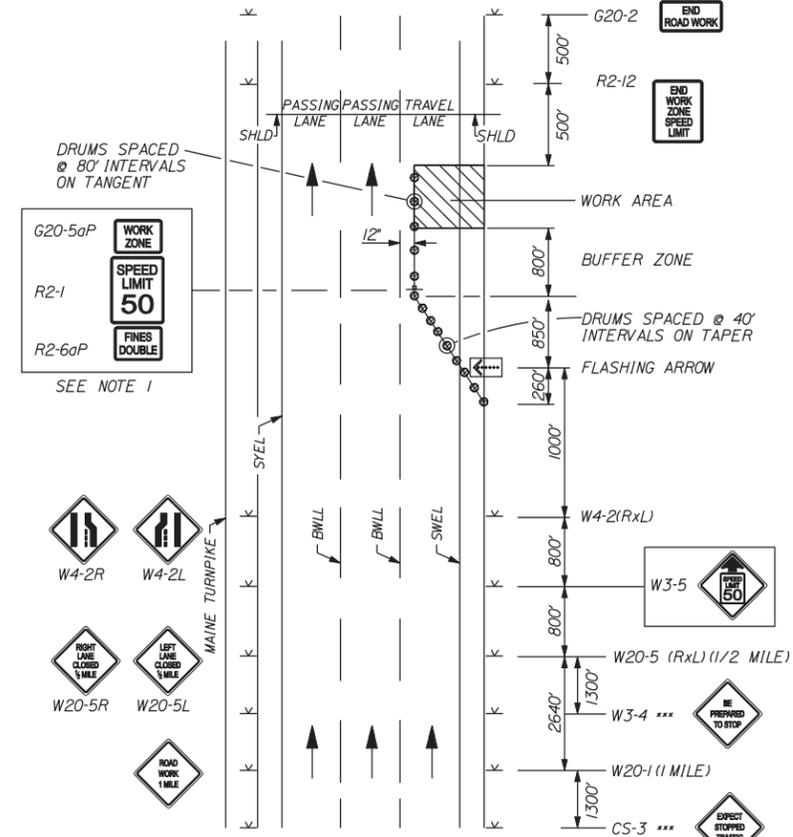
NIGHTTIME DOUBLE LANE CLOSURE OF SHORT DURATION (MAINLINE)

DOUBLE LANE CLOSURE SIGNS ON EASELS
(TYPICAL FOR US ROUTE 1 SB ON-RAMP (RAMP H))

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 into two easels.

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.



DAYTIME LANE CLOSURE OF SHORT DURATION (MAINLINE)

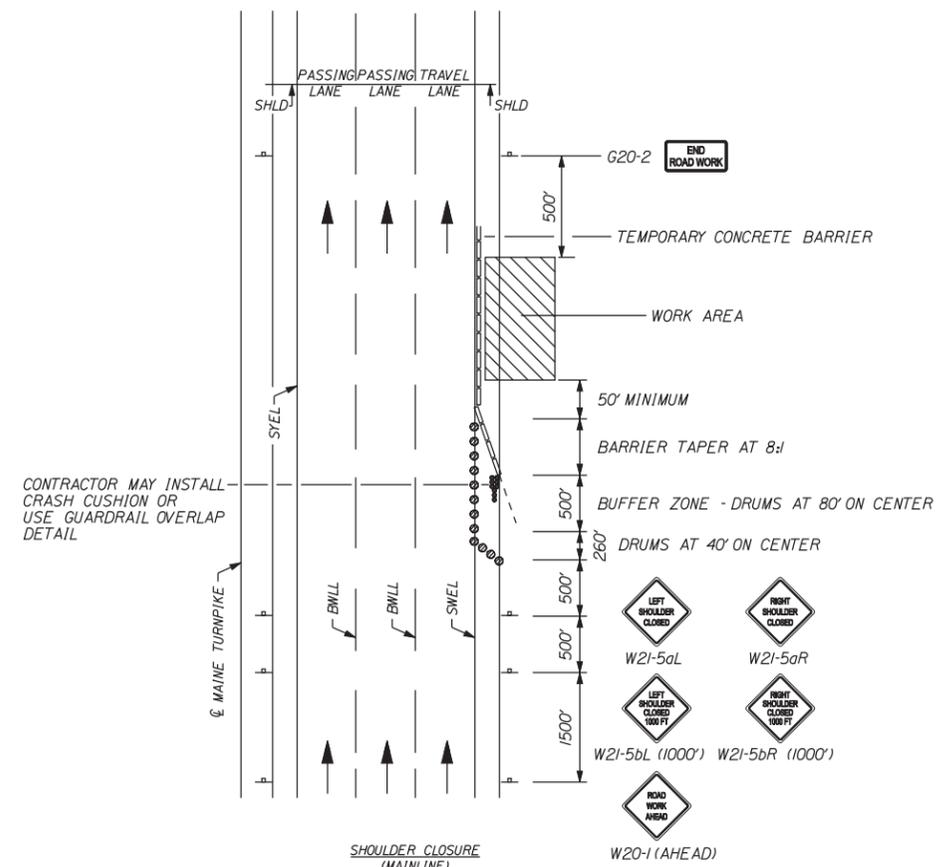
SINGLE LANE CLOSURE SIGNS ON EASELS

(TYPICAL FOR US ROUTE 1 SB ON-RAMP (RAMP H))

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 into two easels.

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

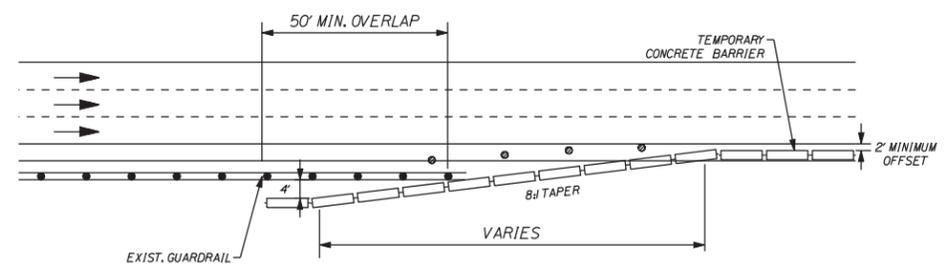


SHOULDER CLOSURE (MAINLINE)

SHOULDER CLOSURE

(TYPICAL FOR CAPE NEDDICK RIVER CULVERT, JOSIAS RIVER CULVERT, CLAY HILL ROAD UNDERPASS BRIDGE, AND US ROUTE 1 SB ON-RAMP (RAMP H) BRIDGE.)

1. The W20-1 and W20-2 signs are not required if the shoulder closure is within a previously established work zone.
2. For short term shoulder closures lasting less than 24 hours, the temporary concrete barrier shown in the diagram may be eliminated and substituted by drums at 80-foot on center.



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.

Scale: NOT TO SCALE

No.	Revision	By	Date

Designed by:

VHB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	MLG	11/14	Checked	MDS	11/14
Drawn	JAR	11/14	In Charge of	TSB	11/14

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV

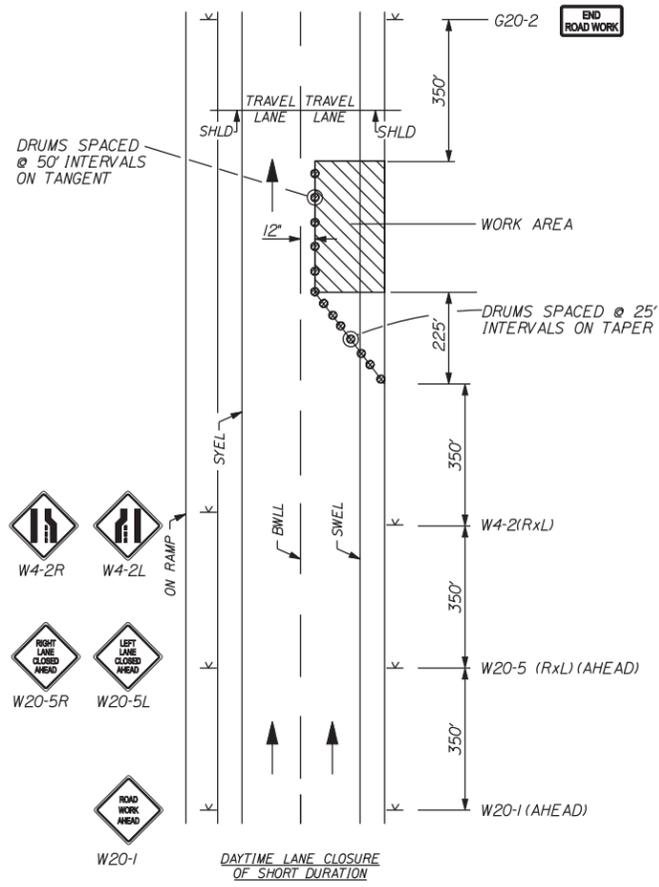
MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
MAINTENANCE OF TRAFFIC DETAILS
(2 OF 4)

VHB: 55032.00
CONTRACT: 2015.04

SHEET NUMBER: 5
5 OF 36

Date: 12/15/2014

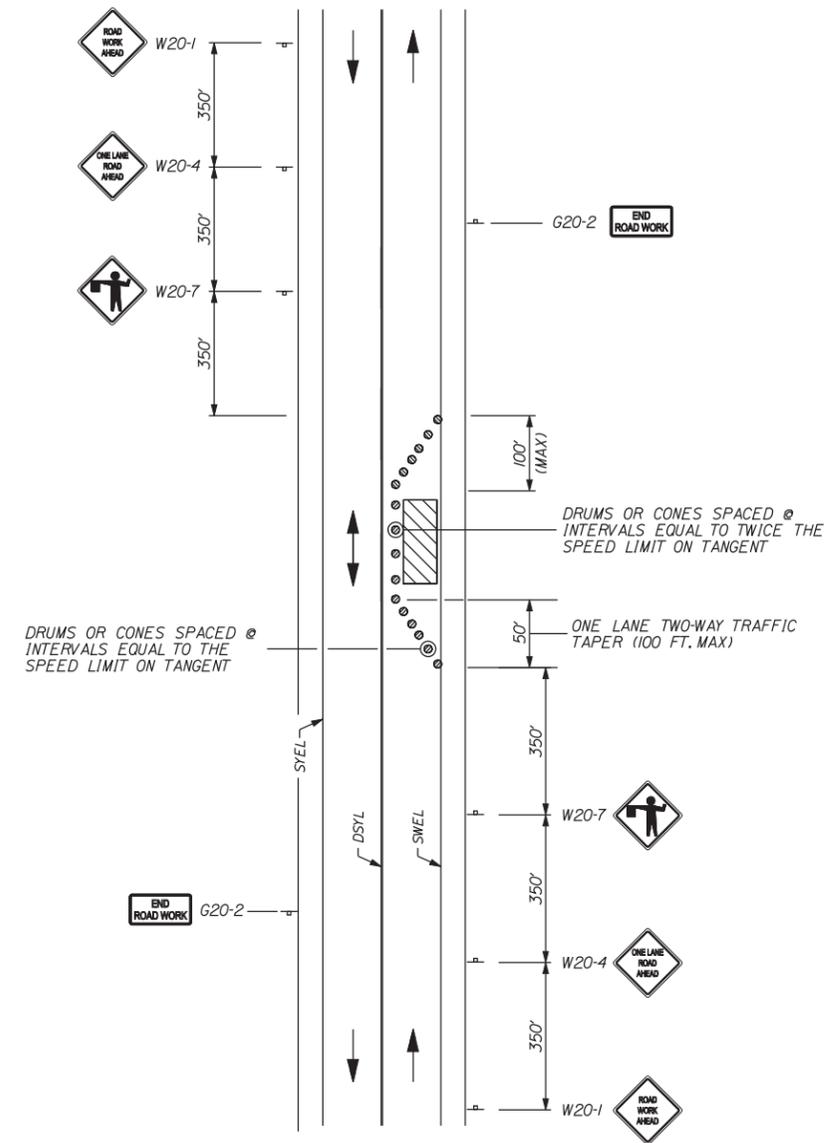
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**SINGLE LANE CLOSURE ON RAMP
SIGNS ON EASELS**
(TYPICAL FOR US ROUTE 1 SB OVER I-95 NB ON-RAMP (RAMP M))

LOCAL ROAD SINGLE LANE 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		36"x18"	2 - Black on Orange
W20-1 (AHEAD)			36"x36"	2 - Black on Orange
W20-4			36"x36"	2 - Black on Orange
W20-7			36"x36"	2 - Black on Orange



LOCAL ROAD SINGLE LANE CLOSURE
(TYPICAL FOR MOUNTAIN ROAD AND CLAY HILL ROAD)

- Road work ahead and end road work signs may be omitted for short duration operations (less than 1 hour).
- Flaggers shall be located so they are clearly visible to approaching drivers.
- Sign spacing assumes local road speed is 40mph or less.

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.

LEGEND	
	Construction Sign on Post Support
	Construction Sign on Easel
	Drums/Channelizing Devices
	Temporary Concrete Barrier, Type 1
	Temporary Impact Attenuator
	Work Area
	Type 3 Barricade with Sign
	Type 3 Barricade

Scale: NOT TO SCALE			
No.	Revision	By	Date

Designed by:					
Vanasse Hangen Brustlin, Inc.					
CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	MLG	11/14	Checked	MDS	11/14
Drawn	JAR	11/14	In Charge of	TSB	11/14

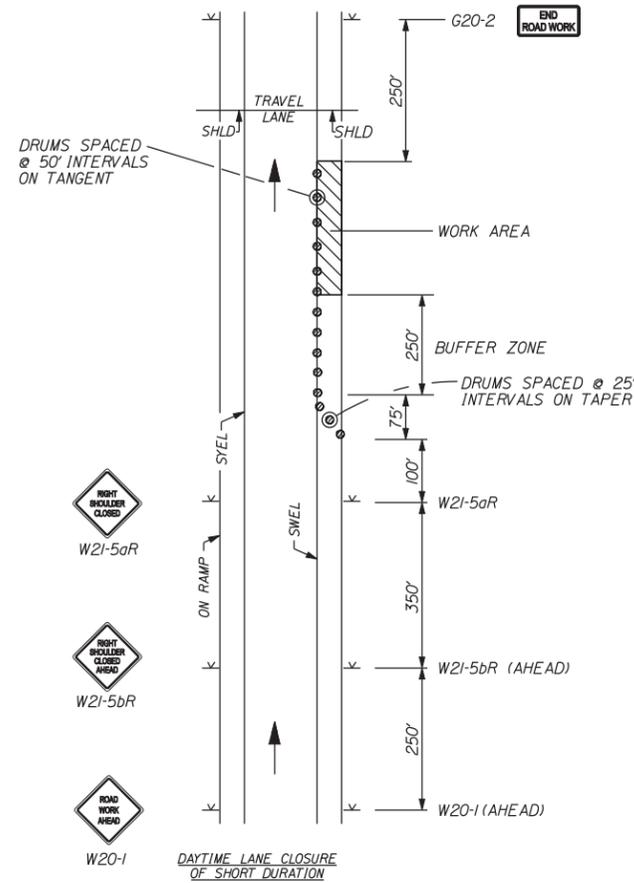
VANASSE HANGEN BRUSTLIN, INC.
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South Portland, ME 04106
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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04 SOUTHERLY BRIDGE REPAIRS MAINTENANCE OF TRAFFIC DETAILS (3 OF 4)	
VHB: 55032.00 CONTRACT: 2015.04	SHEET NUMBER: 6 6 OF 36

SHOULDER CLOSURE ON RAMP

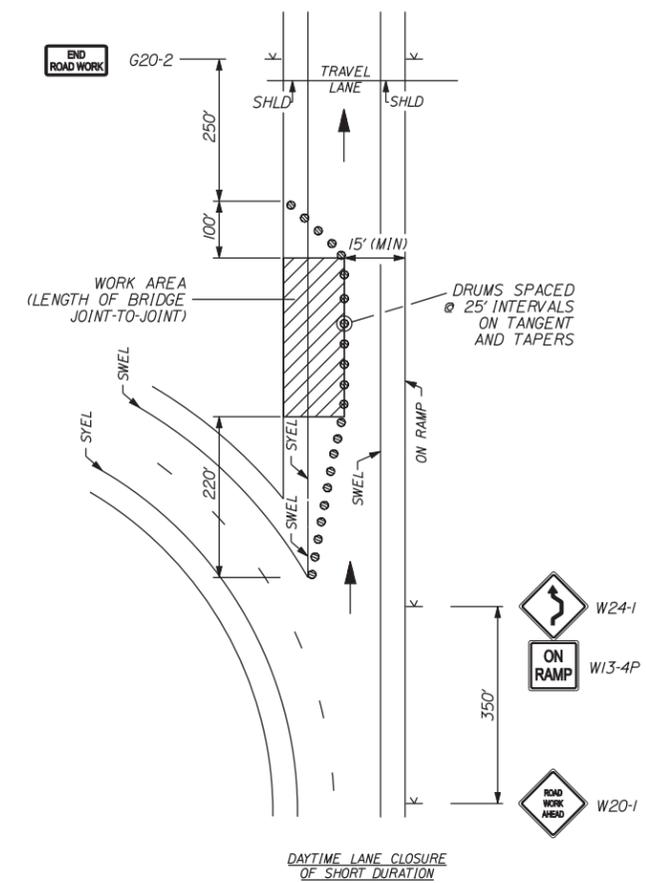


RAMP SHOULDER CLOSURE
SIGNS ON EASELS
(TYPICAL FOR US ROUTE 1 SB ON-RAMP (RAMP H))

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		36"x18"	2 - Black on Orange
W20-1 (AHEAD)	Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		36"x36"	2 - Black on Orange
W21-5bR	Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		36"x36"	2 - Black on Orange
W21-5aR	Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		36"x36"	2 - Black on Orange

RAMP LANE SHIFT

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		36"x18"	2 - Black on Orange
W20-1 (AHEAD)	Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		36"x36"	1 - Black on Orange
W24-1	Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		36"x36"	1 - Black on Orange
W13-4P	Text Dimensions Shall Conform to "Standard Highway Signs" - 2012		36"x36"	1 - Black on Orange



RAMP LANE SHIFT TO SHOULDER
SIGNS ON EASELS
(TYPICAL FOR US ROUTE 1 SB ON-RAMP (RAMP H))

LEGEND

- † Construction Sign on Post Support
- ⋈ Construction Sign on Easel
- Drums/Channelizing Devices
- ▬ Temporary Concrete Barrier, Type 1
- Temporary Impact Attenuator
- ▨ Work Area
- ☒ Type 3 Barricade with Sign
- ☐ Type 3 Barricade

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.

Date: 12/15/2014

Filename: ...st\planiset\007_workzone_04.dgn

Scale: NOT TO SCALE			
No.	Revision	By	Date

Designed by:

VHB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	MLG	11/14	Checked	MDS	11/14
Drawn	JAR	11/14	In Charge of	TSB	11/14

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
MAINTENANCE OF TRAFFIC DETAILS
(4 OF 4)

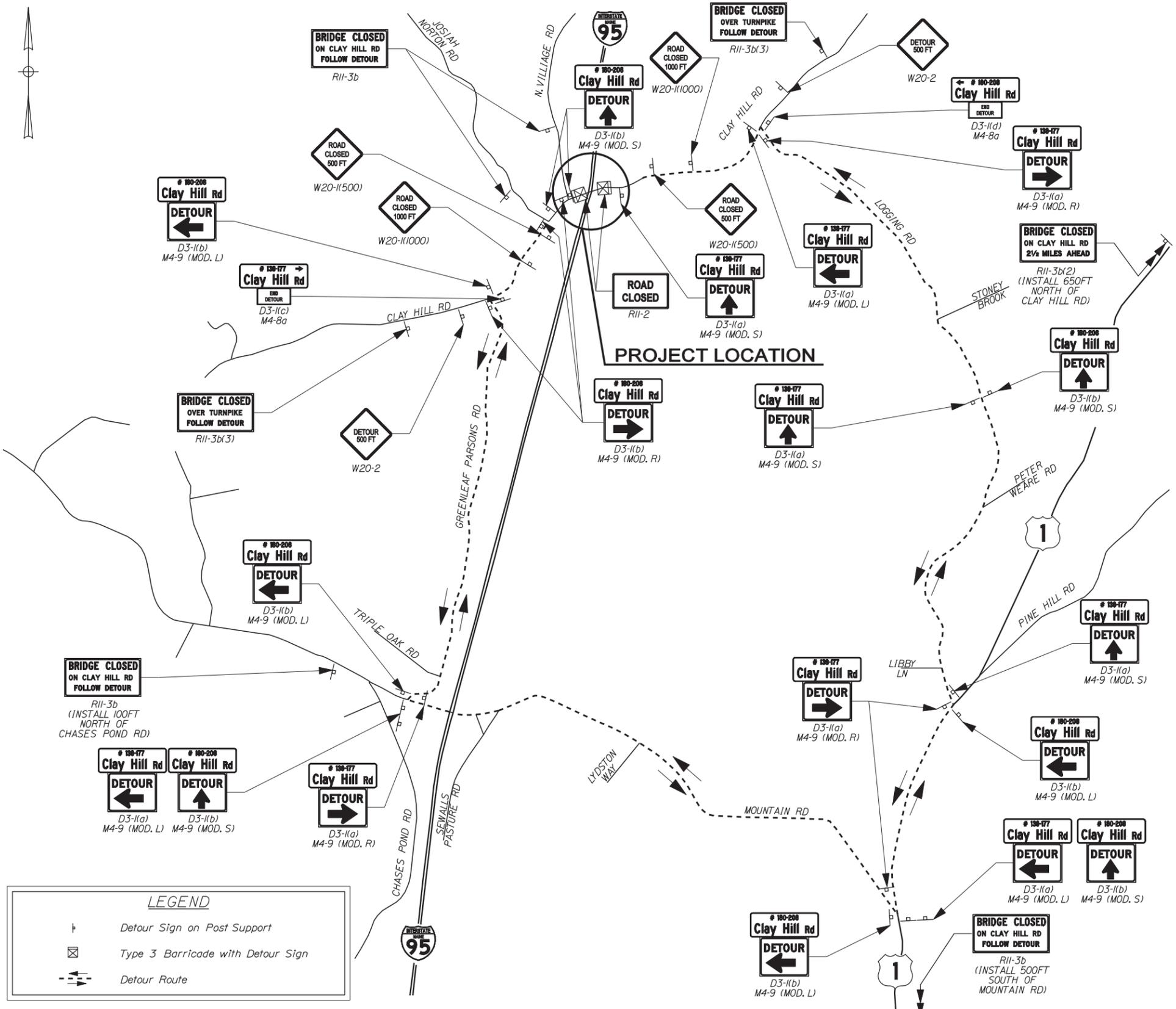
VHB: 55032.00
CONTRACT: 2015.04

SHEET NUMBER: 7
7 OF 36

DETOUR FOR CLAY HILL ROAD UNDERPASS BRIDGE CLOSURE

DETOUR SIGN SUMMARY				
Sign	Text Dimensions (Inches)		Size	Quantity and Color
	Letter Height	Vertical Spacing		
M4-8a	END DETOUR	SHSB	24"x18"	2 - Black on Orange
M4-9 (MOD. L)	DETOUR		30"x24"	7 - Black on Orange
M4-9 (MOD. R)	DETOUR		30"x24"	7 - Black on Orange
M4-9 (MOD. S)	DETOUR		30"x24"	8 - Black on Orange
W20-1 (1000)	ROAD CLOSED 1000 FT		36"x36"	2 - Black on Orange
W20-1 (500)	ROAD CLOSED 500 FT		36"x36"	2 - Black on Orange
W20-2	DETOUR 500 FT		36"x36"	2 - Black on Orange
D3-1(a)	# 138-177 Clay Hill Rd	3" 6"/4.5"	1.5" 4.5" 1.5"	42"x15"
D3-1(b)	# 180-208 Clay Hill Rd	3" 6"/4.5"	1.5" 4.5" 1.5"	42"x15"
D3-1(c)	# 138-177 Clay Hill Rd	3" 6"/4.5"	1.5" 4.5" 1.5"	42"x15"
D3-1(d)	# 180-208 Clay Hill Rd	3" 6"/4.5"	1.5" 4.5" 1.5"	42"x15"
R11-2	ROAD CLOSED	SHSB	48"x30"	2 - Black on White
R11-3b	BRIDGE CLOSED ON CLAY HILL RD FOLLOW DETOUR	6" 5" 4"	3.38" 3.38"	60"x30"
R11-3b(2)	BRIDGE CLOSED ON CLAY HILL RD 2 1/2 MILES AHEAD	6" 5" 4"	3.38" 3.38"	60"x30"
R11-3b(3)	BRIDGE CLOSED OVER TURNPIKE FOLLOW DETOUR	6" 5" 4"	3.38" 3.38"	60"x30"

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



LEGEND

- † Detour Sign on Post Support
- ☒ Type 3 Barricade with Detour Sign
- - - Detour Route

Date: 12/15/2014

Filename: ...st\planiset\008_detour_01.dgn

Scale: NOT TO SCALE

No.	Revision	By	Date

Designed by:

VHB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	MLG	11/14	Checked	MDS	11/14
Drawn	JAR	11/14	In Charge of	TSB	11/14

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

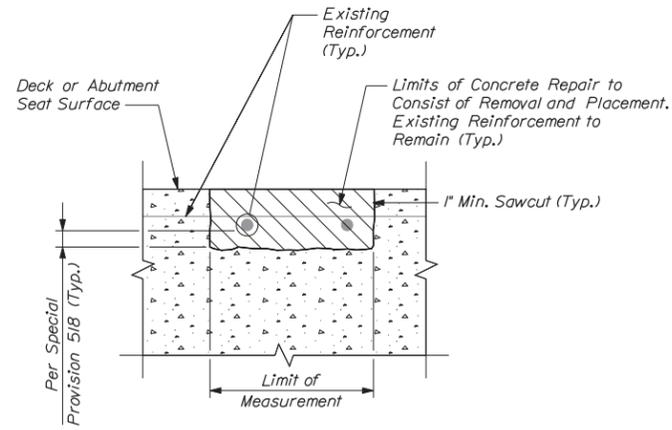
MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
 SOUTHERLY BRIDGE REPAIRS
 CLAY HILL ROAD UNDERPASS BRIDGE
 DETOUR PLAN

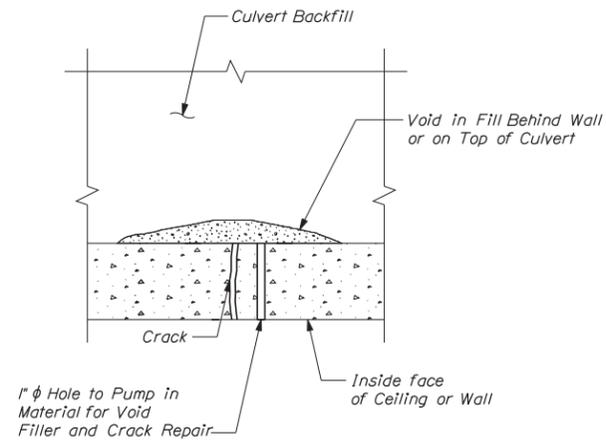
VHB: 55032.00
 CONTRACT: 2015.04

SHEET NUMBER: 8
 8 OF 36

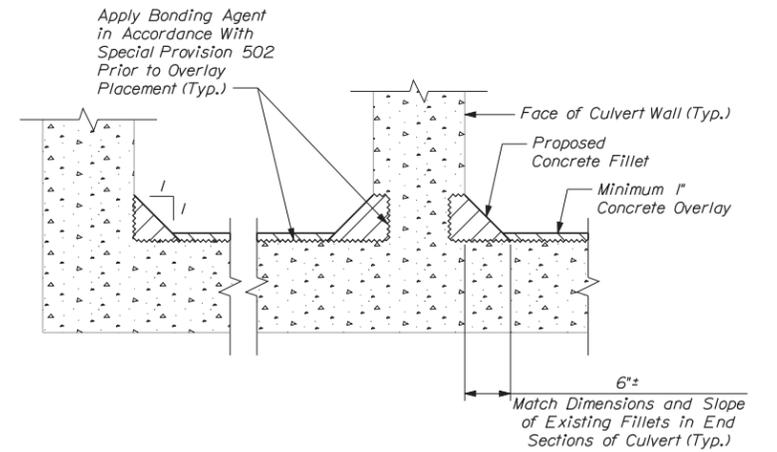
Date: 12/15/2014



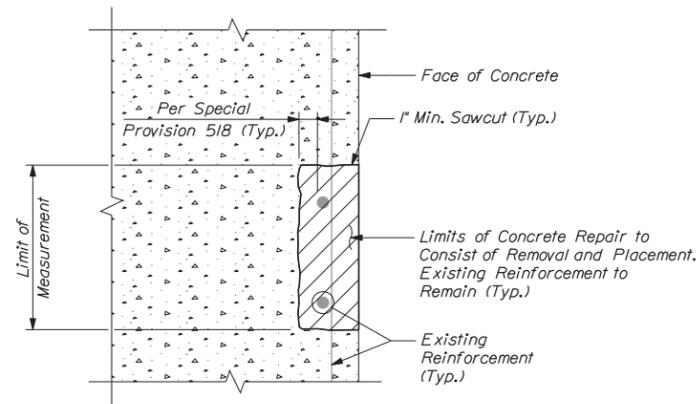
TYPICAL HORIZONTAL SURFACE CONCRETE REPAIR DETAILS



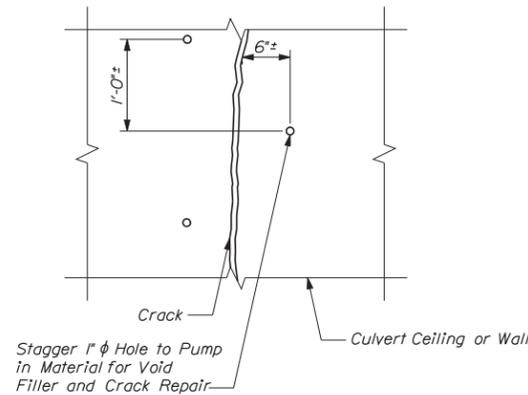
SECTION A-A



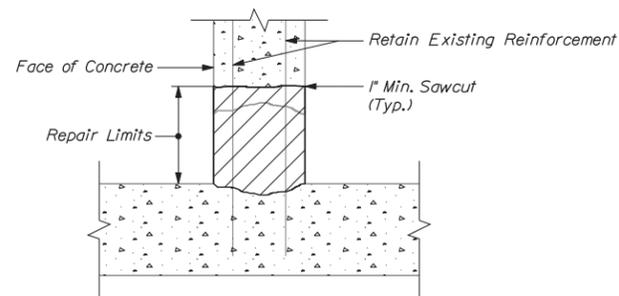
CULVERT FILLET AND FLOOR OVERLAY DETAIL



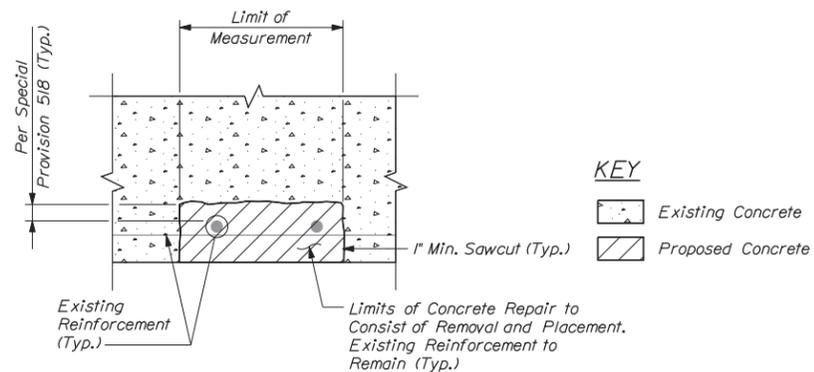
TYPICAL VERTICAL SURFACE CONCRETE REPAIR DETAILS



CULVERT CEILING OR WALL SPECIAL CRACK REPAIR DETAIL



TYPICAL CULVERT FULL DEPTH REPAIR DETAIL



TYPICAL OVERHEAD SURFACE CONCRETE REPAIR DETAILS

CONCRETE REPAIR NOTES

1. Repair work shall include: surface repairs, epoxy injection crack repair and providing access for inspection.
2. Where surface repairs are specified the work shall include removal of unsound concrete and placement and curing of repair materials. Repairs shall be measured for payment under Items 518.15 Culvert Surface Patch Repair - Above Waterline, 518.17 Miscellaneous Culvert Concrete Repairs, 518.6313 Abutment and Bridge Seat Repairs, 518.6314 Pier Repairs, and 518.75 Fascia and Overhang Repairs.
3. Where epoxy injection crack repair is specified the work shall include pressure injection of cracks 1/16" or more in width. Work shall be paid under Item 518.4 Epoxy Injection Crack Repair.
4. Prior to the start of concrete repairs the Resident and the Contractor shall sound all concrete surfaces and agree on the repair limits. Estimated repair quantities may increase at the Resident's discretion.
5. The estimated repair quantities are based on inspections completed in June and October 2014.

CONCRETE SURFACE REPAIR NOTES

1. Perform 1" deep saw cuts along limits of removal.
2. Chip concrete to the depth specified in Special Provision 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 removal.
3. Prepare and patch repair areas with Class AAA modified concrete.
4. Perform general finishing.

EPOXY INJECTION CRACK REPAIR NOTES

1. All crack repairs shall be completed by an individual qualified and experienced in the type of repairs proposed.
2. All crack repairs shall be completed in accordance with Special Provision 518.

SPECIAL CRACK REPAIR NOTES

1. See Cape Neddick River Culvert Floor and Ceiling Repairs Sheet and Josias River Culvert Floor and Ceiling Repairs Sheet for locations. Work shall be paid under Item 518.45 Special Crack Repair.
2. Prior to injection of the cracks, drill 1 inch diameter holes through the roof or wall of the culvert and pump polyurethane foam behind the concrete to fill material voids as specified by the manufacturer.
3. After filling the voids behind the concrete, all cracks shall be repaired by injecting polyurethane grout as specified in Special Provision 518 and by the manufacturer.

KEY

- Existing Concrete
- Proposed Concrete

Scale: NOT TO SCALE

Designed by:



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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS

CONCRETE REPAIR TYPICAL DETAILS

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

MTA PROJECT MANAGER: Ralph C. Norwood IV

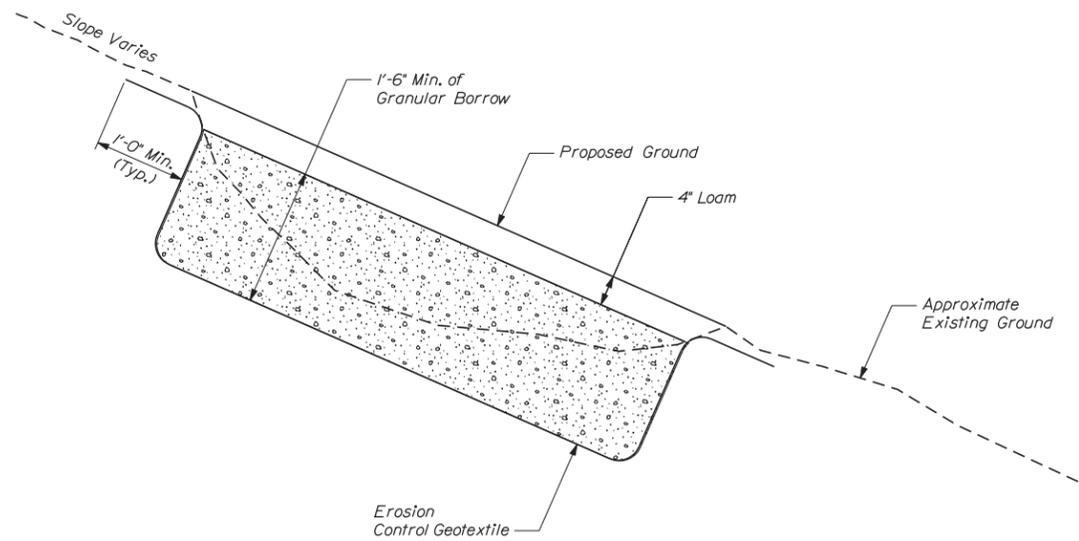
VHB: 55032.00
CONTRACT: 2015.04

SHEET NUMBER: 9
9 OF 36

Filename: ...planset\009_concrecrepair_01.dgn

Date: 12/15/2014

Filename: ... \planset\010_concrecrepair_01.dgn



**SLOPE EROSION
TYPICAL REPAIR DETAIL**

NOTES

1. See Cape Neddick River Culvert General Plan and Josias River Culvert General Plan for slope erosion repair locations.
2. Slope erosion repair areas shall be seeded with Item 618.1401 Seeding Method Number 2, Plan Quantity in accordance with Standard Specifications 615 and 618.

Scale: NOT TO SCALE

Designed by:



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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS

SLOPE EROSION REPAIR TYPICAL DETAILS

No.	Revision	By	Date

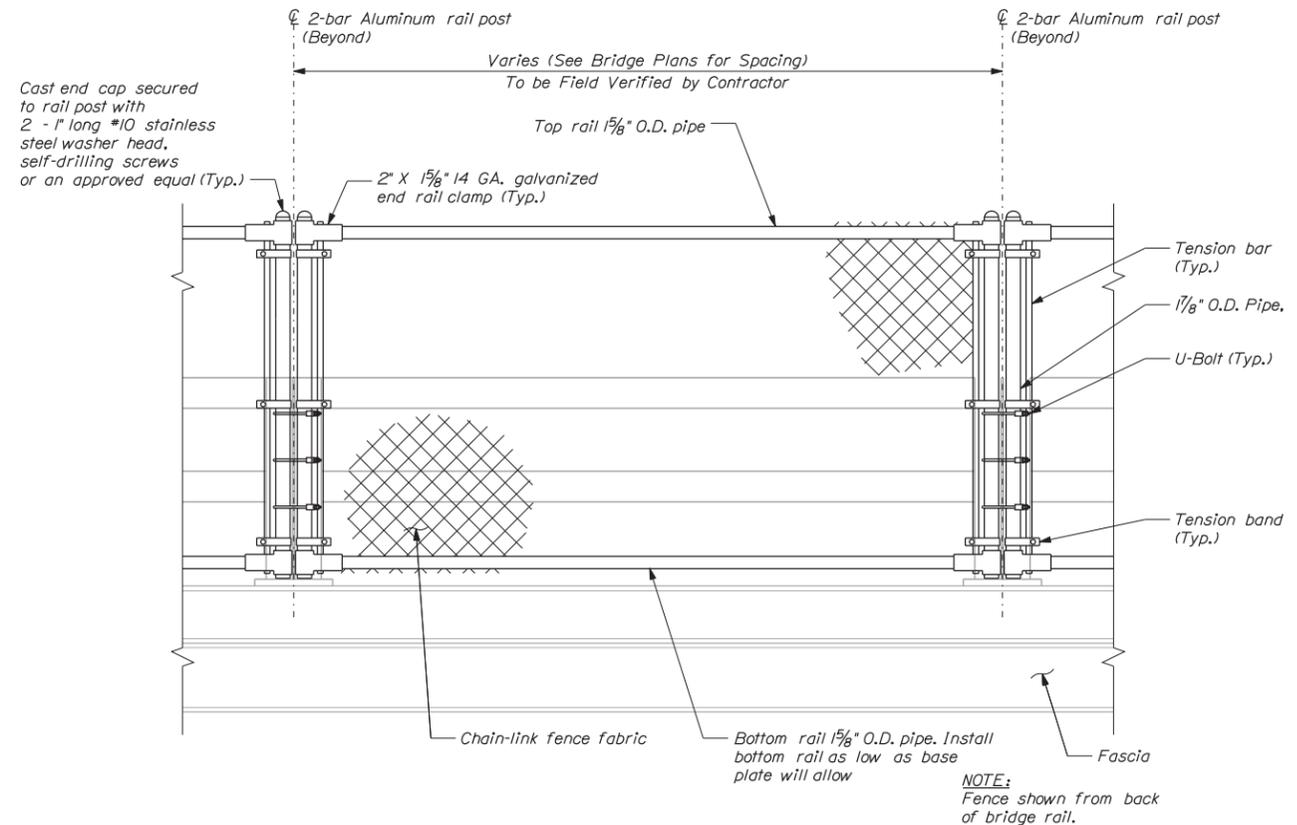
CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

VHB: 55032.00 SHEET NUMBER: 10
CONTRACT: 2015.04 10 OF 36

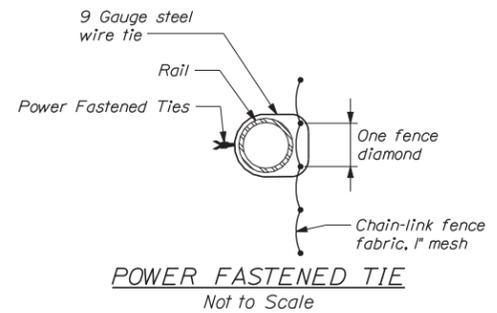
MTA PROJECT MANAGER: Ralph C. Norwood IV

Date: 12/15/2014

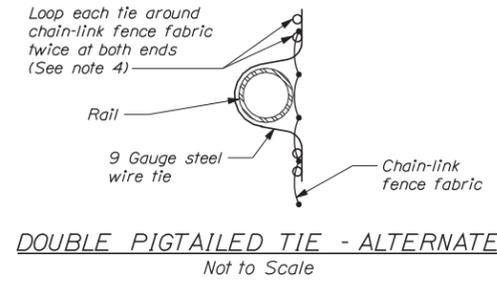
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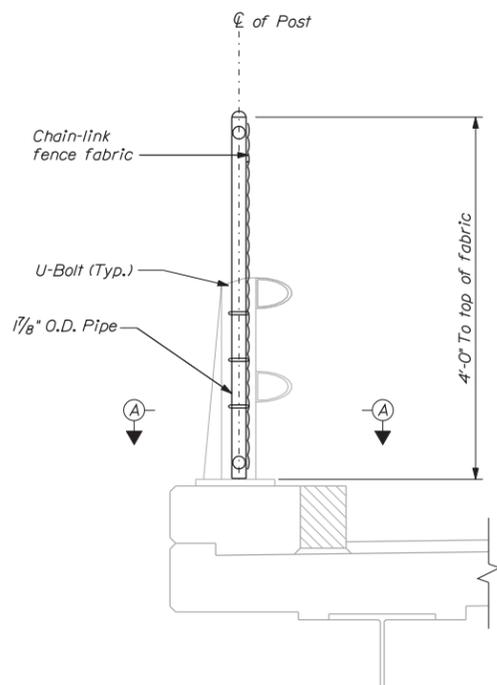
SNOW FENCE POST ATTACHMENT TO 2-BAR ALUMINUM RAIL
Scale: 1" = 1'-0"



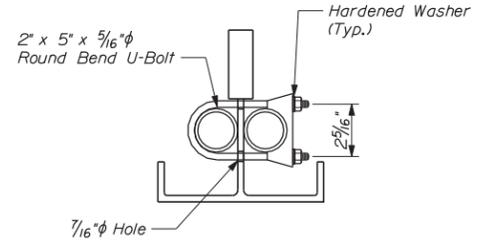
POWER FASTENED TIE
Not to Scale



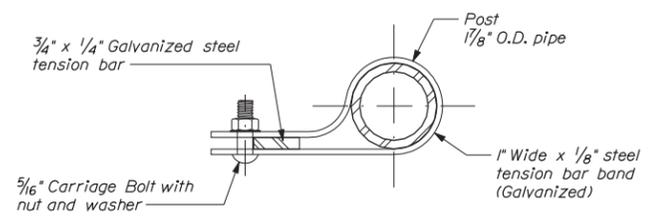
DOUBLE PIGTAILED TIE - ALTERNATE
Not to Scale



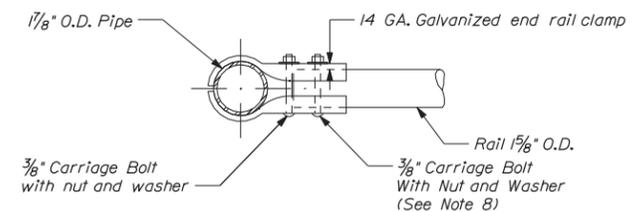
BARRIER DETAIL
Scale: 1" = 1'-0"



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



TENSION BAND DETAIL
Scale: 6" = 1'-0"



END RAIL CLAMP (At Post)
Scale: 3" = 1'-0"

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".
- Post and rail pipe 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.
- Install chain-link fence fabric between aluminum bridge rails and snow fence frame.
- Install chain link fence fabric with twisted barbs at the bottom rail.
- Round wire ties shall be 9 gauge zinc-coated steel preformed to the radius of the post and power-fastened to wrap 360 degrees around the post and one complete diameter of the chain-link fence. The two ends shall be twisted together in a close helix of 1/2 machine turns (3 full twists) tightly around the post and chain-link fence fabric. Space ties @ 6" o.c. to bottom rail and @ 12" o.c. to all posts and other rails. Twisted ends shall be bent down upon completion.
- Alternatively, wire ties may be standard round 9 gauge zinc-coated steel. All ties shall be wrapped around chain-link fence 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.
- 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 hardware shall be hot-dip galvanized in accordance with AASHTO M111 (ASTM A123) or AASHTO M232 (ASTM A153) as applicable.
- Holes in end rail clamps shall be shop drilled. The Contractor shall field drill a hole in the rails using the end rail clamp holes as a guide.

Scale: As Noted

No.	Revision	By	Date

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	BJM	11/14	In Charge of	TSB	11/14

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV

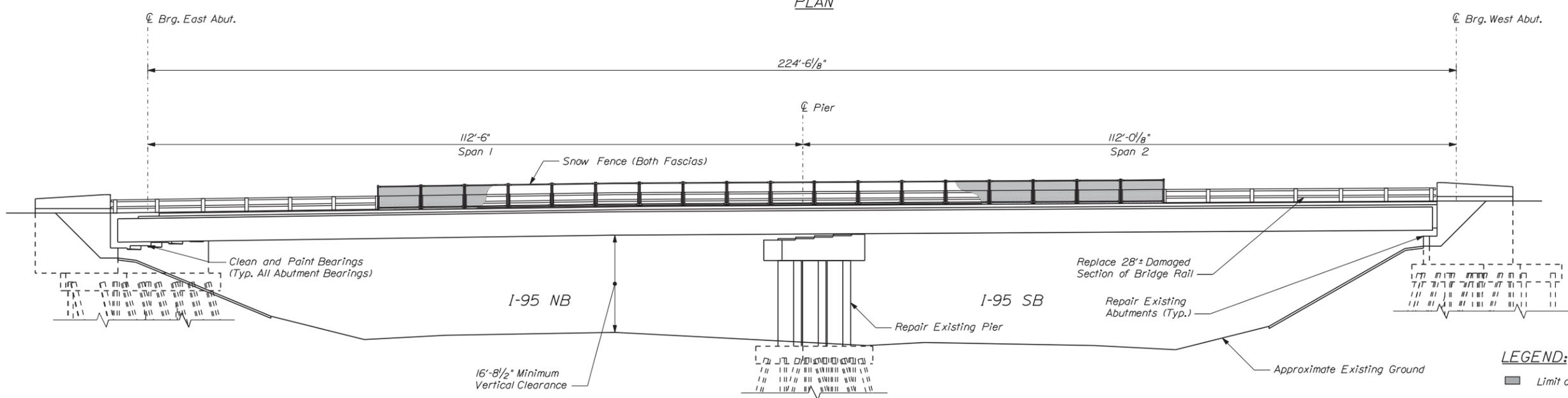
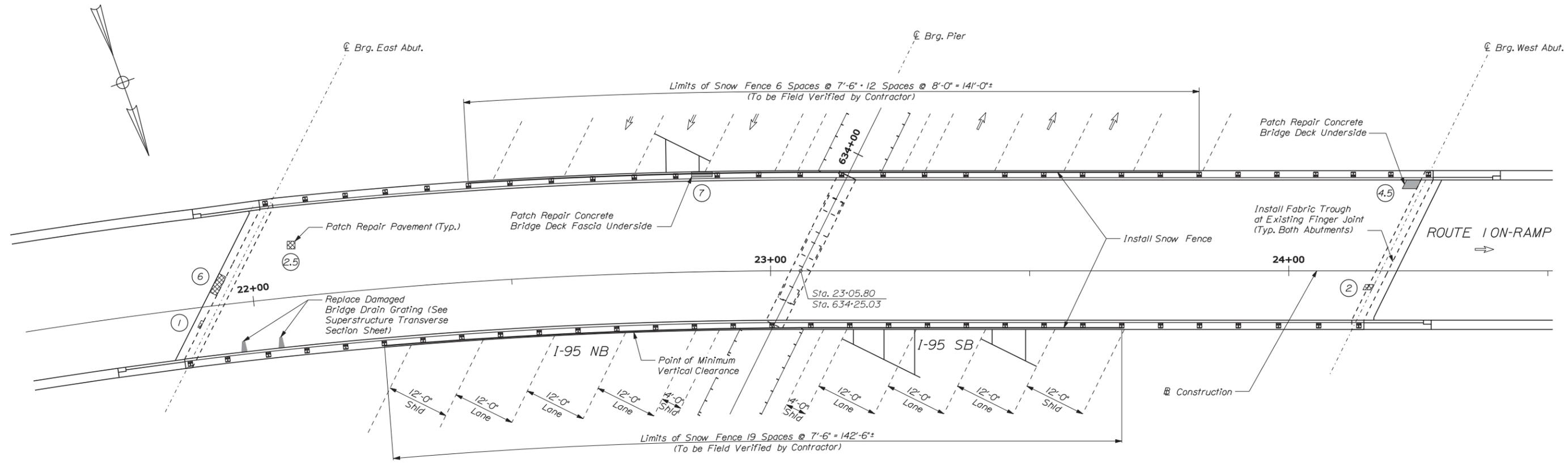
MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
SNOW FENCE DETAILS

VHB: 55032.00
CONTRACT: 2015.04

SHEET NUMBER: 11
11 OF 36

Date: 12/15/2014

Filename: ...012_RampH_plan_Elev.dgn



- LEGEND:**
- Limit of Surface Patch Repair
 - ▣ Limit of Pavement Repair
 - ⊙ Square Footage of Repair



No.	Revision	By	Date

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

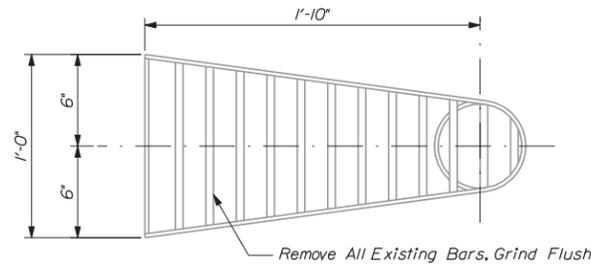
MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
 SOUTHERLY BRIDGE REPAIRS
 ROUTE 1 ON-RAMP (RAMP H) UNDERPASS
 GENERAL PLAN AND ELEVATION

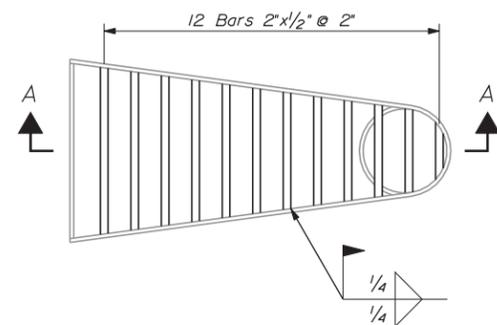
VHB: 55032.00
 CONTRACT: 2015.04

SHEET NUMBER: 12
 12 OF 36

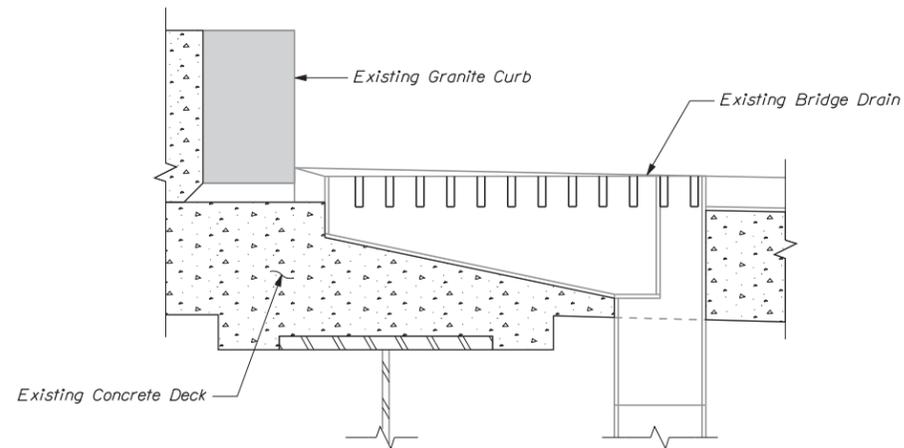
Date: 12/15/2014



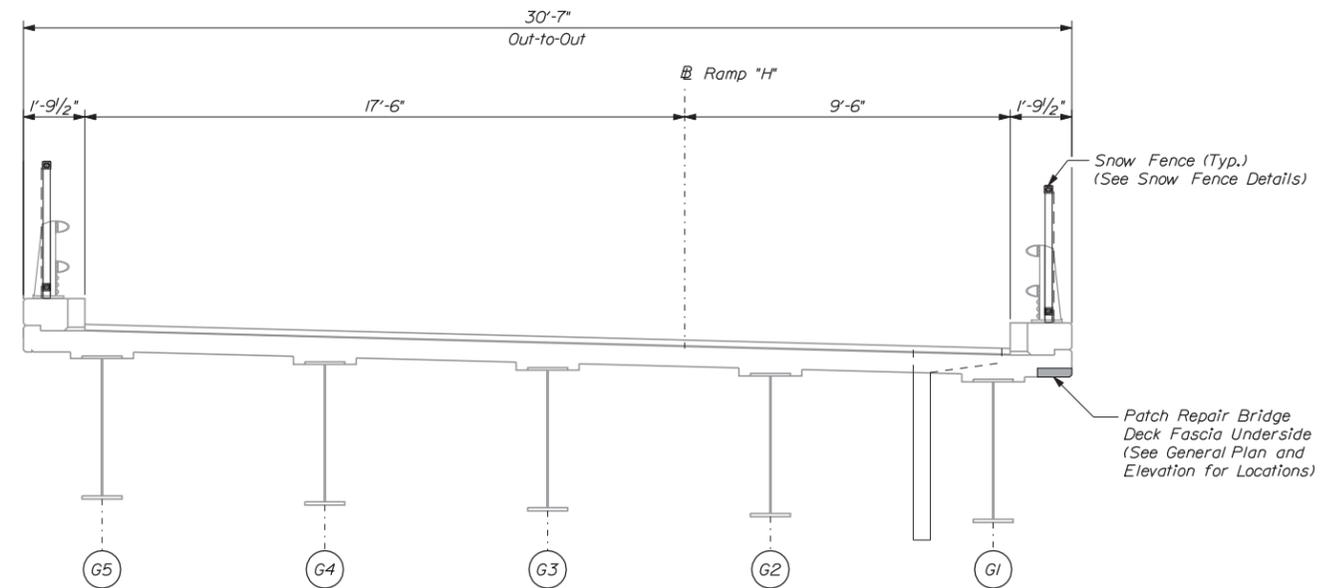
EXISTING BRIDGE DRAIN PLAN



PROPOSED BRIDGE DRAIN PLAN



SECTION A-A



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

BRIDGE DRAIN REPAIR NOTES

1. Prior to starting the work, the Contractor shall field measure each drain noted for repair on the General Plan and Elevation Sheet. This information shall be used for the fabrication of the drain bars.
2. The Contractor shall cleanly cut and remove the existing grate bars and grind flush.
3. All plates shall conform to ASTM A36.
4. Prepare existing bridge drain body and new grate bars for field weld. Field weld the new grate bars to the existing body.
5. Payment for all labor, equipment and materials associated with the bridge drain repair will be paid under item 502.701, Bridge Drain Grate Modification. See Special Provision 502.

LEGEND:

■ Limit of Surface Patch Repair

Filename: ...013_RampH_bridgetyp_01.dgn

Scale: AS NOTED			
No.	Revision	By	Date

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

Designed	By	Date	Checked	By	Date
Drawn	By	Date	In Charge of	By	Date
	KZS	11/14		TSB	11/14
	CMD	11/14		TSB	11/14

VANASSE HANGEN BRUSTLIN, INC.
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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
ROUTE 1 ON-RAMP (RAMP H) UNDERPASS
SUPERSTRUCTURE TRANSVERSE SECTION

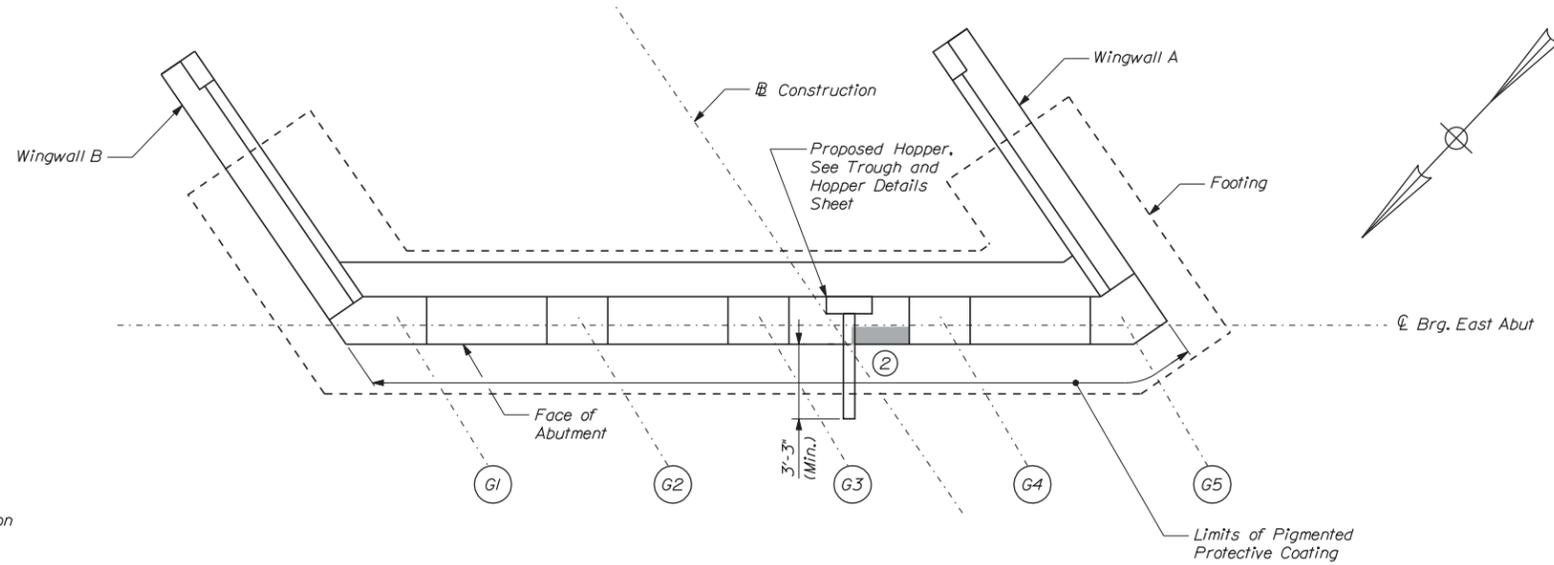
VHB: 55032.00 SHEET NUMBER: 13
CONTRACT: 2015.04 13 OF 36

Date: 12/15/2014

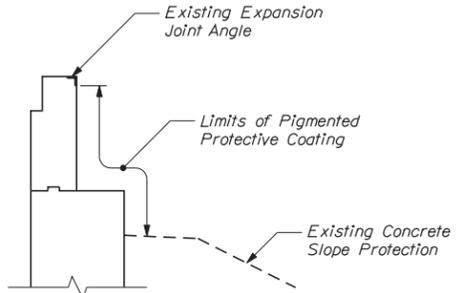
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REPAIR QUANTITY

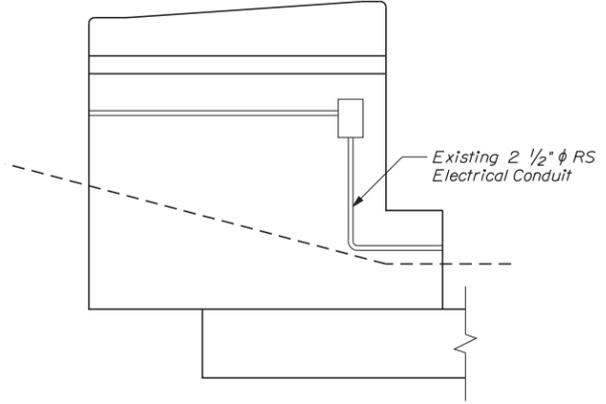
Surface Patch Repair 5.5 SF
Epoxy Crack Repair 13 LF



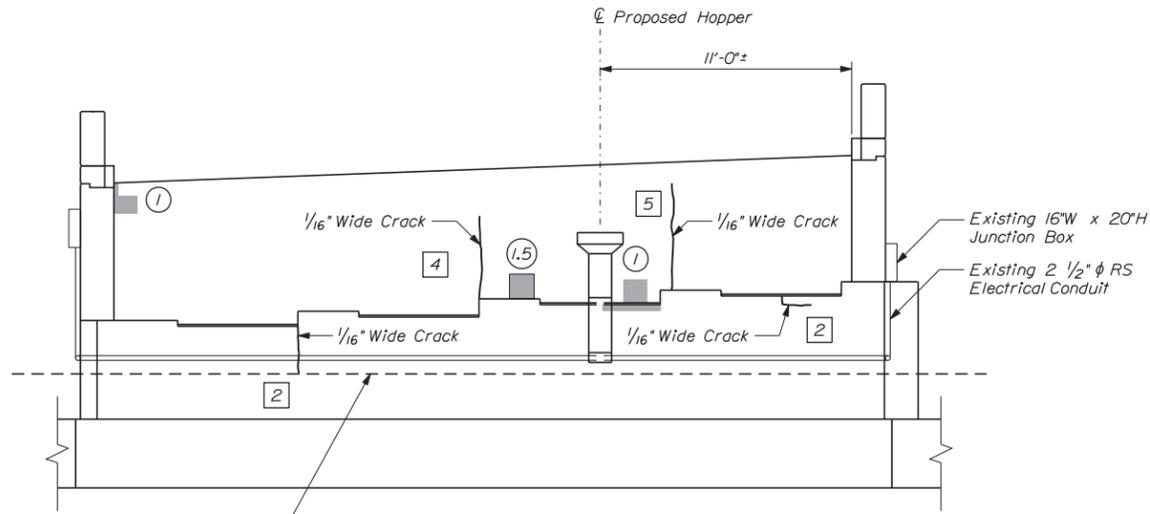
PLAN
Scale: 1/4" = 1'-0"



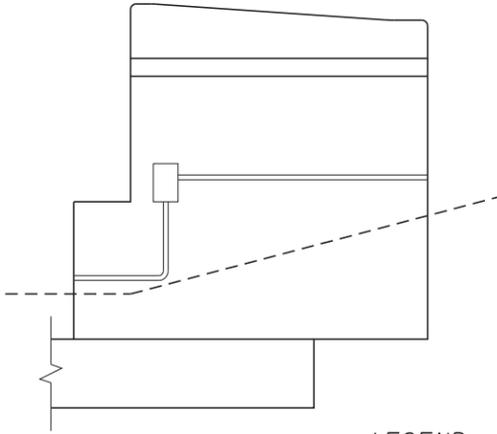
TYPICAL ABUTMENT SECTION
Not to Scale



ELEVATION WINGWALL B
Scale: 1/4" = 1'-0"



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



ELEVATION WINGWALL A
Scale: 1/4" = 1'-0"

- LEGEND:**
- Crack Repair
 - Limit of Surface Patch Repair
 - Linear Feet of Crack Repair
 - Square Footage of Repair

NOTE
1. For concrete repair notes and details see Concrete Repair Typical Details Sheet.

Scale: AS NOTED

No.	Revision	By	Date

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
ROUTE 1 ON-RAMP (RAMP H) UNDERPASS
EAST ABUTMENT REPAIRS

VHB: 55032.00
CONTRACT: 2015.04

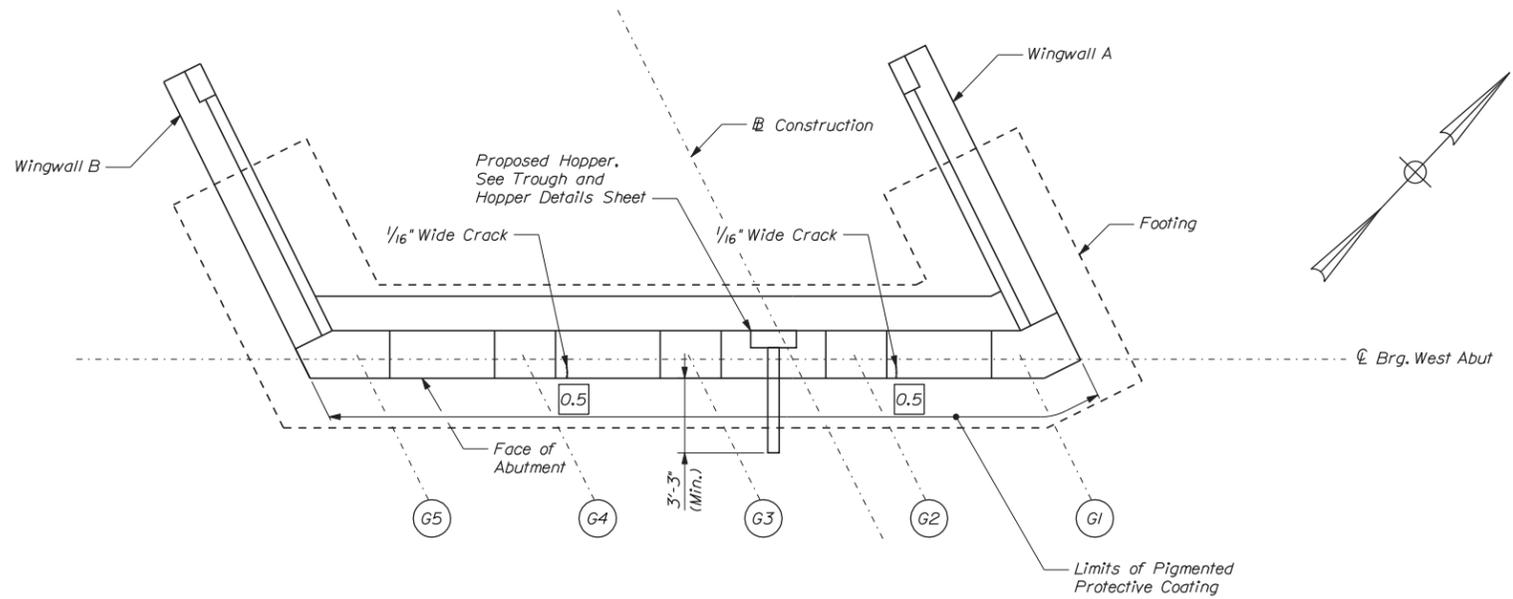
SHEET NUMBER: 14
14 OF 36

Date: 12/15/2014

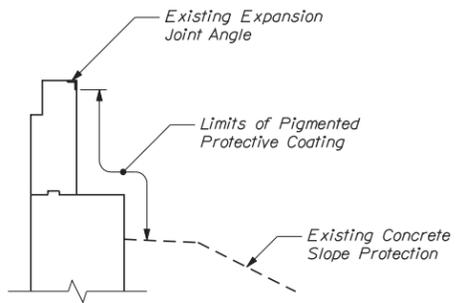
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REPAIR QUANTITY

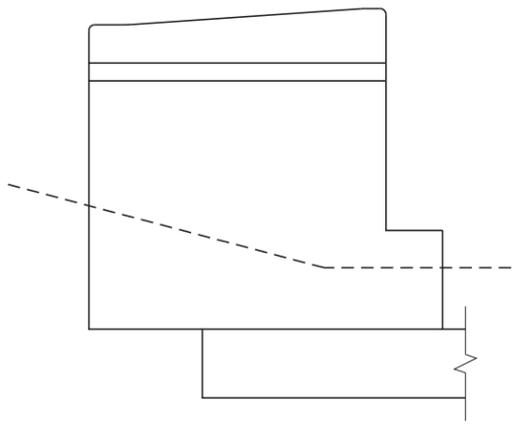
Surface Patch Repair 3.5 SF
Epoxy Crack Repair 14 LF



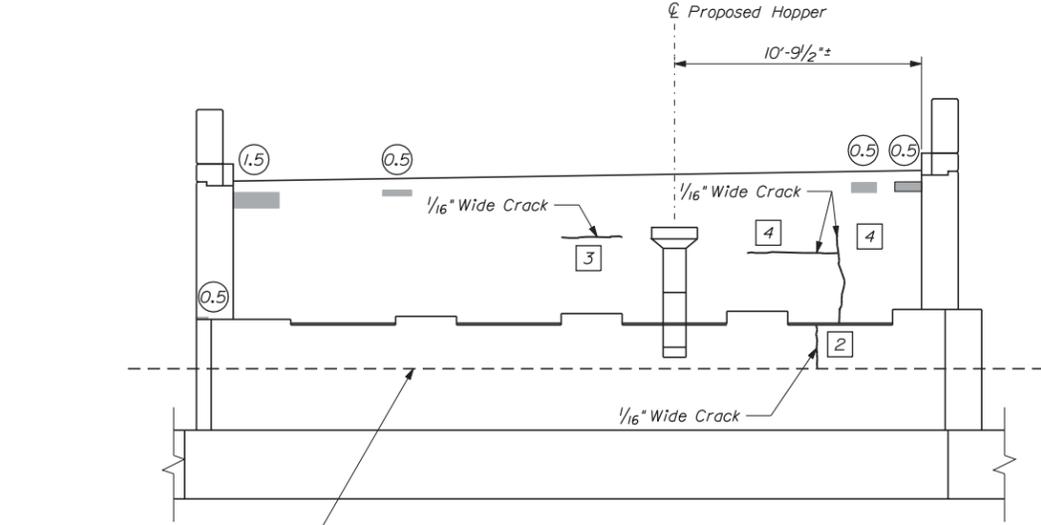
PLAN
Scale: 1/4" = 1'-0"



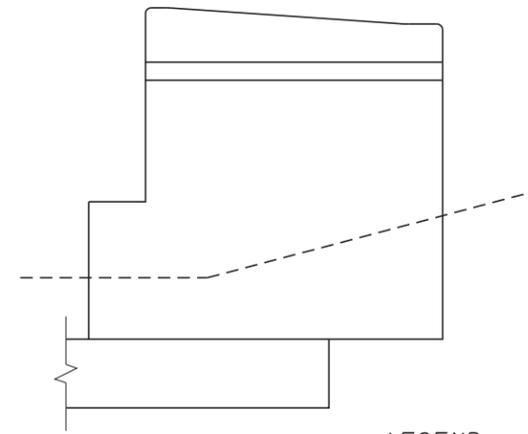
TYPICAL ABUTMENT SECTION
Not to Scale



ELEVATION WINGWALL B
Scale: 1/4" = 1'-0"



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



ELEVATION WINGWALL A
Scale: 1/4" = 1'-0"

NOTE
1. For concrete repair notes and details see Concrete Repair Typical Details Sheet.

- LEGEND:**
- Crack Repair
 - Limit of Surface Patch Repair
 - Linear Feet of Crack Repair
 - Square Footage of Repair

Scale: AS NOTED

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

No.	Revision	By	Date

	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV

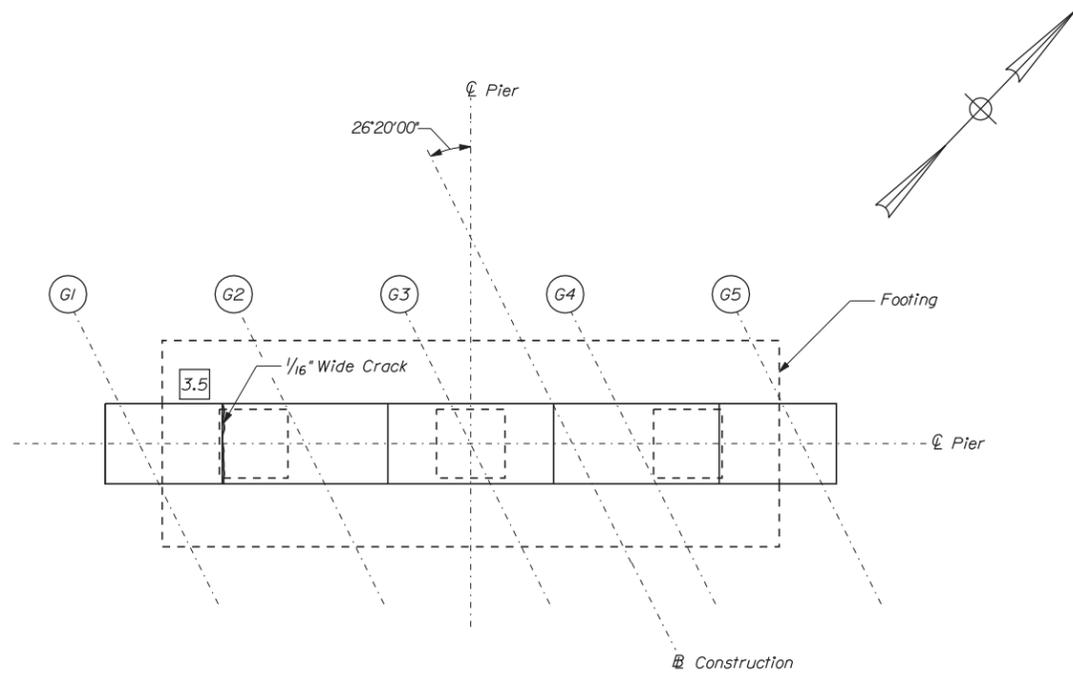
MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
ROUTE 1 ON-RAMP (RAMP H) UNDERPASS
WEST ABUTMENT REPAIRS

VHB: 55032.00
CONTRACT: 2015.04

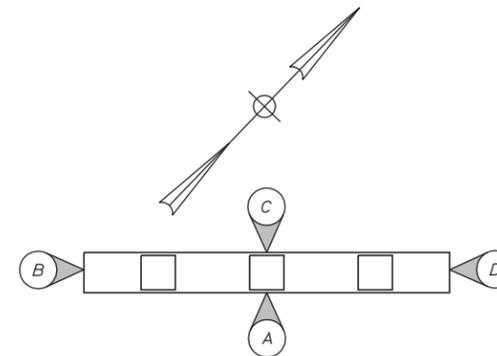
SHEET NUMBER: 15
15 OF 36

REPAIR QUANTITIES

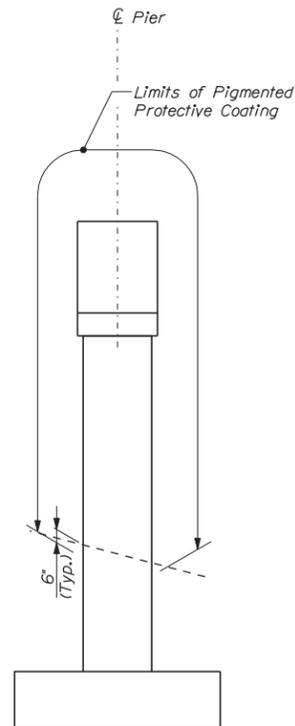
Pier Surface Patch Repair 0 SF
Epoxy Crack Repair 5.5 LF



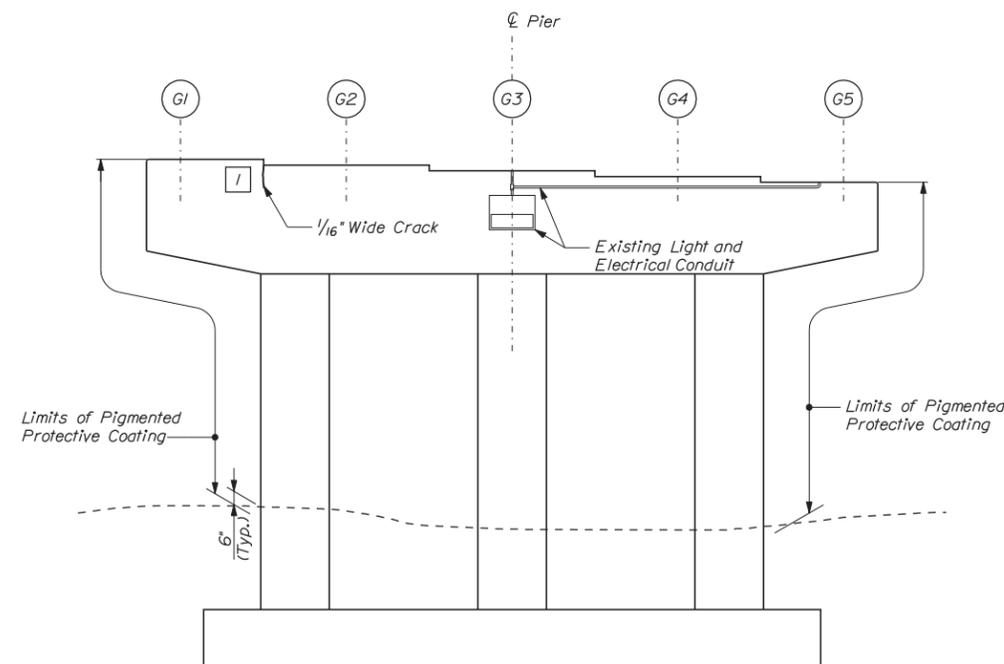
PIER PLAN



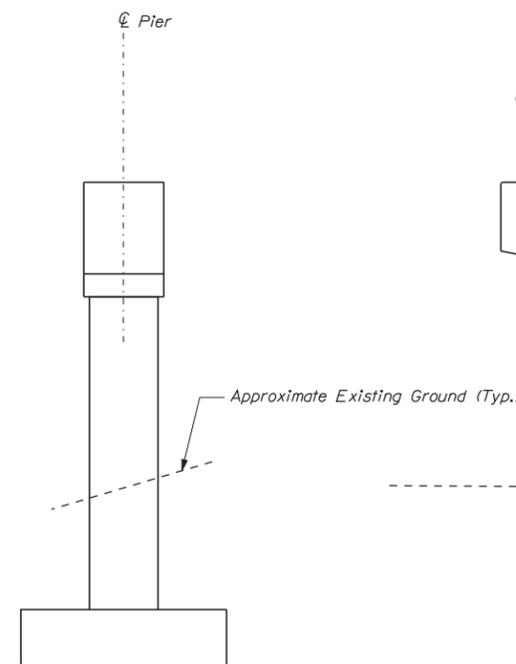
PIER ELEVATION KEY



ELEVATION B



ELEVATION A



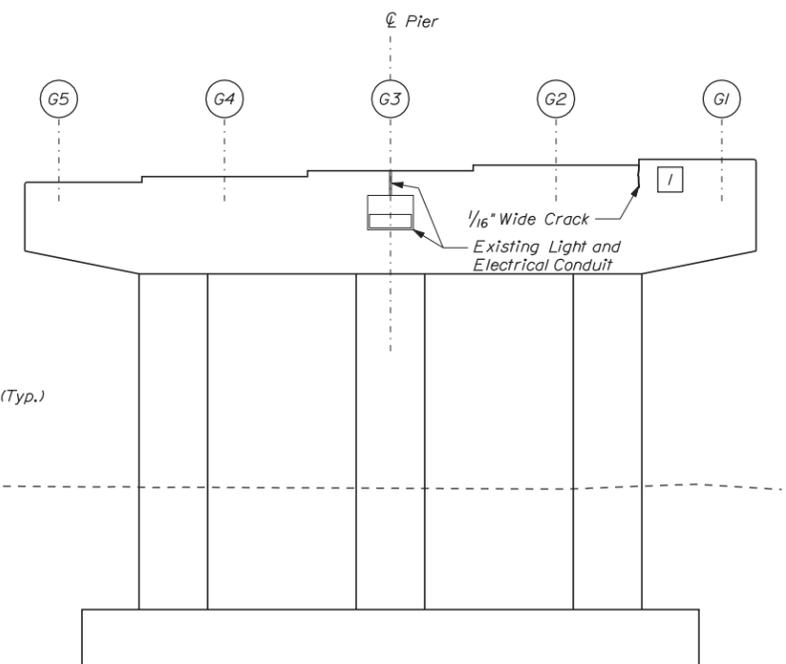
ELEVATION D

NOTES

- For concrete repair notes and details see Concrete Repair Typical Details Sheet.
- All excavation required for the protective coating application shall be incidental to Item 515.201.

LEGEND:

- ~ Crack Repair
- Limit of Surface Patch Repair
- # Linear Feet of Crack Repair
- ⊕ Square Footage of Repair



ELEVATION C

Date: 12/15/2014

Filename: ...planset\016_RampH_pier_01.dgn

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

No.	Revision	By	Date

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

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FAX (207) 253-5596

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV

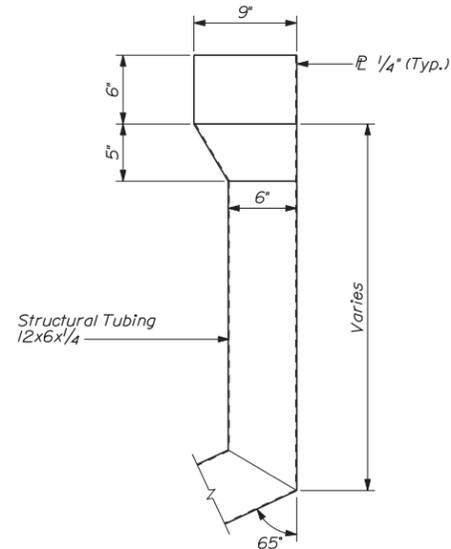
MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
ROUTE 1 ON-RAMP (RAMP H) UNDERPASS
PIER REPAIRS

VHB: 55032.00
CONTRACT: 2015.04

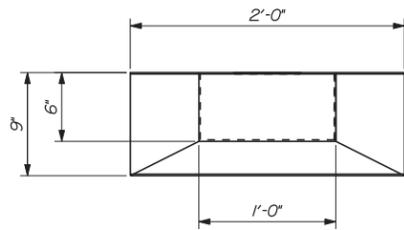
SHEET NUMBER: 16
16 OF 36

Date: 12/15/2014

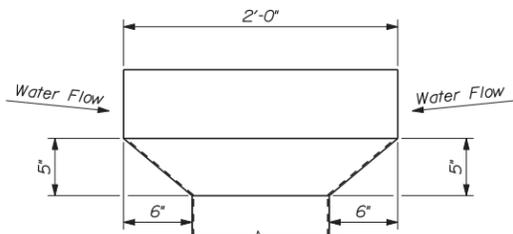
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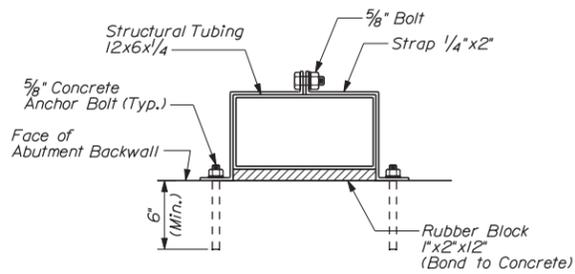
SIDE VIEW



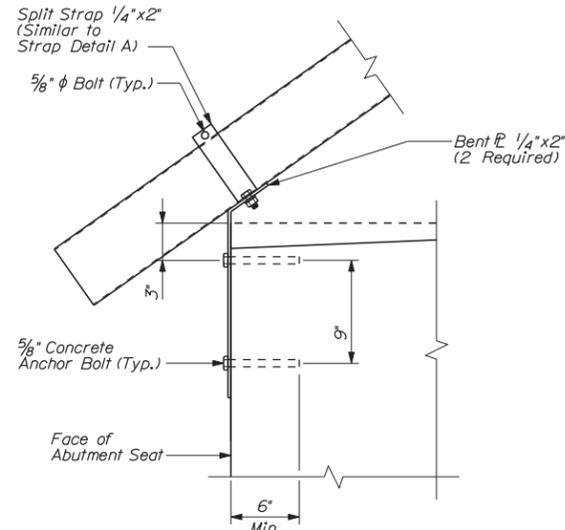
TOP VIEW



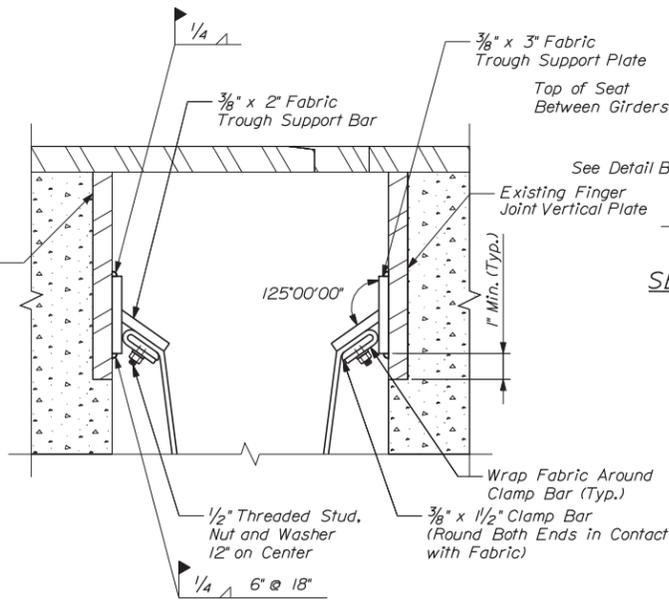
FRONT VIEW



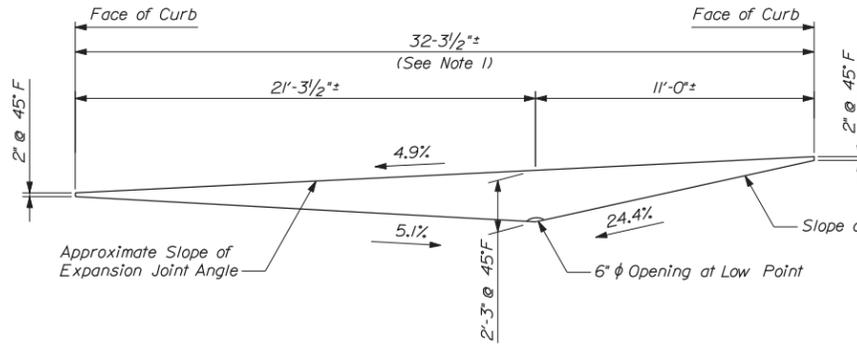
DETAIL A
HOPPER DETAILS
Not to Scale



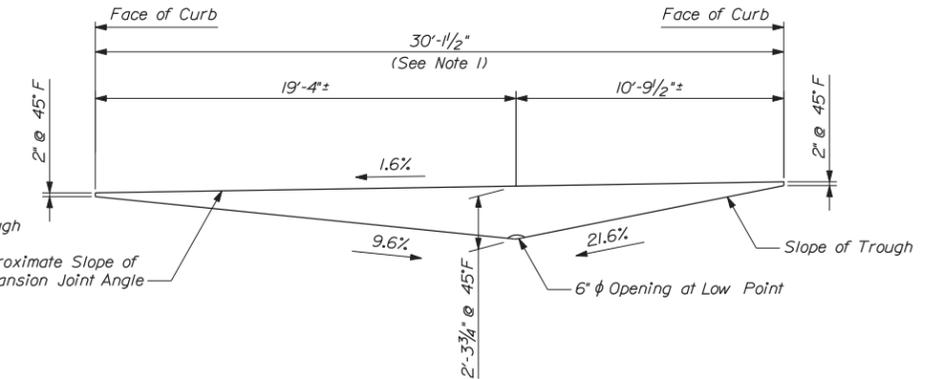
DETAIL B
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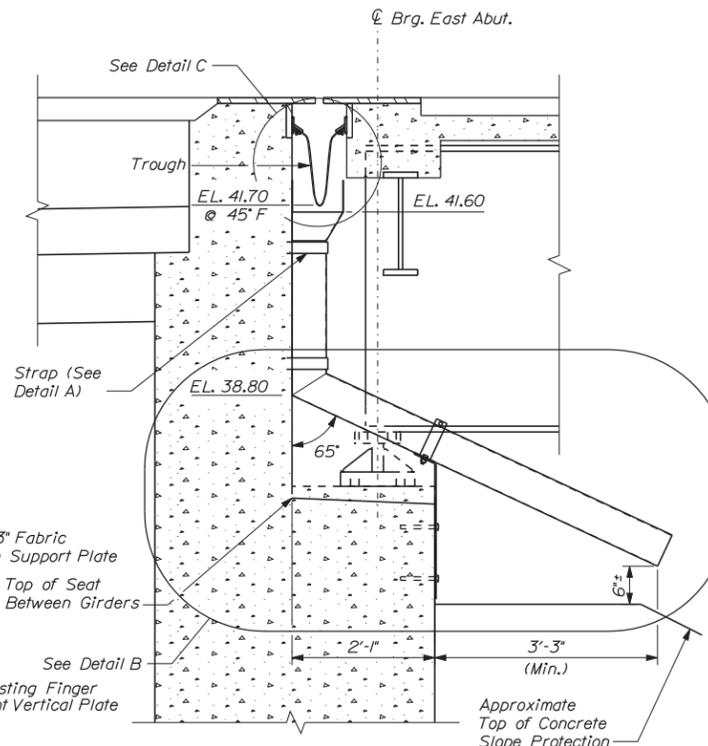
DETAIL C
Not to Scale



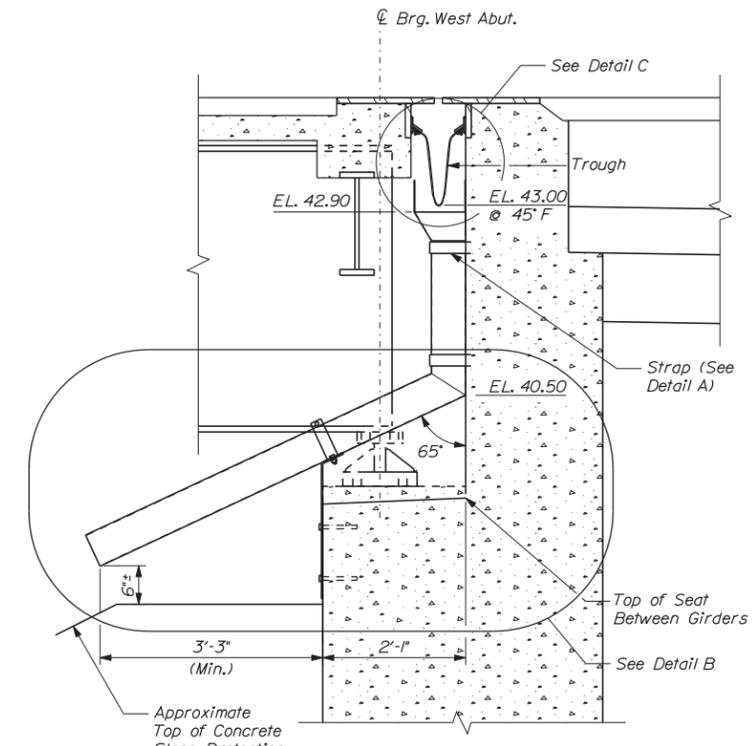
FABRIC TROUGH PROFILE AT EAST ABUT.
Not to Scale



FABRIC TROUGH PROFILE AT WEST ABUT.
Not to Scale



SECTION THRU HOPPER AT
EAST ABUTMENT
Not to Scale



SECTION THRU HOPPER AT
WEST ABUTMENT
Not to Scale

TROUGH AND HOPPER NOTES

1. Contractor shall confirm dimensions on site prior to fabrication of trough and hopper.
2. All plates shall be 1/4" thick and shall conform to ASTM A36 unless noted otherwise.
3. All drain or hopper components shall be blast cleaned to the requirement of SSPC-CP6/NANCE 3 and hot-dipped galvanized in accordance with ASTM A123. All associated fasteners shall be hot dip galvanized.
4. Shop drawings for the complete fabric trough system including the steel attachment plates, fasteners, and the fabric troughs shall be submitted for approval prior to fabrication.
5. The Contractor shall coat the exposed surfaces of the existing finger joint vertical plates with cold-applied galvanizing paint prior to fabric installation.
6. Coat bolts, threaded studs and nuts with nickel based anti-seize lubricant during installation of fabric trough.
7. All costs for the complete fabric trough system, including preparing and coating finger joint vertical plates, at each finger plate expansion joint shall be included in Item 521.32 Fabric Trough for Finger Joint.

No.	Revision	By	Date

Scale: AS NOTED

Designed by:

VHIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

By	Date	By	Date
Designed	KZS 11/14	Checked	TSB 11/14
Drawn	CMD 11/14	In Charge of	TSB 11/14

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

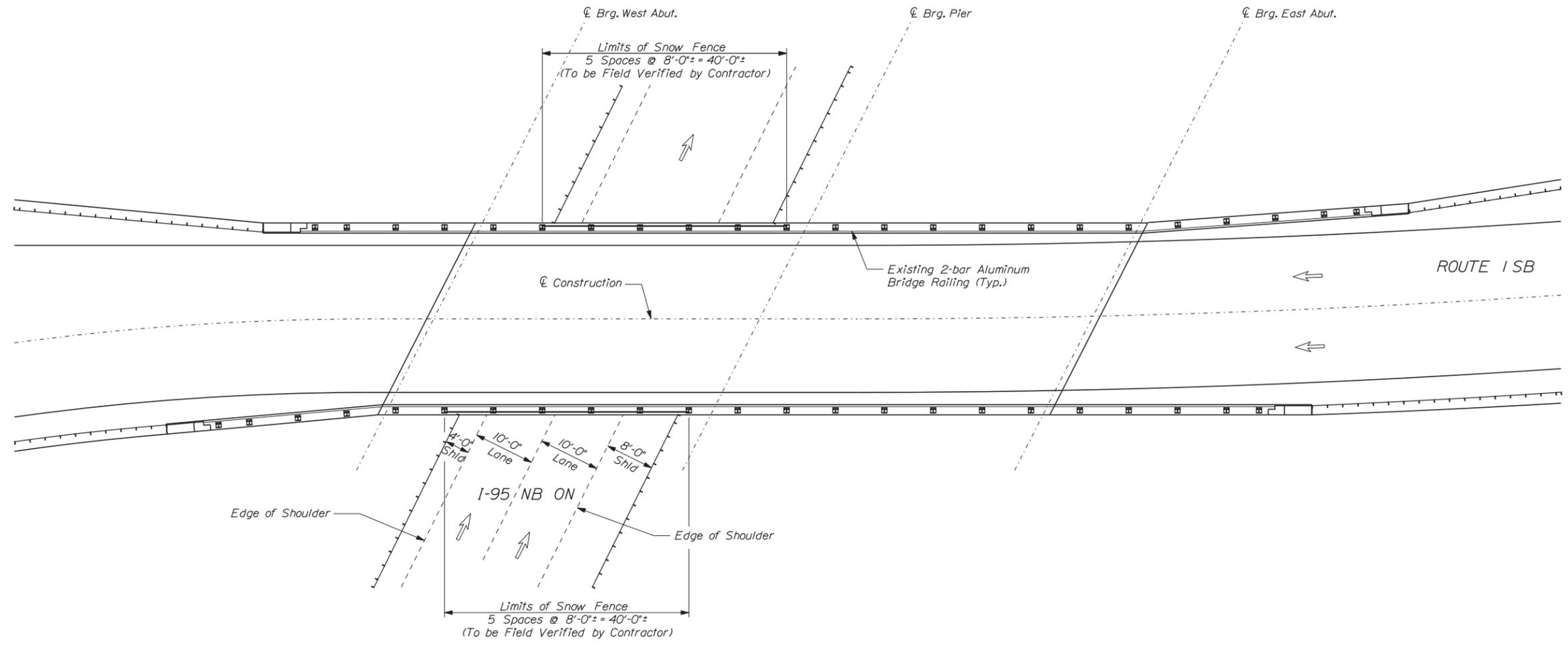
MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
ROUTE 1 ON-RAMP (RAMP H) UNDERPASS
TROUGH AND HOPPER DETAILS

VHB: 55032.00
CONTRACT: 2015.04

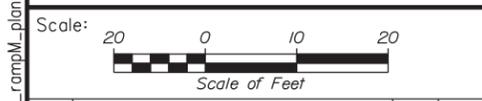
SHEET NUMBER: 17
17 OF 36

Date: 12/15/2014



PLAN

SHEET NOTES
 1. See Snow Fence Details Sheet for details.



No.	Revision	By	Date

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV

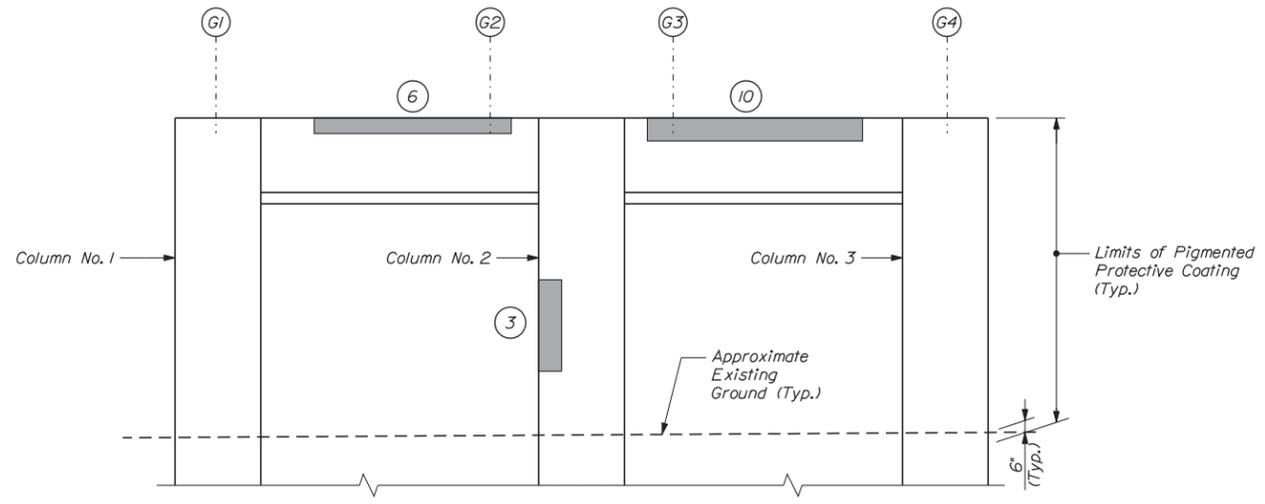
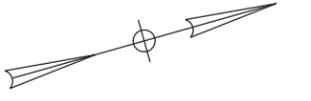
MTA PROJECT NO. 2015.04
 SOUTHERLY BRIDGE REPAIRS
 ROUTE 1 SB OVER I-95 NB ON-RAMP (RAMP M)
 GENERAL PLAN

VHB: 55032.00
 CONTRACT: 2015.04

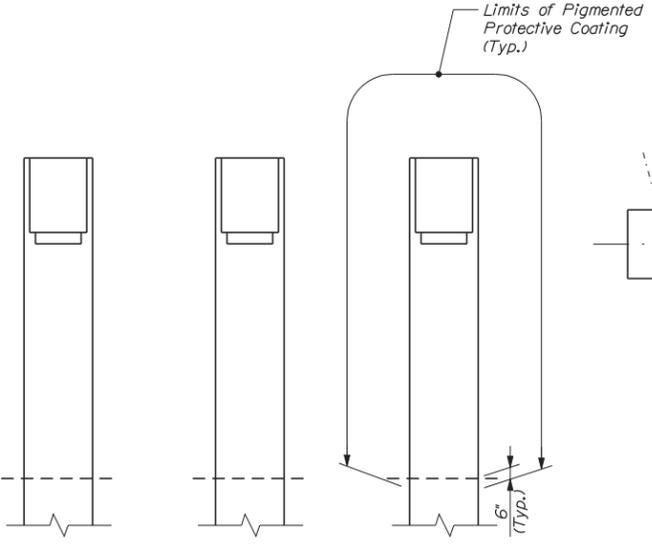
SHEET NUMBER: 18
 18 OF 36

Filename: ...\\018_rampM_plan_elev.dgn

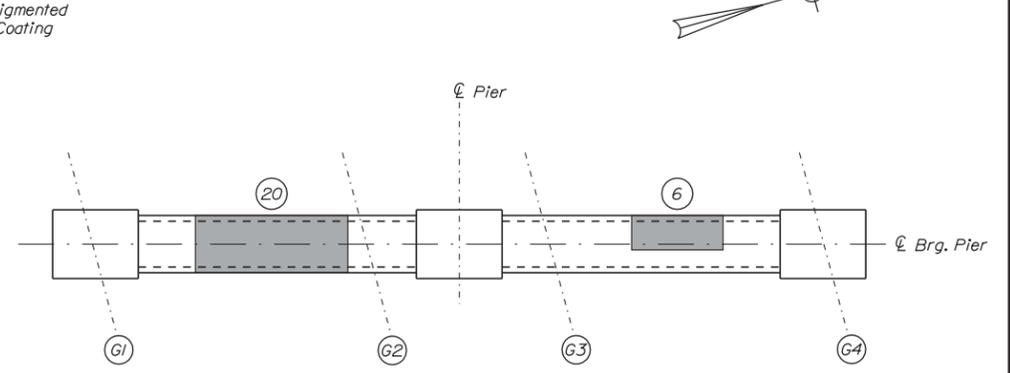
Date: 12/15/2014



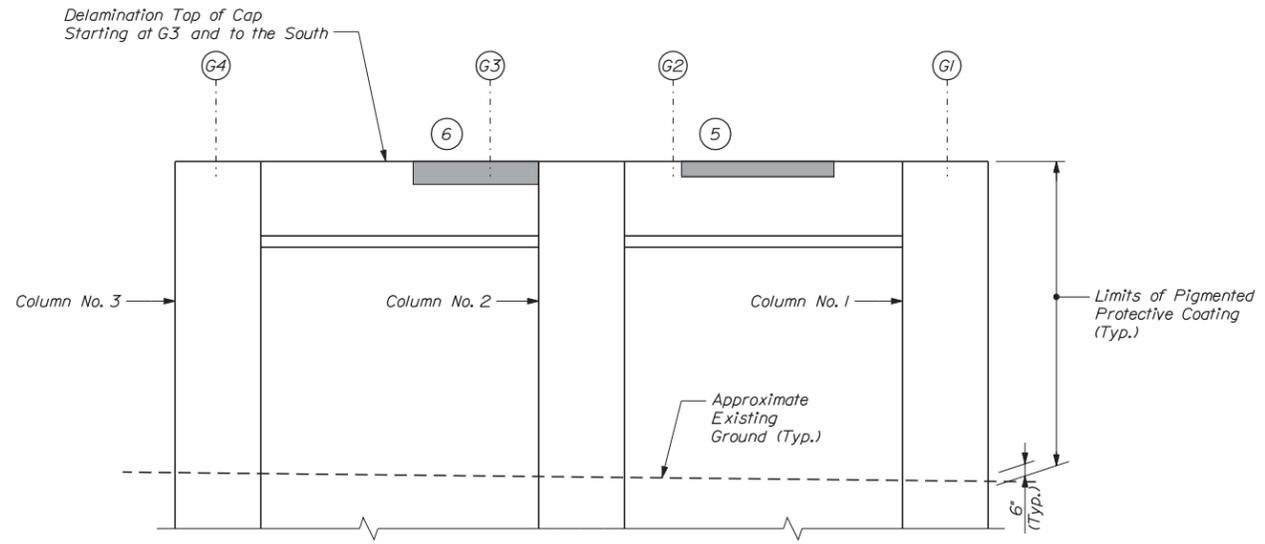
WEST ELEVATION
Scale: 1/4" = 1'-0"



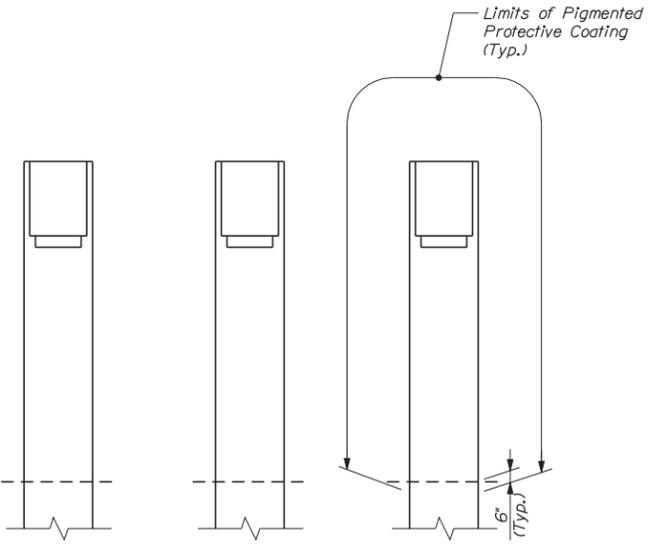
END ELEVATION
(Looking North)
Scale: 1/4" = 1'-0"



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



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



END ELEVATION
(Looking South)
Scale: 1/4" = 1'-0"

NOTES

- For concrete repair notes and details see Concrete Repair Typical Details Sheet.
- All excavation required for the protective coating application shall be incidental to Item 515.201.

REPAIR QUANTITIES

Pier Surface Patch Repair	53 SF
Epoxy Crack Repair	0 LF

LEGEND:

- Crack Repair
- Limit of Surface Patch Repair
- Linear Feet of Crack Repair
- Square Footage of Repair

Scale: AS NOTED

No.	Revision	By	Date

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
ROUTE 1 SB OVER I-95 NB ON-RAMP (RAMP M)
PIER REPAIRS

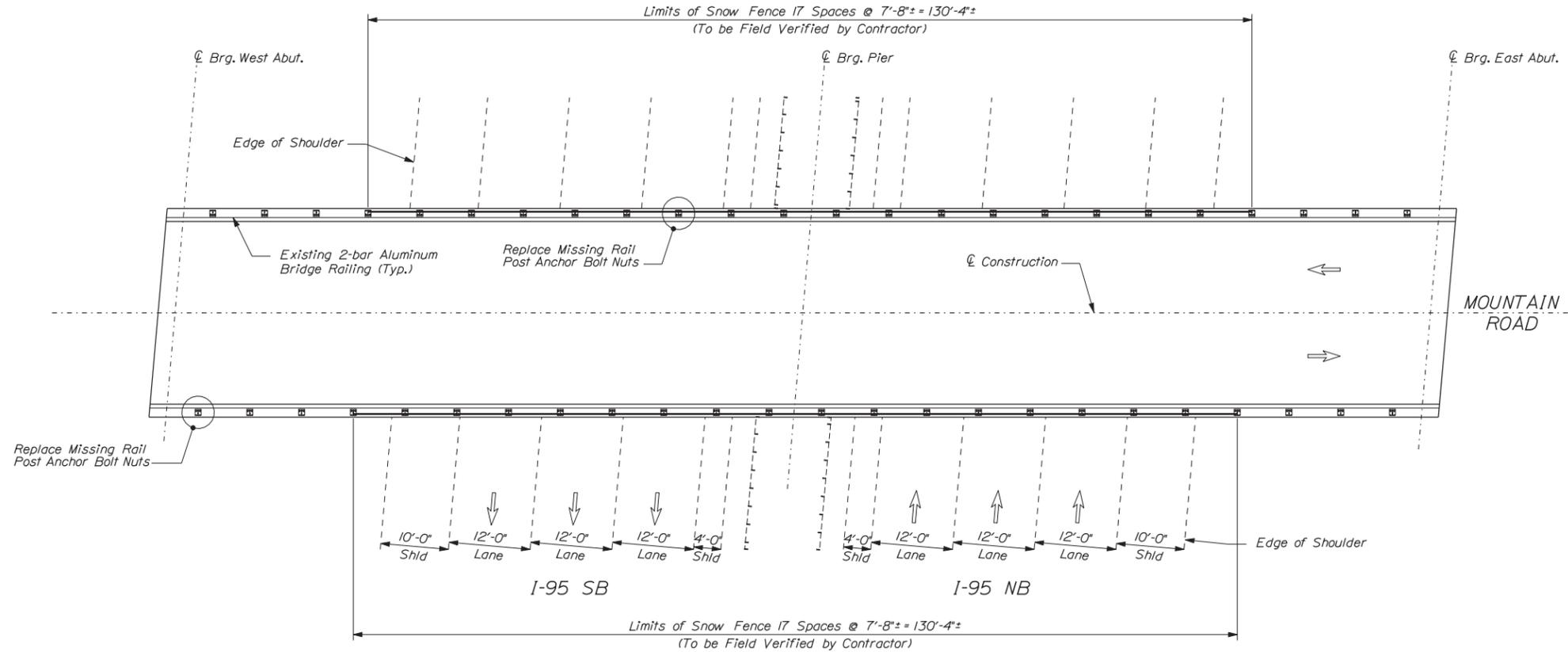
VHB: 55032.00
CONTRACT: 2015.04

SHEET NUMBER: 19
19 OF 36

Filename: ...planset\019_rampM_Pier_01.dgn

Date: 12/5/2014

Filename: ...\\cad\st\plan\set\020_MR_plan.dgn



PLAN
Scale: 1/32" = 1'-0"

NOTE
1. See Snow Fence Details Sheet for details.

Scale: As Noted

Designed by:



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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
MOUNTAIN ROAD UNDERPASS
GENERAL PLAN

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	BJM	11/14	In Charge of	TSB	11/14

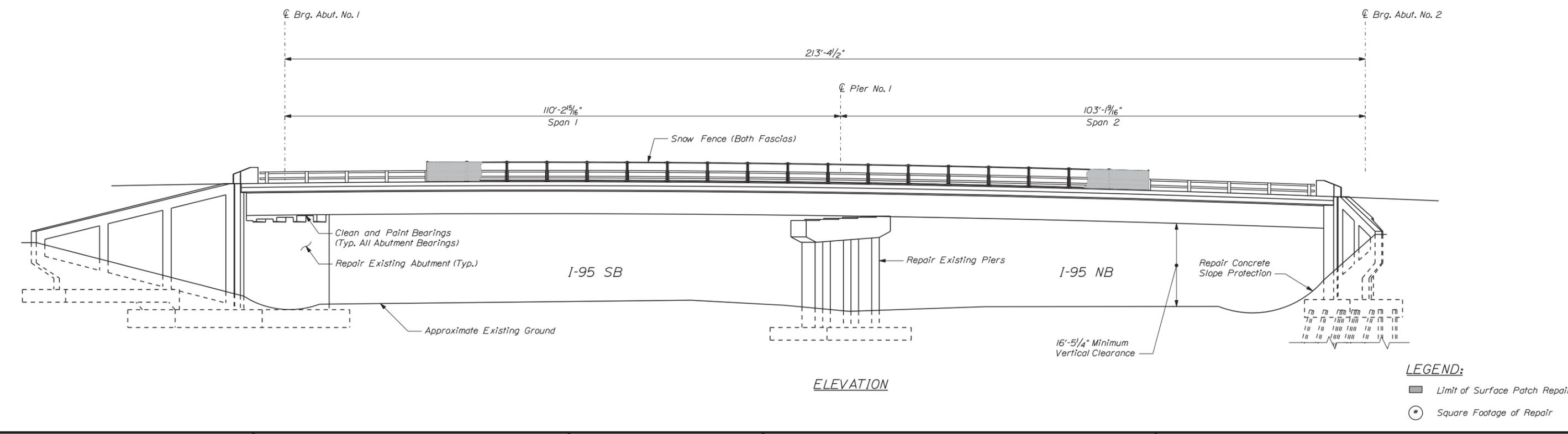
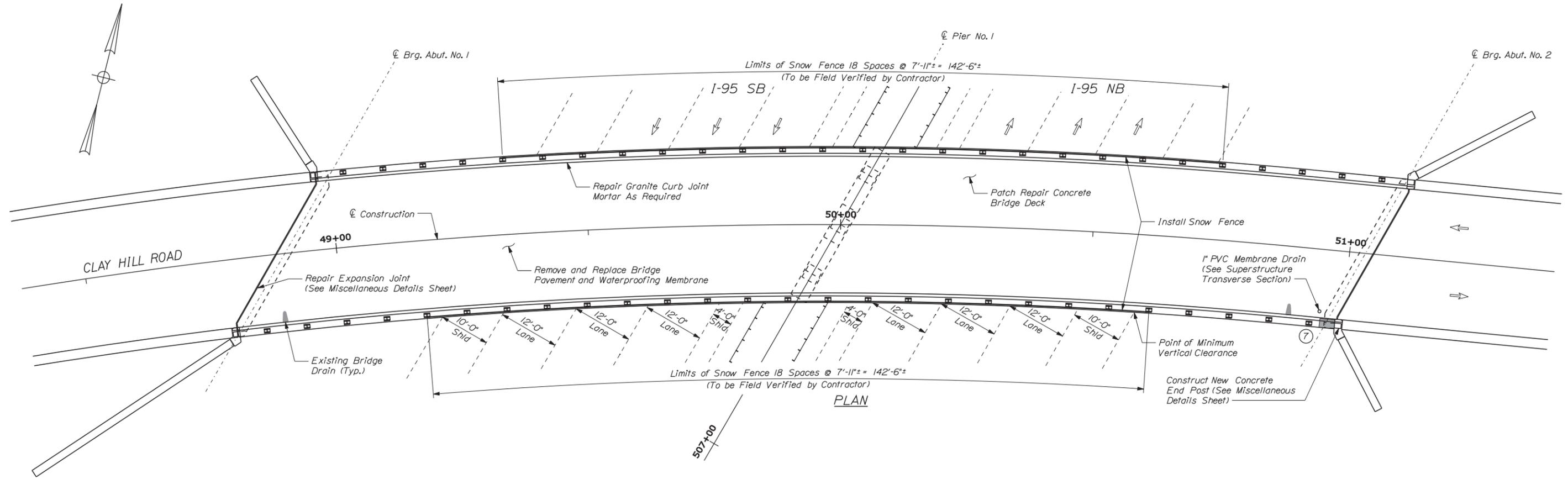
MTA PROJECT MANAGER: Ralph C. Norwood IV

VHB: 55032.00
CONTRACT: 2015.04

SHEET NUMBER: 20
20 OF 36

Date: 12/15/2014

Filename: ...021_ClayHill_plan_elev.dgn



LEGEND:

■ Limit of Surface Patch Repair

⊙ Square Footage of Repair

Scale: 20 0 10 20
Scale of Feet

No.	Revision	By	Date

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

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FAX (207) 253-5596

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV

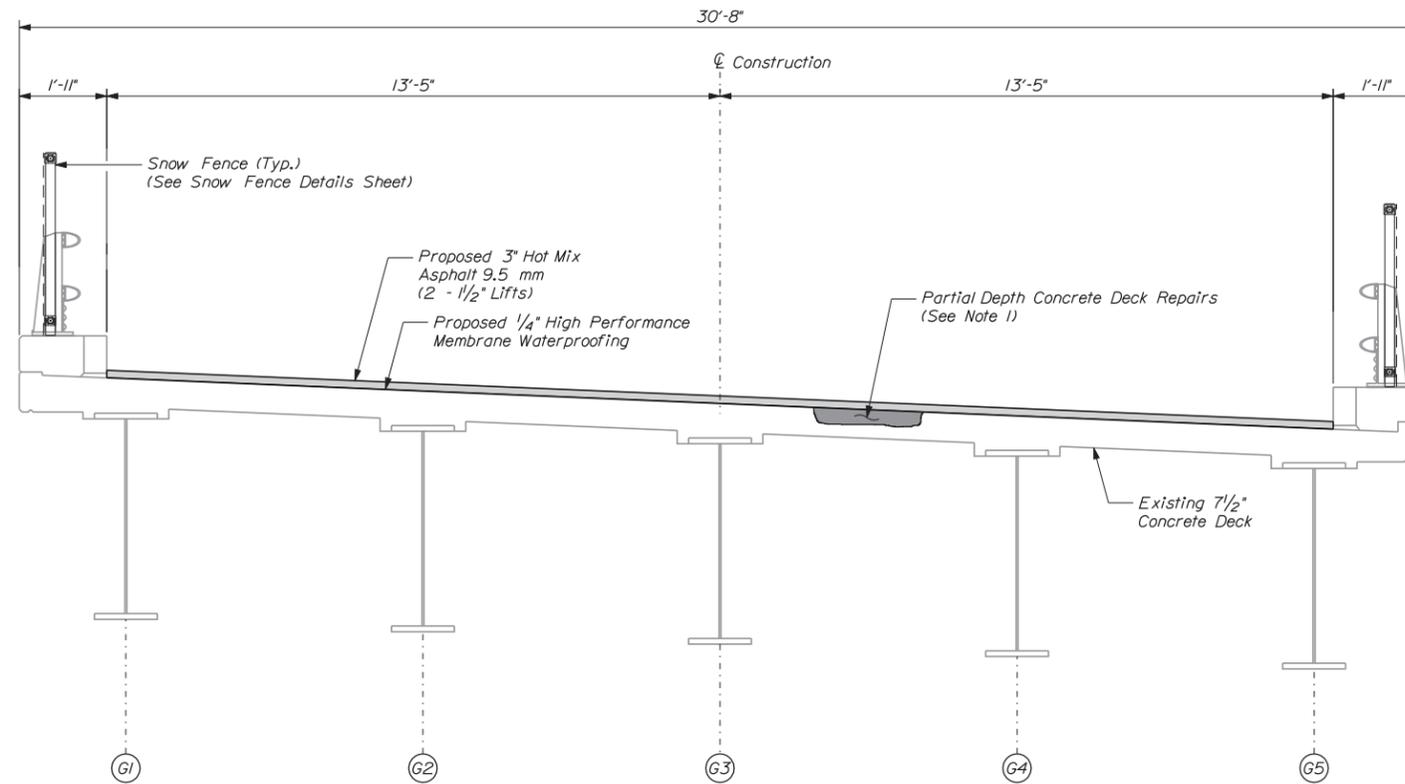
MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
CLAY HILL ROAD UNDERPASS
GENERAL PLAN AND ELEVATION

VHB: 55032.00
CONTRACT: 2015.04

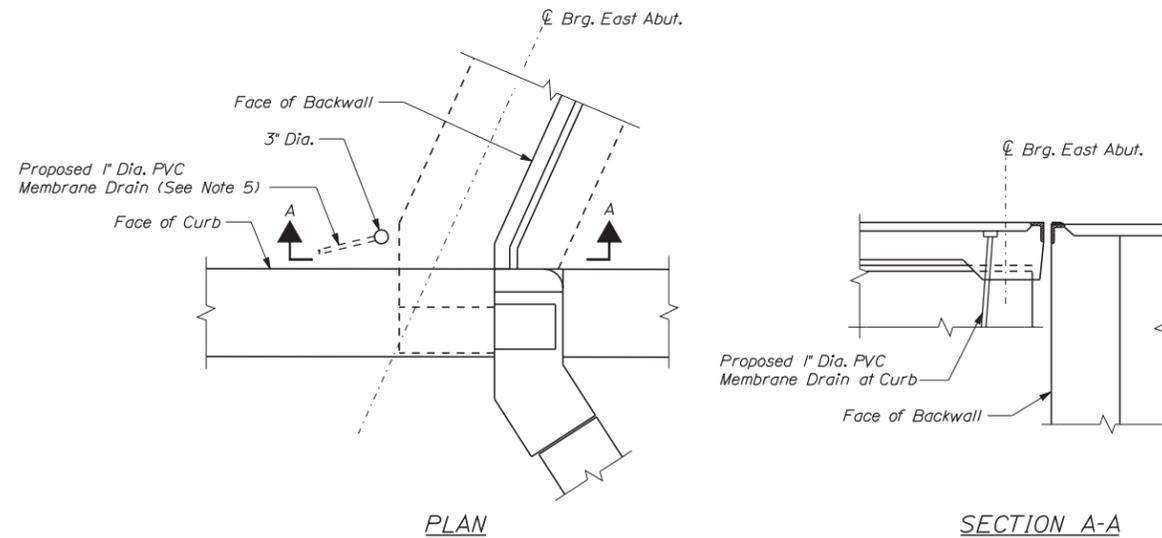
SHEET NUMBER: 21
21 OF 36

Date: 12/15/2014

Filename: ... \022_ClayHill_Typ_Section_01.dgn



SUPERSTRUCTURE TRANSVERSE SECTION



WEEPER DETAIL
(East Abutment)

DECK CONCRETE REPAIR NOTES

1. After removal of the existing wearing surface and waterproofing membrane, but 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 Special Provision 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 Special Provision 518 for surface preparation materials.
5. Install 1" dia. PVC membrane drain in accordance with Special Provision 502. Membrane drain cost shall be incidental to Item 508.14, High Performance Waterproofing Membrane.

LEGEND:

■ Limit of Surface Patch Repair

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

No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
CLAY HILL ROAD UNDERPASS
SUPERSTRUCTURE TRANSVERSE SECTION

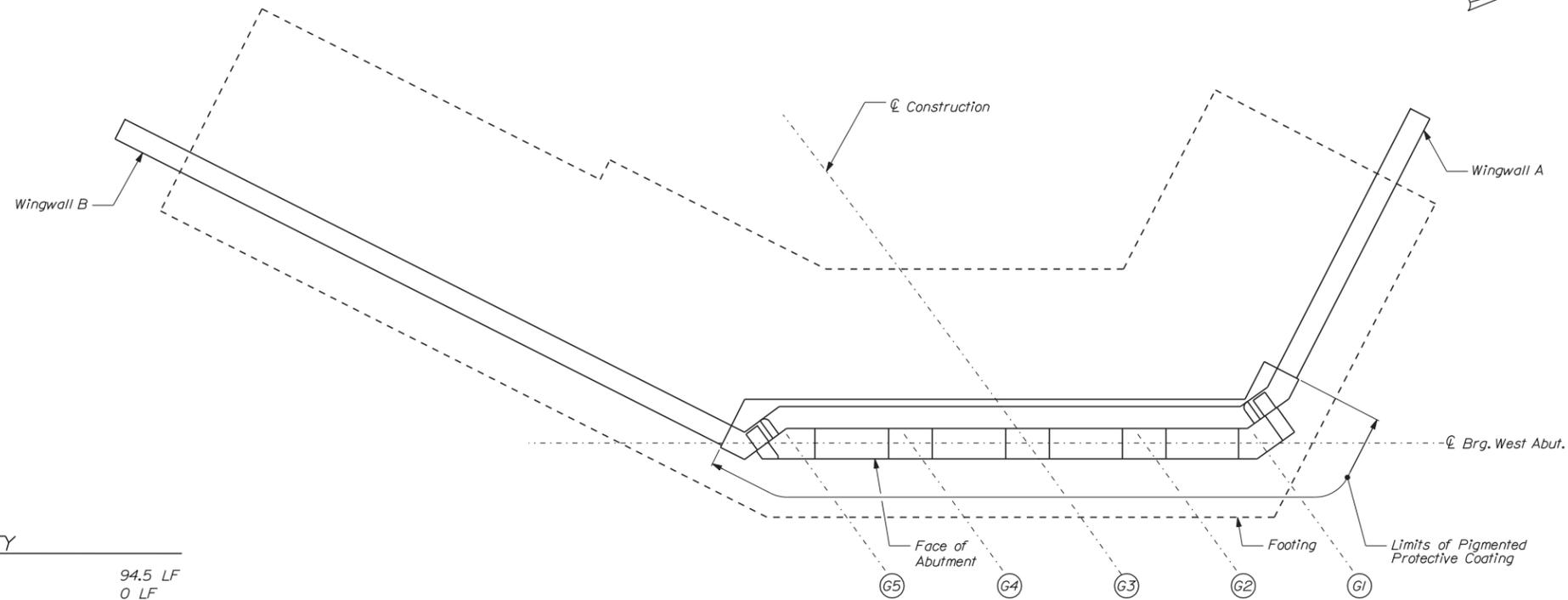
VHB: 55032.00

SHEET NUMBER: 22

CONTRACT: 2015.04

22 OF 36

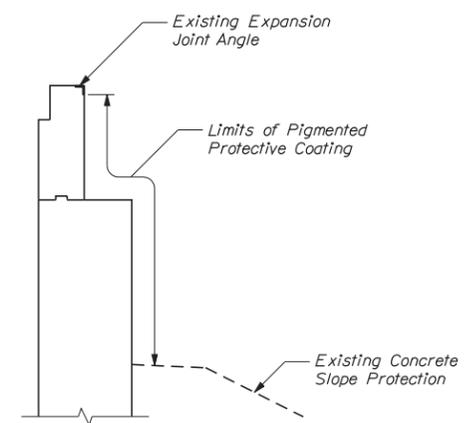
Date: 12/15/2014



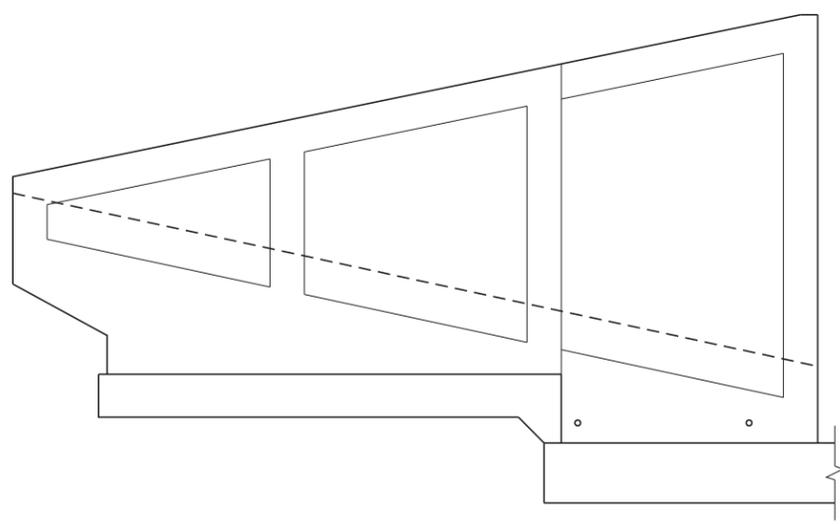
REPAIR QUANTITY

Surface Patch Repair	94.5 LF
Epoxy Crack Repair	0 LF

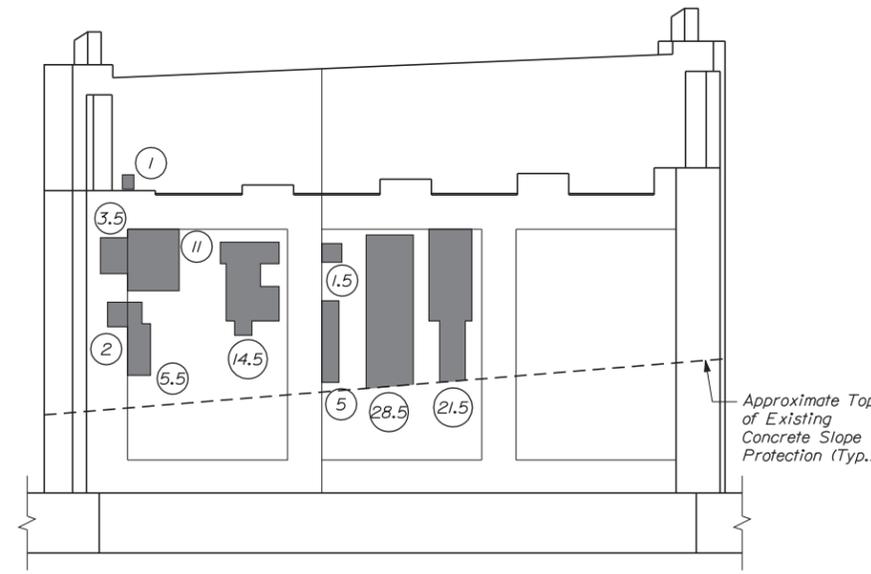
PLAN
Scale: 3/16" = 1'-0"



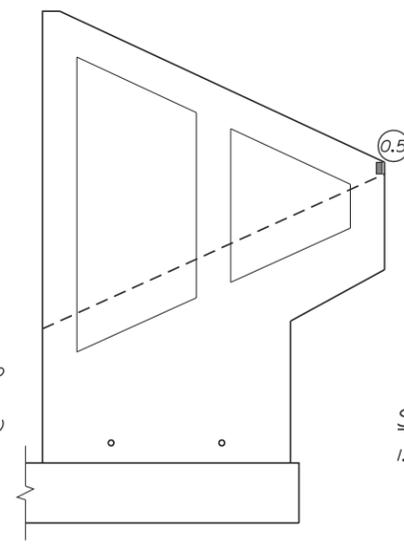
TYPICAL ABUTMENT SECTION
Not to Scale



ELEVATION WINGWALL B
Scale: 3/16" = 1'-0"



ELEVATION
Scale: 3/16" = 1'-0"



ELEVATION WINGWALL A
Scale: 3/16" = 1'-0"

SHEET NOTE
1. For concrete repair notes and details see Concrete Repair Typical Details Sheet.

LEGEND:
 Limit of Surface Patch Repair
 Square Footage of Repair

Filename: ...023_ClayHill_Abut_01.dgn

Scale: AS NOTED

No.	Revision	By	Date

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

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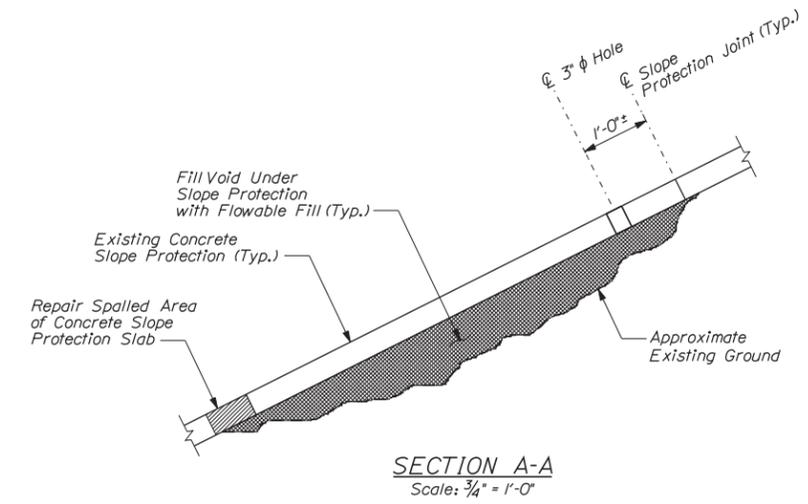
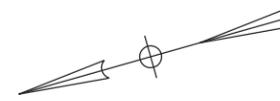
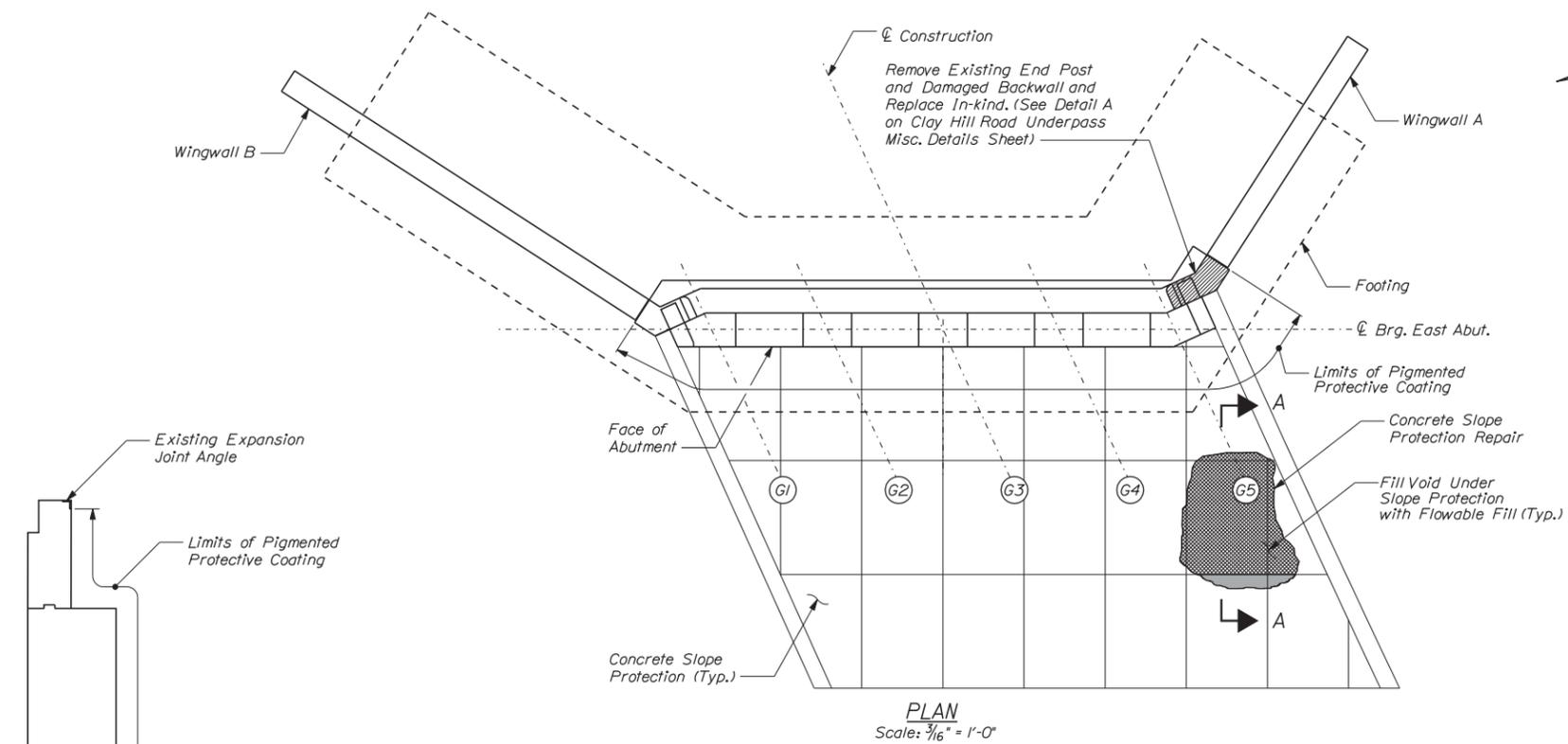
**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV

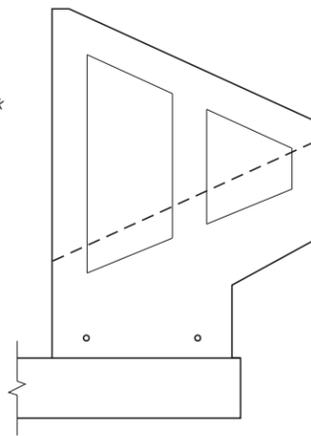
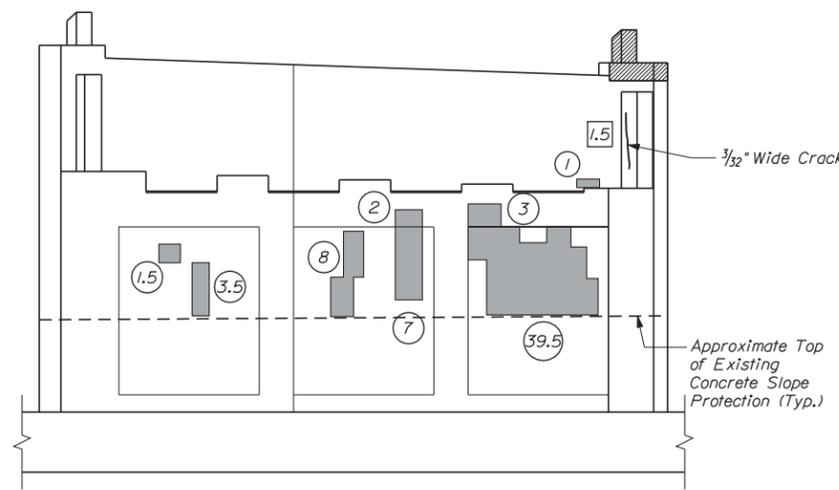
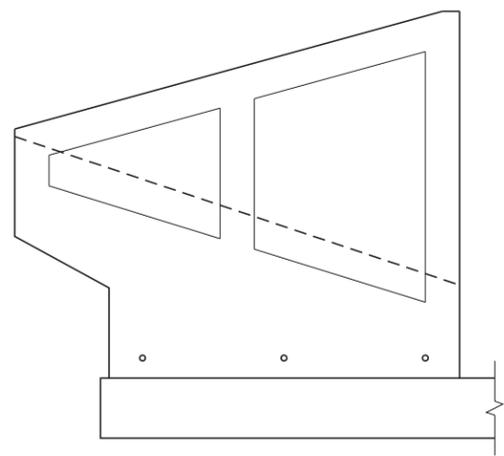
MTA PROJECT NO. 2015.04
 SOUTHERLY BRIDGE REPAIRS
 CLAY HILL ROAD UNDERPASS
 WEST ABUTMENT REPAIRS

VHB: 55032.00 SHEET NUMBER: 23
 CONTRACT: 2015.04 23 OF 36

Date: 12/15/2014



TYPICAL ABUTMENT SECTION
Not to Scale



NOTE

1. For concrete repair notes and details see Concrete Repair Typical Details sheet.

REPAIR QUANTITY

Surface Patch Repair	65.5 SF
Epoxy Crack Repair	1.5 LF

CONCRETE SLOPE REPAIR NOTES

- The Contractor shall core a 3 inch diameter hole in existing concrete slope protection at top of void, incidental to Item 602.30 Flowable Concrete Fill.
- The Contractor shall use the drilled hole to place Item 602.30, Flowable Concrete Fill in void below the existing slab.
- The Contractor shall repair drilled hole in concrete slope protection with an approved non-shrink grout, incidental to Item 602.30 Flowable Concrete Fill.

LEGEND:

- Crack Repair
- Limit of Surface Patch Repair
- Limit of Concrete Removal
- Square Footage of Repair

Scale: AS NOTED

No.	Revision	By	Date

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
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FAX (207) 253-5596

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV

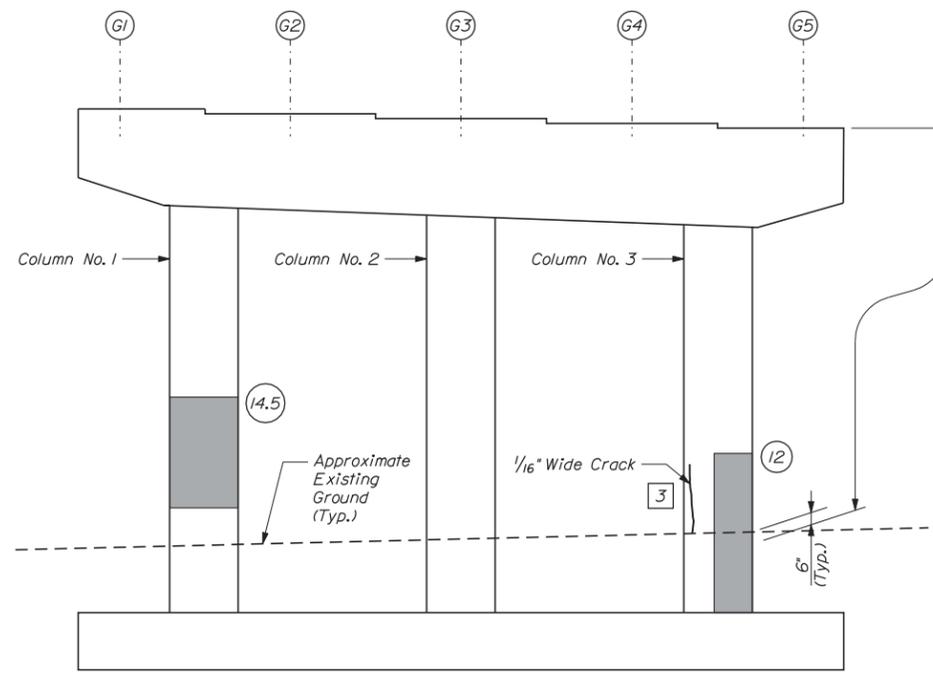
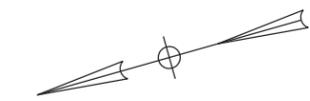
MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
CLAY HILL ROAD UNDERPASS
EAST ABUTMENT REPAIRS

VHB: 55032.00
CONTRACT: 2015.04

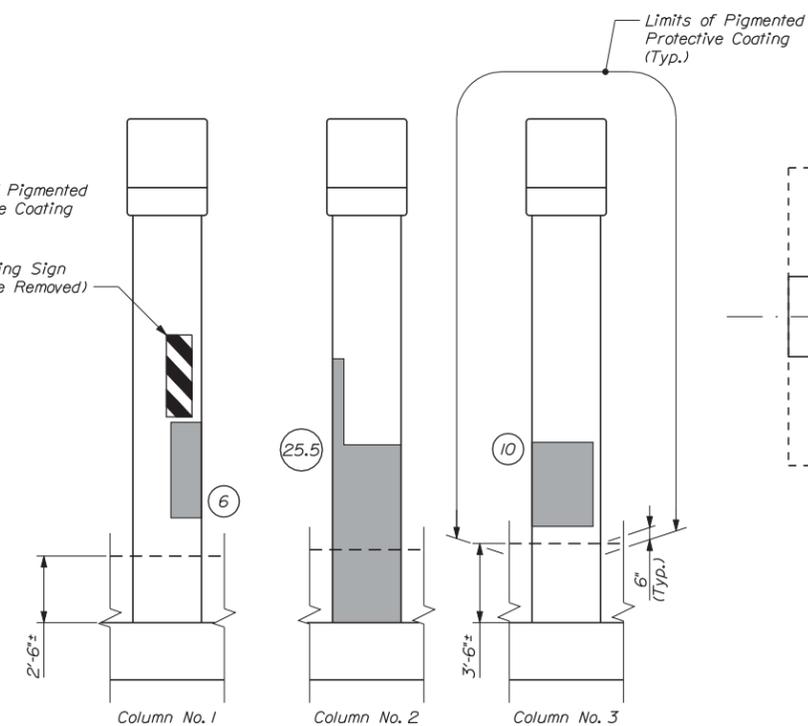
SHEET NUMBER: 24
24 OF 36

Filename: ...024...ClayHill_Abut_02.dgn

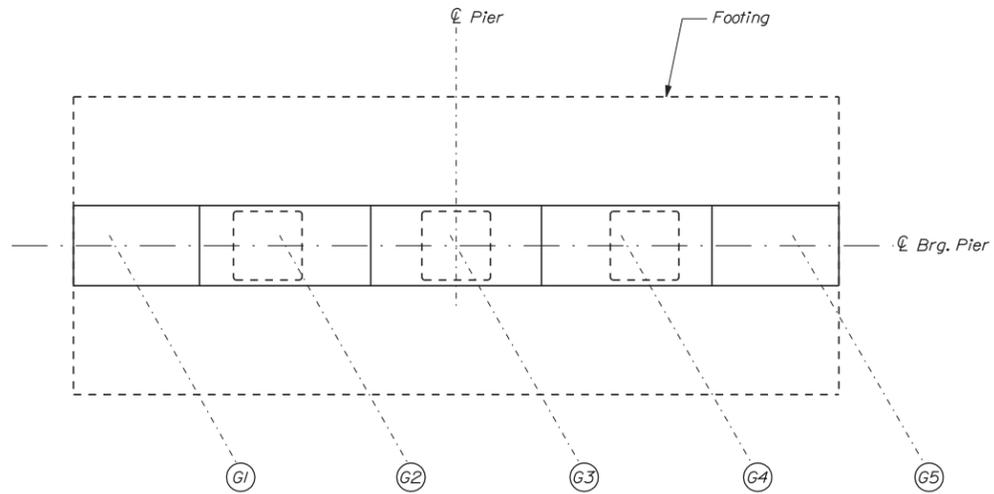
Date: 12/15/2014



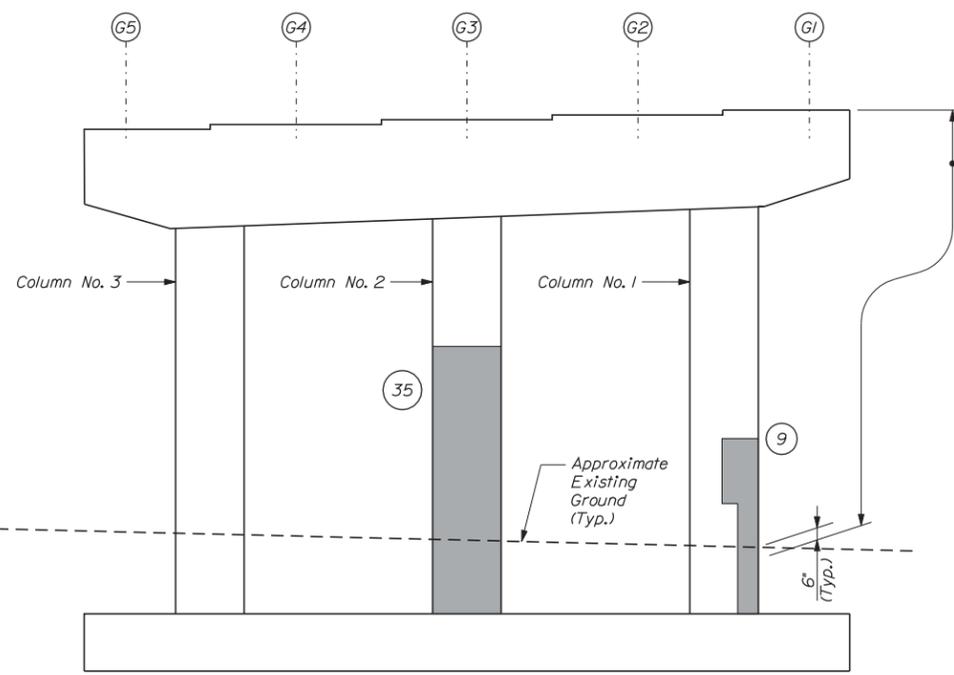
WEST ELEVATION
Scale: 1/4" = 1'-0"



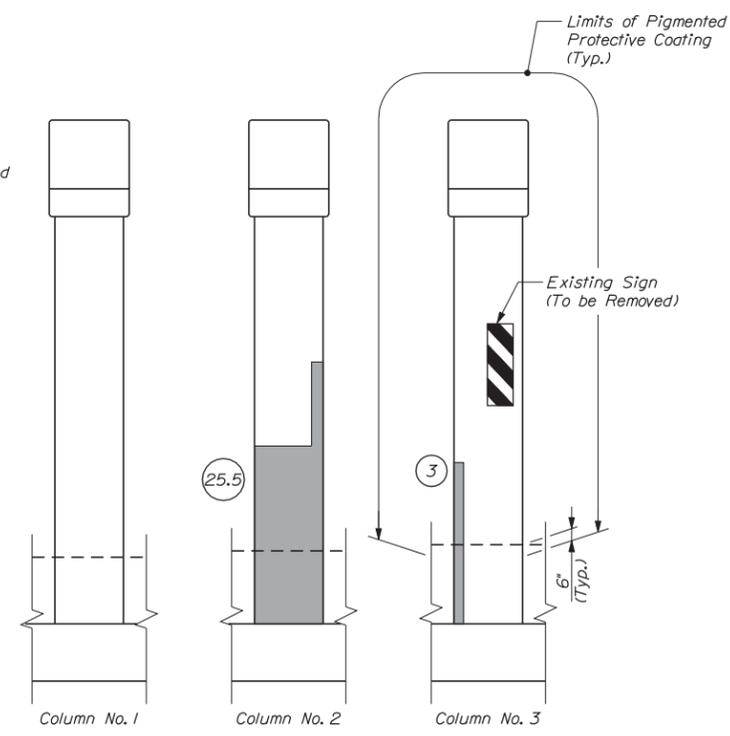
END ELEVATION
(Looking South)
Scale: 1/4" = 1'-0"



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



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



END ELEVATION
(Looking North)
Scale: 1/4" = 1'-0"

NOTES

1. For concrete repair notes and details see Concrete Repair Typical Details Sheet.
2. All costs for excavation to top of footing shall be incidental to Item 518.6314, Pier Repairs.

REPAIR QUANTITIES

Pier Surface Patch Repair	140.5 SF
Epoxy Crack Repair	3 LF

LEGEND:

- Crack Repair
- Limit of Surface Patch Repair
- Linear Feet of Crack Repair
- ⊙ Square Footage of Repair

Scale: AS NOTED

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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
CLAY HILL ROAD UNDERPASS
PIER REPAIRS

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

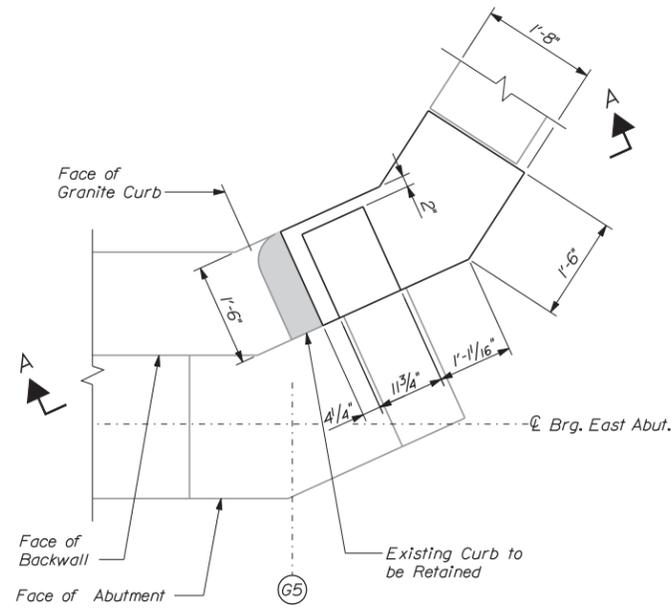
MTA PROJECT MANAGER: Ralph C. Norwood IV

VHB: 55032.00
CONTRACT: 2015.04

SHEET NUMBER: 25
25 OF 36

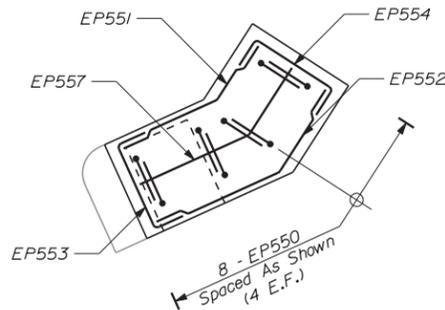
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Date: 12/15/2014

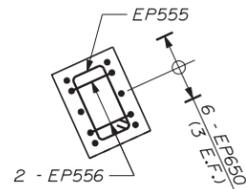


MASONRY

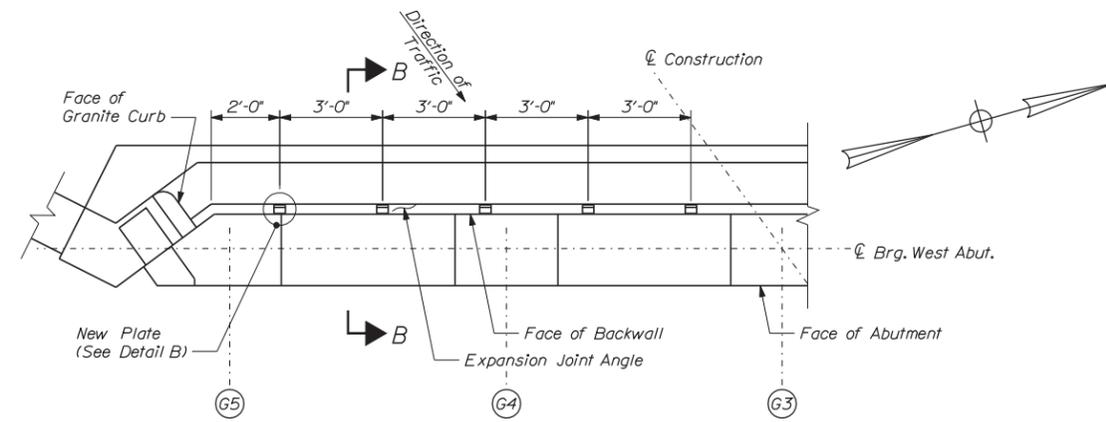
DETAIL A
(See East Abutment Repairs Sheet for Location)
Not to Scale



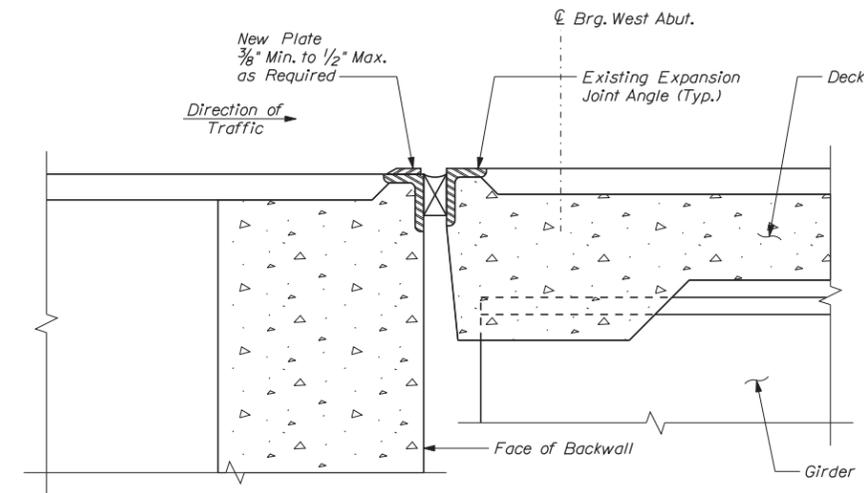
REINFORCEMENT



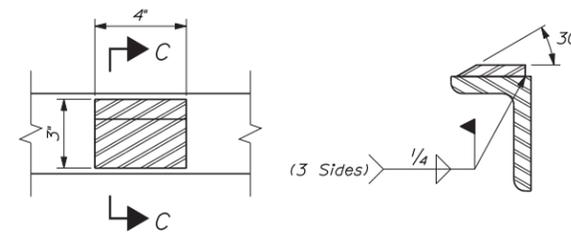
SECTION B-B
REINFORCEMENT IN POST
(Curb Reinforcement Not Shown)
Not to Scale



PARTIAL PLAN WEST ABUTMENT
(Deck not Shown)
Scale: 3/8" = 1'-0"



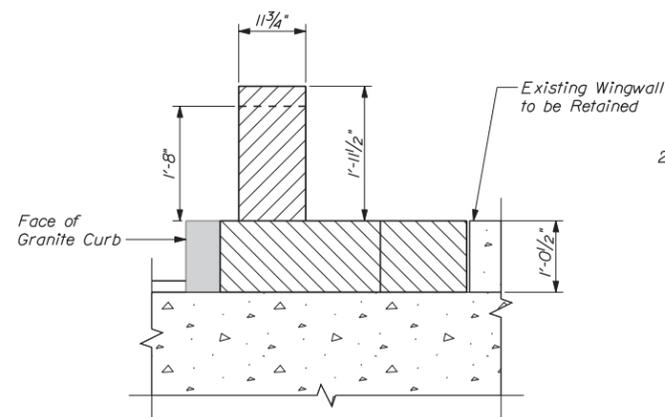
SECTION B-B
Not to Scale



DETAIL B
SECTION C-C
PLATE DETAILS
Not to Scale

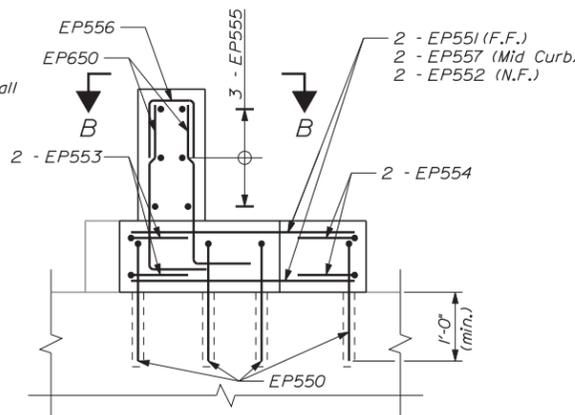
EXPANSION JOINT REPAIR NOTES

1. Install shim plates as shown to address elevation difference between expansion joint angles.
2. Payment for all labor, equipment and materials associated with the expansion joint modification will be paid under Item 520.2211 Expansion Joint Modification.



MASONRY

SECTION A-A
END POST
Not to Scale



REINFORCEMENT

END POST REPAIR NOTES

1. Contractor is responsible for verifying all dimensions prior to ordering steel.
2. Retain and reuse existing reinforcement in granite curb.

REINFORCING KEY

N.F. = Near Face
F.F. = Far Face
E.F. = Each Face
T&B = Top and Bottom

SOUTHEAST ENDPOST REPAIR DETAILS

DECK EXPANSION JOINT AT WEST ABUTMENT REPAIR DETAILS

Scale: AS NOTED

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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
CLAY HILL ROAD UNDERPASS
MISCELLANEOUS DETAILS

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

MTA PROJECT MANAGER: Ralph C. Norwood IV

VHB: 55032.00
CONTRACT: 2015.04

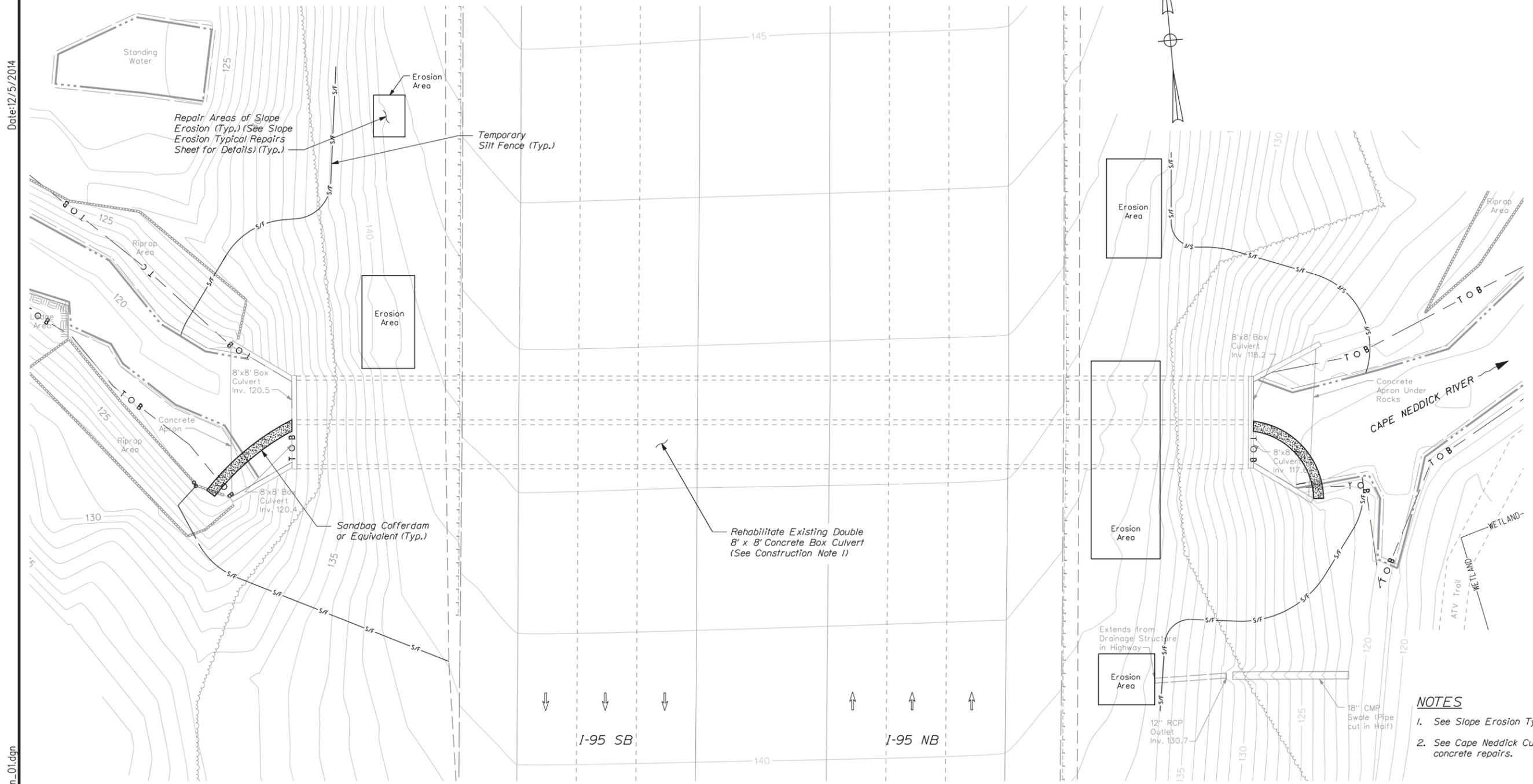
SHEET NUMBER: 26
26 OF 36

Filename: ... \026_ClayHill_Details_01.dgn

CONSTRUCTION NOTES

1. Rehabilitate existing culvert one box at a time. Use sand bags or other approved method to divert flow to one box so that concrete repairs may be performed in the dry.
2. Machinery shall not be located or operated in the water course.
3. Remove all cofferdam structures and turbidity controls from the culvert and water course once all concrete repairs are complete.
4. The work shall be conducted to minimize impacts and disturbance to wetlands and the water course.
5. No fill shall be placed in streams or wetlands other than that associated with the placement of cofferdams for water diversion during culvert repairs.
6. All reconstructed Turnpike side slopes shall receive four inches of loam and shall be seeded with Seeding Method 2 in accordance with Standard Specifications 615 and 618. This work shall be incidental to the contract.

Date: 12/15/2014



PLAN
(South Barrel Dewatering Scheme Shown, North Barrel Similar)

- NOTES**
1. See Slope Erosion Typical Repairs Sheet for details.
 2. See Cape Neddick Culvert Repairs Sheets for concrete repairs.

Filename: ...planset\028_Neddick Plan_01.dgn

Scale: 3/32" = 1'-0"

No.	Revision	By	Date

Designed by:

VHIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

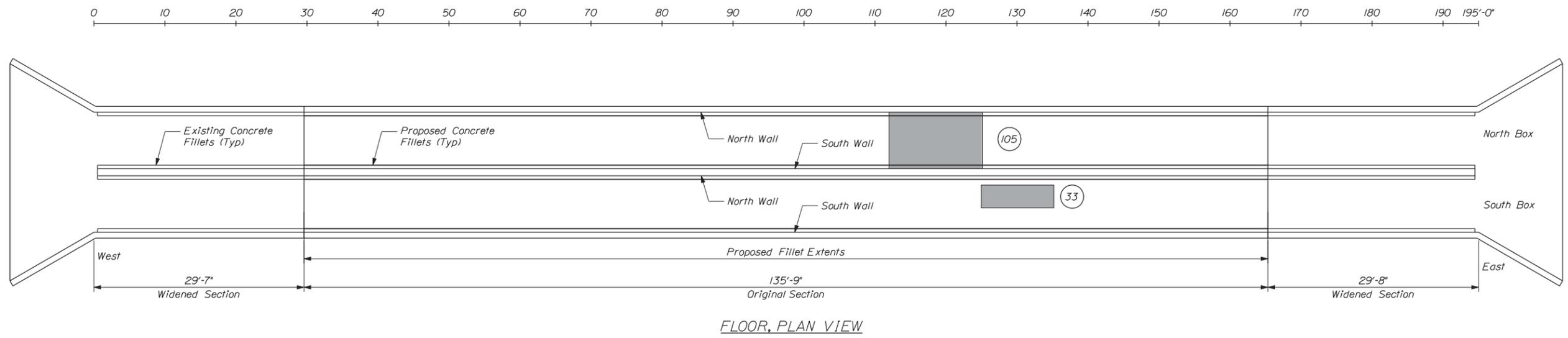
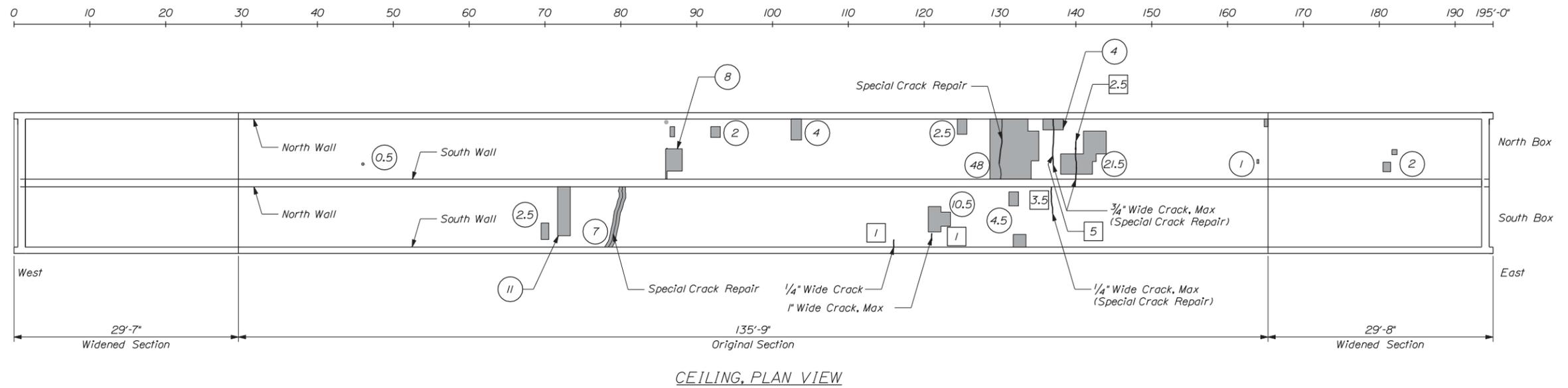
MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
CAPE NEDDICK RIVER CULVERT AT MM 9.6
GENERAL PLAN

VHB: 55032.00
CONTRACT: 2015.04

SHEET NUMBER: 28
28 OF 36

Date: 12/15/2014



TOTAL ESTIMATED REPAIR QUANTITY*

Surface Patch Repair	770 SF
Epoxy Crack Repair	108 LF
Special Crack Repair	41 GAL
Full Depth Repair	5.5 SF

* For All Floor, Ceiling and Wall Repairs

NOTES

1. Remove, collect, and properly dispose of the existing bituminous coating from entire culvert floor, repair unsound concrete and then place a 1" minimum concrete overlay over the entire floor. Construct new concrete fillets at the walls/floor intersections in the original culvert section to match the existing fillets in the newer end sections of the culvert. See Concrete Repair Typical Detail Sheet for repair details.

2. All exposed rebar shall be blast cleaned and coated.

3. Estimated repair quantities include 69.5 additional square feet for surface patch repair as a contingency and 10 additional linear feet of epoxy crack repair as a contingency.

CAPE NEDDICK RIVER DOUBLE BOX CULVERT CONCRETE REPAIRS

(For Detailing and Location Purposes, the Turnpike Orientation is N-S and the Brook is W-E)
Scale: 1/8" = 1'-0"

LEGEND:

- ~ Crack Repair
- Limit of Surface Patch Repair
- Linear Feet of Crack Repair
- Square Footage of Repair

Filename: ...st\plan\set\029_Neddick_01.dgn

Scale: AS NOTED

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant

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Designed	KZS	11/14	Checked	TSB 11/14
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MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
CAPE NEDDICK RIVER CULVERT AT MM 9.6
FLOOR AND CEILING REPAIRS

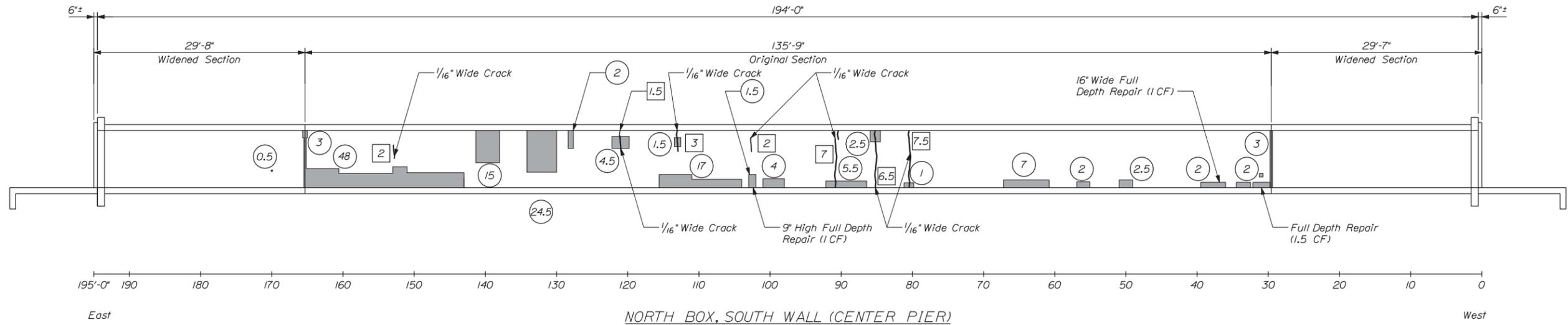
VHB: 55032.00

SHEET NUMBER: 29

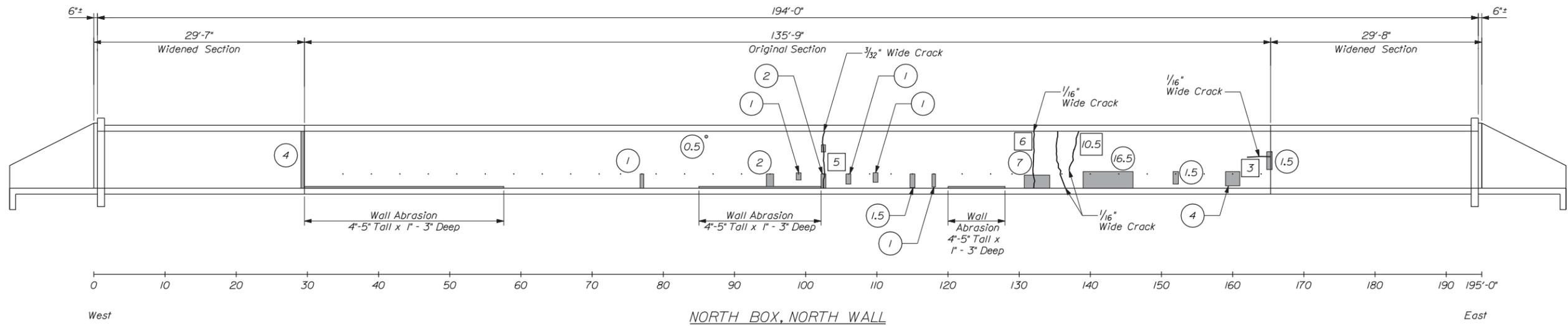
CONTRACT: 2015.04

29 OF 36

Date: 12/15/2014



NORTH BOX, SOUTH WALL (CENTER PIER)



NORTH BOX, NORTH WALL

CAPE NEDDICK RIVER DOUBLE BOX CULVERT CONCRETE REPAIRS
 (For Detailing and Location Purposes, the Turnpike Orientation is N-S and the Brook is W-E)
 Scale: 1/8" = 1'-0"

NOTE

1. For concrete repair notes and details see Concrete Repair Typical Details Sheet.

LEGEND:

- ~ Crack Repair
- Limit of Surface Patch Repair
- Linear Feet of Crack Repair
- ⊙ Square Footage of Repair

Scale: AS NOTED

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 MEMORIAL HIGHWAY**

MTA PROJECT NO. 2015.04
 SOUTHERLY BRIDGE REPAIRS
 CAPE NEDDICK RIVER CULVERT AT MM 9.6
 WALL REPAIRS (1 OF 2)

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
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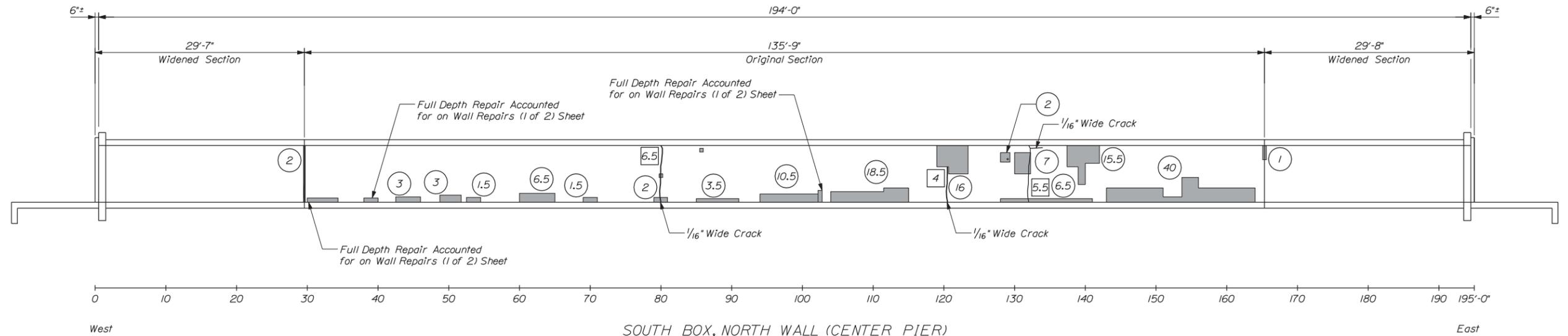
MTA PROJECT MANAGER: Ralph C. Norwood IV

VHB: 55032.00
 CONTRACT: 2015.04

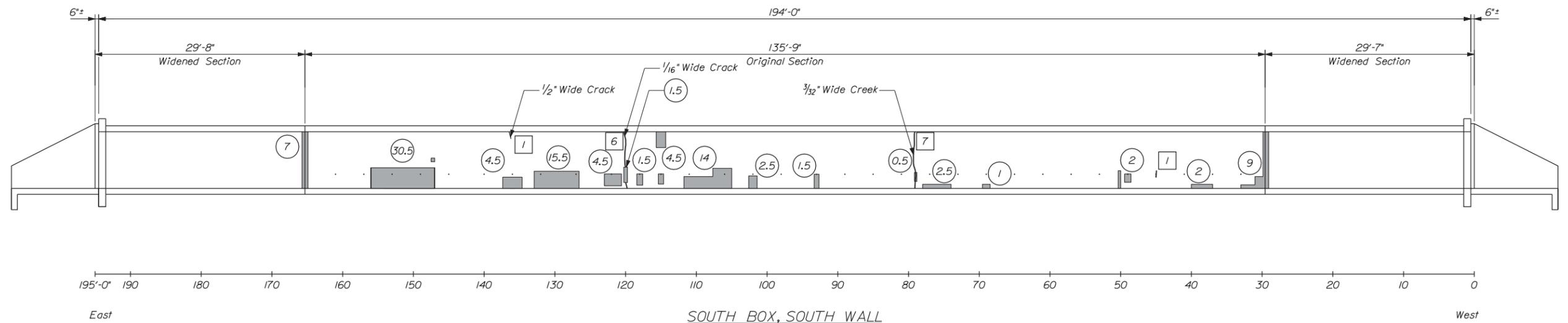
SHEET NUMBER: 30
 30 OF 36

Filename: ...st\planiset\030_Neddick_02.dgn

Date: 12/15/2014



SOUTH BOX, NORTH WALL (CENTER PIER)



SOUTH BOX, SOUTH WALL

CAPE NEDDICK RIVER DOUBLE BOX CULVERT CONCRETE REPAIRS
 (For Detailing and Location Purposes, the Turnpike Orientation is N-S and the Brook is W-E)
 Scale: 1/8" = 1'-0"

NOTE

1. For concrete repair notes and details see Concrete Repair Details Sheet.

LEGEND:

- ~ Crack Repair
- Limit of Surface Patch Repair
- Linear Feet of Crack Repair
- ⊙ Square Footage of Repair

Filename: ...st\planiset\031_Neddick_03.dgn

Scale: AS NOTED

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**THE GOLD STAR
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MTA PROJECT NO. 2015.04
 SOUTHERLY BRIDGE REPAIRS
 CAPE NEDDICK RIVER CULVERT AT MM 9.6
 WALL REPAIRS (2 OF 2)

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
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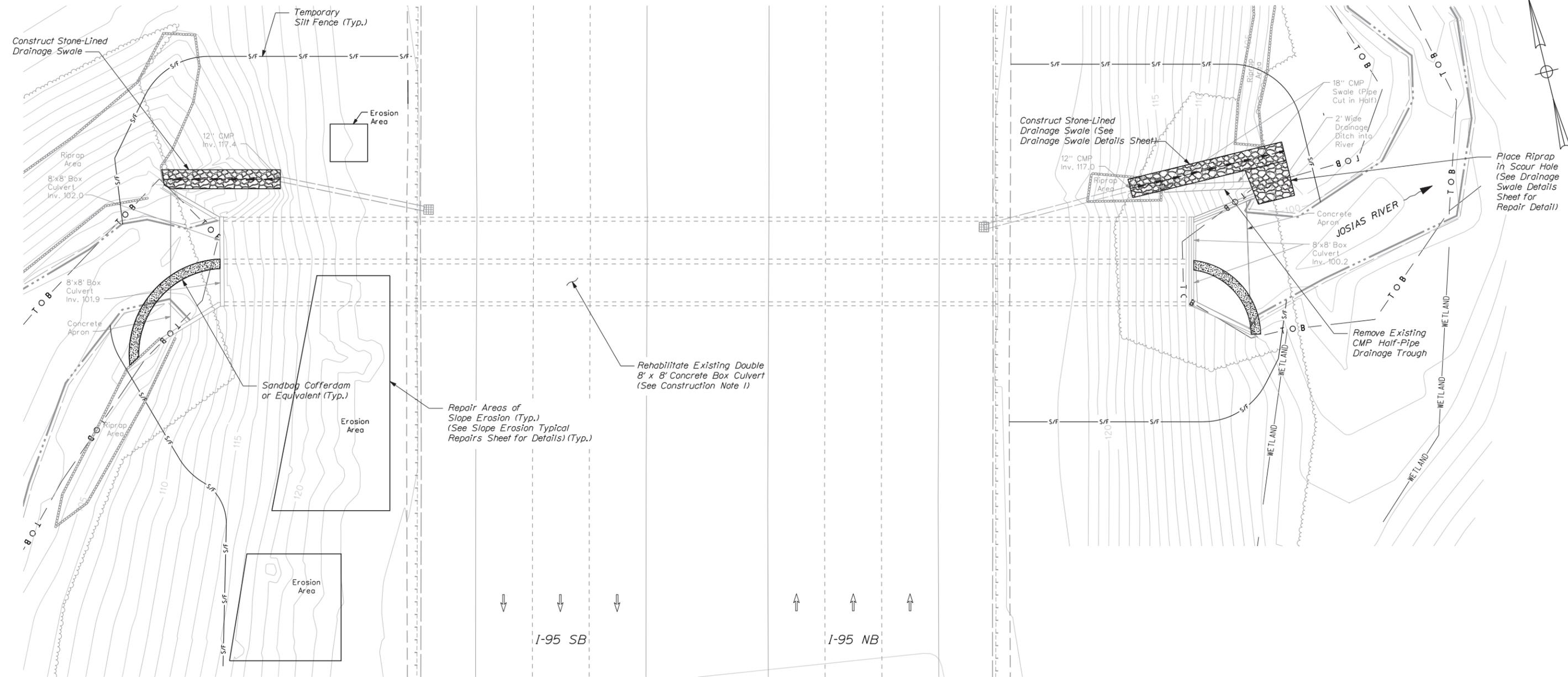
MTA PROJECT MANAGER: Ralph C. Norwood IV

VHB: 55032.00
 CONTRACT: 2015.04

SHEET NUMBER: 31
 31 OF 36

Date: 12/15/2014

Filename: ...plan\set\032_Josias Plan_01.dgn



PLAN
(South Barrel Dewatering Scheme Shown, North Barrel Similar)

CONSTRUCTION NOTES

1. Rehabilitate existing culvert one box at a time. Use sand bags or other approved method to divert flow to one box so that concrete repairs may be performed in the dry.
2. Riprap materials and placement shall be in accordance with Standard Specification 610.
3. Earth moving equipment shall not be located or operated in the water course except for bucket attachments and related equipment extensions to excavate, grade, and place riprap as shown.
4. The work shall be conducted to minimize impacts and disturbance to wetlands and the water course.
5. No fill shall be placed in streams or wetlands other than that associated with the placement of cofferdams for water diversion during culvert repairs.
6. Install temporary silt fence down grade of disturbed slopes as required. Location may vary from that shown based on construction access.
7. All reconstructed Turnpike side slopes shall receive four inches of loam and shall be seeded with seeding method 2 in accordance with Standard Specifications 615 and 618. This work shall be incidental to the contract.
8. If guardrail is removed for construction access to perform the work, a single lane closure is required. See Maintenance of Traffic Details Sheets. At the end of each work day, the Contractor is required to have an approved crashworthy end treatment on all guardrail within all work areas accessible to traffic.
9. The Contractor shall submit an access plan to the Resident for approval, prior to commencing work. Cost shall be incidental to the contract.

NOTES

1. See Slope Erosion Typical Repair Sheet for details.
2. See Josias River Culvert Repairs Sheets for concrete repairs.

Scale: 3/32" = 1'-0"

No.	Revision	By	Date

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

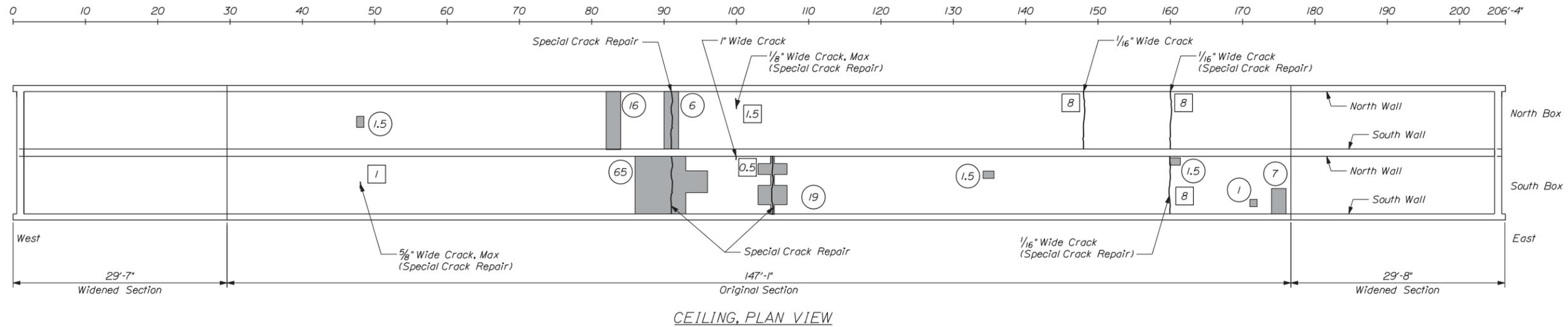
MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
JOSIAS RIVER CULVERT AT MM 11.8
GENERAL PLAN

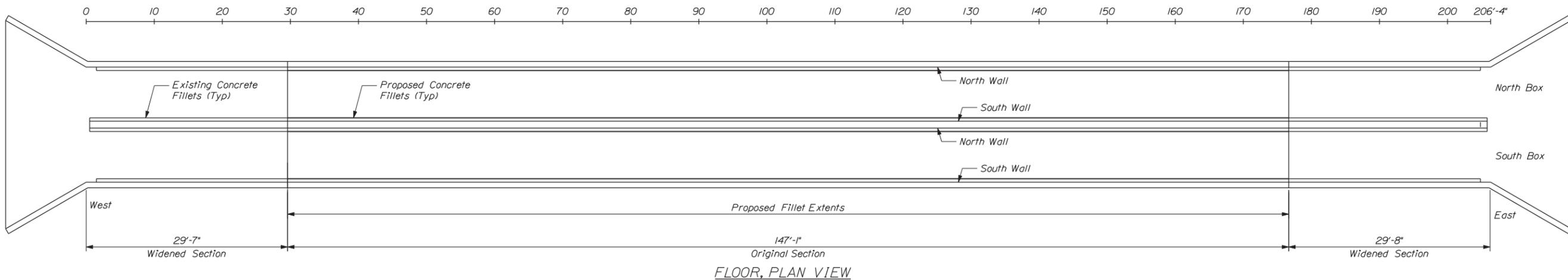
VHB: 55032.00
CONTRACT: 2015.04

SHEET NUMBER: 32
32 OF 36

Date: 12/15/2014



CEILING, PLAN VIEW



FLOOR, PLAN VIEW

TOTAL ESTIMATED REPAIR QUANTITY *

Surface Patch Repair	580 SF
Epoxy Crack Repair	94 LF
Special Crack Repair	70 GAL

* For All Floor, Ceiling and Wall Repairs

NOTES

1. Remove, collect, and properly dispose of the existing bituminous coating from entire culvert floor, repair unsound concrete and then place a 1" minimum concrete overlay over the entire floor. Construct new concrete fillets at the walls/floor intersections in the original culvert section to match the existing fillets in the newer end sections of the culvert. See Concrete Repair Typical Detail Sheet for repair details.
2. All exposed rebar shall be blast cleaned and coated.

JOSIAS RIVER DOUBLE BOX CULVERT CONCRETE REPAIRS

(For Detailing and Location Purposes, the Turnpike Orientation is N-S and the Brook is W-E)
Scale: 1/8" = 1'-0"

3. Estimated repair quantities include 51.5 additional square feet for surface patch repair as a contingency and 10 additional linear feet of epoxy crack repair as a contingency.

LEGEND:

- ~ Crack Repair
- Limit of Surface Patch Repair
- Linear Feet of Crack Repair
- ⊙ Square Footage of Repair

Scale: AS NOTED

Designed by:



CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

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**THE GOLD STAR
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MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
JOSIAS RIVER CULVERT AT MM 11.8
FLOOR AND CEILING REPAIRS

VHB: 55032.00

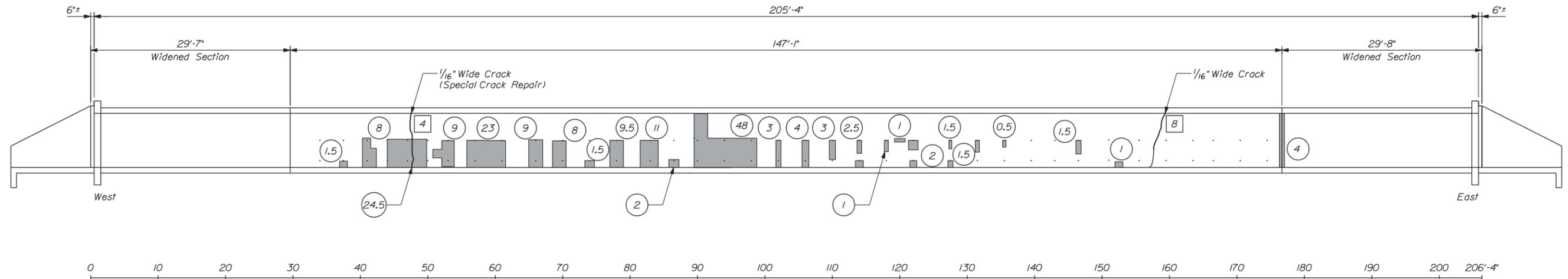
CONTRACT: 2015.04

SHEET NUMBER: 33

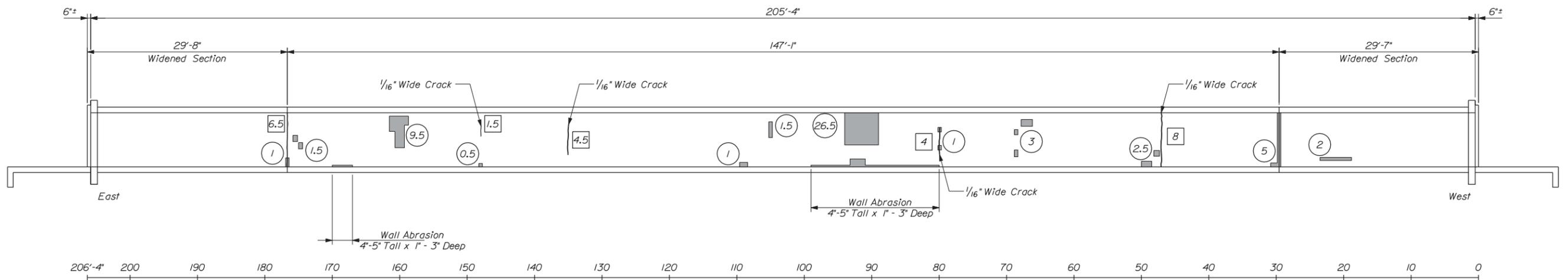
33 OF 36

Filename: ...st\plan\set\033_josias_01.dgn

Date: 12/15/2014



NORTH BOX, NORTH WALL



NORTH BOX, SOUTH WALL (CENTER PIER)

JOSIAS RIVER DOUBLE BOX CULVERT CONCRETE REPAIRS
 (For Detailing and Location Purposes, the Turnpike Orientation is N-S and the Brook is W-E)
 Scale: 1/8" = 1'-0"

NOTE
 1. For concrete repair notes and details see Concrete Repair Typical Details Sheet.

- LEGEND:**
- ~ Crack Repair
 - Limit of Surface Patch Repair
 - Linear Feet of Crack Repair
 - Square Footage of Repair

Filename: ...st\planiset\034_josias_02.dgn

Scale: AS NOTED

No.	Revision	By	Date

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date	By	Date
Designed	KZS	11/14	Checked	TSB 11/14
Drawn	CMD	11/14	In Charge of	TSB 11/14

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



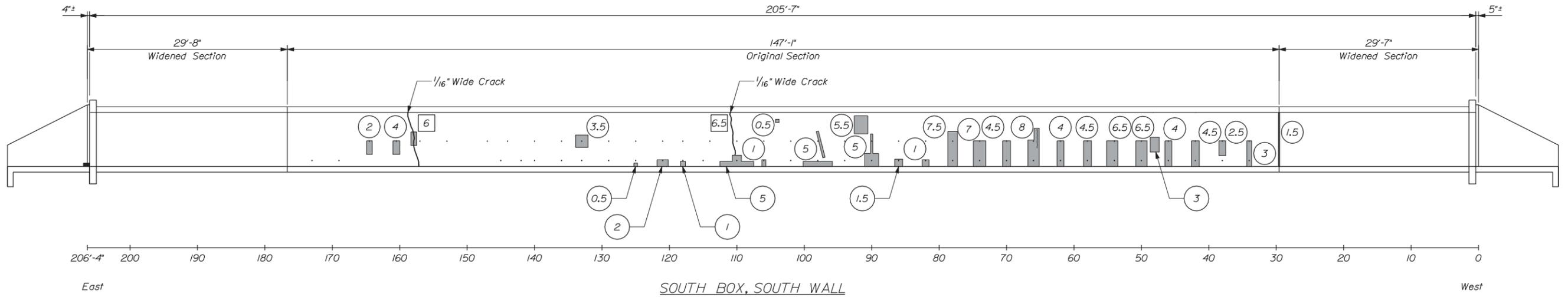
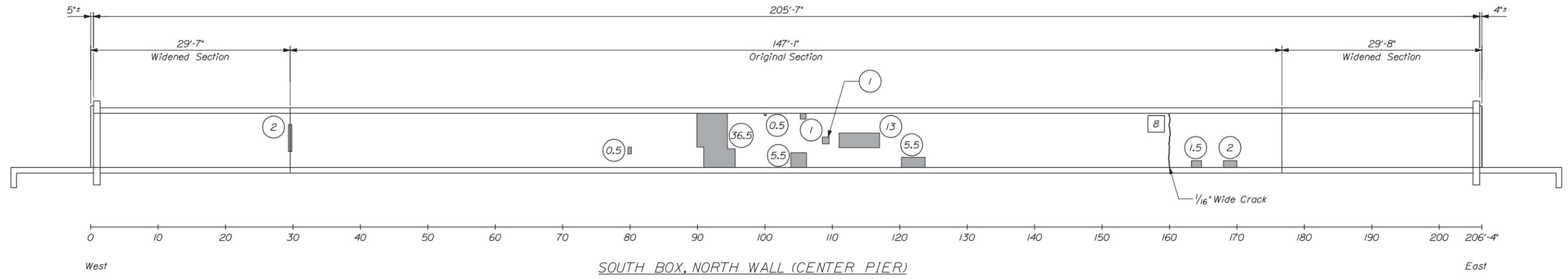
**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
 SOUTHERLY BRIDGE REPAIRS
 JOSIAS RIVER CULVERT AT MM 11.8
 WALL REPAIRS (1 OF 2)

VHB: 55032.00 SHEET NUMBER: 34
 CONTRACT: 2015.04 34 OF 36

Date: 12/15/2014



JOSIAS RIVER DOUBLE BOX CULVERT CONCRETE REPAIRS
 (For Detailing and Location Purposes, the Turnpike Orientation is N-S and the Brook is W-E)
 Scale: 1/8" = 1'-0"

NOTE
 1. For concrete repair notes and details see Concrete Repair Details Sheet.

- LEGEND:**
- ~ Crack Repair
 - Limit of Surface Patch Repair
 - Linear Feet of Crack Repair
 - Square Footage of Repair

Filename: ...st\planiset\035_Josias_03.dgn

Scale: AS NOTED

No.	Revision	By	Date

Designed by:

VIIB Vanasse Hangen Brustlin, Inc.

CONSULTANT PROJECT MANAGER: T. Bryant

	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

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**THE GOLD STAR
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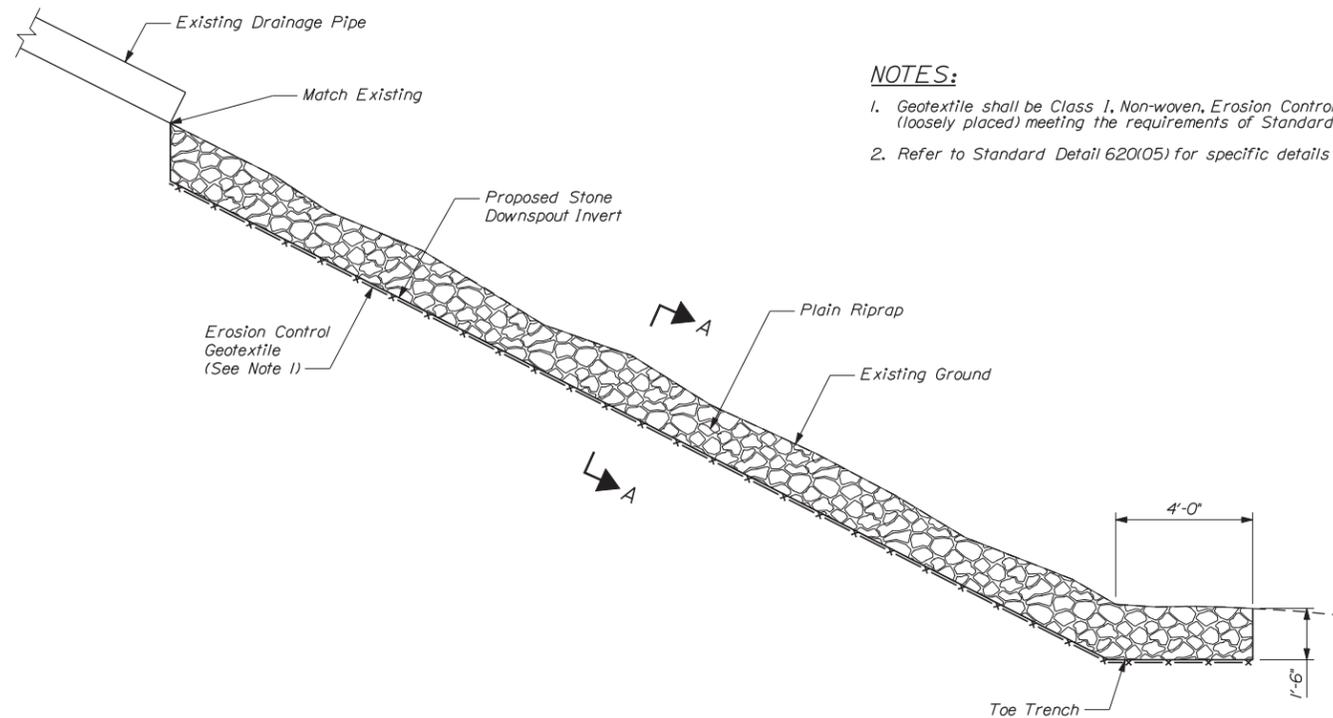
MTA PROJECT MANAGER: Ralph C. Norwood IV

MTA PROJECT NO. 2015.04
 SOUTHERLY BRIDGE REPAIRS
 JOSIAS RIVER CULVERT AT MM 11.8
 WALL REPAIRS (2 OF 2)

VHB: 55032.00
 CONTRACT: 2015.04

SHEET NUMBER: 35
 35 OF 36

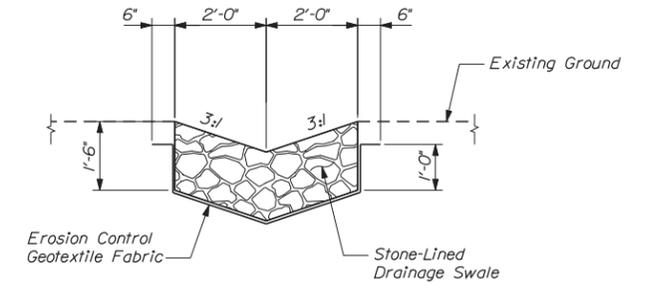
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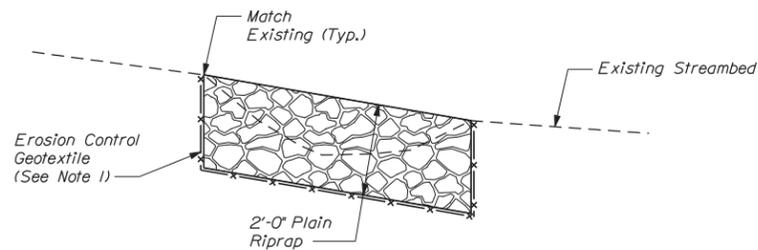
STONE-LINED DRAINAGE SWALE ELEVATION
Scale: 3/8" = 1'-0"

NOTES:

1. Geotextile shall be Class 1, Non-woven, Erosion Control Geotextile (loosely placed) meeting the requirements of Standard Specification 722.03.
2. Refer to Standard Detail 620(05) for specific details on geotextile placement.



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



SCOUR HOLE REPAIR DETAIL
Scale: 1/2" = 1'-0"

Filename: ... \036... Josias_details_01.dgn

Scale: AS NOTED

Designed by:



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**THE GOLD STAR
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MTA PROJECT NO. 2015.04
SOUTHERLY BRIDGE REPAIRS
JOSIAS RIVER CULVERT AT MM 11.8
DRAINAGE SWALE DETAILS

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: T. Bryant					
	By	Date		By	Date
Designed	KZS	11/14	Checked	TSB	11/14
Drawn	CMD	11/14	In Charge of	TSB	11/14

VHB: 55032.00
CONTRACT: 2015.04

SHEET NUMBER: 36
36 OF 36

MTA PROJECT MANAGER: Ralph C. Norwood IV