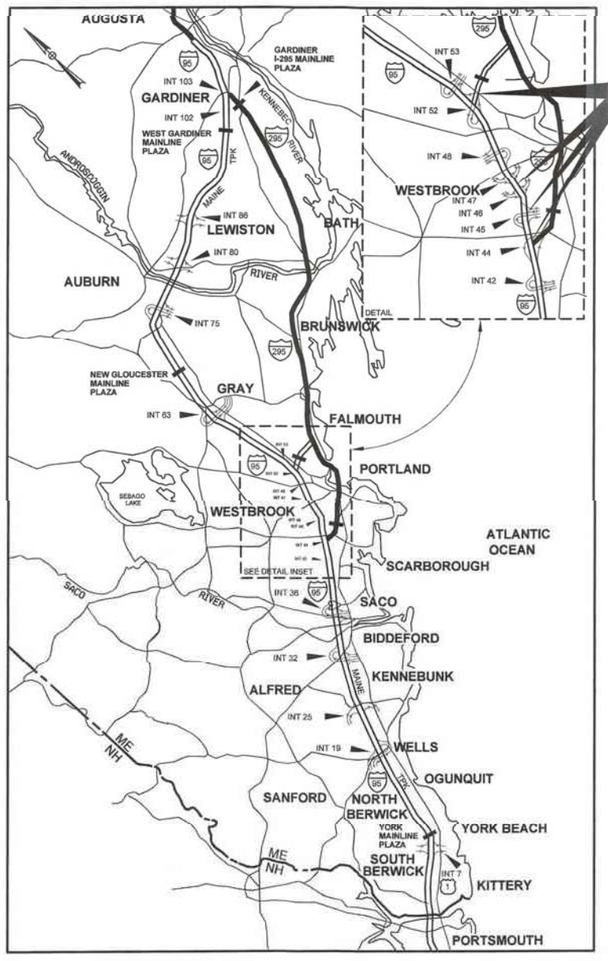

LOCATION MAP

EXIT 45 BRIDGE (MM 44.9)
EXIT 46 BRIDGE (MM 46.3)
EXIT 46 PAVING (MM 46.3)
MM 44.0 TO MM 49.01 AND FS 0.60

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MAINE TURNPIKE AUTHORITY

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

S. PETER MILLS, EXECUTIVE DIRECTOR

INDEX OF SHEETS

CONTRACT 2015.03
BRIDGE REPAIRS
EXIT 45 BRIDGE (MM 44.9)
EXIT 46 BRIDGE (MM 46.3)

PAVING REHABILITATION
EXIT 46 (MM 46.3)

MISCELLANEOUS TURNPIKE REPAIRS
MM 44.0 TO MM 49.01 AND FS 0.60

APPROVED:
MAINE TURNPIKE AUTHORITY

Peter S. Merfeld — 01-20-15
PETER S. MERFELD, P.E. - CHIEF OPERATIONS OFFICER — DATE

Stephen R. Martre — 1/20/15
STEPHEN R. MARTRE, P.E. - DIRECTOR OF ENGINEERING & BUILDING MAINTENANCE — DATE

HNTB

STATE OF MAINE — ROLAND A. LAVALLEE No. 6462 — LICENSED PROFESSIONAL ENGINEER

Roland A. Lavallee — 11/15/15
ROLAND A. LAVALLEE, P.E., P.L.S.
VICE PRESIDENT
DIRECTOR OF OPERATIONS
DATE

Date:02/15/05

Filename: 001_MTATitle.dgn

CONTRACT 2015.03

ITEM NO.	DESCRIPTION	REFERENCE QUANTITY	UNIT	Exit 45 Bridge	Exit 46 Bridge	Exit 46 Sign	Exit 46 Paving	Exit 44 Striping	Snow Fence	RR Conduit	TOTALS
202.121	Removing Existing Concrete - Median Barrier	44 CY	LS	1							1
202.14	Removing Existing Railing - Property of Contractor		LF	640							640
202.202	Removing Pavement Surface		SY	500	2300		13200				16000
202.2021	Removing Pavement Surface - Bridge Deck		SY	1600							1600
202.2022	Removing Pavement Surface - Full Depth		SY				4250				4250
202.2026	Removing Pavement Surface - Drainage Paths		SF				1150				1150
203.20	Common Excavation		CY				540				540
203.241	Common Borrow, Truck Measure		CY				1300				1300
203.25	Granular Borrow		CY				85				85
206.082	Structural Earth Excavation - Major Structures		CY	2	5						7
304.09	Aggregate Base Course - Crushed		CY				345				345
304.10	Aggregate Subbase Course - Gravel		CY				860				860
403.207	Hot Mix Asphalt, 19 mm Nominal Maximum Size		Ton				1010				1010
403.2081	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size - Bridge Deck		Ton	150	190						340
403.2083	Hot Mix Asphalt, 12.5 mm (Polymer Modified) - RAP		Ton				2100				2100
403.211	Hot Mix Asphalt (Shimming)		Ton	85	75						160
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size, Base		Ton				2200				2200
409.15	Bituminous Tack Coat - Applied		GAL				1560				1560
409.151	Bituminous Tack Coat - Applied, Bridge		GAL	110	115						225
419.30	Sawing Bituminous Pavement		LF	670	160						830
470.08	Berm Dropoff Correction - Grindings		Ton				110				110
502.81	Installation of Plastic Deck Drains		EA	12							12
503.171	Corroded Reinforcing Steel - Repair Detail 1		EA	10							10
507.095	Aluminum Bridge Railing - Splice Modification		EA						88		88
507.11	Light-Weight Barrier - Fabricated and Delivered		LF	1090							1090
507.12	Light-Weight Barrier - Placed (Temporary)		LF	1690							1690
507.13	Light-Weight Barrier - Placed (Permanent)		LF	1010							1010
508.13	Waterproofing Membrane	1650 SY	LS	1							1
514.06	Curing Box for Concrete Cylinders		EA	1	1						2
515.201	Pigmented Protective Coating for Concrete Surfaces		SY	700							700
515.202	Clear Protective Coating for Concrete Surfaces		SY		1500		450				1950
515.203	Re-caulking Existing Concrete Barrier Construction / Control Joints		LF		470		395				865
518.10	Abutment Repairs		SF	75							75
518.40	Epoxy Injection Crack Repair - Parapets		LF		180						180
518.60	Repair of Vertical Surfaces - Approach Slab Modification		LF		78						78
518.80	Partial Depth Concrete Repairs		SF	1100							1100
518.81	Full Depth Concrete Repairs		SF	150							150
518.86	Bridge Joint Header Concrete Repairs		SF	83							83
520.211	Install New Gland Seal - Exit 45		LF	100							100
520.23	Asphaltic Plug Joint		LF		80						80
520.24	Bridge Joint Modification - Exit 45 at Median		LF	6							6
526.306	Temporary Concrete Barrier, Type I - Supplied by Authority	730 LF	LS	1							1
527.342	Work Zone Crash Cushions - TL-2		UNIT	1			1				2
603.205	30" RCP - Class III		LF				32				32
604.187	Rebuild Catch Basin to Grade - Type B1		EA				4				4
604.40	Secure Catch Basin Grate		EA				4				4
606.1723	Thrie Beam Bridge Attachment at Railing - Type III		EA	4							4
606.1724	Thrie Beam Bridge Attachment at Median - Type III		EA	2							2
606.178	Guardrail Beam		LF				225				225
606.2652	Terminal End - Remove and Stack		EA				8				8
606.278	Terminal End - Anchored End		EA				6				6
606.352	Reflectorized Beam Guardrail Delineator		EA				55				55
606.353	Delineator Post		EA				150				150
606.354	Delineator Post - Remove and Reset		EA				15				15
606.355	Delineator Post - Remove and Stack		EA				28				28
606.3605	Guardrail - Remove, Modify, and Reset Single Rail		LF	210			638				848
606.3606	Guardrail - Remove, Modify, and Reset Double Rail		LF	390							390
606.3621	Guardrail Adjust - Single Rail		LF		300		1900				2200
606.3631	Guardrail - Remove and Dispose		LF	165			188				353
606.471	Single Offset Block - W Beam		EA				18				18
606.48	Single Galvanized Steel Post		EA				18				18
606.701	Asymmetrical Thrie Beam Transition		EA				2				2
606.81	Guardrail 350 FLEAT Terminal - Remove and Reset		EA				1				1
606.93	Guardrail 350 FLEAT Terminal - Remove and Stack		EA				2				2

ITEM NO.	DESCRIPTION	REFERENCE QUANTITY	UNIT	Exit 45 Bridge	Exit 46 Bridge	Exit 46 Sign	Exit 46 Paving	Exit 44 Striping	Snow Fence	RR Conduit	TOTALS
607.4311	Snow Fence - Running Hill Road Bridge (3-Bar)		LF						192		192
607.4312	Snow Fence - Warren Avenue Bridges (2-Bar)		LF						224		224
607.4313	Snow Fence - Auburn Street Bridge (2-Bar)		LF						224		224
610.08	Plain Riprap		CY				16				16
613.319	Erosion Control Blanket		SY				150				150
615.07	Loam		CY				245				245
618.14	Seeding Method Number 2		Unit				20				20
619.1201	Mulch, Plan Quantity		Unit				20				20
619.1202	Temporary Mulch		LS				1				1
620.58	Non-woven Geotextile		SY				65				65
626.11	Precast Concrete Junction Box		EA				5				5
626.12	Quazite Junction Box		EA				4				4
626.13	Remove and Relocate Quazite Junction Box		EA				4				4
626.14	Remove and Relocate Precast Concrete Junction Box		EA				12				12
626.112	Aluminum Junction Box		EA							4	4
626.212	Metallic Conduit - 2 Inch Rigid Galvanized		LF							840	840
626.22	Non-Metallic Conduit		LF				3000				3000
626.32	24" Foundation		EA			4	8				12
627.181	12 Inch Solid White Pavement Marking Line		LF					520			520
627.4074	Preformed Pavement Marking Tape Symbols, Hot Inlay Installation		SF				430				430
627.712	4 Inch White or Yellow Painted Pavement Marking Line		LF		2100						2100
627.7121	6 Inch White or Yellow Painted Pavement Marking Line		LF	3250			13800				17050
627.72	Temporary 4 Inch Pavement Marking Tape, White or Yellow		LF		2000						2000
627.73	Temporary 6 Inch Pavement Marking Tape, White or Yellow		LF	6700							6700
627.731	Temporary 6 Inch Black Pavement Marking Tape		LF	1840	760						2600
627.68	Temporary 4 Inch Painted Pavement Marking Line, White or Yellow		LF		5100						5100
627.681	Temporary 6 Inch Painted Pavement Marking Line, White or Yellow		LF	1300			13800				15100
627.77	Removing Existing Pavement Markings		SF	640	920						1560
627.812	Temporary Raised Pavement Markers		EA	140	70		300				510
627.94	Pavement Marking Line - Recessed Tape, Broken White Line, 6-inch		LF					410			410
627.943	Pavement Marking Line - Recessed Tape, Solid W or Y Line, 6-inch		LF					1000			1000
627.944	Pavement Markings - Recessed Tape - Words, Arrows, Stop Bars		SF					140			140
629.05	Hand Labor, Straight Time		HR	20	20		20				60
631.10	Air Compressor (including operator)		HR	10	10		10				30
631.11	Air Tool (including operator)		HR	10	10		10				30
631.12	All Purpose Excavator (including operator)		HR	10	10		10				30
631.172	Truck - large (including operator)		HR	10	10		20				40
631.36	Foreman		HR	10	10	5	10	5	5	5	50
631.40	Welding Machine (including operators)		HR	10	10						20
634.175	Replacement LED Fixture		EA				39				39
634.208	Remove and Reset Light Standard		EA				8				8
634.2154	#4 AWG THHN Wire		LF				4800				4800
634.2156	#6 AWG THHN Wire		LF				2400				2400
643.713	Preemptive Traffic Loops		EA				2				2
645.109	Remove and Reset Sign		EA				3				3
645.12	Bridge Sign (Skyway Drive Bridge)		LS		1						1
645.13	Bridge Overpass-Mounted Guide Sign Support (Congress Street Bridge)		LS			1					1
645.162	Breakaway Device Multi Pole		EA			4					4
645.289	Steel H-Beam Poles		LB			1350					1350
645.401	Intallation of Type II Sign		EA				1	3			4
645.410	Installation of Type I Guide Sign		EA			2					2
652.30	Flashing Arrow Board		EA	2			1				3
652.312	Type III Barricades		EA	6	12						18
652.33	Drum		EA	70	30		130				230
652.35	Construction Signs		SF	240	240		3500	300			4280
652.361	Maintenance of Traffic Control Devices		LS	0.25	0.25	0.1	0.4	0	0	0	1
652.38	Flaggers		HR		360						360
652.39	Portable - Light Tower		EA		3						3
652.41	Portable - Changeable Message Sign		EA	1.5	1.5	0.25	2	0.25	0.25	0.25	6
652.45	Truck Mounted Attenuator		CD			4	38	2	14	2	60
656.50	Baled Hay, in place		EA	10	10		20				40
656.60	Temporary Berms		LF				350				350
656.62	Temporary Slope Drains		LF				40				40
656.632	30 inch Temporary Silt Fence		LF	200	200	50	2050	50			2550
659.10	Mobilization		LS	0.32	0.18	0.02	0.43	0.01	0.02	0.02	1

Date:1/23/2015

Filename: 002_Quantities.dgn

Scale:

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	CAH	01/15	Checked	CRM	01/15
Drawn	MPC	01/15	In Charge of	RAL	01/15

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

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

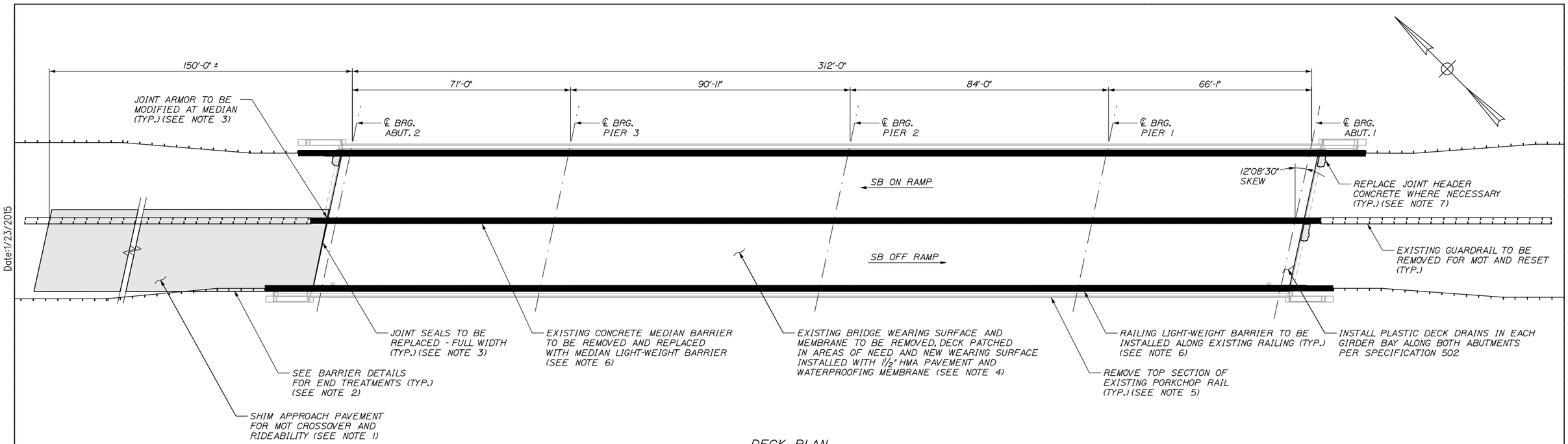
BRIDGE REPAIRS
PAVEMENT REHABILITATION

ESTIMATED QUANTITIES

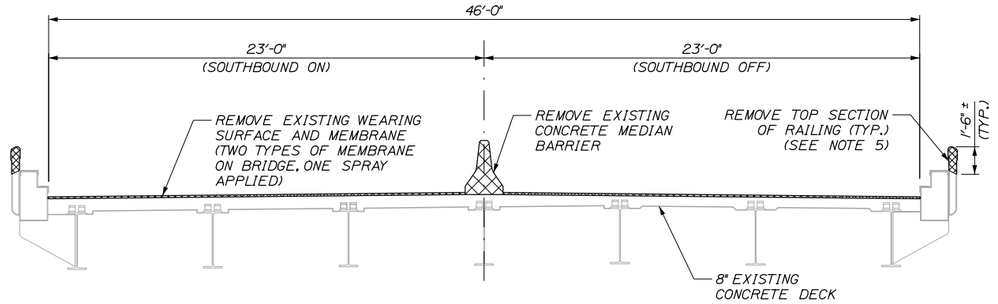
SHEET NUMBER: QT-01

CONTRACT:2015.03

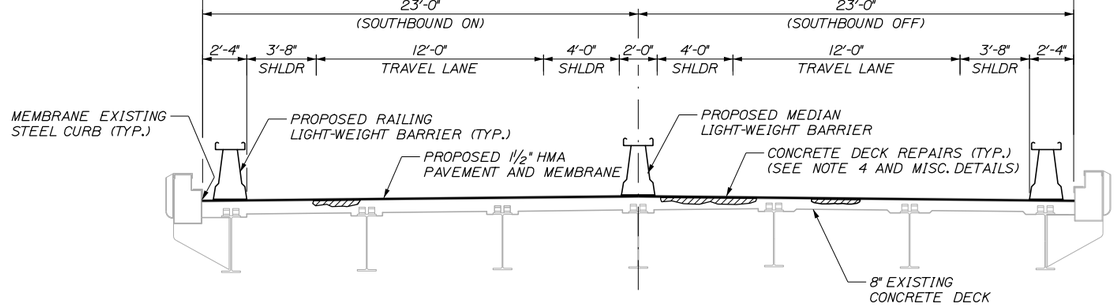
Date:1/23/2015



DECK PLAN
1/16" = 1'-0"



TYPICAL SECTION - EXISTING
1/4" = 1'-0"



TYPICAL SECTION - PROPOSED
1/4" = 1'-0"

NOTES:

1. THERE IS A HEIGHT DIFFERENTIAL OF APPROXIMATELY 6" BETWEEN THE WEST APPROACH PAVEMENT ON RAMP AND OFF RAMP. THE SOUTHWEST APPROACH PAVEMENT SHALL BE SHIMMED TO PROVIDE A SMOOTH CROSSOVER DURING MAINTENANCE OF TRAFFIC (MOT) OPERATIONS AND TO IMPROVE CURRENT RIDEABILITY. SEE MAINTENANCE OF TRAFFIC DETAILS FOR MORE INFORMATION ON LAYOUT AND SHIM LIMITS.

2. PROPOSED LIGHT-WEIGHT BARRIER TRANSITIONS WILL REQUIRE DIRECT GUARDRAIL TRANSITIONS. SEE BARRIER DETAILS FOR MORE INFORMATION. THE TRANSITIONS SHALL BE MEASURED FOR PAYMENT UNDER PAY ITEM, LIGHT-WEIGHT BARRIER, 526.35.

3. EXISTING MEDIAN BARRIER SHALL BE REMOVED TO THE LIMITS SHOWN IN THE BARRIER DETAILS. REMOVAL SHALL INCLUDE REMOVING PORTIONS OF THE EXISTING JOINT AT THE MEDIAN BARRIER. JOINT REMOVAL SHALL BE INCIDENTAL TO PAY ITEM 202.299, REMOVING CONCRETE BARRIER. JOINT MODIFICATIONS AND SEAL REPLACEMENT SHALL BE MEASURED FOR PAYMENT UNDER PAY ITEM 520.21, EXPANSION DEVICE-GLAND SEAL. FOR MORE INFORMATION ON DEMOLITION AND MODIFICATION SEE JOINT DETAILS.

4. AFTER THE EXISTING WEARING SURFACE AND MEMBRANE ARE REMOVED THE RESIDENT SHALL IDENTIFY AREAS OF DECK REPAIRS BASED ON REQUIREMENTS IN SPECIAL PROVISION 503 AND 518. THE ACTUAL REPAIR AREAS FOR THIS ITEM ARE UNDEFINED. FOR QUANTITIES IT WAS ASSUMED THAT 7.5% OF THE DECK AREA WILL REQUIRE PARTIAL DEPTH CONCRETE DECK REPAIRS AND 1% OF THE DECK AREA WILL REQUIRE FULL DEPTH CONCRETE DECK REPAIRS. THIS WORK SHALL BE MEASURED FOR PAYMENT UNDER PAY ITEMS 518.80, PARTIAL DEPTH CONCRETE DECK REPAIRS AND 518.81, FULL DEPTH CONCRETE DECK REPAIRS.

5. THE EXISTING PORKCHOP RAILINGS AND POSTS SHALL BE REMOVED TO THE LIMITS SHOWN IN THE TYPICAL SECTION. METHOD OF REMOVAL SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION 107 AND 202. THIS WORK SHALL BE MEASURED FOR PAYMENT UNDER PAY ITEM 202.114, REMOVING EXISTING RAILINGS.

6. THE PROPOSED MEDIAN LIGHT-WEIGHT BARRIER AND RAILING LIGHT-WEIGHT BARRIER SHALL BE "BARRIERGUARD 800 MDS". SEE BARRIER DETAILS AND SPECIAL PROVISION 507 FOR MORE INFORMATION ON LAYOUT, PRODUCT AND MANUFACTURER.

7. BRIDGE JOINT HEADER REPLACEMENT, WHICH INCLUDES PATCHING APPROACH PAVEMENT, SHALL BE PERFORMED ON AN AS NEEDED BASIS ALONG ALL JOINTS. THE ACTUAL REPAIR AREAS FOR THIS ITEM ARE UNDEFINED AND WILL BE DETERMINED IN THE FIELD BY THE RESIDENT. THIS WORK SHALL BE MEASURED FOR PAYMENT UNDER PAY ITEM 518.86, BRIDGE JOINT HEADER REPLACEMENT.

8. REMOVAL/INSTALLATION OF WEARING SURFACE AND PLACEMENT OF LIGHT-WEIGHT BARRIER SHALL BE ACCOMPLISHED USING THE CONSTRUCTION SEQUENCE PRESENTED IN THE EXIT 45 MAINTENANCE OF TRAFFIC DETAILS.

9. BRIDGE JOINT SEALS SHALL BE INSTALLED PRIOR TO INSTALLATION OF PERMANENT LIGHT-WEIGHT BARRIER.

Filename: 056_DeckPlan-45.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	KEB	01/15	Checked	CRM	01/15
Drawn	MPC	01/15	In Charge of	RAL	01/15

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

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

BRIDGE REPAIRS PAVEMENT REHABILITATION
EXIT 45 BRIDGE
DECK PLAN AND TYPICAL SECTION

SHEET NUMBER: S-01

CONTRACT:2015.03

Date:1/23/2015

REMOVAL PROCEDURES:

1. PRIOR TO THE START OF THE CONCRETE REMOVALS, THE CONTRACTOR SHALL REMOVE TECTYL COATING WHERE PRESENT.

2. THE RESIDENT SHALL THEN SOUND THE ABUTMENT CONCRETE AND DELINEATE AREAS OF REPAIR SIMILAR TO WHAT IS SHOWN IN THE PLANS. IT SHOULD BE NOTED THAT DURING THE DESIGN PHASE THE SUBSTRUCTURE WAS NOT SOUNDED. AREAS DELINEATED REPRESENT OBVIOUS LOCATIONS OF REPAIR (I.E., EXPOSED REINFORCING OR SPALLS). THIS REPAIR PROJECT DOES NOT INTEND TO REPAIR SMALL AREAS OF DETERIORATION. RESIDENT TO FOCUS ON AREAS EXPOSED TO THE ELEMENTS. UNLESS EXTENSIVE DETERIORATION OR DELAMINATIONS ARE FOUND IN OTHER LOCATIONS.

3 AFTER THE RESIDENT HAS DELINEATED THE REPAIR AREAS THE CONTRACTOR SHALL AGREE ON THE LIMITS. SHOULD THE REMOVAL AREA LIMITS APPEAR TO CHANGE DURING THE REPAIR 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. WORK SHALL BE INCIDENTAL TO THE SPECIFIED REPAIR ITEM IN SPECIAL PROVISION 518.

2. PERFORM 1 INCH DEEP SAWCUTS ALONG LIMITS OF REMOVAL.

3. CHIP CONCRETE TO DEPTH SHOWN AND DESCRIBED IN SPECIAL PROVISION 518.

CONCRETE SURFACE PATCH/REPAIR PROCEDURE:

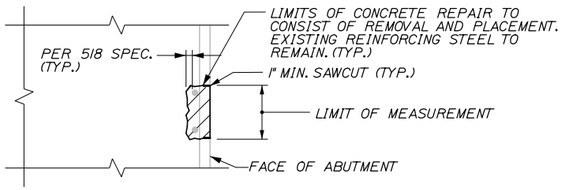
1. PREPARE AND PATCH REPAIR AREAS WITH CLASS AAA MODIFIED CONCRETE. SEE SPECIFICATIONS FOR MATERIAL PREPARATION, PLACEMENT, AND CURING REQUIREMENTS.

2. PERFORM GENERAL FINISHING (SEE BELOW).

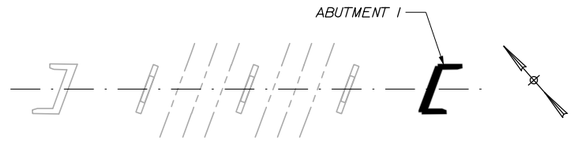
GENERAL FINISHING:

1. CONTRACTOR SHALL ENSURE ALL TECTYL COATING HAS BEEN REMOVED PRIOR TO APPLYING PROTECTIVE CONCRETE COATING. WORK SHALL BE INCIDENTAL TO THE SPECIFIED REPAIR ITEM IN SPECIAL PROVISION 518.

2. ALL EXPOSED SURFACES SHALL BE COATED WITH A PROTECTIVE COATING SUITABLE FOR CONCRETE SURFACES AFTER PATCHING IS COMPLETED AND PATCH MATERIALS HAVE CURED.



CONCRETE SURFACE PATCH/REPAIR DETAIL
1" = 1'-0"



KEY PLAN
NTS

REPAIR QUANTITIES

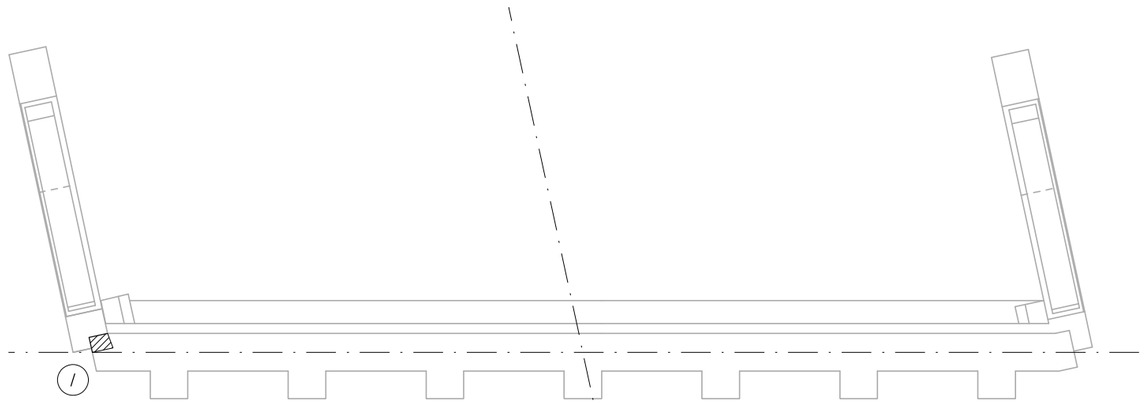
ABUTMENT SURFACE PATCH REPAIR 44 S.F.*

* INCLUDES 10 S.F. ADDITIONAL REPAIR QUANTITY AS A CONTINGENCY.

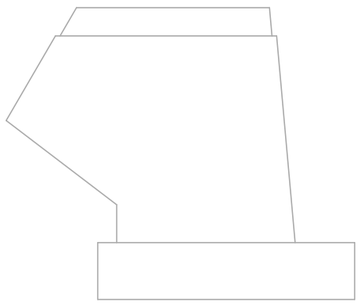
LEGEND

LIMIT OF SURFACE PATCH REPAIR

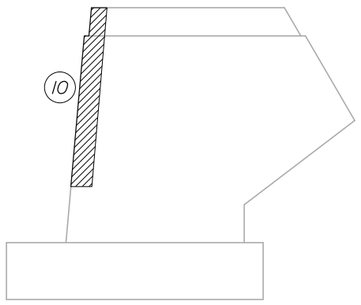
(#) SQUARE FOOT AREA OF REPAIR



ABUTMENT 1 PLAN
1/4" = 1'-0"



NORTHEAST WINGWALL
1/4" = 1'-0"



SOUTHEAST WINGWALL
1/4" = 1'-0"

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

Filename: 057_SubSt-45a.dgn

Scale:				Designed by: HNTB					
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.					
					By	Date		By	Date
				Designed	KEB	01/15	Checked	CRM	01/15
				Drawn	MPC	01/15	In Charge of	RAL	01/15

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

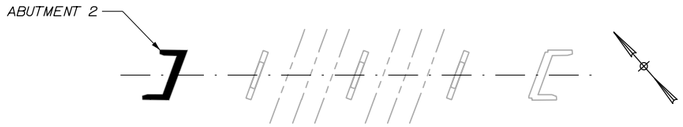
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPAIRS
PAVEMENT REHABILITATION
EXIT 45 BRIDGE
SUBSTRUCTURE REPAIRS 1

SHEET NUMBER: S-02

CONTRACT:2015.03

NOTES:
1. SEE SHEET S-02 FOR NOTES.



KEY PLAN
NTS

REPAIR QUANTITIES

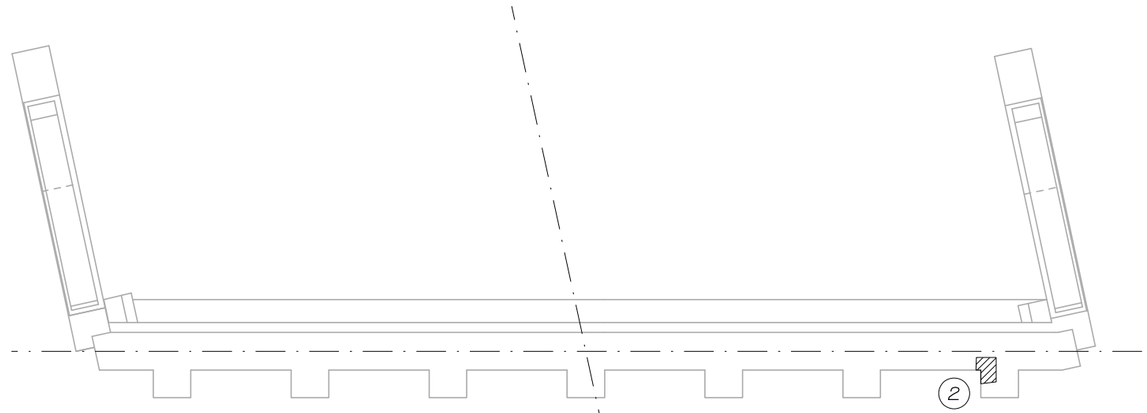
ABUTMENT SURFACE PATCH REPAIR 31 S.F.*

* INCLUDES 10 S.F. ADDITIONAL REPAIR QUANTITY AS A CONTINGENCY.

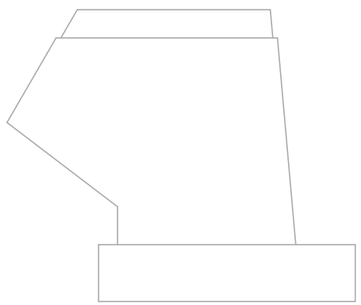
LEGEND

LIMIT OF SURFACE PATCH REPAIR

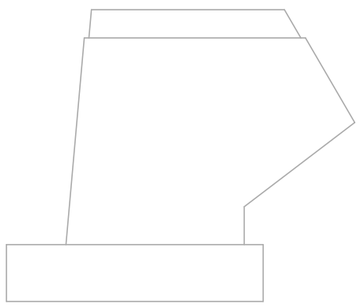
(#) SQUARE FOOT AREA OF REPAIR



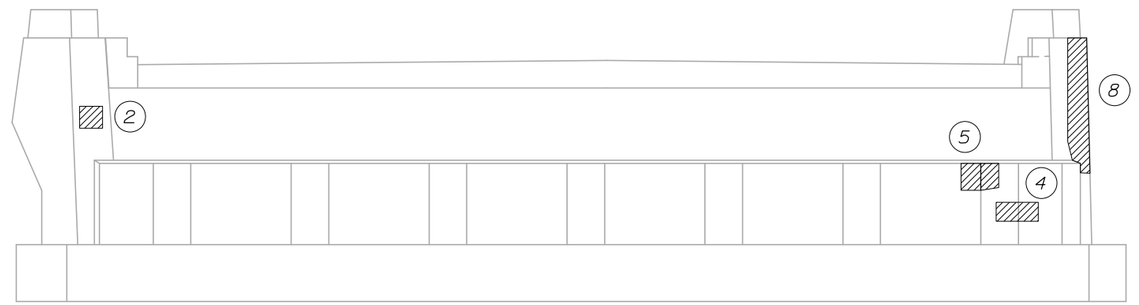
ABUTMENT 2 PLAN
1/4" = 1'-0"



SOUTHWEST WINGWALL
1/4" = 1'-0"



NORTHWEST WINGWALL
1/4" = 1'-0"



ABUTMENT 2 ELEVATION
1/4" = 1'-0"

Date:1/23/2015

Filename: 058_SubSt-45b.dgn

Scale:				Designed by: HNTB					
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.					
					By	Date		By	Date
				Designed	KEB	01/15	Checked	CRM	01/15
				Drawn	MPC	01/15	In Charge of	RAL	01/15

HNTB CORPORATION
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

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

BRIDGE REPAIRS
PAVEMENT REHABILITATION
EXIT 45 BRIDGE
SUBSTRUCTURE REPAIRS II

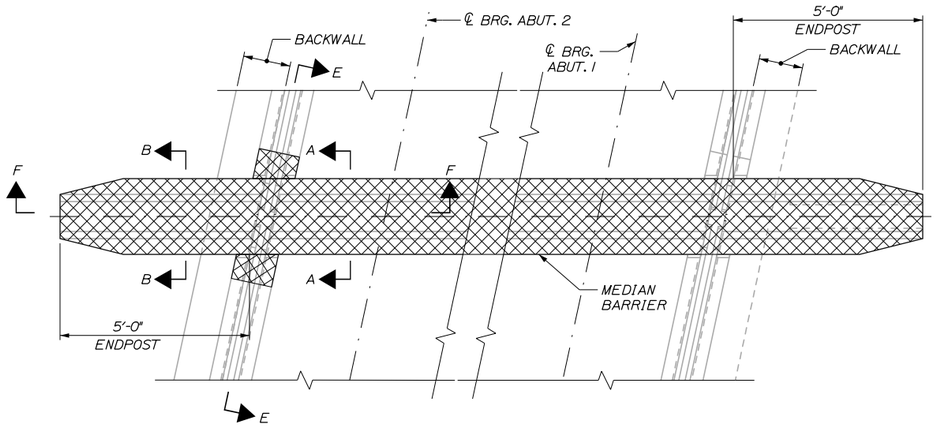
SHEET NUMBER: S-03

CONTRACT:2015.03

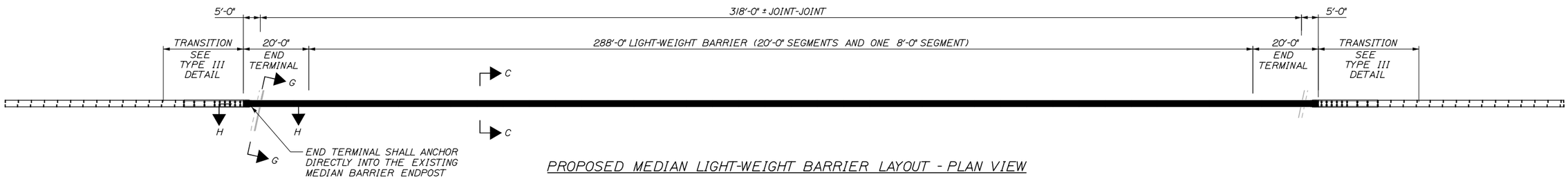
Date:1/23/2015

NOTES:

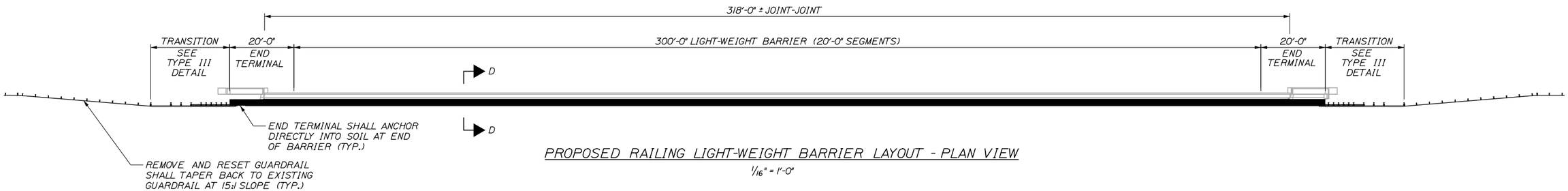
1. FOR SECTIONS A-A, B-B AND C-C SEE SHEET S-05 AND FOR SECTIONS E-E, F-F, G-G AND H-H SEE SHEET S-07.
2. PROPOSED BARRIER ANCHORAGE SHALL BE IN ACCORDANCE WITH MANUFACTURER'S CRASH TESTED CONFIGURATION TO ACHIEVE A TL-3 MINIMUM DEFLECTION SYSTEM.
3. BARRIER TRANSITIONS TO GUARDRAIL SHALL BE DETAILED AND PROVIDED BY MANUFACTURER FOR REVIEW.
4. CONTRACTOR SHALL LAYOUT BARRIER SEGMENTS SYMMETRIC ABOUT THE CENTER OF THE BRIDGE. THE FINAL LAYOUT CONFIGURATION SHALL MEET THE MANUFACTURERS REQUIREMENTS FOR JOINT MOVEMENT.
5. CONTRACTOR SHALL ORDER 80' OF EXTRA BARRIER SEGMENTS TO BE STORED AT A TURNPIKE MAINTENANCE YARD. THESE SEGMENTS WILL SERVE AS REPLACEMENT PIECES IF A COLLISION OCCURS IN THE FUTURE.



EXISTING MEDIAN BARRIER LAYOUT - PLAN VIEW
1/2" = 1'-0"



PROPOSED MEDIAN LIGHT-WEIGHT BARRIER LAYOUT - PLAN VIEW
1/16" = 1'-0"



PROPOSED RAILING LIGHT-WEIGHT BARRIER LAYOUT - PLAN VIEW
1/16" = 1'-0"

Filename: 059_BarrierDets 1.dgn

Scale:

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	KEB	01/15	Checked	CRM	01/15
Drawn	MPC	01/15	In Charge of	RAL	01/15

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MAINE TURNPIKE

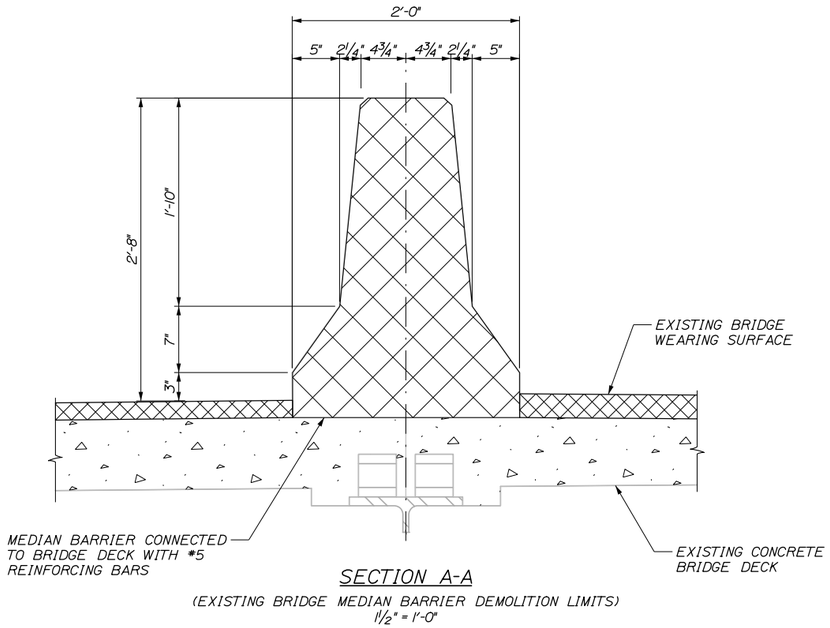
THE GOLD STAR MEMORIAL HIGHWAY

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

BRIDGE REPAIRS
PAVEMENT REHABILITATION
EXIT 45 BRIDGE
BARRIER DETAILS 1

SHEET NUMBER: S-04

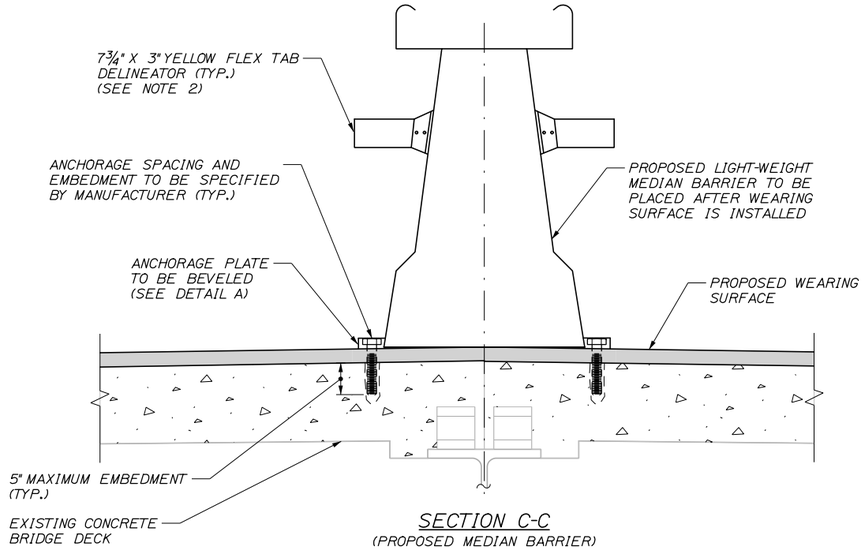
CONTRACT:2015.03



SECTION A-A

(EXISTING BRIDGE MEDIAN BARRIER DEMOLITION LIMITS)

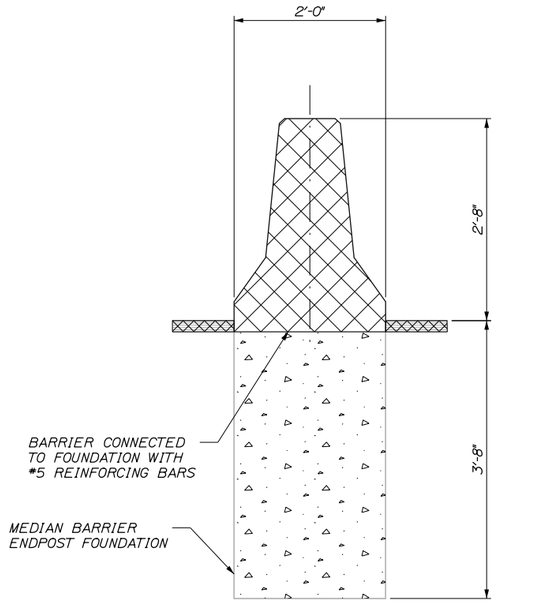
1½" = 1'-0"



SECTION C-C

(PROPOSED MEDIAN BARRIER)

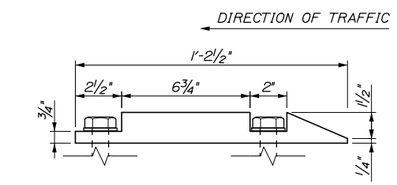
1½" = 1'-0"



SECTION B-B

(EXISTING MEDIAN BARRIER ENDPOST DEMOLITION LIMITS)

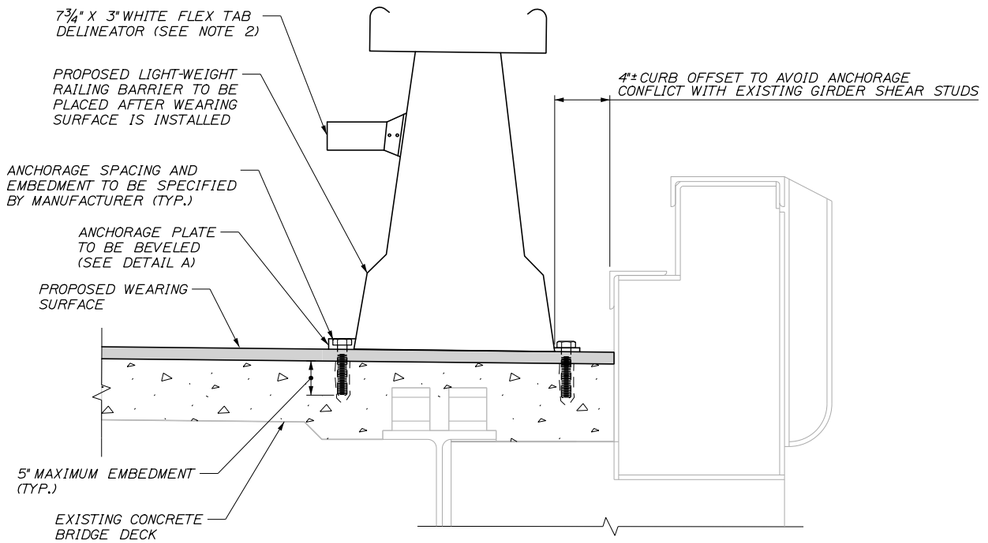
1" = 1'-0"



DETAIL A

(ELEVATION/SIDE VIEW OF BARRIER ANCHOR PLATE)

3" = 1'-0"



SECTION D-D

(PROPOSED RAILING BARRIER)

1½" = 1'-0"

NOTES:

1. SEE BARRIER SHEET S-04 FOR SECTION CUT LOCATIONS.
2. FLEX TAB DELINEATORS SHALL BE INSTALLED ON EACH BARRIER FACE EXPOSED TO TRAFFIC. THE FLEX TABS SHALL BE FABRICATED AND INSTALLED (ADHESIVE MOUNTED) ACCORDING TO THE BARRIER MANUFACTURERS DETAIL. THE FLEX TABS SHALL BE INCIDENTAL TO THE LIGHT-WEIGHT BARRIER ITEM.
3. ANCHORAGE PLATES SHALL BE BEVELED TO PROVIDE A GUIDE FOR THE PLOW BLADES TO RIDE UP AND CLEAR THE ANCHORAGE BOLTS.

Date:1/23/2015

Filename: 060_BarrierDets II.dgn

Scale:

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	KEB	01/15	Checked	CRM	01/15
Drawn	MPC	01/15	In Charge of	RAL	01/15

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MAINE TURNPIKE

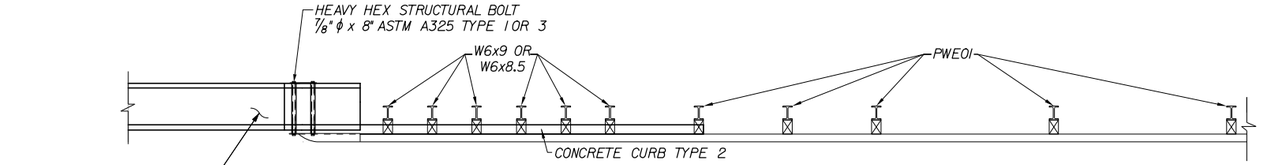
THE GOLD STAR MEMORIAL HIGHWAY

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

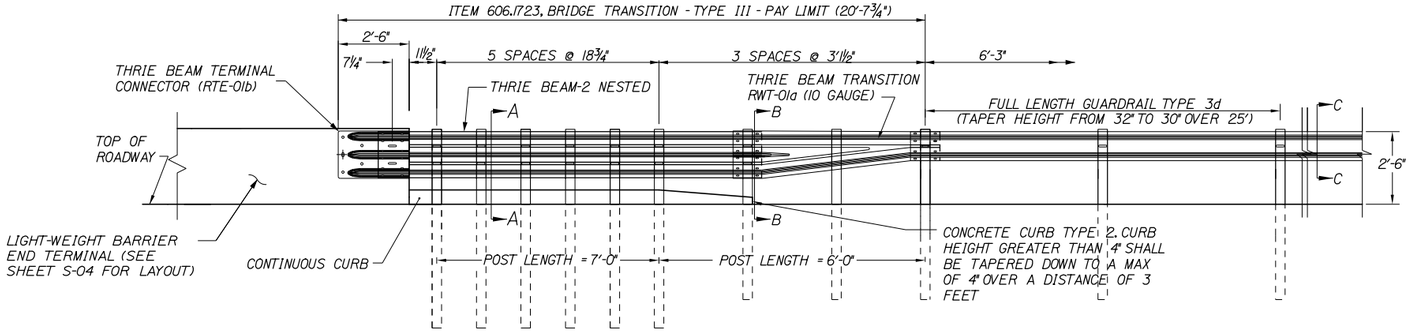
BRIDGE REPAIRS
PAVEMENT REHABILITATION
EXIT 45 BRIDGE
BARRIER DETAILS II

SHEET NUMBER: S-05

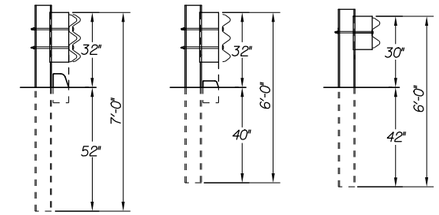
CONTRACT:2015.03



PLAN VIEW
3/8" = 1'-0"



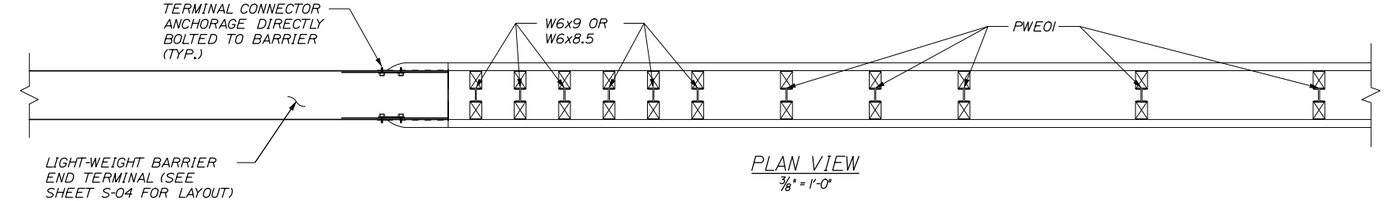
THRIE BEAM BRIDGE ATTACHMENT (TYPE III) AT RAILING BARRIER END TERMINALS
3/8" = 1'-0"



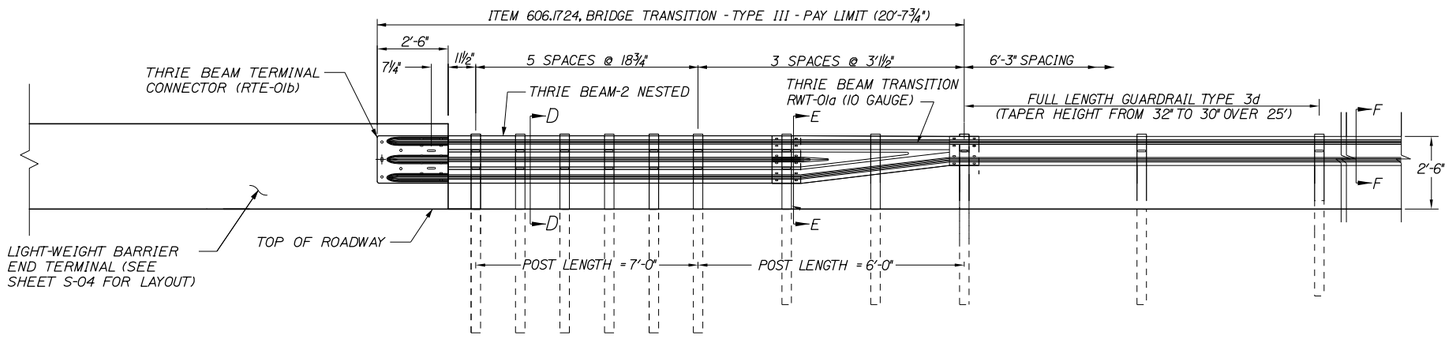
SECTION A-A SECTION B-B SECTION C-C

GENERAL NOTES:

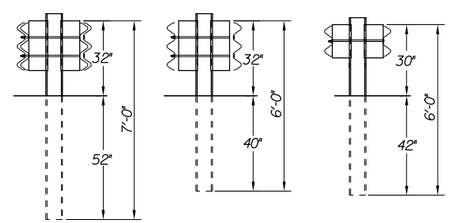
1. ADDITIONAL HOLES MAY BE MADE IN THE THRIE-BEAM PANELS BY DRILLING, PUNCHING, OR OTHER MEANS THAT PRODUCE A NEAT, CLEAN HOLE. BURNING HOLES WILL NOT BE ALLOWED.
2. THRIE BEAM SHALL BE PLACED WITH THE COMPOSITE BLOCKOUT FACE IN FRONT OF OR DIRECTLY ABOVE THE CURB FACE.
3. RAIL ELEMENT SHALL MEET ALL REQUIREMENTS OF AASHTO M-180 EXCEPT AS MODIFIED ON THE PLANS. THE THRIE BEAM TRANSITION TO W-BEAM SHALL BE OF THE SAME MATERIAL, BUT SHALL NOT BE LESS THAN 10 GAUGE.
4. AFTER INSTALLATION IS COMPLETE, UPSET THE THREAD ON THE ANCHOR BOLTS IN THREE PLACES AROUND EACH BOLT, AT THE JUNCTION OF THE NUT AND THE EXPOSED THREAD, WITH A CENTER PUNCH OR SIMILAR TOOL.
5. STANDARD BARRIER HARDWARE HAS BEEN USED TO DEVELOP THESE GUARDRAIL ATTACHMENTS. DESIGNATIONS PROVIDED IN PARENTHESIS RELATE TO STANDARD ELEMENTS DETAILED IN "A GUIDE TO STANDARDIZED BARRIER RAIL HARDWARE." 1979. AASHTO-AGC-ARTBA JOINT COOPERATE COMMITTEE.
6. CONNECTION TO LIGHT-WEIGHT BARRIER SHALL BE IN ACCORDANCE WITH MANUFACTURER CRASH TESTED REQUIREMENTS.
7. FOR THE GUARDRAIL TRANSITION, SECTION C-C AND F-F, GUARDRAIL TYPE 3d SHALL TAPER FROM 30" TO TOP OF POST TO 27" OVER 50' MIN IN ORDER TO MATCH IN TO EXISTING GUARDRAIL.
8. THRIE BEAM BRIDGE ATTACHMENT SHALL HAVE 3" x 7/8" SLOTS AT THE FIRST BOLT CONNECTIONS ON THE BRIDGE DECK. THE THREADS ON THE BOLTS AT THE SLOTS SHALL BE UPSET AT THE JUNCTION OF THE NUT WITH A CENTER PUNCH OR SIMILAR TOOL.



PLAN VIEW
3/8" = 1'-0"



THRIE BEAM BRIDGE ATTACHMENT (TYPE III) AT MEDIAN BARRIER END TERMINALS
3/8" = 1'-0"



SECTION D-D SECTION E-E SECTION F-F

Date:1/23/2015

Filename: 061_BarrierDets III.dgn

No.	Revision	By	Date

Scale:

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	KEB	01/15	Checked	CRM	01/15
Drawn	MPC	01/15	In Charge of	RAL	01/15

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FAX (207) 228-0909

MAINE TURNPIKE

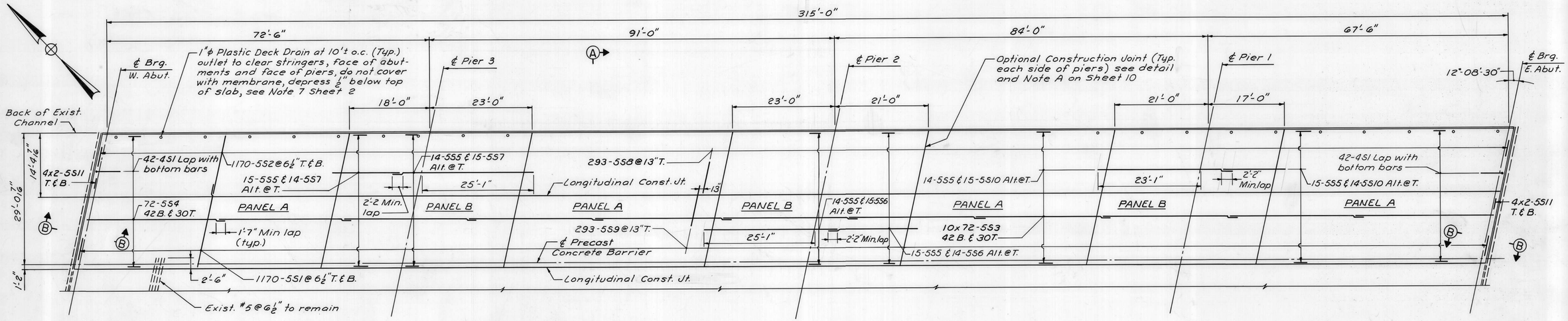
THE GOLD STAR MEMORIAL HIGHWAY

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

BRIDGE REPAIRS
PAVEMENT REHABILITATION
EXIT 45 BRIDGE
BARRIER DETAILS III

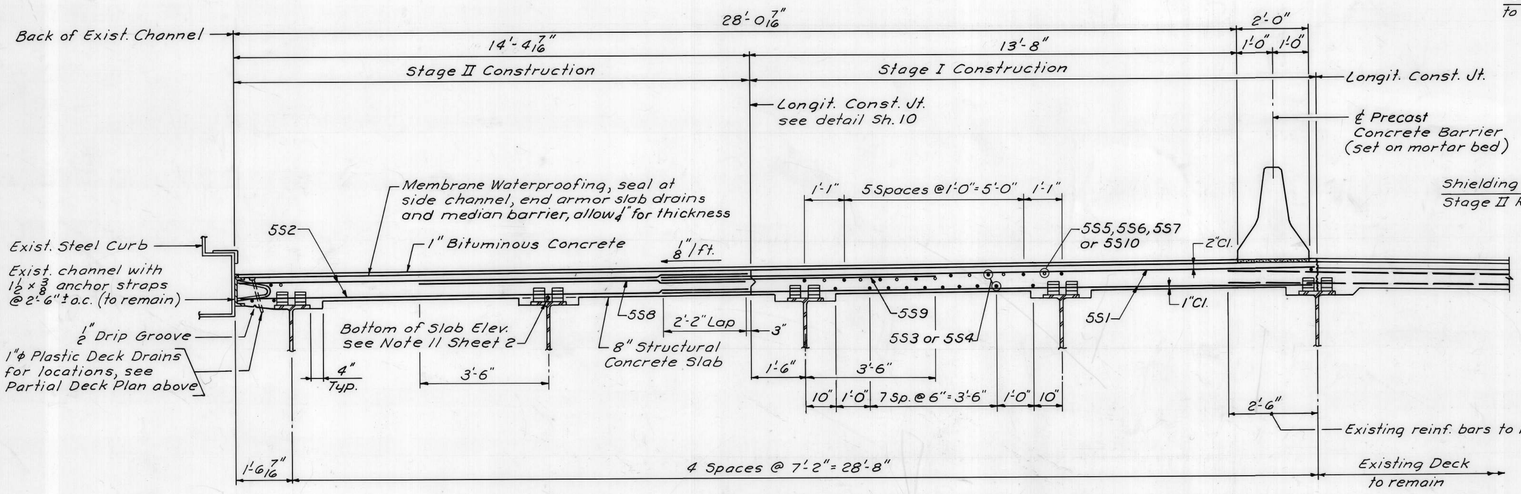
SHEET NUMBER: S-06

CONTRACT:2015.03



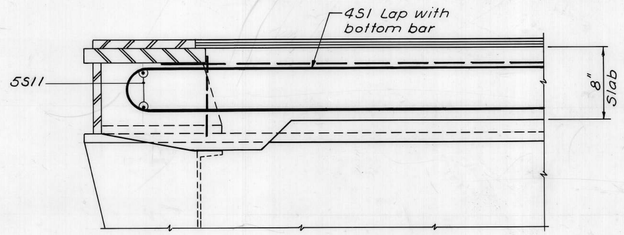
PARTIAL DECK PLAN

3/32" = 1'-0"



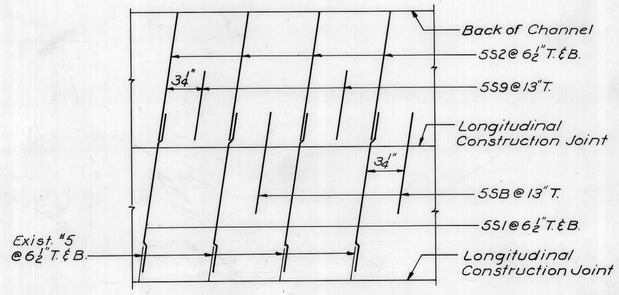
SECTION A-A

½" = 1'-0"



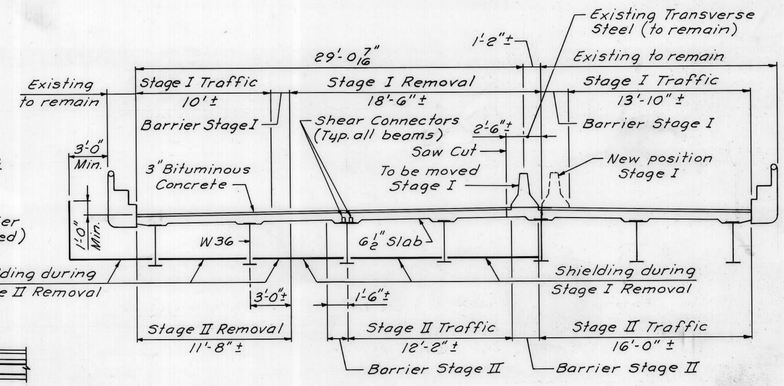
SECTION B-B

1½" = 1'-0"



TYPICAL TRANSVERSE REINFORCING PATTERN

No Scale



EXISTING DECK REMOVAL SEQUENCE

3/16" = 1'-0"

NOTES:

1. For General Notes and Quantities, see Sheet 2.
2. For Barrier Details, see Sheet 10.
3. For shielding limits parallel to bridge, see Note 10 Sheet 2.
4. For Median Barrier details see Sheet 10.

NO.	REVISION	BY	DATE

	BY	DATE
MADE	J.M.M.	1-79
TRACED		
CHECKED	I.S.	1-79
IN CHARGE OF	J.P.W.	

MAINE TURNPIKE AUTHORITY

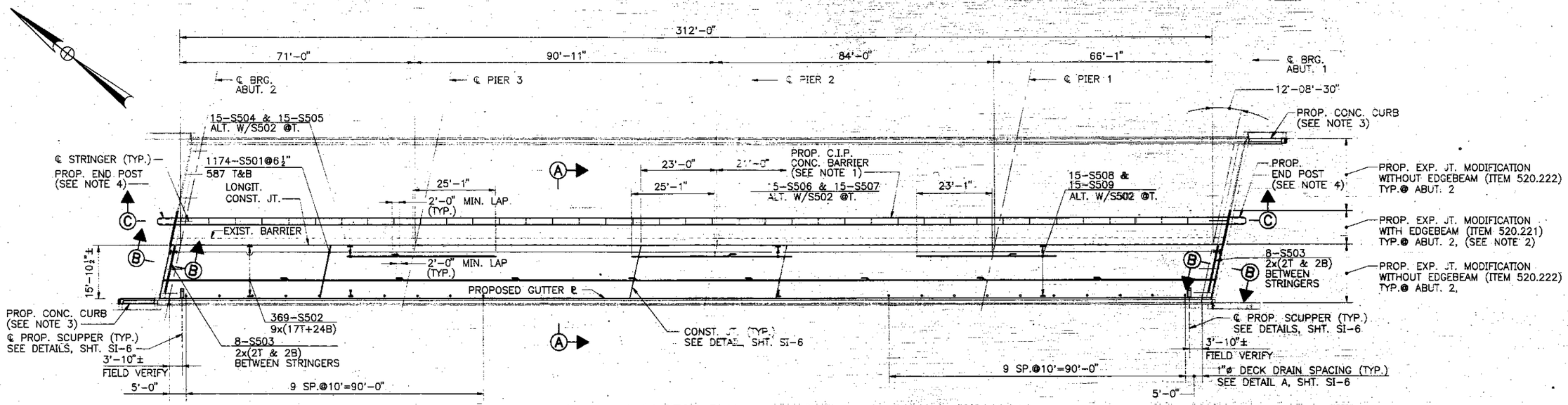
MAINE TURNPIKE

SOUTH PORTLAND INTERCHANGE
RAMP "A"
PARTIAL DECK REPLACEMENT

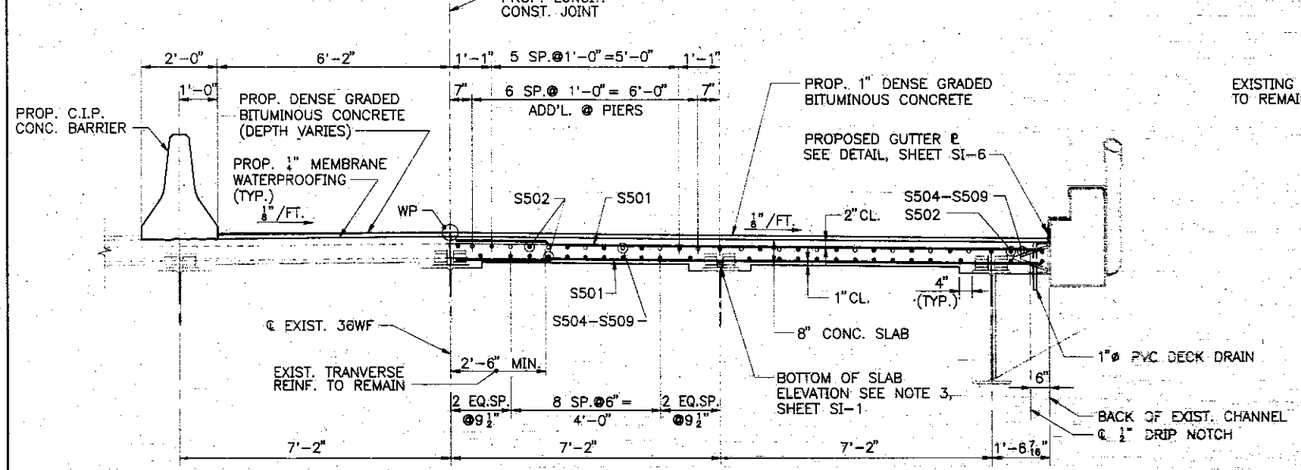
HOWARD. NEEDLES. TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON

SCALE AS NOTED

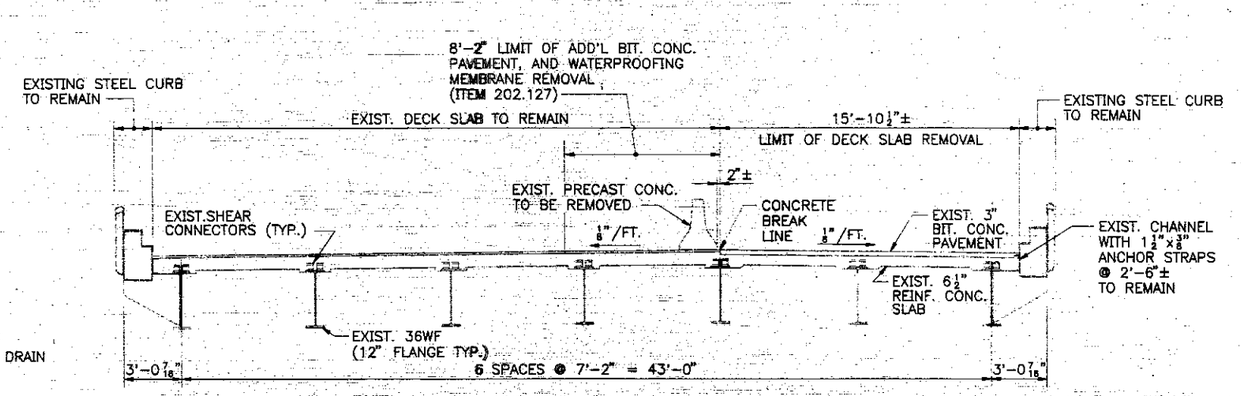
SHEET NO 4 of 16



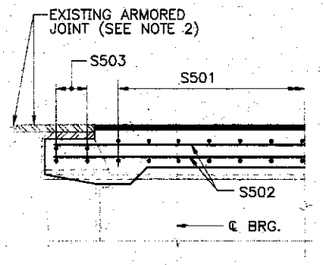
DECK PLAN
1/16"=1'-0"



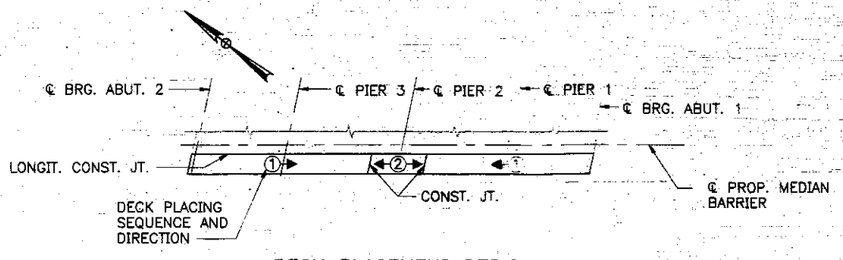
SECTION A-A PROPOSED
½"=1'-0"



SECTION A-A EXISTING
¼"=1'-0"



SECTION B-B
¾"=1'-0"



DECK PLACEMENT DETAIL
1"=60'

NOTES

1. FOR SECTION C-C, AND PROP. C.I.P. BARRIER DETAILS, SEE SHT. SI-3.
2. FOR PROPOSED EXP. JT. MODIFICATION, WITH EDGEBEAM, SEE SHT. SI-4.
3. FOR PROPOSED WINGWALL MODIFICATION, SEE SHT. SI-5.
4. FOR PROPOSED END POST DETAILS, SEE SHT. SI-4.

No.	Revision	By	Date

	By	Date
Designed	DMD	3/95
Drawn	RSJ	3/95
Checked	HNL	3/95
In Charge Of:	RAL	

Maine Turnpike Authority
Maine Turnpike

SOUTH PORTLAND INTERCHANGE BRIDGE

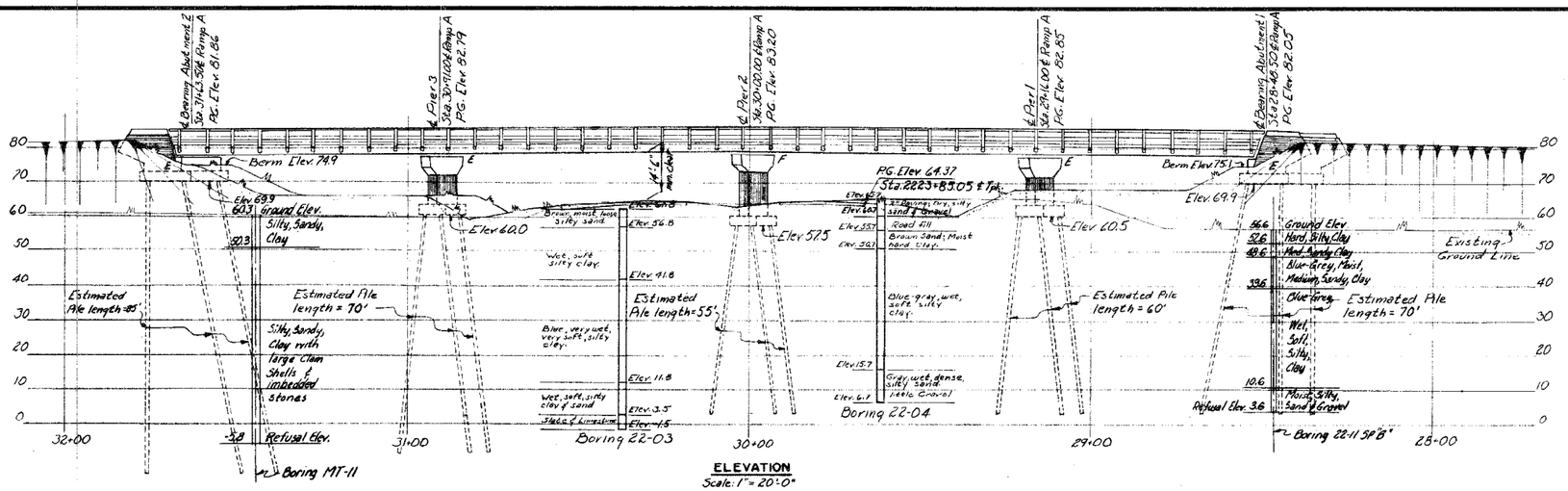
SUPERSTRUCTURE DETAILS

HNTB — HOWARD NEEDLES TAMMEN & BERGENDOFF ARCHITECTS ENGINEERS PLANNERS

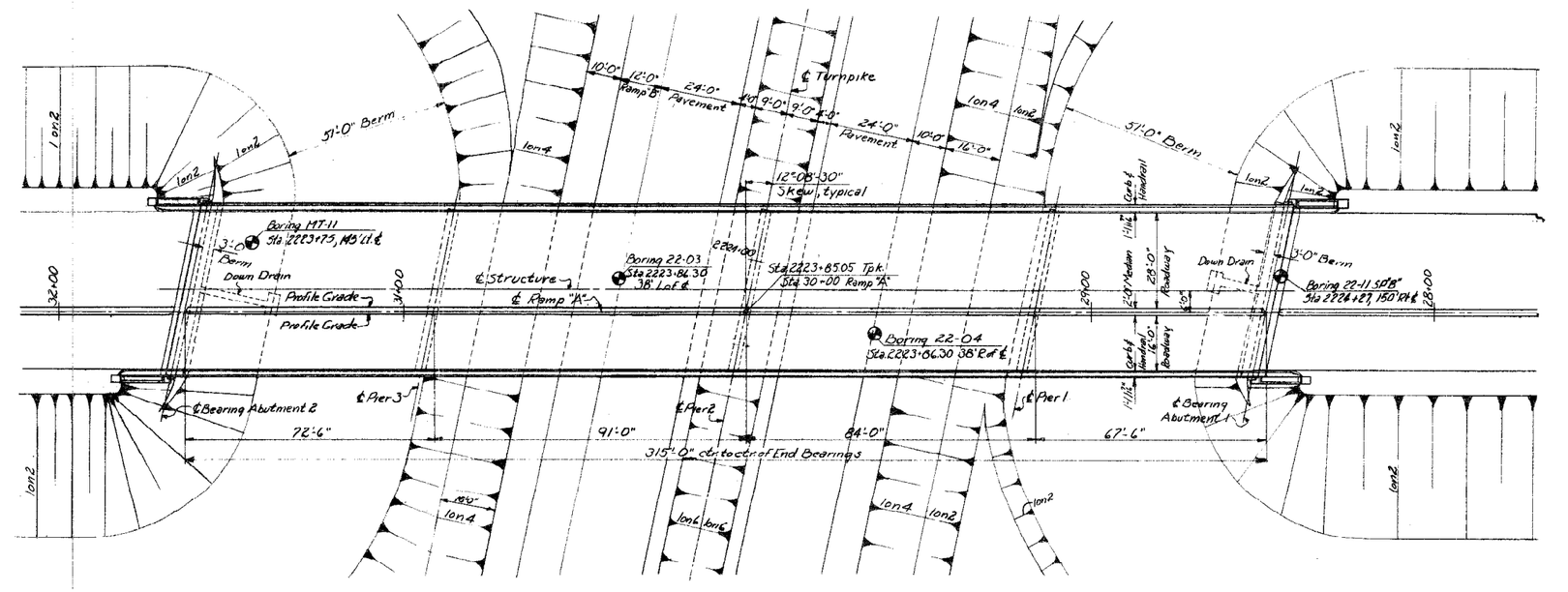
Contract 95.6

Sheet No. SI-2 21 of 30

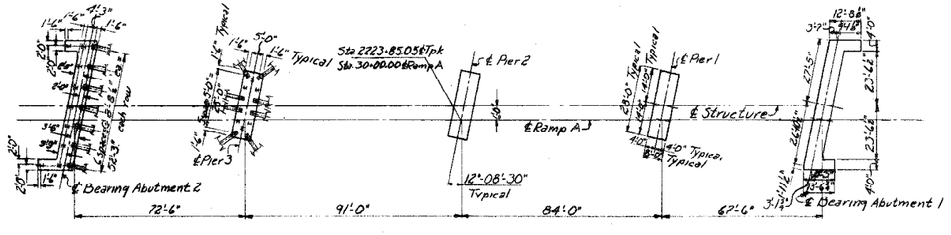
(MAINE1.PK)



ELEVATION
Scale: 1" = 20'-0"

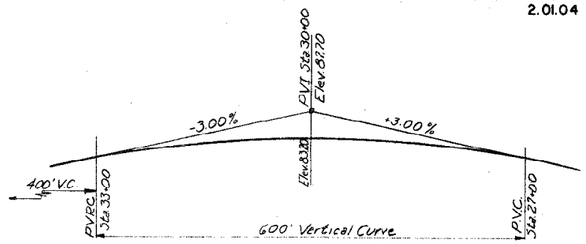


PLAN
Scale: 1"=20'-0"



FOOTING PLAN
Scale: 1"=30'-0"

Notes:
All piles in Abutment footings to be 10BP42
All piles in Pier footings to be 12BP53.
Batter piles 3" per Foot as shown.
Abutment dimensions similar by rotation.
Footings for Piers 1, 2, & 3 are identical.

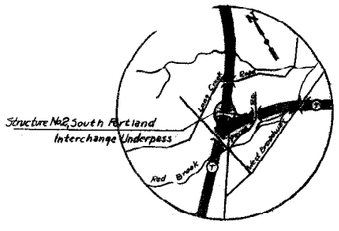


PROFILE
No Scale

REFERENCES					
			Superstructure		
Drawing Number	Title	Substructure Contractor	Steel Fabricator	Steel Erector	Floor Contractor
SD1A	Standard Abutment Details	✓	✓	✓	✓
SD2	Standard Pier Details	✓	✓	✓	
SD3	Standard Abut. Drainage Details	✓			
SD4	Standard Pile Details	✓			
SD5	Standard Handrail, Bearing Devices and Miscellaneous Details	✓	✓	✓	✓
SD6	Standard Diaphragm Details		✓	✓	✓
SD10	Standard Type 'A' Splices for 36"F Beams		✓	✓	
SD12A	Type 'E' Expansion Joint Expanding Length Over 100'	✓	✓	✓	✓
SD20	Standard Bridge Floor Cross Section Steel Curb, 30'-0" Roadway	✓	✓	✓	✓

GENERAL NOTES

Design Specifications: AASHO (1953) with minor modifications.
Design Live Load: H20-S16
Maximum Pile Load: Abutments 36.5 Tons per pile
Piers 1 & 3 54.7 Tons per pile
Pier 2 57.0 Tons per pile



LOCATION SKETCH
Scale: 1" = 1 mile

DRAWING NO. 2.01.04

	BY	DATE	No.	REVISION	BY	DATE
MADE	RSG	3-26-54				
TRACED			2	As-Built	HBN	1-24-55
CHECKED	RFS	4-2-54	1	Added Borings - Revised Piling Lengths	HJG	4-8-54
IN CHARGE OF	I.D.S.K.					

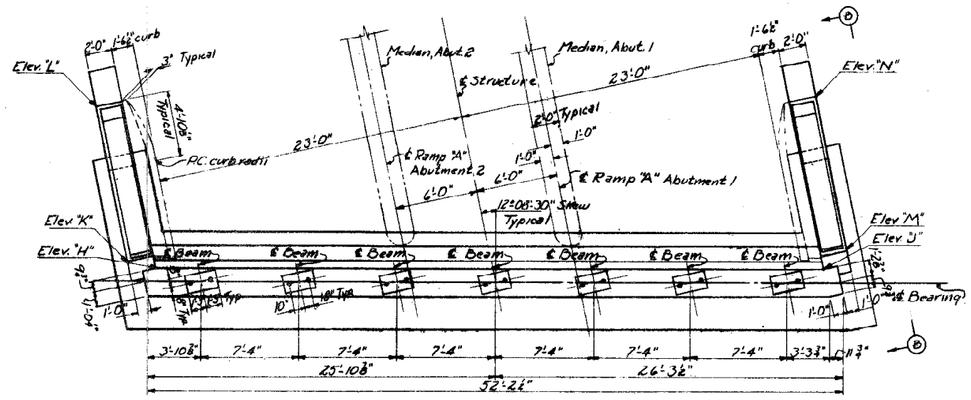
MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
SECTION 2 — PORTLAND TO AUGUSTA

STRUCTURE NO. 2 — TURNPIKE UNDER
SOUTH PORTLAND INTERCHANGE, RAMP "A"
STA. 2223+85.05

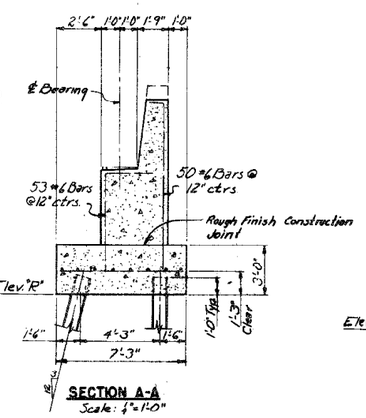
GENERAL PLAN AND ELEVATION

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

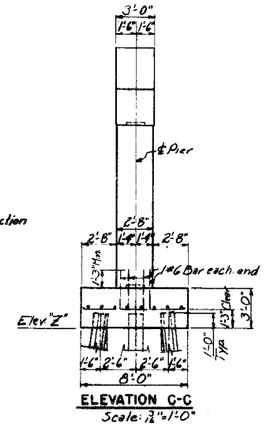
SCALE: As Shown
CONTRACT NO.
SHEET NO. 35 OF 282



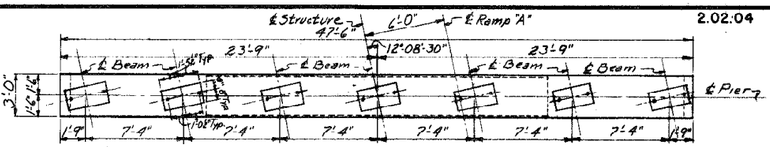
PLAN
Scale: ½"=1'-0"



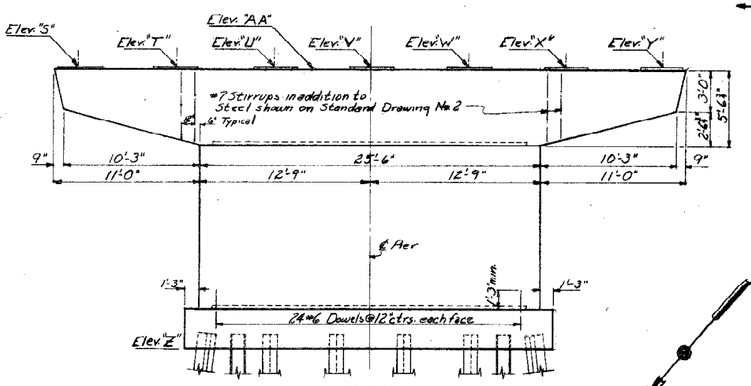
SECTION A-A
Scale: ½"=1'-0"



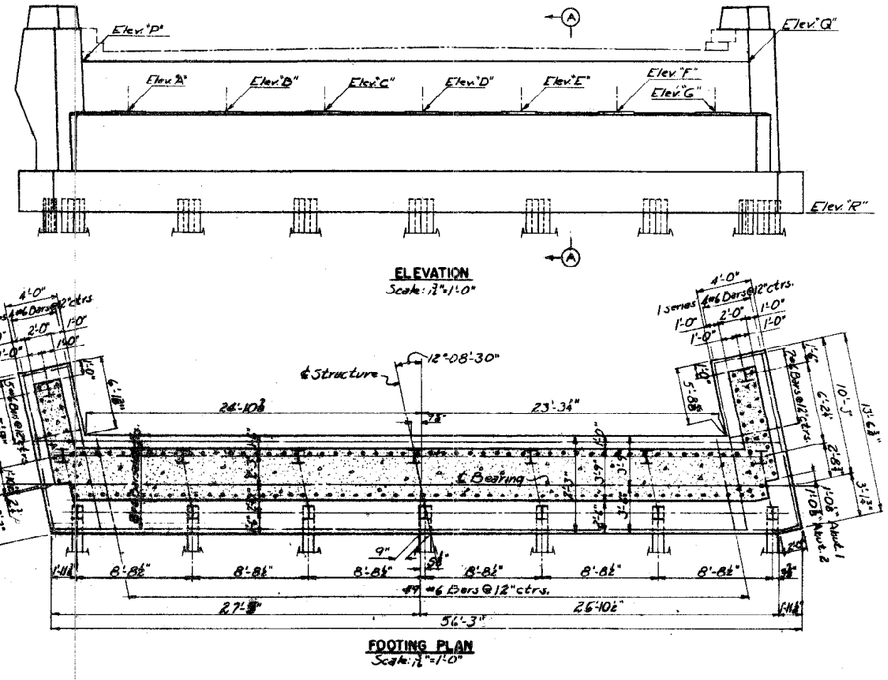
ELEVATION G-G
Scale: ½"=1'-0"



PLAN - PIERS 1 & 3
Scale: ½"=1'-0"

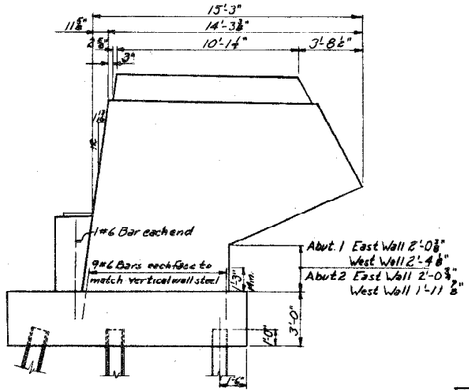


ELEVATION
Scale: ½"=1'-0"

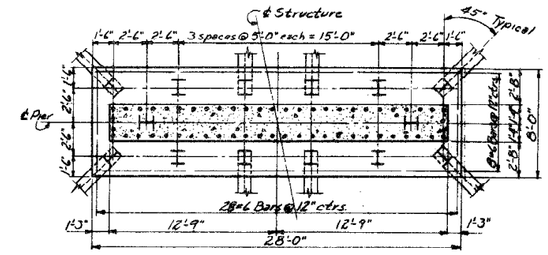


ELEVATION
Scale: ½"=1'-0"

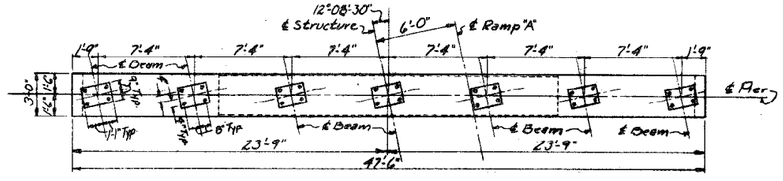
FOOTING PLAN
Scale: ½"=1'-0"



ELEVATION B-B
Scale: ¼"=1'-0"



FOOTING PLAN
Scale: ⅛"=1'-0"

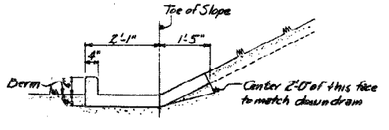


PLAN - PIER 2
Scale: ½"=1'-0"

PIERS

PIER ELEVATIONS									
Point	S	T	U	V	W	X	Y	Z	AA
Pier 1	77.60	77.67	77.76	77.85	77.91	77.85	77.81	60.50	77.58
Pier 2	78.29	78.34	78.39	78.46	78.51	78.44	78.41	57.50	78.27
Pier 3	77.63	77.66	77.71	77.77	77.80	77.71	77.68	60.00	77.61

Notes:
Abutments similar by rotation except as shown.
Piles in abutments are 10BP42
Piles in piers are 12BP53
Batter piles 3" per foot where shown.



DRAINAGE APRON
Scale: ½"=1'-0"
(For details not shown see Standard Drawing 3)

ABUTMENTS

ABUTMENT ELEVATIONS																
Point	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
Abutment 1	72.10	72.19	72.29	72.39	72.46	72.41	72.37	72.00	77.30	83.37	83.18	83.67	83.69	80.89	81.17	89.90
Abutment 2	77.07	77.13	77.23	77.21	72.16	77.11	77.10	76.99	77.02	83.35	83.14	83.40	83.21	80.85	80.91	89.90

DRAWING NO. 2.02.04

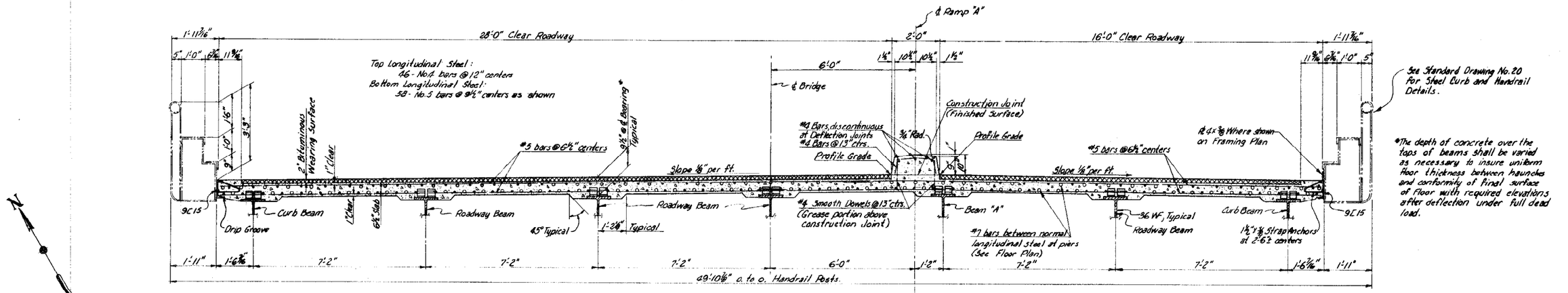
	BY	DATE				
MADE	R.S.G.	3-30-54				
TRACED "						
CHECKED	M.J.G.	4-3-54	1	As-Built	MBH	1-28-55
IN CHARGE OF	I.D.S.K.		No.	REVISION	BY	DATE

MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
SECTION 2 — PORTLAND TO AUGUSTA
STRUCTURE NO. 2 — TURNPIKE UNDER
SOUTH PORTLAND INTERCHANGE, RAMP "A"
STA. 2223+85.05
ABUTMENTS AND PIERS

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

SCALE: As Shown
CONTRACT NO.
SHEET NO. 26 OF 342

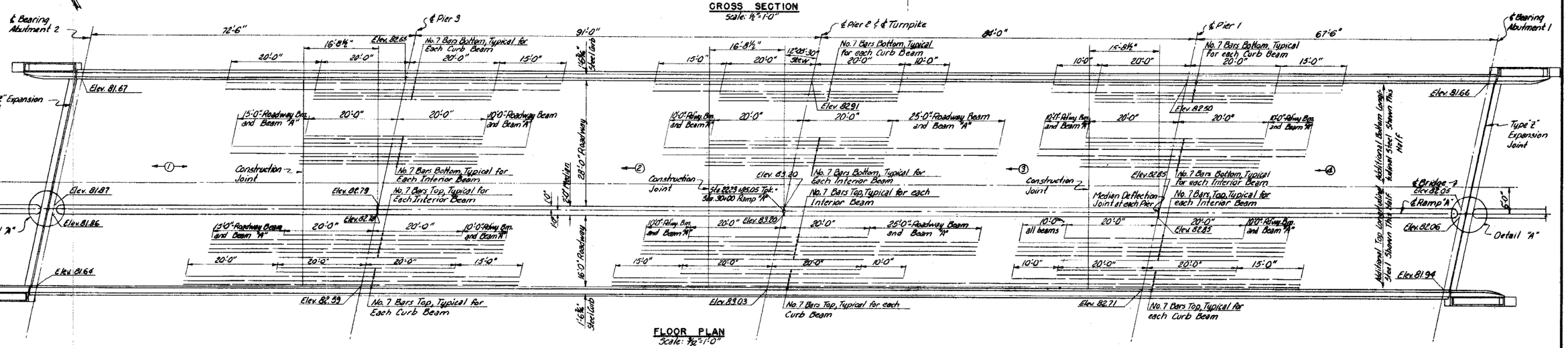
2.03.04



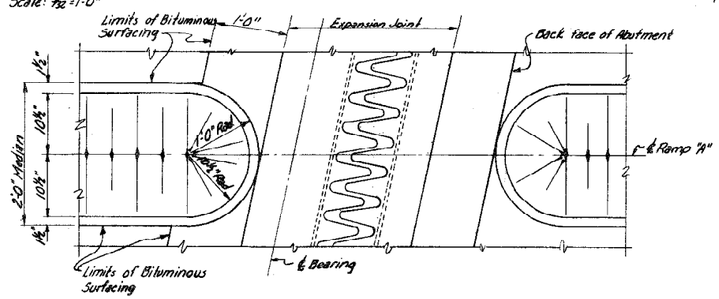
See Standard Drawing No. 20 For Steel Curb and Handrail Details.

*The depth of concrete over the tops of beams shall be varied as necessary to insure uniform floor thickness between haunches and conformity of final surface of floor with required elevations after deflection under full dead load.

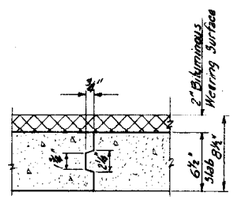
CROSS SECTION
Scale: ½"=1'-0"



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



CONSTRUCTION JOINT
Scale: 1½"=1'-0"



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

Notes: Elevations shown on Floor Plan are to top of finished roadway.
Concrete placing sequence and direction noted thus, →(4)

For details of Cross Section not shown, see Standard Drawings Nos. 6 and 20.

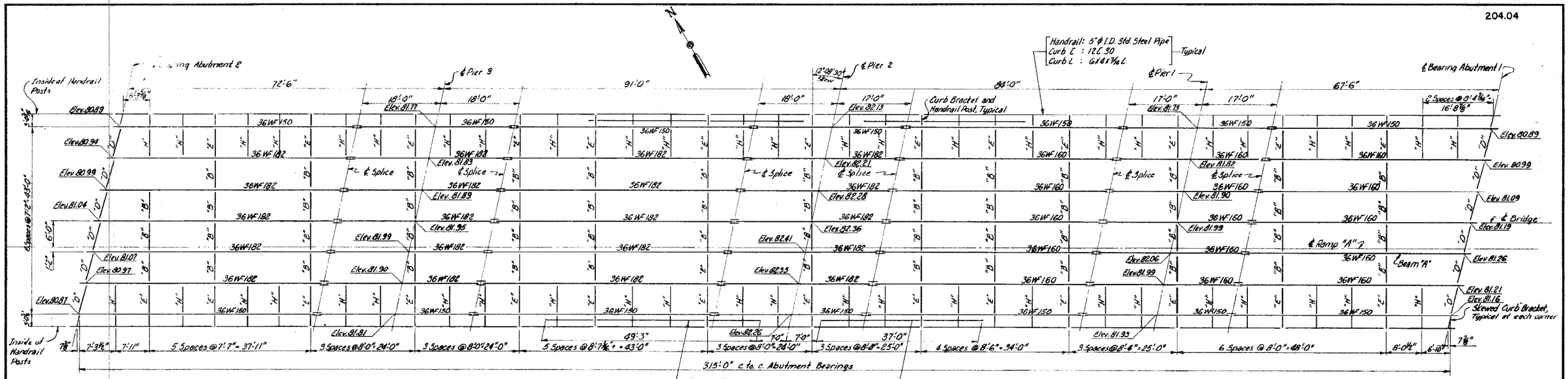
DRAWING NO. 2.03.04

	BY	DATE				
MADE	H.V.G.	3-30-54				
TRACED						
CHECKED	R.S.G.	4-3-54	1	As-Built	HBH	12-1-56
IN CHARGE OF	I.D.S.K.		No.	REVISION	BY	DATE

MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
SECTION 2 — PORTLAND TO AUGUSTA
STRUCTURE NO. 2 TURNPIKE UNDER
SOUTH PORTLAND INTERCHANGE RAMP "A"
STA. 2223 + 85.05
CROSS SECTION AND FLOOR PLAN

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

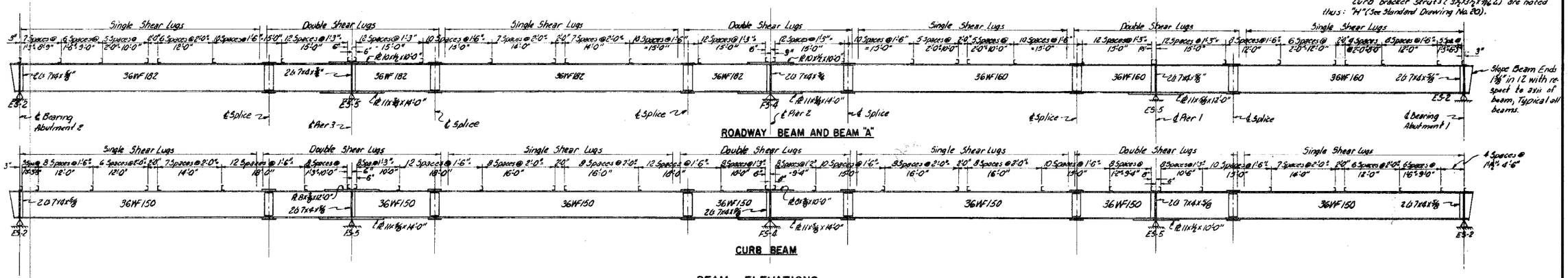
SCALE: As Shown
CONTRACT NO.
SHEET NO. 37 OF 382



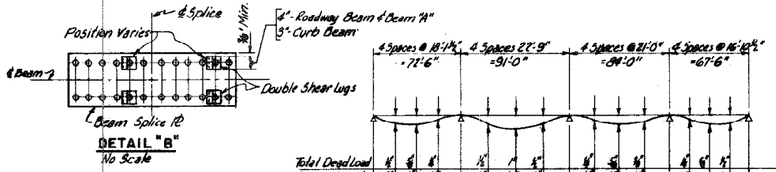
FRAMING PLAN
Scale: 3/32"=1'-0"

Note: Stiffener angles at points of support shall be milled to bear at bottom and tight fit at top.

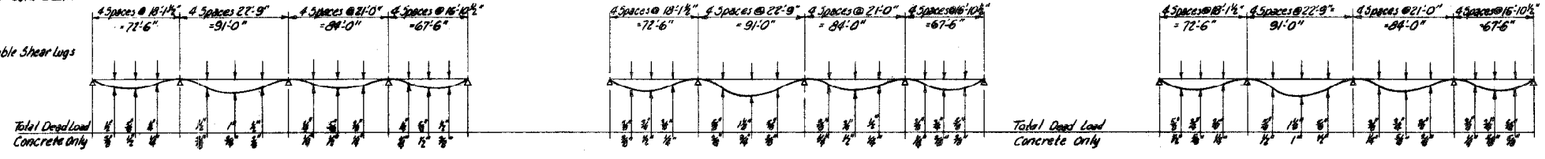
Notes: Elevations shown are to top of beam flanges in place.
Diaphragms are noted thus: "B", "D", "E" (see Standard Drawing No. 20)
Curb bracket Struts (3 1/2 x 3 1/2 x 5/16 L) are noted thus: "H" (See Standard Drawing No. 20).



BEAM ELEVATIONS
Scale: 3/32"=1'-0" Horizontal, 3/16"=1'-0" Vert.



DETAIL "B"
No Scale



DEAD LOAD DEFLECTION DIAGRAMS
No Scale

Notes: All cover Rs are centered on piers.

Position of shear lugs on beam splice Rs may be offset from that shown so as to fit lugs to splice rivet pattern. (See Detail "B")
All shear lugs are 4 x 3 1/2 BA 11.9. See Standard Drawing No. 5

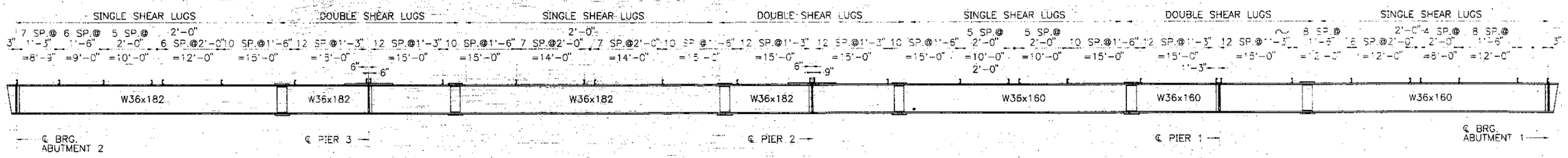
DRAWING NO. 2.04.04

	BY	DATE	No.	REVISION	BY	DATE
MADE	H.J.G.	6-1-54				
TRACED						
CHECKED	R.S.G.	6-3-54	1	As-Built	HBH	12-15-54
IN CHARGE OF	I.D.S.K.					

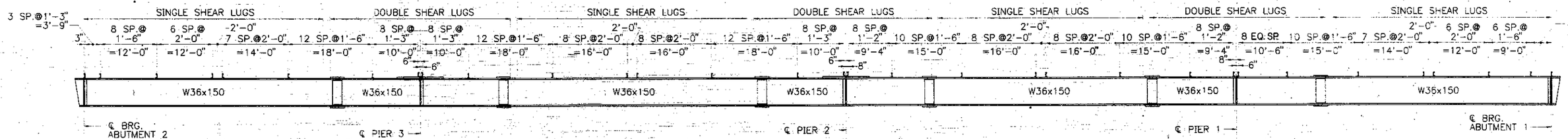
MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
SECTION 2 — PORTLAND TO AUGUSTA
STRUCTURE NO. 2 TURNPIKE UNDER
SOUTH PORTLAND INTERCHANGE RAMP "A"
STA. 2223 + 88.05
FRAMING PLAN AND BEAM DETAILS

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

SCALE: As Shown
CONTRACT NO.
SHEET NO. 38 OF 382



INTERIOR STRINGERS



FASCIA STRINGER

EXISTING SHEAR LUG LAYOUT

HORIZ. $\frac{3}{32}$" = 1'-0"
VERT. $\frac{1}{16}$" = 1'-0"

			By	Date
		Designed	DMD	3/95
		Drawn	MAA	3/95
		Checked	HNL	3/95
No.	Revision	By Date	In Charge Of	RAL

Maine Turnpike Authority
Maine Turnpike

SOUTH PORTLAND INTERCHANGE BRIDGE

MISCELLANEOUS DETAILS II

HNTB HOWARD NEEDLES TAMMEN & BERGENDOFF ARCHITECTS ENGINEERS PLANNERS

Contract 95.6

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