

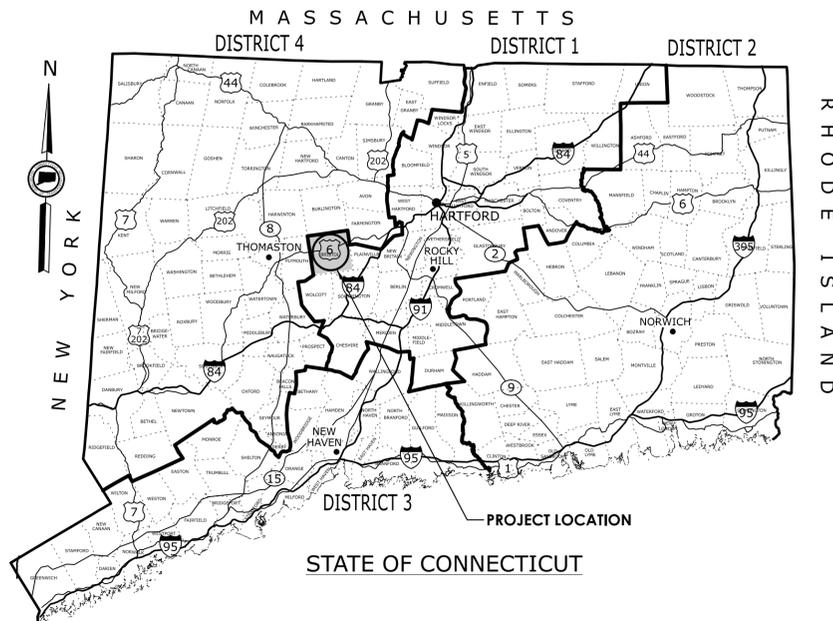


# CONNECTICUT DEPARTMENT OF TRANSPORTATION



Plans For

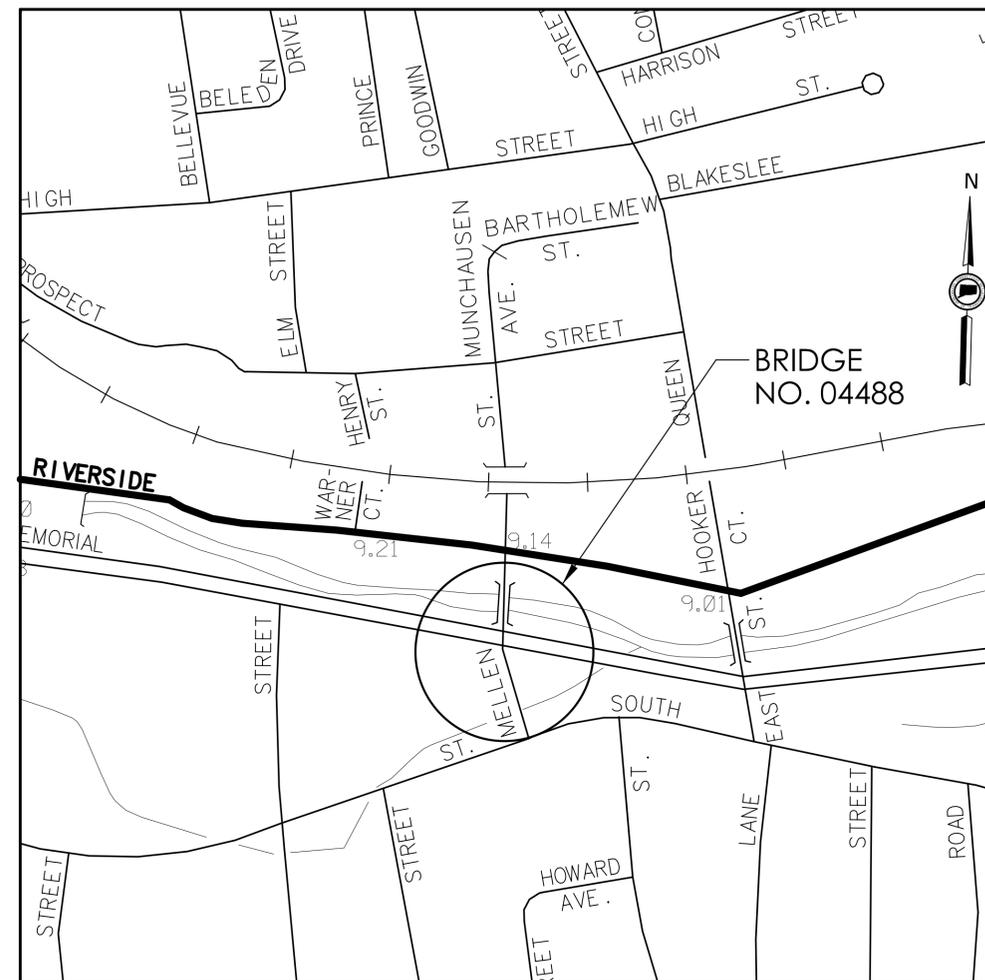
## REHABILITATION OF BRIDGE NO. 04488 MELLEN STREET OVER PEQUABUCK RIVER



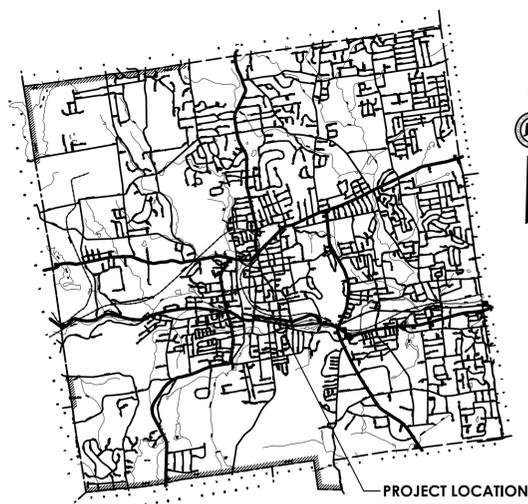
Town(s)/City of  
**BRISTOL, CT**

ROAD	MAINTENANCE RESPONSIBILITY	LENGTH
MELLEN STREET	CITY	255 FEET

F.A.P. #	MAINTENANCE RESPONSIBILITY	PROJECT #
6017(007)	CITY	0017-0193



LOCATION PLAN  
NOT TO SCALE



CITY OF BRISTOL  
NOT TO SCALE

ROAD (ADT)	FUNCTIONAL CLASSIFICATION	DESIGN SPEED
MELLEN STREET (3040)	URBAN - LOCAL ROAD	25 MPH

STANDARD CONVENTIONS

North Arrow W/No. Coord.	Grid Arrow	Chain Link Fence	Water Edge	Riprap
Edge Of Road	Limit Of Marsh	Rustic Fence	Stream	Hedge Row
Concrete Pavement	Stone Wall	Pipe Fence	Ditch	Tree Line
Dirt Road	Leedge Outcrop	Board Fence	TOWN LINE	Shrub
B.C.L.C.	Inland Wetland Limits	Property Line	Highway Line	Evergreen Tree
Granite Curb	STATE LINE	Lot Line	Street Line	Deciduous Tree
Guide Rail	Power Line	Easement Line		Retaining Wall
Concrete Median Barrier	Swamp			
B.E. Walk	Building			
Conc. Sidewalk	Transmission Tower			
Railroad Tracks				

**GENERAL NOTES:**

- FEDERAL AID PROJECT NO. 6017(007)
- CONSTRUCTION SPECIFICATIONS:  
Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 818, dated 2020; Supplemental Specifications, dated July 2022; and Special Provisions
- 400 FOOT GRID BASED ON CONNECTICUT COORDINATE SYSTEM N.A.D. 1983
- VERTICAL DATUM BASED ON NAVD 1988
- Surveyed By: GM2 Associates Inc.
- CONSTRUCTION DISTRICT 1

**DISCLAIMER:**

IT IS THE RESPONSIBILITY OF EACH BIDDER AND ALL OTHER INTERESTED PARTIES TO OBTAIN ALL BIDDING RELATED INFORMATION AND DOCUMENTS FROM OFFICIAL SOURCES WITHIN THE DEPARTMENT.

PERSONS AND/OR ENTITIES WHICH REPRODUCE AND/OR MAKE SUCH INFORMATION AVAILABLE BY ANY MEANS ARE NOT AUTHORIZED BY THE DEPARTMENT TO DO SO AND MAY BE LIABLE FOR CLAIMS RESULTING FROM THE DISSEMINATION OF UNOFFICIAL, INCOMPLETE AND/OR INACCURATE INFORMATION.

LIST OF DRAWINGS		LIST OF CTDOT STANDARD DRAWINGS	
SHEET NO.	DRAWING TITLE	SHEET NO.	DRAWING TITLE
01	GENERAL	HW-211_01	ANTI-TRACKING PAD
02	DETAILED ESTIMATE SHEET	HW-586_07a	CATCH BASIN TOPS TYPE "C" AND "C-L"
03	BASELINE DATA AND SURVEY PLAN	HW-811_01	CONCRETE CURBING
04	TYPICAL SECTIONS	HW-813_01	GRANITE STONE CURBING
05 TO 06	MISCELLANEOUS DETAILS	HW-813_02	STONE CURBING
07	ROADWAY PLAN	HW-815_01	BITUMINOUS CONCRETE CURBING
08	ROADWAY PROFILE	HW-822_01	TEMPORARY PRECAST CONCRETE BARRIER CURB
09	GRADING AND UTILITY PLAN	HW-822_02a	TEMPORARY TRAFFIC BARRIER - DETAILS
10 TO 12	CROSS SECTIONS 1-3	HW-910_02	METAL BEAM RAIL (TYPE R-B 350) GUIDERAIL
13 TO 32	STRUCTURE PLANS	HW-910_07	R-B 350 BRIDGE ATTACHMENT VERTICAL SHAPE PARAPET
33	DETOUR PLAN	HW-910_17	R-B TERMINAL SECTION
		HW-911_01	R-B END ANCHORAGE TYPE I AND II
		HW-921_01	CONCRETE SIDEWALKS
		HW-922_01	BITUMINOUS CONCRETE SIDEWALK AND BITUMINOUS CONCRETE DRIVEWAY
		TR-1208-01	SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS
		TR-1208-02	METAL SIGN POSTS AND SIGN MOUNTING DETAILS
		TR-1210-04	PAVEMENT MARKING LINES AND SYMBOLS
		TR-1220-01	SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS
		TR-1220-02	CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES

Plans For  
**REHABILITATION OF  
BRIDGE NO. 04488  
MELLEN STREET OVER  
PEQUABUCK RIVER**

Town(s)/City  
**BRISTOL**

STATE PROJECT NO.

**0017-0193**

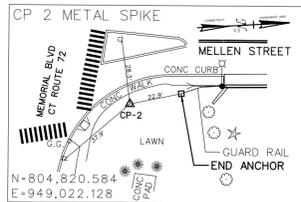
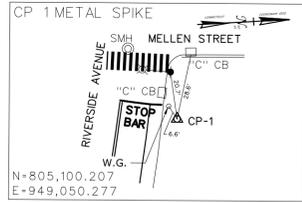
DRAWING NO.

**G-01**

SHEET NO.

**1**



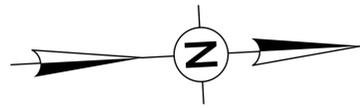
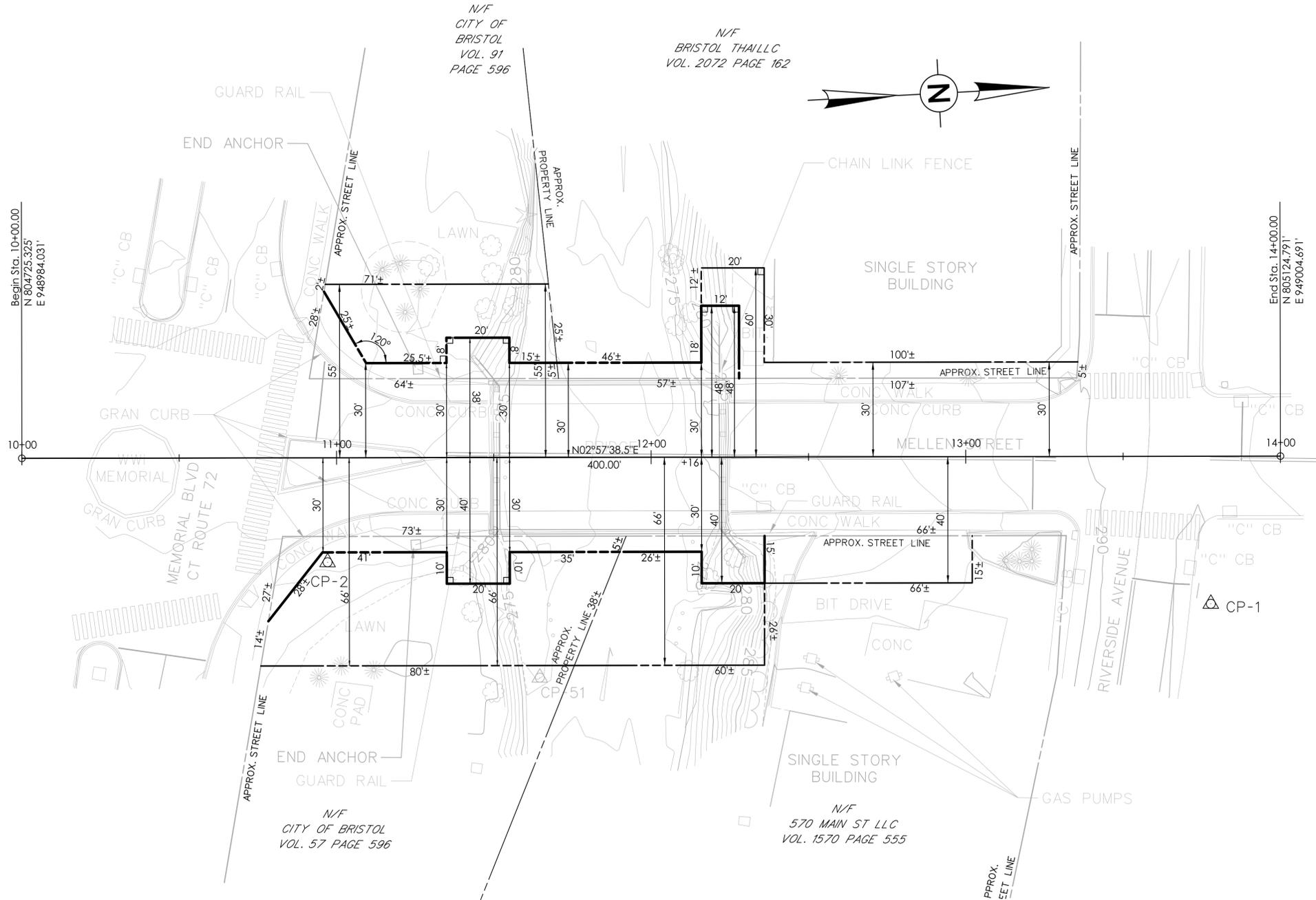


NOTES

1. SURVEY BY TOTAL STATION BETWEEN THE DATES OF NOVEMBER 11 AND DECEMBER 10, 2020.
2. HORIZONTAL DATUM BASED ON CT STATE PLANE COORDINATE SYSTEM, NAD83, AS ESTABLISHED BY NETWORK-CORRECTED RTK GPS.
3. VERTICAL DATUM BASED ON NAVD 88, AS ESTABLISHED BY NETWORK CORRECTED RTK GPS.

MAP REFERENCES

- 1.) "MAP OF MEMORIAL BOULEVARD - BRISTOL, CT.", SCALE 1" = 40', DATED APRIL 12, JUNE 2009 AND PREPARED BY THE DEPARTMENT OF PUBLIC WORKS - DIVISION OF ENGINEERING - CITY OF BRISTOL - CONNECTICUT (35-92B)
- 2.) "CONNECTICUT STATE HIGHWAY DEPARTMENT - RIGHT OF WAY MAP - TOWN OF BRISTOL - RIVERSIDE AVENUE FROM THE BOULEVARD WESTERLY TO MAIN ST. - ROUTE U.S.6.", SCALE 1" = 40', DATED MARCH 31, 1937 (17-05)
- 3.) "MAP SHOWING PROPERTY LINE BETWEEN AL. SESSIONS & CITY OF BRISTOL - BRISTOL, CONN.", SCALE 1" = 100', DATED FEB 1931, REVISION APRIL, 1940, AND PREPARED BY CARLETON W. BUELL, CITY ENG. (85-15)
- 4.) "MERGER MAP - MEMORIAL BOULEVARD SCHOOL - PREPARED FOR CITY OF BRISTOL - BRISTOL, CONNECTICUT", SCALE 1" = 40', DATED 6-30-2020 AND PREPARED BY CLARK LAND SURVEYING, LLC (B.L.R. Q-464)
- 5.) "WATER MAIN BRIDGE CROSSING", SCALE 1" = 20', DATED FEBRUARY 16, 2001, PREPARED FOR BRISTOL WATER DEPARTMENT AND PREPARED BY LENARD ENGINEERING, INC. (1A9)
- 6.) "PLAN OF LAND IN BRISTOL, CONN. - FORMERLY USED AS TECHNICAL HIGH SCHOOL", SCALE 1" = 20', DATED JUNE 30, 1960, AND PREPARED BY ADRIAN M. MATTHEWS (B.L.R. VOL. 411 PAGE 32)



LEGEND

GRAN	GRANITE
H.H.	HAND HOLE
OHW	ORDINARY HIGH WATER
MB	MAIL BOX
G.G.	WATER GATE
W.G.	WATER GATE
RCP	REINFORCED CONCRETE PIPE
CP	CONTROL POINT
MH	MANHOLE
SMH	SANITARY MANHOLE
BIT DRIVE	BITUMINOUS ASPHALT DRIVE
HYD	HYDRANT
CONC	CONCRETE
---	APPROXIMATE STREET LINE
~~~~~	FIELD LOCATED WETLANDS
~~~~~	TREE LINE
---	EDGE OF WATER
---	PROPERTY LINE
---	CONTOUR LINE
---	SHRUB
□	TYPE "C" CB
○	DECIDUOUS TREE
☆	CONIFEROUS TREE
●	UTILITY POLE WITH LIGHT SIGN
○	OVERHEAD WIRE(S)
---	UNDERGROUND ELECTRIC LINE
---	UNDERGROUND WATER LINE
---	UNDERGROUND GAS LINE
---	UNDERGROUND SEWER LINE
---	UNDERGROUND DRAINAGE PIPE

REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: JIG	CHECKED BY: PMB
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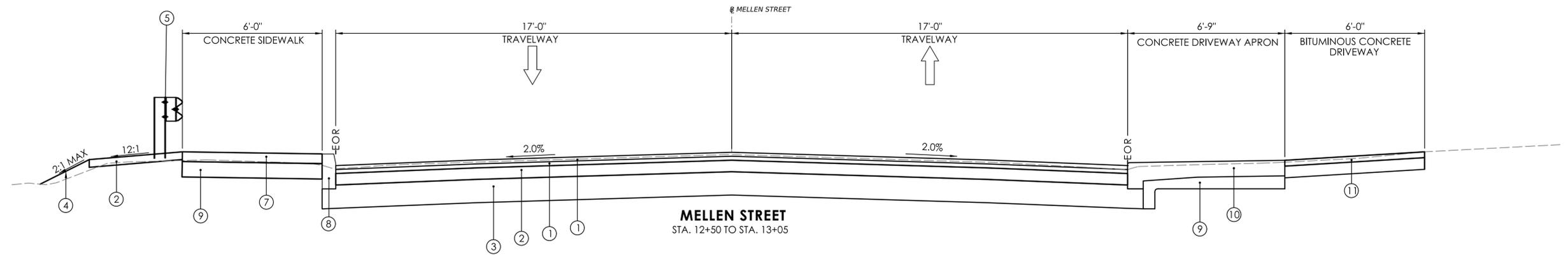
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G&M2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD  
GLASTONBURY, CT 06033

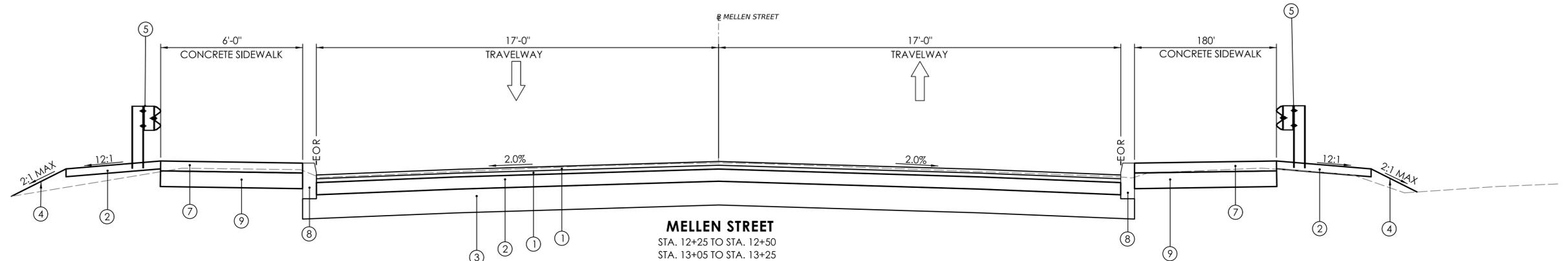
CITY OF BRISTOL

PROJECT NUMBER: 0017-0193  
PROJECT DESCRIPTION: REHABILITATION OF BRIDGE NO. 04488, MELLEN STREET OVER PEQUABUCK RIVER  
TOWN(S): BRISTOL  
DRAWING TITLE: BASELINE DATA AND SURVEY PLAN

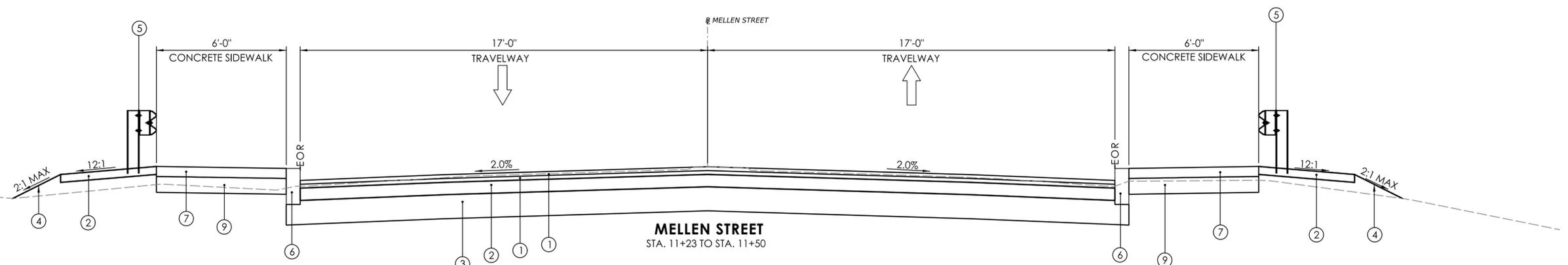
DRAWING NO. TIE-01  
SHEET NO.



**MELLEN STREET**  
STA. 12+50 TO STA. 13+05



**MELLEN STREET**  
STA. 12+25 TO STA. 12+50  
STA. 13+05 TO STA. 13+25



**MELLEN STREET**  
STA. 11+23 TO STA. 11+50

**LEGEND**

- ① 2" HMA S0.5
- ② 6" PROCESSED AGGREGATE BASE
- ③ 12" SUBBASE
- ④ 4" TOPSOIL AND TURF ESTABLISHMENT
- ⑤ METAL BEAM RAIL (TYPE R-B 350)
- ⑥ GRANITE STONE CURBING
- ⑦ CONCRETE SIDEWALK
- ⑧ CONCRETE CURBING
- ⑨ 8" PROCESSED AGGREGATE BASE
- ⑩ CONCRETE DRIVEWAY APRON
- ⑪ BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)

**GENERAL NOTES**

1. SEE ROADWAY PLAN FOR GUIDERAIL AND PAVEMENT LIMITS.
2. UPON COMPLETION OF ALL OTHER CONSTRUCTION ITEMS, THE FINAL COURSE OF HMA SHALL BE PLACED IN ONE OPERATION OVER THE LIMITS SHOWN ON THE ROADWAY PLAN TO CREATE A CLEAN UNIFORM SURFACE.
3. SLOPES 2:1 OR FLATTER REQUIRE "FURNISHING AND PLACING TOPSOIL" 4" THICK AND "TURF ESTABLISHMENT - LAWN."

REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: NAB  
CHECKED BY: PMB

NOT TO SCALE

SIGNATURE/BLOCK:  
**GMP**  
GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033

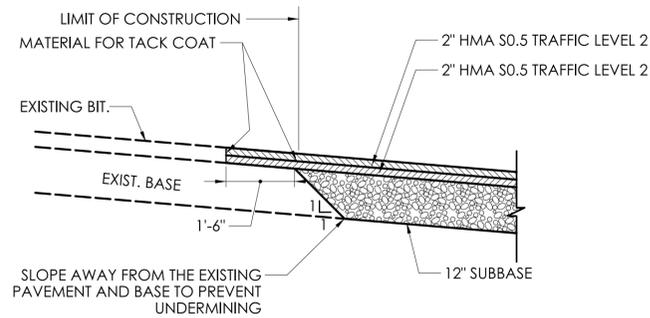
CITY OF BRISTOL

PROJECT NUMBER: 0017-0193  
PROJECT DESCRIPTION: REHABILITATION OF BRIDGE NO. 04488, MELLEN STREET OVER PEQUABUCK RIVER  
TOWN(S): BRISTOL  
DRAWING TITLE: TYPICAL SECTIONS

DRAWING NO. TYP-01  
SHEET NO.

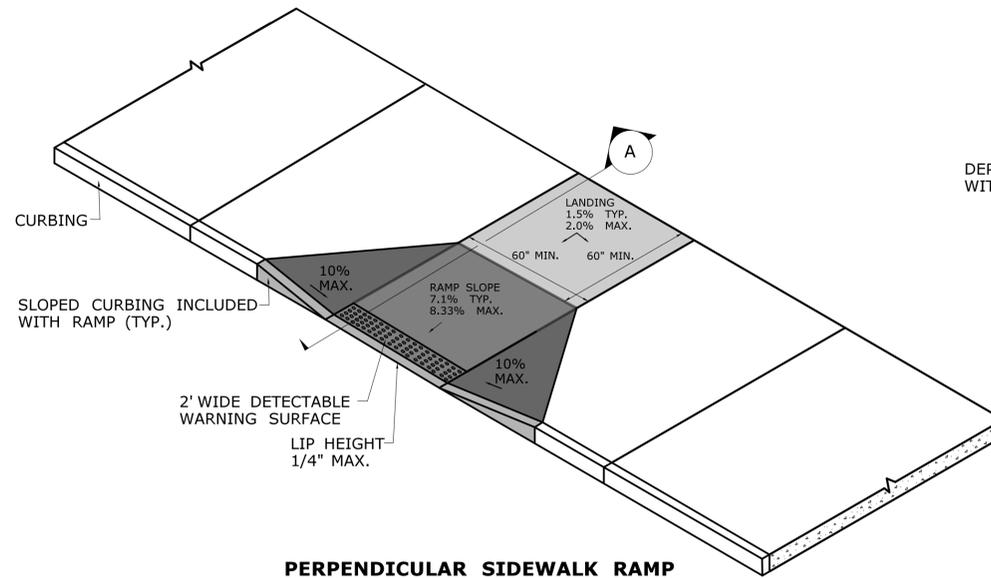
**GENERAL NOTES:**

1. SIDEWALK RAMPS SHALL HAVE A COARSE BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP.
2. VERTICAL SURFACE DISCONTINUITIES AT JOINTS SHALL NOT EXCEED 1/4 INCH.
3. REMOVAL OF EXISTING SIDEWALK FOR NEW RAMP INSTALLATIONS SHALL BE TO THE NEAREST EXPANSION OR CONTRACTION JOINT.
4. THE RUNNING SLOPE OF THE CURB RAMP SHALL BE 8.33 PERCENT MAXIMUM BUT SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET.

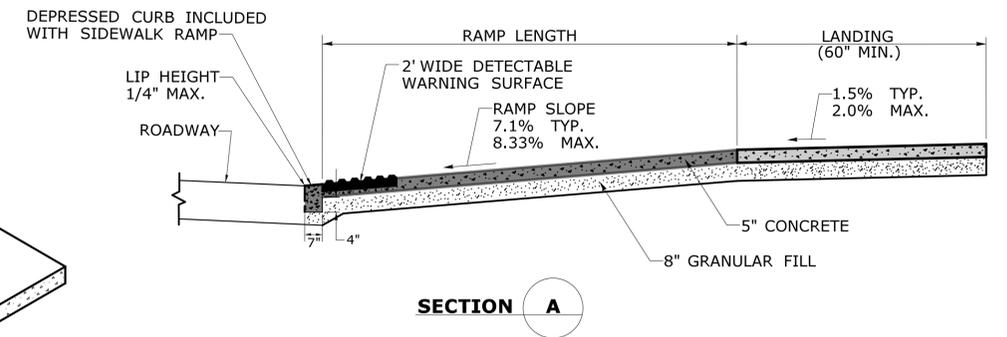


**PAVEMENT TRANSITION DETAIL FOR PLACEMENT AT EXISTING PAVEMENT**

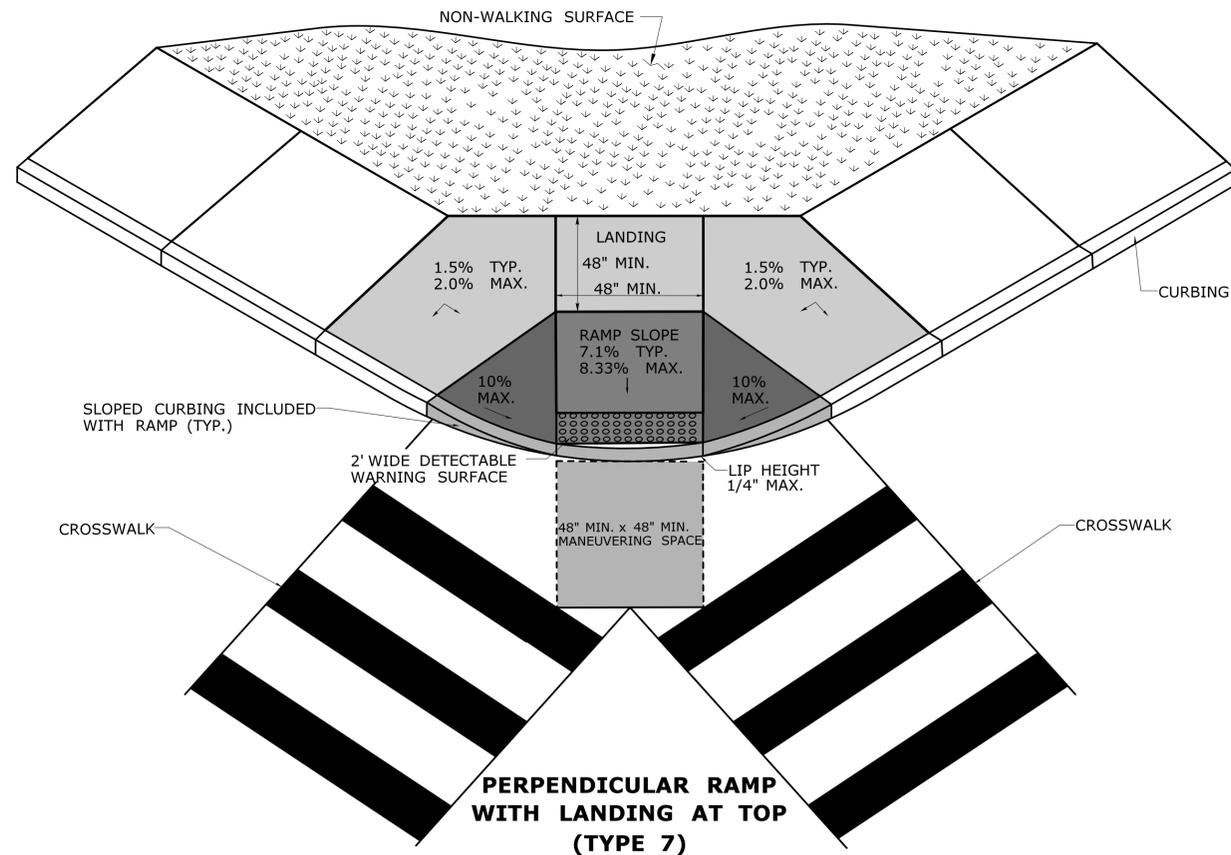
NOT TO SCALE



**PERPENDICULAR SIDEWALK RAMP AND SECTION**



**SECTION A**



**PERPENDICULAR RAMP WITH LANDING AT TOP (TYPE 7)**

REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: NAB CHECKED BY: PMB

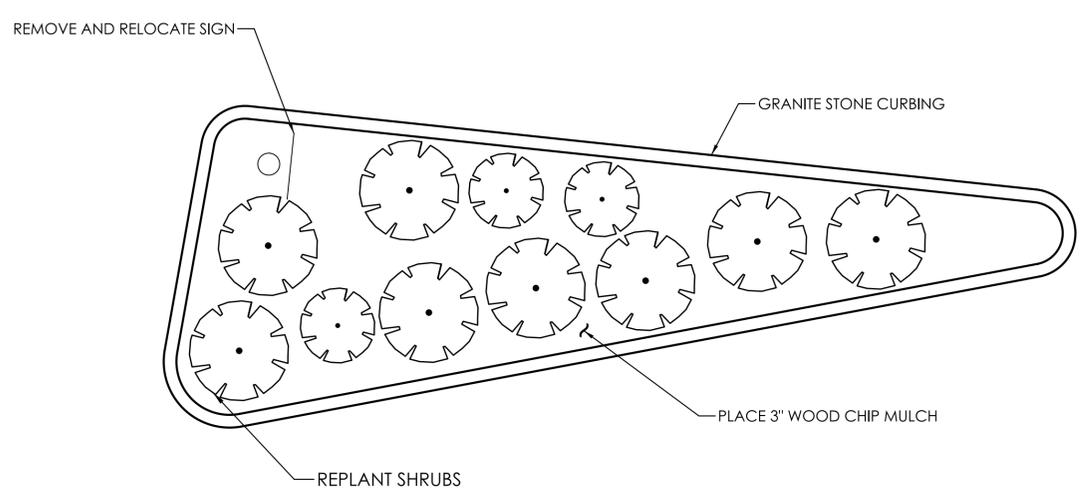
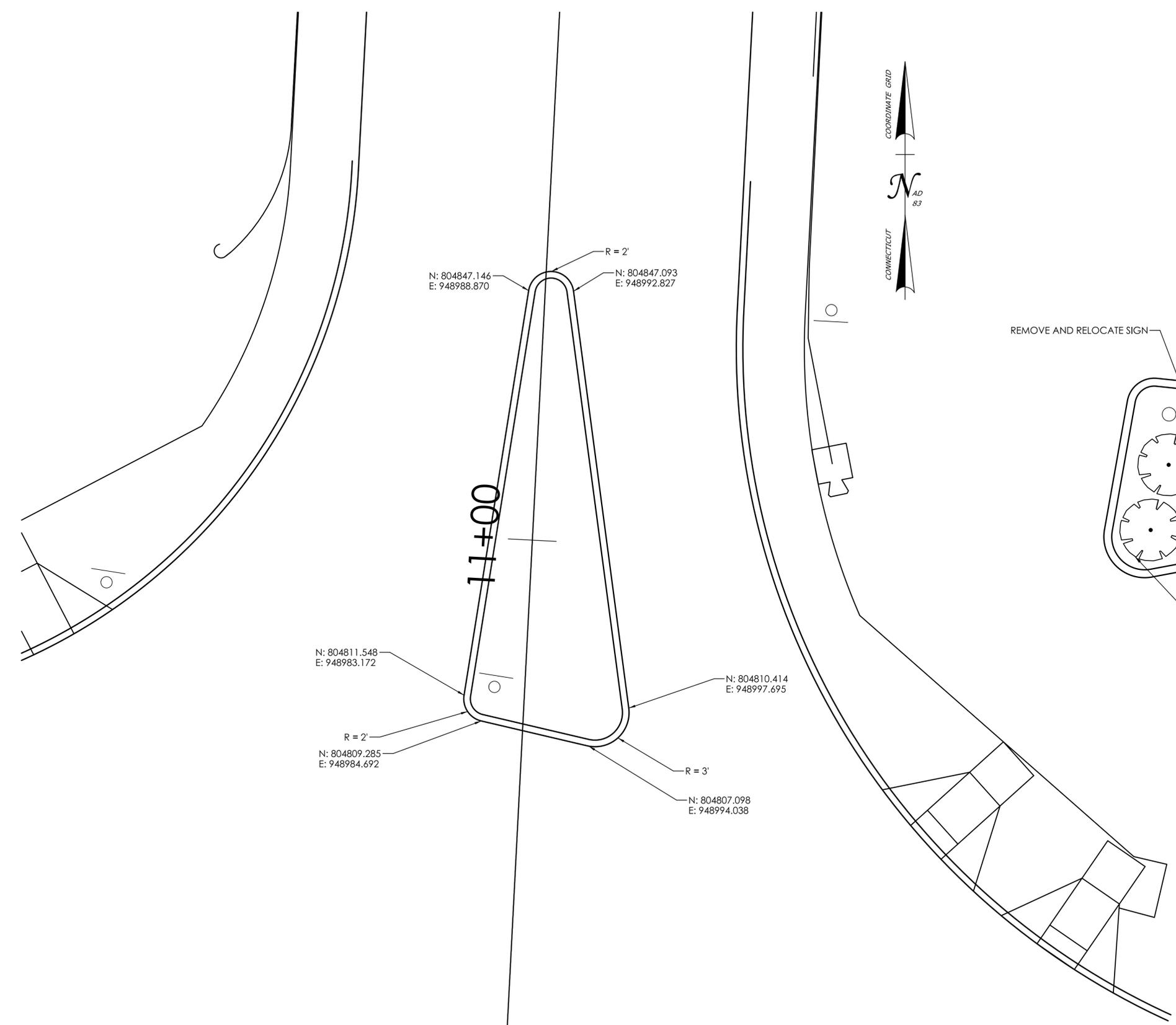
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SIGNATURE/BLOCK: **GMP**  
 GMP ASSOCIATES, INC.  
 115 GLASTONBURY BLVD.  
 GLASTONBURY, CT 06033

CITY OF BRISTOL

PROJECT NUMBER: 0017-0193  
 PROJECT DESCRIPTION: REHABILITATION OF BRIDGE NO. 04488, MELLEEN STREET OVER PEQUABUCK RIVER  
 TOWN(S): BRISTOL  
 DRAWING TITLE: MISCELLANEOUS DETAILS

DRAWING NO. MDS-01  
 SHEET NO.



**MEMORIAL BLVD ISLAND PLANTING PLAN**  
NOT TO SCALE

**GRANITE CURB TRAFFIC ISLAND WORKING POINTS DETAIL**  
SCALE: 1" = 5'

REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: NAB  
CHECKED BY: PMB

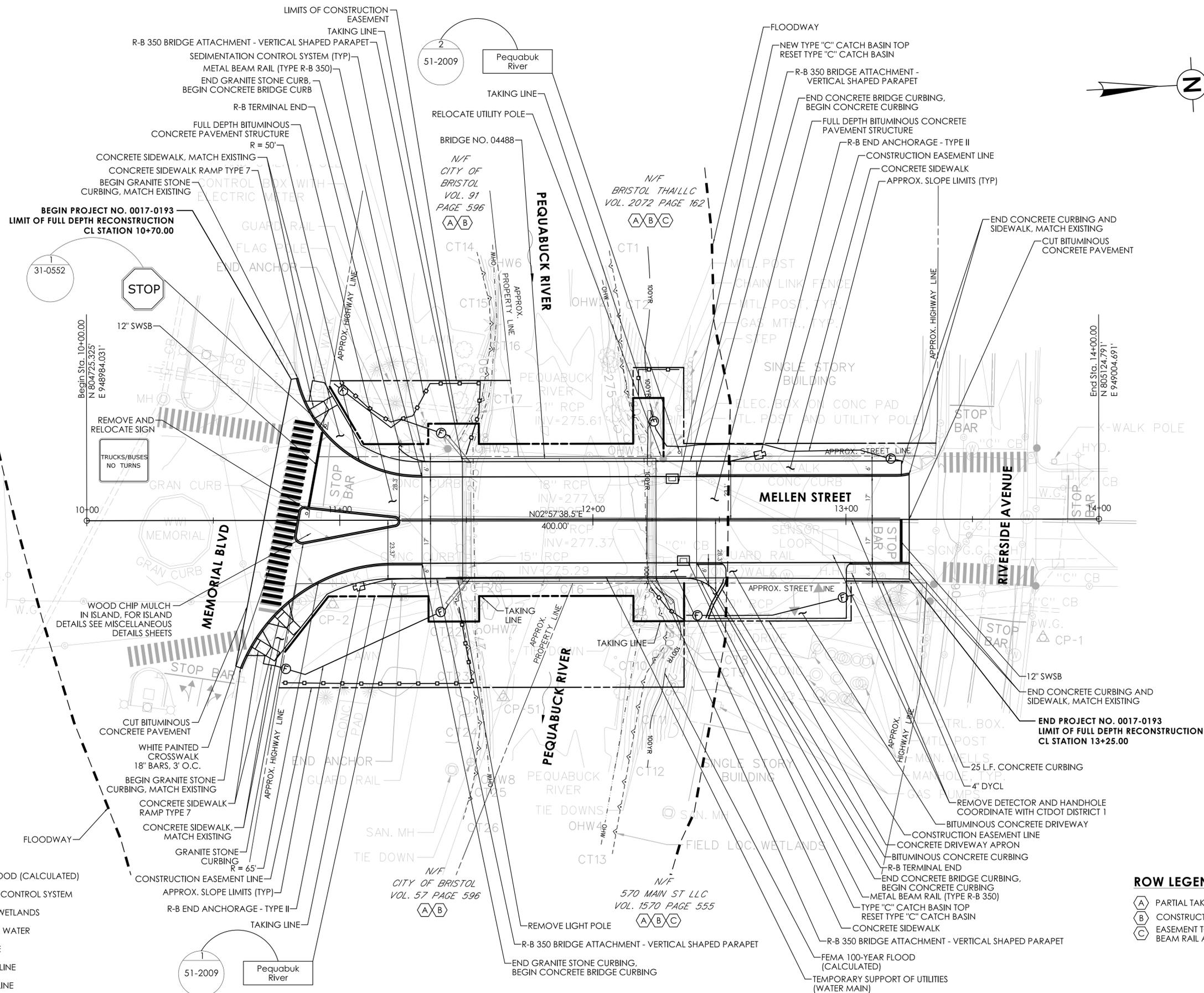
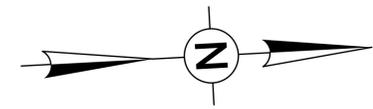
SCALE AS NOTED

SIGNATURE/BLOCK:  
**GM2**  
GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033

CITY OF BRISTOL

PROJECT NUMBER: 0017-0193  
PROJECT DESCRIPTION: REHABILITATION OF BRIDGE NO. 04488, MELLEEN STREET OVER PEGUABUCK RIVER  
TOWN(S): BRISTOL  
DRAWING TITLE: MISCELLANEOUS DETAILS

DRAWING NO. MDS-02  
SHEET NO.



BEGIN PROJECT NO. 0017-0193  
LIMIT OF FULL DEPTH RECONSTRUCTION  
CL STATION 10+70.00

END PROJECT NO. 0017-0193  
LIMIT OF FULL DEPTH RECONSTRUCTION  
CL STATION 13+25.00

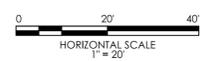
**LEGEND**

- 100YR — FEMA 100-YR FLOOD (CALCULATED)
- [Symbol] — SEDIMENTATION CONTROL SYSTEM
- - - STATE/FEDERAL WETLANDS
- OHW - - - OHW - ORDINARY HIGH WATER
- - - FLOODWAY LINE
- [Symbol] — PROPOSED CUT LINE
- [Symbol] — PROPOSED FILL LINE

**ROW LEGEND**

- [Symbol A] PARTIAL TAKE REQUIRED
- [Symbol B] CONSTRUCTION EASEMENT REQUIRED
- [Symbol C] EASEMENT TO INSTALL AND MAINTAIN METAL BEAM RAIL AND ANCHORAGE REQUIRED

REV.	DATE	REVISION DESCRIPTION

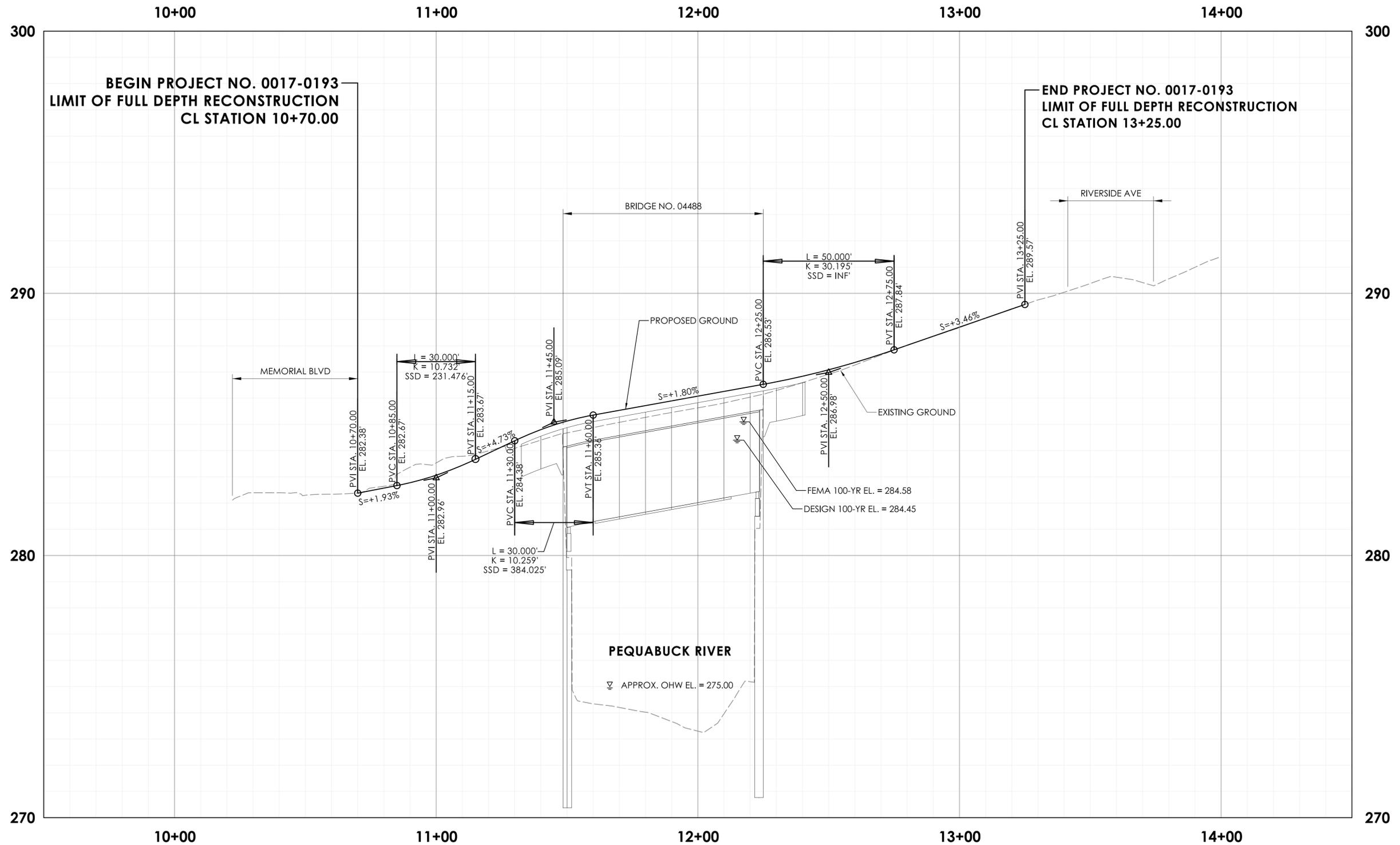


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 GMP2 ASSOCIATES, INC.  
 115 GLASTONBURY BLVD.  
 GLASTONBURY, CT 06033

CITY OF BRISTOL

PROJECT NUMBER: 0017-0193  
 PROJECT DESCRIPTION: REHABILITATION OF BRIDGE NO. 04488, MELLEN STREET OVER PEQUABUCK RIVER  
 TOWN(S): BRISTOL  
 DRAWING TITLE: ROADWAY PLAN

DRAWING NO. PLN-01  
 SHEET NO.



REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: JIG      CHECKED BY: PMB

HORIZONTAL SCALE IN FEET: 0, 20, 40

VERTICAL SCALE IN FEET: 0, 2, 4

SIGNATURE/BLOCK: **GMP**

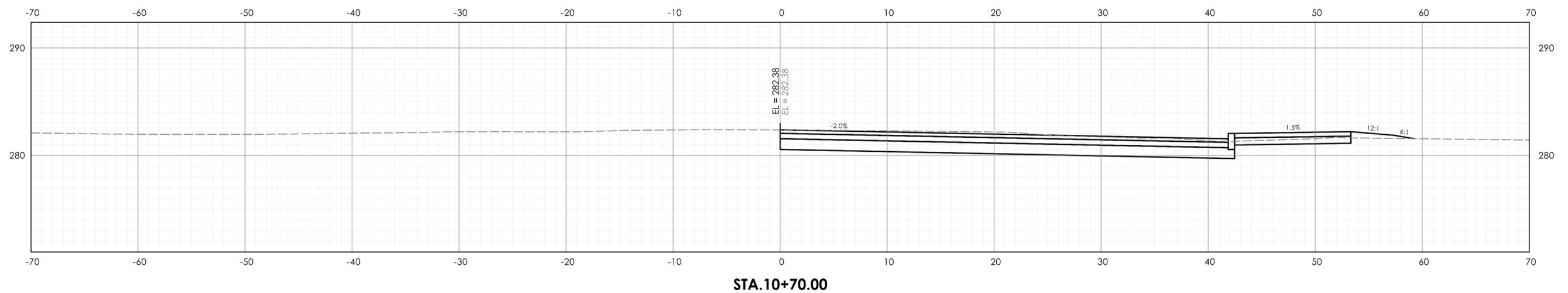
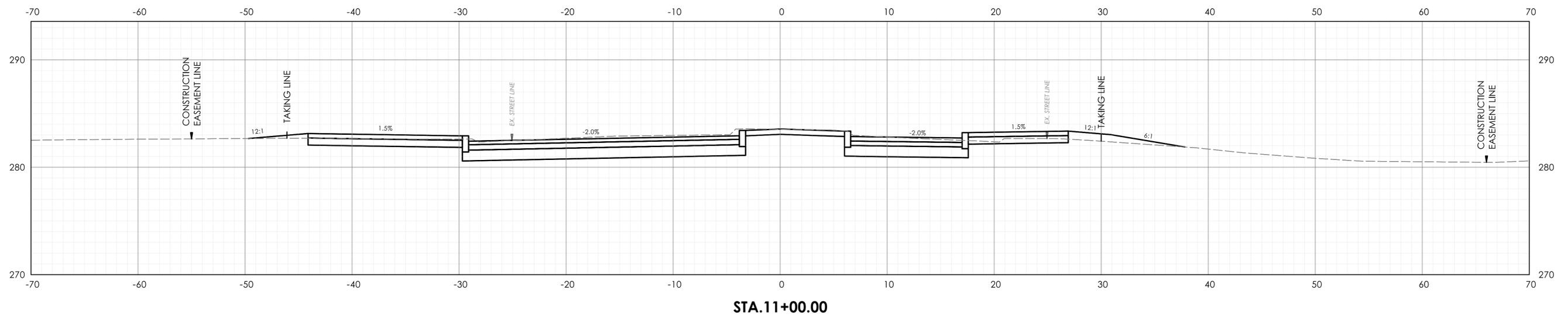
GM2 ASSOCIATES, INC.  
115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033

CITY OF BRISTOL

PROJECT NUMBER: 0017-0193  
 PROJECT DESCRIPTION: REHABILITATION OF BRIDGE NO. 04488, MELLE STREET OVER PEQUABUCK RIVER  
 TOWN(S): BRISTOL  
 DRAWING TITLE: ROADWAY PROFILE

DRAWING NO. PRO-01  
 SHEET NO.





REV.	DATE	REVISION DESCRIPTION

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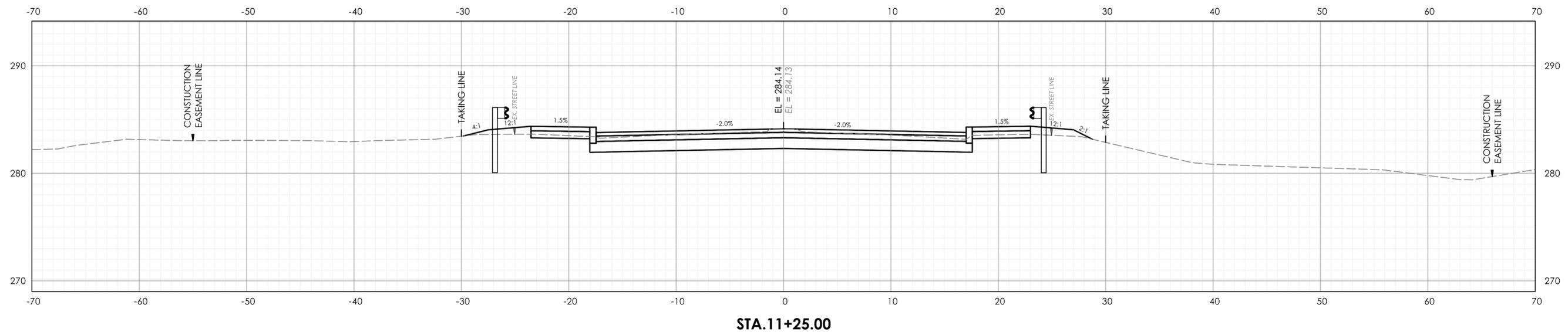
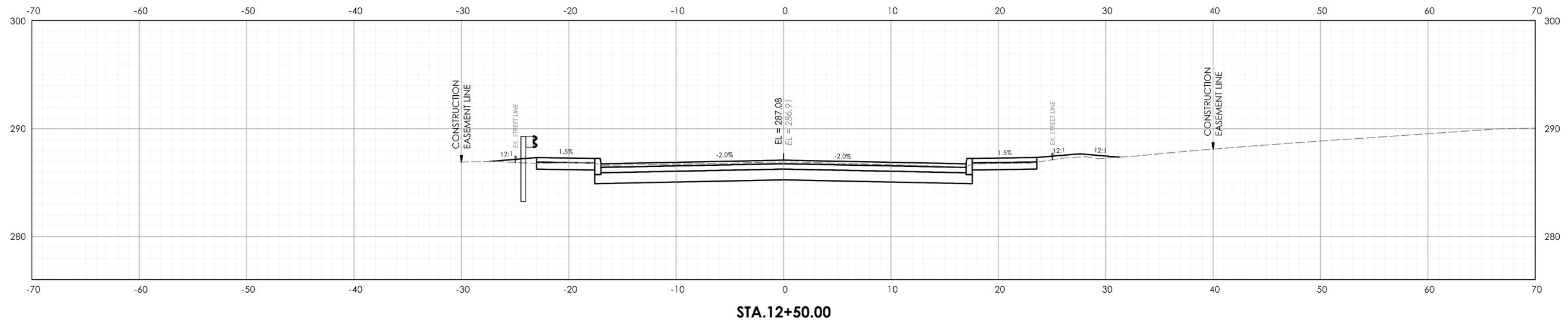


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**CITY OF BRISTOL**

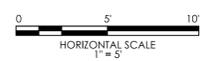
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 TOWN(S): BRISTOL  
 DRAWING TITLE: CROSS SECTIONS - 1

DRAWING NO. XSC-01  
 SHEET NO.



REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: NAB  
 CHECKED BY: PMB

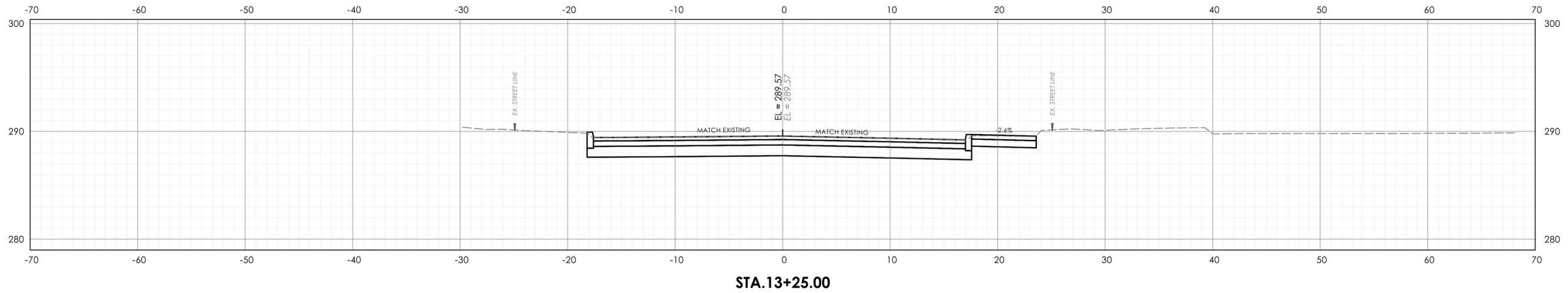


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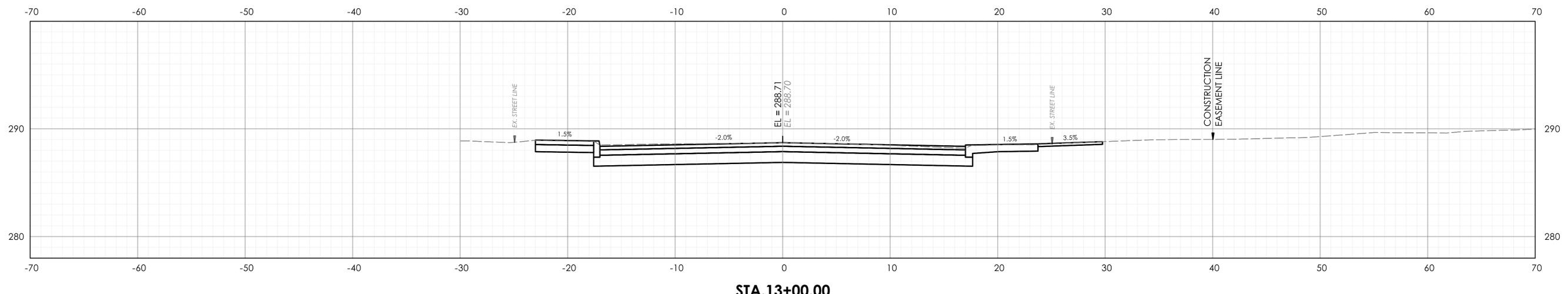
CITY OF BRISTOL

PROJECT NUMBER: 0017-0193  
 PROJECT DESCRIPTION: REHABILITATION OF BRIDGE NO. 04488, MELLEEN STREET OVER PEQUABUCK RIVER  
 TOWN(S): BRISTOL  
 DRAWING TITLE: CROSS SECTIONS - 2

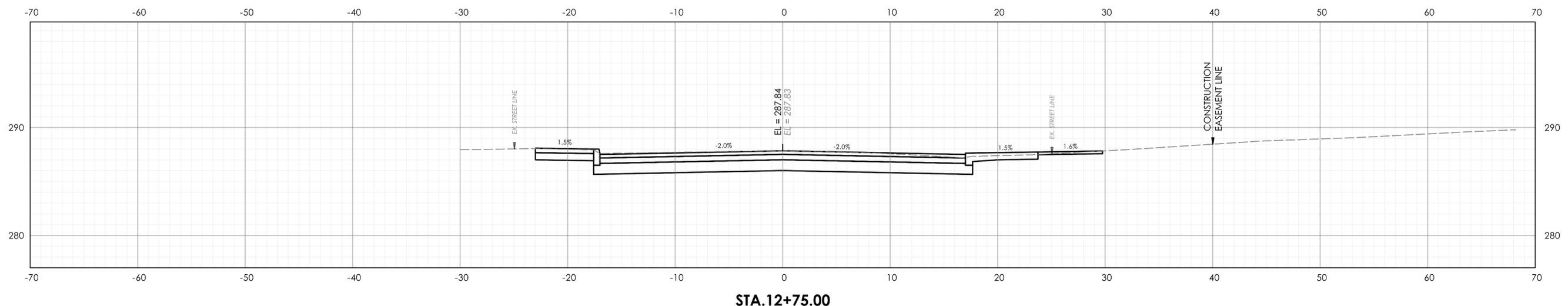
DRAWING NO. XSC-02  
 SHEET NO.



STA.13+25.00



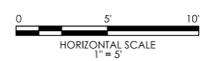
STA.13+00.00



STA.12+75.00

REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: NAB CHECKED BY: PMB

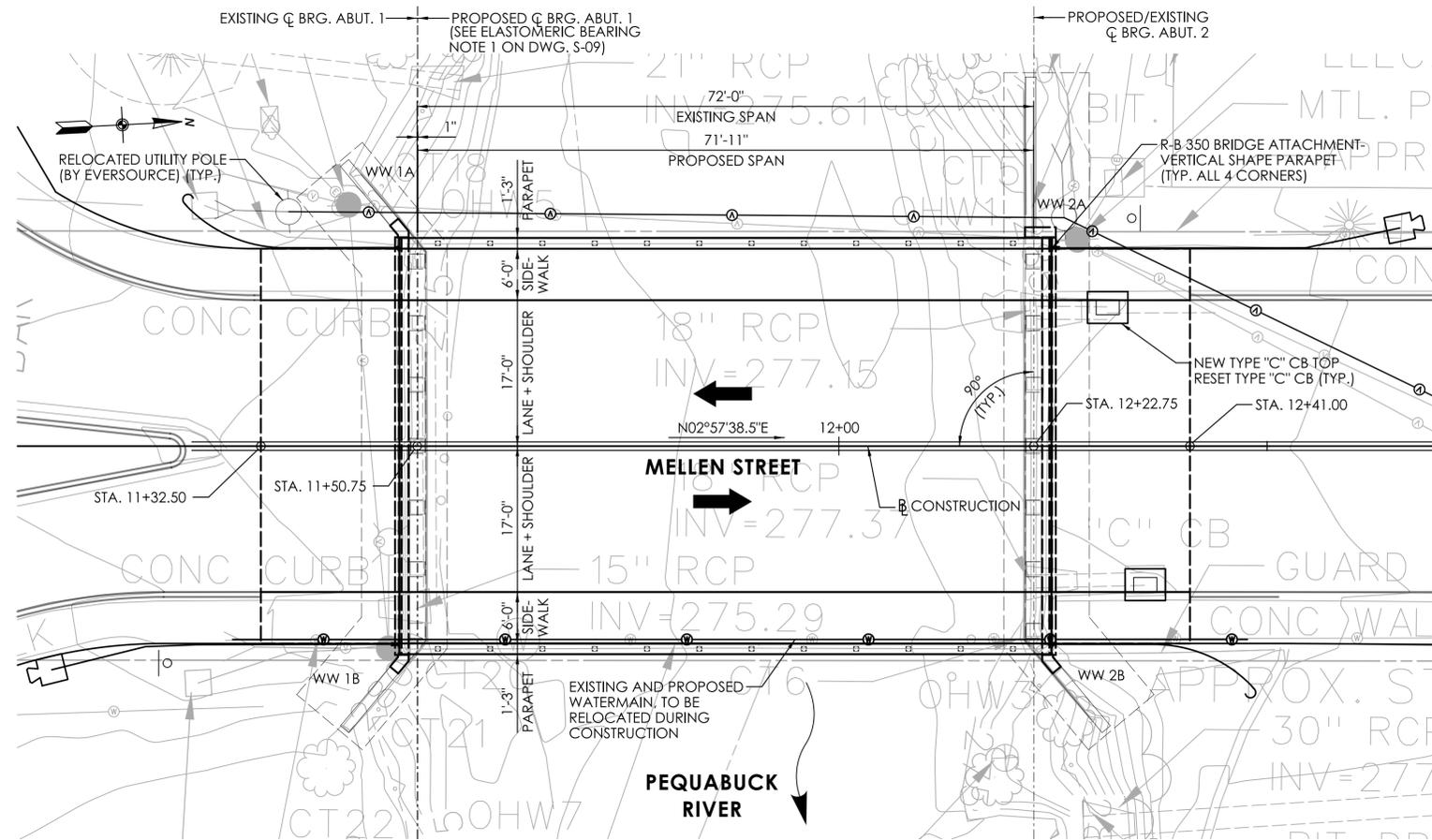


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 GM2 ASSOCIATES, INC.  
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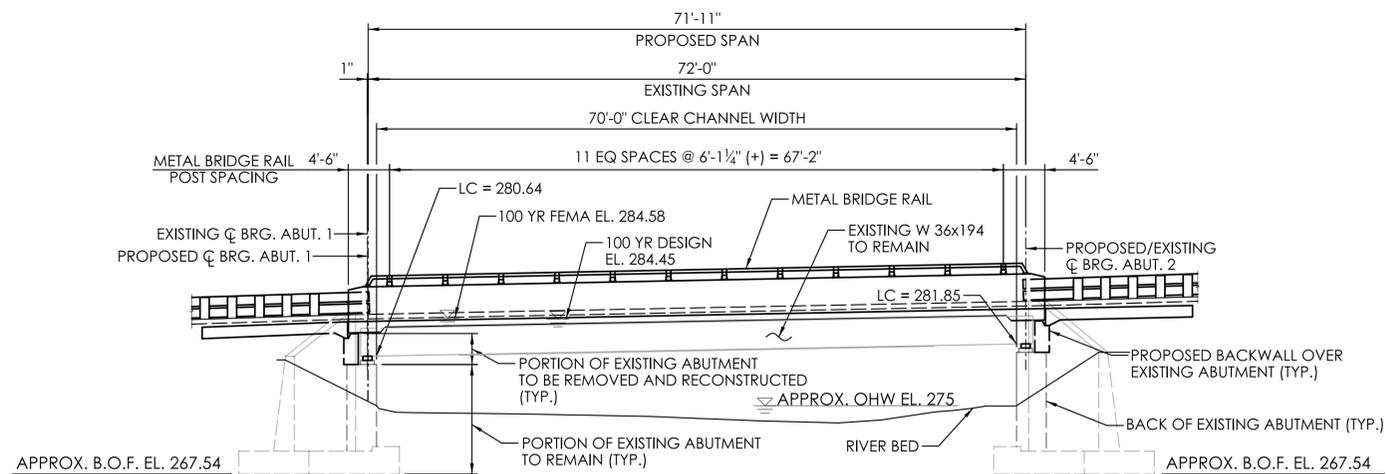
CITY OF BRISTOL

PROJECT NUMBER: 0017-0193  
 PROJECT DESCRIPTION: REHABILITATION OF BRIDGE NO. 04488, MELLEEN STREET OVER PEQUABUCK RIVER  
 TOWN(S): BRISTOL  
 DRAWING TITLE: CROSS SECTIONS - 3

DRAWING NO. XSC-03  
 SHEET NO.



**PLAN**  
SCALE: 1" = 30'



**ELEVATION**  
SCALE: 1" = 10'

**CONCRETE DISTRIBUTION**

COMPONENT	C.Y.	117
SUPERSTRUCTURE	C.Y.	117
SUBSTRUCTURE	C.Y.	170
FOOTINGS	C.Y.	0
TOTAL	C.Y.	287

**INSPECTION OF FIELD WELDS**

METHOD	UNIT	QUANTITY
ULTRASONIC	IN	0
MAGNETIC PARTICLE	IN	0

**NOTICE TO BRIDGE INSPECTORS**

THE DEPARTMENT'S BRIDGE SAFETY PROCEDURES REQUIRE THIS BRIDGE TO BE INSPECTED FOR, BUT NOT LIMITED TO, ALL APPROPRIATE COMPONENTS INDICATED IN THE GOVERNING MANUAL FOR BRIDGE INSPECTION. ATTENTION MUST BE GIVEN TO INSPECTING THE FOLLOWING SPECIAL COMPONENTS AND DETAILS. (THE LISTING FOR SPECIFIC ATTENTION SHALL NOT BE CONSTRUED TO REDUCE THE IMPORTANCE OF INSPECTION OF ANY OTHER COMPONENT OF THE STRUCTURE). THE FREQUENCY OF INSPECTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE GOVERNING MANUALS FOR BRIDGE INSPECTION, UNLESS OTHERWISE DIRECTED BY THE MANAGER OF SAFETY AND EVALUATION.

COMPONENT OR DETAIL	STRUCTURE SHEET REFERENCE
FOLLOW NORMAL INSPECTION PROCEDURES	

**GENERAL NOTES:**

SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 818 DATED 2020; SUPPLEMENTAL SPECIFICATION DATED JANUARY 2022 AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (9TH EDITION - 2020), AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003), WITH THE LATEST REVISIONS.

MATERIAL STRENGTHS:  
CONCRETE:  
CLASS PCC 03340 ..... f'c=3,000 psi  
CLASS PCC 04460 ..... f'c=4,000 psi  
CLASS PCC 04462 ..... f'c=4,000 psi

THE CONCRETE STRENGTH, f'c, USED IN DESIGN OF THE CONCRETE COMPONENTS IS NOTED ABOVE. THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE CONSTRUCTED COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF 6.01- CONCRETE FOR STRUCTURES AND M.03- PORTLAND CEMENT CONCRETE.

REINFORCEMENT: (ASTM A615 GRADE 60)..... fy = 60,000 PSI

STRUCTURAL STEEL: (AASHTO M270, GRADE 50)..... fy = 50,000 PSI

LIVE LOAD: HL-93, LEGAL AND PERMIT VEHICLES.

FUTURE PAVING ALLOWANCE: NONE.

STRUCTURAL STEEL: SEE STRUCTURAL STEEL NOTES ON DWG. S-10 FOR DESIGNATIONS AND REQUIREMENTS.

PAINT: PAINT SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIAL PROVISION, "ABRASIVE BLAST CLEANING AND FIELD PAINTING OF STRUCTURE (SITE NO. 1)". THE COLOR OF THE TOPCOAT MATERIAL ON THE STRUCTURAL STEEL SHALL CONFORM TO AEROSPACE MATERIAL SPECIFICATION (AMS) - STANDARD 595A, COLOR NO. AMS-STD 10059 (BROWN).

BITUMINOUS CONCRETE OVERLAY: THIS SHALL CONSIST OF TWO LIFTS: THE FIRST (BOTTOM LIFT) SHALL BE "HMA S0.25 TRAFFIC LEVEL 2" (1" THICK) AND THE SECOND (TOP LIFT) SHALL BE "HMA S0.5 TRAFFIC LEVEL 2" (2" THICK) .

FOUNDATION PRESSURES: THE LIMIT STATES NOTED ON THE SUBSTRUCTURE PLAN SHEETS REFER TO LOAD COMBINATIONS AS GIVEN IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

DIMENSIONS: WHEN DECIMAL DIMENSIONS ARE GIVEN LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZEROS.

EXISTING DIMENSIONS: DIMENSIONS OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THEY HAVE BEEN TAKEN FROM THE LIMITED SURVEY AND EXISTING PLANS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR REVIEW, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE TO THE REVIEWER.

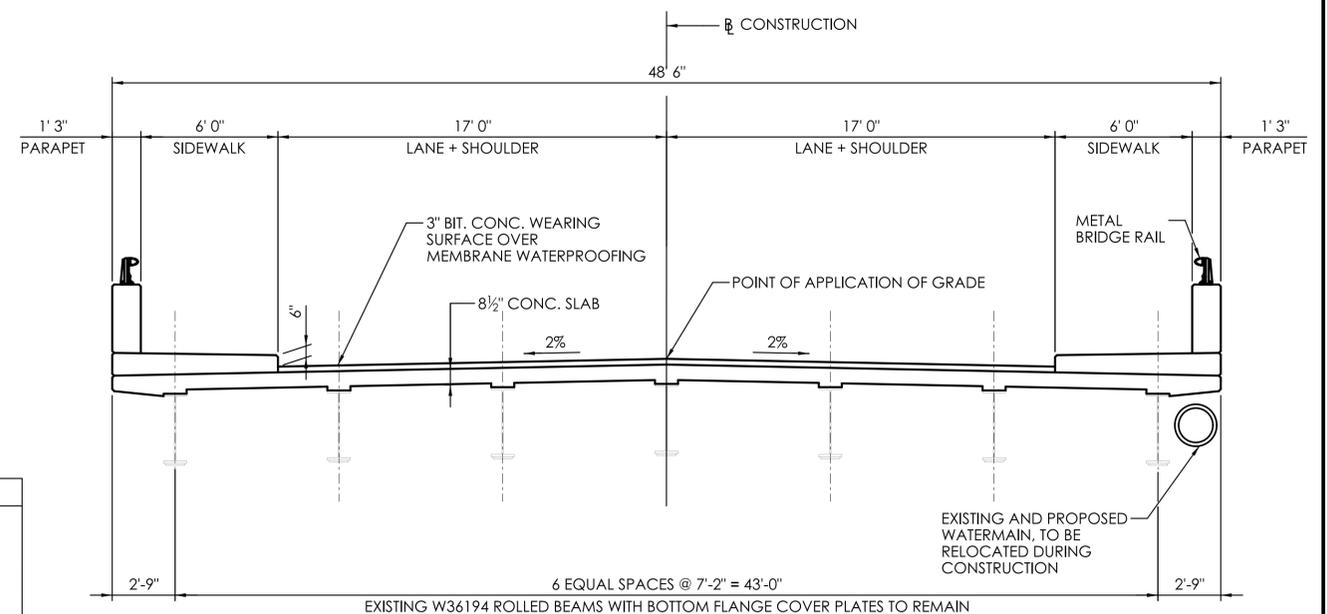
EXISTING BRIDGE: THE WORK FOR REMOVAL OF THE EXISTING SUPERSTRUCTURE SHALL BE INCLUDED AND PAID FOR UNDER THE ITEM "REMOVAL OF SUPERSTRUCTURE". THE WORK FOR REMOVAL OF TOPS OF EXISTING SUBSTRUCTURE SHALL BE PAID FOR UNDER ITEM "REMOVAL OF EXISTING MASONRY".

UTILITIES: THE FOLLOWING UTILITIES ARE LOCATED WITHIN THE PROJECT LIMITS AND SHALL BE PROTECTED DURING CONSTRUCTION: EVERSOURCE ELECTRIC AND CITY OF BRISTOL WATER DEPARTMENT WATERMAIN. THE CONTRACTOR SHALL COORDINATE ALL WORK RELATED TO UTILITY RELOCATION WITH THE RESPECTIVE UTILITY COMPANIES.

BRIDGE IDENTIFICATION PLACARDS: THE CONTRACTOR SHALL PROVIDE AND INSTALL NEW BRIDGE IDENTIFICATION SIGNS AT THE LEADING END OF EACH TIMBER END BLOCK ON THE TRAFFIC SIDE. THE SIGNS SHALL BE FABRICATED WITH 40 GAUGE ALUMINUM SHEET METAL. THE SIGNS SHALL BE 4" X 12" WITH 3" WHITE RETROREFLECTIVE BLOCK LETTERS ON GREEN RETROREFLECTIVE SHEETING. EACH SIGN SHALL READ 04488. ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE BRIDGE SIGNS SHALL BE COVERED UNDER ITEM #1208931- SIGN FACE SHEET ALUMINUM (TYPE IX RETROREFLECTIVE SHEETING). THE FINAL LOCATION AND ATTACHMENT METHOD FOR THE SIGNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO ATTACHMENT.

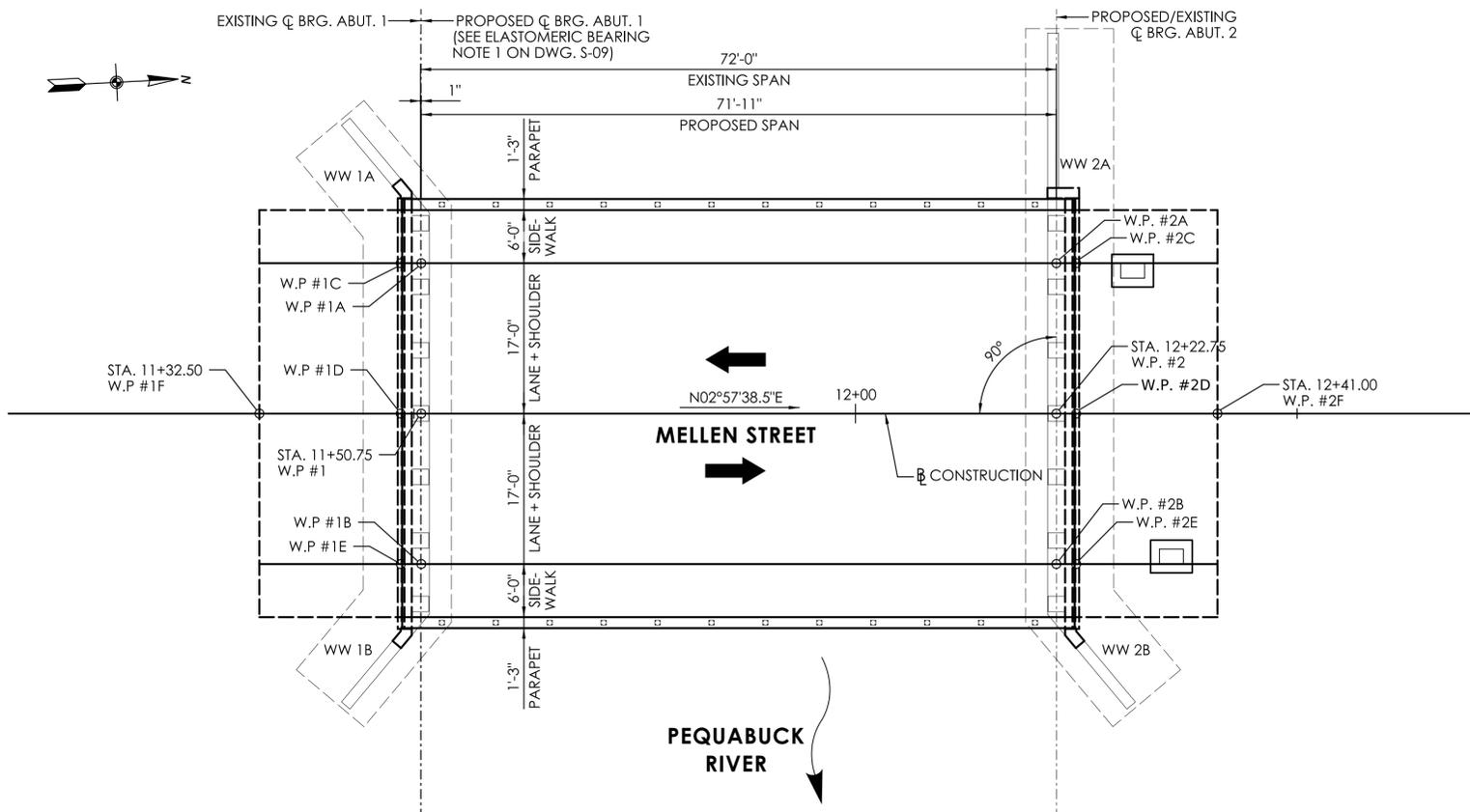
**CONCRETE NOTES:**

FOR CONCRETE NOTES SEE NEXT SHEET.



**PROPOSED TYPICAL SECTION**

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



**PLAN**  
SCALE: 1" = 10'

**CONCRETE NOTES:**

REMAIN-IN-PLACE FORM: THE USE OF REMAIN-IN-PLACE FORMS ON THIS STRUCTURE IS NOT ALLOWED.

COMPOSITE CONSTRUCTION: NO TEMPORARY INTERMEDIATE SUPPORT SHALL BE USED DURING THE PLACING AND SETTING OF THE CONCRETE DECK SLAB. TEMPORARY SUPPORTS MAY BE USED FOR STEEL ERECTION ONLY. CONSTRUCTION LOADS AND DEAD LOADS WILL BE PERMITTED WHEN DIRECTED BY THE ENGINEER BUT ONLY WHEN THE CONCRETE HAS REACHED A STRENGTH OF  $f_c = 3500$  PSI. LIVE LOADS (TRAFFIC) WILL BE PERMITTED ON THE STRUCTURE AFTER THE CONCRETE HAS REACHED A STRENGTH OF  $f_c = 4000$  PSI.

THE FOLLOWING PAY ITEMS AND CONCRETE CLASSES ARE REQUIRED FOR CAST-IN-PLACE BRIDGE COMPONENTS.

ITEM	BRIDGE COMPONENT	PCC CLASS
ABUTMENT AND WALL CONCRETE	BACKWALLS, KEEPER BLOCKS, AND CHEEK WALLS	PCC 03340
STRUCTURAL REPAIR CONCRETE	SUBSTRUCTURE REPAIRS	PCC 04481
BRIDGE DECK CONCRETE	BRIDGE DECK	PCC 04462
BRIDGE SIDEWALK CONCRETE	BRIDGE SIDEWALK	PCC 04462
PARAPET CONCRETE	BRIDGE PARAPETS AND END BLOCKS	PCC 04462
APPROACH SLAB CONCRETE	APPROACH SLABS AND APPROACH SIDEWALK CONCRETE	PCC 04460

JOINT SEAL: SEE SPECIAL PROVISIONS.

EXPOSED EDGES: EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1" X 1" UNLESS DIMENSIONED OTHERWISE.

CONCRETE COVER: ALL REINFORCEMENT SHALL HAVE 2" COVER UNLESS DIMENSIONED OTHERWISE.

REINFORCEMENT: ALL REINFORCEMENT SHALL BE GALVANIZED AFTER FABRICATION UNLESS NOTED OTHERWISE. ALL REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A767, CLASS 1, INCLUDING SUPPLEMENTAL REQUIREMENTS. THE COST OF FURNISHING AND PLACING THIS REINFORCEMENT SHALL BE INCLUDED IN THE ITEM "DEFORMED STEEL BARS - GALVANIZED."

FELT: THE COST OF FURNISHING AND PLACING 15-POUND ROOFING FELT IS INCLUDED IN THE ITEM "BRIDGE DECK CONCRETE"

PREFORMED EXPANSION JOINT FILLER: THE COST OF FURNISHING AND INSTALLING PREFORMED EXPANSION JOINT FILLER SHALL BE INCLUDED IN THE COST OF THE ITEM "1 INCH PREFORMED EXPANSION JOINT FILLER FOR BRIDGES."

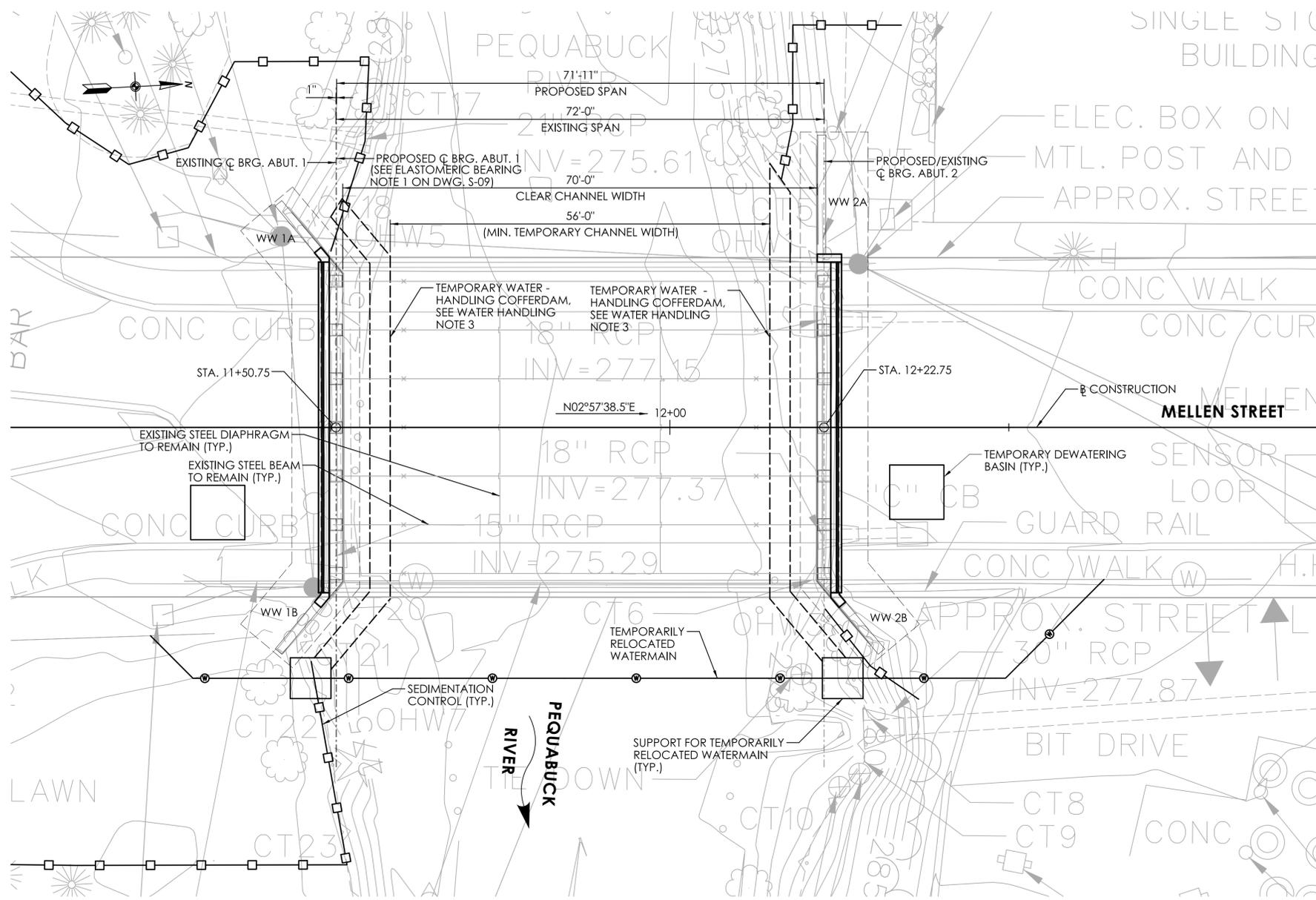
CLOSED CELL ELASTOMER: FURNISHING AND INSTALLING CLOSED CELL ELASTOMER SHALL BE INCLUDED IN THE ITEM "1 INCH CLOSED CELL ELASTOMER."

CONSTRUCTION JOINTS: CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE PLANS, WILL NOT BE PERMITTED WITHOUT PRIOR APPROVAL OF THE ENGINEER.

HYDRAULIC DATA	
DRAINAGE AREA	22.20 SQ. MI.
DESIGN FREQUENCY	100 YEAR
DESIGN DISCHARGE	5850 CFS
AVERAGE DAILY FLOW ELEVATION	274.25 FT.
UPSTREAM DESIGN WATER SURFACE ELEVATION	284.45 FT.
DOWNSTREAM DESIGN WATER SURFACE ELEVATION	283.20 FT.
MAXIMUM SCOUR ELEVATION	269.51 FT.
FREQUENCY	200 YEAR
DISCHARGE	6780 CFS
WORST CASE SCOUR SUBSTRUCTURE UNIT	ABUTMENT 2

**WORKING POINT COORDINATES**

W.P.#	NORTH	EAST	DESCRIPTION
1	804875.953	948991.822	☉ BEARINGS AT ABUTMENT 1 AND BASELINE
1A	804876.831	948974.844	☉ BEARINGS AT ABUTMENT 1 GUTTERLINE
1B	804875.075	949008.799	☉ BEARINGS AT ABUTMENT 1 GUTTERLINE
1C	804874.501	948974.724	BEGIN DECK AT ABUTMENT 1 GUTTERLINE
1D	804873.623	948991.701	BEGIN DECK AT ABUTMENT 1 AND BASELINE
1E	804872.745	949008.678	BEGIN DECK AT ABUTMENT 1 GUTTERLINE
1F	804857.644	948990.875	APPROACH SLAB BEGIN
2	804947.774	948995.536	☉ BEARINGS AT ABUTMENT 2 AND BASELINE
2A	804948.652	948978.559	☉ BEARINGS AT ABUTMENT 2 GUTTERLINE
2B	804946.896	949012.514	☉ BEARINGS AT ABUTMENT 2 GUTTERLINE
2C	804950.899	948978.675	END DECK AT ABUTMENT 2 GUTTERLINE
2D	804950.021	948995.652	END DECK AT ABUTMENT 2 AND BASELINE
2E	804949.143	949012.630	END DECK AT ABUTMENT 2 GUTTERLINE
2F	804966.000	948996.479	END APPROACH SLAB



**WATER HANDLING PLAN**  
SCALE: 1" = 10'

**SUGGESTED SEQUENCE OF CONSTRUCTION**

- THE FOLLOWING IS THE SUGGESTED SEQUENCE OF CONSTRUCTION THAT MAY BE FOLLOWED. THE CONTRACTOR SHALL SUBMIT HIS SEQUENCE OF CONSTRUCTION TO THE ENGINEER FOR APPROVAL.
1. INSTALL DETOUR SIGNS AND PLACE TEMPORARY PRECAST CONCRETE BARRIER CURBS, CLOSING MELLEN STREET TO THROUGH TRAFFIC. PRIOR TO ANY ROAD CLOSURE, THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF BRISTOL. SEE SPECIAL PROVISIONS FOR THE ITEM "MAINTENANCE AND PROTECTION OF TRAFFIC" AND THE DETOUR PLAN FOR ADDITIONAL REQUIREMENTS.
  2. TEMPORARILY RELOCATE EXISTING WATER MAIN AWAY FROM THE BRIDGE.
  3. INSTALL NECESSARY EROSION AND SEDIMENTATION CONTROLS.
  4. INSTALL TEMPORARY WATER - HANDLING COFFERDAMS. SEE WATER HANDLING NOTES BELOW FOR ADDITIONAL INFORMATION.
  5. INSTALL DEBRIS SHIELD ABOVE EL. 278 AND REMOVE EXISTING DECK.
  6. EXCAVATE BEHIND THE EXISTING SUBSTRUCTURES AND REMOVE THE TOP PORTIONS TO THE LIMITS SHOWN ON THESE PLANS.
  7. REPAIR FRONT FACES OF THE REMAINING PORTIONS OF EXISTING SUBSTRUCTURES AND RECONSTRUCT TOP PORTIONS AS SHOWN ON THESE PLANS.
  8. BACKFILL SUBSTRUCTURES.
  9. REMOVE TEMPORARY WATER - HANDLING COFFERDAMS.
  10. REPLACE EXISTING BEARINGS WITH ELASTOMERIC BEARINGS AND CONSTRUCT KEEPER BLOCKS.
  11. REMOVE EXISTING SPIRALS FROM TOPS OF EXISTING BEAMS, INSTALL NEW SHEAR STUDS AND PEEN WELDS AT THE ENDS OF COVER PLATES.
  12. INSTALL CONTAMINATION ENCLOSURE, AND CLEAN AND PAINT EXISTING STRUCTURAL STEEL.
  13. CONSTRUCT CONCRETE DECK, SIDEWALKS, PARAPETS, AND END BLOCKS. INSTALL METAL BRIDGE RAIL HANDRAILS.
  14. RELOCATE WATER MAIN BACK TO ITS PERMANENT LOCATION AT BRIDGE FASCIA.
  15. CONSTRUCT APPROACH SLABS.
  16. APPLY MEMBRANE WATERPROOFING AND FIRST LIFT OF BITUMINOUS CONCRETE OVERLAY.
  17. CONSTRUCT ROADWAY APPROACHES TO THE BRIDGE.
  18. APPLY FINAL LIFT OF THE BITUMINOUS CONCRETE OVERLAY TO THE ENTIRE PROJECT.
  19. INSTALL ASPHALTIC PLUG EXPANSION JOINTS.
  20. COMPLETE MISCELLANEOUS WORK AND OPEN ROAD TO TRAFFIC.

**WATER HANDLING NOTES**

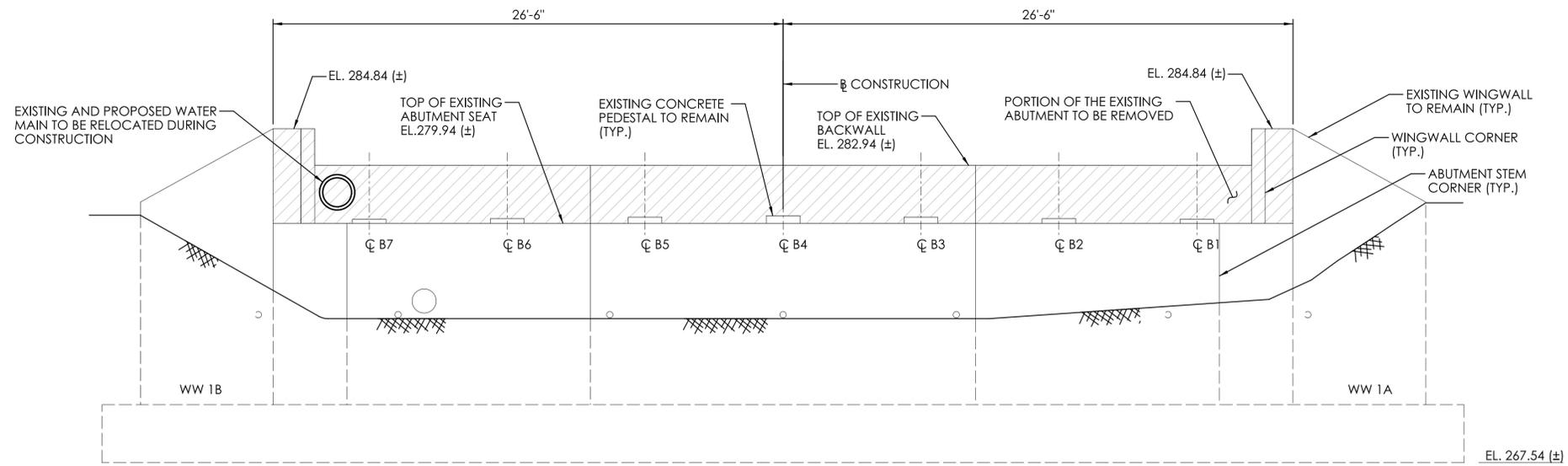
1. THE SUGGESTED METHOD OF CONTROLLING WATER DURING CONSTRUCTION CONSISTS OF A TEMPORARY WATER - HANDLING COFFERDAM AS SHOWN ON THIS DRAWING AND SHALL BE PAID FOR UNDER THE ITEM "HANDLING WATER".
2. THIS SUGGESTED WATER HANDLING SCHEME IS FOR MODIFICATION AND REPAIRS OF FRONT FACES OF EXISTING ABUTMENTS AND WINGWALLS IN THE DRY. THE INSTALLATION OF COFFERDAMS TO HANDLE WATER FOR ANY OTHER CONSTRUCTION ACTIVITIES IS NOT PERMITTED.
3. TOP OF THE TEMPORARY WATER - HANDLING COFFERDAM SHALL BE EL. 277.50 (MIN.).
4. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL HIS PROPOSED PLAN FOR HANDLING WATER, INCLUDING METHODS NECESSARY FOR THE SUBSTRUCTURE REPAIRS TO BE COMPLETED IN REASONABLY DRY CONDITIONS. REFER TO THE SPECIAL PROVISION FOR THE ITEM "HANDLING WATER".
5. IN ADDITION TO THE PROPOSED METHODS OF HANDLING WATER, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER HIS PROPOSED METHODS OF REMOVING THE EXISTING DECK AND PORTIONS OF EXISTING SUBSTRUCTURES. EXISTING DECK REMOVAL SHALL BE PAID FOR UNDER THE ITEM "REMOVAL OF EXISTING BRIDGE DECK". REMOVAL OF TOP PORTIONS OF EXISTING ABUTMENTS SHALL BE PAID FOR UNDER THE ITEM "REMOVAL OF EXISTING MASONRY". SEE SPECIAL PROVISIONS.
6. NO WORK SHALL BEGIN UNTIL ALL APPROVALS HAVE BEEN OBTAINED FROM THE ENGINEER.

**TIME-OF-YEAR BMP NOTES**

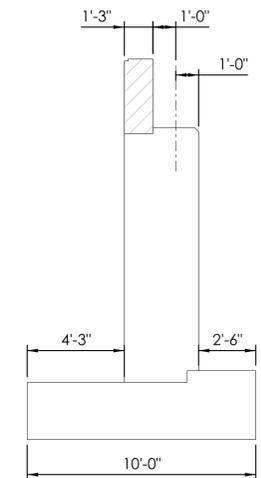
1. AS A BEST MANAGEMENT PRACTICE, ANY UNCONFINED IN-STREAM WORK SHOULD BE RESTRICTED TO THE PERIOD FROM JUNE 1 TO SEPTEMBER 30, INCLUSIVE.

**TEMPORARY HYDRAULIC DATA**

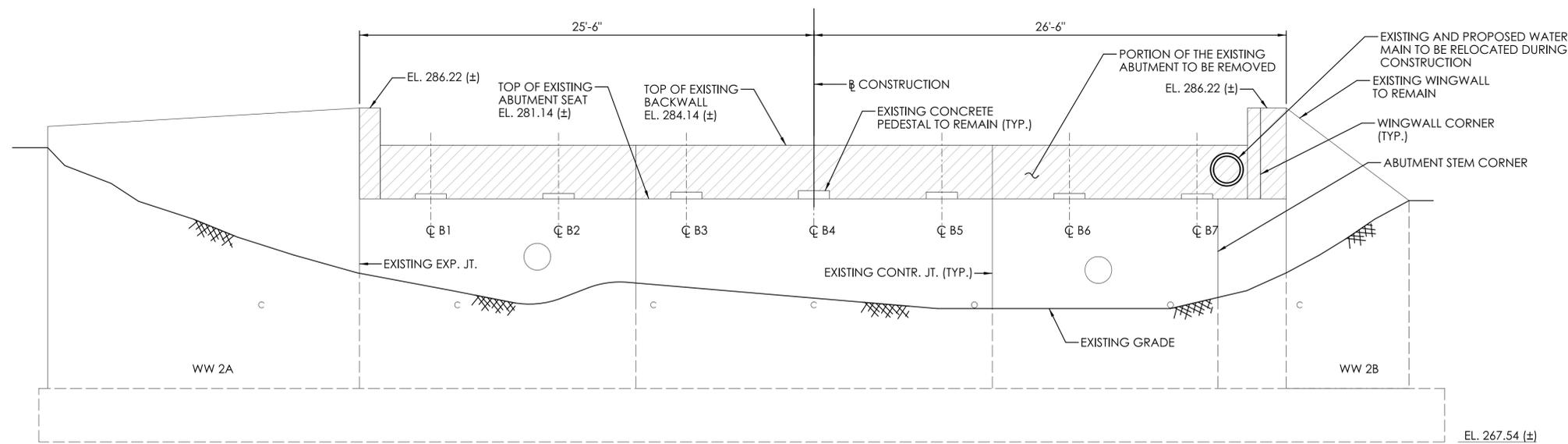
AVERAGE DAILY FLOW	39.00 CFS
AVERAGE SPRING FLOW	77.40 CFS
TEMPORARY DESIGN DISCHARGE	914 CFS
TEMPORARY DESIGN FREQUENCY	2-YEAR FLOW
TEMPORARY WATER SURFACE ELEVATION UPSTREAM	277.03 FT
TEMPORARY WATER SURFACE ELEVATION DOWNSTREAM	276.73 FT



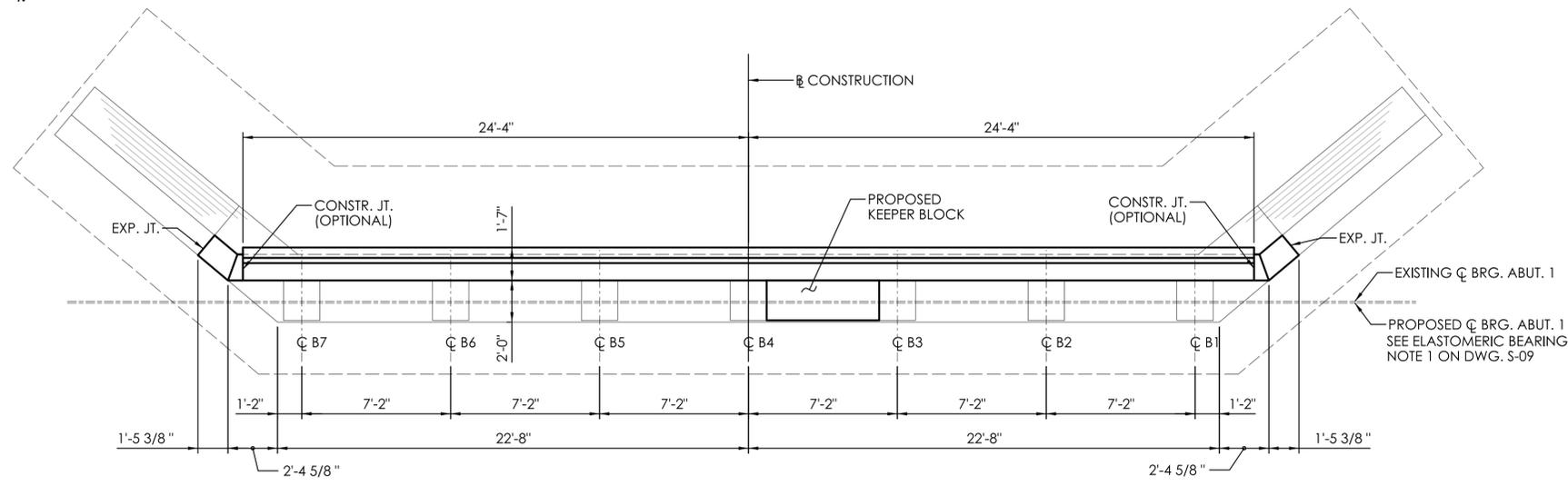
**ABUTMENT 1 ELEVATION**  
SCALE: 1/4" = 1'-0"



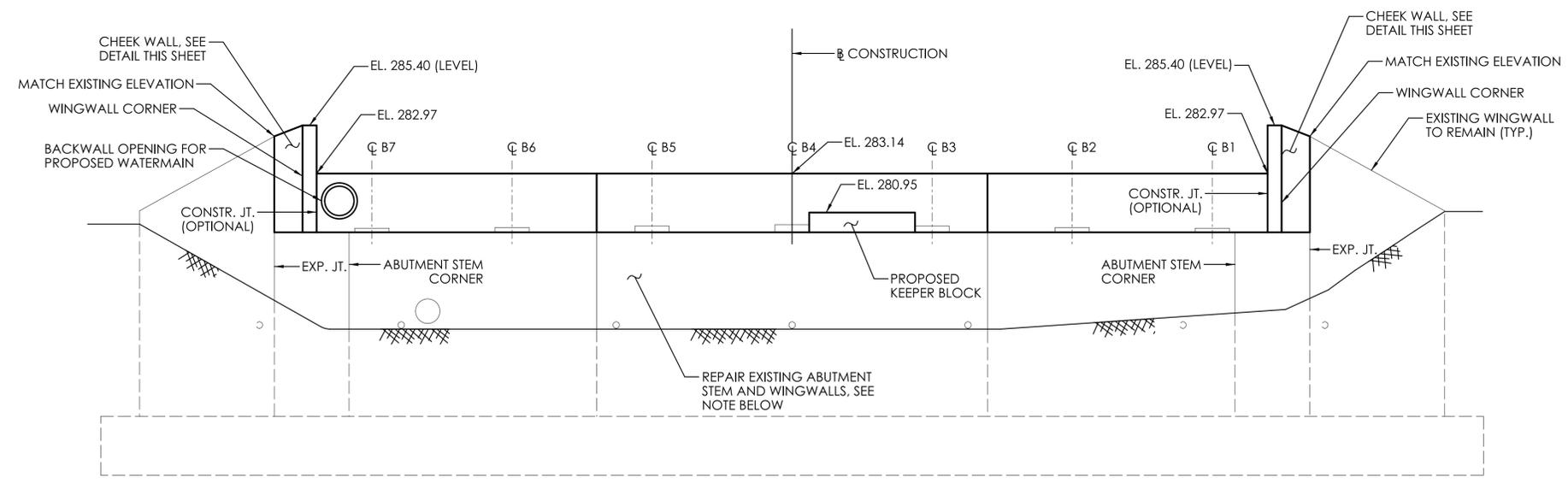
**TYPICAL EXISTING ABUTMENT SECTION**  
SCALE: 1/4" = 1'-0"



**ABUTMENT 2 ELEVATION**  
SCALE: 1/4" = 1'-0"

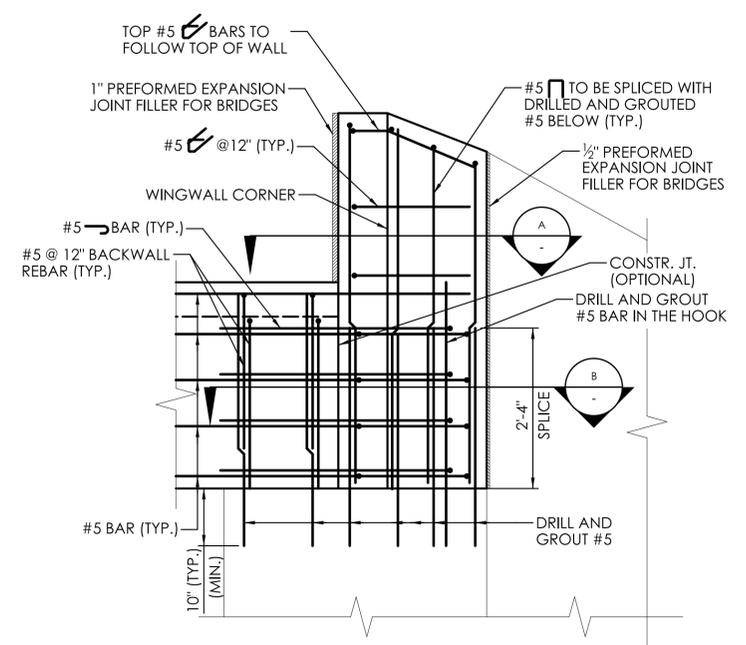


**ABUTMENT 1 PLAN**  
SCALE: 1/4" = 1'-0"

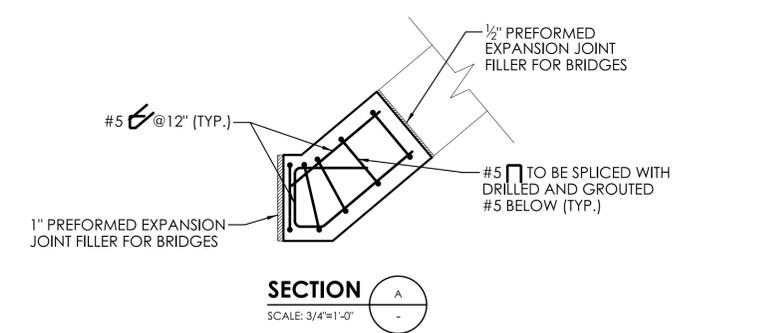


**ABUTMENT 1 ELEVATION**  
SCALE: 1/4" = 1'-0"

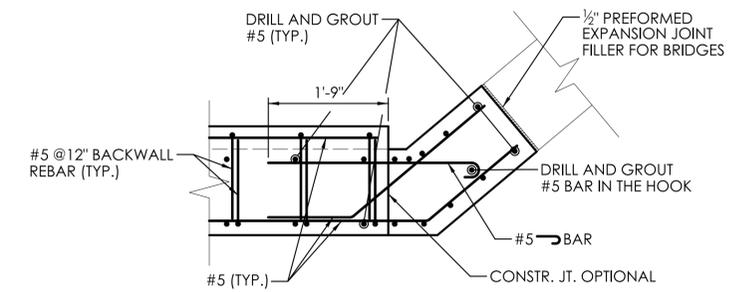
**NOTE:**  
CONTRACTOR TO PERFORM HANDS ON INSPECTION WITH ENGINEER IN THE FIELD TO DETERMINE THE AREAS OF ACTUAL DETERIORATION AND REQUIRED REPAIRS.



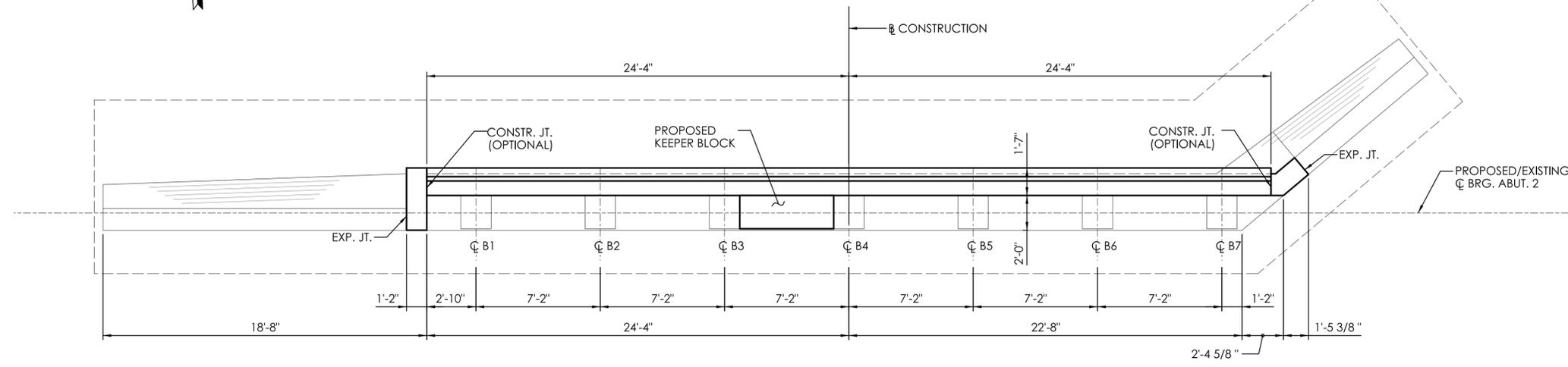
**CHEEK WALL 1A, 1B, AND 2B DETAIL**  
SCALE: 3/4" = 1'-0"



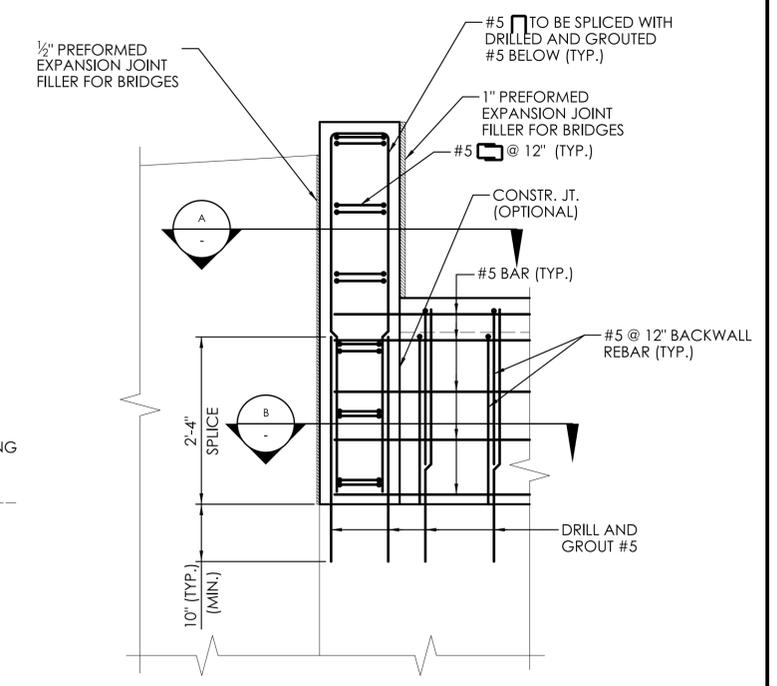
**SECTION A**  
SCALE: 3/4" = 1'-0"



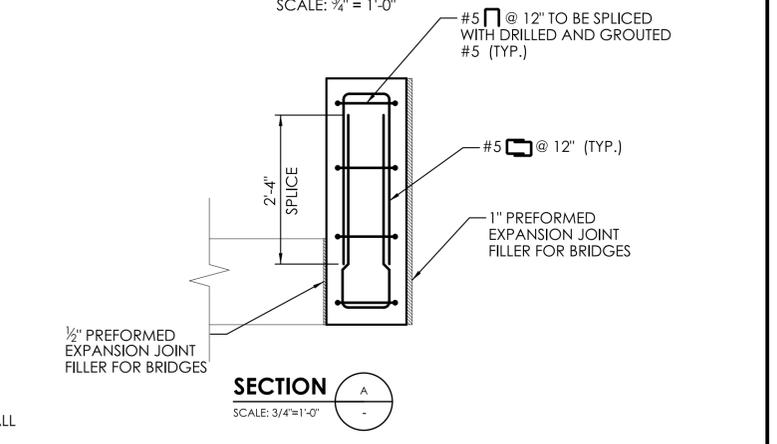
**SECTION B**  
SCALE: 3/4" = 1'-0"



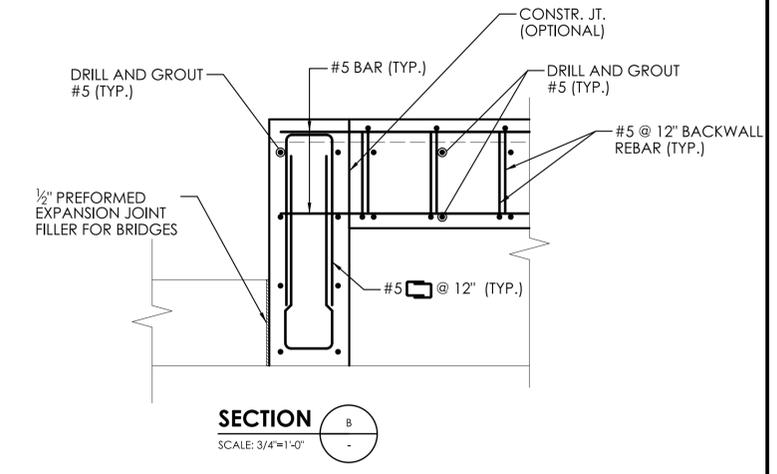
**ABUTMENT 2 PLAN**  
SCALE: 1/4" = 1'-0"



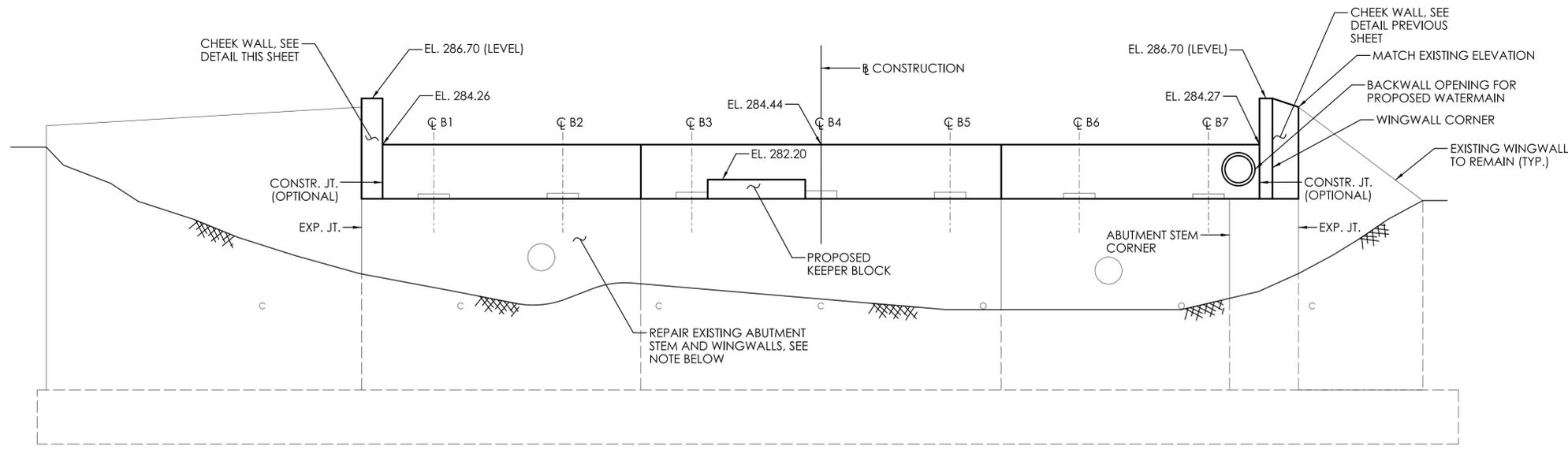
**CHEEK WALL 2A DETAIL**  
SCALE: 3/4" = 1'-0"



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

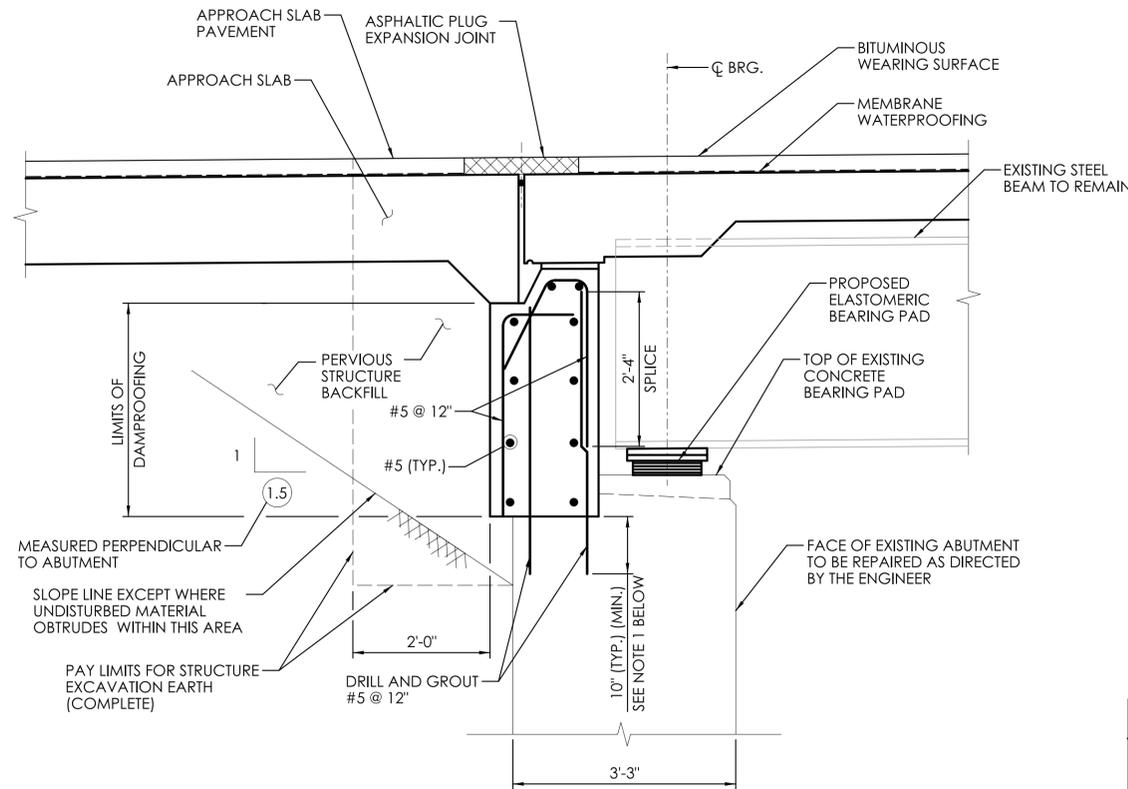


**SECTION B**  
SCALE: 3/4" = 1'-0"



**ABUTMENT 2 ELEVATION**  
SCALE: 1/4" = 1'-0"

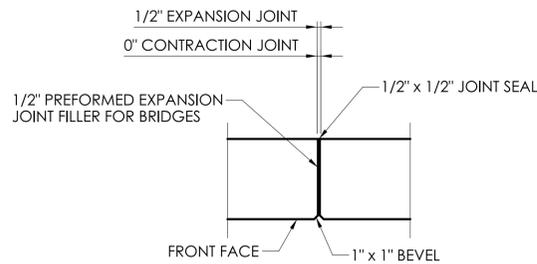
**NOTE:**  
CONTRACTOR TO PERFORM HANDS ON INSPECTION WITH ENGINEER IN THE FIELD TO DETERMINE THE AREAS OF ACTUAL DETERIORATION AND REQUIRED REPAIRS.



**ABUTMENT 1 ELEVATION**  
SCALE: 3/4" = 1'-0"

**NOTES:**

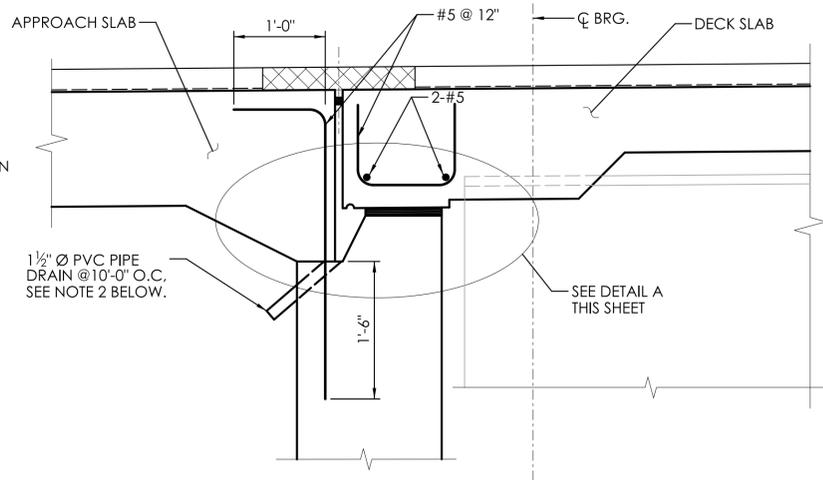
1. THE EMBEDMENT DEPTH SHALL BE BASED ON THE GROUT MANUFACTURER RECOMMENDATION AND IN ACCORDANCE WITH THE SPECIAL PROVISION FOR ITEM "DRILLING AND GROUTING REINFORCING BARS".
2. THE COST OF 1 1/2" DIA. PVC PIPE SHALL BE INCLUDED FOR PAYMENT UNDER THE ITEM "1 1/2" POLYVINYL CHLORIDE PLASTIC PIPE".



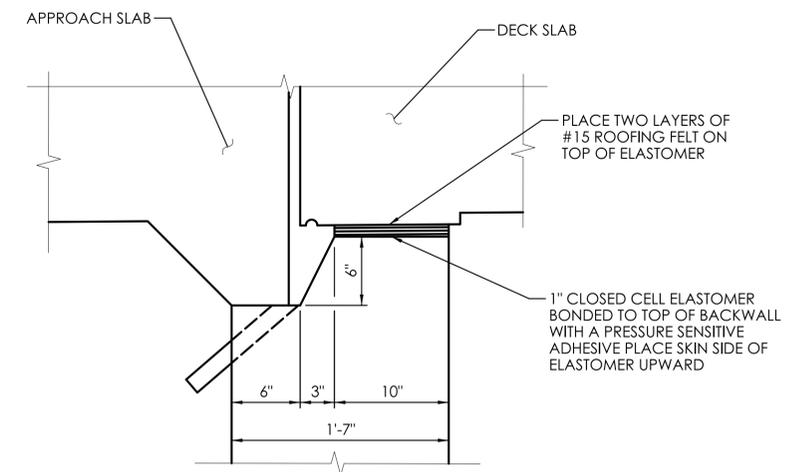
**VERTICAL STEM JOINT DETAIL**  
N.T.S.

**JOINT NOTES:**

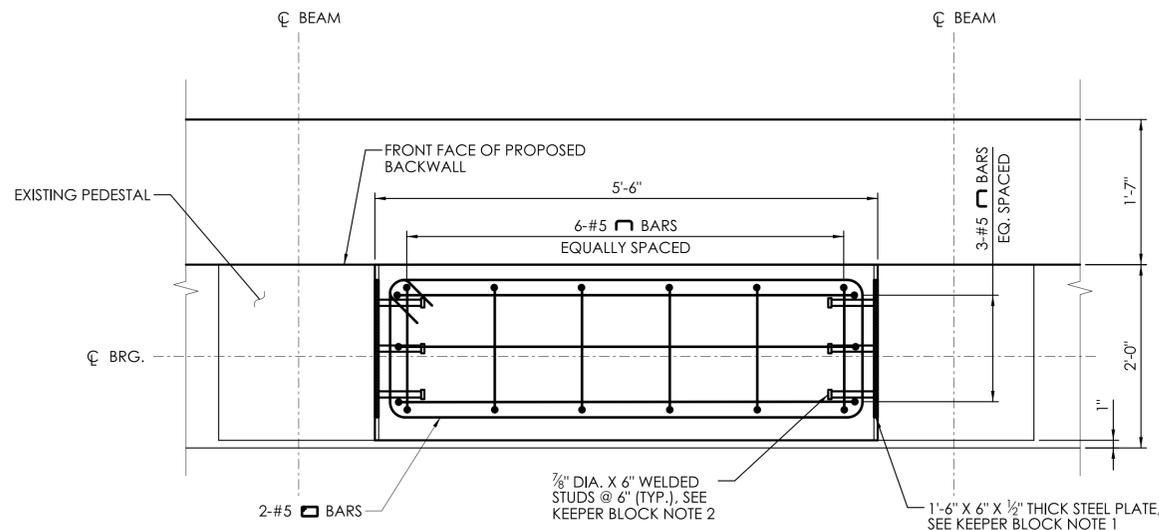
1. NO REINFORCEMENT SHALL PASS THROUGH EXPANSION OR CONTRACTION JOINTS. REINFORCEMENTS SHALL PASS THROUGH CONSTRUCTION JOINTS.
2. JOINT SEAL TO EXTEND FROM TOP OF FOOTING TO TOP OF PARAPET AND HORIZONTALLY ALONG THIS JOINT TO OUTSIDE FACE OF PARAPET AND HORIZONTALLY ALONG THIS JOINT TO THE OUTSIDE FACE OF WALL.
3. REINFORCING TO HAVE 2" COVER EXCEPT WHERE SHOWN OTHERWISE.



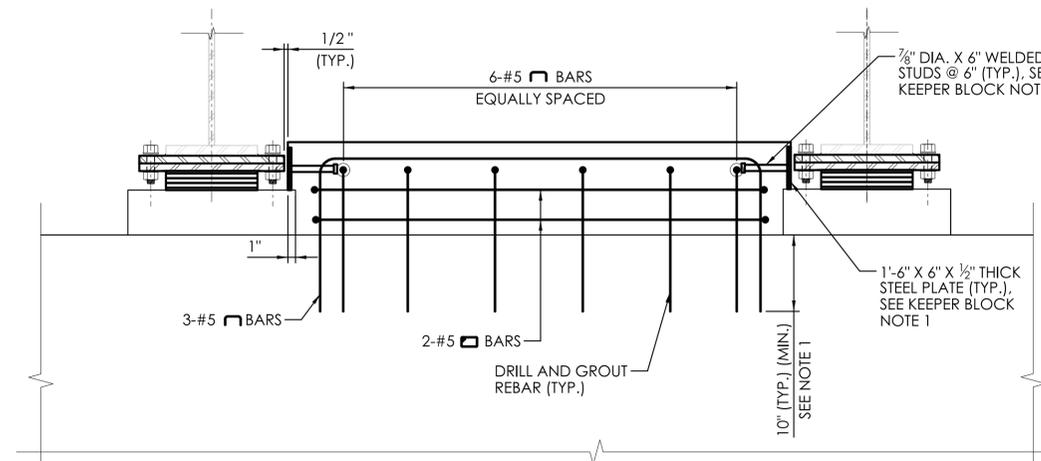
**EXPANSION JOINT DETAIL AT ABUTMENT**  
SCALE: 1" = 1'-0"



**DETAIL A**  
SCALE: 1 1/2" = 1'-0"



**PLAN**



**ELEVATION**

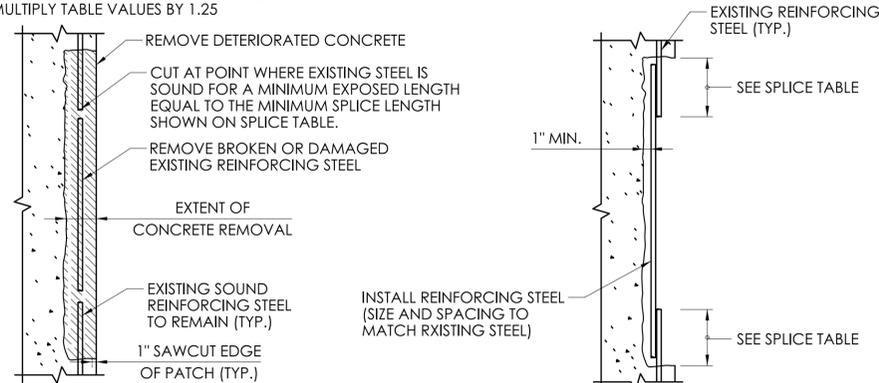
**KEEPER BLOCK DETAILS**  
SCALE: 1" = 1'-0"

**KEEPER BLOCK NOTES:**

1. 1'-6" X 6" X 1/2" STEEL PLATE SHALL CONFORM TO AASHTO M270 GRADE 50 T2 AND SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123. IT SHALL BE PAID FOR UNDER THE ITEM "STRUCTURAL STEEL".
2. 7/8" DIA. X 6" WELDED STUD SHALL BE PAID FOR UNDER THE ITEM "WELDED STUDS".

TABLE OF SPLICE LENGTHS		
	BAR SIZE	MIN. SPLICE LENGTH
REINFORCEMENT SPACING @ * 6" O.C. **	#4	1'-7"
	#5	2'-0"
	#6	2'-4"
	#7	2'-9"
	#8	3'-2"

\*\* FOR BARS SPACED "LESS THAN" 6" O.C. MULTIPLY TABLE VALUES BY 1.25

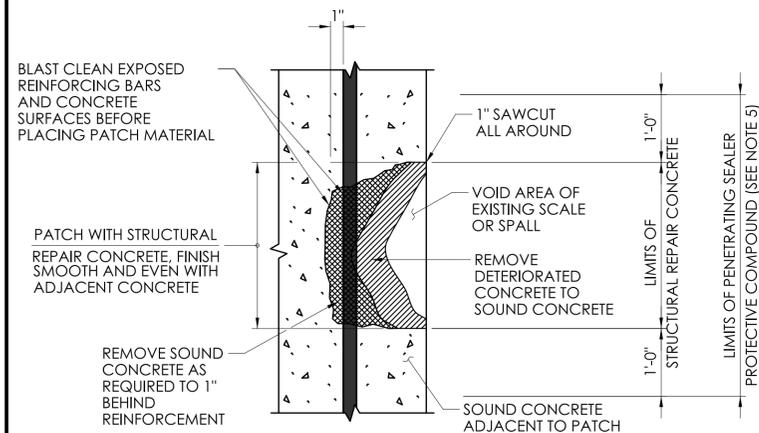


**TYPICAL SECTION DAMAGED REINFORCING**

**TYPICAL SPLICE DETAIL**

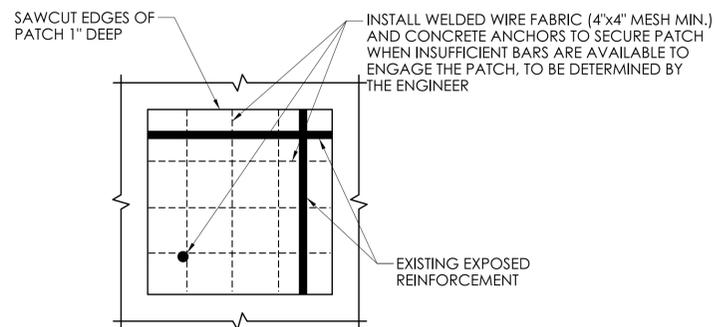
**REINFORCING REPAIR DETAIL**

NOT TO SCALE



**STRUCTURAL REPAIR CONCRETE**

NOT TO SCALE



**SECURING STRUCTURAL REPAIR CONCRETE PATCH WITH WELDED WIRE FABRIC**

NOT TO SCALE

**STRUCTURAL REPAIR CONCRETE NOTES**

THE CONTRACTOR SHALL DETERMINE THE LOCATIONS OF UNSOUND OR DETERIORATED CONCRETE TO BE REPAIRED AND OBTAIN APPROVAL FROM THE ENGINEER. THE METHOD USED TO DELINEATE AREAS OF CONCRETE TO BE REPAIRED SHALL NOT PERMANENTLY MARK THE CONCRETE, LEAVE ANY RESIDUE AFTER REMOVAL, OR REQUIRE HARSH CHEMICALS TO REMOVE.

THE CONTRACTOR SHALL REMOVE THE DETERIORATED CONCRETE IN ACCORDANCE WITH THE GUIDELINES SET IN THESE NOTES AND IN THE SPECIAL PROVISIONS AND THE ENGINEER WILL DETERMINE THE TYPE OF REPAIR REQUIRED FOR EACH AREA.

THE CONTRACTOR SHALL SUPPLY WHATEVER MEANS NECESSARY, INCLUDING BUT NOT LIMITED TO LADDERS, LIFTS AND TRAFFIC PROTECTION FOR THE ENGINEER TO SAFELY ACCESS VARIOUS AREAS FOR INSPECTION. THE COST OF PROVIDING ACCESS FOR THE INSPECTION IS INCLUDED IN THE COST OF THE ITEM "STRUCTURAL REPAIR CONCRETE".

STRUCTURAL REPAIR CONCRETE SHALL BE USED FOR SUBSTRUCTURE REPAIRS FOR ABUTMENTS, WINGWALLS, CONCRETE CURB AND PARAPET REPAIRS.

STRUCTURAL REPAIR CONCRETE: THIS TYPE OF REPAIR SHALL BE USED FOR ALL DETERIORATED AREAS, OR AS DIRECTED BY THE ENGINEER, WHERE THE REINFORCING BARS ARE SUFFICIENTLY EXPOSED TO ENGAGE AND ANCHOR THE PATCHING MATERIAL. IF THERE IS NOT SUFFICIENT REINFORCEMENT AVAILABLE, THEN GALVANIZED MECHANICAL ANCHORS @ 6" O.C. (OR AS DIRECTED BY THE ENGINEER) SHALL BE INSTALLED INTO THE SOUND CONCRETE TO ENGAGE THE WELDED WIRE FABRIC.

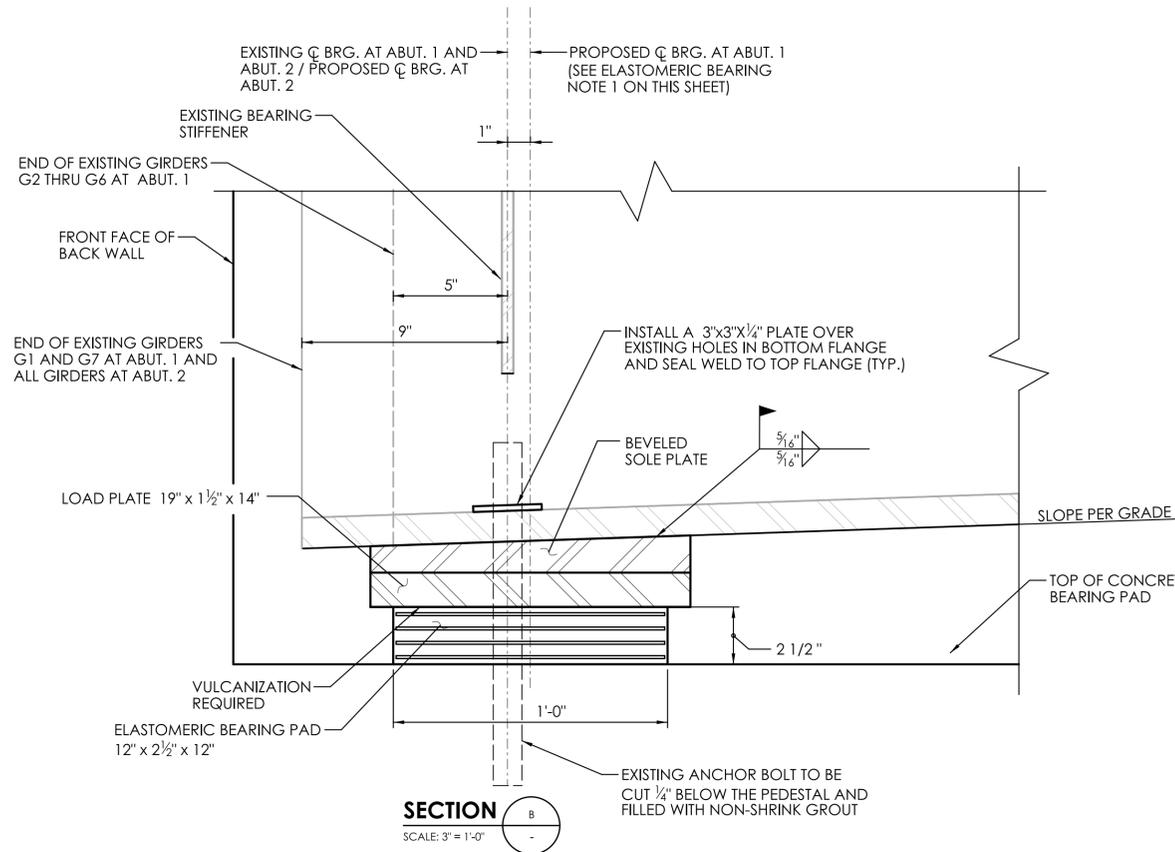
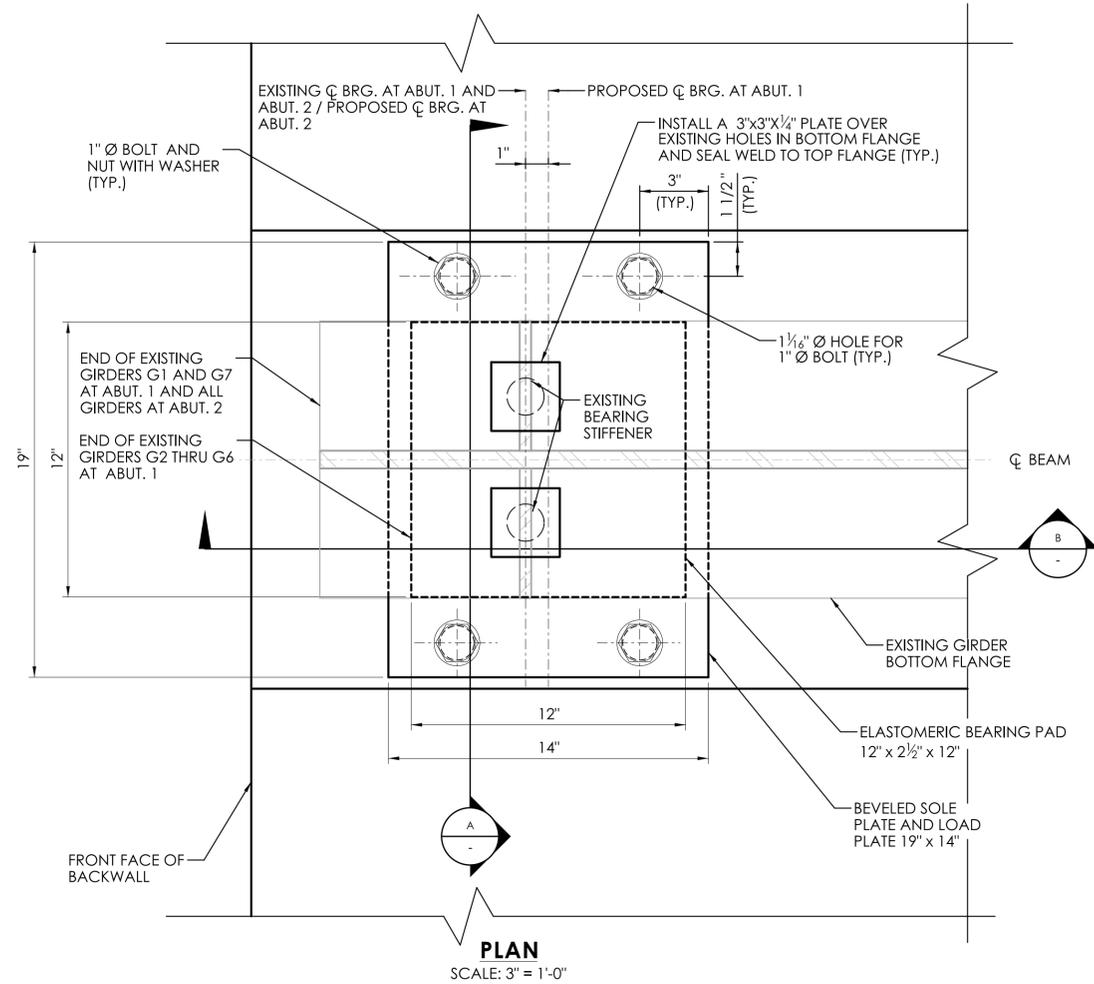
CONCRETE FOR THE REPAIR WILL BE PAID FOR UNDER "STRUCTURAL REPAIR CONCRETE." GALVANIZED ANCHOR AND WELDED WIRE FABRIC FOR THE REPAIR WILL BE INCLUDED UNDER THE ITEM "DEFORMED STEEL BARS-GALVANIZED."

BEFORE APPLYING THE PATCHING MATERIAL, THE REINFORCING BARS AND CONCRETE SURFACES SHALL BE BLAST CLEANED AND EMBEDDED GALVANIC ANODES INSTALLED.

REINFORCING BAR REPAIRS: REINFORCING WHICH IS DETERMINED BY THE ENGINEER TO BE IN NEED OF REPLACEMENT, SHALL BE REMOVED TO A POINT WHERE IT IS SOUND. THE PATCH SHALL EXTEND A SUFFICIENT DISTANCE BEYOND THIS POINT TO DEVELOP A SPLICE LENGTH SPECIFIED IN THE TABLE ON THIS SHEET. WELDING TO EXISTING REINFORCING BARS SHALL NOT BE ALLOWED.

RESTRICTIONS: THE REMOVAL OF DETERIORATED CONCRETE SHALL PROCEED AS DIRECTED BY THE ENGINEER. IF REMOVAL EXTENDS MORE THAN 1 1/2" BEHIND THE MAIN REINFORCING BARS, THE REMOVAL WORK SHALL BE STOPPED AND THE ENGINEER NOTIFIED IMMEDIATELY.

MAXIMUM HAMMER SIZE USED TO REMOVE DETERIORATED CONCRETE SHALL BE 15 POUNDS.

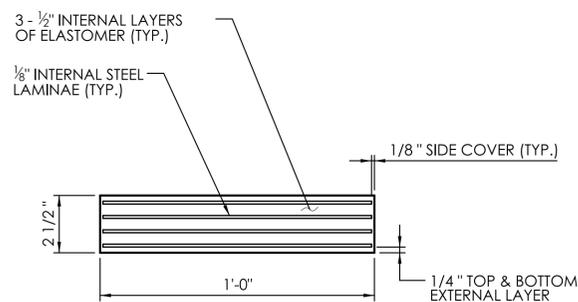


**ELASTOMERIC BEARING NOTES:**

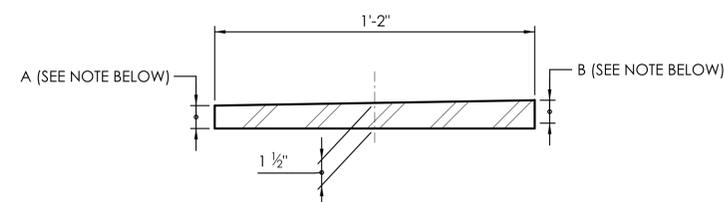
1. THE PROPOSED C OF BRG. AT ABUT. 1 IS SHIFTED 1" TOWARDS FRONT FACE OF THE ABUTMENT FROM ITS ORIGINAL LOCATION TO ACCOMMODATE PROPOSED BEARING INSTALLATION.
2. ELASTOMERIC BEARING PADS SHALL BE NEOPRENE, HARDNESS (SHORE "A" DUROMETER) OF 60, GRADE 3.
3. THE COST OF THE BEARING INCLUDING LOAD PLATE SHALL BE PAID UNDER "BEARING REPLACEMENT WITH ELASTOMERIC BEARING PADS".
4. DESIGN LOADS: (DESIGN METHOD = DESIGN METHOD A) UNFACTORED DESIGN LOADS:  
 MAXIMUM DEAD LOAD 60 KIPS  
 MAXIMUM LIVE LOAD (+ IMPACT) 81 KIPS
5. SOLE PLATES, LOAD PLATES, PLATES OVER EXISTING HOLES IN THE BOTTOM FLANGES, BOLTS, NUTS AND WASHERS SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIAL PROVISION FOR "ABRASIVE BLAST CLEANING AND FIELD PAINTING OF EXISTING BRIDGE (SITE NO.1)". THE COST OF BEVELED SOLE PLATE, PLATES OVER EXISTING HOLES IN THE BOTTOM FLANGES, NUTS, BOLTS AND WASHERS SHALL BE INCLUDED UNDER ITEM "STRUCTURAL STEEL".
6. THE TOP OF THE BEARING SHOULD BE VULCANIZED UNDER HEAT AND PRESSURE TO A STEEL LOAD PLATE TO FACILITATE INSTALLATION. THE LOAD PLATE SHOULD BE BOLTED TO A BEVELED SOLE PLATE.
7. BEARINGS SHOULD BE INSTALLED AT TEMPERATURES BETWEEN 40°F & 85°F. INSTALLATION TEMPERATURES OUTSIDE THIS RANGE WILL REQUIRE ADJUSTMENT.

**JACKING NOTES:**

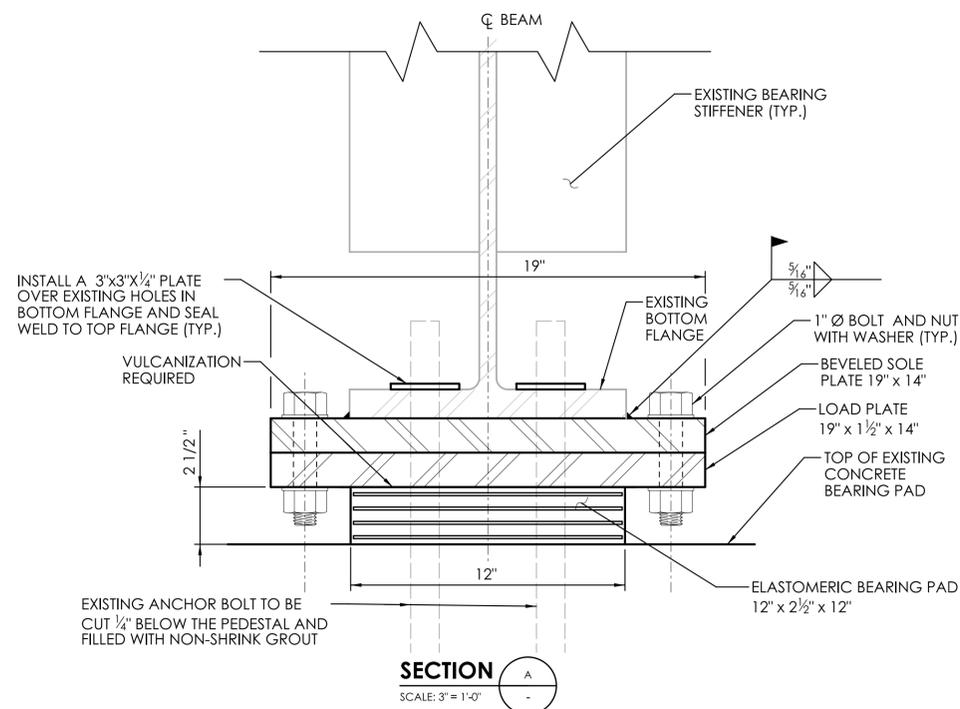
1. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL HIS PROPOSED METHOD OF JACKING OF EXISTING SUPERSTRUCTURE FOR BEARING REPLACEMENT.
2. JACKING STIFFENERS AND STRENGTHENING OF CONNECTIONS DURING JACKING OPERATIONS MAY BE REQUIRED BASED ON THE JACKING METHOD USED. THE CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS FOR REVIEW AND APPROVAL BASED ON HIS INTENDED JACKING METHOD.
3. JACKING LOADS INCLUDED IN BEAM JACKING DATA TABLE ARE SERVICE LOADS.
4. THE DIFFERENTIAL LIFT BETWEEN ADJACENT BEAMS SHALL NOT EXCEED 1/8" AT ANY TIME DURING JACKING OR LOWERING OF THE STRUCTURE.
5. JACKING OF EXISTING STRUCTURE SHALL BE DONE AFTER STEEL REPAIRS AND REPAIRS TO THE SUBSTRUCTURE SUPPORTING THE JACKS HAVE BEEN COMPLETED.
6. ALL WORK RELATED TO JACKING EXISTING SUPERSTRUCTURE SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIAL PROVISION "JACKING EXISTING BEAMS".



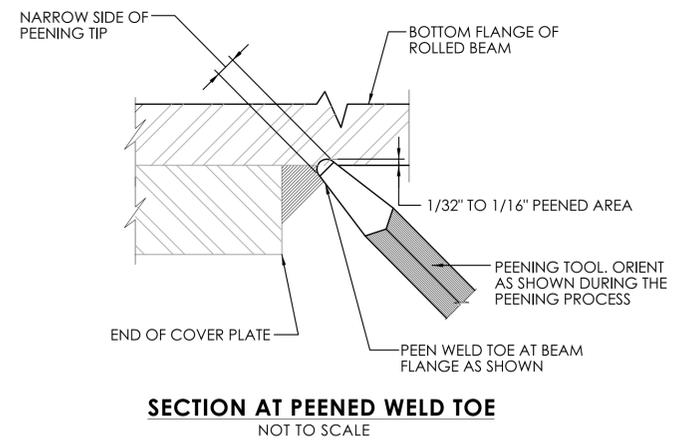
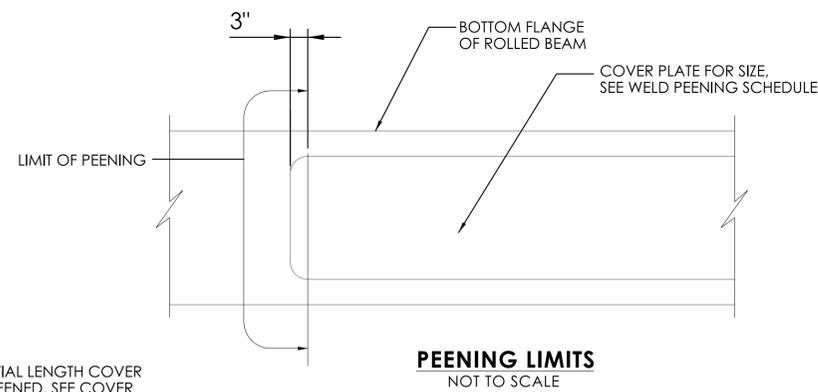
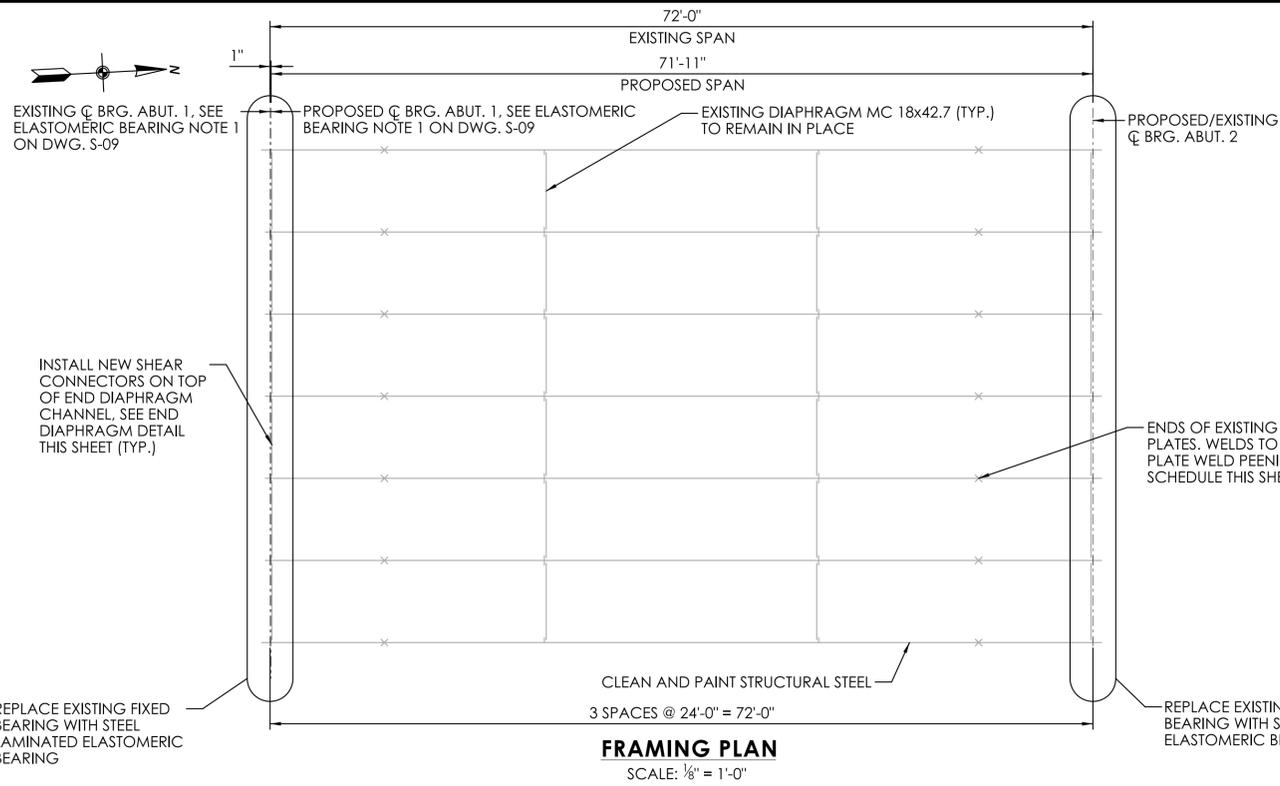
BEAM JACKING DATA				
BEAM	STEEL ONLY LOAD	NON COMPOSITE DEAD LOAD	COMPOSITE DEAD LOAD	TOTAL DEAD LOAD
EXT. BEAM	9 K	26 K	28 K	63 K
INT. BEAM	9 K	29 K	23 K	61 K



NOTE:  
PRIOR TO FABRICATION OF BEVELED SOLE PLATES, DIMENSIONS 'A' AND 'B' SHALL BE FIELD MEASURED BY THE CONTRACTOR.



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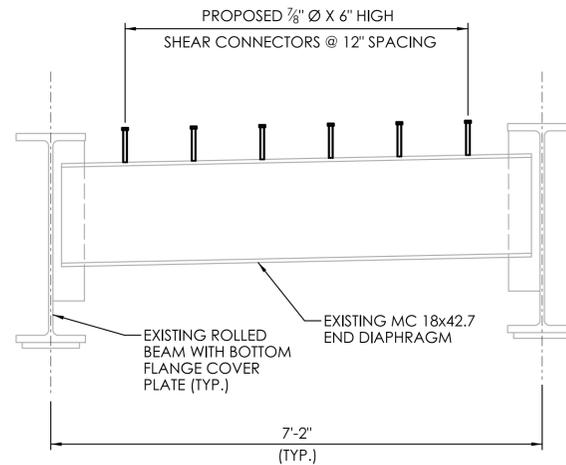
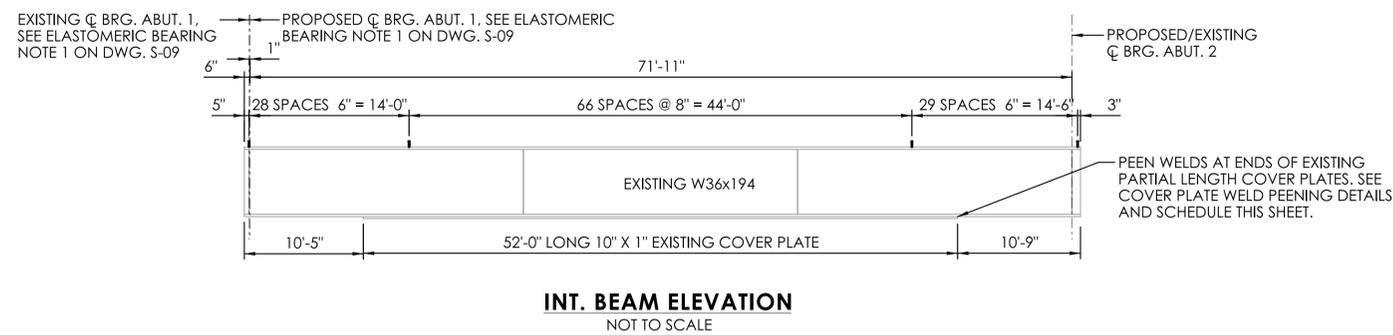
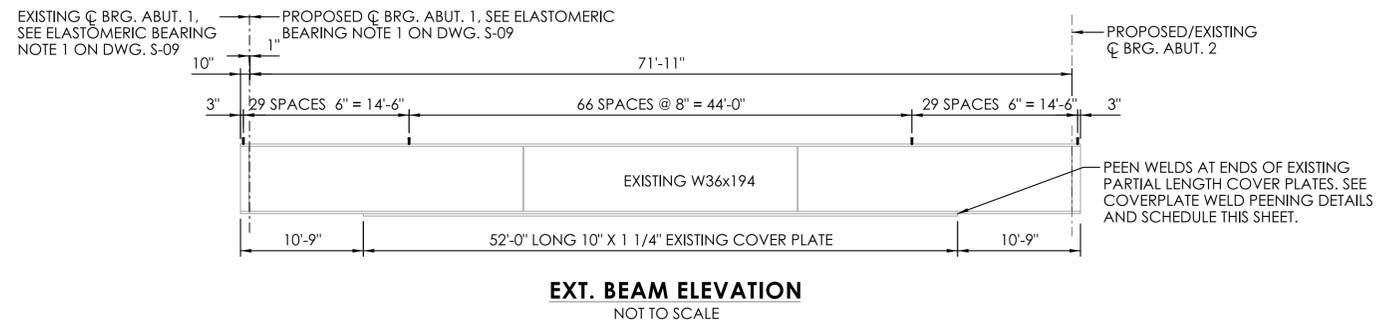
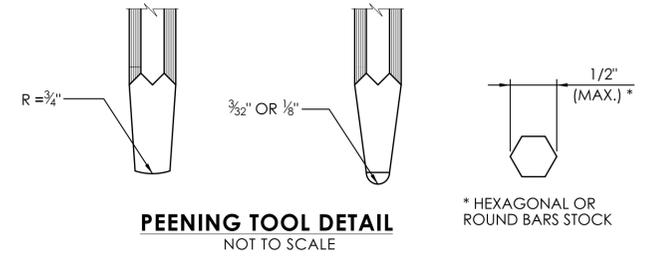


**COVER PLATE WELD PEENING SCHEDULE**

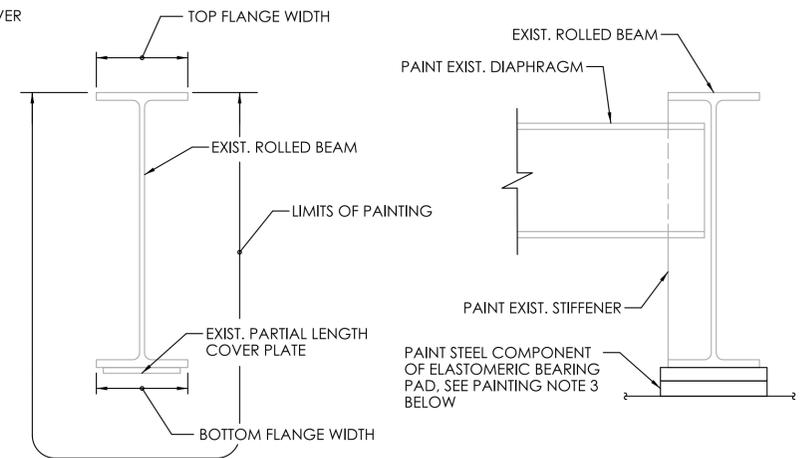
SPAN	GIRDER	COVER PLATE SIZE	NUMBER OF PEENED WELDS
1	G1 & G7	10" x 1 1/4"	4
1	G2 - G6	10" x 1"	10

**PEENING COVER PLATE WELDS**  
NOT TO SCALE

- PEENING COVER PLATE NOTES:**
1. PEENING COVER PLATE WELDS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIAL PROVISION FOR ITEM "PEENING COVER PLATE END WELDS".
  2. PEENING COVER PLATES SHALL BE PAID FOR UNDER THE ITEM "PEENING COVER PLATE WELDS".



- NOTE:**
1. PROPOSED SHEAR CONNECTORS SHALL BE PAID FOR UNDER ITEM "SHEAR CONNECTORS".



**PAINTING NOTES:**

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIAL PROVISION "ABRASIVE BLAST CLEANING AND FIELD PAINTING OF STRUCTURE (SITE NO. 1)."
2. THE CONTAINMENT SYSTEM SHALL BE DESIGNED BY THE CONTRACTOR AND REVIEWED BY THE ENGINEER IN ACCORDANCE WITH THE SPECIAL PROVISION "CLASS 1 - CONTAINMENT AND COLLECTION OF SURFACE PREPARATION (SITE NO. 1)."
3. ELASTOMERIC BEARING PADS SHALL NOT BE PAINTED.

**EXISTING BEAM NOTES:**

1. SPIRALS ON THE TOP FLANGES OF THE EXISTING BEAMS SHALL BE REMOVED PRIOR TO INSTALLATION OF PROPOSED SHEAR CONNECTORS. THE WORK SHALL BE INCLUDED IN THE COST OF THE ITEM "REMOVAL OF COCONCRETE BRIDGE DECK (SITE NO. 1)".
2. FOR PROPOSED SHEAR CONNECTOR DETAIL, SEE NEXT SHEET.

**EXISTING CAMBER TABLE AT MIDSPAN**

BEAM NO.	EXISTING STRUCTURAL STEEL (IN.)	EXISTING TOTAL CAMBER (IN.)	EXISTING VERTICAL CURVE ORDINATE (IN.)
B1	0.313	2.875	2.562
B2	0.375	2.875	2.500
B3	0.375	2.875	2.500
B4	0.375	2.875	2.500
B5	0.375	2.875	2.500
B6	0.375	2.875	2.500
B7	0.313	2.875	2.562

**EXISTING CAMBER NOTES:**

1. CAMBERS DUE TO EXISTING STEEL BEAMS, STEEL DIAPHRAGMS AND TOTAL CAMBERS ARE BASED ON EXISTING PLANS (SEE DWG. S-17).
2. THE EXISTING VERTICAL CURVE ORDINATE SHOWN IN THIS TABLE IS AFTER THE EXISTING DECK IS REMOVED AND PRIOR TO PLACEMENT OF THE PROPOSED DECK. IT IS OBTAINED BY SUBTRACTING EXISTING STRUCTURAL STEEL CAMBER FROM EXISTING TOTAL CAMBER.
3. THE CONTRACTOR SHALL VERIFY THE EXISTING VERTICAL CURVE ORDINATE AFTER EXISTING DECK IS REMOVED AND NOTIFY THE ENGINEER IF THE FIELD MEASUREMENTS ARE MORE THAN 1/2" DIFFERENT THAN THE VALUES SHOWN.

**PROPOSED DEAD LOAD DEFLECTIONS AT MIDSPAN**

BEAM NO.	NON COMPOSITE DEAD LOAD (EXISTING STEEL DEFLECTION EXCLUDED) (IN.)	COMPOSITE DEAD LOAD (IN.)	TOTAL DEAD LOAD CAMBER (IN.)
B1	0.961	0.600	1.561
B2	1.124	0.484	1.608
B3	1.124	0.484	1.608
B4	1.124	0.484	1.608
B5	1.124	0.484	1.608
B6	1.124	0.484	1.608
B7	0.961	0.600	1.561

**STRUCTURAL STEEL NOTES:**

1. STRUCTURAL STEEL (LOW ALLOY) SHALL CONFORM TO AASHTO M270, GRADE 50 T2.
2. WELDING DETAILS, PROCEDURES AND TESTING METHODS SHALL CONFORM TO THE CURRENT EDITION OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE, UNLESS OTHERWISE NOTED ON THE PLANS.
3. STRUCTURAL STEEL FABRICATORS SHALL BE CERTIFIED UNDER THE AISC CERTIFICATION PROGRAM CATEGORY BRIDGE FABRICATOR SIMPLE (SBR.)
4. THE CONTRACTOR SHALL TAKE THE PROPER PRECAUTIONS TO ENSURE THE STABILITY OF ALL STRUCTURAL ELEMENTS UNTIL THE TOTAL STRUCTURE IS IN BEING.
5. NO ATTACHMENTS OTHER THAN THOSE SHOWN ON THE PLANS SHALL BE FILLET WELDED, PLUG WELDED OR TACK WELDED TO THE BEAMS.

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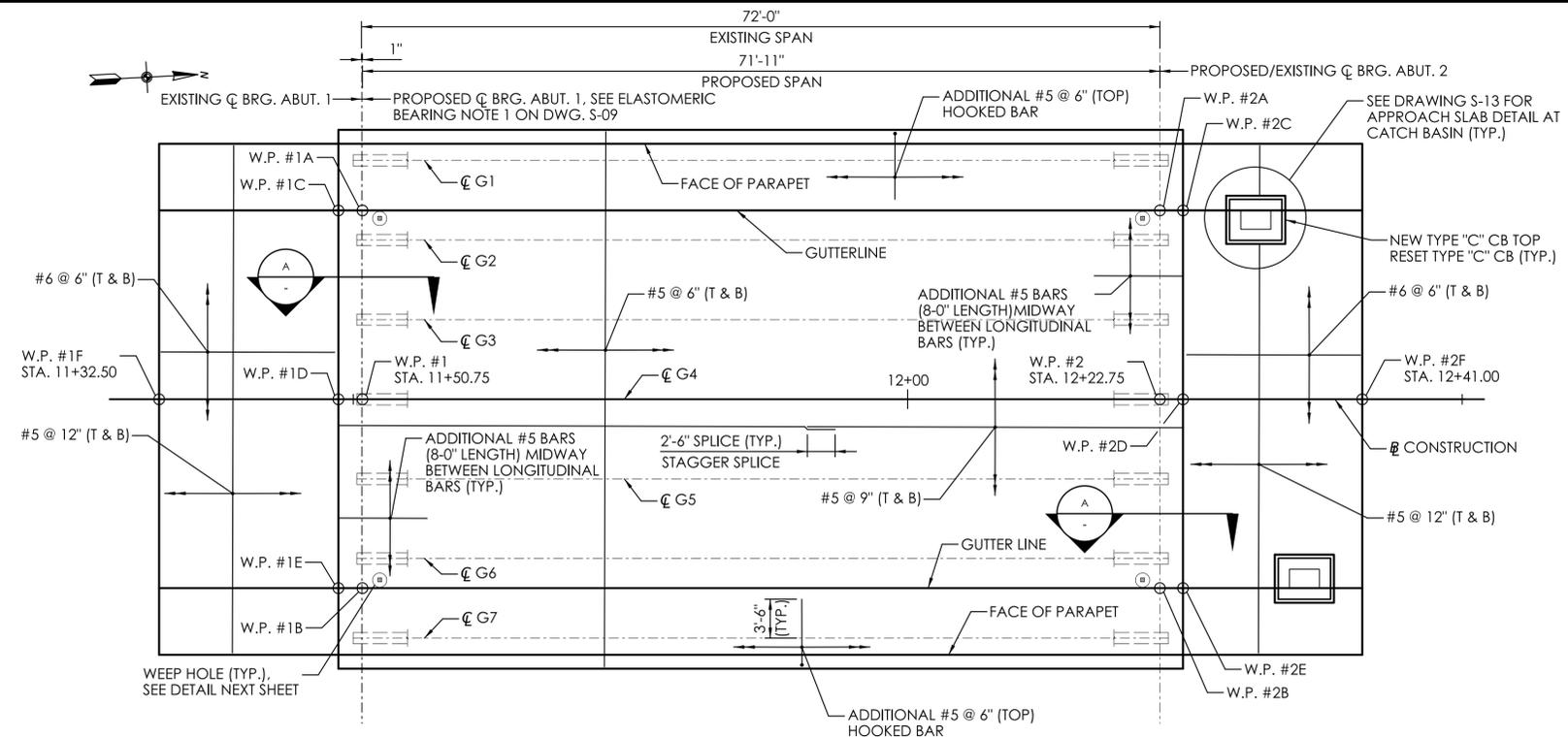
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CHECKED BY: VLL  
SCALE AS NOTED

SIGNATURE/BLOCK: **GMP**  
GMP ASSOCIATES, INC.  
115 GLASTONBURY BLVD.  
GLASTONBURY, CT 06033

CITY OF BRISTOL

PROJECT NUMBER: 0017-0193  
PROJECT DESCRIPTION: REHABILITATION OF BRIDGE NO. 04488, MELLEEN STREET OVER PEQUABUCK RIVER  
TOWN(S): BRISTOL  
DRAWING TITLE: FRAMING PLAN, EXISTING STEEL MODIFICATION AND PAINTING DETAILS

DRAWING NO. S-10  
SHEET NO.

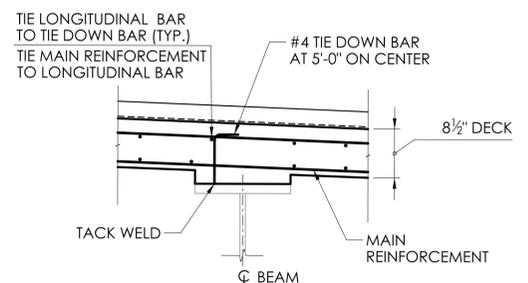


NOTE: SIDEWALK AND PARAPET REBARS ARE NOT SHOWN FOR CLARITY. SEE DWG. S-12 FOR DETAILS.

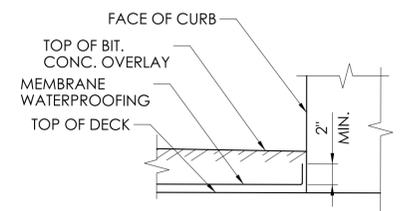
**DECK PLAN**  
SCALE: 1/8" = 1'-0"

FINISHED GRADE ELEVATION											
BEAM	ABUT. 1	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	ABUT. 2
B1	284.47	284.64	284.77	284.90	285.03	285.16	285.29	285.42	285.55	285.68	285.81
B2	284.62	284.79	284.92	285.05	285.18	285.31	285.43	285.56	285.69	285.82	285.95
B3	284.76	284.93	285.06	285.19	285.32	285.45	285.58	285.71	285.84	285.97	286.10
B4	284.90	285.07	285.20	285.33	285.46	285.59	285.72	285.85	285.98	286.11	286.24
B5	284.76	284.93	285.06	285.19	285.32	285.45	285.58	285.71	285.84	285.97	286.10
B6	284.62	284.79	284.92	285.05	285.18	285.31	285.43	285.56	285.69	285.82	285.95
B7	284.47	284.64	284.77	284.90	285.03	285.16	285.29	285.42	285.55	285.68	285.81

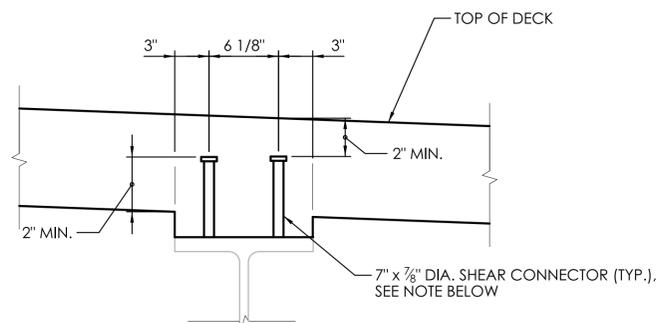
NOTE: THE ELEVATIONS IN THE TABLE ARE FINISHED ELEVATIONS OF TOP OF CONCRETE DECK.



**TIE DOWN FOR SLAB REINFORCEMENT**  
SCALE: 3/4" = 1'-0"

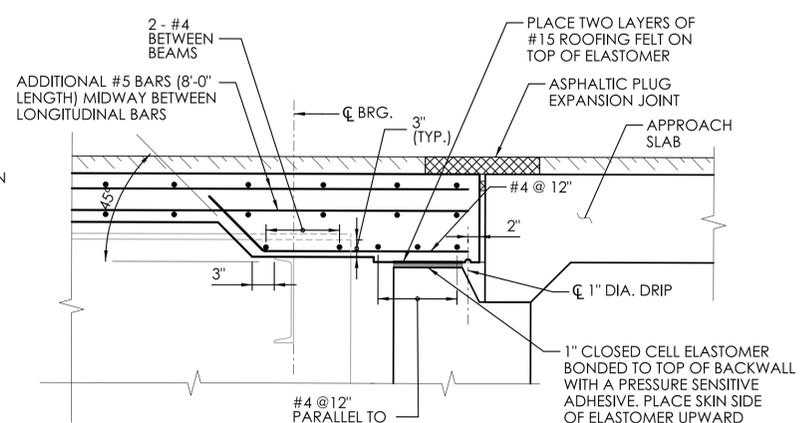


**TREATMENT OF MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC) AT GUTTER**  
NOT TO SCALE

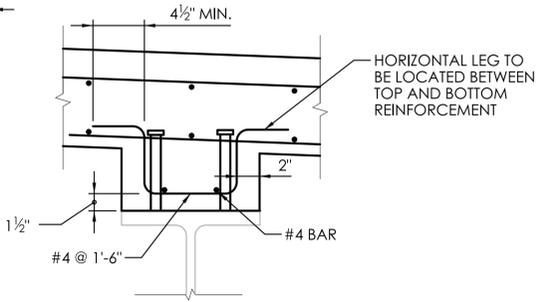


**NOTE:**  
THE LENGTH OF THE PROPOSED SHEAR CONNECTORS IS BASED ON THE EXISTING BEAM CAMBER INFORMATION TAKEN FROM THE EXISTING PLANS AND SHOWN IN THE TABLE ON THE PREVIOUS DRAWING. SHOULD THE ACTUAL BEAM CAMBER, MEASURED IN THE FIELD, BE DIFFERENT, THE LENGTH OF THE PROPOSED SHEAR CONNECTORS SHALL BE ADJUSTED ACCORDINGLY. SEE EXISTING CAMBER NOTES ON PREVIOUS DRAWINGS FOR ADDITIONAL INFORMATION.

**SHEAR CONNECTOR DETAIL**  
SCALE: 1 1/2" = 1'-0"

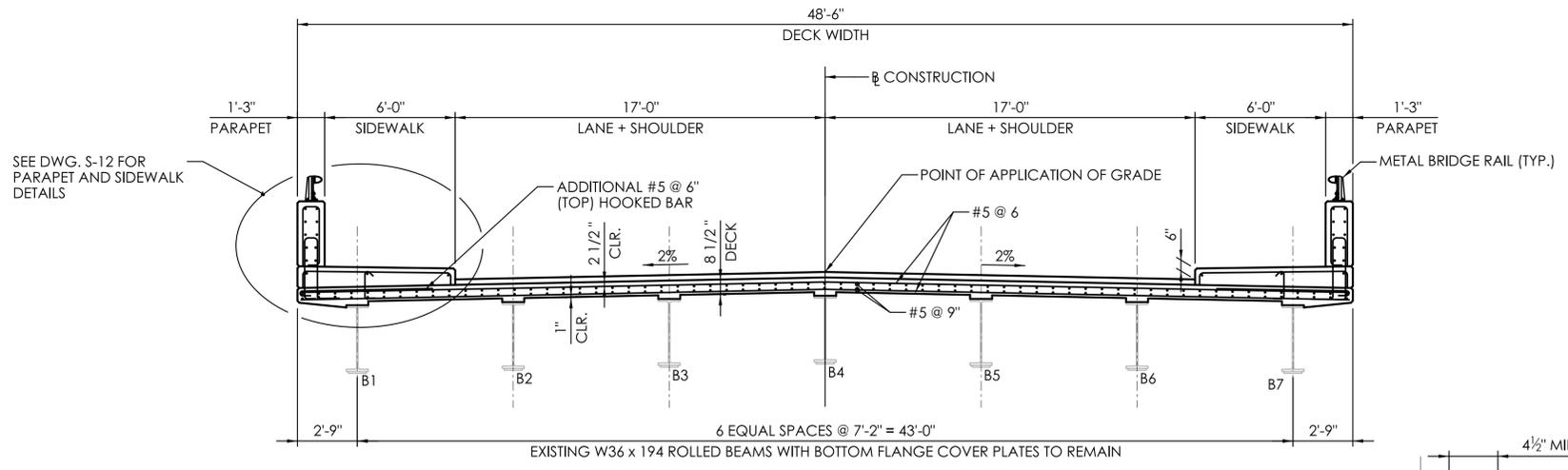


**SECTION A**  
SCALE: 3/4" = 1'-0"

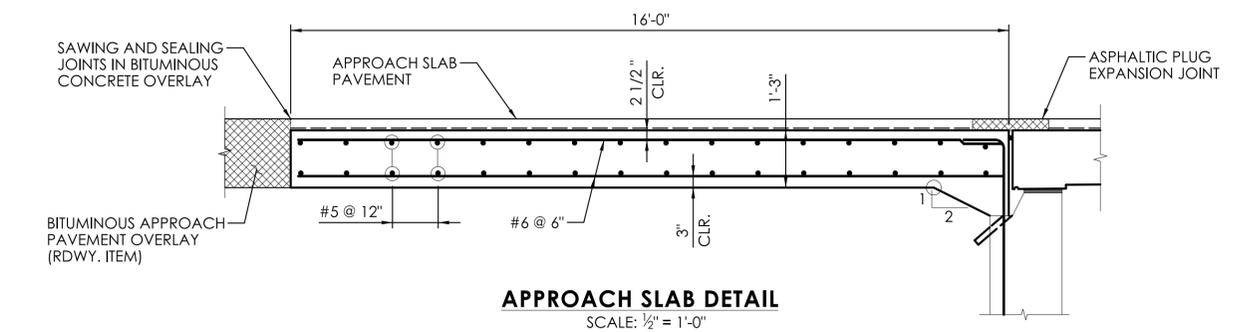


**NOTE:**  
HAUNCH REINFORCEMENT SHOWN IS FOR HAUNCH DEPTH OVER 4". IF THE HAUNCH DEPTH IS GREATER THAN 6", THE ENGINEER SHALL BE NOTIFIED. REINFORCEMENT IS NOT REQUIRED FOR HAUNCH DEPTH LESS THAN 4".

**HAUNCH REINFORCEMENT DETAIL**  
SCALE: 1 1/2" = 1'-0"



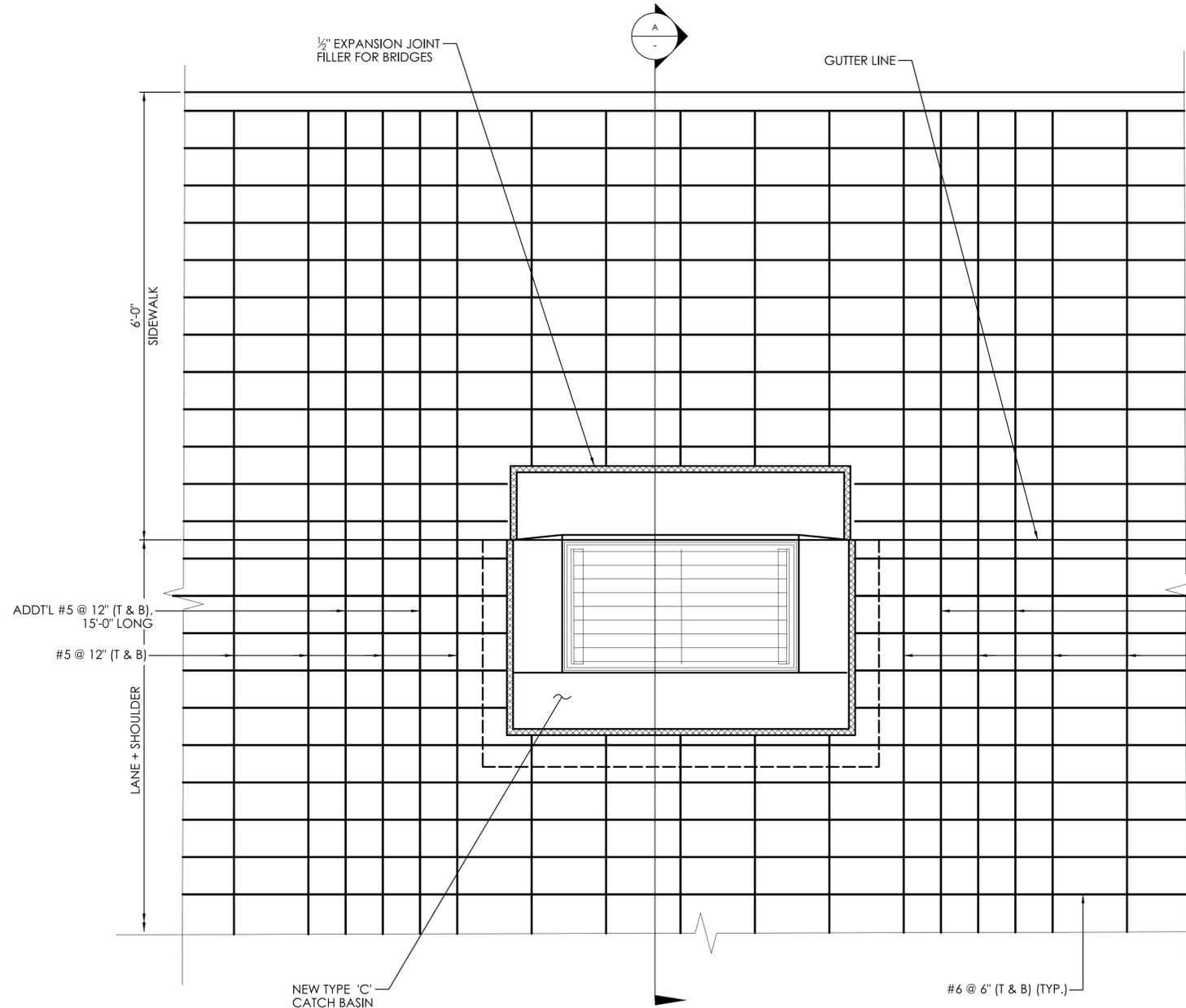
**TYPICAL SECTION**  
SCALE: 1/4" = 1'-0"



**APPROACH SLAB DETAIL**  
SCALE: 1/2" = 1'-0"

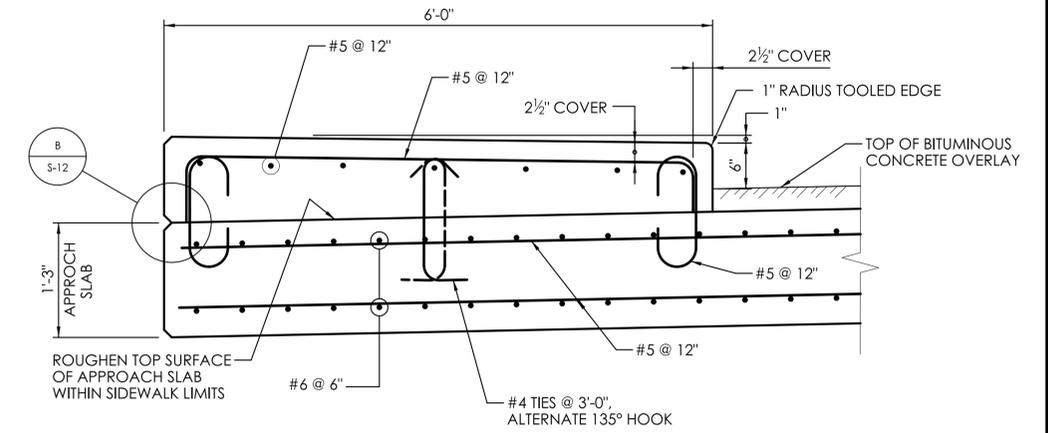
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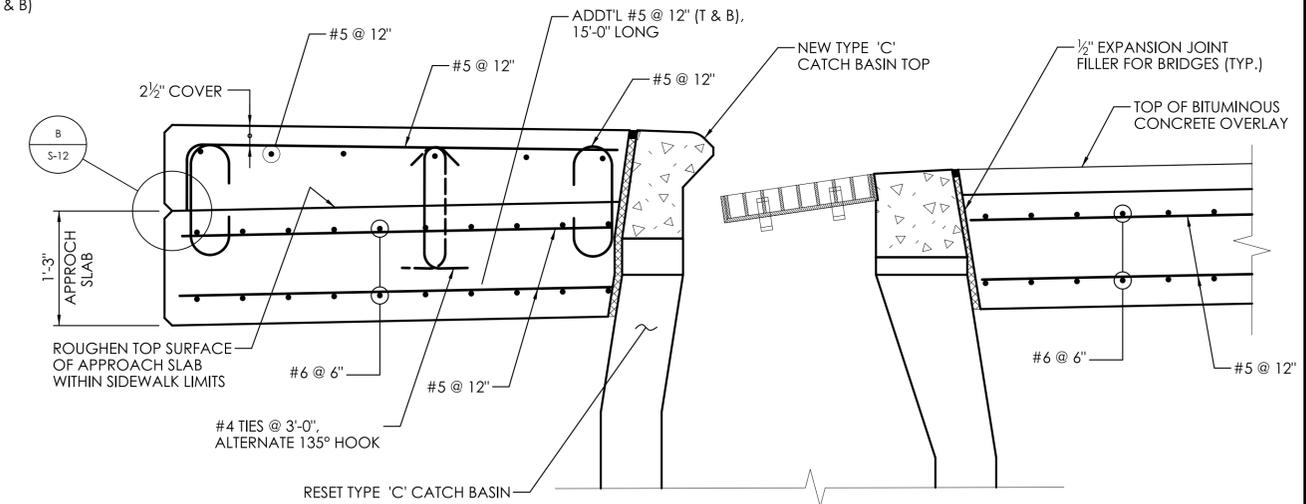
**APPROACH SLAB DETAIL AT CATCH BASIN**

SCALE: 1" = 1'-0"



**SIDEWALK OVER APPROACH SLAB DETAIL**

SCALE: 1" = 1'-0"



**SECTION**

SCALE: 1" = 1'-0"

**BITUMINOUS CONCRETE PLACEMENT  
AT ASPHALTIC PLUG JOINTS (APJ)**

- THE REQUIREMENTS OF SPECIAL PROVISION SECTION 4.06 SHALL BE MET EXCEPT IN LIEU OF DENSITY TESTING. THE METHODS DESCRIBED BELOW SHALL BE FOLLOWED TO ASSURE PROPER COMPACTION.
- TOP LIFT MUST BE UNIFORM THICKNESS; INTERMEDIATE LIFTS CAN BE PLACED AT 1 1/4" TO 2 1/2" COMPACTED.
- REQUIREMENTS FOR PROPER COMPACTION:
  - MINIMUM 265°F DELIVERY TEMPERATURE OF MATERIAL. PLACE AND SPREAD MATERIAL BEFORE IT COOLS TO 260°F. MATERIAL BELOW TEMPERATURE REQUIREMENT WILL BE REJECTED.
  - COMPACT NON-SURFACE LIFTS WITH VIBRATORY PLATE COMPACTOR MEETING THE FOLLOWING REQUIREMENTS:
    - DESIGNED TO COMPACT ASPHALT
    - EQUIPPED WITH A WATER TANK
    - CENTRIFUGAL FORCE 3200 LBS TO 6000 LBS
    - WEIGHS MINIMUM 160 LBS (WITHOUT WATER)
    - MINIMUM 4400 VIBRATIONS PER MINUTE
  - COMPACT TOP LIFT WITH 3 1/2 TO 4 1/2 TON DOUBLE DRUM ROLLER, DESIGNED TO COMPACT BITUMINOUS CONCRETE.
  - PROVIDE NUMBER OF PASSES BASED ON LIFT THICKNESS AS FOLLOWS:
 

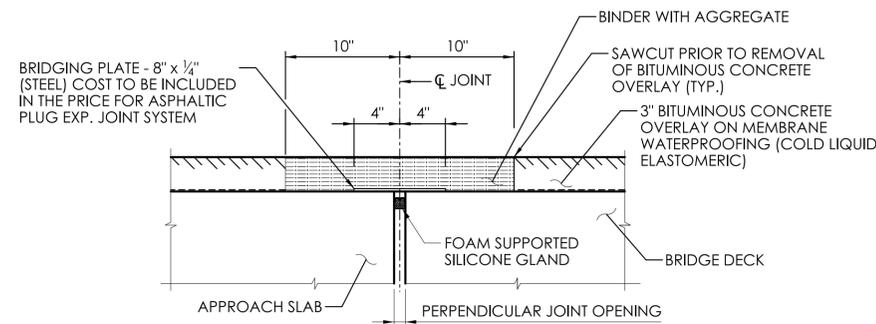
LIFT THICKNESS (INCHES)	NUMBER OF PASSES
1 1/4 TO 1 1/2	8
1 1/2 TO 2	10
2 TO 2 1/2	12
- ADDITIONAL COMPACTING EQUIPMENT MAY BE REQUIRED TO COMPLETE LIFT COMPACTION BEFORE MATERIAL COOLS TO 180°F.
- AT CORNERS OR OTHER AREAS INACCESSIBLE TO PLATE TAMPER, HAND TAMP 20 TIMES MINIMUM BEFORE MATERIAL COOLS TO 180°F.
- ALTERNATE EQUIPMENT MAY BE REQUESTED AS A SUPPLEMENT TO CONTRACTOR'S QC PLAN. THE EQUIPMENT AND PROCEDURES MUST BE APPROVED BY THE ENGINEER PRIOR TO USE.
- IF THESE METHODS ARE NOT PERFORMED TO THE SATISFACTION OF THE ENGINEER, DENSITY VERIFICATION MAY BE REQUIRED WHEREIN THE CONTRACTOR SHALL PROVIDE DENSITY TESTING WITH A QC NUCLEAR DENSITY GAUGE OR COLLECT CORE SAMPLES AS SPECIFIED IN SECTION 4.06.

**SUGGESTED SEQUENCE OF WORK**

- STEP 1: INSTALL TEMPORARY BACKER ROD FLUSH WITH THE BRIDGE DECK AND APPROACH SLAB OR BACKWALL.
- STEP 2: INSTALL MEMBRANE WATERPROOFING TO THE TOP OF DECK AND APPROACH SLAB WITHIN THE LIMITS SHOWN.
- STEP 3: PLACE BITUMINOUS CONCRETE OVERLAY AS INDICATED ON THE PLANS.
- STEP 4: SAW-CUT PAVEMENT FULL DEPTH AT 10" EACH SIDE OF CENTERLINE OF JOINT, AND REMOVE ALL PAVEMENT MATERIAL BETWEEN SAW-CUTS. TO BE PAID FOR UNDER THE ITEM "ASPHALTIC PLUG EXPANSION JOINT SYSTEM".
- STEP 5: INSTALL PROPOSED ASPHALTIC PLUG EXPANSION JOINT SYSTEM WITH FOAM SUPPORTED SILICONE GLAND AND BRIDGING PLATE. LOCATING PINS SHALL NOT BE USED TO SECURE THE BRIDGING PLATE.
- STEP 6: INSTALL CRACK SEAL AT THE INTERFACE OF CURB AND BITUMINOUS CONCRETE OVERLAY. CRACK SEALING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM "JOINT AND CRACK SEALING OF BITUMINOUS CONCRETE PAVEMENT."

**ASPHALTIC PLUG EXPANSION JOINT SYSTEM NOTES**

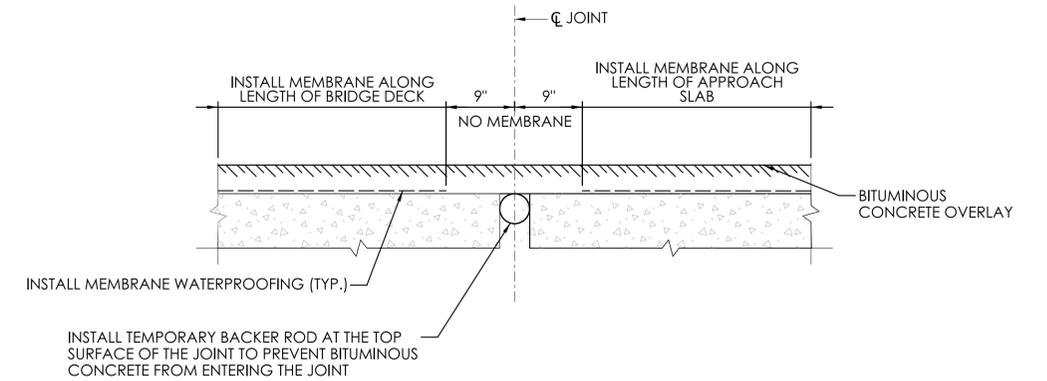
- A BRIDGING PLATE SHALL BE USED TO SPAN THE JOINT BETWEEN A DECK END AND A CONCRETE APPROACH SLAB.
- TEMPORARY CLOSED CELL BACKER ROD DIAMETER SHALL BE DETERMINED AFTER MEASURING THE JOINT OPENING. THE ROD SHALL BE 25% LARGER THAN THE JOINT OPENING.
- INSTALLATION OF MEMBRANE WITHIN THE LIMITS SHOWN TO BE PAID UNDER THE ITEM, "MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC)".
- THE FURNISHING AND PLACING OF HMA S0.5 TO BE INCLUDED FOR PAYMENT UNDER THE ITEM "HMA S0.05".
- SAW-CUTTING AND REMOVAL OF PAVEMENT FOR JOINT INSTALLATION TO BE INCLUDED FOR PAYMENT UNDER THE ITEM "ASPHALTIC PLUG EXPANSION JOINT SYSTEM".
- INSTALLATION OF FOAM SUPPORTED SILICONE GLAND TO BE PAID UNDER THE ITEM "PERFORMED JOINT SEAL".
- ASPHALTIC PLUG EXPANSION JOINT SYSTEMS MAY BE INSTALLED ONLY WITHIN THE TEMPERATURE RANGE SPECIFIED IN THE SPECIAL PROVISION "ASPHALTIC PLUG EXPANSION JOINT SYSTEM". THE DESIGN DECK JOINT THERMAL MOVEMENT RANGE IS 0" - 1".



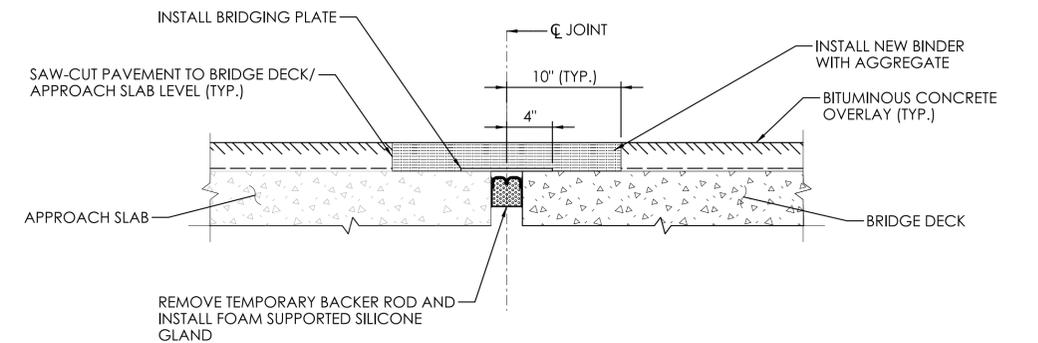
**ASPHALTIC PLUG EXPANSION JOINT DETAIL**

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

JOINT OPENING TABLE	
INSTALLATION TEMPERATURE	PERPENDICULAR JOINT OPENING
45° F	1"
55° F	1"
65° F	1"
75° F	7/8"
85° F	7/8"
95° F	7/8"



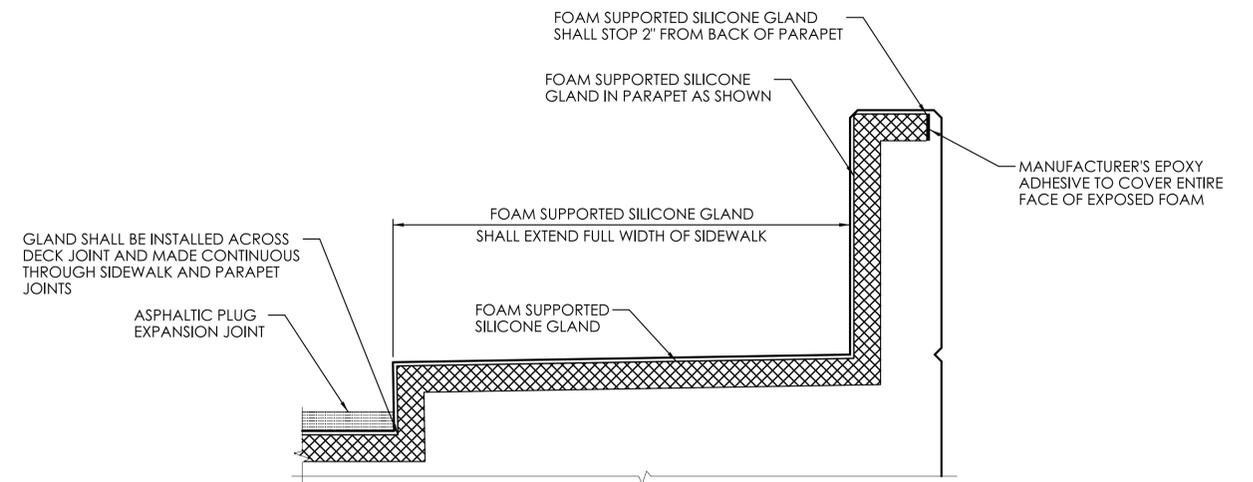
**PLACEMENT OF PAVEMENT ALONG THE BRIDGE**



**INSTALL ASPHALTIC PLUG EXPANSION JOINT**

**INSTALLATION OF ASPHALTIC PLUG JOINT WITH BRIDGING PLATE**

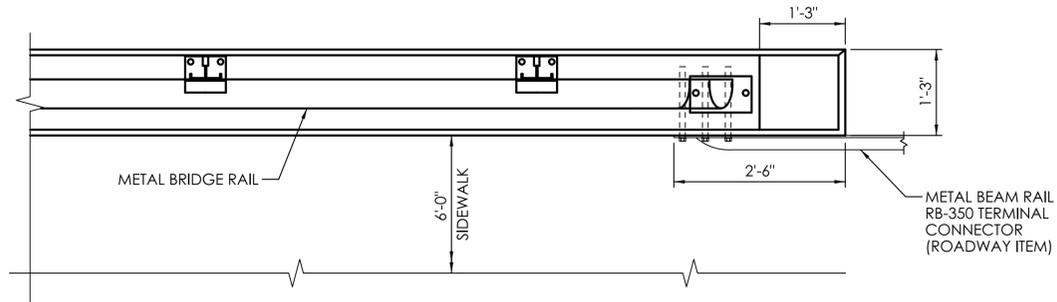
N.T.S.



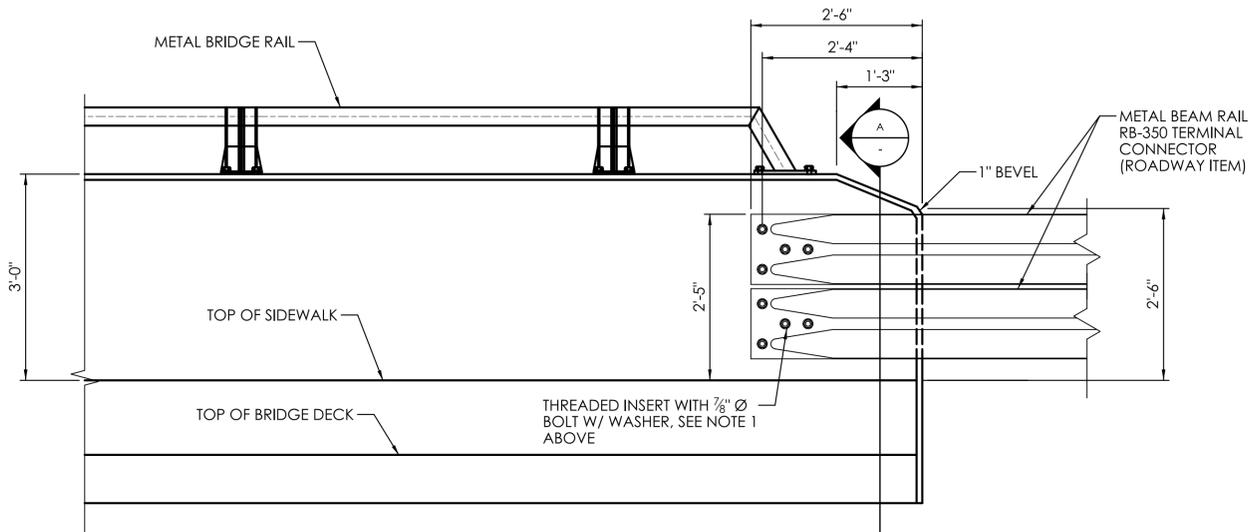
**ASPHALTIC PLUG JOINT AT PARAPET WITH SIDEWALK**

N.T.S.

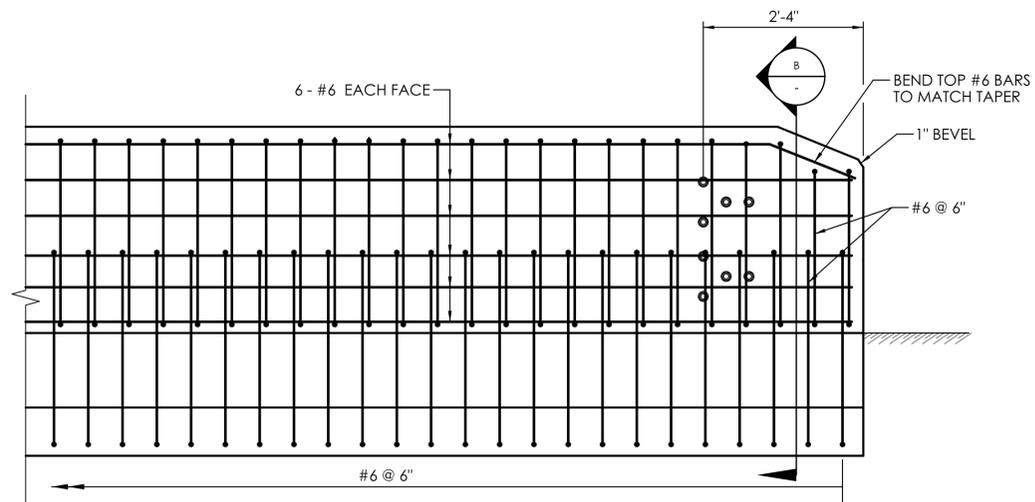
REV.	DATE	REVISION DESCRIPTION



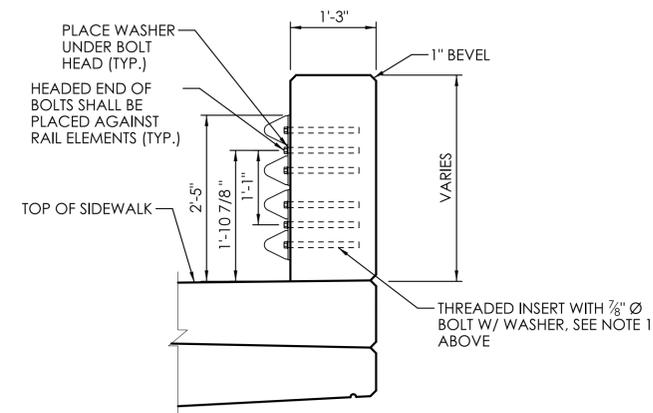
**PLAN**  
SCALE: 3/4" = 1'-0"



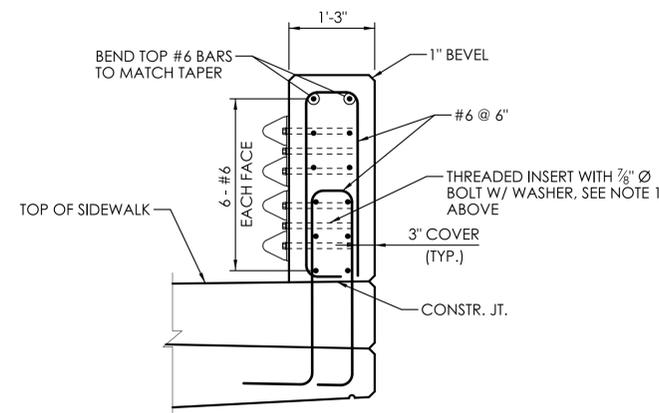
**ELEVATION**  
SCALE: 3/4" = 1'-0"



**ELEVATION - PARAPET REINFORCEMENT**  
SCALE: 3/4" = 1'-0"



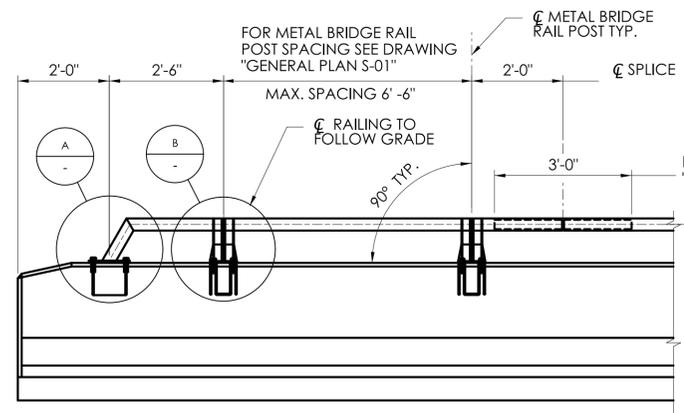
**SECTION A**  
SCALE: 3/4" = 1'-0"



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

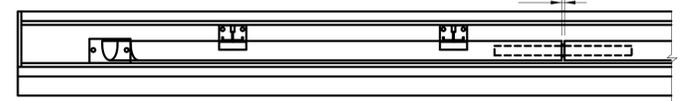
**NOTES:**

1. THREADED INSERTS FOR 7/8" Ø BOLT SHALL BE CAST-IN-PLACE AND SHALL BE PREQUALIFIED BY THE MANUFACTURER AS BEING CAPABLE OF DEVELOPING A NOMINAL SHEAR RESISTANCE OF 20 KIPS PER 7/8" Ø BOLT. 7/8" Ø BOLT AND THREADED INSERTS SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A325.
2. TOP OF END BLOCK AND TERMINAL CONNECTOR INSERT GROUP SHALL BE SLOPED TO MATCH THE PROFILE GRADE.
3. RAILWAY ELEMENTS SHALL BE PAID FOR UNDER THE APPLICABLE ROADWAY ITEMS.
4. ALL RAIL ANCHORAGE MATERIAL REQUIRED FOR END ATTACHMENT SHALL BE PAID FOR UNDER THE APPLICABLE ROADWAY ITEM.
5. DRILLING AND GROUTING ANCHORAGE BOLTS WILL BE PAID FOR UNDER THE GENERAL COST OF THE WORK OF INSTALLING MBR ANCHORAGE.
6. DRILLING THROUGH REINFORCEMENT WILL NOT BE ALLOWED. ADJUST THE REINFORCEMENT AS NECESSARY PRIOR TO POURING CONCRETE FOR END BLOCK.



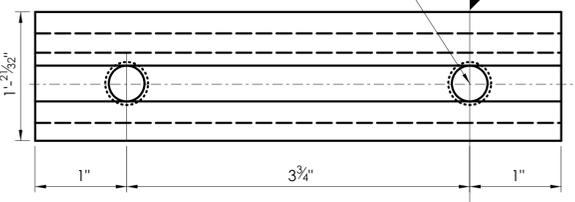
**ELEVATION**  
SCALE: 1/2" = 1'-0"

1/2" + OPEN JOINT DIMENSION AT REAL PANELS OVER OPEN JOINTS

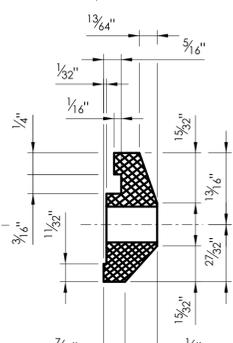


**PLAN**  
SCALE: 3/4" = 1'-0"

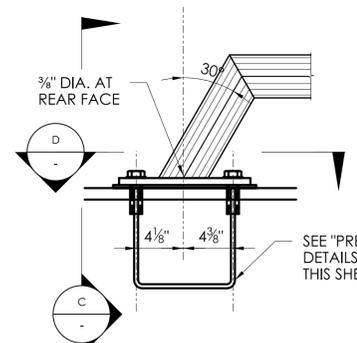
2 THREADED HOLES FOR 1/2" DIA. 13 NC X 1" LONG STAINLESS STEEL HEX HEAD BOLTS WITH ALUMINUM OR STAINLESS STEEL WASHERS.



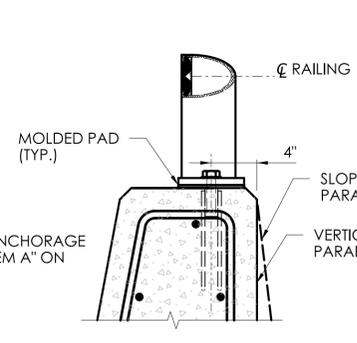
**POST CONNECTION DEVICE DETAILS**  
N.T.S.



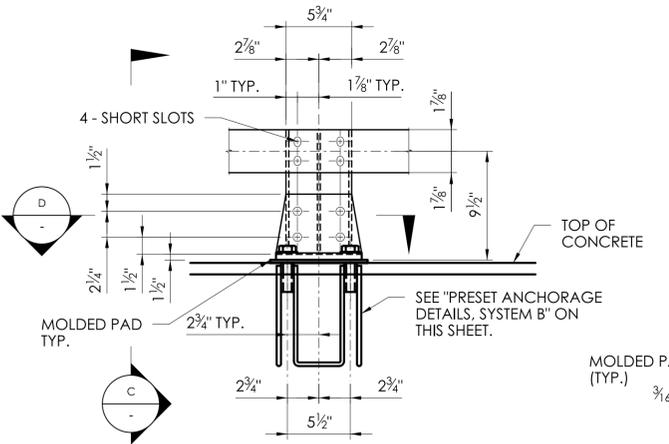
**SECTION**  
N.T.S.



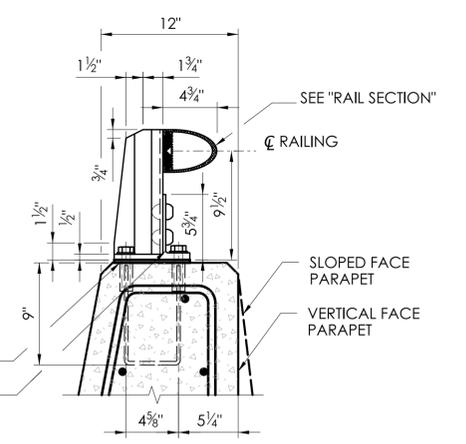
**DETAIL - END RAIL**  
SCALE: 1 1/2" = 1'-0"



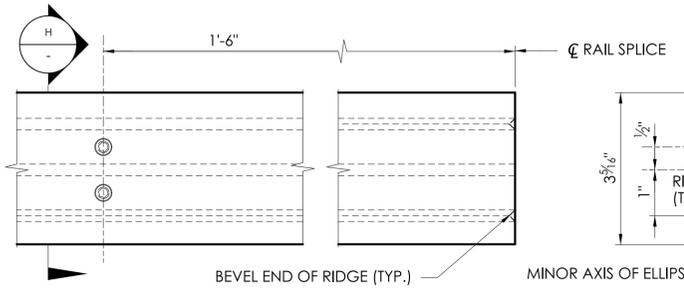
**DETAIL - END RAIL**  
SCALE: 1 1/2" = 1'-0"



**DETAIL - INTERIOR POST**  
SCALE: 1 1/2" = 1'-0"

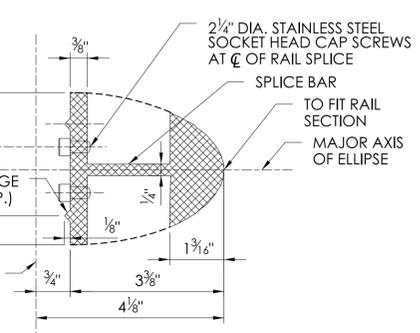


**DETAIL - INTERIOR POST**  
SCALE: 1 1/2" = 1'-0"



**ELEVATION OF SPLICE BAR**

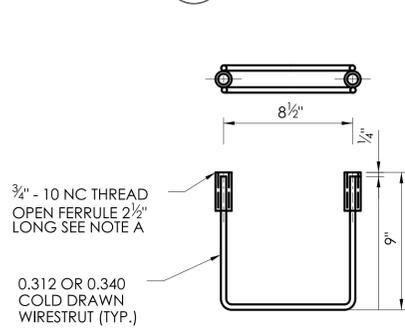
**RAIL SPLICE DETAILS**  
SCALE: 6" = 1'-0"



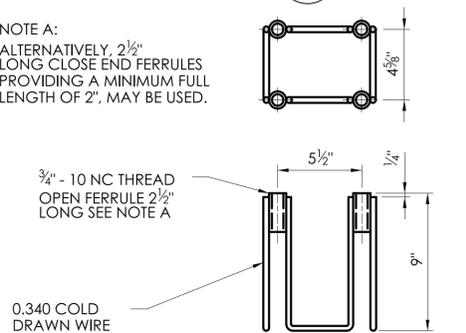
**SECTION**  
H

3/4" DIA. STAINLESS STEEL HEAVY HEX HEAD BOLT AND STAINLESS STEEL WASHER

**BOLT FOR PRESET ANCHORAGE**  
SCALE: 3" = 1'-0"



**SYSTEM "A"**

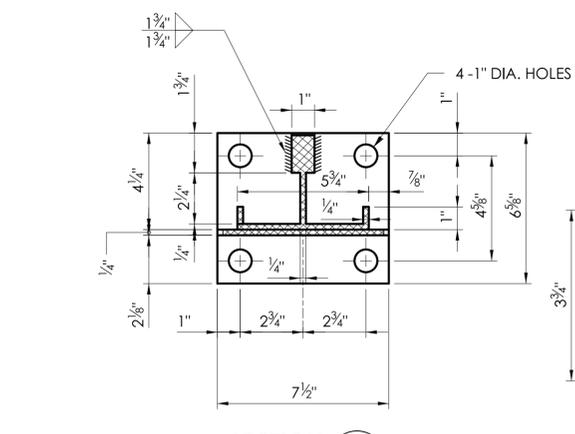


**SYSTEM "B"**

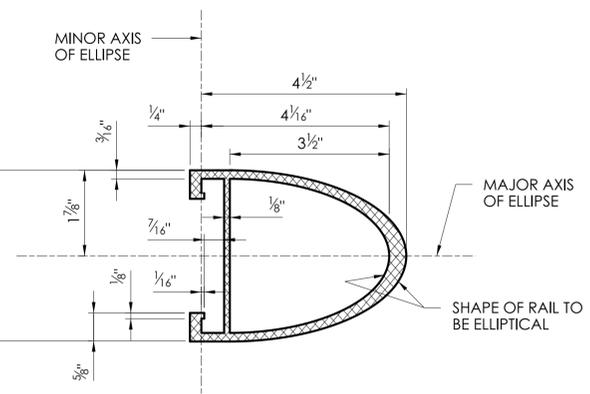
**PRESET ANCHORAGE DETAILS**  
N.T.S.

**NOTES:**

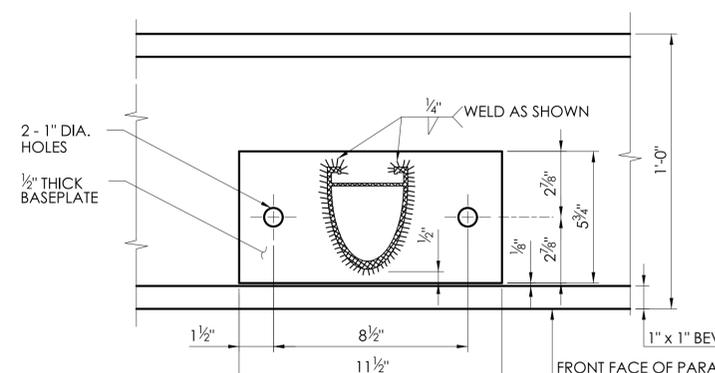
- ALUMINUM WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY "STRUCTURAL WELDING CODE-ALUMINUM", ANSI/AWS D1.2.
- RIVETING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 6.5 - RIVETING OF THE AASHTO SPECIFICATIONS FOR ALUMINUM STRUCTURES".
- METAL BRIDGE RAIL: THE RAILING POSTS, POST CONNECTION DEVICES, SPLICE BARS AND RAILS SHALL BE EXTRUDED ALUMINUM AND CONFORM TO THE REQUIREMENTS OF ASTM B221, ALUMINUM ALLOY 6061-T6 OR 6005-T5.
- SOCKET HEAD CAP SCREWS SHALL BE STAINLESS STEEL AND CONFORM TO THE REQUIREMENTS OF ASTM F837, GROUP 1 (ANSI TYPE 304).
- ALL BOLTS SHALL BE STAINLESS STEEL AND CONFORM TO THE REQUIREMENTS OF ASTM F593, GROUP 1, (ANSI TYPE 304). NUTS SHALL BE STAINLESS STEEL AND CONFORM TO THE REQUIREMENTS OF ASTM F594, GROUP 1. WASHERS SHALL BE STAINLESS AND CONFORM TO THE REQUIREMENTS OF ASTM A167, TYP302 THROUGH 305.
- CONE POINT RIVETS SHALL CONFORM TO ASTM B316, ALUMINUM ALLOY 6061-T6 OR ASTM B221, ALUMINUM ALLOY 6061-T6.
- LENGTHS OF RAIL ELEMENTS SHALL BE CONTINUOUS OVER FOUR RAIL POSTS WHEREVER POSSIBLE BUT IN NO CASE LESS THAN TWO. WELDING OF TWO OR MORE RAILS TO FORM AN ELEMENT WILL NOT BE ALLOWED. RAIL SPLICES SHALL BE LOCATED IN RAIL PANELS OVER OPEN JOINTS IN PARAPETS. SPLICE BARS SHALL HAVE A SLIDING FIT IN THE RAIL SECTIONS.
- ALUMINUM RAILINGS SHALL BE CAREFULLY ADJUSTED PRIOR TO FIXING IN PLACE TO INSURE PROPER MATCHING AT ABUTTING JOINTS AND CORRECT ALIGNMENT AND CURVATURE THROUGHOUT THEIR LENGTH. AFTER INSTALLATION, ALL RAILS AND POSTS SHALL BE FREE OF BURRS, SHARP EDGES AND IRREGULARITIES.
- PRESET ANCHORAGES: THE WIRE STRUTS SHALL BE COLD-DRAWN AND CONFORM TO ASTM A510, GRADE 1030. THE FERRULES SHALL CONFORM TO ASTM 108, GRADE 12L14. AFTER FABRICATION, THE PRESET ANCHORAGES SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153. THE BOLTS SHALL BE "FREE RUNNING" IN THE FERRULES AFTER GALVANIZATION.
- THE ANCHORAGE ASSEMBLIES SHALL BE INSTALLED PERPENDICULAR TO THE GRADE OF THE BRIDGE DECK. THE ANCHORAGES SHALL BE FIRMLY AND ACCURATELY HELD IN POSITION PRIOR TO AND DURING THE PLACING OF CONCRETE.
- MOLDED PADS: MOLDED PADS SHALL BE MANUFACTURED FROM NEW UNVULCANIZED ELASTOMER AND UNUSED SYNTHETIC FIBERS, WITH A WEIGHT PROPORTION OF FIBER CONTENT EQUAL TO APPROXIMATELY ONE-HALF OF THE TOTAL WEIGHT OF THE PAD.
- ANODIZING: METAL BRIDGE RAIL SHALL NOT BE ANODIZED.



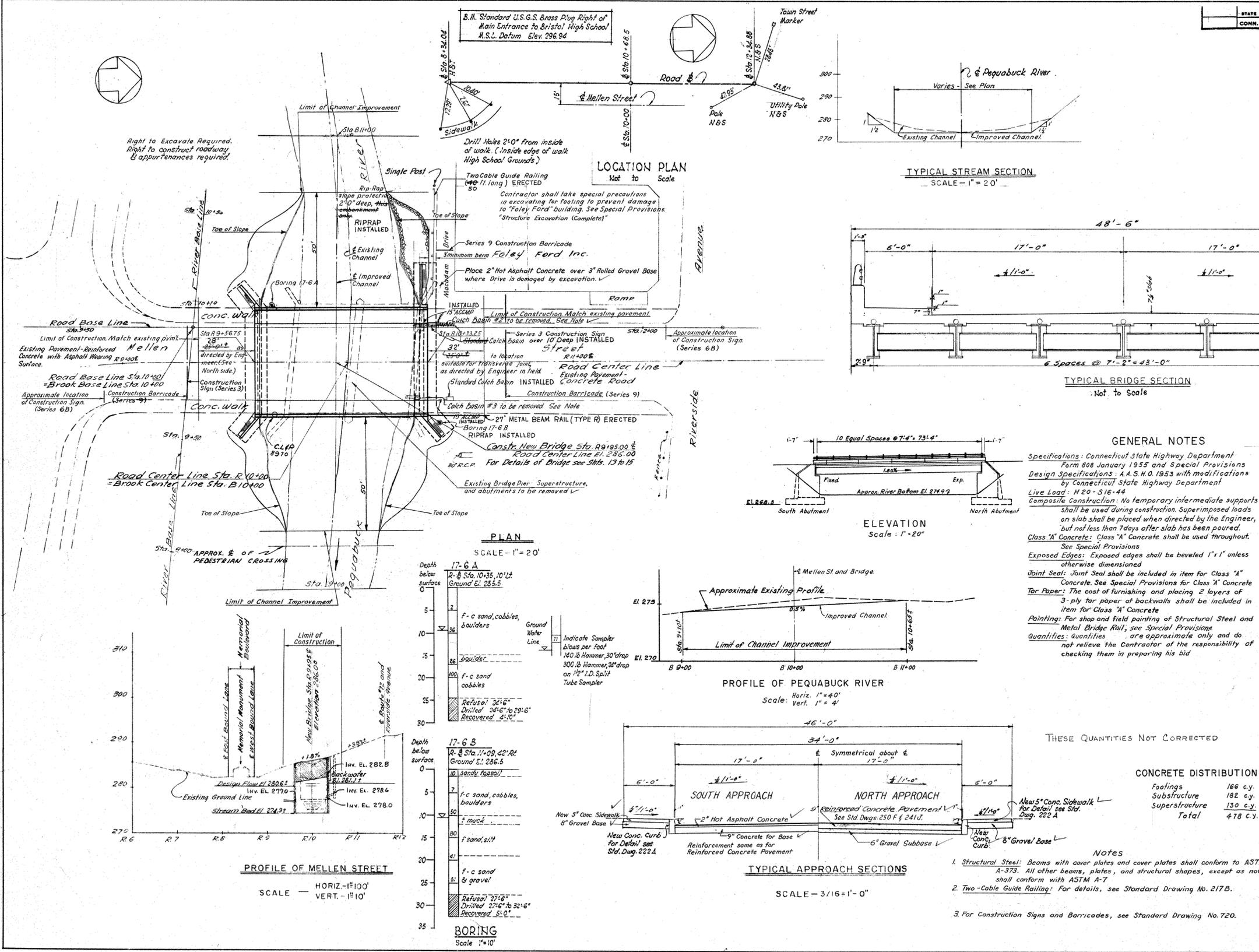
**SECTION**  
SCALE: 3" = 1'-0"



**RAIL SECTION**  
SCALE: 6" = 1'-0"



**SECTION - END RAIL**  
SCALE: 3" = 1'-0"



SUMMARY OF QUANTITIES	
ITEM	UNIT QUANTITY
Gravel Fill	c.y. 30
15" ACCM Pipe	L.F. 24
Type "C" Catch Basin	ea. 2
Removal of Superstructure	L.S. 15
1/2" Prem. Bit Joint Filler for Bridges	S.F. 140
Shaping and Cleaning Slopes	L.F. 120
Hot Asphalt Concrete	ton 14
Concrete for Base	c.y. 24
Series 6A - Construction Sign	ea. 2
Earth Excavation	c.y. 1050
Rock Excavation	c.y. 50
Structure Excavation (Complete)	c.y. 4400
Removal of Existing Masonry	c.y. 200
Class "A" Concrete	c.y. 478
1/2" Prem. Bit Joint Filler for Bridges	S.F. 25
1" Prem. Bit Joint Filler for Bridges	S.F. 10
Deformed Steel Bars	lb. 44,400
Structural Steel	lb. 12,470
Spiral Shear Connector Bars	lb. 4,530
Dampproofing	S.Y. 230
Single Post	ea. 1
Metal Bridge Rail	L.F. 153
Pervious Structure Backfill	c.y. 335
Formation of Subgrade	S.Y. 190
Subbase	c.y. 32
3/4" Prem. Bit Expansion Joint Filler	L.F. 160
Mat Reinforcement for Conc. Pavement	S.Y. 190
Concrete for Pavement	c.y. 24
Concrete Curbing	L.F. 100
Concrete Sidewalk	S.F. 530
Riprap	ton 80
Two-Cable Guide Railing	L.F. 40
Type "B" Anchorage	ea. 1
Compensating Type Anchorage	ea. 1
Series 3 - Construction Sign	ea. 3
Series 9 - Construction Barricade	L.F. 80
PEDESTRIAN CROSSING	L.S. 15

**GENERAL NOTES**

Specifications: Connecticut State Highway Department Form 808 January 1955 and Special Provisions Design Specifications: A.A.S.H.O. 1953 with modifications by Connecticut State Highway Department

Live Load: H 20-S16-44

Composite Construction: No temporary intermediate supports shall be used during construction. Superimposed loads on slab shall be placed when directed by the Engineer, but not less than 7 days after slab has been poured.

Class "A" Concrete: Class "A" Concrete shall be used throughout. See Special Provisions

Exposed Edges: Exposed edges shall be beveled 1"x1" unless otherwise dimensioned

Joint Seal: Joint Seal shall be included in item for Class "A" Concrete. See Special Provisions for Class "A" Concrete

Tar Paper: The cost of furnishing and placing 2 layers of 3-ply tar paper or backwalls shall be included in item for Class "A" Concrete

Painting: For shop and field painting of Structural Steel and Metal Bridge Rail, see Special Provisions

Quantities: quantities are approximate only and do not relieve the Contractor of the responsibility of checking them in preparing his bid

THESE QUANTITIES NOT CORRECTED

**CONCRETE DISTRIBUTION**

Footings 166 c.y.  
Substructure 182 c.y.  
Superstructure 130 c.y.  
Total 478 c.y.

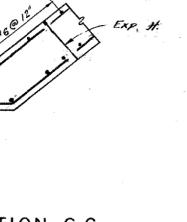
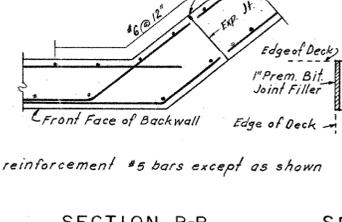
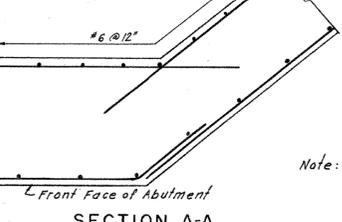
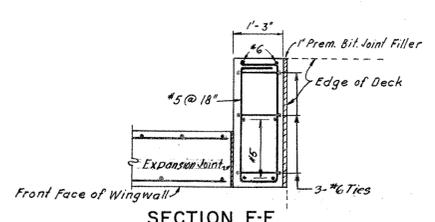
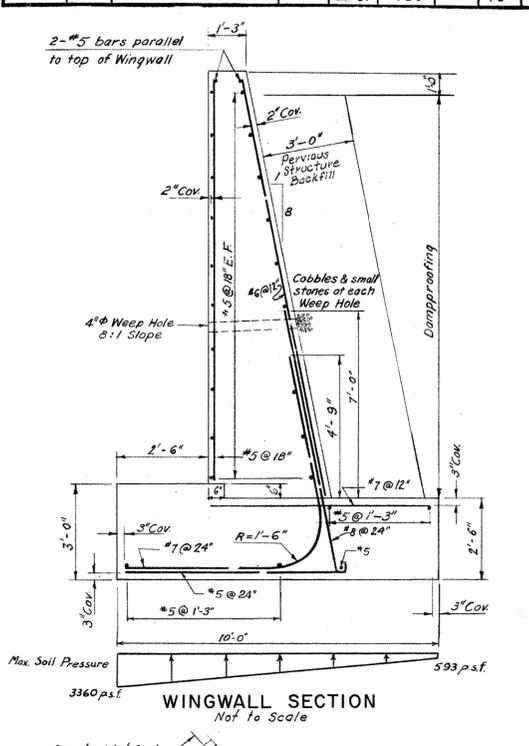
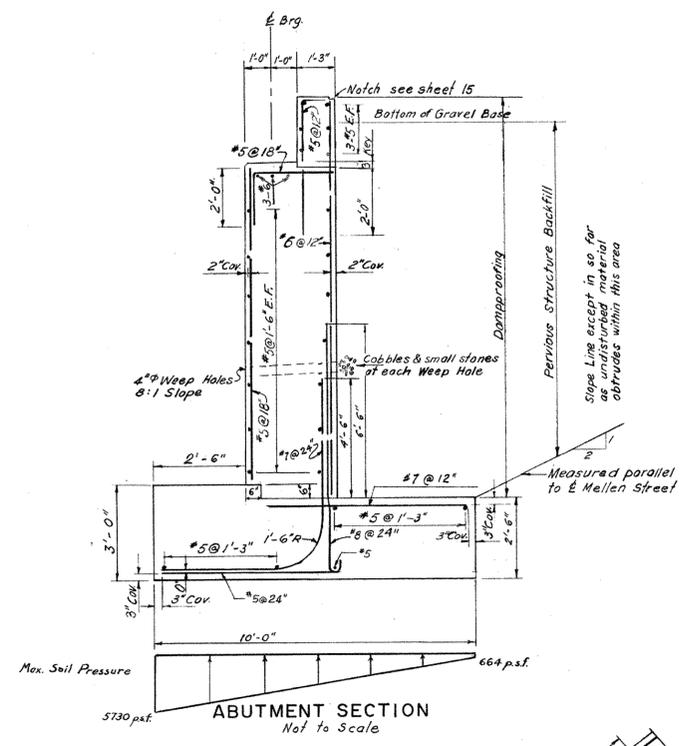
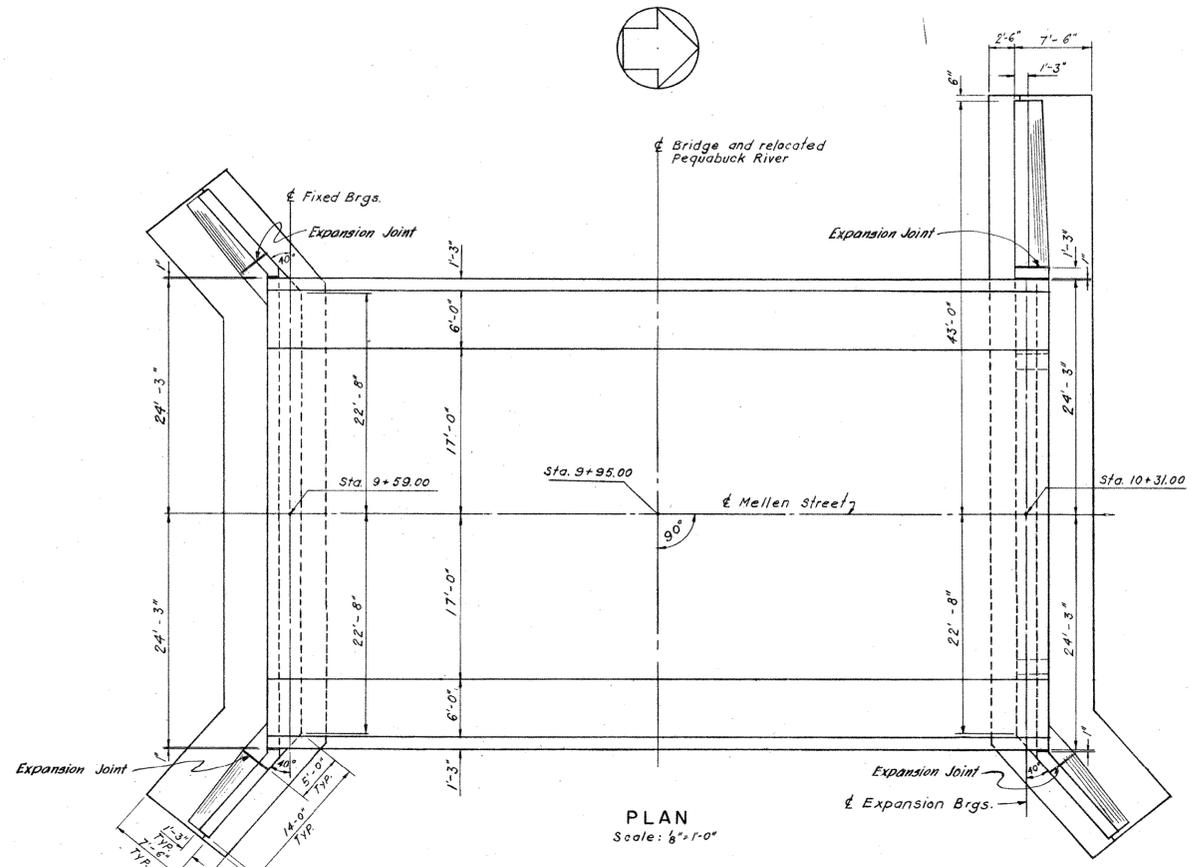
- Notes**
- Structural Steel: Beams with cover plates and cover plates shall conform to ASTM A-373. All other beams, plates, and structural shapes, except as noted, shall conform with ASTM A-7
  - Two-Cable Guide Railing: For details, see Standard Drawing No. 217.B.
  - For Construction Signs and Barricades, see Standard Drawing No. 720.

**STATE OF CONNECTICUT  
FLOOD RECOVERY PROGRAM-TOWN ROADS  
CONNECTICUT  
STATE HIGHWAY DEPARTMENT  
MELLEEN STREET OVER PEQUABUCK RIVER  
GENERAL PLAN**

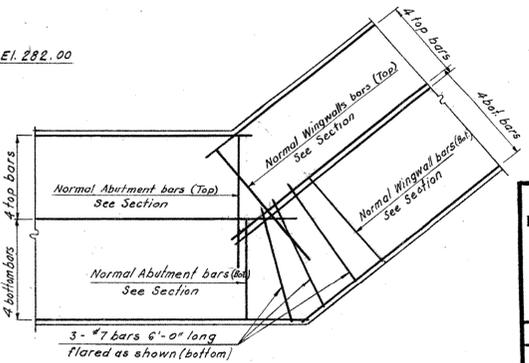
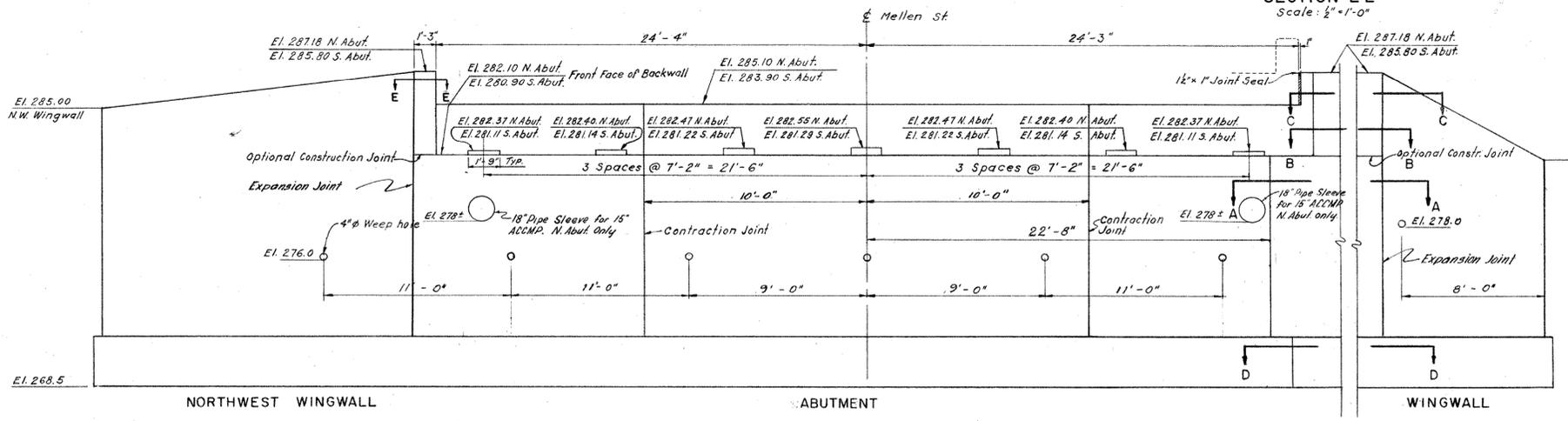
<b>GOODKIND &amp; O'DEA</b>	<b>CONTRACTING ENGRS.</b>
SCALES As Noted	PROJECT NO. 17-67
MADE BY L.R.	DATE June 1956
CHECKED BY R.L.	DATE June 1956
APPROVED S. Sherland	DATE June 1956
REVIEWED BY Howard Mooney	DATE 8.14.56
HOWARD, NEEDLES, TAMMEN/BERGENDOFF	

**RECORD PLAN - 01**  
FOR INFORMATION ONLY (N.T.S.)

STATE	TOWN	PROJECT NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
CONN.	BRISTOL	17-67	1956		13	26



Note: All reinforcement #5 bars except as shown



- Notes:
1. Place Gravel Fill under footings as directed by the Engineer.
  2. Pad elevations shown are at bottom of base plate.
  3. For Bearing Pad detail and Contraction Joint detail see sheet 15
  4. Exact location of Pipe Sleeve to be determined by the engineer in the field
  5. Pipe Sleeve to be furnished and installed by contractor

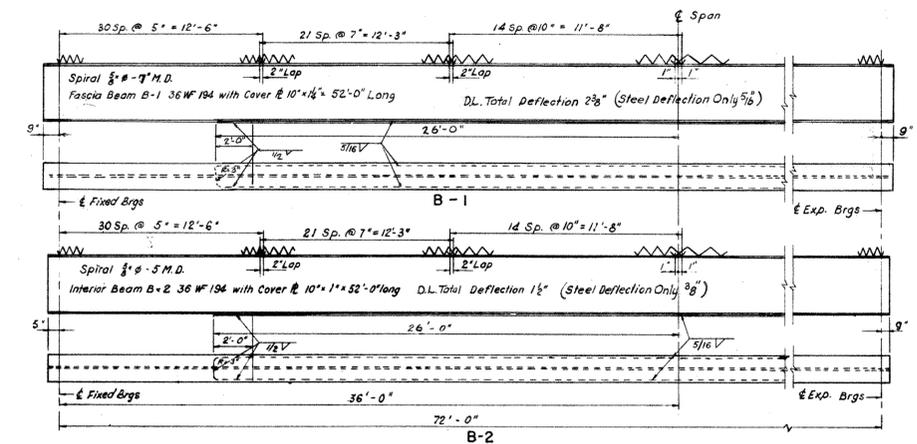
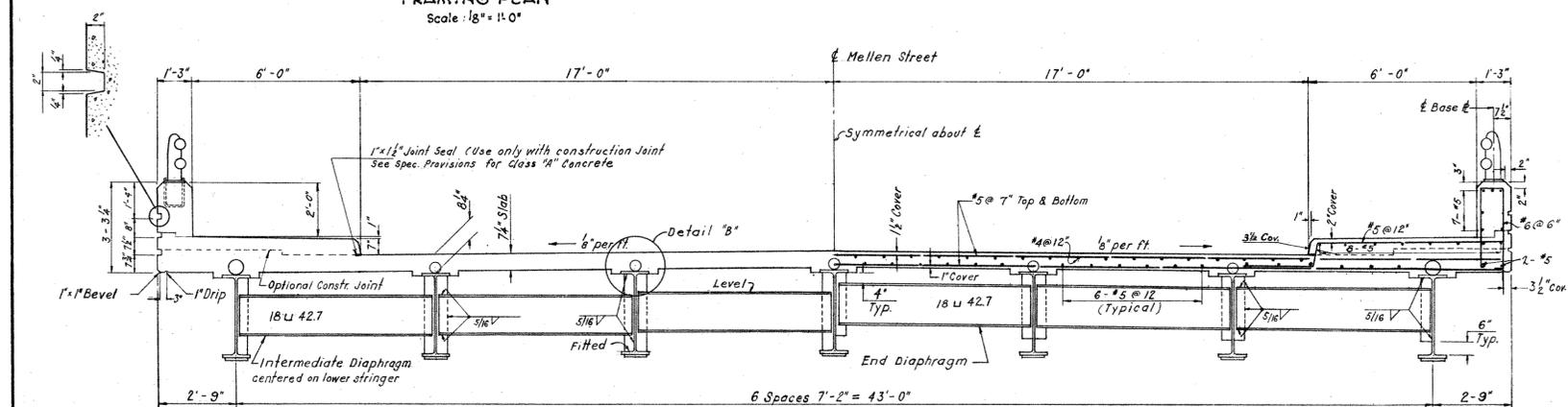
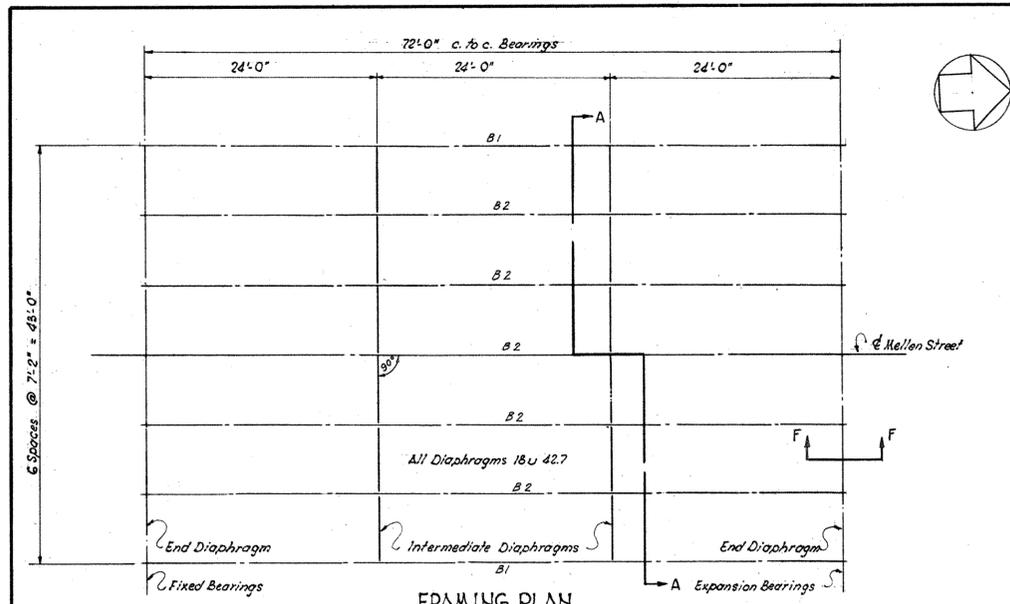
<b>STATE OF CONNECTICUT FLOOD RECOVERY PROGRAM - TOWN ROADS CONNECTICUT STATE HIGHWAY DEPARTMENT MELLEN STREET OVER PEQUABUCK RIVER ABUTMENTS</b>	
GOODKIND & O'DEA CONTRACTING ENGRS.	PROJECT NO. 17-67
SCALE As Noted	DATE June '56
MADE BY F.M.	BRIDGE SHEET NO. 2 OF 4
CHECKED BY L.K.	DATE June '56
APPROVED [Signature]	DATE June '56
REVIEWED BY [Signature]	DATE 8-14-56
HOWARD, NEEDLES, TAMMEN & BERGENDOFF	

17 67

191 05

RECORD PLAN - 02  
FOR INFORMATION ONLY (N.T.S.)

STATE	TOWN	PROJECT NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
CONN.	BRISTOL	17-67	1956		14	26



Note: Camber beams 2 1/8"

- NOTES:
1. For Bearing Details, Anchor Bolt Detail, Spiral Details, Detail "B" and Section F-F see sheet No. 15
  2. Stringers are to be cambered for dead load deflection. Required camber to be obtained after all welding to stringers, including spirals and cover plates has been completed.
  3. Diaphragms in outside bays shall be initially connected to allow for differential deflection of beams under the load of superstructure concrete, and shall be fully connected after the concrete has set. All other diaphragm connections shall be completed at time of erection.
  4. Do not paint top and sides of top flange of stringer or any other surface in contact with concrete.

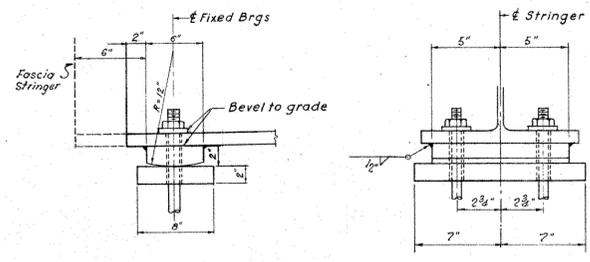
STATE OF CONNECTICUT FLOOD RECOVERY PROGRAM-TOWN ROADS CONNECTICUT STATE HIGHWAY DEPARTMENT MELLEN STREET OVER PEQUABUCK RIVER SUPERSTRUCTURE	
GOODKIND & O'DEA	CONTRACTING ENGRS.
SCALES AS NOTED	PROJECT NO. 17-67
MADE BY F. M.	DATE June '56
CHECKED BY L. K.	DATE June '56
APPROVED <i>[Signature]</i>	DATE June '56
REVIEWED BY <i>[Signature]</i>	DATE 8-19-56
HOWARD, NEEDLES, TAMMEN, & BERGENDOFF	

17 67

191 05

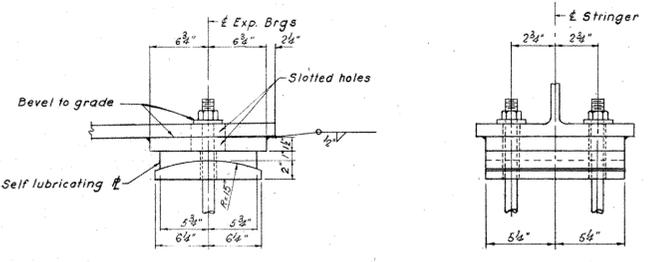
RECORD PLAN - 03  
FOR INFORMATION ONLY (N.T.S.)

STATE	TOWN	PROJECT NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
CONN.	Bristol	17-07	1956		15	26

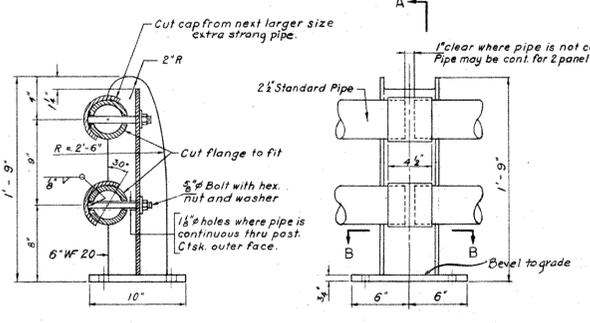


Notes:  
 1 Mayan-Ri Cor-ten Steel or approved equivalent conforming to the requirements of A.S.T.M. A-242 shall be used for all base plates.  
 2 Self lubricating plate shall be Standard Lubrite Bronze Alloy or approved equal; trepanned both sides.  
 3 Bolt must be in center of slot @ 60°F for expansion and contraction.  
 4 Nuts to be drawn up finger tight then backed off 1/8" turn and threads of bolt burred off at face of nut with a pointed tool.  
 5 Anchor Bolts 1 1/4" φ, circular holes 1 5/8" φ; slotted holes 1 5/8" x 3"

FIXED BEARING Not to Scale



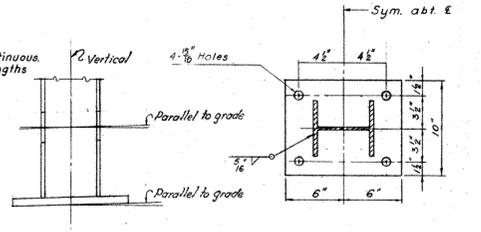
EXPANSION BEARING Not to Scale



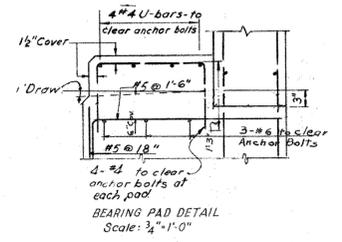
SECTION A-A Scale: 1 1/2" = 1'-0"

RAILING DETAIL NOTES  
 1. Railing posts to be plumb, base plates to be set parallel to roadway profile.  
 2. Base plates to be skinned with lead wool and caulked.  
 3. Holes in post base plate to be filled with caulking compound.  
 4. All anchor bolts for railing to be set with template.  
 5. Cost of furnishing and setting of bolts and fittings to be included in unit price bid for "Metal Bridge Rail".

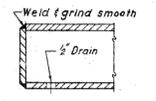
ELEVATION Scale: 1 1/2" = 1'-0"



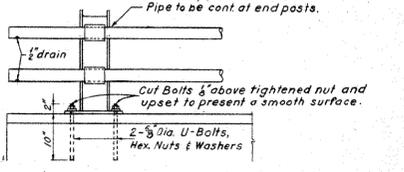
ELEVATION Scale: 1 1/2" = 1'-0"  
SECTION B-B Scale: 1 1/2" = 1'-0"



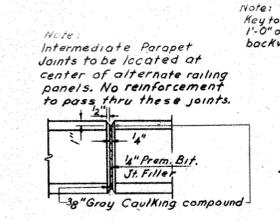
BEARING PAD DETAIL Scale: 3/4" = 1'-0"



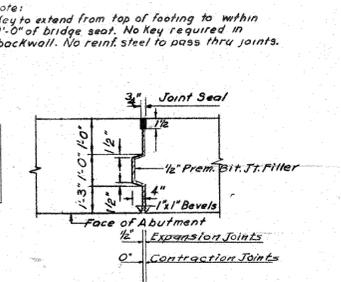
RAIL END Not to Scale



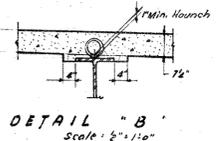
RAILING ELEVATION Scale: 3/4" = 1'-0"



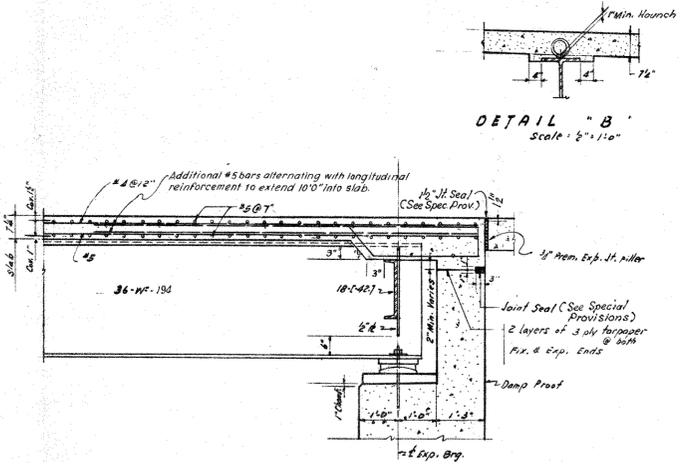
INTERMEDIATE PARAPET JOINT Scale: 3/4" = 1'-0"



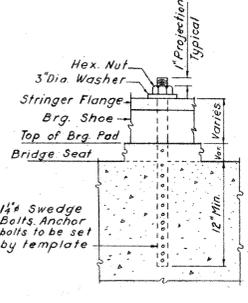
EXPANSION & CONTRACTION JOINT Not to Scale



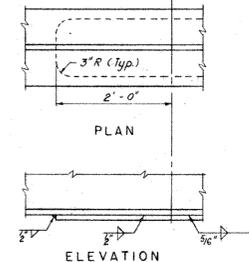
DETAIL "B" Scale: 2" = 1'-0"



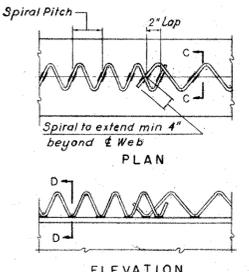
SECTION F-F Scale: 5" = 1'-0"



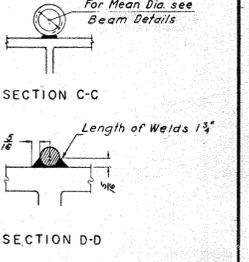
ANCHOR BOLT DETAIL Not to Scale



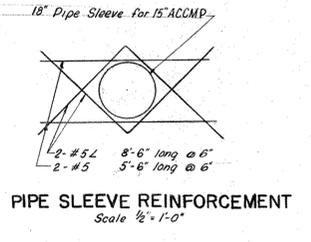
BOTTOM FLANGE COVER PLATE END DETAIL Not to Scale



SPIRAL DETAILS Not to Scale



SECTION C-C For Mean Dia. see Beam Details  
SECTION D-D Length of Welds 1 1/2"



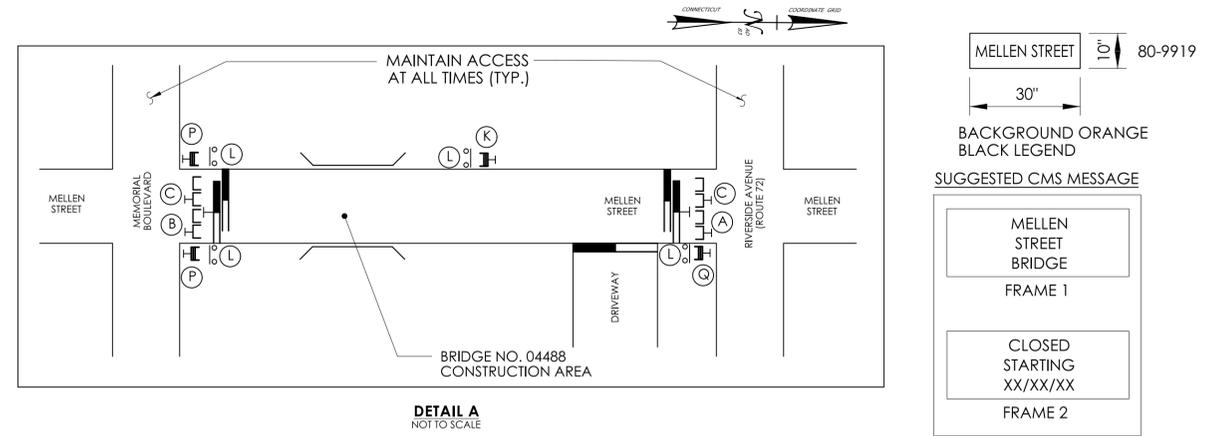
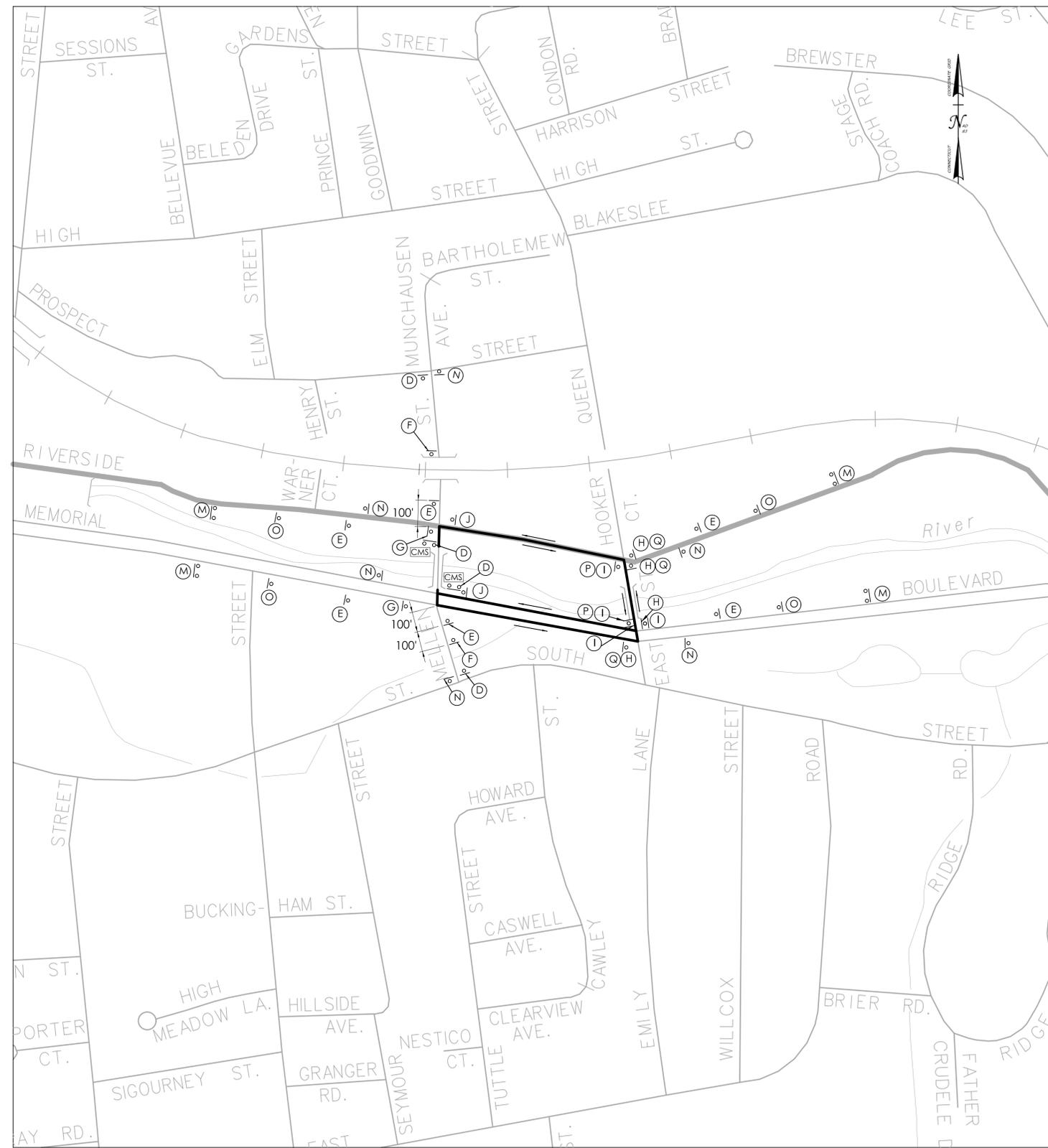
PIPE SLEEVE REINFORCEMENT Scale: 1/2" = 1'-0"

STATE OF CONNECTICUT FLOOD RECOVERY PROGRAM - TOWN ROADS CONNECTICUT STATE HIGHWAY DEPARTMENT MELLEN STREET OVER PEQUABUCK RIVER TYPICAL DETAILS	
DESIGNER/DRAFTER: SD	CHECKED BY: VLL
SIGNATURE/BLOCK: <b>GMP</b>	PROJECT NO. 17-07
GMZ ASSOCIATES, INC. 115 GLASTONBURY BLVD. GLASTONBURY, CT 06033	MADE BY: F.M. DATE: June 1956
	CHECKED BY: L.K. DATE: June 1956
	APPROVED: [Signature] DATE: June 1956
	REVIEWED BY: [Signature] DATE: 8-19-56
	HOWARD, NEEDLES, TAMMEN, & BERGENDOFF

17 67

191 05

RECORD PLAN - 04  
FOR INFORMATION ONLY (N.T.S.)



**SIGN LEGEND**

(A)		80-9080 80-9702 (L)	(E)		MELLEN STREET 80-9919 80-9933	(I)		MELLEN STREET 80-9919 80-9710 (R)	(N)		80-9611
(B)		80-9080 80-9701 (R)	(F)		MELLEN STREET 80-9919 80-9933	(J)		MELLEN STREET 80-9919 80-9708	(O)		31-1906
(C)		31-1120	(G)		MELLEN STREET 80-9919 80-9710 (S)	(K)		80-9076	(Q)		80-9703(L)
(D)		80-1613	(H)		MELLEN STREET 80-9919 80-9710 (L)	(L)		80-1619	(P)		80-9703(R)
			(M)			80-1608					

**LEGEND**

- SIGN - SINGLE POST
- SIGN - DOUBLE POST
- ▭ CONSTRUCTION BARRICADE - TYPE III
- ▬ CONSTRUCTION BARRICADE DETECTABLE
- ⊥ SIGN MOUNTED ON CONSTRUCTION BARRICADE/TPCBC
- ▬ TEMPORARY PRECAST CONCRETE BARRIER CURB
- \* SIGN WITH HIGH INTENSITY BARRICADE WARNING LIGHT
- CMS CHANGEABLE MESSAGE SIGN (CMS)

**NOTES:**

1. REFER TO THE SPECIAL PROVISIONS AND SPECIFICATIONS "MAINTENANCE AND PROTECTION OF TRAFFIC" AND "PROSECUTION AND PROGRESS" FOR ADDITIONAL REQUIREMENTS.
2. ALL ROADWAY CLOSURES SHALL BE COORDINATED WITH THE CITY OF BRISTOL.
3. ACTUAL LOCATIONS OF SIGNS TO BE DETERMINED BY THE ENGINEER.
4. ALL DETOUR SIGNS TO BE PAID FOR UNDER ITEM NO. 1220027 "CONSTRUCTION SIGNS".
5. CONTRACTOR TO NOTIFY THE ENGINEER, THE CITY OF BRISTOL AND ALL EMERGENCY SERVICES AT LEAST TWO WEEKS PRIOR TO THE ROADWAY CLOSURE.
6. INSTALL CMS TWO WEEKS PRIOR TO START OF DETOUR ON BOTH APPROACHES OF THE BRIDGE.
7. BARRICADE WARNING LIGHTS - HIGH INTENSITY, ITEM NO. 0976002 SHALL BE MOUNTED ON ALL DIAMOND-SHAPED POST MOUNTED CONSTRUCTION SIGNS. REFER TO TRAFFIC STANDARD TR-1220.02.

SIGN SUMMARY			
SIGN NO.	SIZE	AREA (S.F.)	QUANTITY
80-9080	48X30	10.0	2
80-9702 (L)	48X18	6.0	1
80-9701 (R)	48X18	6.0	1
31-1120	36X36	9.0	2
80-1613	30X24	5.0	4
80-9919	30X10	2.08	20
80-9933	36X36	9.0	8
80-9710 (S)	30X24	5.0	2
80-9710 (L)	30X24	5.0	4
80-9710 (R)	30X24	5.0	4
80-9708	24X18	3.0	2
80-9076	30X18	3.75	1
80-1619	48X30	10.0	4
80-1608	60X42	17.5	4
80-9703(R)	30X24	5.0	4
80-9703(L)	30X24	5.0	4
80-9611	30X18	3.75	6
31-1906	48X42	14	4
<b>TOTAL:</b>			<b>77 SIGNS</b>
			<b>471.92 S.F.</b>

REV.	DATE	REVISION DESCRIPTION