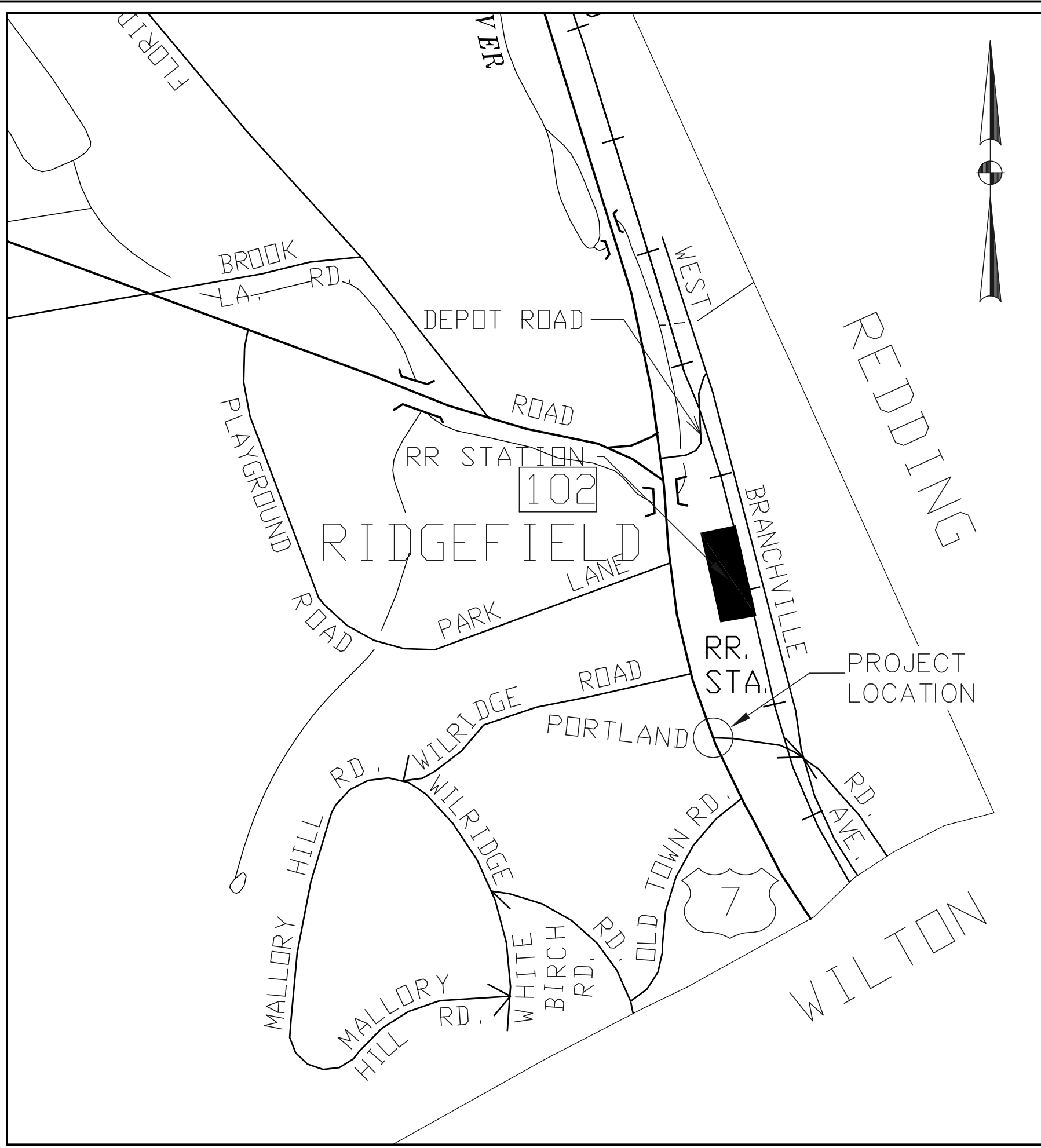
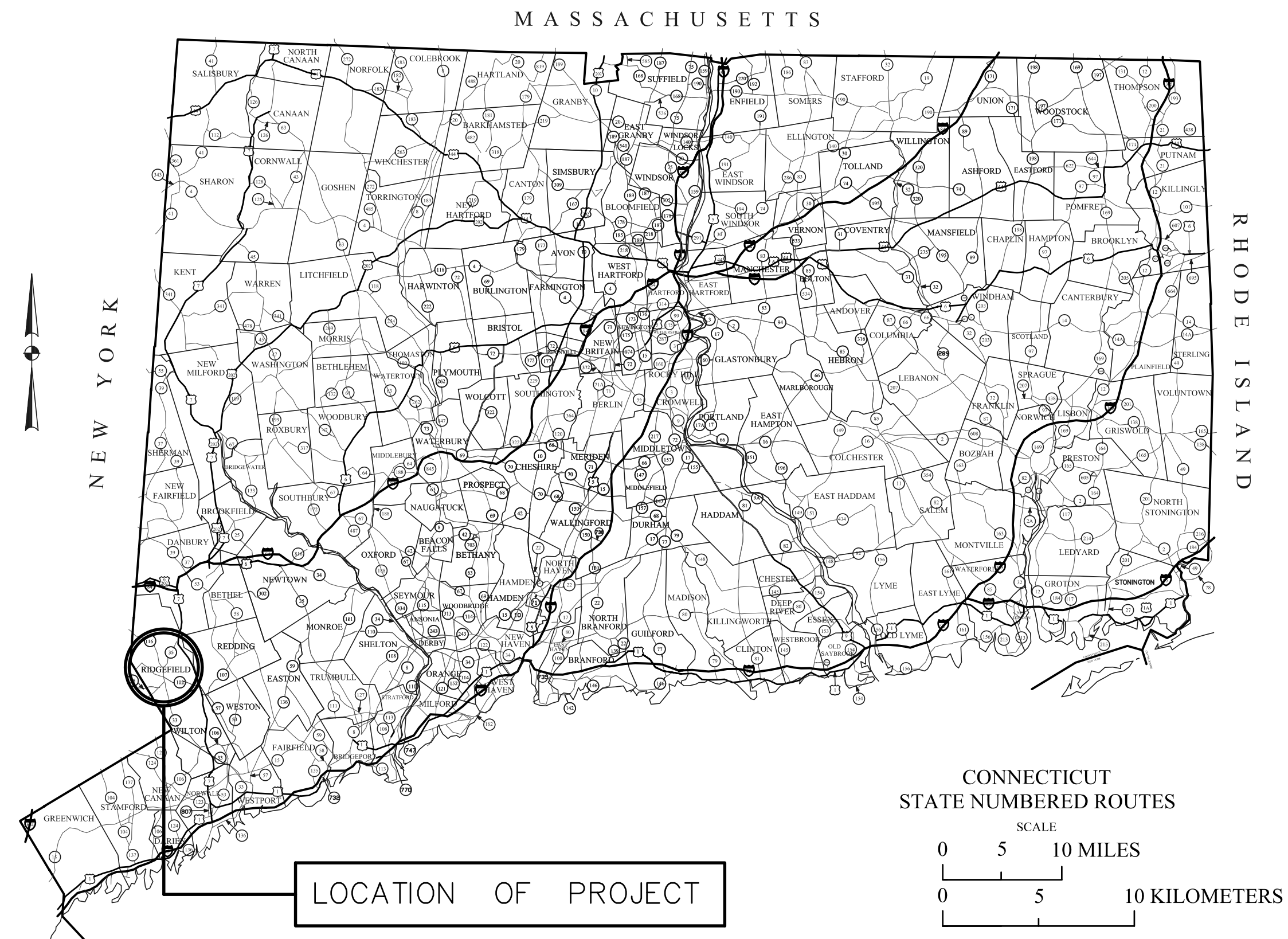
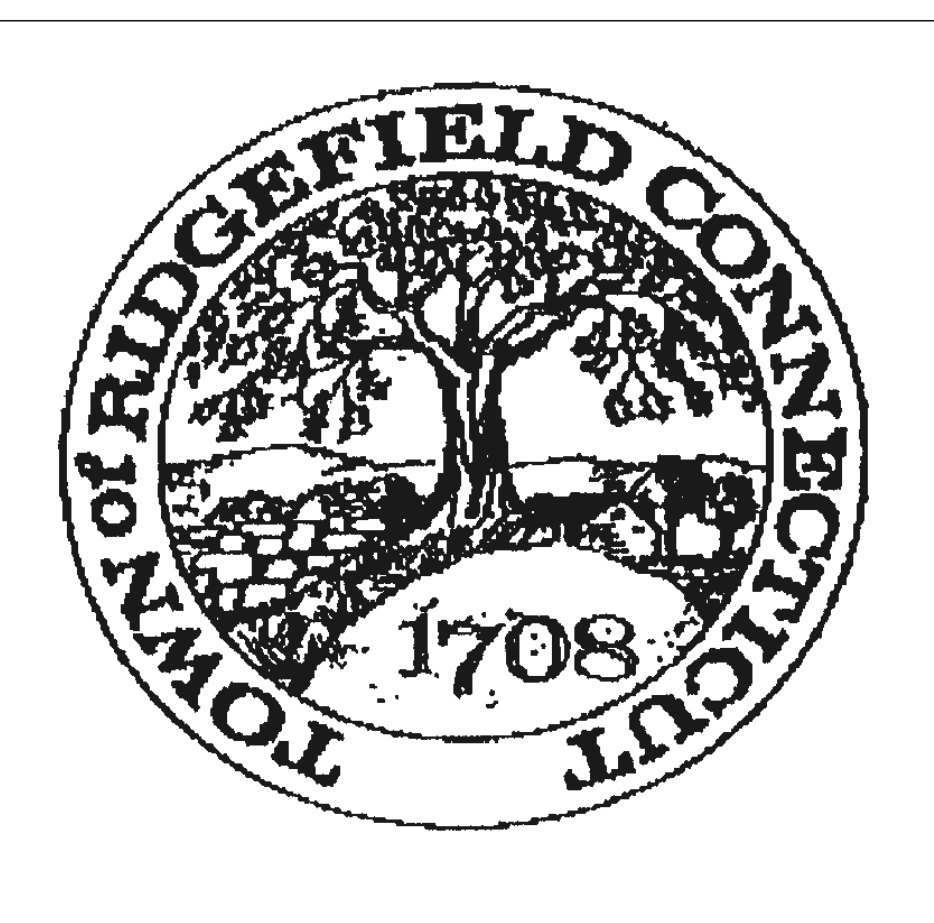


TOWN OF RIDGEFIELD, CONNECTICUT PLAN FOR REHABILITATION OF PORTLAND AVENUE BRIDGE OVER NORWALK RIVER



LOCATION MAP
N.T.S.



TECHNICAL SPECIFICATIONS: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION (FORM 816) AND ALL LATEST SUPPLEMENTAL SPECIFICATIONS THERETO, AS WELL AS ANY SPECIAL PROVISIONS BY THE TOWN OF RIDGEFIELD.

CONNECTICUT DEPARTMENT OF TRANSPORTATION OR TOWN OF RIDGEFIELD BIDDING AND OTHER INFORMATION AND DOCUMENTS WHICH ARE OBTAINED THROUGH THE INTERNET, WORLD WIDE WEB SITES OR OTHER SOURCES ARE NOT TO BE CONSTRUED TO BE OFFICIAL INFORMATION FOR THE PURPOSES OF BIDDING OR CONDUCTING OTHER BUSINESS WITH THE TOWN OF RIDGEFIELD.

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 TOWN OF RIDGEFIELD.

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

LIST OF DRAWING REVISIONS			
SHEET NO.	DESCRIPTION	DATE	BY

LIST OF DRAWINGS		STANDARD DRAWINGS		F.H.W.A. APPROVAL DATE
SHEET NO.	TITLE	DWG. NO.	TITLE	
1	TITLE SHEET			
2	CONSTRUCTION PLAN			
3	CONSTRUCTION STAGING			
4	TEMPORARY PRECAST CONCRETE BARRIER CURB (STRUCTURE)			
5	EROSION AND SEDIMENTATION DETAILS			
6	METAL BEAM RAIL TYPE R-B 350 MISC. DETAILS I			
7	METAL BEAM RAIL TYPE R-B 350 MISC. DETAILS II			
8	METAL BEAM RAIL TYPE R-B 350 END ANCHORAGE			
9	METAL BEAM RAIL TYPE R-B 350 JERSEY SHAPED PARAPET ATTACHMENT			
10	PARAPET DETAILS			
11	PRECAST BARRIER CURB (STRUCTURE)			

STANDARD CONVENTIONS		LEGEND:	
North Arrow W/No. Coord.	Grid Arrow	○ Iron Pin (Found)	□ Monument (Found)
Edge Of Road	Limit Of Marsh	△ Sign	⊙ Manhole
Concrete Pavement	Stone Wall	▣ "C" Catch Basin	▣ "C-L" Catch Basin
Dirt Road	Ledge Outcrop	○ Utility Pole	☆ Light Pole
B.C.L.C.	Inland Wetland Limits	○ Metal Post	⊙ Guy Anchor
Concrete Curb	STATE LINE	⊙ Water Gate	⊙ Gas Valve
Guide Rail	Power Line	⊙ Gas Meter	⊙ Mail Box
Concrete Median Barrier	Swamp	⊙ Underground Piping (San., Stm.)	— E — U/G Elec. Line
Bit. Walk	Building	— W — Water Line	— OHW — Overhead Utilities
Conc. Sidewalk	Transmission Tower	— T — U/G Tele. Line	
Railroad Tracks	Riprap		
Chain Link Fence	Hedge Row		
Rustic Fence	Tree Line		
Pipe Fence	Shrub		
Board Fence	Evergreen Tree		
Water Edge	Deciduous Tree		
Stream	Retaining Wall		
Ditch	Highway Line		
TOWN LINE	Street Line		
Boring Location	Property Line		
	Lot Line		
	Easement Line		

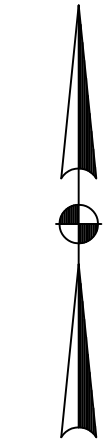
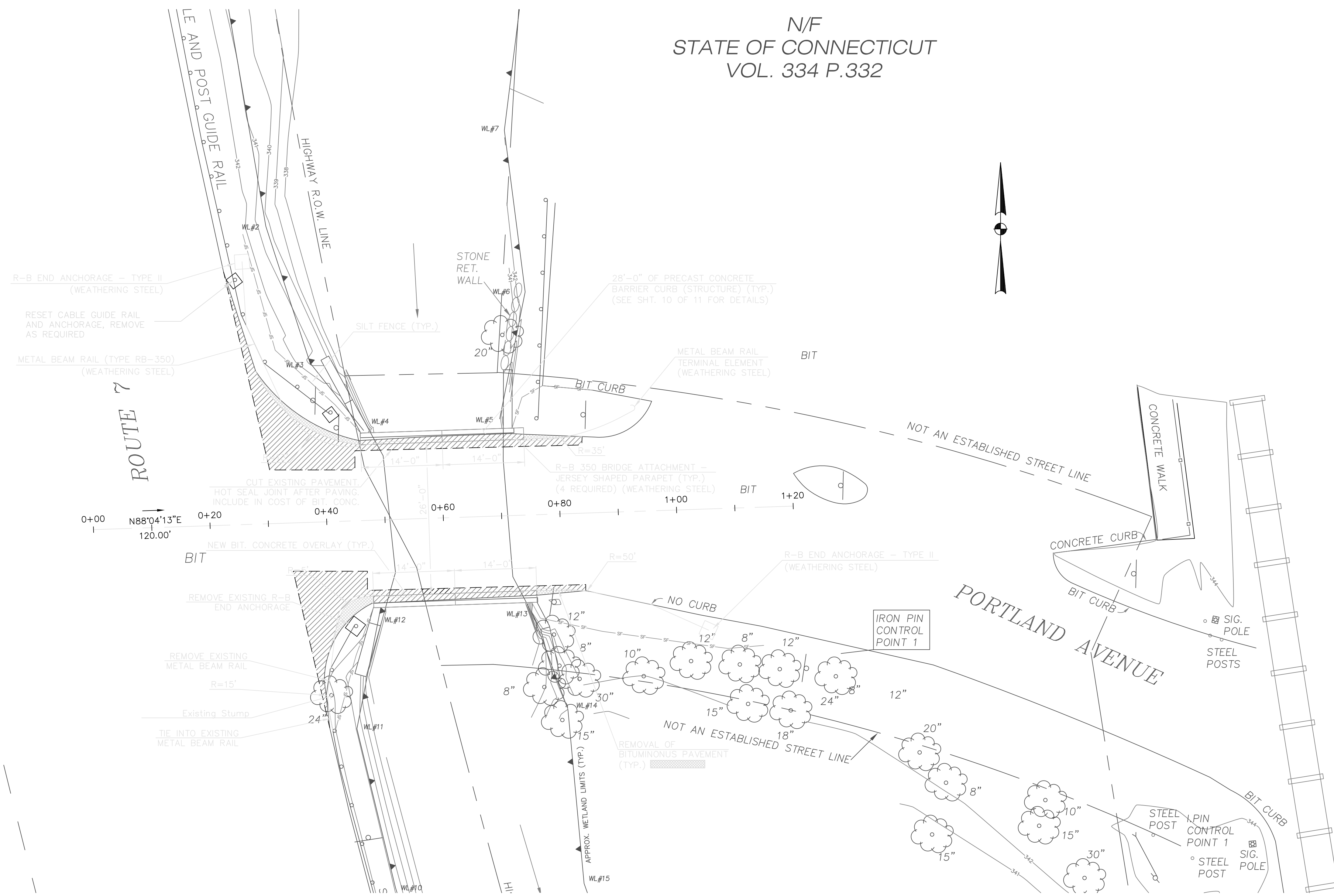
DESIGNED BY WMC CONSULTING ENGINEERS

SUBMITTED BY _____ DATE _____

TOWN ENGINEER - TOWN OF RIDGEFIELD

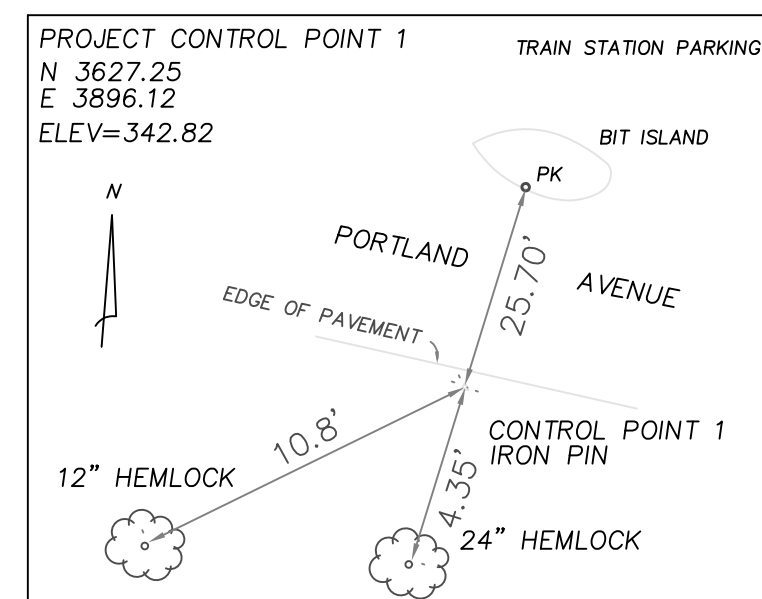
_____ DATE _____

CHARLES FISHER, P.E.

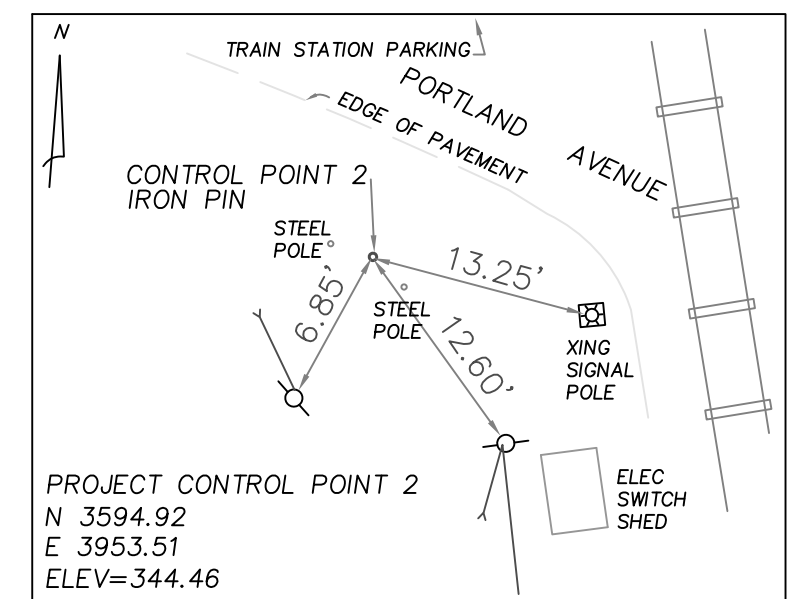


CONSTRUCTION NOTES:

1. ALL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHOULD BE ESTABLISHED PRIOR TO AND MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.
2. DURING ALL PHASES OF CONSTRUCTION ACTIVITIES, ACCESS FOR THE PROPERTY OWNERS AS WELL AS ALL SERVICE VEHICLES SUCH AS MAIL, TRASH COLLECTION, FUEL DELIVERIES, ETC. SHALL BE MAINTAINED BY THE CONTRACTOR TO ABUTTING PROPERTIES WITHIN THE LIMITS OF THE WORK.
3. THE TOWN OF RIDGEFIELD SHALL RETAIN ALL SALVAGE RIGHTS TO ANY MATERIALS REMOVED AS PART OF THIS PROJECT. MATERIAL REQUESTED FOR SALVAGE BY THE TOWN SHALL BE DELIVERED TO A LOCATION WITHIN THE TOWN LIMITS AS DESIGNATED BY THE TOWN. THE COST OF DELIVERY, LOADING AND UNLOADING SHALL BE INCLUDED IN THE GENERAL COST OF THE PROJECT.
4. LIMIT OF INLAND WETLANDS FLAGGED BY SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC., DATED: 10/28/05.
5. SURVEY INCLUDING WETLAND FLAG LOCATIONS, PERFORMED BY WILLIAM HERN, L.S. ON 10/28/05 THROUGH 12/09/05.



HORIZONTAL DATUM ASSUMED
VERTICAL DATUM FROM BENCH MARK BM 1100 (1927 NGVD 1929)



HORIZONTAL DATUM ASSUMED
VERTICAL DATUM FROM BENCH MARK BM 1100 (1927 NGVD 1929)

	SUPV.	J.A.C.
	DESIGN	D.A.G.
	DRAWN	J.A.W.
	CHECKED	J.A.C.
NO.	DATE	DESCRIPTION
		REVISIONS
	DATE	04/05/06

SCALE
1" = 10'

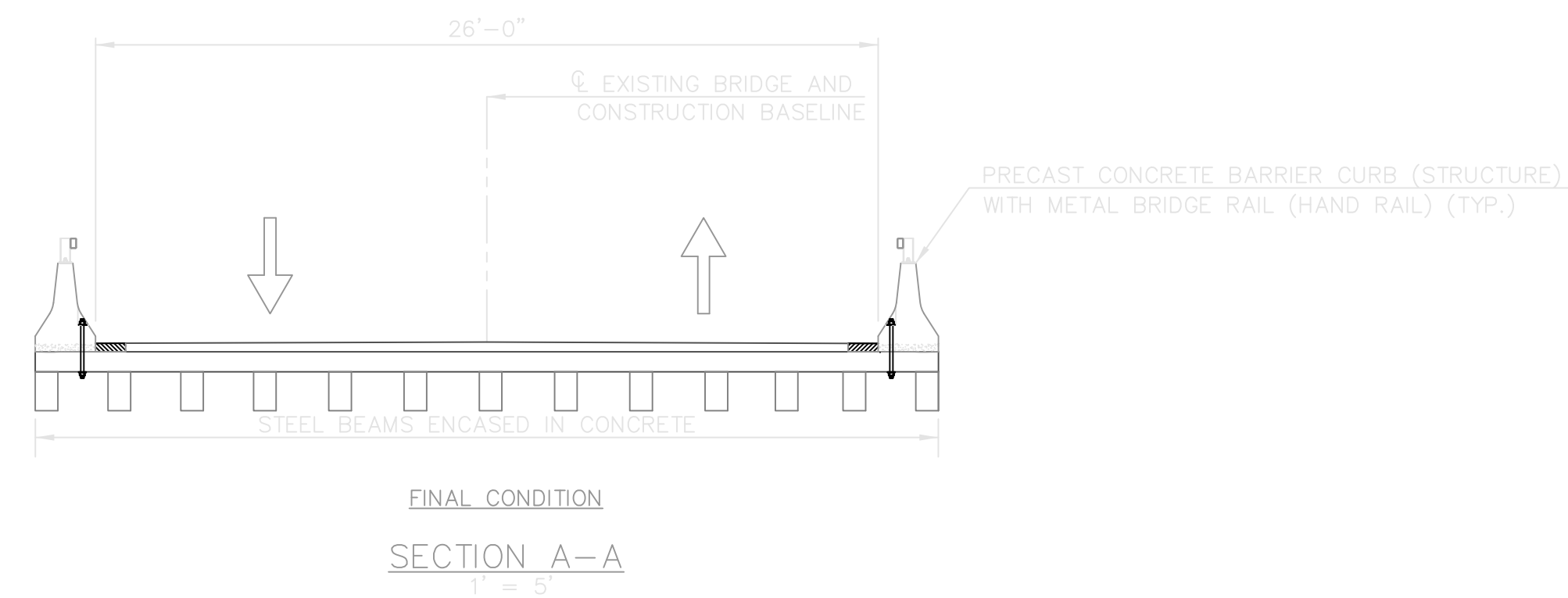
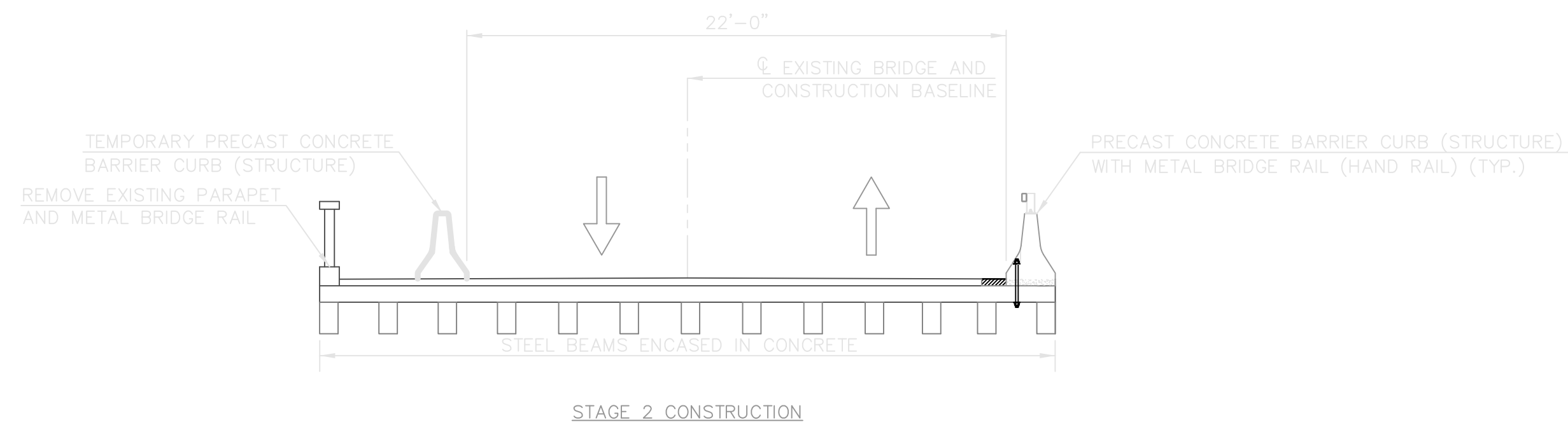
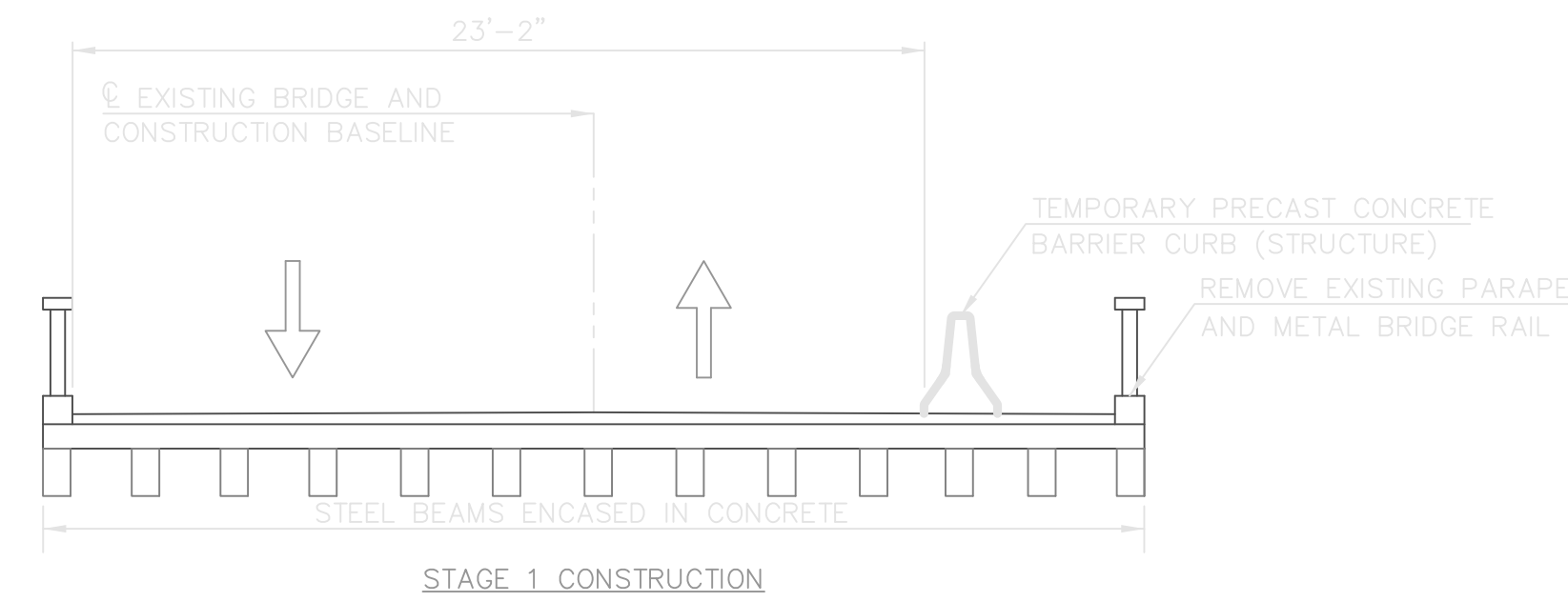
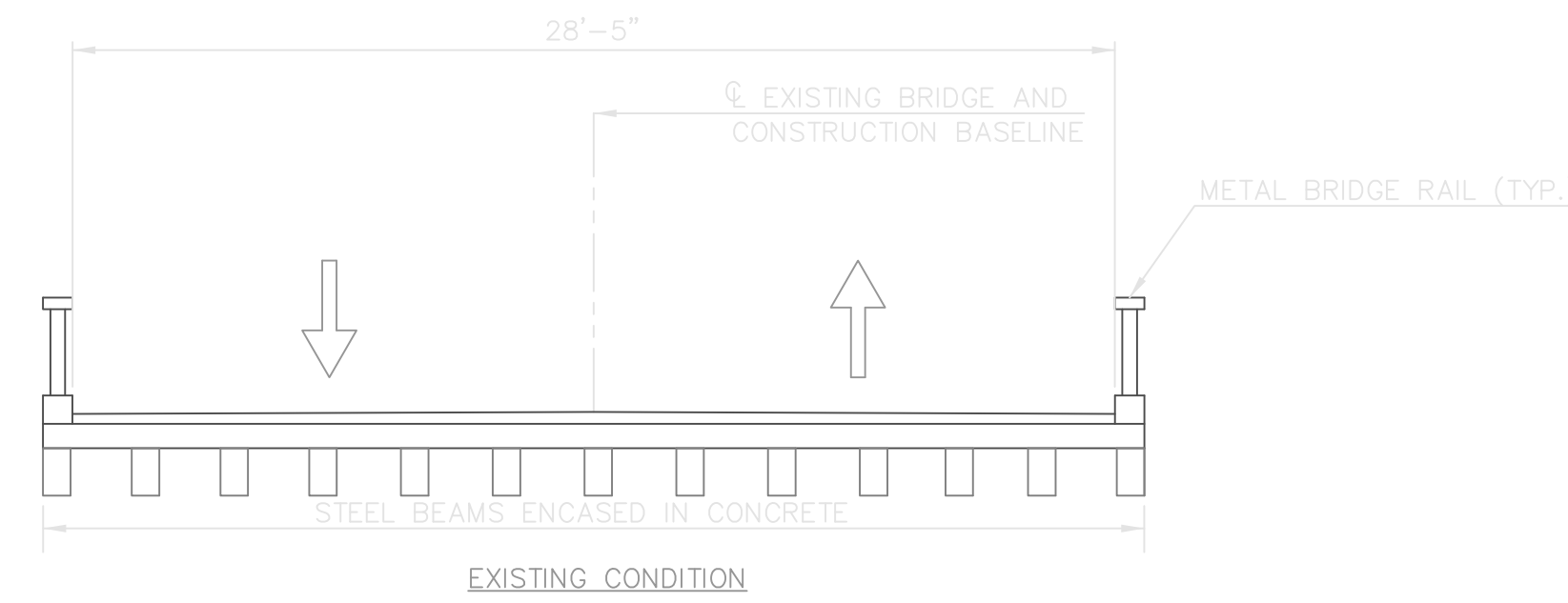


WENDELL, McDONNELL & COSTELLO
87 HOLMES ROAD
NEWINGTON, CT 06111
(860) 667-9624

PREPARED FOR
TOWN OF RIDGEFIELD
66 PROSPECT STREET
RIDGEFIELD, CT
06877

PORTLAND AVE. BRIDGE REHABILITATION
CONSTRUCTION PLAN

PORTLAND AVE	BRIDGE	05064.10	SHEET	2
SIZE	PROJECT	FILE NAME	NUMBER	REV. OF
				11



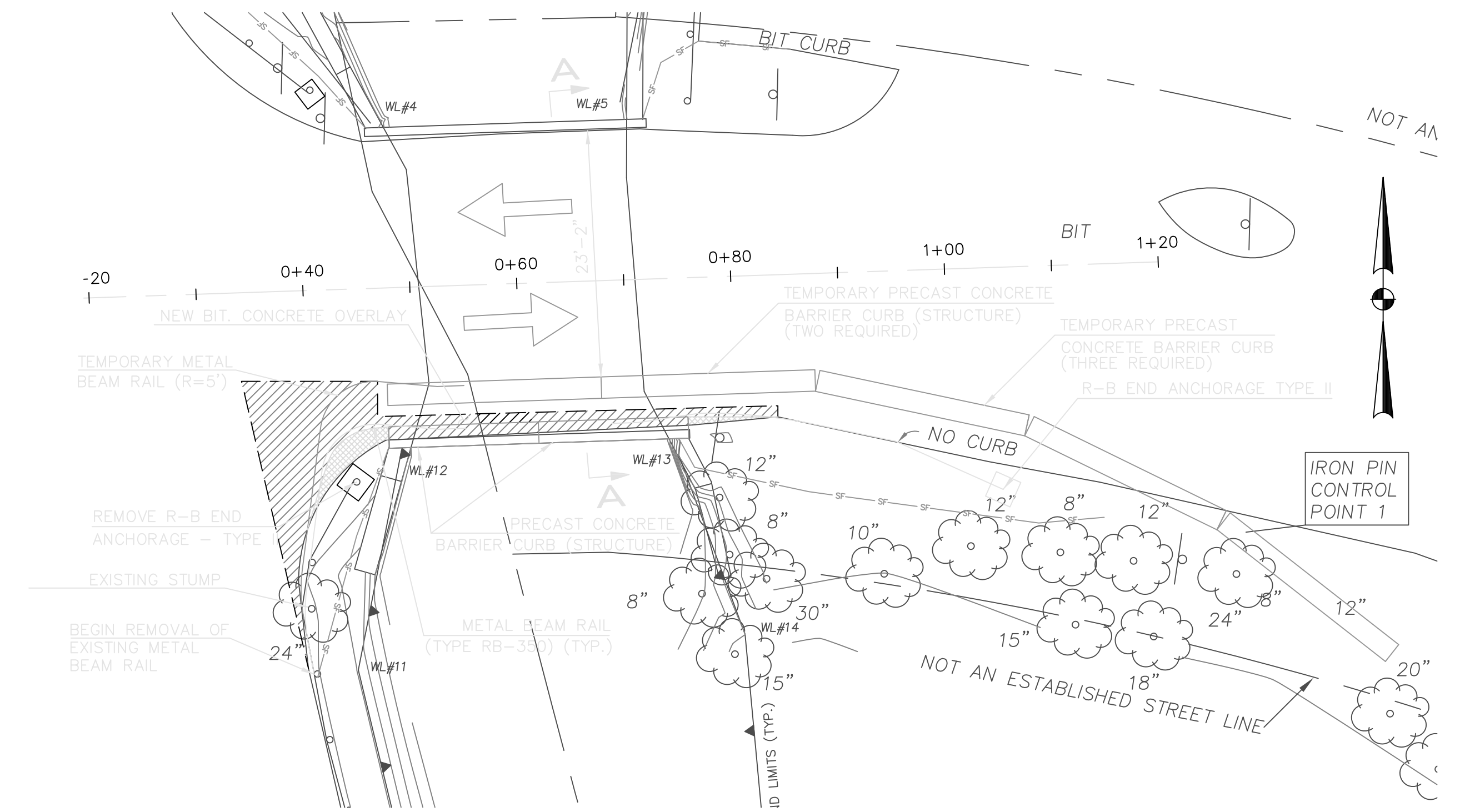
CONSTRUCTION STAGING NOTES:

STAGE 1:

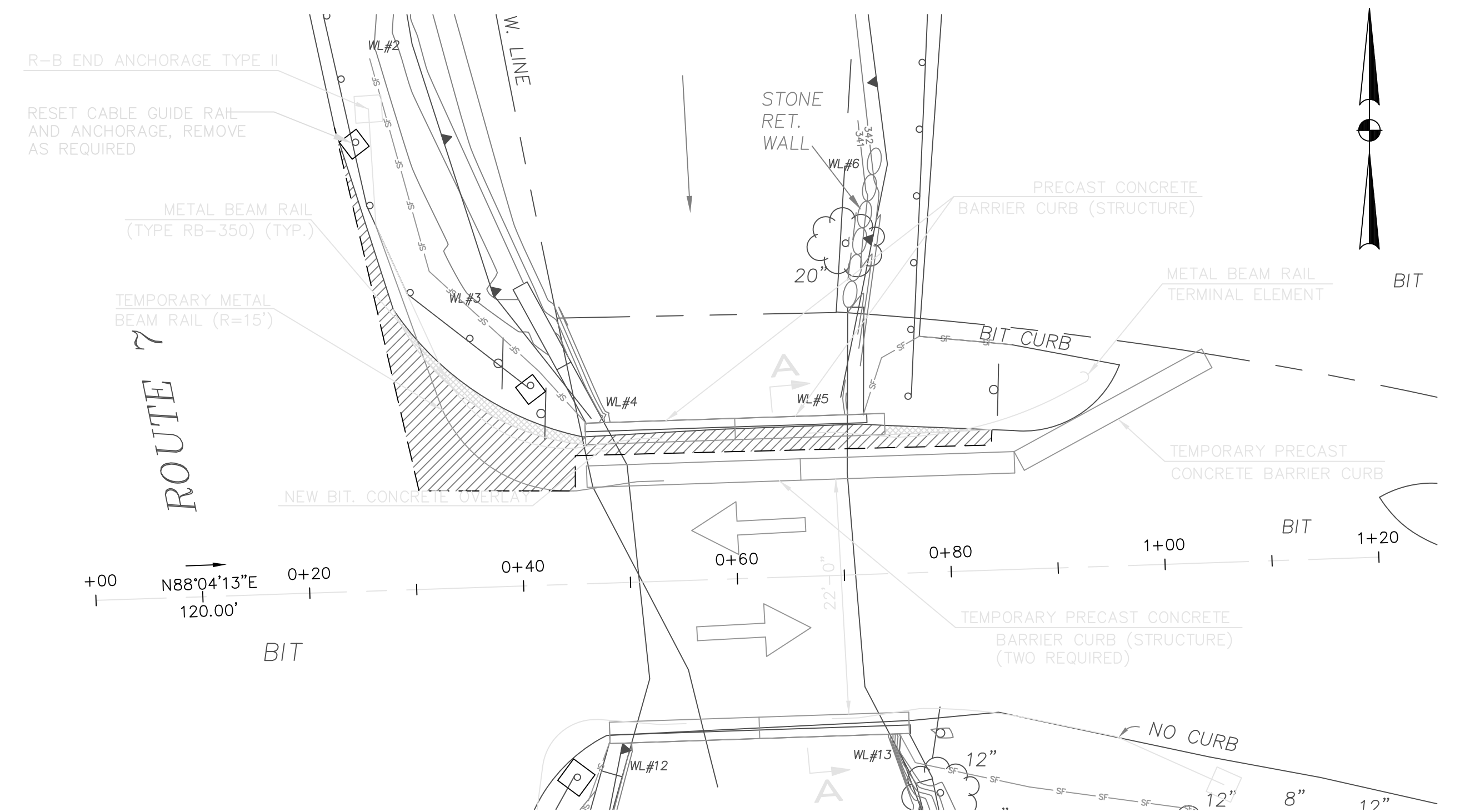
1. INSTALL SEDIMENTATION CONTROL SYSTEM AS REQUIRED.
2. PLACE TEMPORARY PRECAST CONCRETE BARRIER CURB (T.P.C.B.C.) AS SHOWN TO MAINTAIN TWO LANES OF TRAFFIC ACROSS NORTH PORTION OF THE BRIDGE AS SHOWN.
3. REMOVE EXISTING TREE, EXISTING METAL BEAM RAIL AND EXISTING R-B END ANCHORAGE AS SHOWN.
4. INSTALL TEMPORARY METAL BEAM RAIL AND CONNECT TO T.P.C.B.C. AS SHOWN.
5. INSTALL SHIELDING / PROTECTION UNDER SUPERSTRUCTURE AS REQUIRED.
6. REMOVE EXISTING METAL BRIDGE RAIL AND EXISTING CONCRETE ON SOUTH SIDE OF BRIDGE.
7. INSTALL NEW PRECAST CONCRETE BARRIER CURB (STRUCTURE) AND NEW METAL BRIDGE RAIL (HAND RAIL) ON SOUTH SIDE OF BRIDGE.
8. REMOVE TEMPORARY METAL BRIDGE RAIL AND INSTALL NEW METAL BEAM RAIL (TYPE R-B 350) AND ATTACH TO NEW BARRIER AS SHOWN.
9. REMOVE AND RECONSTRUCT BITUMINOUS CONCRETE PAVEMENT AS REQUIRED.

STAGE 2:

1. INSTALL SEDIMENTATION CONTROL SYSTEM AS REQUIRED.
2. RELOCATE TEMPORARY PRECAST CONCRETE BARRIER CURB (T.P.C.B.C.) AS SHOWN TO SHIFT AND MAINTAIN TWO LANES OF TRAFFIC ACROSS SOUTH PORTION OF THE BRIDGE AS SHOWN.
3. INSTALL TEMPORARY METAL BEAM RAIL AND CONNECT TO T.P.C.B.C. AS SHOWN.
4. REMOVE EXISTING METAL BRIDGE RAIL AND EXISTING CONCRETE ON NORTH SIDE OF BRIDGE.
5. INSTALL NEW PRECAST CONCRETE BARRIER CURB (STRUCTURE) AND NEW METAL BRIDGE RAIL (HAND RAIL) ON NORTH SIDE OF BRIDGE.
6. REMOVE TEMPORARY METAL BRIDGE RAIL AND INSTALL NEW METAL BEAM RAIL (TYPE R-B 350) AND ATTACH TO NEW BARRIER AS SHOWN.
7. REMOVE T.P.C.B.C. AND SHIELDING / PROTECTION UNDER SUPERSTRUCTURE.
8. REMOVE AND RECONSTRUCT BITUMINOUS CONCRETE PAVEMENT AS REQUIRED.
9. ESTABLISH TURF AND FURNISH AND INSTALL TOP SOIL.
10. REMOVE SEDIMENTATION CONTROL SYSTEM.



STAGE 1 CONSTRUCTION PLAN
1" = 10'



STAGE 2 CONSTRUCTION PLAN
1" = 10'

SUPV.	J.A.C.	
DESIGN	D.A.G.	
DRAWN	J.A.W.	
CHECKED	J.A.C.	
DATE	04/05/06	
NO.	DATE	DESCRIPTION
REVISIONS		

SCALE
AS SHOWN

WMC
CONSULTING ENGINEERS
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66 PROSPECT STREET
RIDGEFIELD, CT
06877

PORTLAND AVE. BRIDGE REHABILITATION
CONSTRUCTION STAGING

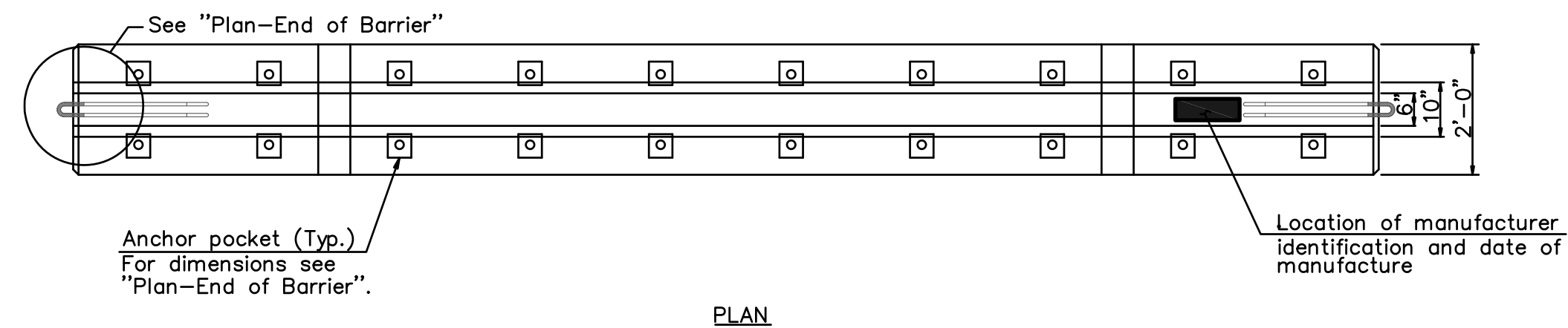
PORTLAND AVE BRIDGE	05064.10	SHEET 3
PROJECT	FILE NAME	NUMBER
REV.	OF	11

NOTES

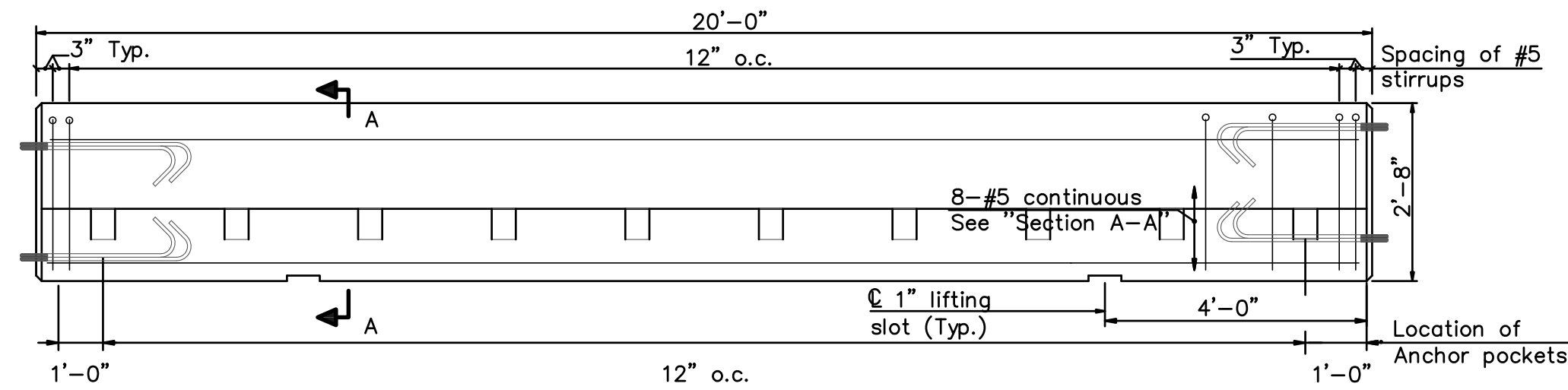
- The temporary barrier shown on this sheet shall be anchored onto bridge decks (see "Temporary Anchorage System") when it is used to protect a vertical drop-off. The temporary anchorage system shall conform to the following:
 - Prestressed Deck Units: Threaded inserts shall be used for securing temporary barrier (structure) to prestressed deck units. The threaded inserts shall be cast into the deck units during fabrication and shall be located as required to accommodate the stage construction. See special provisions for additional information.
 - Chemical Anchoring: This consists of drilling holes in new or existing concrete, placing threaded anchors in the holes, and securing the anchors with a pre-approved chemical anchor material which conforms to M.03.01-15 of the Standard Specifications. Hole diameter shall be determined by the manufacturer of the chemical anchoring material.
 - Through-Bolting: This consists of drilling through deck slabs and securing removable anchors on the underside with plate washers and nuts. Through-bolting is not permitted on new construction or prestressed concrete. Maximum hole size in slab = 1 1/2".
- Number of Anchors: On the traffic side of a typical barrier, anchors shall be installed in all pockets. At barrier units which straddle bridge expansion joints the anchor and connection details shall conform to Table "A".
- The work done on this sheet, with the exception of the delineators, shall be paid for under the item "Temporary Precast Concrete Barrier Curb (Structure)".

NOTES FOR CONNECTION ROD DETAILS
(SEE "ELEVATION-BARRIER CONNECTION DETAILS")

- Plain circular steel washers shall be manufactured with the following dimensions:
Outside diameter = 2 3/4" (+ 1/4", - 0)
Inside diameter = 1 3/8" (± 1/16")
Thickness = 3/16"
- The nuts on the connection rod shall be turned until the bottom washer is drawn up against the loop bar. The loop bars shall not be bent due to the tightening process.
- For ease of removal the threads on the connection rods and nuts shall be waxed.



PLAN



ELEVATION PRECAST BARRIER UNIT (STRUCTURE)
Not to Scale

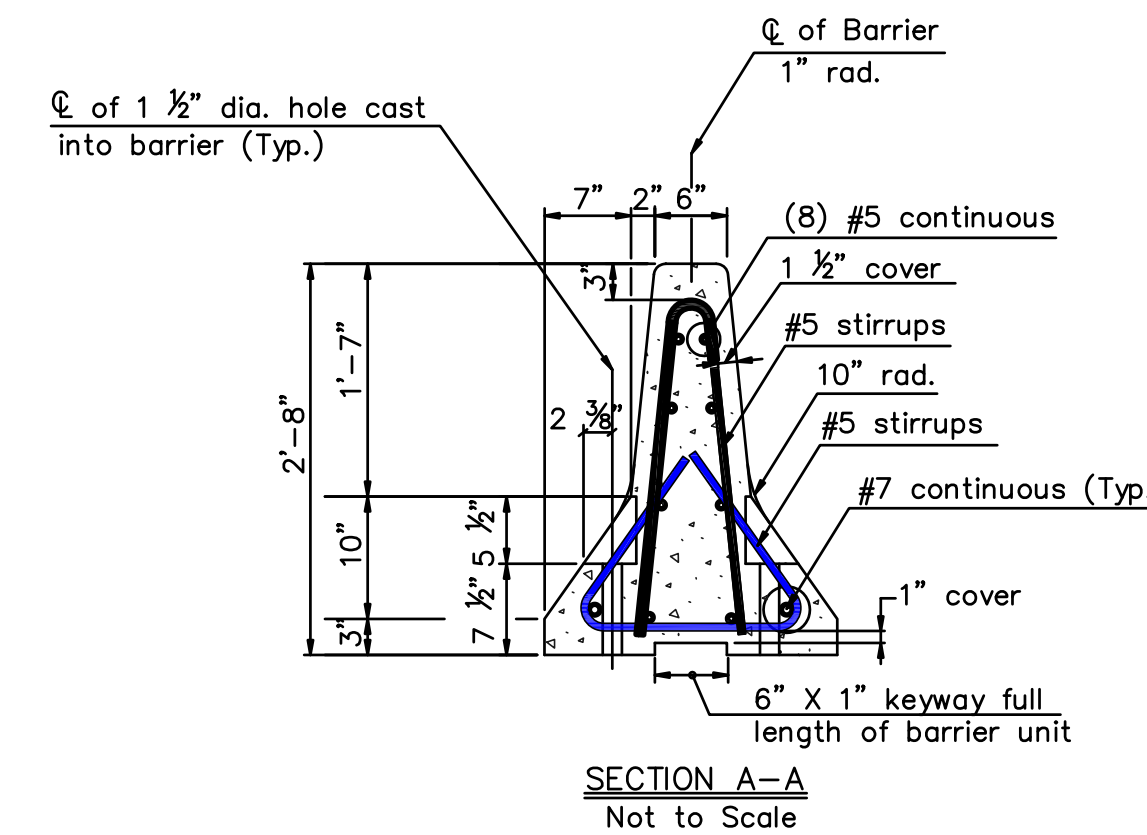
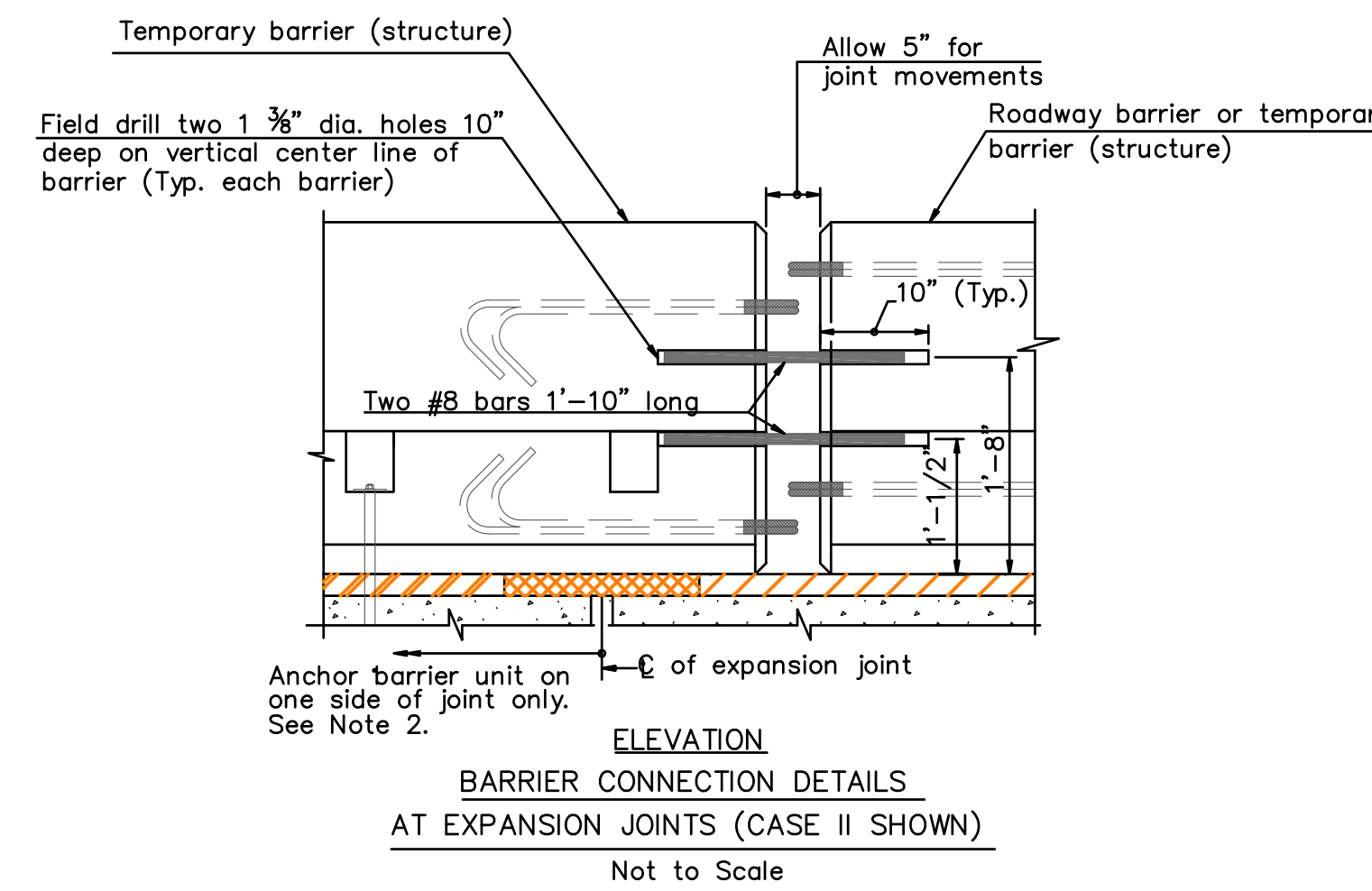
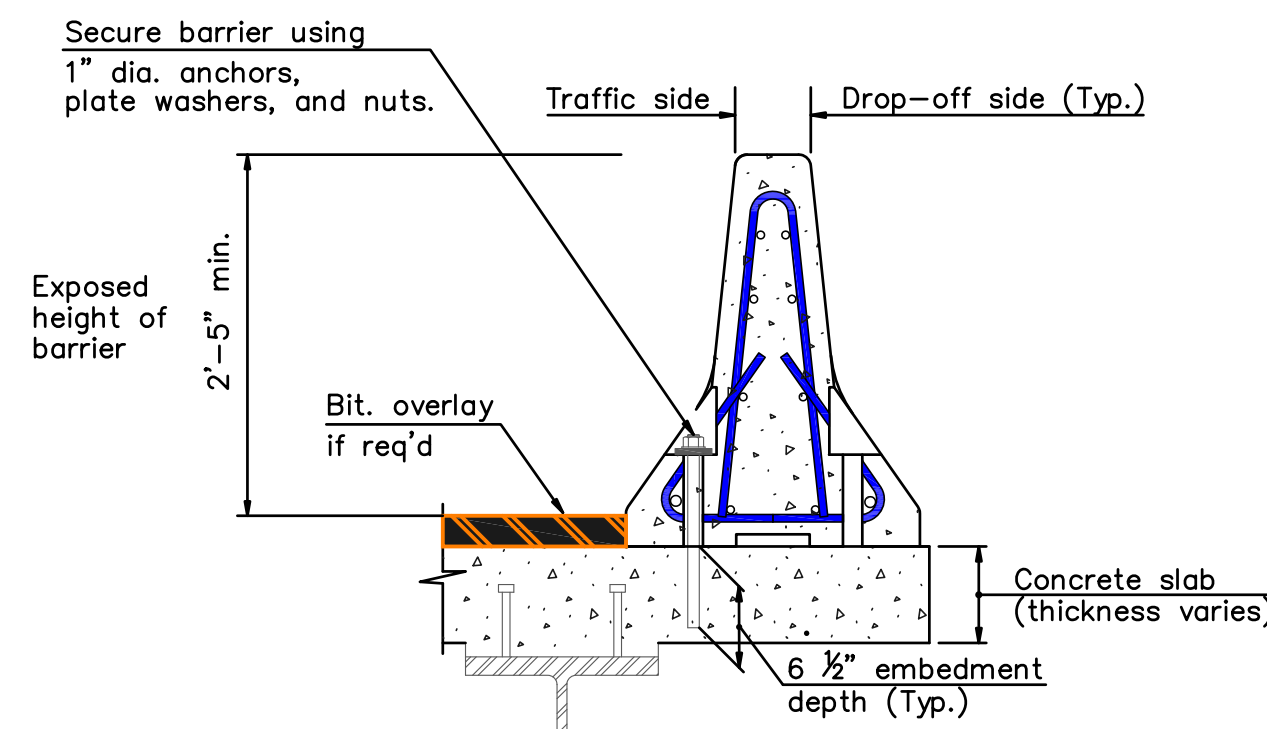
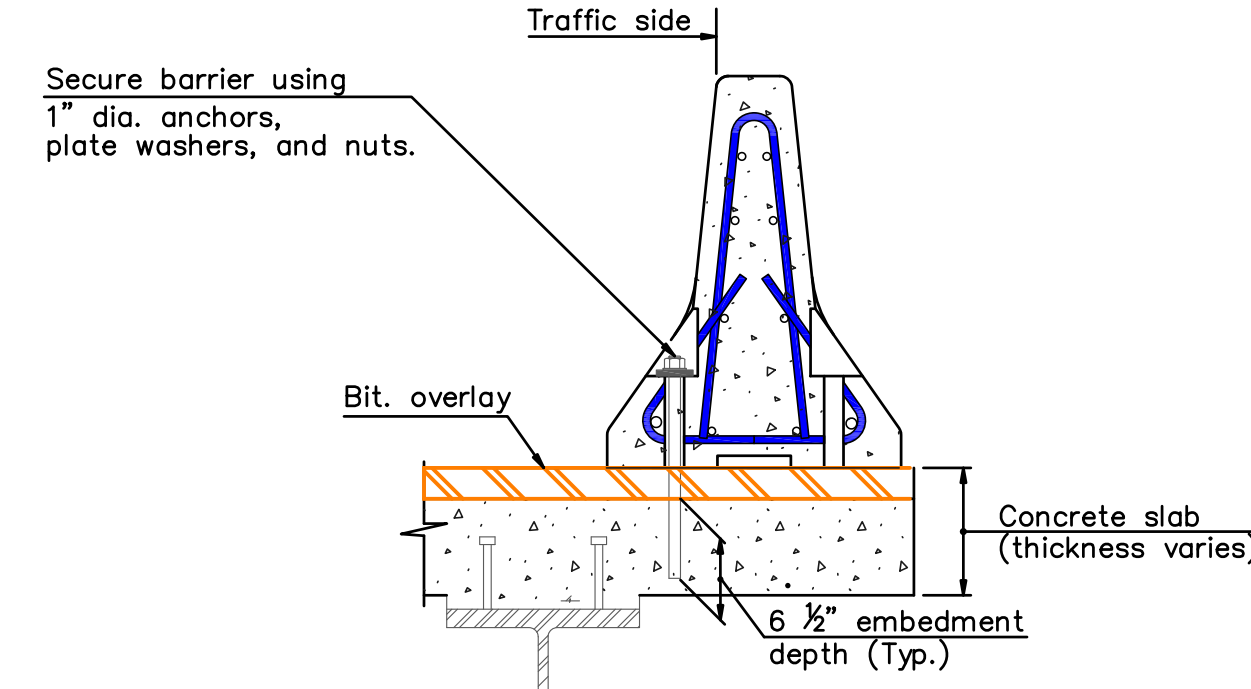


TABLE "A": BARRIER UNITS AT EXP. JOINTS			
Case	Span Length Contributing to Movement at the Expansion Joint.	Method of End Connection to Abutting Barrier Unit. (Where movement will occur)	Anchor Requirements for the Barrier Unit which Straddles the Bridge Joint
I.	Up to 100 feet	Use 1 3/8" connection rod but do not over tighten the nuts and allow room for expansion around the rod and loops.	On one side of the joint only, install as many anchors as possible on the traffic side of the barrier. On the other side of the joint do not install anchors.
II.	100 to 425 feet	Field drill holes in ends of both units and connect with 2-#8 bars. For details see "Barrier Connection Details".	On one side of the joint only, install a total of 10 anchors. Fill the pockets on the traffic side before filling the pockets on the drop-off side. If this cannot be achieved see III below.
III.	Over 425 feet and barrier layouts which do not satisfy II.	To be designed by Contractor and reviewed by Engineer. Cost of designing and furnishing special barrier units or attachments paid for under "TPCBC (Structure)".	To be designed by Contractor and reviewed by Engineer. Cost of designing and furnishing special barrier units or attachments paid for under "TPCBC (Structure)".



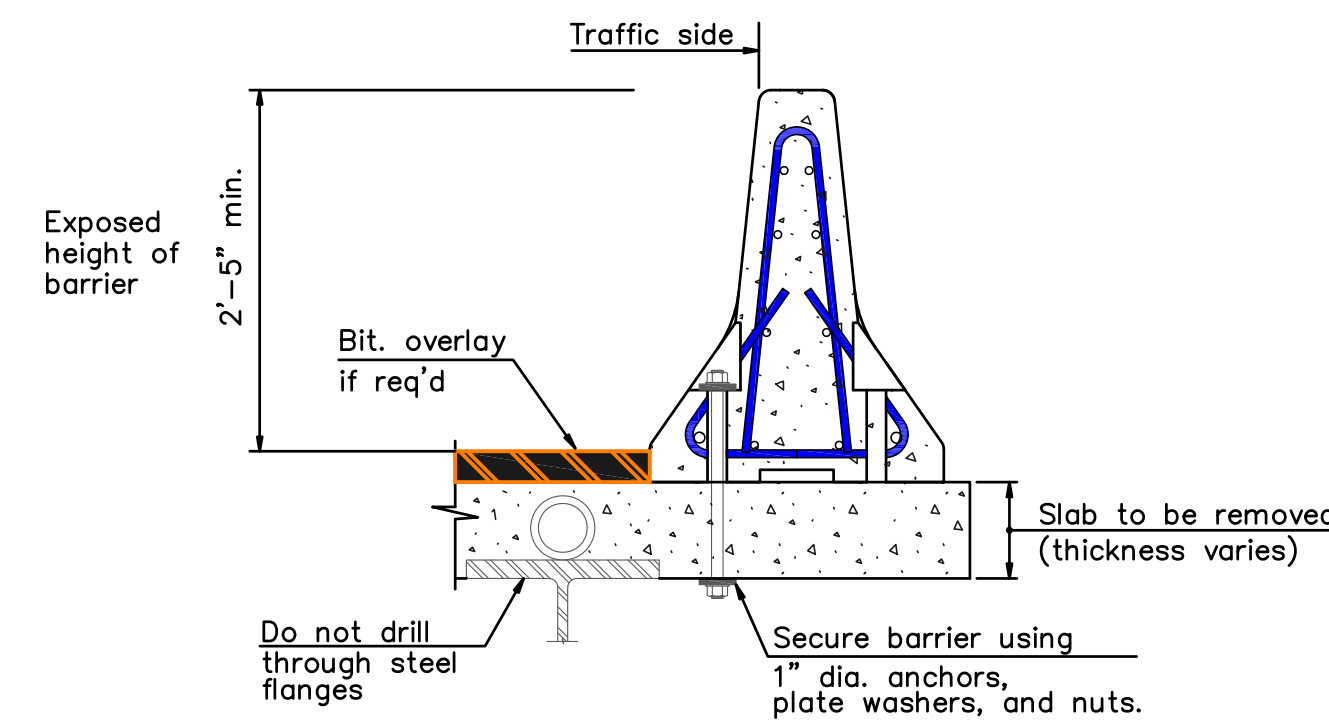
BARRIER ON CONCRETE



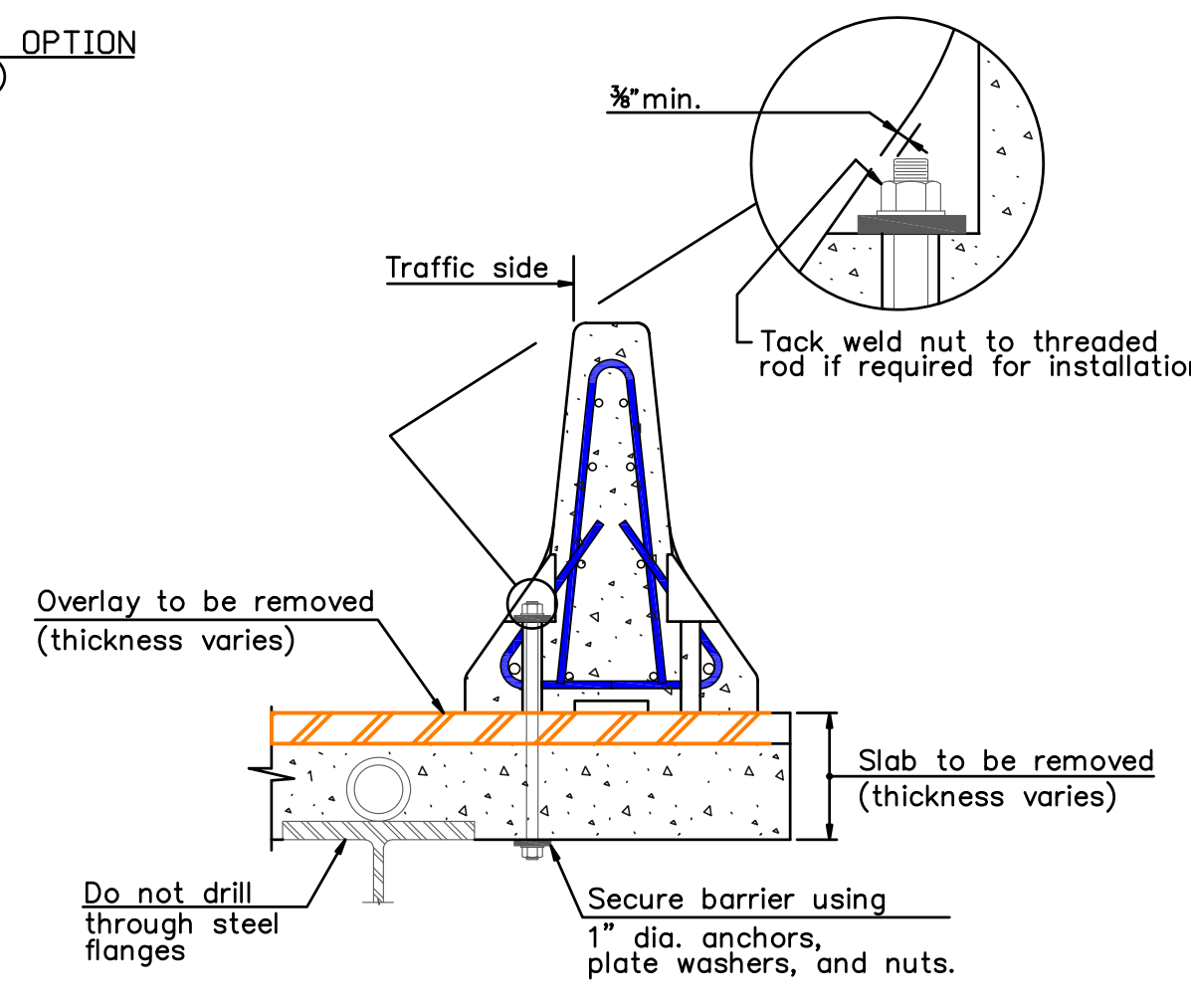
BARRIER ON BIT OVERLAY

- Notes:
1) For anchoring into deck units see Note 1a.
2) Existing reinforcing bars in slab not drawn for clarity. Avoid damaging the reinforcing bars in all newly constructed slabs.

CHEMICAL ANCHORING OPTION
(See Note 1b)



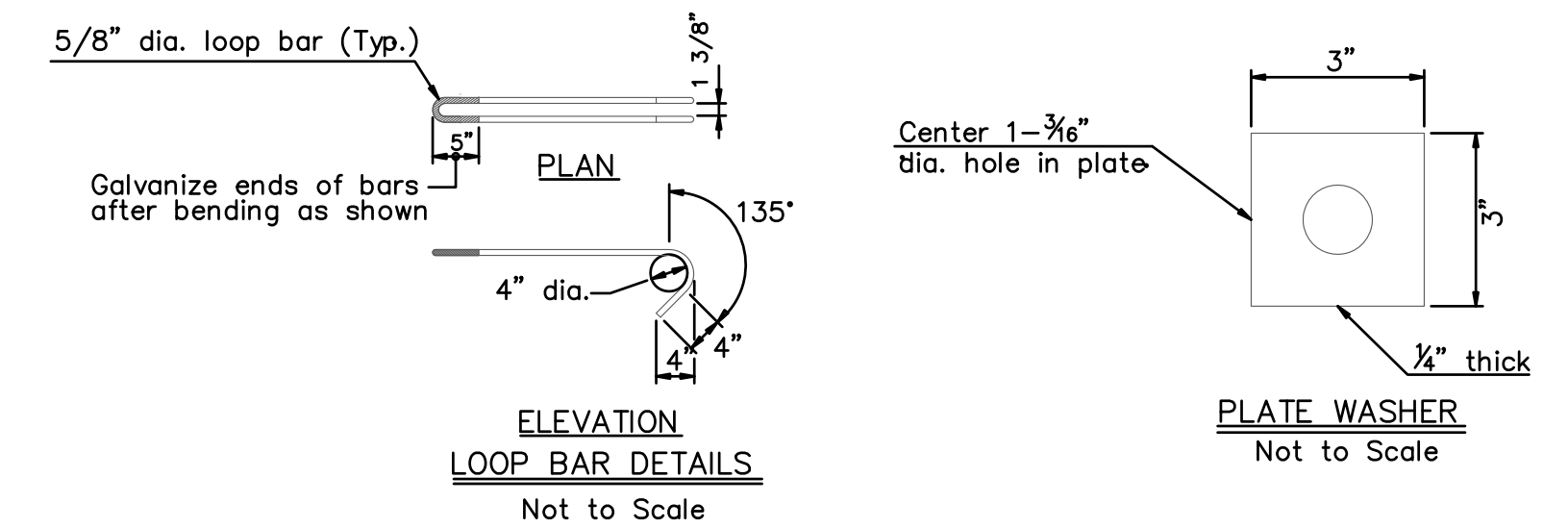
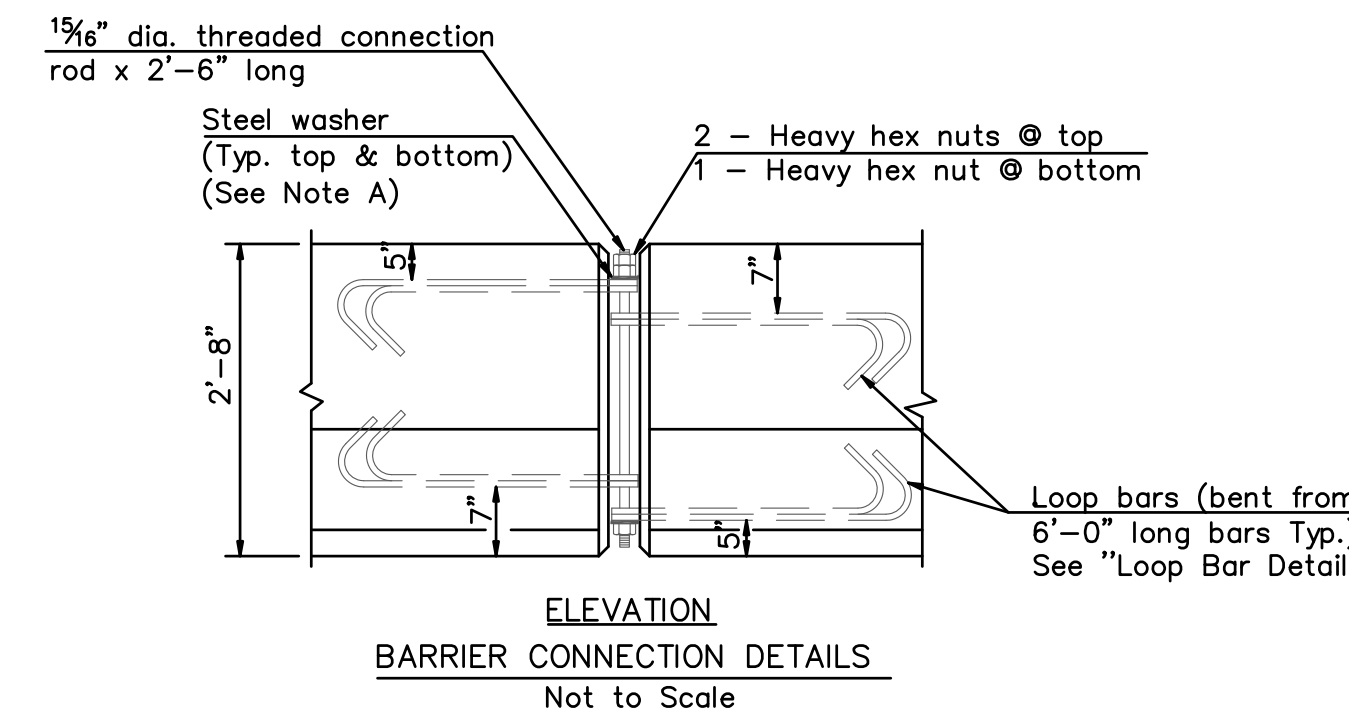
BARRIER ON CONCRETE



BARRIER ON BIT OVERLAY

THRU-BOLTING OPTION
(See Note 1c)

TEMPORARY ANCHORAGE SYSTEM
Not to Scale



Encapsulated lens reflective sheeting to conform to Article M18.09

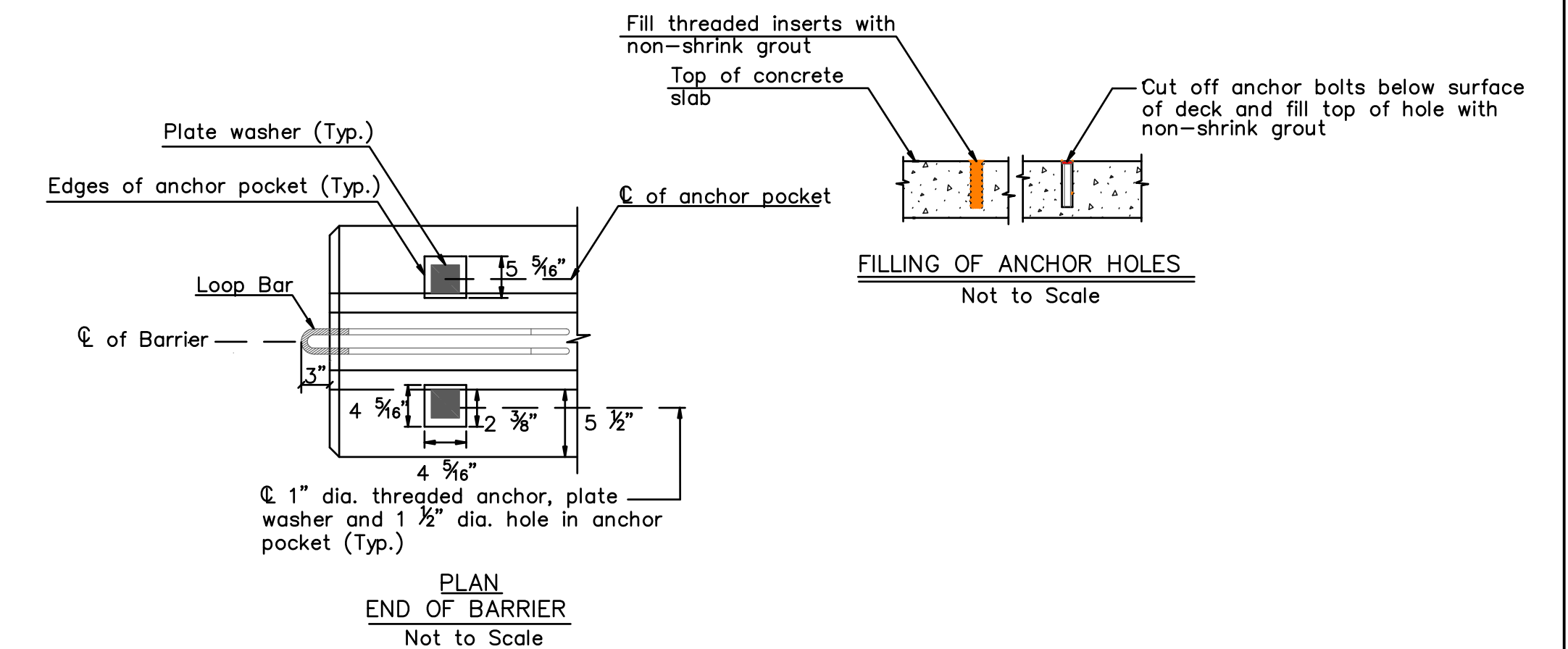
COLOR APPLICATION
Left side of all roadways and ramps - YELLOW
Right side of all roadways and ramps - SILVER

COLOR OF DELINEATORS
DE-7A One Way Yellow
DE-7 One Way Silver
DE-7B Two Way Yellow
DE-7C Silver/Yellow Back to Back

Delineators shall be mounted in the center of temporary barriers as required.

SPACING OF DELINEATORS
On leading tapered sections - every unit (20 ft.).
On the first 100 ft. of parallel sections - every unit (20 ft.).
On the remaining length - every fifth (5th) unit (100 ft.).
Minimum of 2 if less than 100 ft.
Alternating one way traffic - every unit (20 ft.).
All other roadways shall be delineated in accordance with M.U.T.C.D. Paid for under Item "Delineators"

DELINATORS
Not to Scale



PLAN END OF BARRIER
Not to Scale

SUPV.	J.A.C.
DESIGN	D.A.G.
DRAWN	J.A.W.
CHECKED	J.A.C.
NO. DATE DESCRIPTION	DATE
REVISIONS	04/05/06

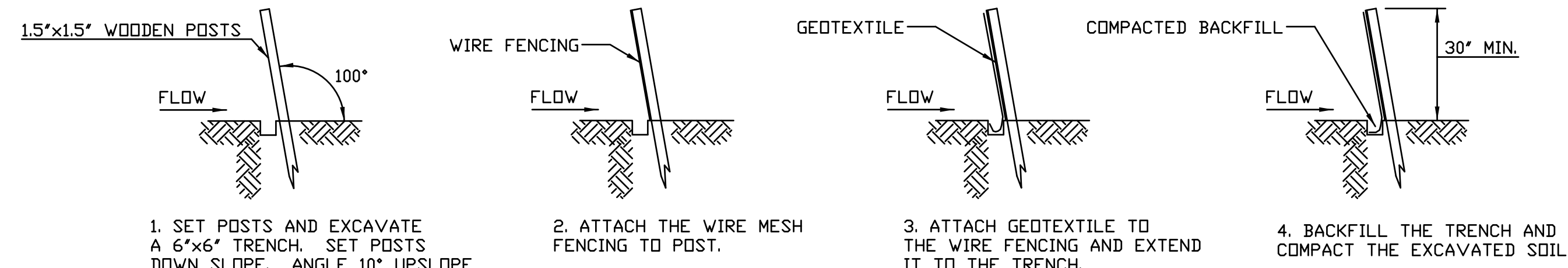
SCALE AS NOTED

WMC
CONSULTING ENGINEERS
• WENGELL, McDONNELL & COSTELLO •
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PREPARED FOR
TOWN OF RIDGEFIELD
66 PROSPECT STREET
RIDGEFIELD, CT
06877

PORTLAND AVENUE BRIDGE REHABILITATION
TEMPORARY PRECAST CONCRETE
BARRIER CURB (STRUCTURE)

PORTLAND AVE BRIDGE	05064.10	SHEET 4
PROJECT FILE NAME	NUMBER	REV. OF
		11



1. SET POSTS AND EXCAVATE A 6"x6" TRENCH. SET POSTS DOWN SLOPE, ANGLE 10° UPSLOPE FOR STABILITY AND SELF CLEANING.

2. ATTACH THE WIRE MESH FENCING TO POST.

3. ATTACH GEOTEXTILE TO THE WIRE FENCING AND EXTEND IT TO THE TRENCH.

4. BACKFILL THE TRENCH AND COMPACT THE EXCAVATED SOIL.

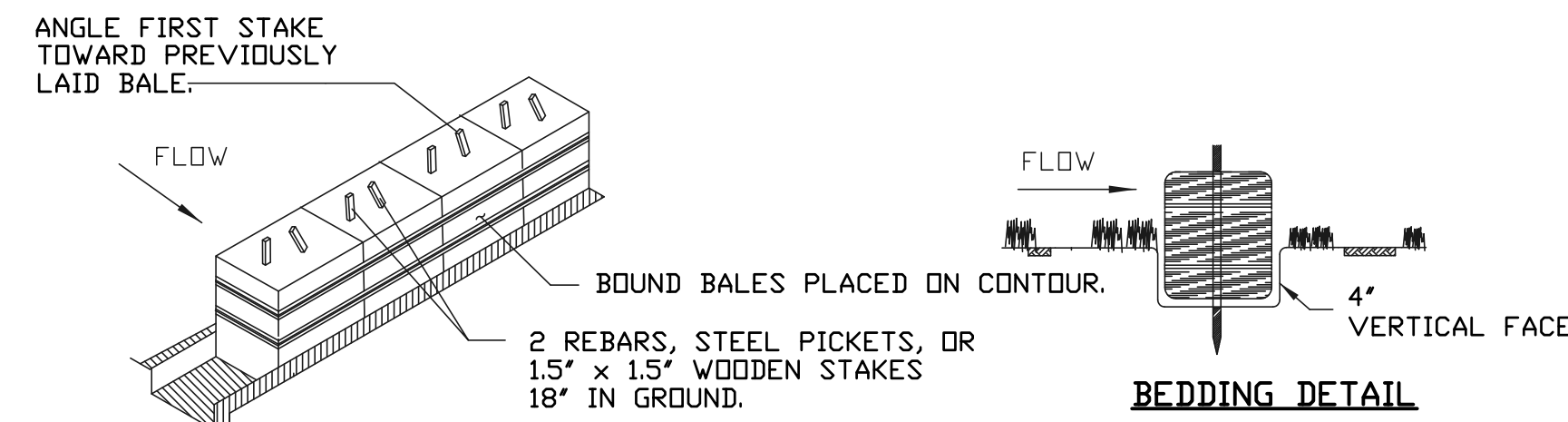
* WHEN INSTALLATION OF TRENCH IS IMPRACTICAL, ALTERNATE INSTALLATION SHALL BE TO LAY 6" FLAP HORIZONTALLY ON GROUND AND BURY FLAP BY RAMP SOIL OR STONE UP TO CONTROL FENCE. DEPTH OF RAMP SHALL BE AS REQUIRED TO HOLD DOWN FLAP WITHOUT LEAKAGE UNDER CONTROL FENCE WHILE MAINTAINING MINIMUM HEIGHT.

GEOTEXTILE FENCE SYSTEM

REFER TO PAGE 5-11-35 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 55 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

SEDIMENTATION CONTROL SYSTEM INSTALLATION

N.T.S.



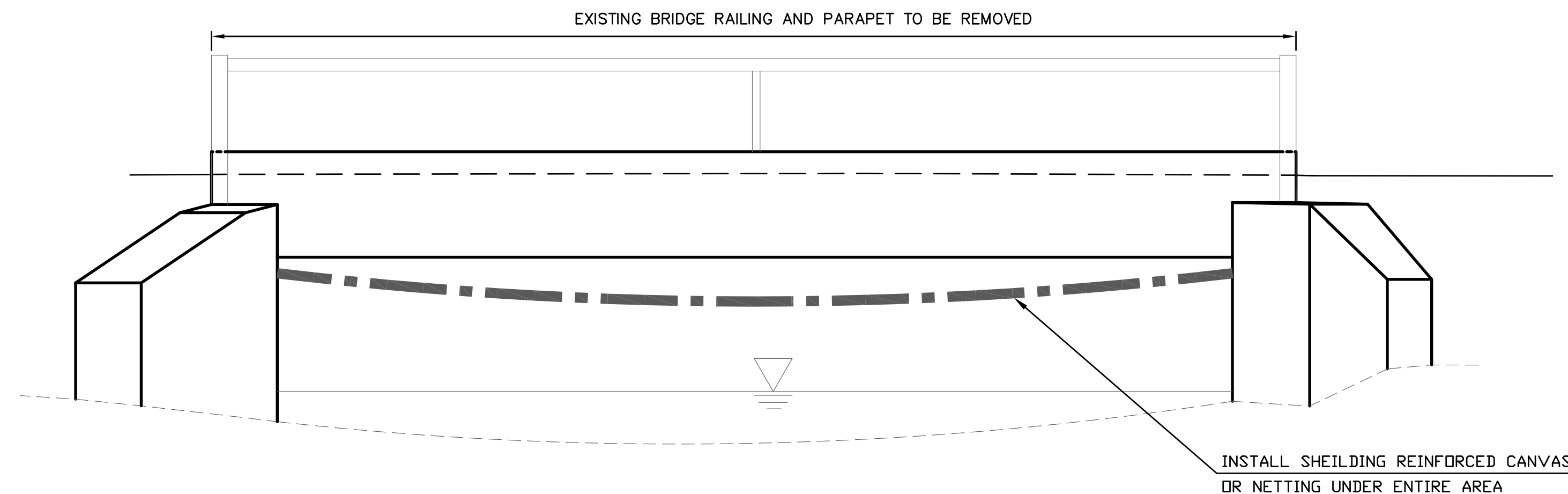
HAY BALE CONSTRUCTION SPECIFICATIONS:

- HAY BALES SHALL BE PLACED AROUND NEWLY INSTALLED CATCH BASINS IN SAGS AND DROP INLETS TO PREVENT SEDIMENTATION AND OTHER DEBRIS FROM ACCUMULATING ON THE GRATE OR IN THE SUMP. HAY BALES SHOULD BE KEPT CLEAN AND FREE OF DEBRIS TO FACILITATE FLOW.
- EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4", AND PLACED SO THE BINDINGS ARE HORIZONTAL.
- BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
- INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

REFER TO PAGE 5-11-30 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 53 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

HAY BALE DETAIL

N.T.S.



**ELEVATION VIEW
SHEILDING/PROTECTION DETAIL**

N.T.S.

NOTE: THE COST OF FURNISHING AND INSTALLING THE SHEILDING/PROTECTION WILL BE INCLUDED IN THE COST OF "REMOVAL OF EXISTING MASONRY".

GENERAL

THIS PLAN PROPOSES EROSION CONTROL MEASURES TO HELP CONTROL ACCELERATED EROSION AND SEDIMENTATION AND REDUCE THE DANGER FROM STORM WATER RUNOFF AT THE SITE. THE RUNOFF SHALL BE CONTROLLED BY THE INTERCEPTION, DIVERSION, AND SAFE DISPOSAL OF PRECIPITATION. RUNOFF SHALL ALSO BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY AND PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE. EXISTING VEGETATION SHALL BE PROTECTED AND ONLY THAT CLEARING AND GRUBBING ABSOLUTELY NECESSARY FOR THE PROPOSED CONSTRUCTION SHALL BE PERFORMED. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR, UNLESS OTHERWISE INDICATED ON THE PLANS. THE CONTRACTOR SHALL TAKE SPECIAL CARE WITH HIS CONSTRUCTION METHODS AND SHALL COMPLY WITH THE FOLLOWING GUIDELINES. REFERENCE IS MADE TO THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" (2002), AS AMENDED. THE GUIDELINES ARE OBTAINABLE FROM THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION, 79 ELM STREET, HARTFORD, CONNECTICUT 06106, AND SHOULD BE USED AS A REFERENCE IN CONSTRUCTING THE EROSION AND SEDIMENTATION CONTROLS INDICATED ON THESE PLANS. AN ADDITIONAL REFERENCE IS THE 1994 CONNDOT PUBLICATION "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

EROSION CONTROL

ALL AREAS SHALL BE PROTECTED FROM EROSION DURING AND AFTER CONSTRUCTION, PARTICULARLY THE STORAGE OF EXCAVATED OR STOCKPILED MATERIAL. THE CONTRACTOR SHALL CAREFULLY STRIP ALL TOPSOIL, LOAM, OR ORGANIC MATTER PRIOR TO TRENCHING OR OTHER OPERATIONS AND SHALL STORE THEM SEPARATELY FROM ALL OTHER MATERIALS DURING EXCAVATION. EACH STOCKPILE MUST BE ADEQUATELY RINGED WITH SEDIMENTATION CONTROL SYSTEM (I.E. HAY BALES AND/OR GEOTEXTILE FENCE). DEBRIS AND OTHER WASTE RESULTING FROM EQUIPMENT MAINTENANCE AND CONSTRUCTION WILL NOT BE DISCARDED ON SITE. STABILIZING OF SLOPES SHALL BE DONE IMMEDIATELY AFTER CONSTRUCTION OF SLOPES. SLOPES STEEPER THAN 4:1 SHALL BE PROTECTED WITH EROSION CONTROL MATTING. THIS MATTING IS MANUFACTURED COMBINATIONS OF MULCH AND NETTING AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL OTHER AREAS SHALL BE MULCHED WITH HAY OR STRAW AT A RATE OF 2 TO 3 TONS PER ACRE. STRAW OR HAY MULCH MUST BE ANCHORED IMMEDIATELY AFTER SPREADING TO PREVENT WINDBLOWING. THE METHODS RECOMMENDED BY THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" SHALL BE USED FOR THE ANCHORING OF MULCH OR NETTING.

EROSION AND SEDIMENTATION CONTROL PLAN

AN EROSION AND SEDIMENTATION CONTROL PLAN MUST BE SUBMITTED IN WRITING TO THE ENGINEER AND APPROVED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. SEDIMENTATION CONTROL SYSTEM - THE SEDIMENTATION CONTROL SYSTEM SHALL CONSIST OF A GEOTEXTILE BARRIER FENCE. THE SEDIMENTATION CONTROL SYSTEM SHALL BE INSTALLED IMMEDIATELY AFTER A CUT SLOPE HAS BEEN GRADED, BEFORE A FILL SLOPE HAS BEEN CREATED AND AS INDICATED ON THE PLANS. THE SYSTEM IS DESIGNED TO INTERCEPT SILT AND SEDIMENT BEFORE IT REACHES THE WETLANDS OR WATERCOURSES. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE FENCE. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. THE SEDIMENTATION CONTROL SYSTEM IS TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE FENCE ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

STACKED HAY BALES - HAY OR STRAW BALES USED FOR EROSION CONTROL SHALL BE STACKED AT CATCH BASINS WHERE SEDIMENT MAY ENTER THE CATCH BASIN OR AS DIRECTED BY THE RESIDENT ENGINEER. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE EROSION CHECKS. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. HAY OR STRAW BALES ARE TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE EROSION CHECKS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

IN ALL AREAS, REMOVAL OF TREES, BUSHES, AND OTHER VEGETATION, AND DISTURBANCE OF THE SOIL, IS TO BE KEPT TO AN ABSOLUTE MINIMUM WHILE ALLOWING PROPER DEVELOPMENT OF THE SITE.

DURING CONSTRUCTION, AS SMALL AN AREA OF SOIL AS POSSIBLE SHOULD BE EXPOSED FOR AS SHORT A TIME AS POSSIBLE. AFTER CONSTRUCTION, GRADE, RESPREAD TOPSOIL, AND STABILIZE SOIL BY SEEDING AND MULCHING AS TO PREVENT EROSION.

EROSION AND SEDIMENTATION CONTROL MAINTENANCE PROCEDURES

ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION ON A DAILY BASIS AND FOLLOWING ALL STORMS BY THE RESIDENT ENGINEER. THE CONTRACTOR SHALL MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUESTED BY THE RESIDENT ENGINEER. THIS WORK SHALL BE PERFORMED WITHIN 24 HOURS OF THE REQUEST AND THERE SHALL BE NO SEPARATE PAYMENT FOR THIS WORK.

THE CONTRACTOR SHALL CLEAN SEDIMENT AND DEBRIS FROM ALL DRAINAGE STRUCTURES, AND PIPES AT THE COMPLETION OF CONSTRUCTION, AND AS REQUESTED BY THE RESIDENT INSPECTOR TO KEEP THE SYSTEM FUNCTIONING PROPERLY DURING CONSTRUCTION.

FOLLOWING COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REPAIR ALL ERODED AREAS AND ENSURE A GOOD STAND OF TURF IS ESTABLISHED THROUGHOUT. THE CONTRACTOR SHALL REPAIR ALL ERODED OR DISPLACED RIPRAP, AND CLEAN SEDIMENT COVERED STONES.

ALL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHOULD BE ESTABLISHED PRIOR TO AND BE MAINTAINED THROUGH ALL CONSTRUCTION PHASES.

SUPV.	J.A.C.
DESIGN	D.A.G.
DRAWN	J.A.W.
CHECKED	J.A.C.
DATE	04/05/06
REVISIONS	
NO.	DATE
	DESCRIPTION

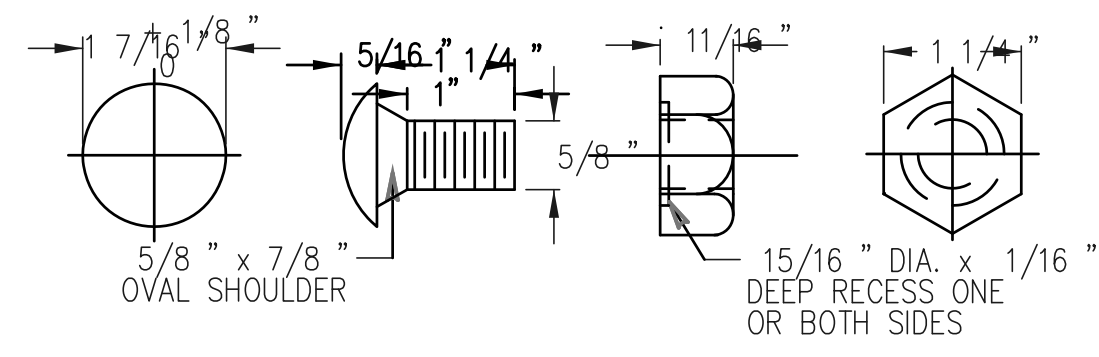
SCALE	AS NOTED
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WMC
CONSULTING ENGINEERS

• WENGELL, McDONNELL & COSTELLO •
87 HOLMES ROAD
NEWINGTON, CT 06111
(860) 667-9624

PREPARED FOR
THE TOWN OF RIDGEFIELD
66 PROSPECT STREET
RIDGEFIELD, CT
06877

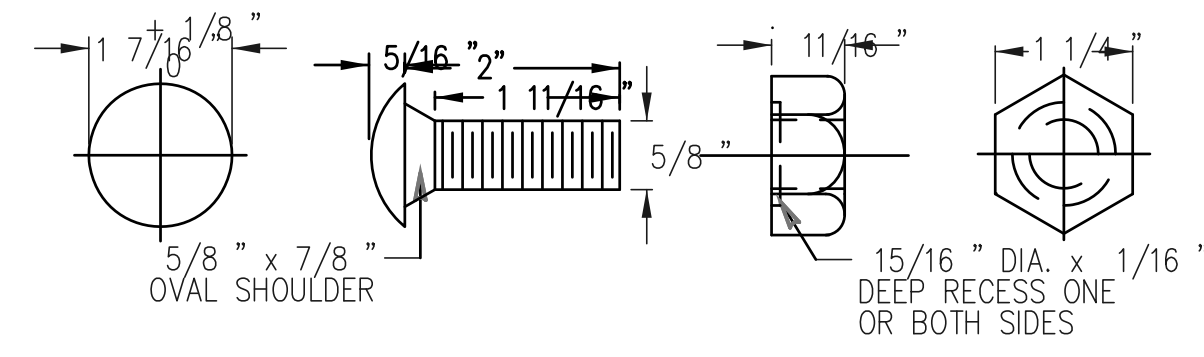
PORTLAND AVENUE BRIDGE REHABILITATION EROSION & SEDIMENTATION DETAILS			
D	-WOOSTER STREET-	05064.10	SHEET 5
SIZE	PROJECT	FILE NAME	NUMBER REV. OF



BUTTONHEAD BOLT HEX NUT

NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT.

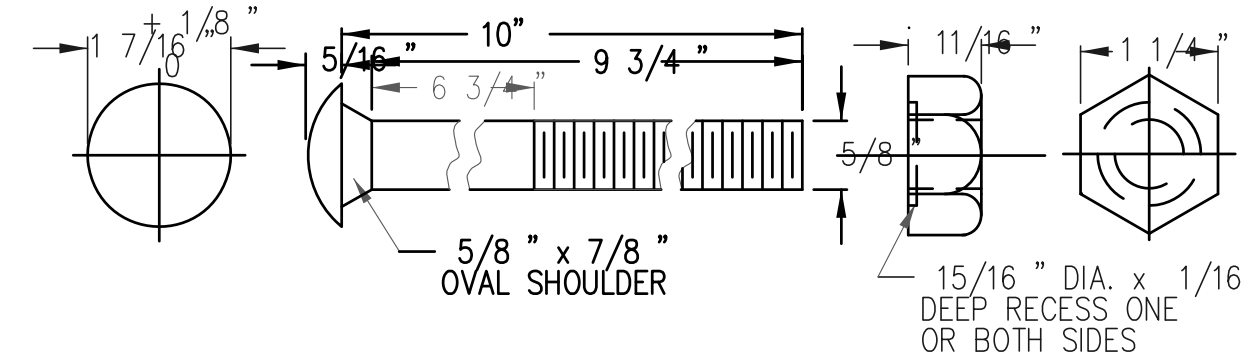
W-BEAM SPLICE BOLT AND NUT DETAIL



BUTTONHEAD BOLT HEX NUT

NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT.

POST BOLT AND NUT DETAIL FOR R-B 350 SYSTEM 6 RUBRAIL



BUTTONHEAD BOLT HEX NUT

NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT. UNTHREADED PORTION NOT TO EXCEED 6 1/2".

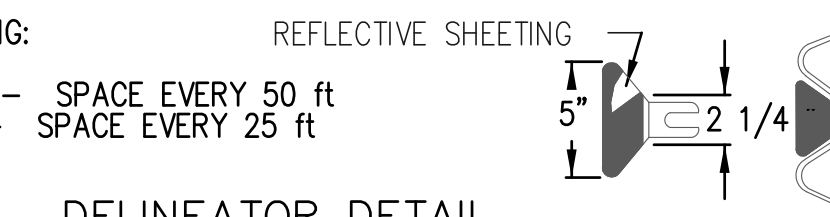
POST BOLT AND NUT DETAIL FOR R-B 350 & MD-B 350 GUIDERAIL

DELINEATOR NOTES:

1. DELINEATORS SHALL BE FORMED OF .080 POLY-CARBONATE OR .080 SHEET ALUMINUM IN CONFORMANCE WITH M.18.13.
2. REFLECTIVE SHEETING SHALL CONFORM TO M.18.09.02 REFLECTIVE BRIGHT WIDE ANGLE RETROREFLECTIVE SHEETING.
3. DELINEATORS SHALL BE INSTALLED ON THE POST CLOSEST TO THE DESIGNATED SPACING.
4. REFLECTIVE SHEETING SHALL BE WHITE EXCEPT ON THE LEFT SIDE OF DIVIDED STREETS, HIGHWAYS, RAMPS, AND ONE WAY ROADS IN THE DIRECTION OF TRAVEL WHEN IT SHALL BE YELLOW.
5. ONLY REFLECTORIZE RAIL THAT IS PARALLEL TO AND NOT GREATER THAN 6 FEET FROM THE EDGE OF THE ROADWAY. A MINIMUM OF THREE DELINEATORS MUST BE INSTALLED ON ANY RUN OF RAIL.

DELINEATOR SPACING:

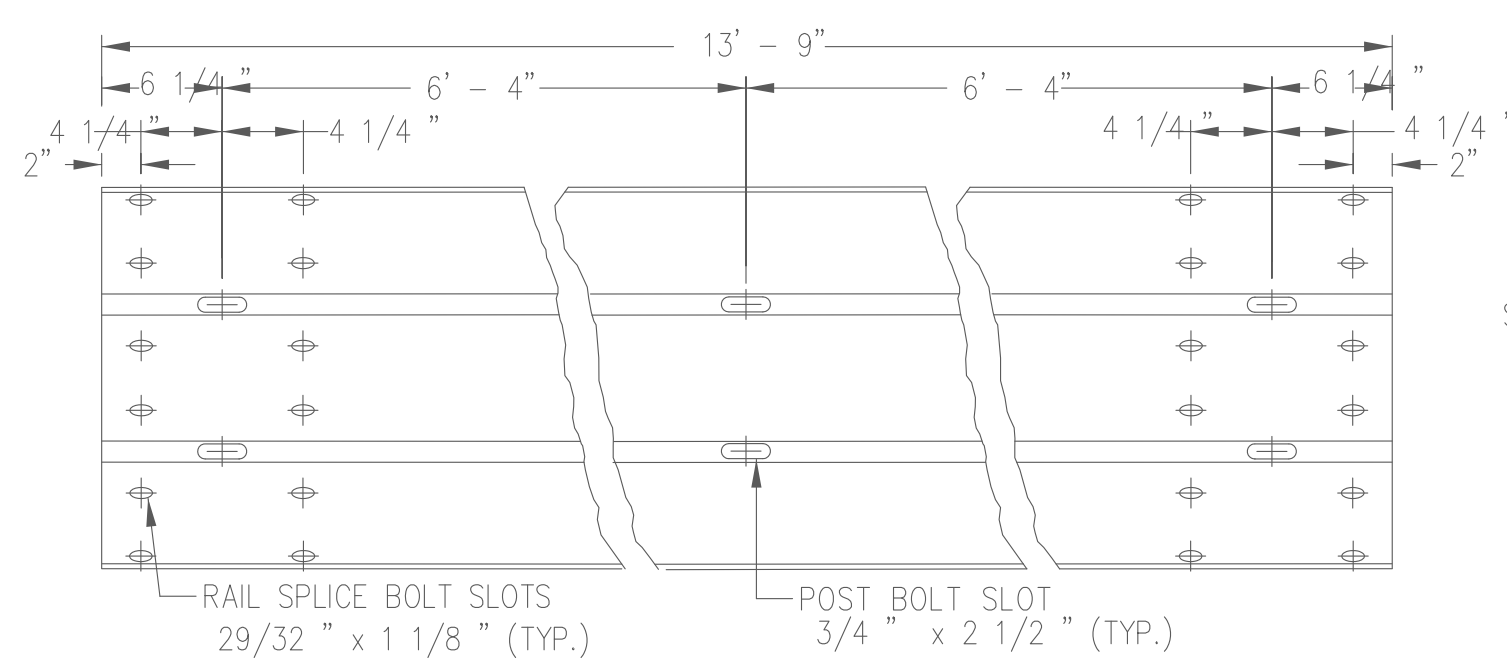
RADIUS > 300 ft - SPACE EVERY 50 ft
RADIUS < 300 ft - SPACE EVERY 25 ft



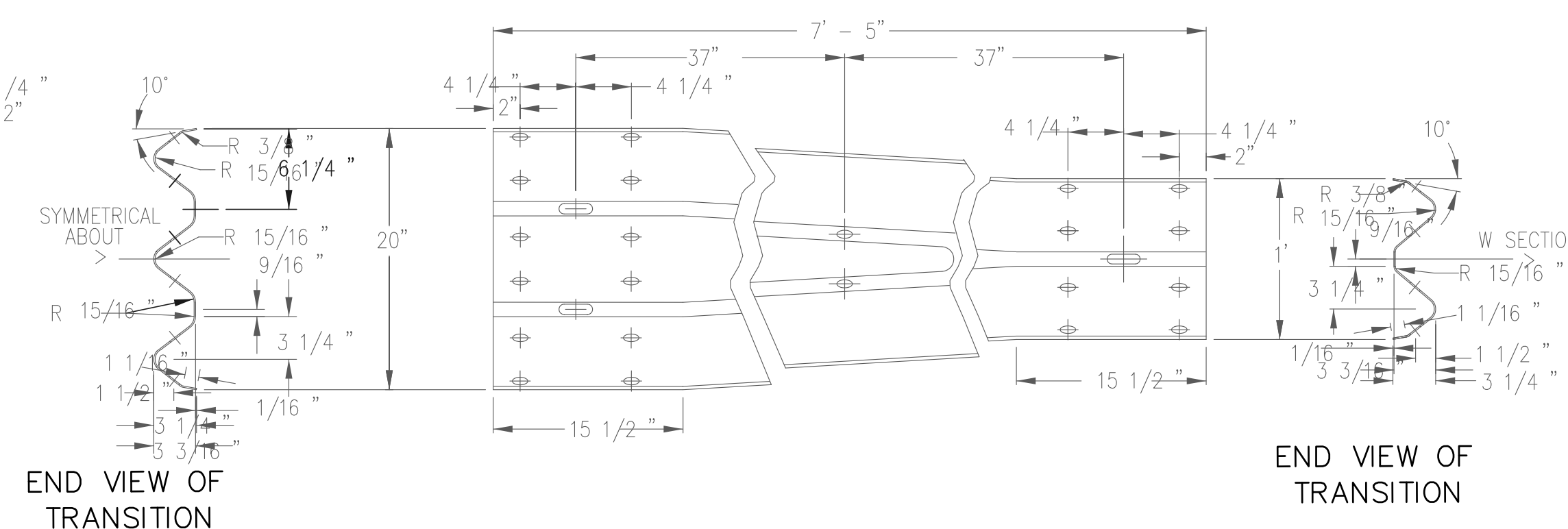
DELINEATOR DETAIL

GENERAL NOTE:

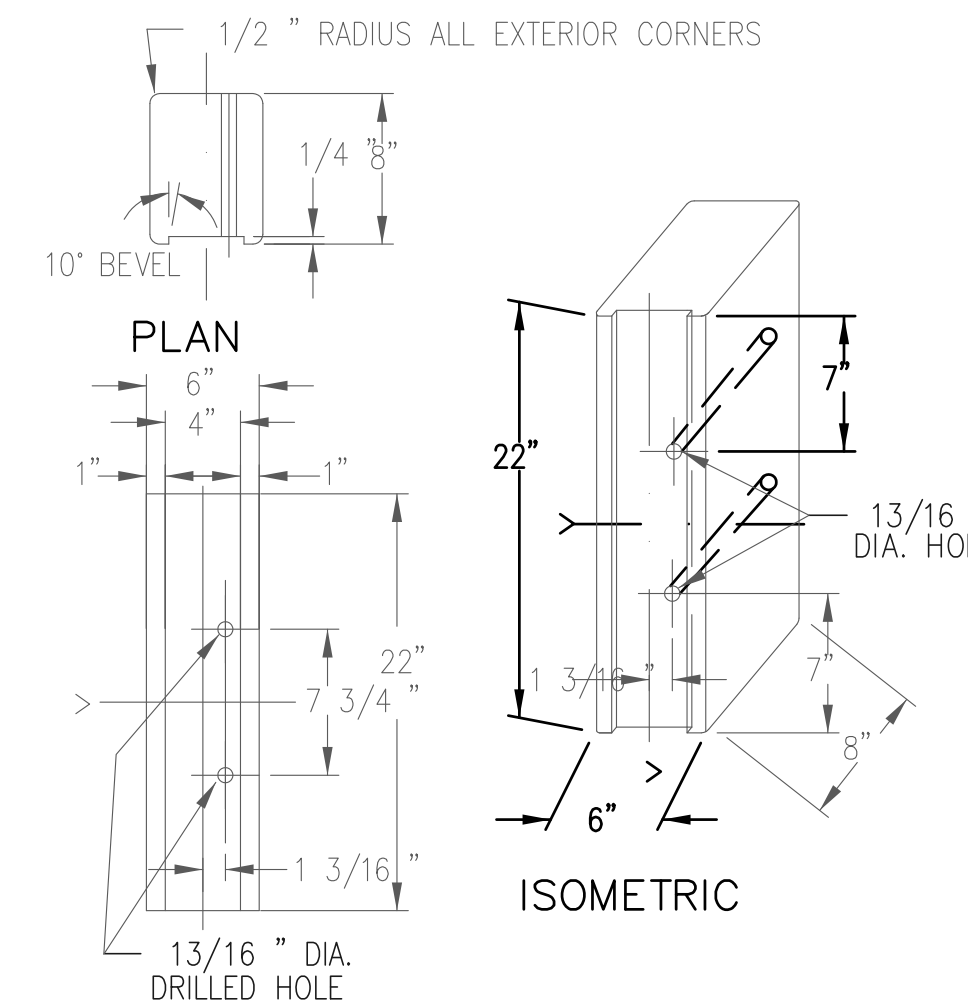
1. NEW R-B 350 GUIDERAIL INCLUDING SYSTEMS ANCHORS AND TRANSITIONS INSTALLED ON LIMITED ACCESS HIGHWAYS AND RAMPS SHALL USE CLASS B TYPE II (10 GAUGE) W-BEAM RAIL ELEMENTS.
2. WHEN CORE 10 POSTS ARE SPECIFIED, 4 FEET SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123. THE GALVANIZED COATING SHALL REMAIN EXPOSED A MINIMUM OF 1" AFTER INSTALLATION.



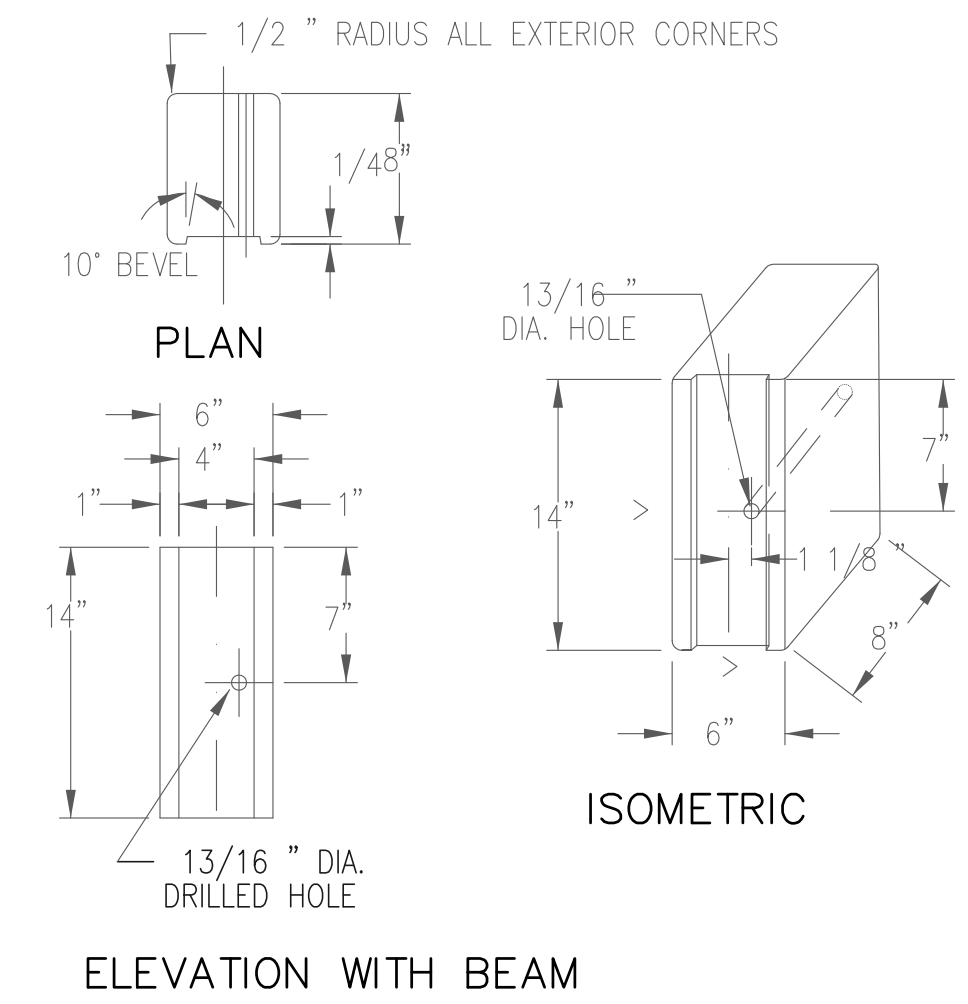
TYPICAL THREE-BEAM RAIL ELEMENT CLASS B, TYPE II



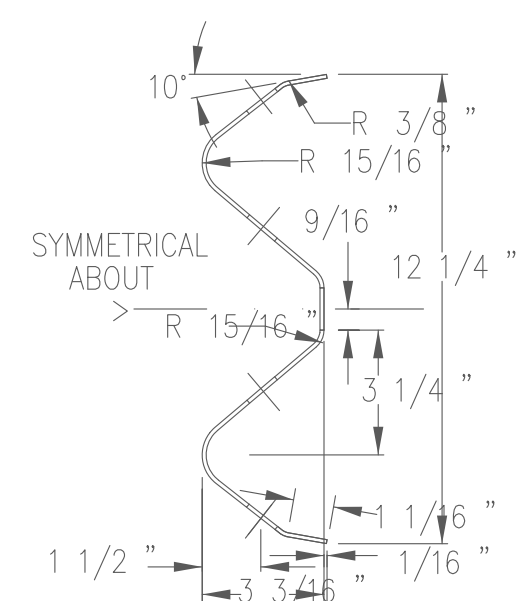
TYPICAL THREE-BEAM TRANSITION ELEMENT CLASS B, TYPE II



ELEVATION THRE-BEAM POLYETHYLENE BLOCKOUT DETAIL

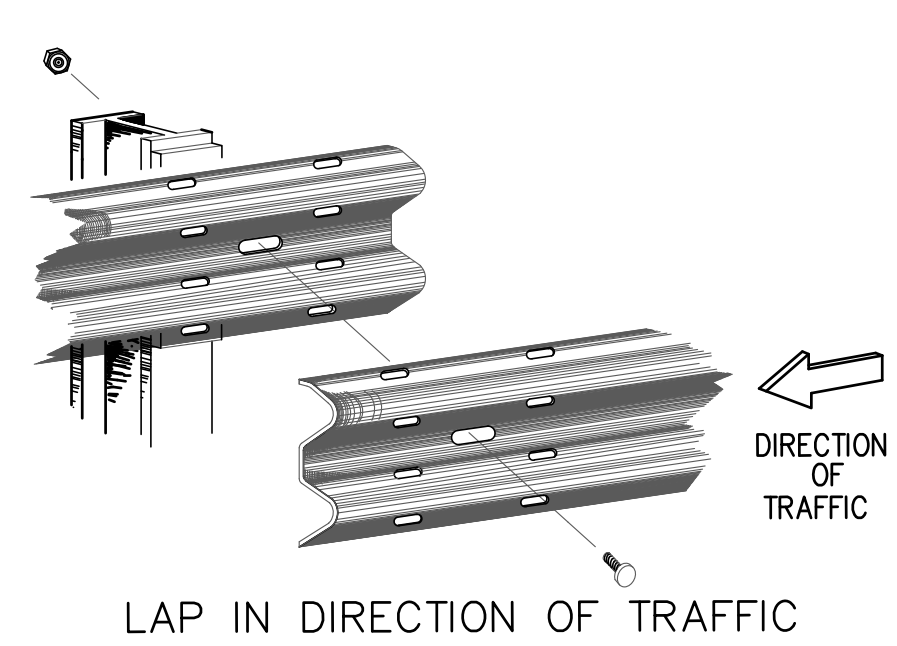


ELEVATION WITH BEAM R - B 350 POLYETHYLENE BLOCKOUT DETAIL

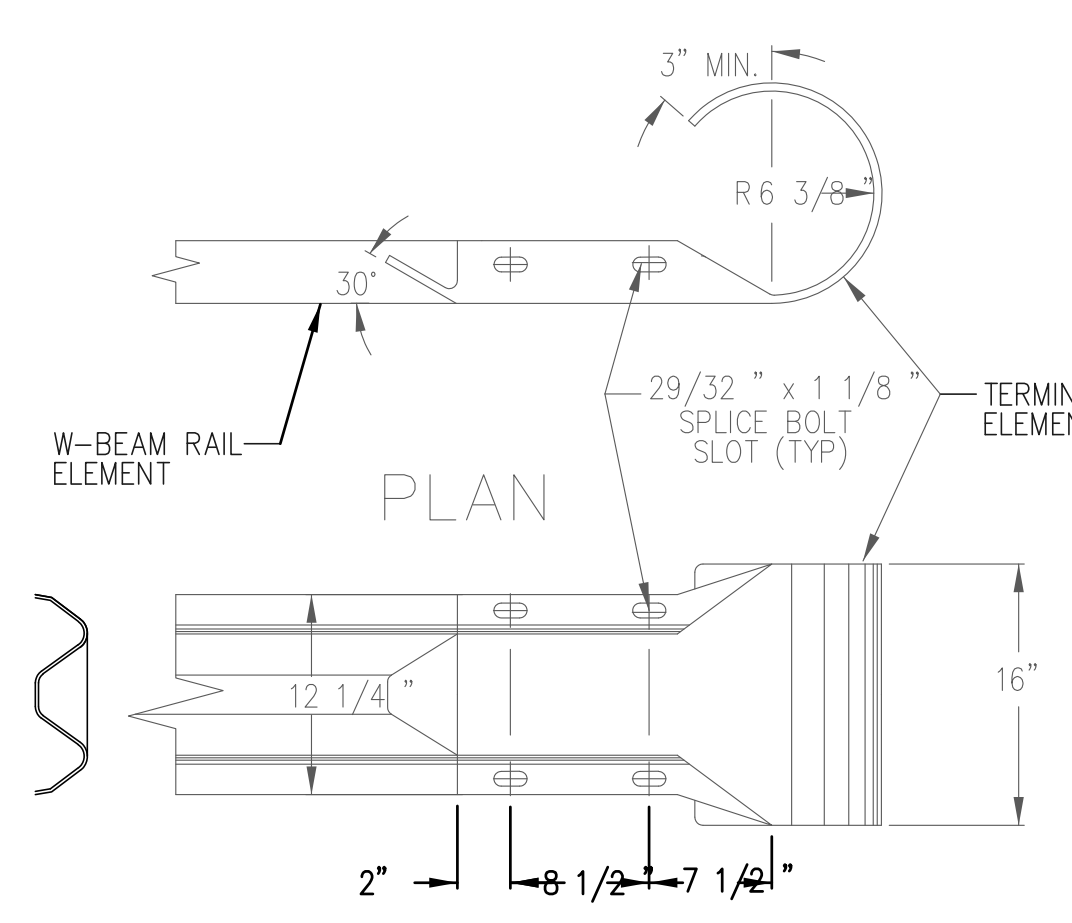


SECTION THRU RAIL ELEMENT DETAIL

NOTE: ALL DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES

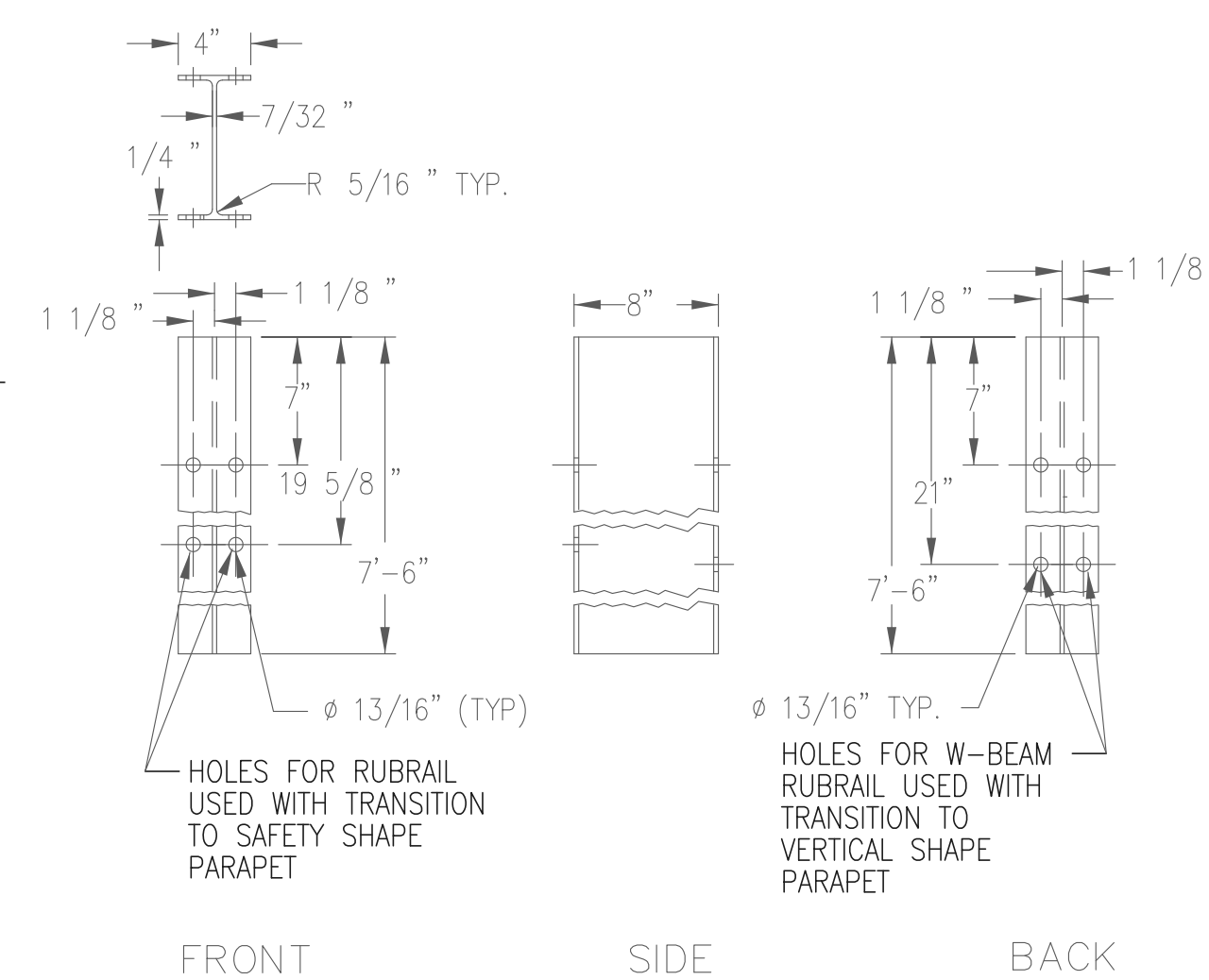


LAP IN DIRECTION OF TRAFFIC

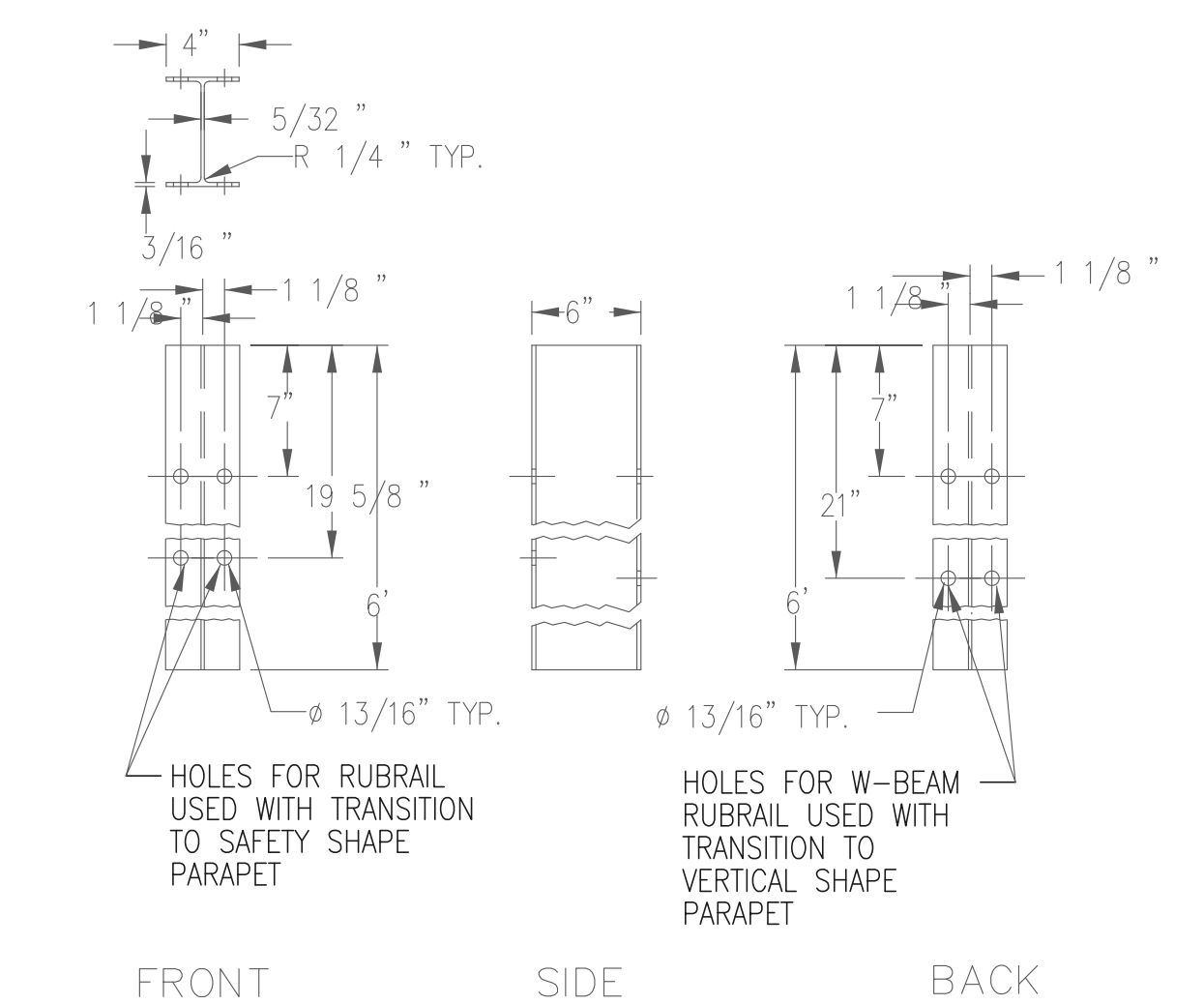


R-B TERMINAL SECTION CLASS A TYPE II

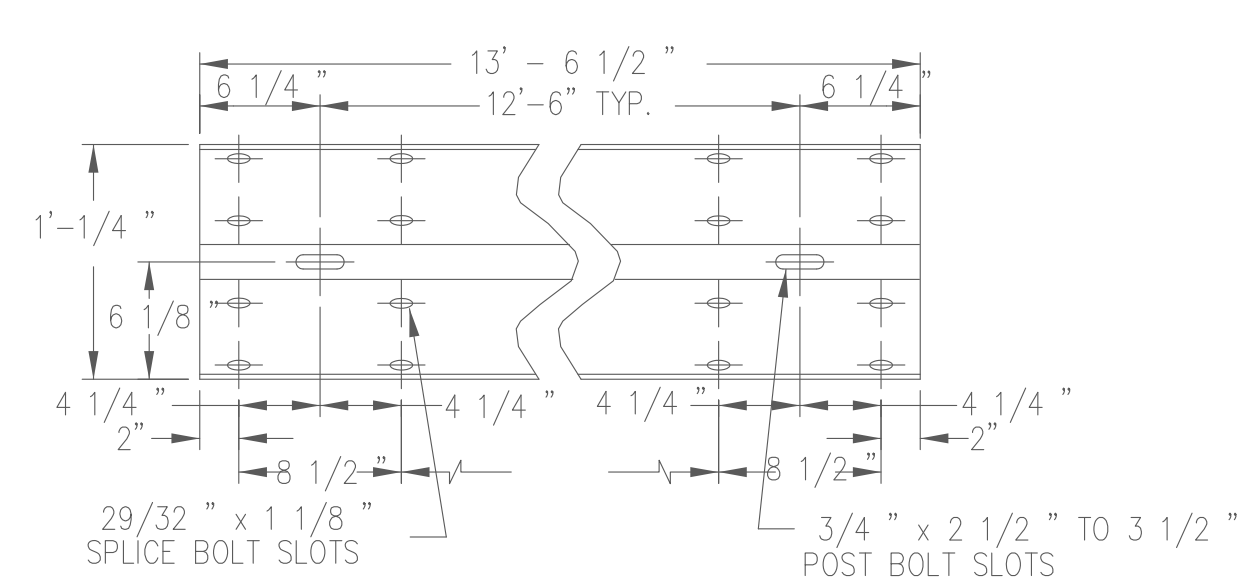
NOTE: THIS END SECTION IS NOT CRASH WORTHY. IT IS INTENDED FOR USE PRIMARILY ON LOW SPEED ROADWAYS, DRIVEWAY ENTRANCES, OR PARKING LOTS WHERE IT CAN NOT BE HIT.



BOLT HOLE SPACING DETAIL FOR W8 x13 UNIFORM POST (SEE NOTE 2 FOR CORE 10 APPLICATION.)

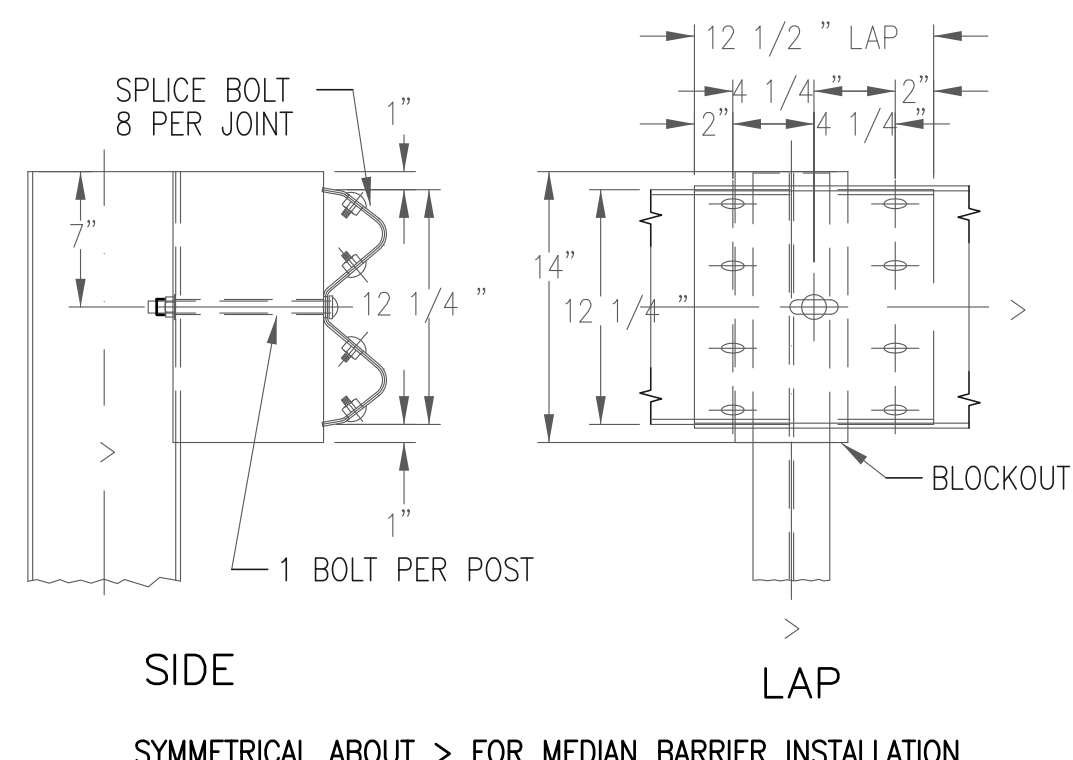


BOLT HOLE SPACING DETAIL FOR W6 x 8.5 UNIFORM POST (SEE NOTE 2 FOR CORE 10 APPLICATION.)



TYPICAL W-BEAM RAIL ELEMENT CLASS A, TYPE II

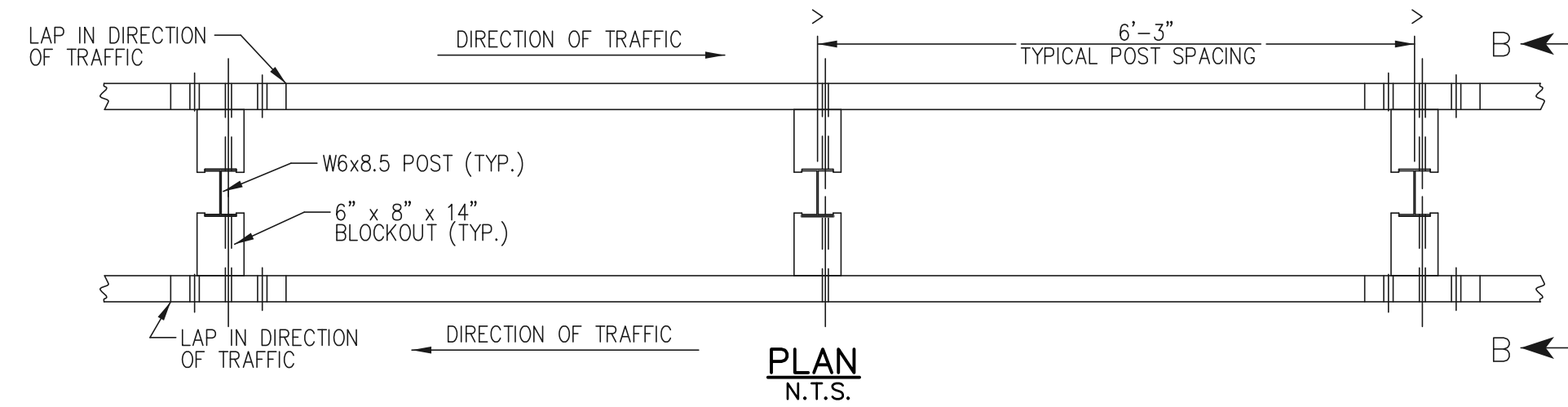
(SEE NOTE 1 FOR 10 GAUGE APPLICATION.)



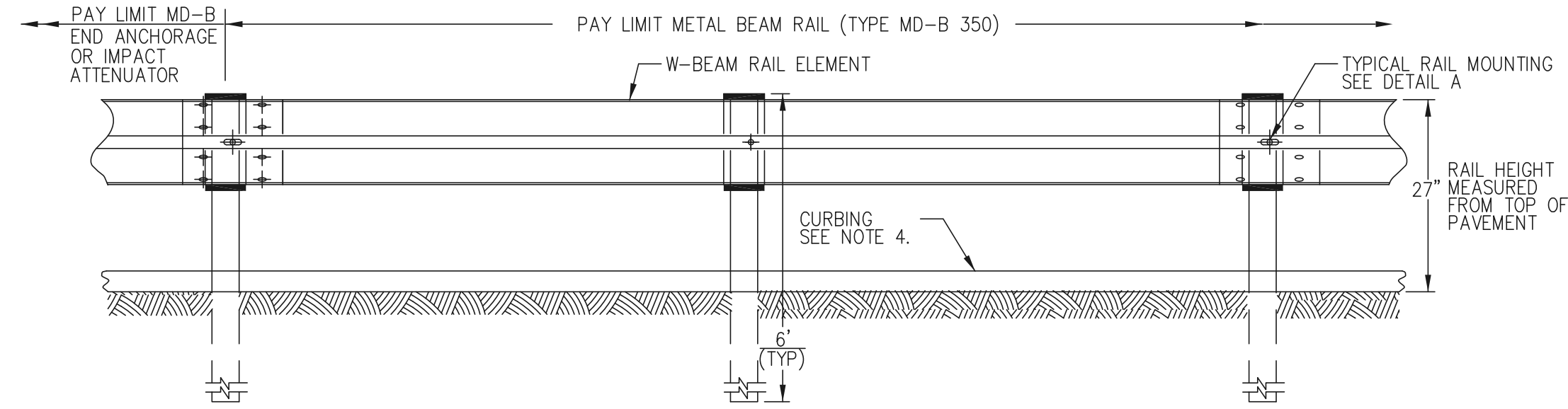
SIDE LAP DETAIL

SUPV.	J.A.C.	
DESIGN	D.A.G.	
DRAWN	P.W.S.	
CHECKED	J.A.C.	
DATE	04/05/06	
NO.	DATE	DESCRIPTION
REVISIONS		

SCALE AS NOTED	<p>WENGELL, McDONNELL & COSTELLO • 87 HOLMES ROAD NEWINGTON, CT 06111 (860) 667-9624</p>	<p>PREPARED FOR TOWN OF RIDGEFIELD 66 PROSPECT STREET RIDGEFIELD, CT 06877</p>	<p>PORTLAND AVENUE BRIDGE REHABILITATION METAL BEAM RAIL TYPE R-B 350 MISCELLANEOUS DETAILS I</p>	
			<p>PORTLAND AVE BRIDGE - 05064.10 - SHEET 6</p>	<p>SIZE PROJECT FILE NAME NUMBER REV. OF 11</p>

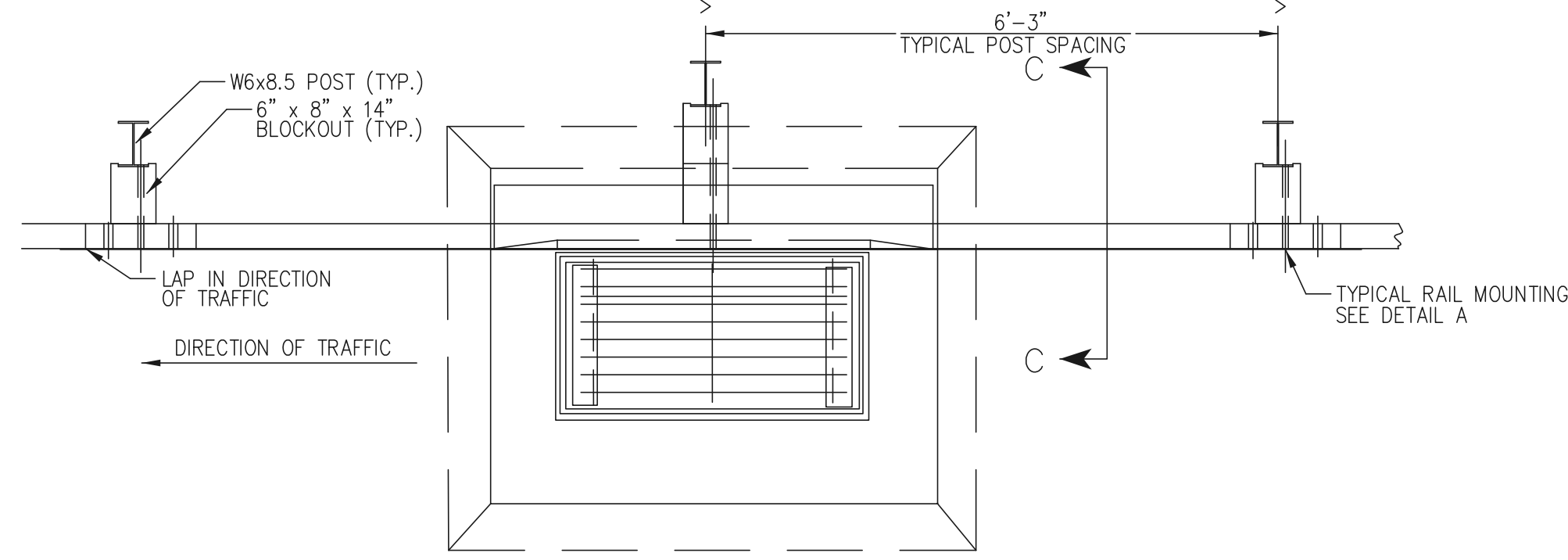


PLAN
N.T.S.



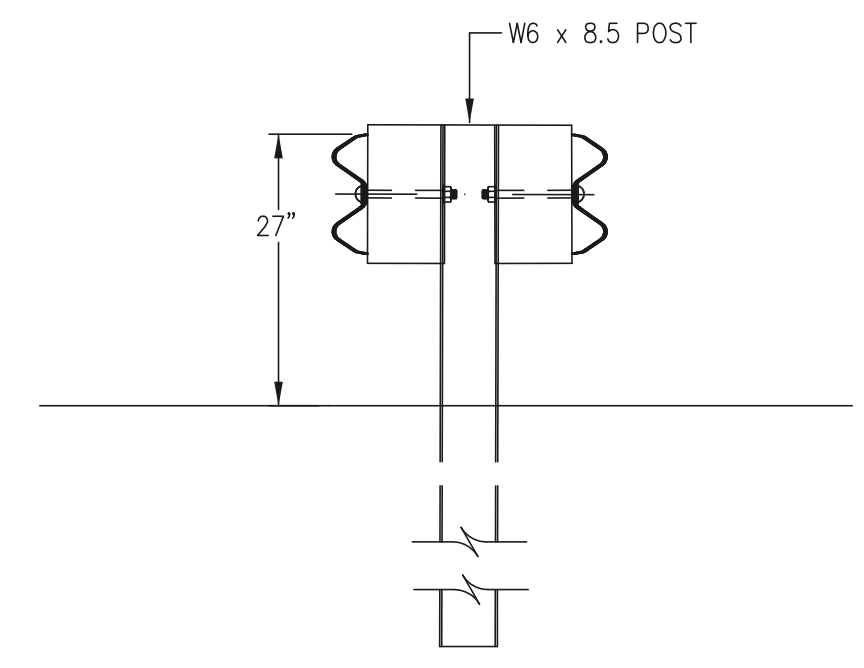
ELEVATION
N.T.S.

METAL BEAM RAIL DETAIL (TYPE MD-B 350)



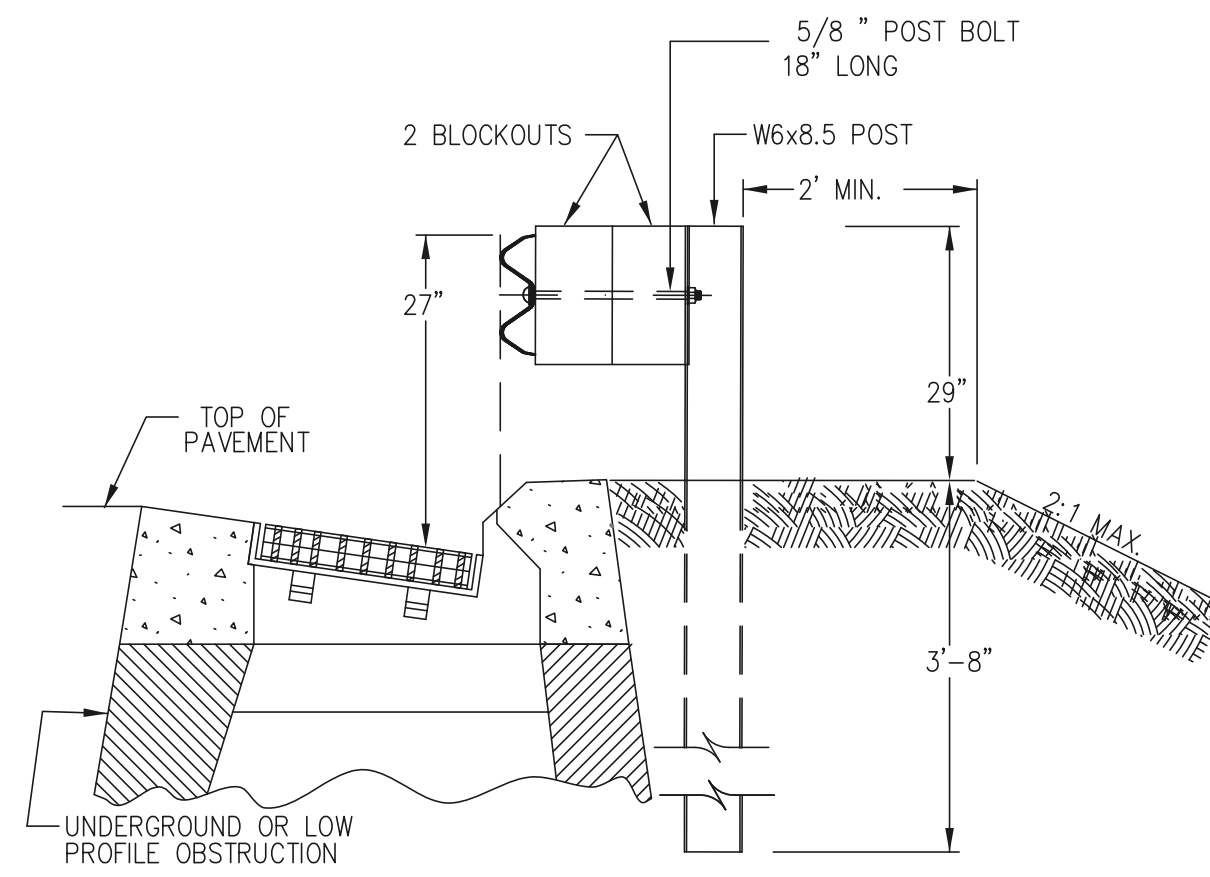
PLAN
N.T.S.

METAL BEAM RAIL WITH MULTIPLE BLOCKOUTS
TO AVOID UNDERGROUND OR LOW PROFILE OBSTRUCTION



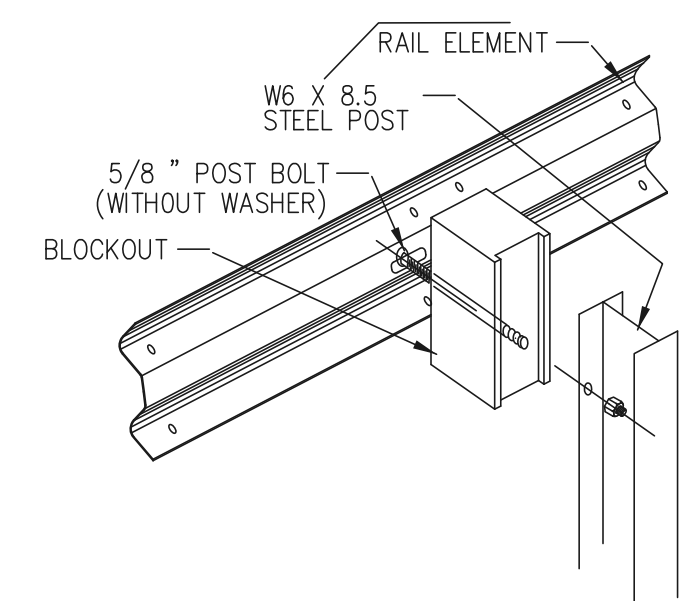
SECTION B-B
N.T.S.

NOTE: REFER TO DESIGN PLANS FOR PROPOSED
PLACEMENT OF GUIDERAIL IN THE MEDIAN.



SECTION C-C
N.T.S.

MULTIPLE BLOCKOUTS MAY BE USED TO AVOID
UNDERGROUND OR LOW PROFILE OBSTRUCTION
SEE NOTES 5 AND 6

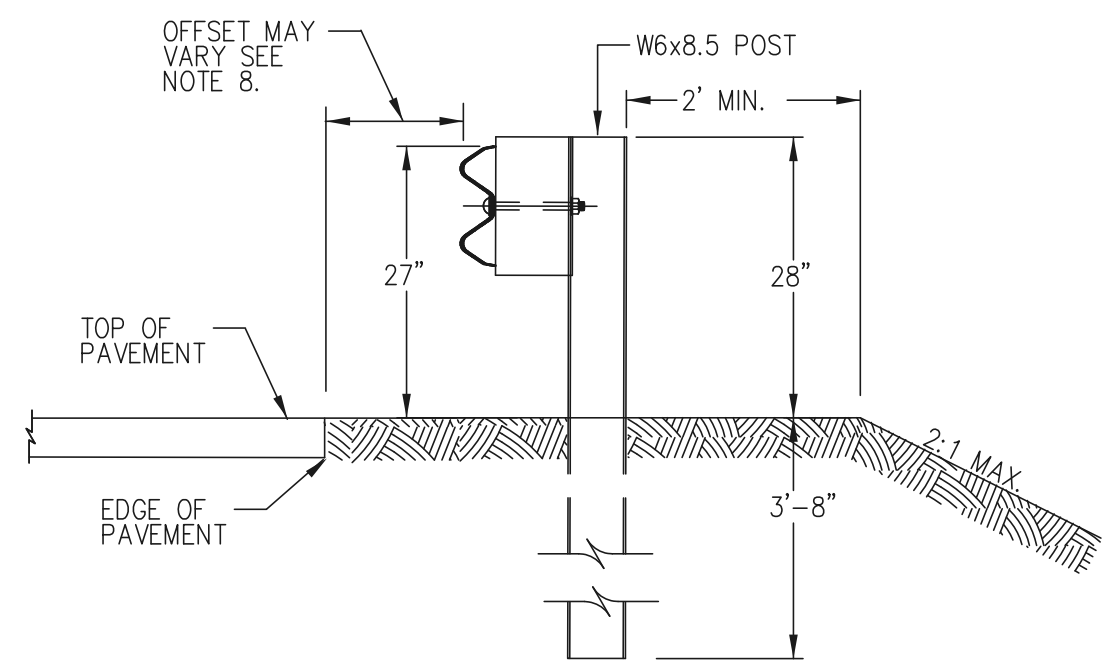


DETAIL A
N.T.S.

RAIL MOUNTING

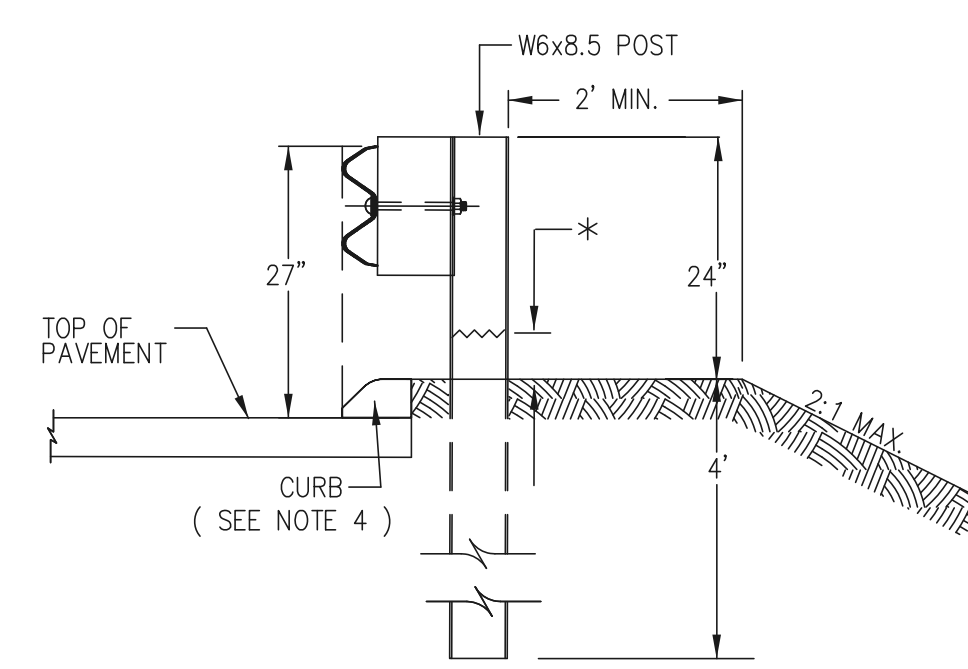
GENERAL NOTES:

- SEE MISCELLANEOUS CONNECTICUT DETAIL FOR METAL BEAM RAIL HARDWARE ELEMENTS.
- MAXIMUM DESIGN DEFLECTION FOR R-B 350 AND MD-B 350 GUIDERAIL AT THE STANDARD POST SPACING OF 6'-3" IS 4'-3". DEFLECTION REQUIREMENT IS MEASURED FROM THE BACK OF POST TO THE FACE OF OBSTRUCTION.
- FOR CURVES WITH RADII OF 150' OR LESS, ALL RAIL MEMBERS SHALL BE SHOP FABRICATED TO THE PROPER RADIUS AND GALVANIZED AFTER FABRICATION.
- RAIL HEIGHT WITH CURBING SHALL BE MEASURED FROM THE TOP OF PAVEMENT. FACE OF RAIL ELEMENT SHALL BE PLACED FLUSH WITH THE FACE OF CURBING. ON HIGH SPEED ROADWAYS (≥ 50 mph), 4" CURBING SHALL BE USED IN CONJUNCTION WITH GUIDERAIL. ON LOW SPEED ROADWAYS (< 50 mph), 6" CURBING MAY BE USED IN CONJUNCTION WITH GUIDERAIL.
- THREE BLOCKOUTS MAY BE USE WITH DESIGN APPROVAL FOR ONE POST ONLY. TWO BLOCKOUTS MAY BE USED FOR A SERIES OF POSTS.
- COST OF ADDITIONAL BLOCKOUTS AND LONGER BOLT SHALL BE INCLUDED IN THE BID PRICE PER FOOT OF GUIDERAIL.
- WEATHERING STEEL POST WHEN SPECIFIED SHALL BE GALVANIZED A MINIMUM OF 4' TO ALLOW FOR 1" EXPOSED GALVANIZED COATING ABOVE THE GROUND.
- GUIDERAIL MAY BE PLACED 1 FOOT OR MORE FROM THE EDGE OF PAVEMENT ONLY ON SLOPES 10:1 OR FLATTER WITHOUT CURBING. IF THE RAIL IS INSTALLED WITHIN 2' OF THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE SHOULDER SLOPE EXTENDED TO THE RAIL. IF THE RAIL IS INSTALLED BEYOND 2' FROM THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE GROUND DIRECTLY BELOW THE RAIL.



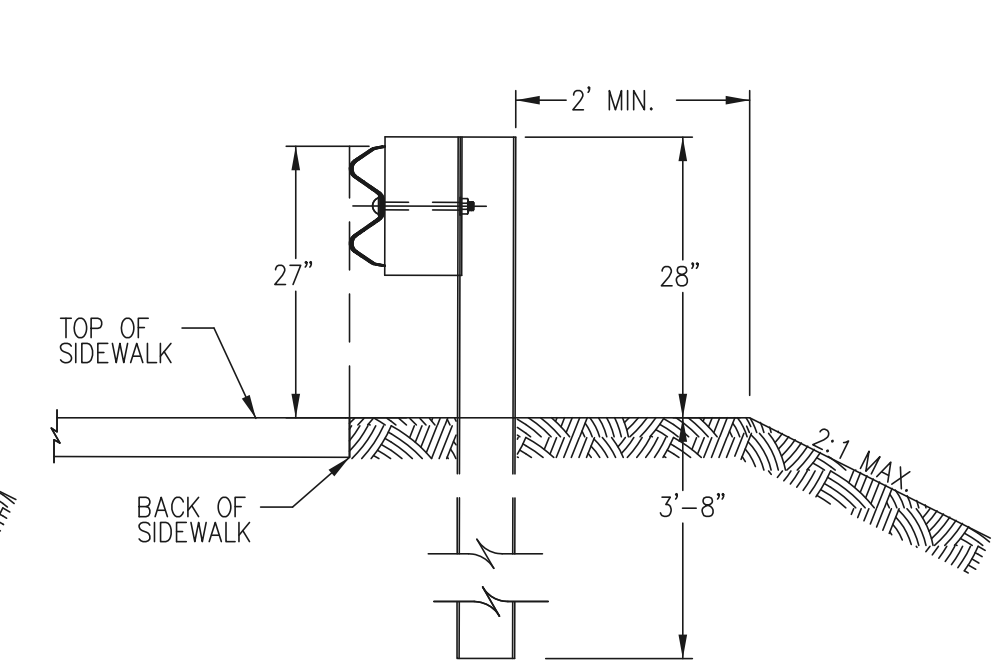
SECTION A-A
N.T.S.

WITHOUT CURBING



SECTION A-A
N.T.S.

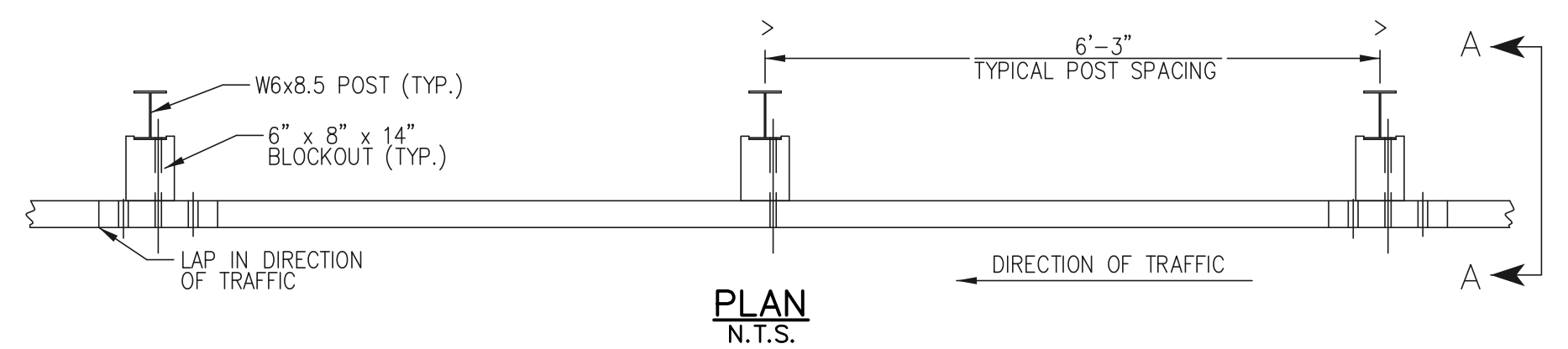
WITH CURBING
SEE NOTE 4.



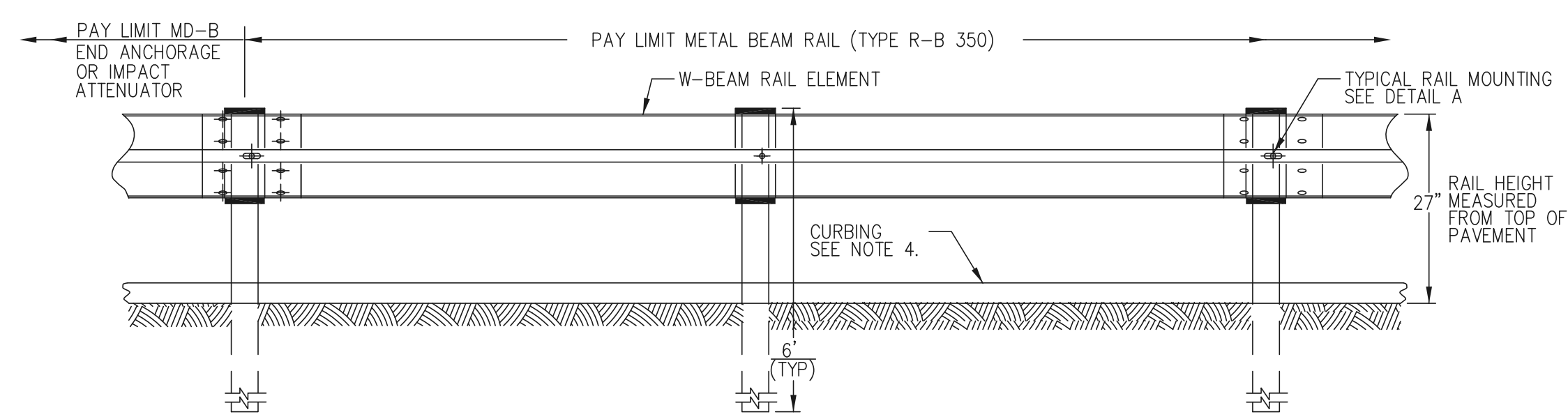
SECTION A-A
N.T.S.

SIDEWALK APPLICATION

* 1" MIN. EXPOSED GALVANIZED COATING
REQUIRED FOR WEATHERING STEEL POSTS.
SEE NOTE 7.



PLAN
N.T.S.



ELEVATION
N.T.S.

METAL BEAM RAIL DETAIL (TYPE R-B 350)

MISCELLANEOUS CONNECTICUT DETAIL
METAL BEAM RAIL
(TYPE R-B 350) & (TYPE MD-B 350)

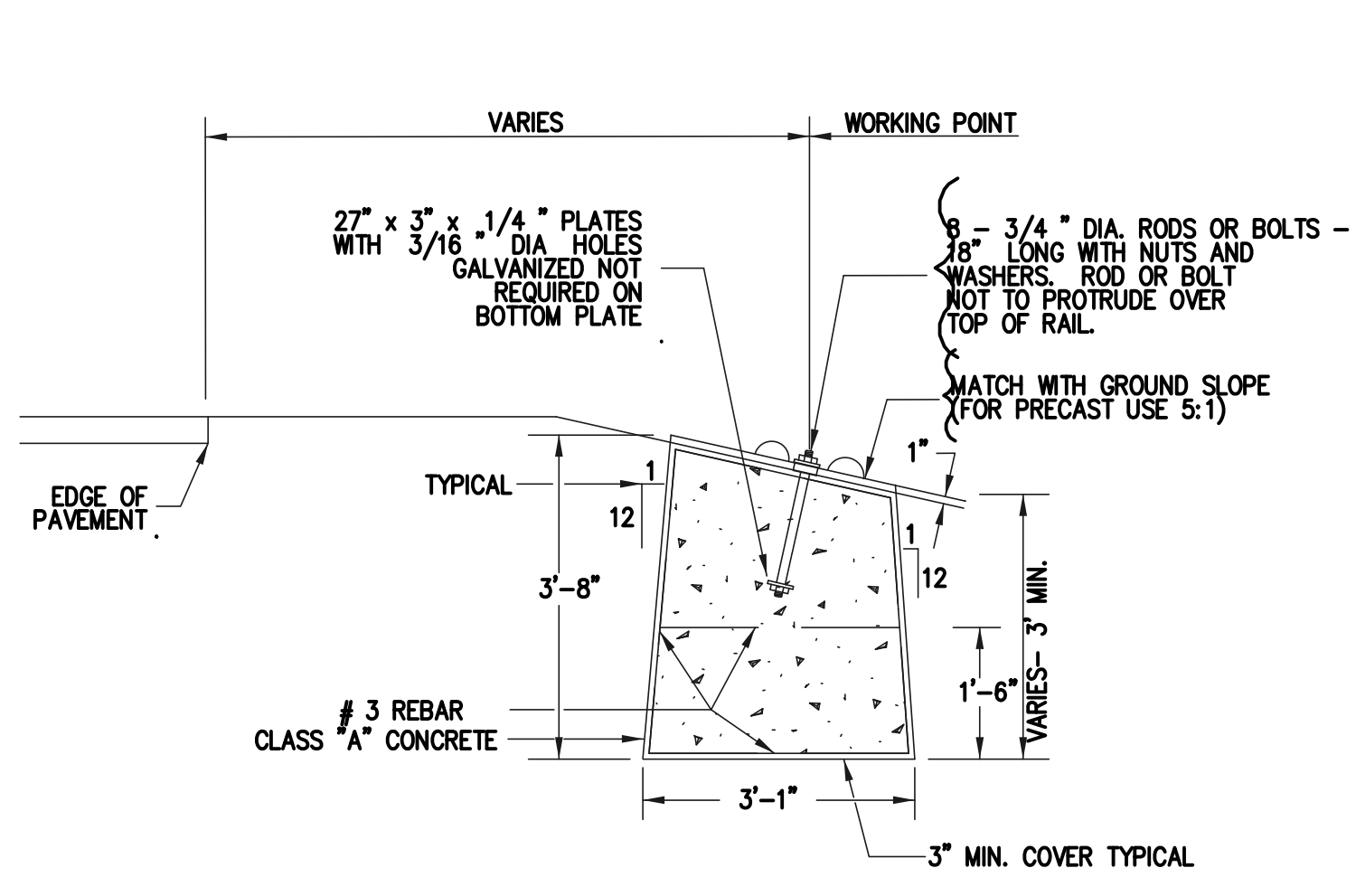
SUPV.	J.A.C.	
DESIGN	D.A.G.	
DRAWN	P.W.S.	
CHECKED	J.A.C.	
DATE	04/05/06	
NO.	DATE	DESCRIPTION
REVISIONS		

SCALE
AS NOTED

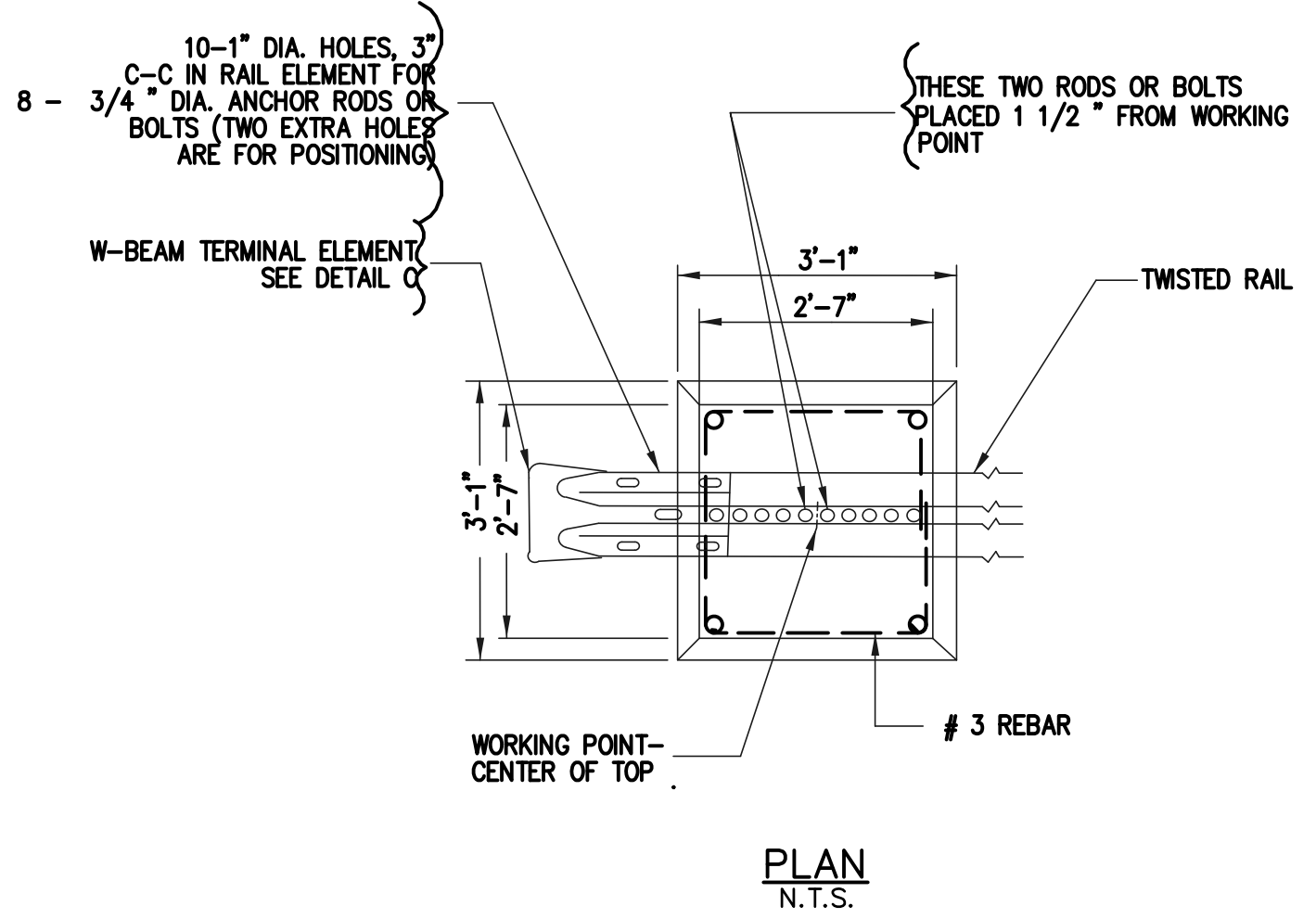
WMC
CONSULTING ENGINEERS
• WENGELL, McDONNELL & COSTELLO •
87 HOLMES ROAD
NEWINGTON, CT 06111
(860) 667-9624

PREPARED FOR
TOWN OF RIDGEFIELD
66 PROSPECT STREET
RIDGEFIELD, CT
06877

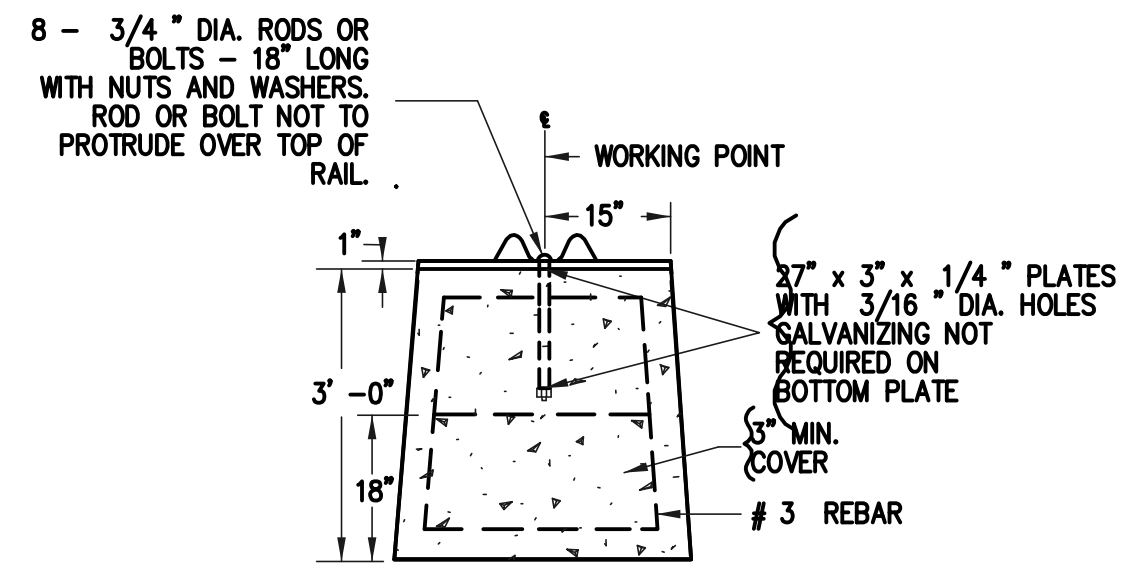
PORTLAND AVENUE BRIDGE		05064.10		SHEET 7	
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF
					11



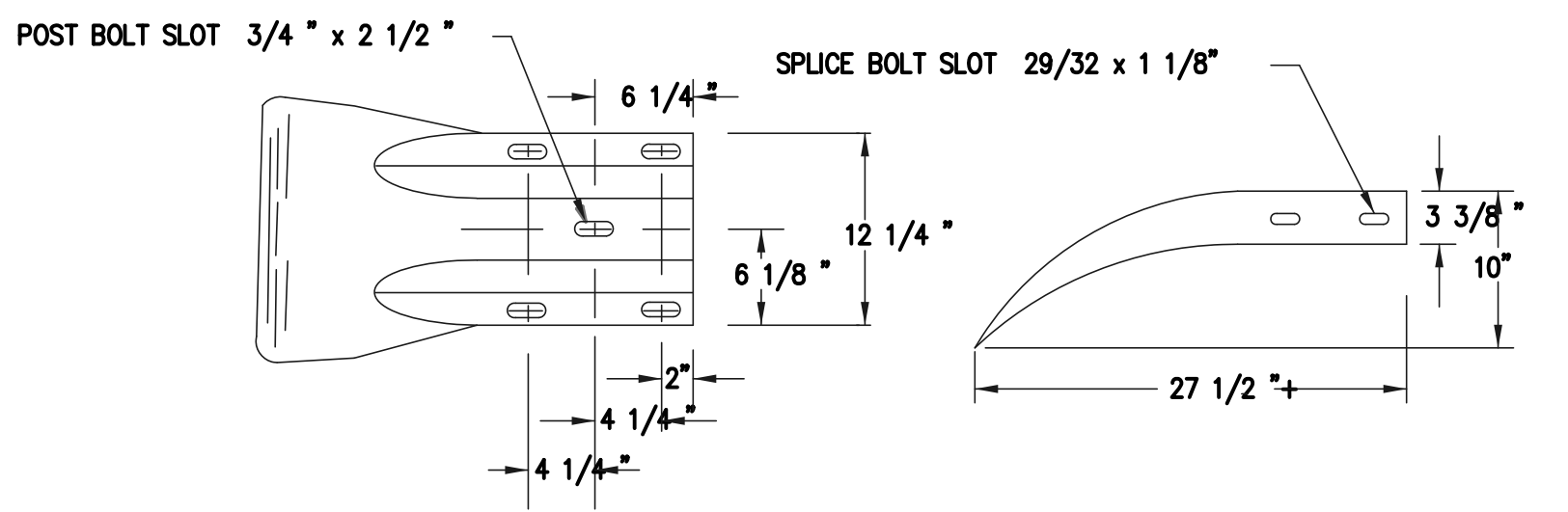
DETAIL A
N.T.S.



PLAN
N.T.S.

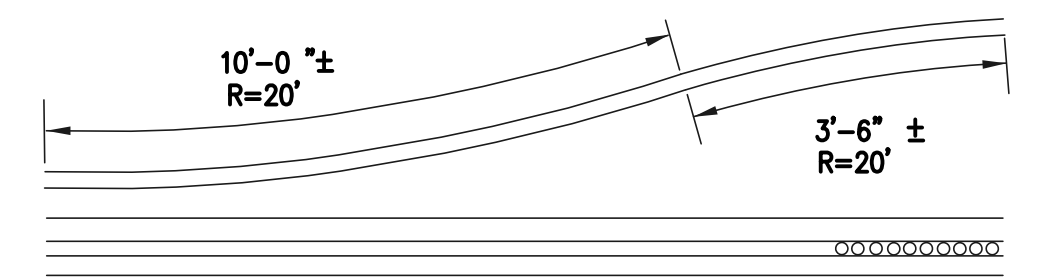


DETAIL B
N.T.S.



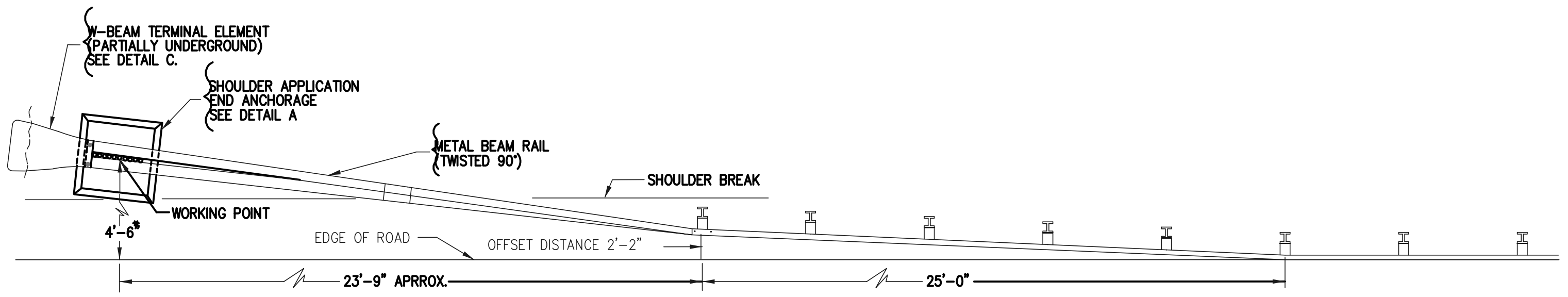
DETAIL C
W-BEAM TERMINAL ELEMENT
N.T.S.

SEE NOTE 3



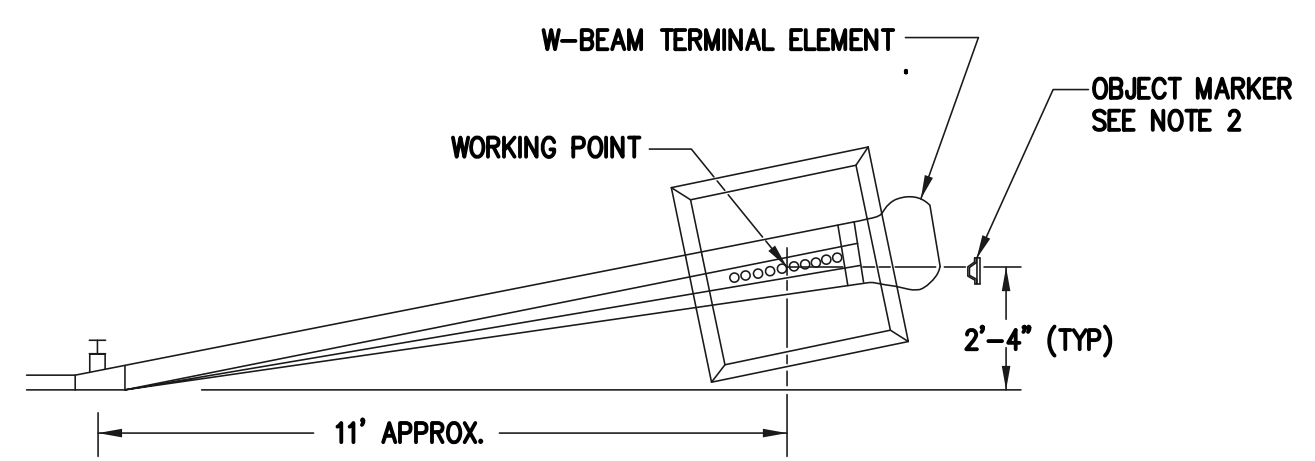
DETAIL D
SHOP CURVED RAIL
N.T.S.

SEE NOTE 4



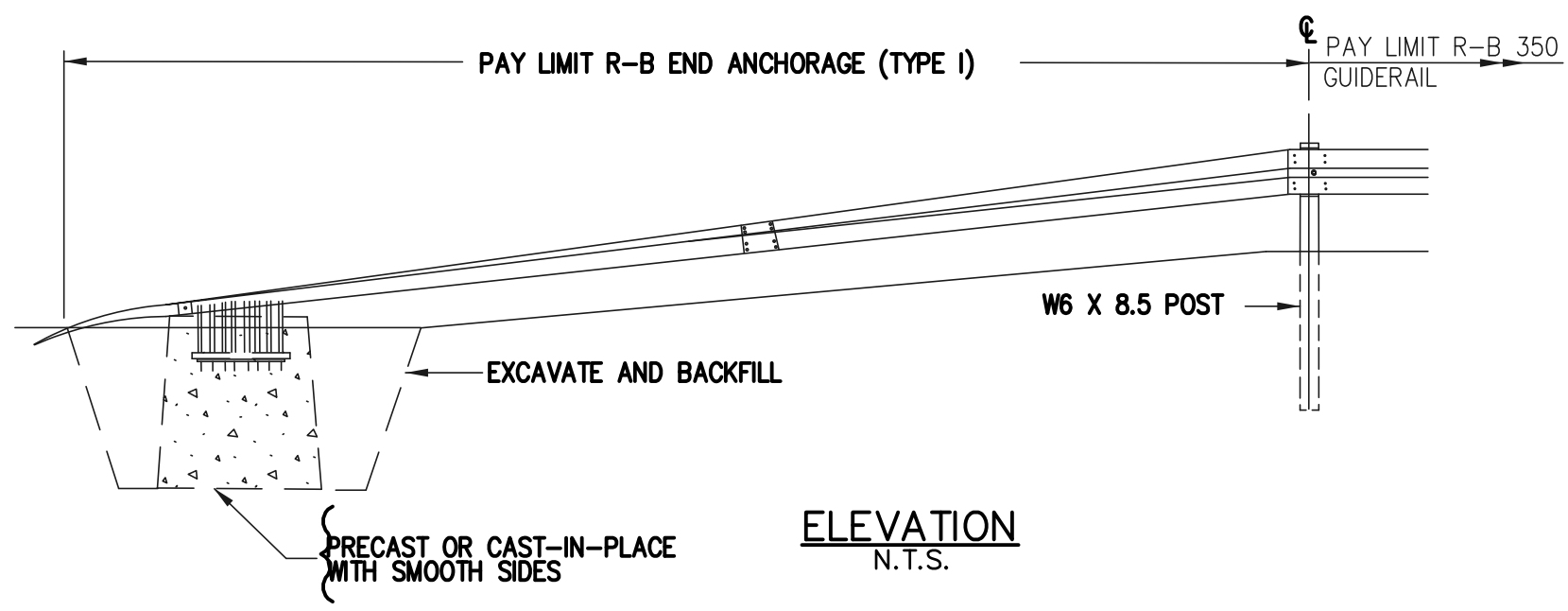
PLAN
N.T.S.

* OFFSET DIMENSIONS AS SHOWN FOR R-B 350 TRAILING END ANCHORAGE ONLY. LEADING END ANCHORAGE SHALL BE PLACED OUTSIDE THE CLEAR ZONE AS DIRECTED BY THE ENGINEER. REFER TO 1996 AASHTO ROADSIDE DESIGN GUIDE FOR CLEAR ZONE APPLICATIONS.



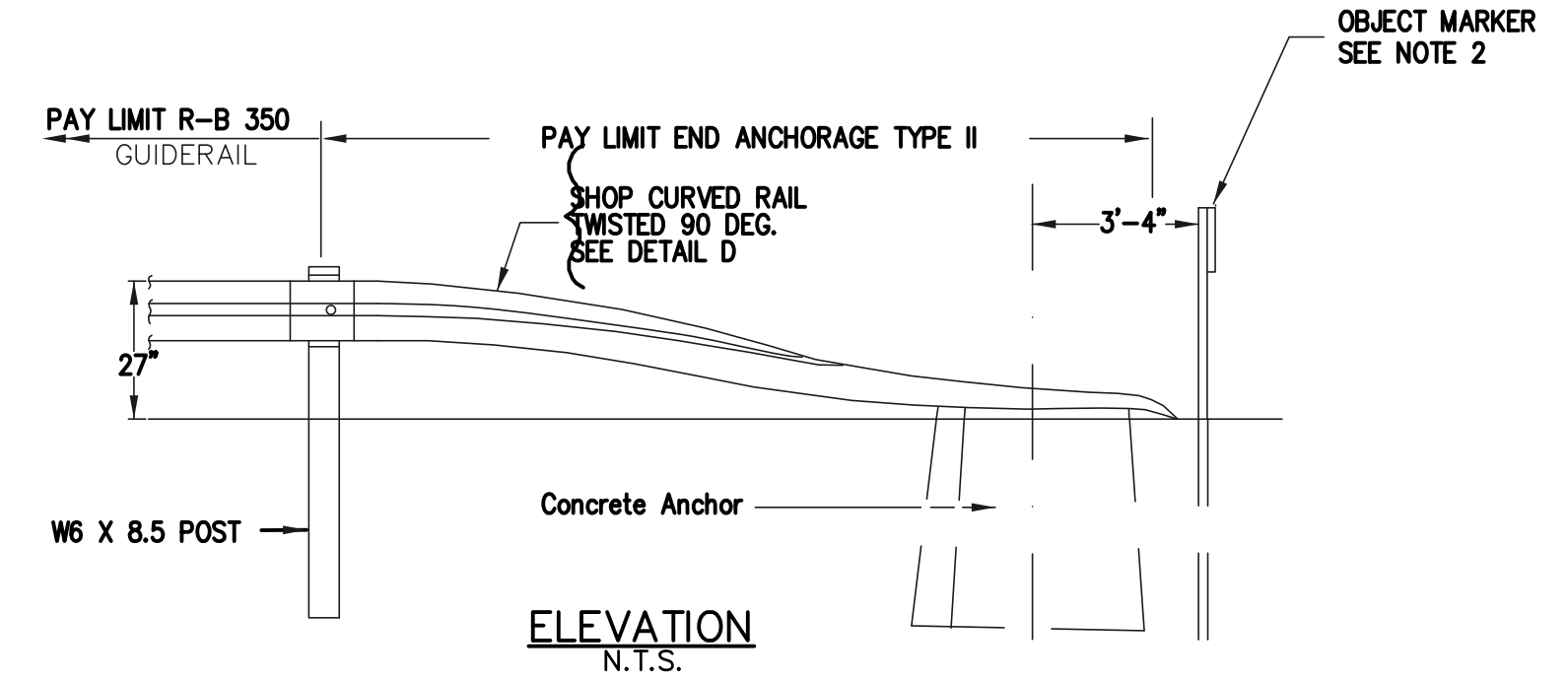
PLAN
N.T.S.

OBJECT MARKER
SEE NOTE 2



ELEVATION
N.T.S.

R-B END ANCHORAGE TYPE I
(SHOULDER APPLICATION)



ELEVATION
N.T.S.

R-B END ANCHORAGE TYPE II
SEE NOTE 4

GENERAL NOTES:

- SEE STANDARD SHEET 1205-A FOR OBJECT MARKER DETAILS.
- TYPE II END ANCHORS SHALL USE A 12 GAUGE TERMINAL ELEMENT. R-B END ANCHORAGE TYPE I INSTALLED ON LIMITED ACCESS HIGHWAYS AND RAMPS SHALL USE 10 GAUGE TERMINAL AND W-BEAM RAIL ELEMENTS. ALL OTHER END ANCHORAGE TYPE I SHALL USE 12 GAUGE TERMINAL AND W-BEAM RAIL ELEMENTS.
- END ANCHORAGE TYPE II MAY ONLY BE USED WHEN THE RAIL IS TURNED AND EXTENDED INTO A DRIVEWAY, ON ROADS WITH DESIGN SPEEDS OF 40 MPH OR LESS, OR AS DIRECTED BY THE ENGINEER IN A LOCATION WHERE IT CAN NOT BE HIT. ALL OTHER R-B OR MD-B END ANCHORAGES SHALL BE TYPE I. WHERE DEEMED APPROPRIATE, PROPRIETARY CRASH-WORTHY END TREATMENTS MAY BE USED.
- OTHER RADII WHICH CAN BE DEMONSTRATED TO PROVIDE THE INSTALLATIONS SHOWN FOR END ANCHORAGE TYPE II MAY BE APPROVED.

MISCELLANEOUS CONNECTICUT DETAIL
R-B END ANCHORAGE TYPE I & II

SUPV.	J.A.C.	
DESIGN	D.A.G.	
DRAWN	P.W.S.	
CHECKED	J.A.C.	
NO.	DATE	DESCRIPTION
	04/05/06	REVISIONS

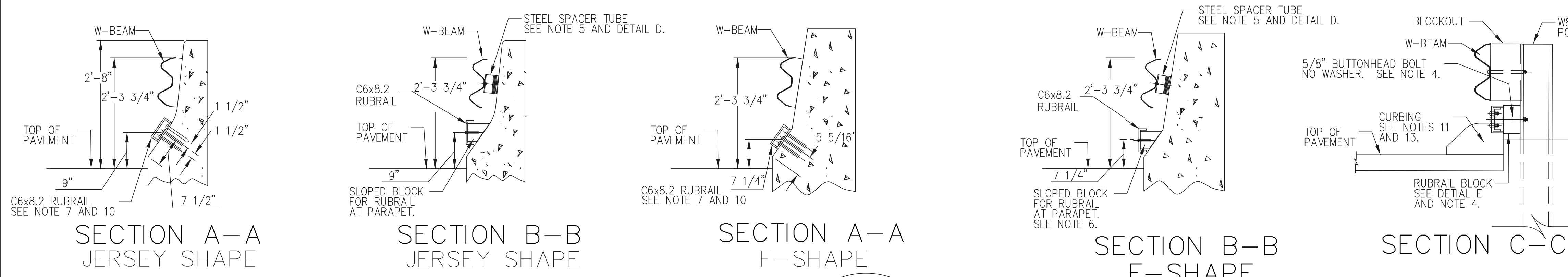
SCALE
AS NOTED

WMC
CONSULTING ENGINEERS
• WENGELL, McDONNELL & COSTELLO •
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NEWINGTON, CT 06111
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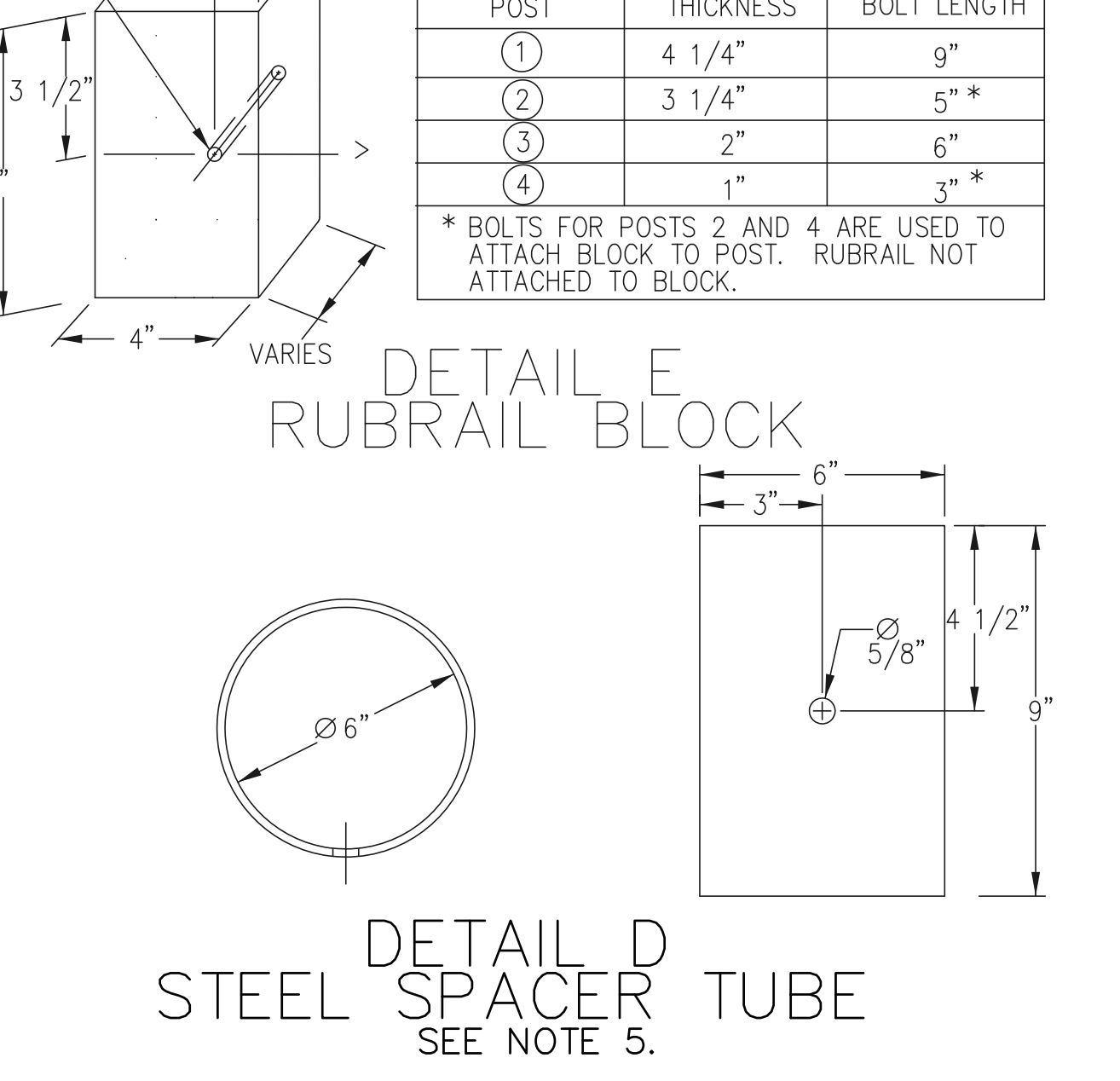
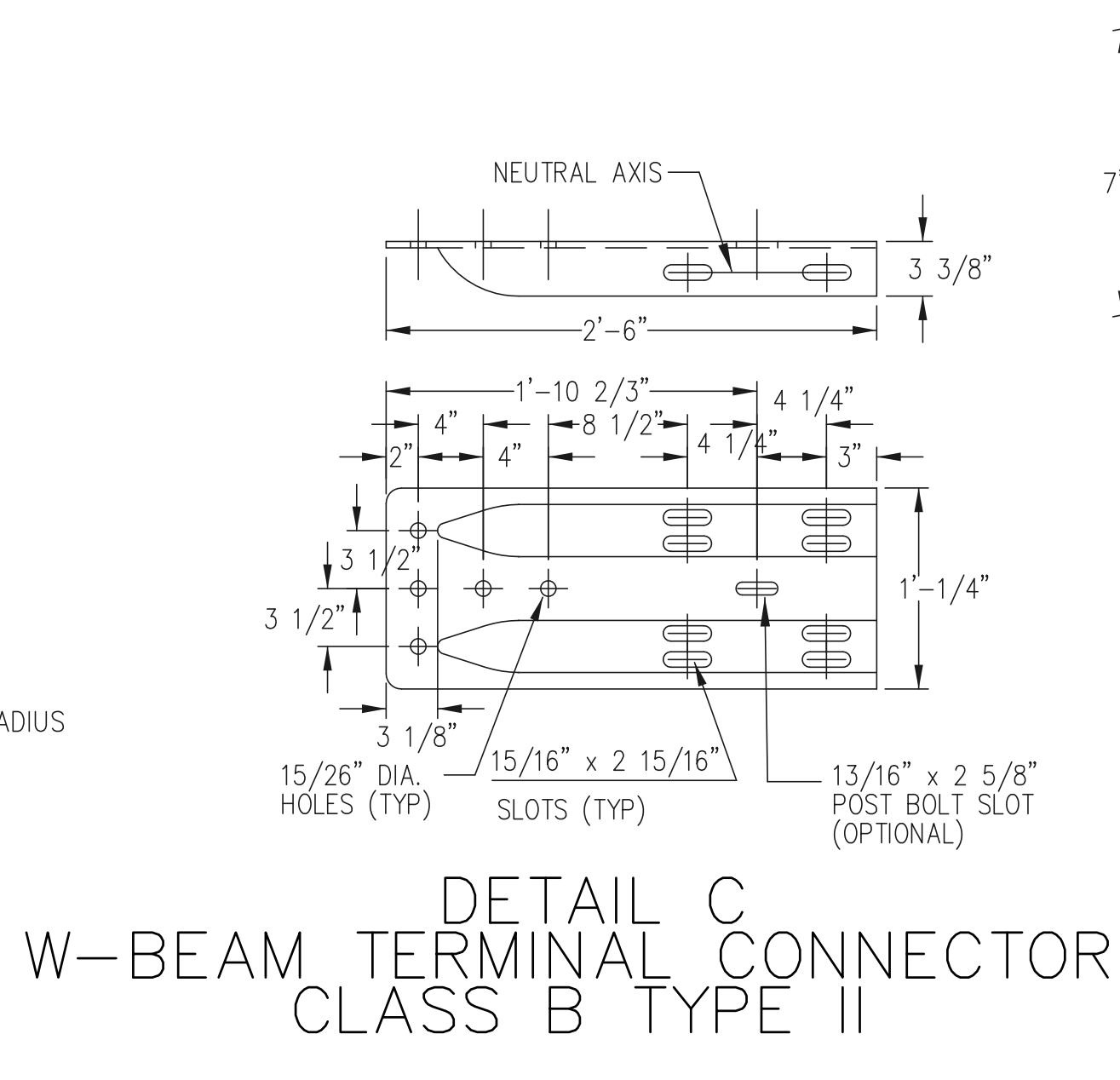
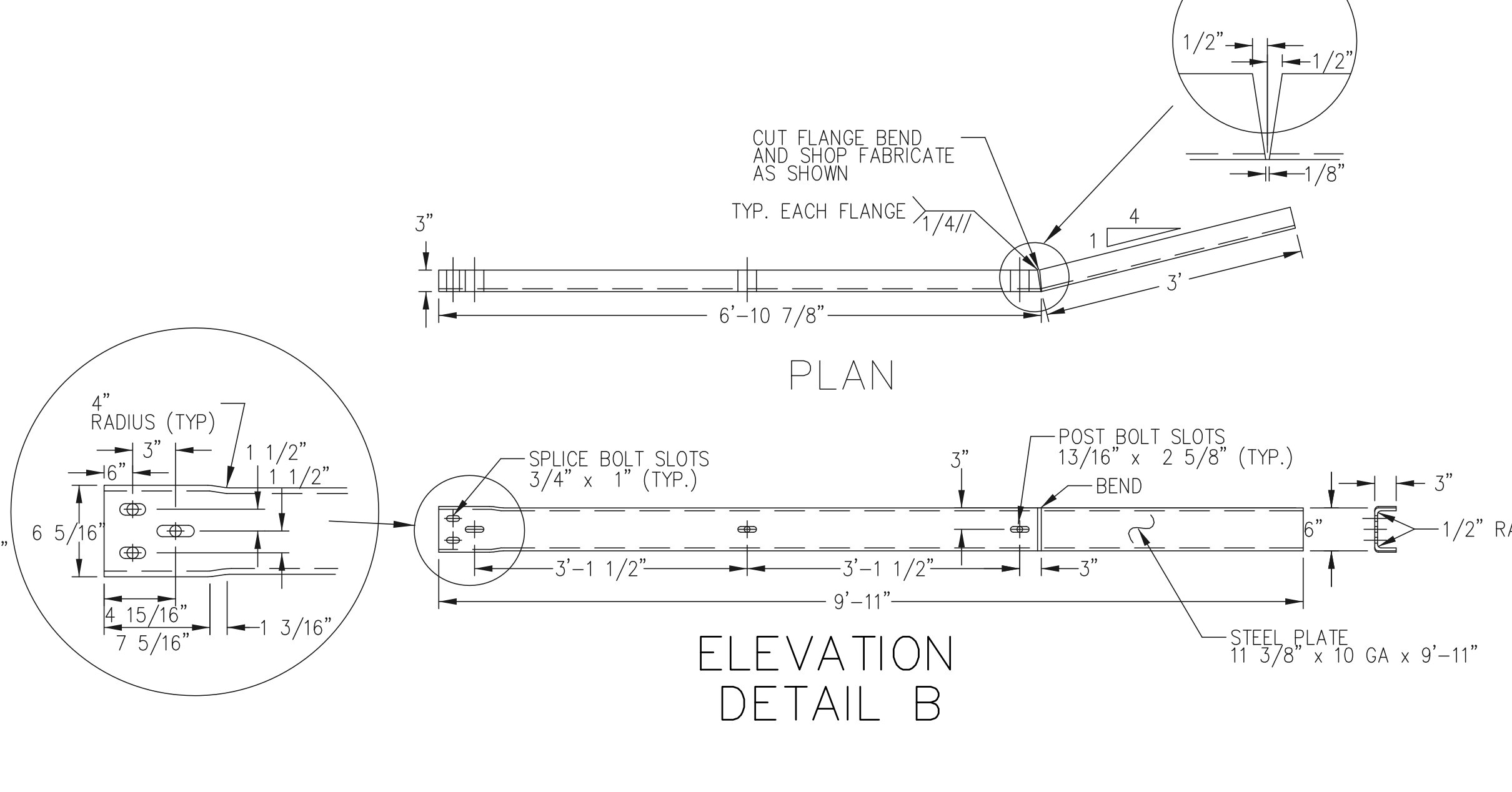
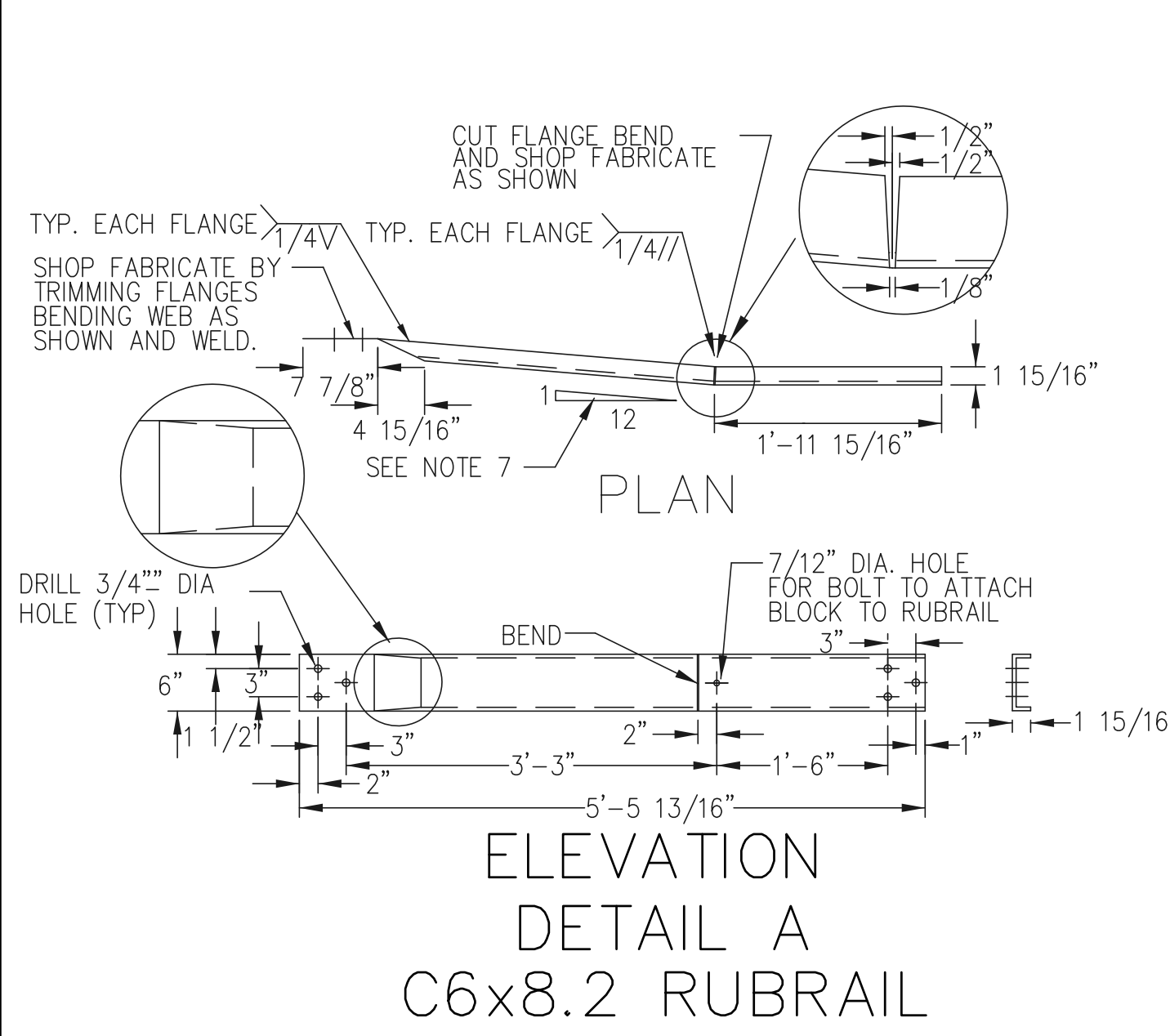
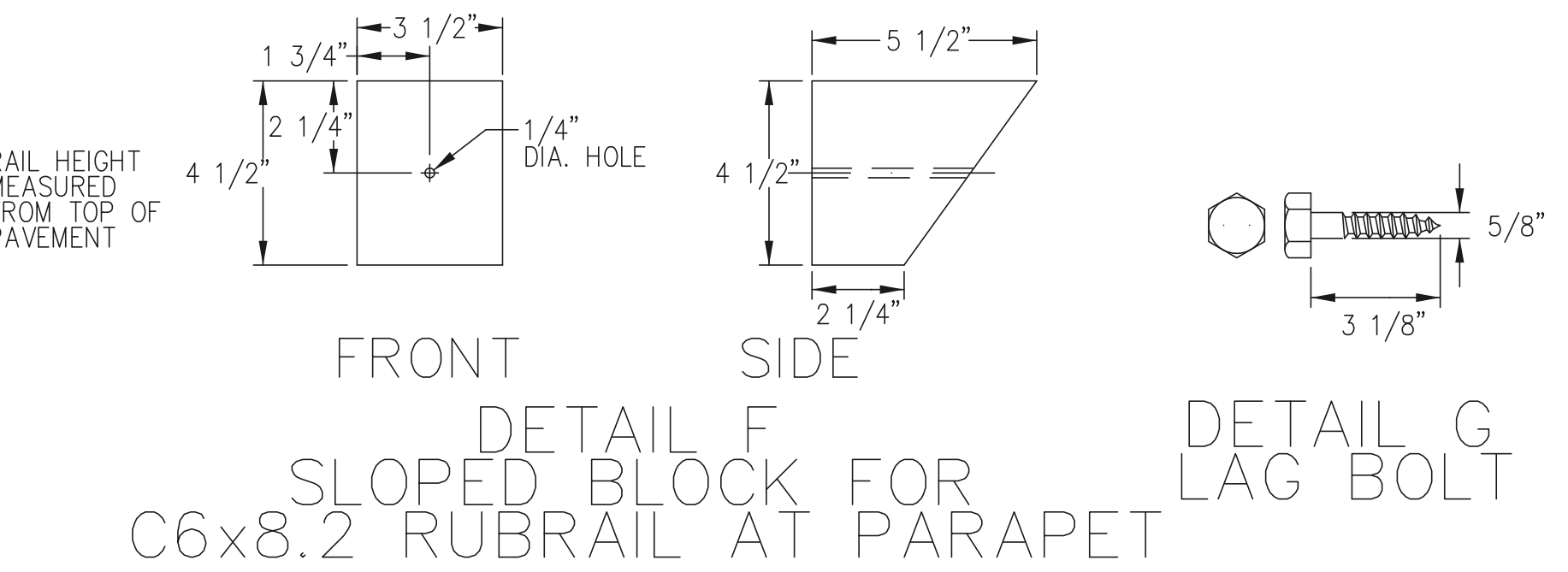
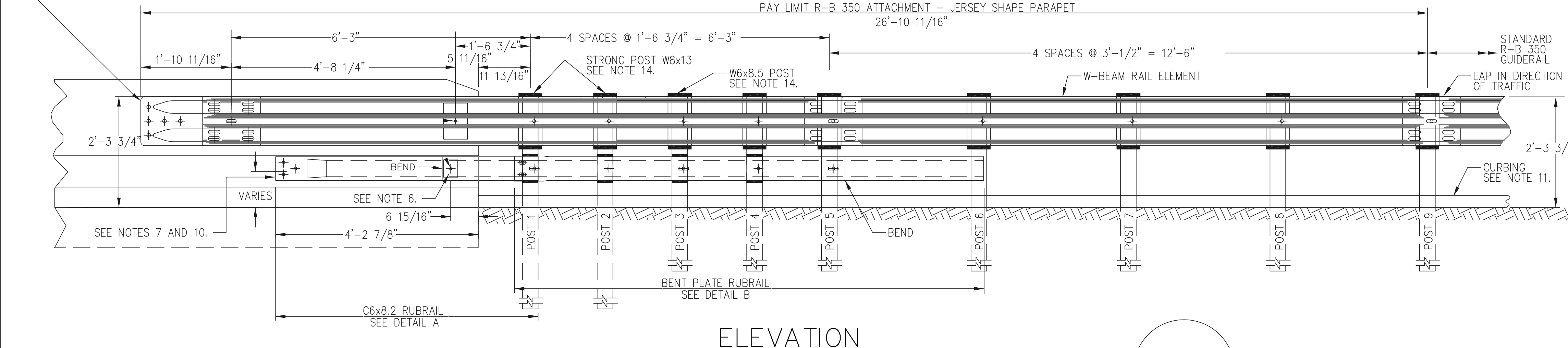
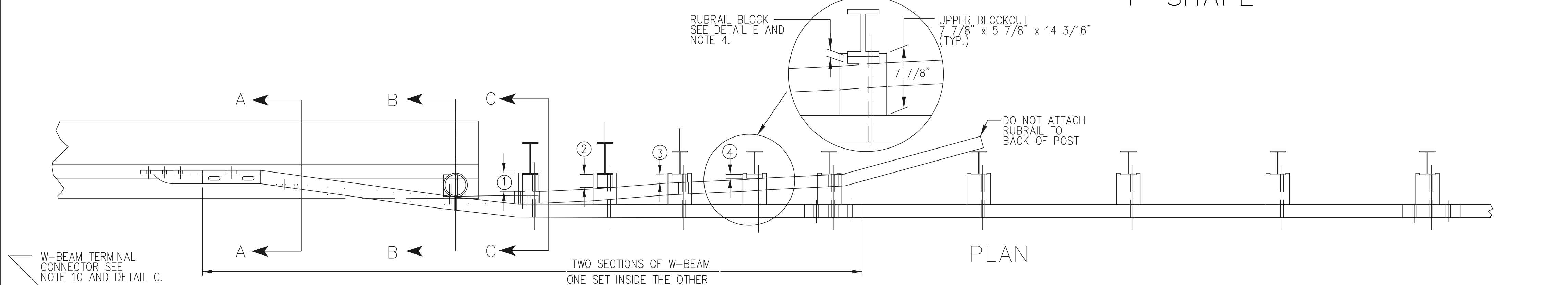
PREPARED FOR
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RIDGEFIELD, CT
06877

PORTLAND AVENUE BRIDGE REHABILITATION
METAL BEAM RAIL R-B 350
END ANCHORAGE

PORTLAND AVE BRIDGE	05064.10	SHEET	8
SIZE PROJECT	FILE NAME NUMBER	REV.	OF
			11



- GENERAL NOTES:**
 1) DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE SPECIFIED.
 2) THIS R-B 350 GUIDERAIL TRANSITION IS APPROPRIATE FOR CONNECTION AT THE FOLLOWING LOCATIONS:
 (a) JERSEY SHAPE OR F-SHAPE PARAPET OR BARRIER WITH NO ELECTRICAL JUNCTION BOX WITHIN THE LIMITS OF THE ATTACHMENT (APPROXIMATELY 8 FEET).
 (b) BRIDGE PARAPETS RETROFITTED FROM SAFETY WALK TO MODIFIED SAFETY SHAPED PARAPET WITH NO ELECTRICAL JUNCTION BOX WITHIN THE LIMITS OF THE ATTACHMENT (APPROXIMATELY 8 FEET).
 (c) TRAILING ENDS FOR DUAL DIRECTION ROADWAYS.
 3) POSTS 1 THROUGH 5 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKS AND/OR RUBRAIL.
 4) RUBRAIL BLOCKS LOCATED ON POSTS 1 THROUGH 4 ARE OFFSET DRILLED AND SECURED WITH 5/8" BUTT HEAD BOLTS (SEE CHART FOR BOLT LENGTHS). SECURE BLOCKS ONLY TO POSTS 2 AND 4. SECURE RUBRAIL AND BLOCKS TO POSTS 1 AND 3. RUBRAIL IS SECURED TO POST 5 WITH A 5/8" x 4 1/2" BUTT HEAD BOLT. RUBRAIL IS FLARED TO BACK OF POST 6 AND NOT SECURED.
 5) STEEL SPACER TUBE IS A SCHEDULE 40 GALVANIZED PIPE 6" INSIDE DIAMETER x 9" LONG. ATTACH TUBE TO RAIL ELEMENT ONLY WITH 5/8" x 1 1/4" LONG BUTT HEAD BOLT AND RECTANGULAR PLATE WASHER. TUBE IS NOT ATTACHED TO PARAPET.
 6) SEE DETAIL F FOR SLOPED RUBRAIL BLOCK. BLOCK IS ATTACHED TO RAIL ELEMENT ONLY. USE 3/8" x 3 1/8" LAG BOLT WITH FLAT WASHER.
 7) SHOP FABRICATE THE C6x8.2 RUBRAIL END TO BE CONSISTENT WITH THE SLOPE OF THE JERSEY SHAPE OR F-SHAPE AND ATTACH FLUSH WITH THE SLOPED TOE OF THE PARAPET OR BARRIER.
 8) SEE MISCELLANEOUS CONNECTICUT DETAIL FOR METAL BEAM RAIL HARDWARE ELEMENTS. USE CLASS B TYPE II W-BEAM RAIL ELEMENTS FOR INSTALLATIONS ON LIMITED ACCESS HIGHWAYS AND RAMPS.
 9) THIS DETAIL WAS DEVELOPED FROM FHWA TECHNICAL ADVISORY 5040.34 DATED JUNE 8, 1993.
 10) ANCHORAGE:
 (a) AT EXISTING PARAPETS OR BARRIERS, RUBRAIL SHALL BE ANCHORED USING THREE 3/8" x 6" CHEMICALLY ANCHORED BOLTS WITH WASHERS. MAXIMUM PROJECTION FOR BOLTS SHALL BE 1/2".
 (b) AT EXISTING PARAPETS OR BARRIERS, THE W-BEAM TERMINAL CONNECTOR SHALL BE ANCHORED USING FIVE 7/8" x 12" CHEMICALLY ANCHORED BOLTS WITH WASHERS. MAXIMUM PROJECTION FOR BOLTS SHALL BE 1/2". THE W-BEAM TERMINAL CONNECTOR SHALL BE INSTALLED BEHIND THE NESTED W-BEAM ELEMENTS.
 (c) AT TEMPORARY OR NEW PRECAST CONCRETE BARRIERS, THE W-BEAM TERMINAL CONNECTOR AND RUBRAIL SHALL BE ANCHORED AS SPECIFIED WITHIN NOTES (a) & (b) ABOVE.
 11) WHEN CURBING IS USED, RAIL HEIGHT MUST BE MEASURED FROM TOP OF PAVEMENT TO TOP OF RAIL.
 12) ANTICIPATED DESIGN DEFLECTION FOR R-B 350 WITH A POST SPACING OF 3'-1 1/2" IS 2.64". DEFLECTION REQUIREMENT IS MEASURED FROM THE BACK OF POST TO THE FACE OF OBSTRUCTION.
 13) FOR NEW CONSTRUCTION WHERE CURBING IS NEEDED, USE EITHER 4" BITUMINOUS CONCRETE PARK CURBING OR PRECAST CONCRETE TRANSITION CURBING SET WITH A 4" REVEAL. IF EXISTING CURBING IS GRANITE STONE TRANSITION CURBING, RESET IT TO A 4" REVEAL.
 14) POSTS 1 AND 2 ARE W8x13. ALL OTHER POSTS IN TRANSITION ARE W6x8.5.



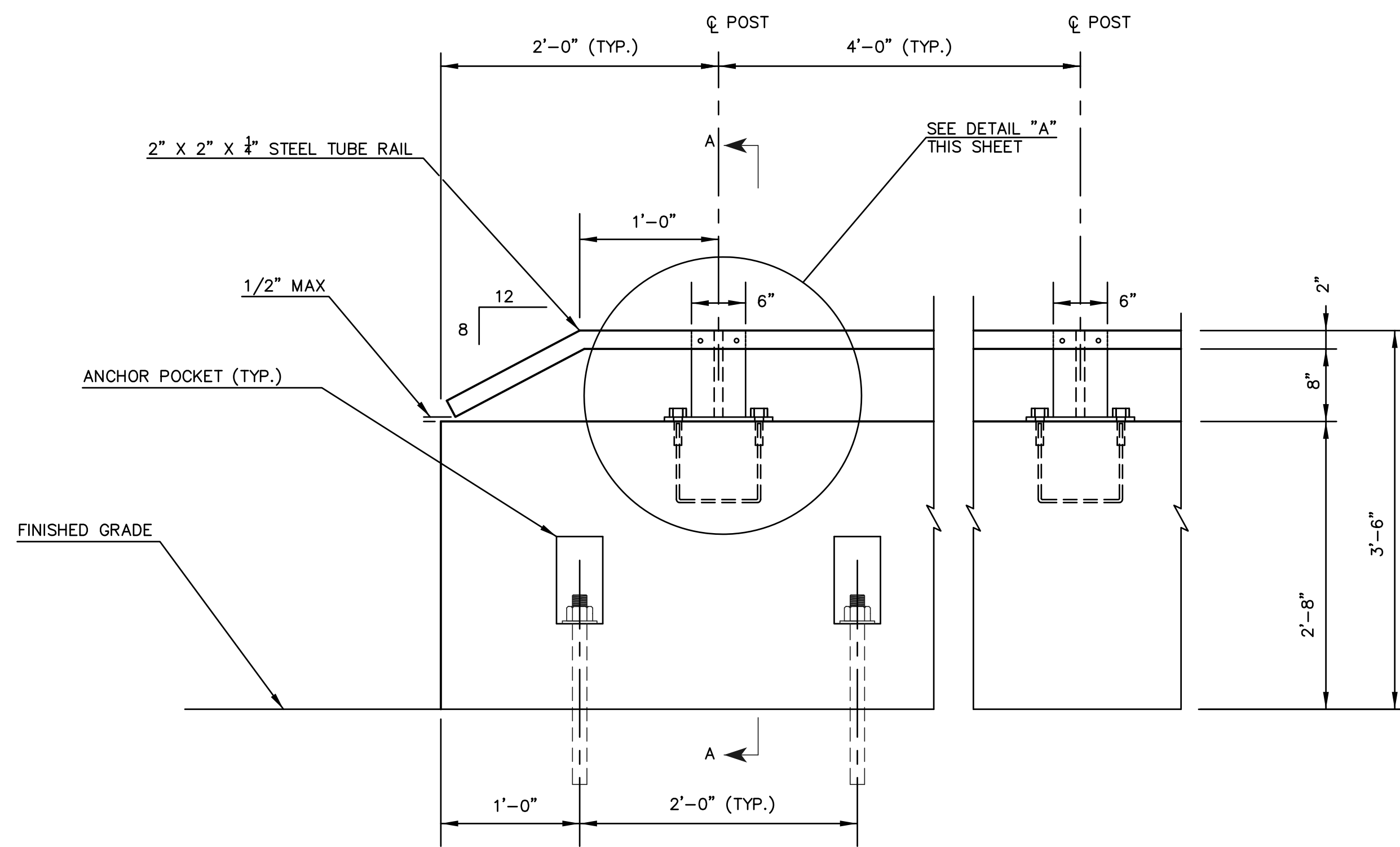
SUPV.	J.A.C.	
DESIGN	D.A.G.	
DRAWN	P.W.S.	
CHECKED	J.A.C.	
DATE	04/05/06	
NO.	DATE	DESCRIPTION
REVISIONS		

SCALE	AS NOTED
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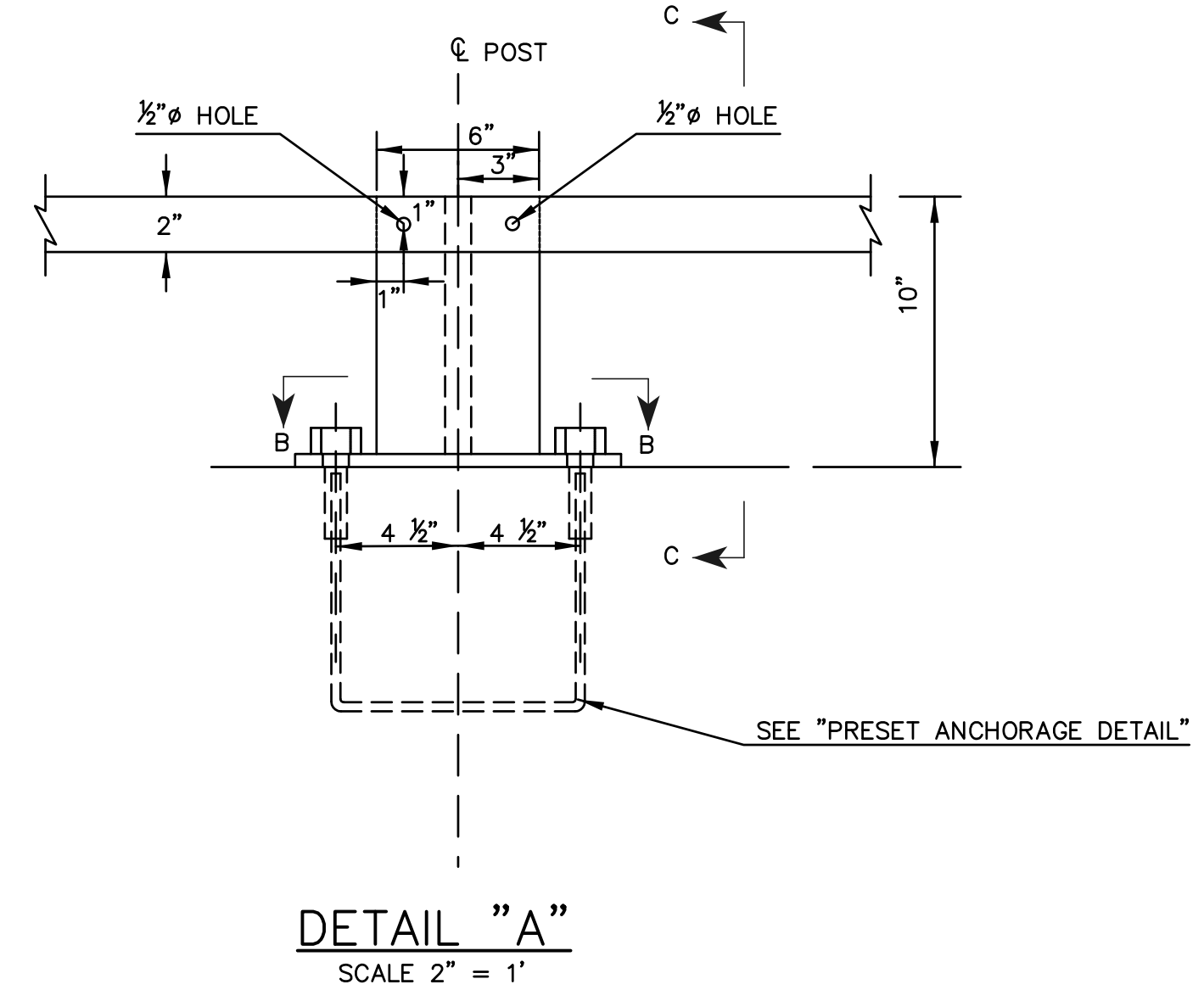
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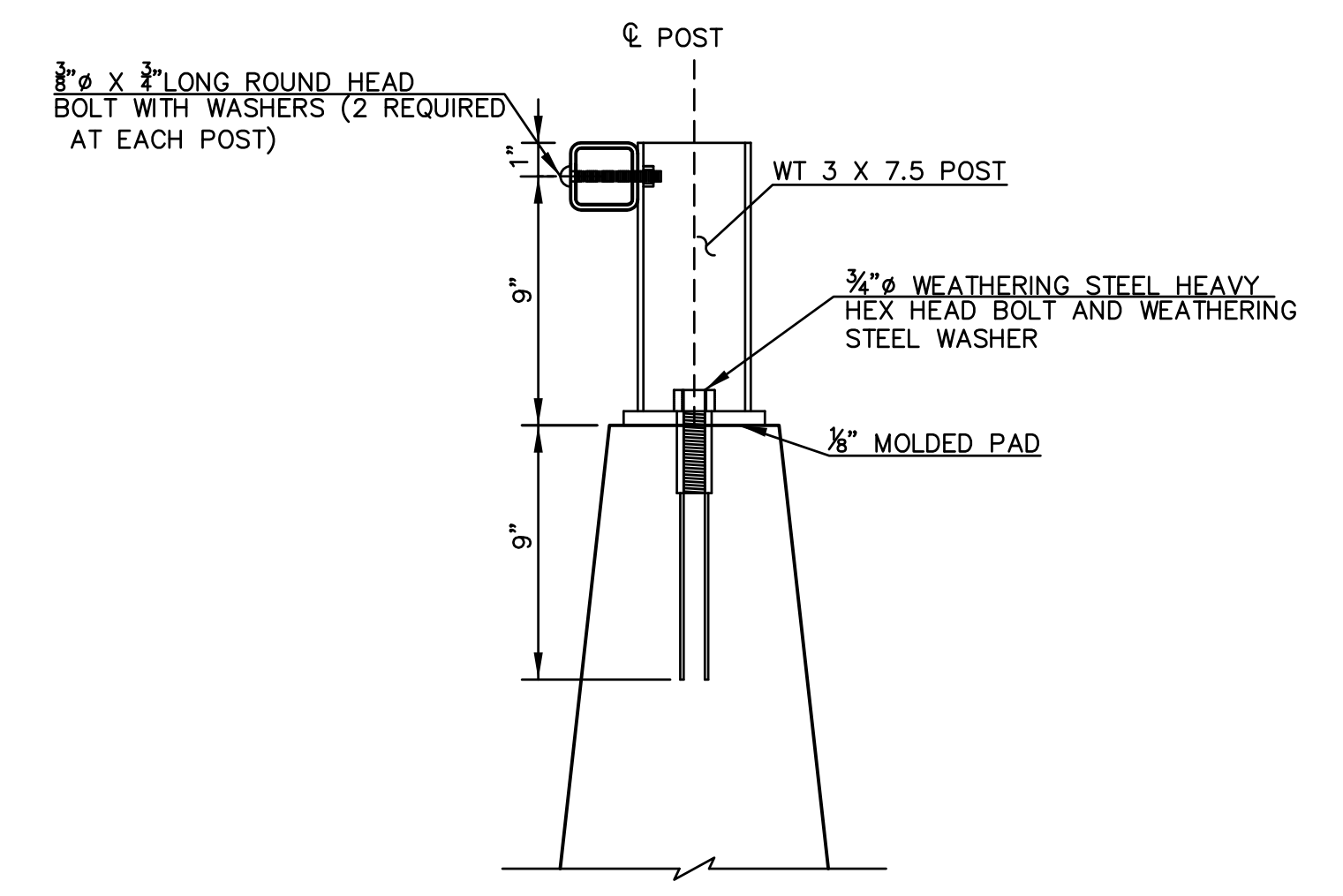
PORTLAND AVENUE BRIDGE REHABILITATION		METAL BEAM RAIL R-B 350		JERSEY SHAPED PARAPET ATTACHMENT	
D -	PORTLAND AVENUE BRIDGE	05064.10	REV.	OF	SHEET 9
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF



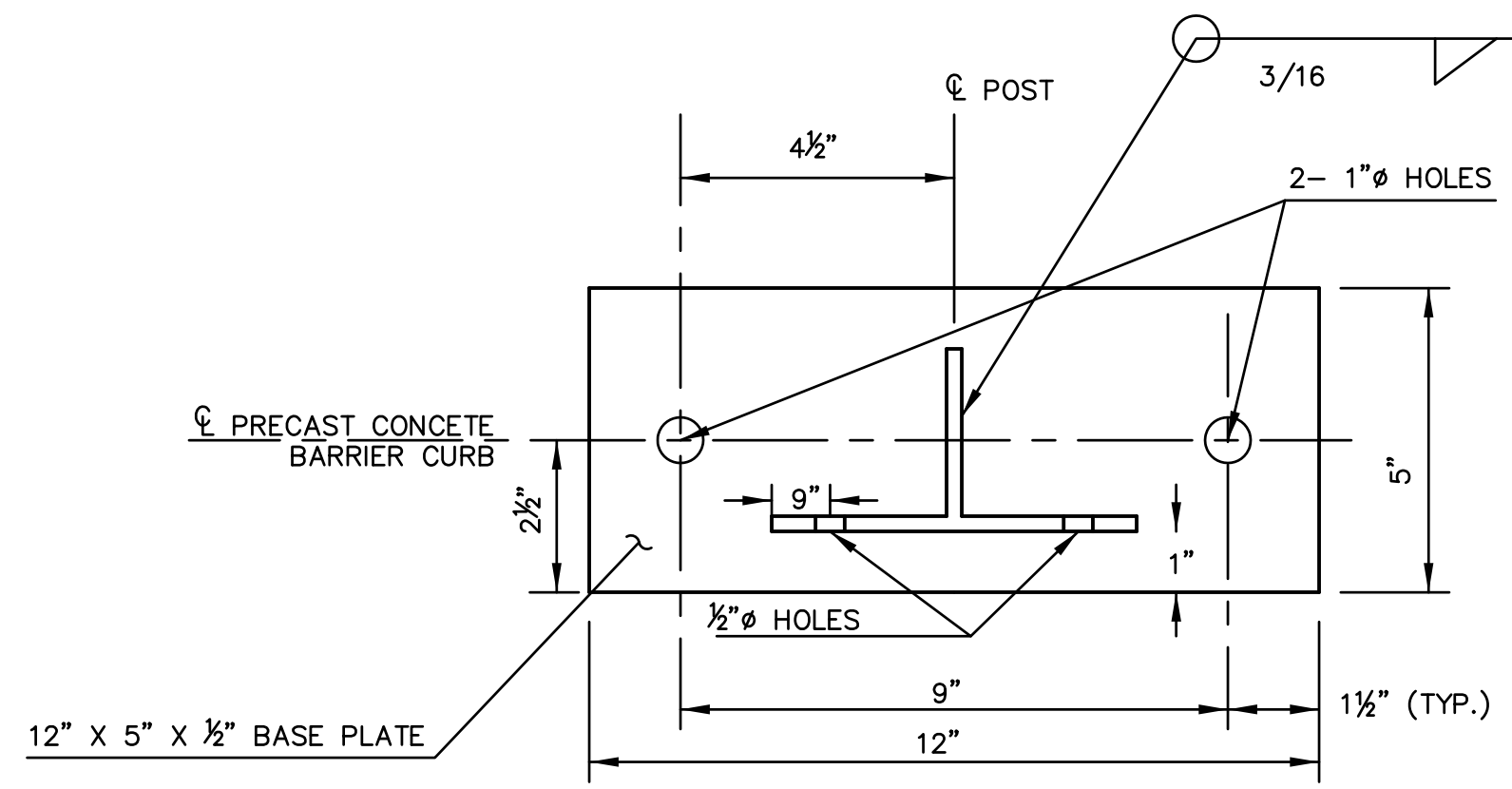
ELEVATION
SCALE 1" = 1'



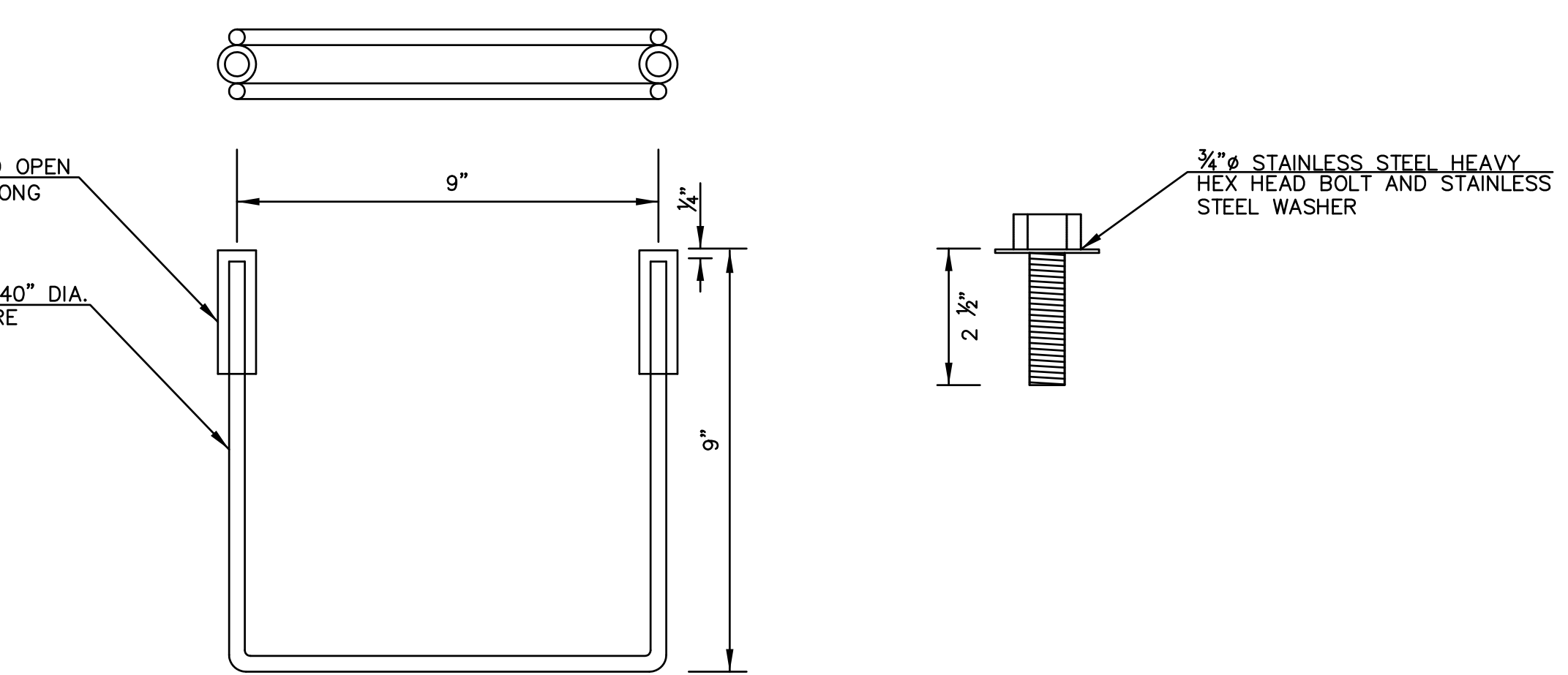
DETAIL "A"
SCALE 2" = 1'



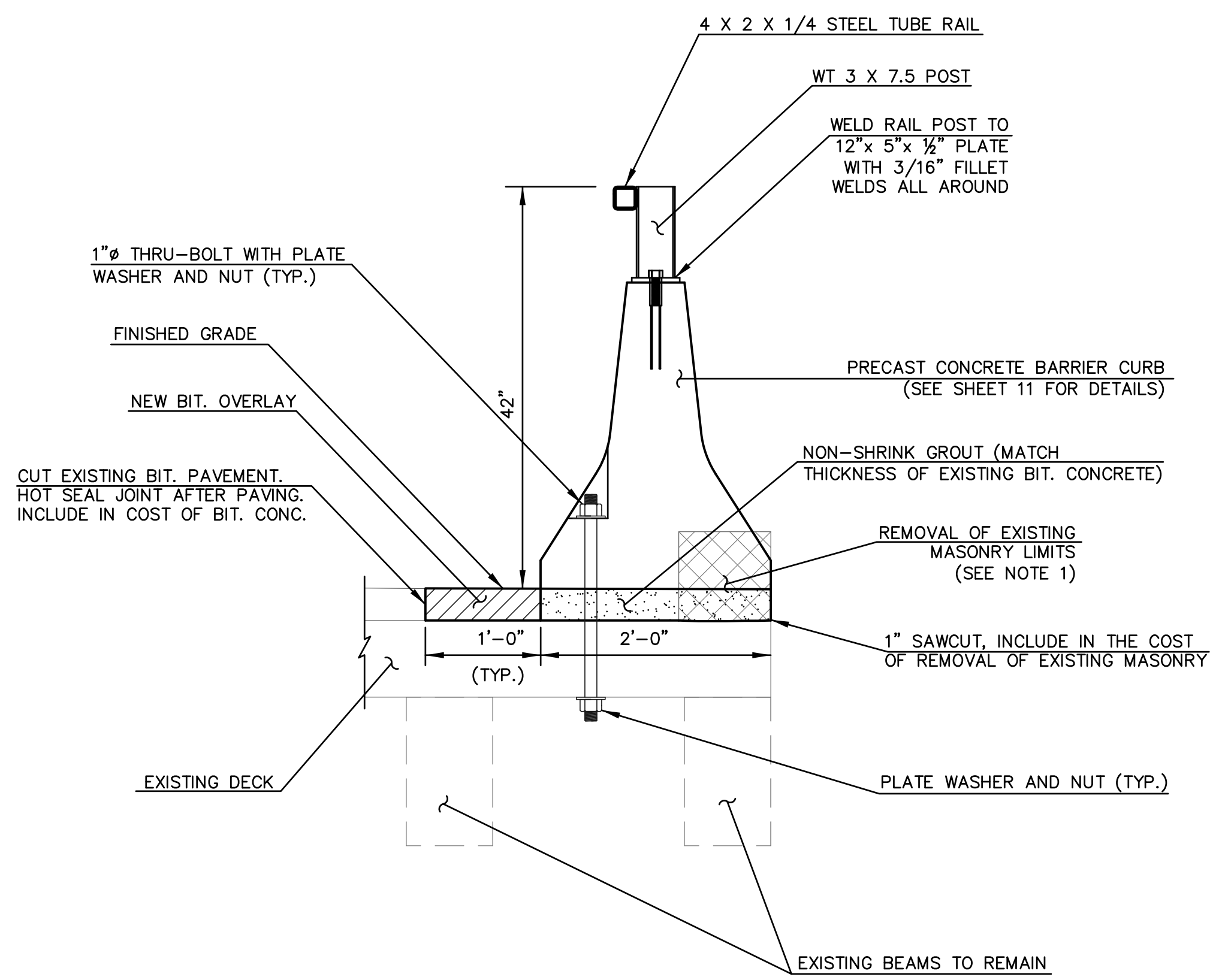
SECTION C-C
SCALE 2" = 1'



SECTION B-B
SCALE 4" = 1'



PRESET ANCHORAGE DETAIL
SCALE 4" = 1'



SECTION A-A
SCALE 1" = 1'

NOTE:
1. SAWCUT EXISTING PARAPET AS CLOSE TO TOP OF EXISTING DECK AS POSSIBLE AND REMOVE EXISTING PARAPET INCLUDING REINFORCEMENT TO LIMITS SHOWN.

- METAL BRIDGE RAIL NOTES:**
1. THE STEEL RAILS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM A588 WEATHERING STEEL.
 2. THE RAILS, POSTS AND BASE PLATES SHALL BE FABRICATED FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M270, GRADE 50W.
 3. ALL POSTS, BASE PLATES, AND RAILS AND OTHER SHAPES SHALL BE FABRICATED IN CONFORMANCE WITH ASTM A588 WEATHERING STEEL.
 4. ROUND HEAD BOLTS, NUTS AND WASHERS FOR CONNECTING RAILS TO POSTS SHALL CONFORM TO THE REQUIREMENTS SET FORTH FOR ASTM A325, TYPE 3.
 5. ALL PRESET ANCHORAGES SHALL BE FABRICATED AND CAST WITHIN THE PRECAST CONCRETE BARRIER CURBS (STRUCTURE). PRESET ANCHORAGES SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153.
 6. BOLTS FOR PRESET ANCHORAGES SHALL BE STAINLESS STEEL AND CONFORM TO THE REQUIREMENTS OF ASTM A193, CLASS 1 OR 2, GRADE B8 (AISI TYPE 304). THE STAINLESS STEEL WASHERS SHALL CONFORM TO ASTM A167, TYPE 302-305.
 7. LENGTHS OF RAIL ELEMENTS SHALL BE CONTINUOUS WITH NO SPLICES.
 8. ALL RAILS AND POSTS SHALL BE FREE OF BURRS, IRREGULARITIES AND SHARP EDGES.

SUPV.	J.A.C.	
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REVISIONS		

SCALE
N.T.S.

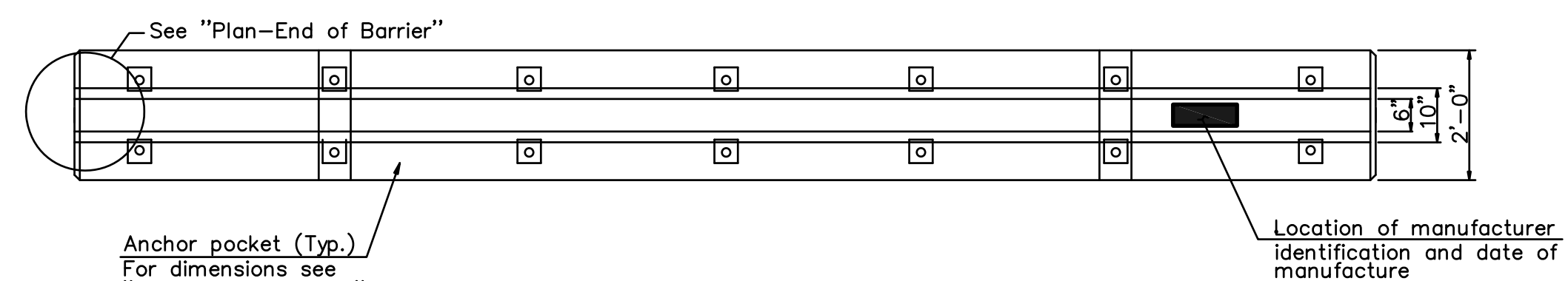
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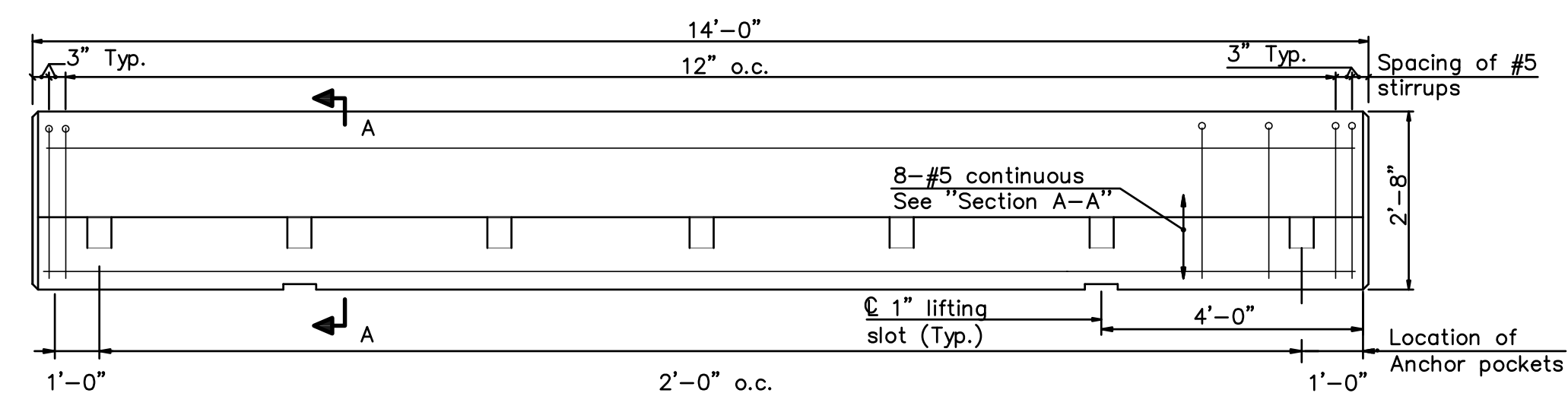
PORTLAND AVE. BRIDGE REHABILITATION		PARAPET DETAILS		SHEET 10	
D -	PORTLAND AVE. BRIDGE	05064.10	REV.	OF	11
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF

NOTES

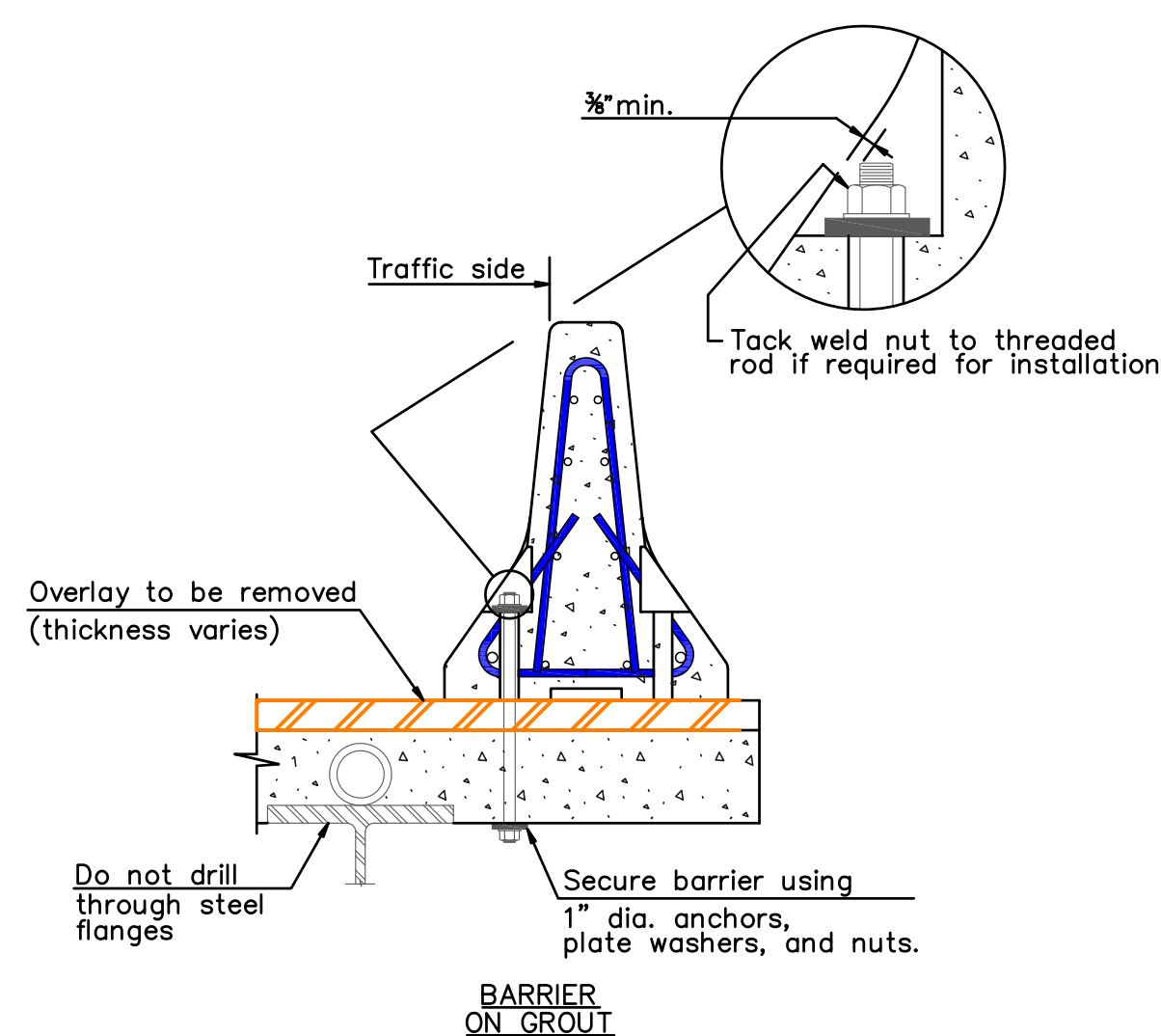
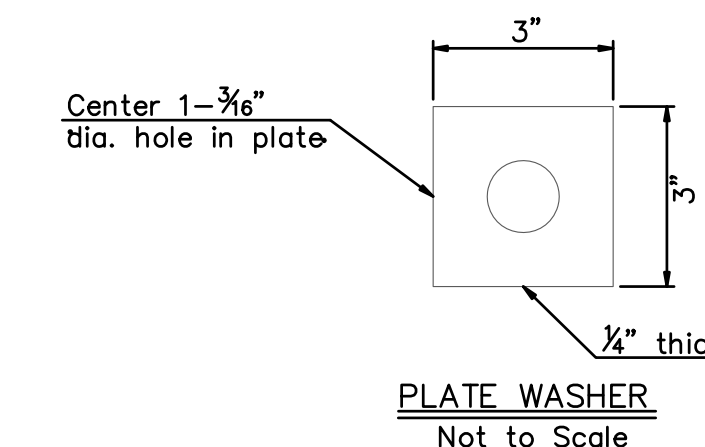
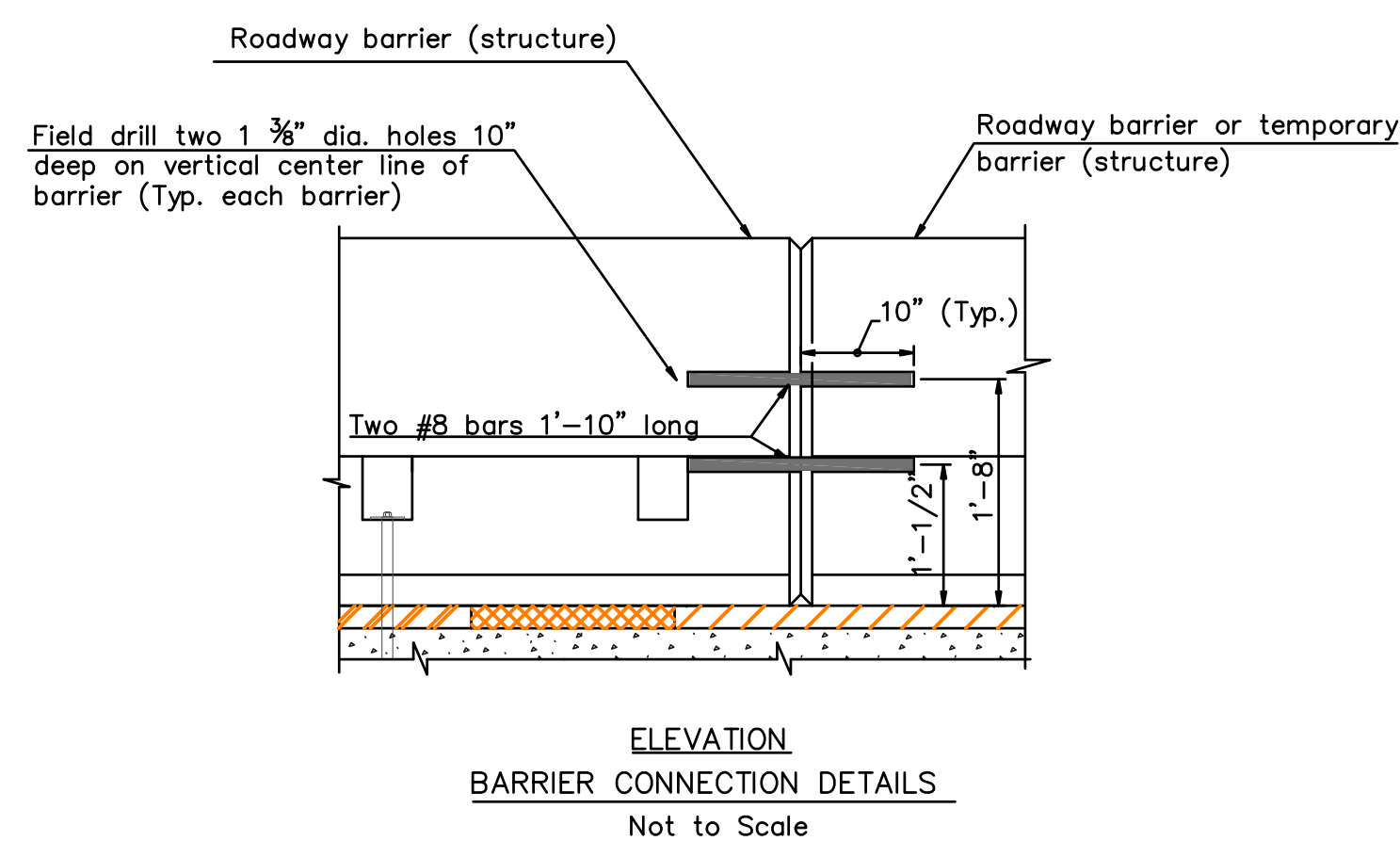
1. The barrier shown on this sheet shall be anchored by through-bolting to the existing bridge deck. This consists of drilling through deck slabs and securing removable anchors on the underside with plate washers and nuts.
2. Number of anchors: On traffic side of a typical barrier, anchors shall be installed in all pockets.
3. The work done on this sheet, with the exception of the delineators, shall be paid for under the item "Precast Concrete Barrier Curb (Structure)".



PLAN

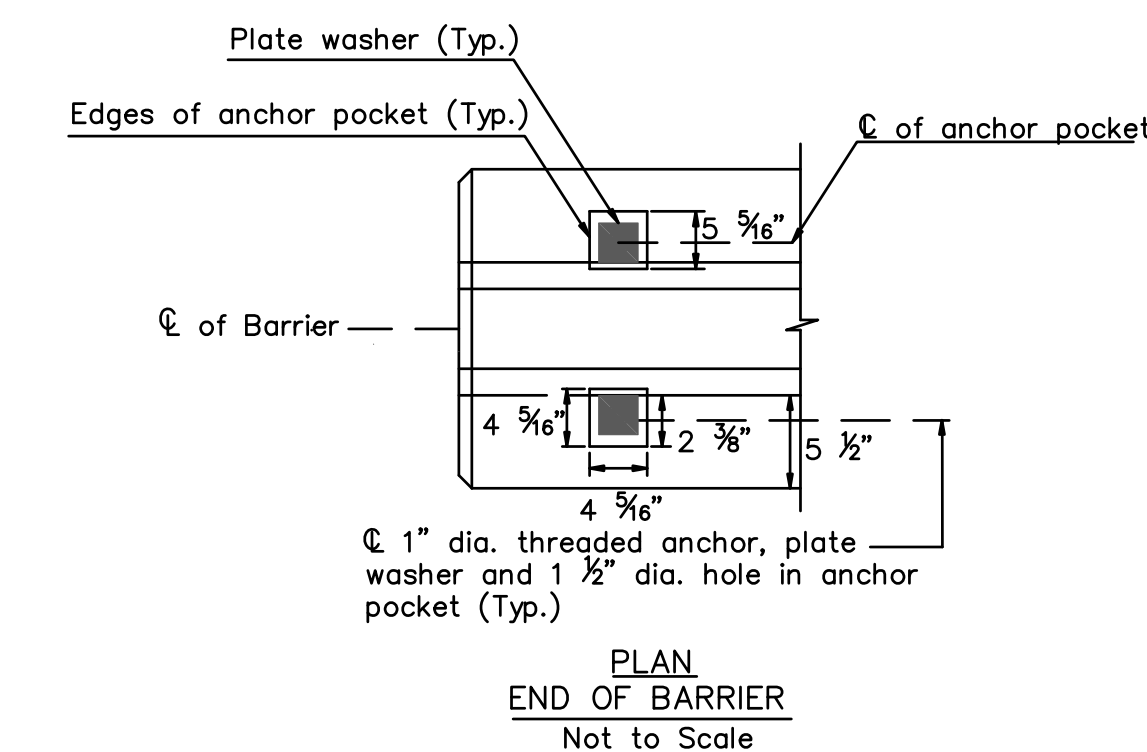
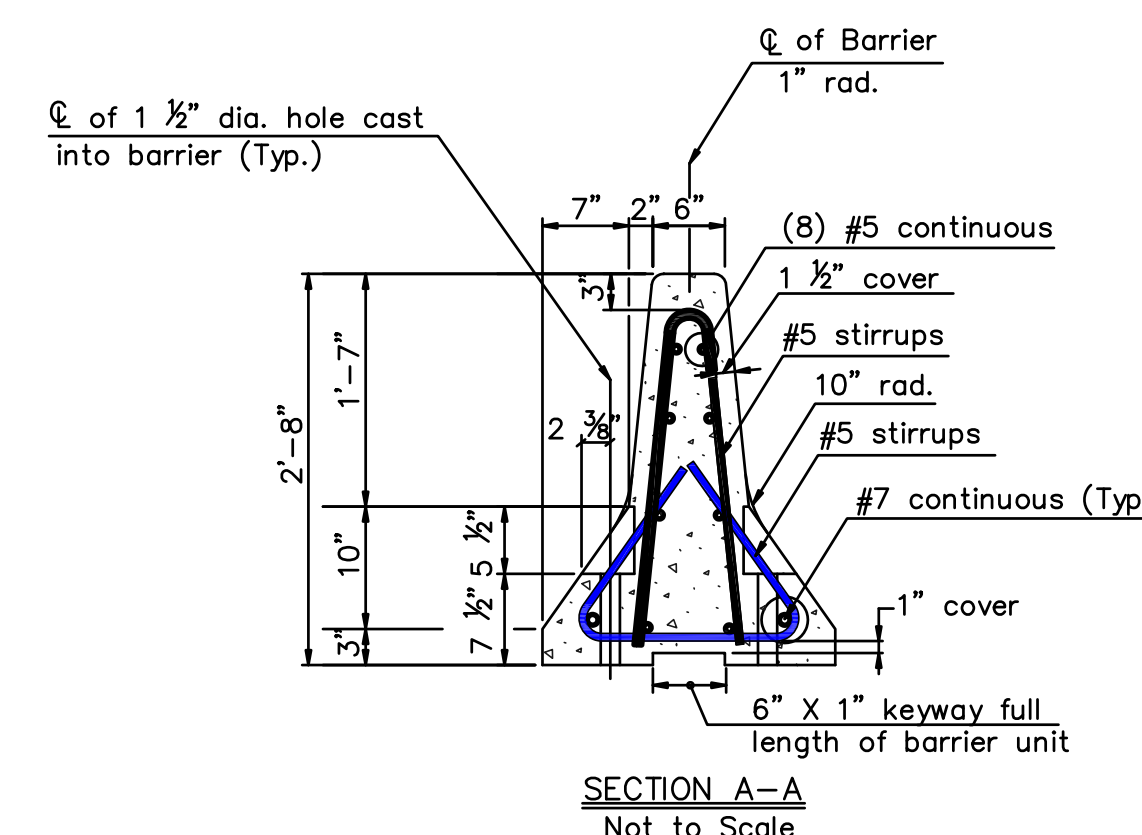


ELEVATION
PRECAST BARRIER UNIT (STRUCTURE)
Not to Scale



THRU-BOLTING OPTION
ANCHORAGE SYSTEM
Not to Scale

Note:
Existing reinforcing bars in slab not drawn for clarity. Existing locations unknown, but damaging the reinforcing bars in the existing concrete should be avoided.



Encapsulated lens reflective sheeting to conform to Article M18.09

COLOR APPLICATION
Left side of all roadways and ramps - YELLOW
Right side of all roadways and ramps - SILVER

COLOR OF DELINEATORS
DE-7A One Way Yellow
DE-7 One Way Silver
DE-7B Two Way Yellow
DE-7C Silver/Yellow Back to Back

Minimum of 2 if less than 100 ft.
Alternating one way traffic - every unit (20 ft.).
All other roadways shall be delineated in accordance with M.U.T.C.D.
Paid for under Item "Delineators"

DELINEATORS
Not to Scale

SUPV.	J.A.C.
DESIGN	D.A.G.
DRAWN	J.A.W.
CHECKED	J.A.C.
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SCALE
AS NOTED

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PORTLAND AVENUE BRIDGE REHABILITATION PRECAST CONCRETE BARRIER CURB (STRUCTURE)				SHEET 11	
D -	PORTLAND AVE BRIDGE	05064.10	REV.	OF	11
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF