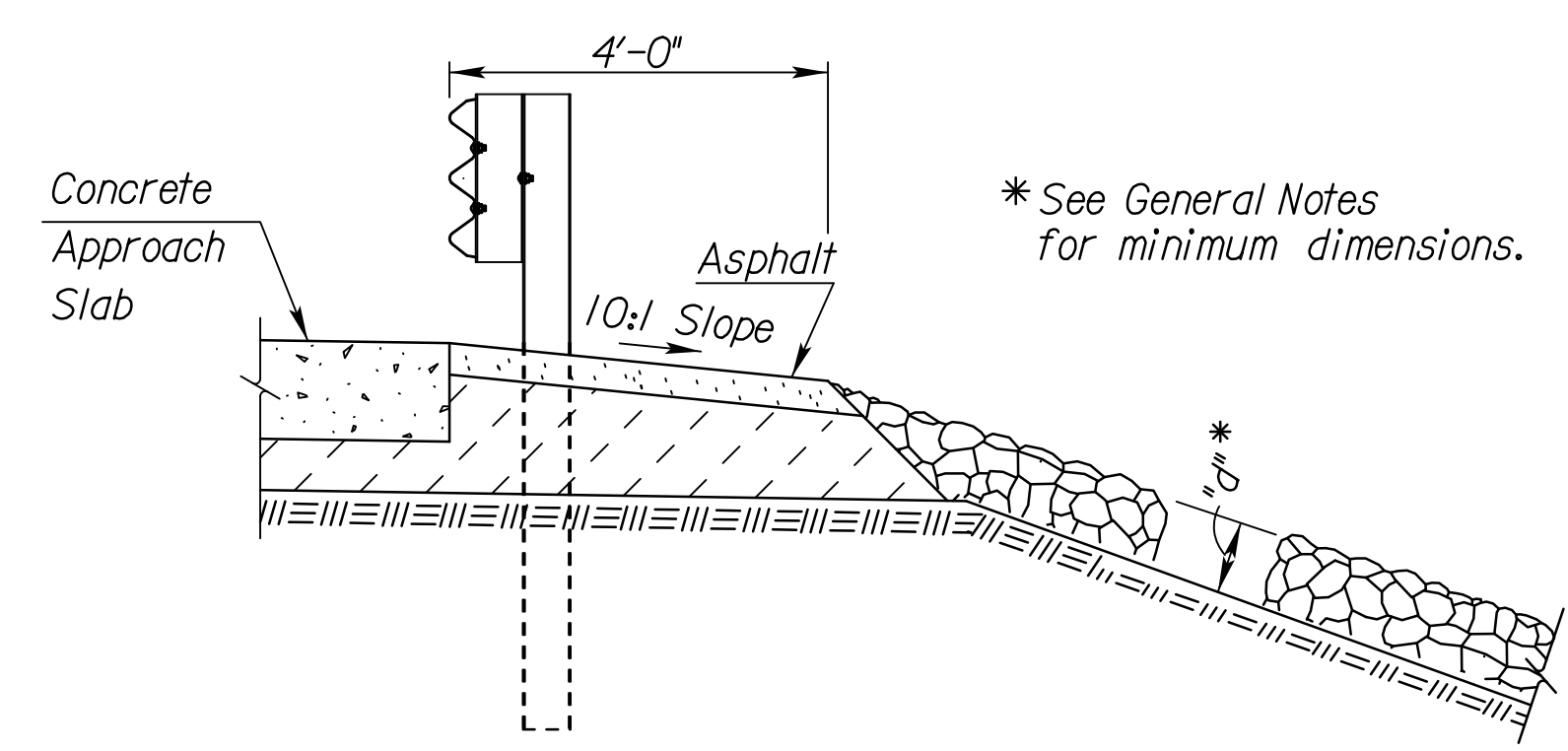
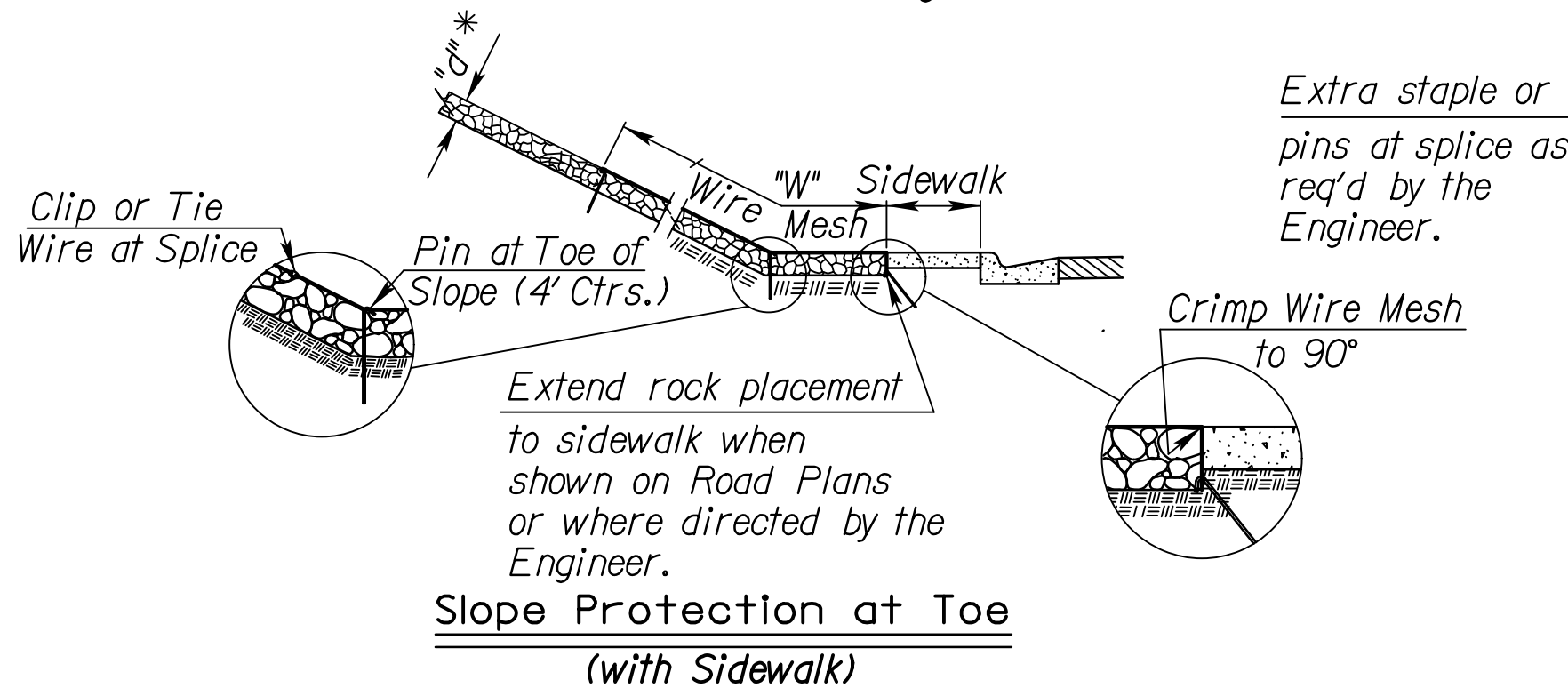
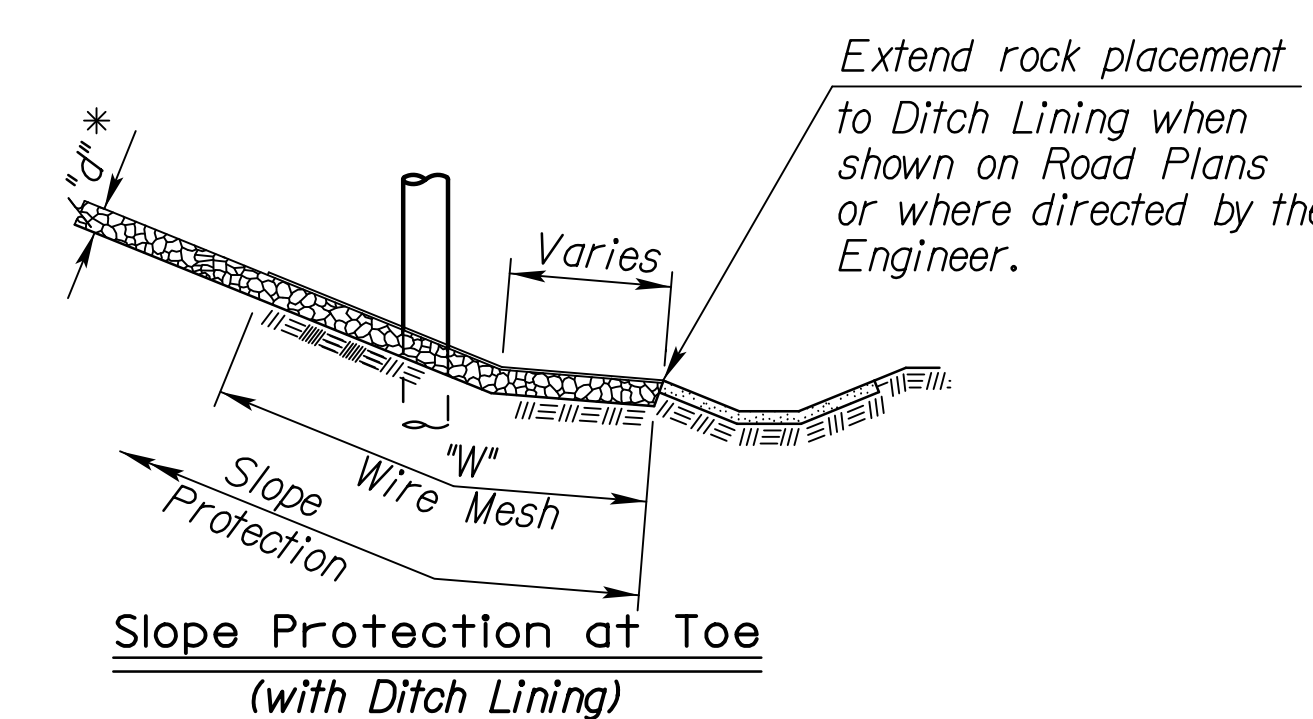
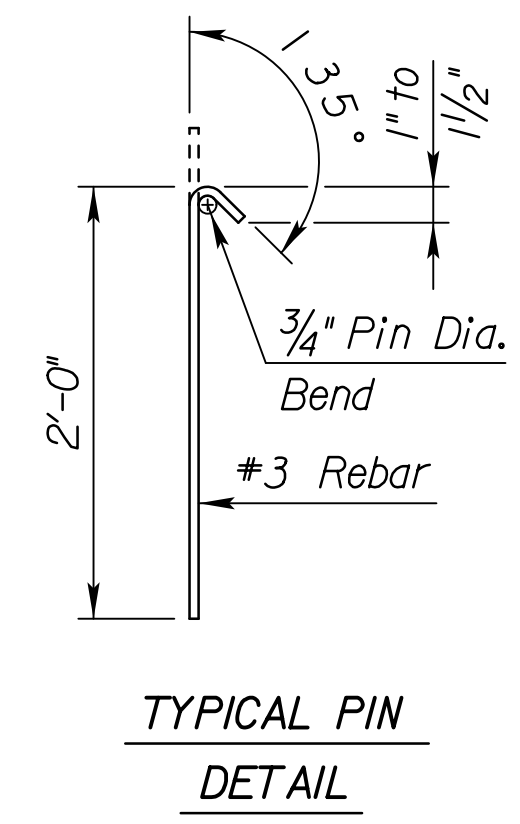
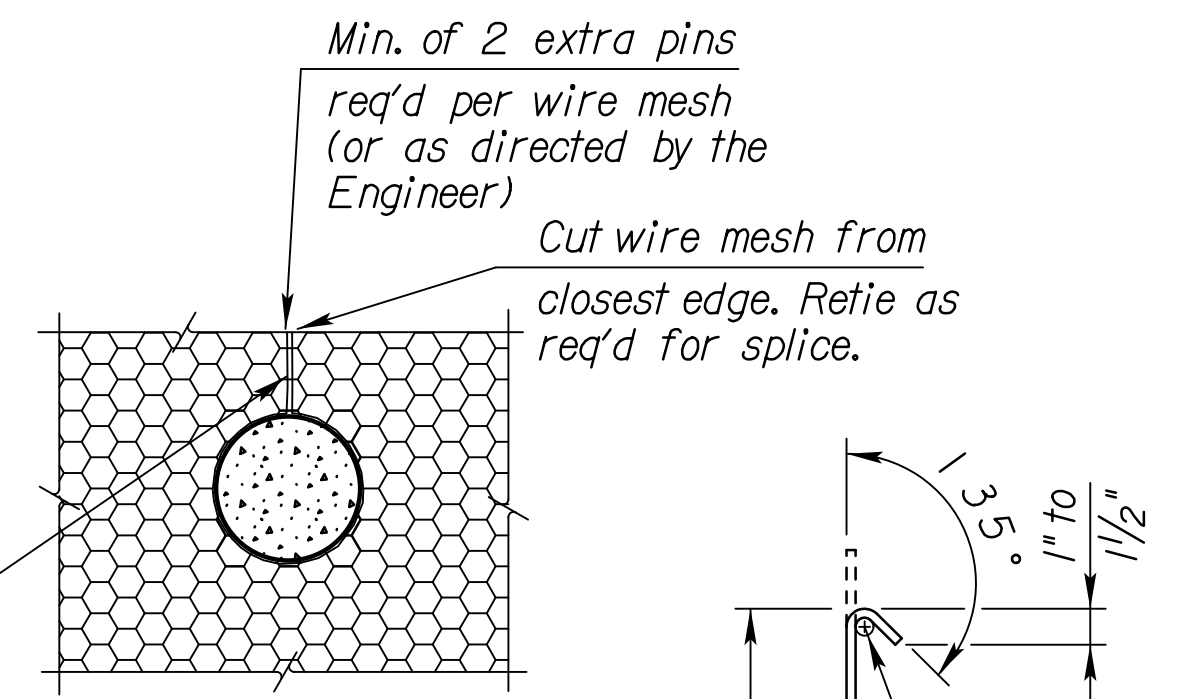
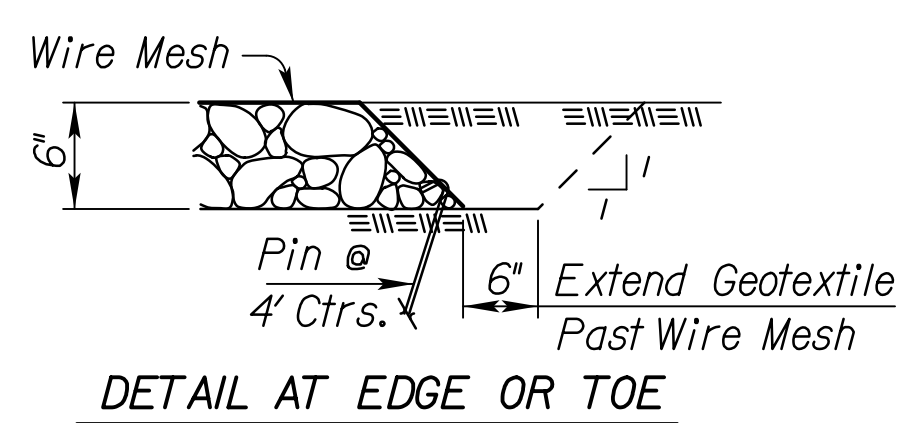
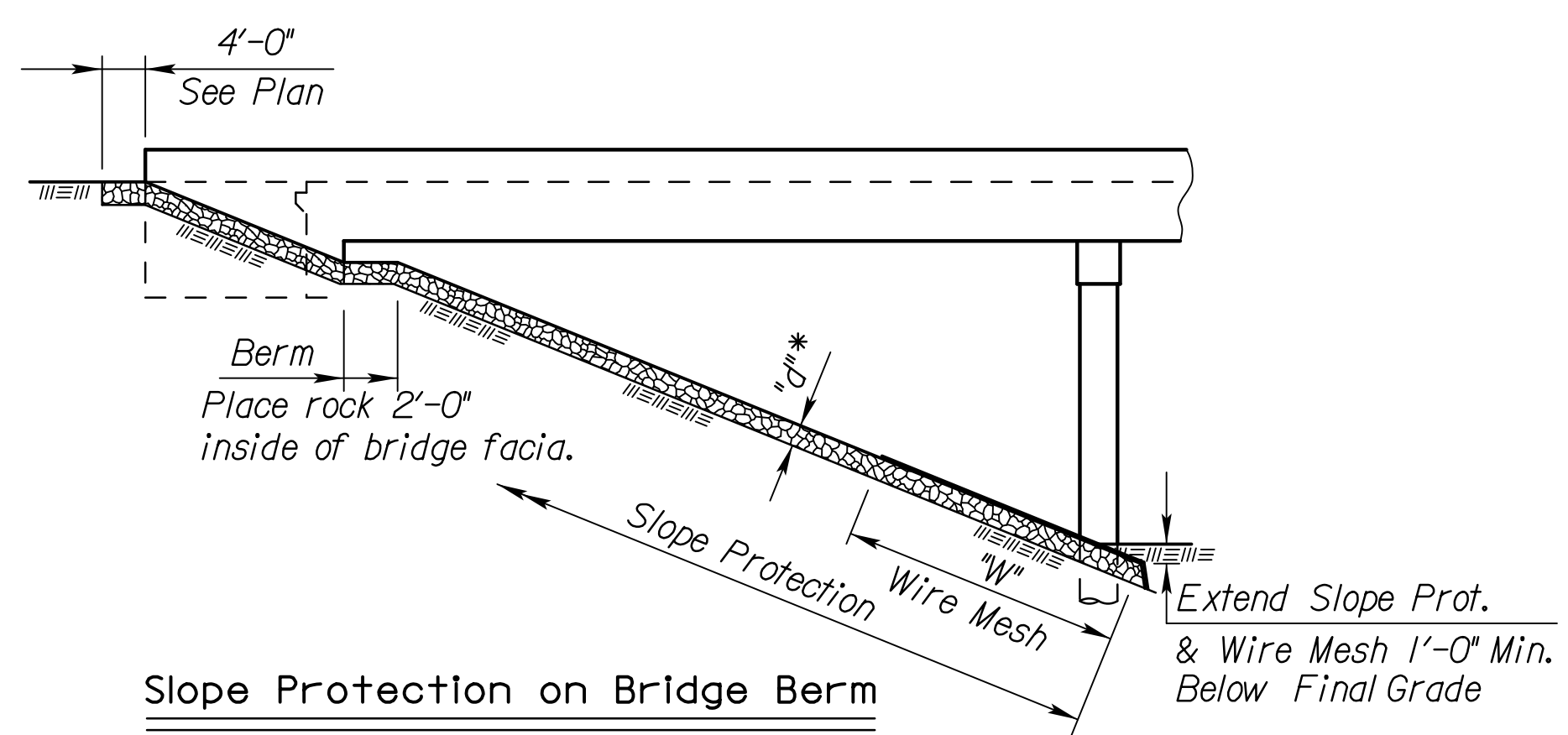
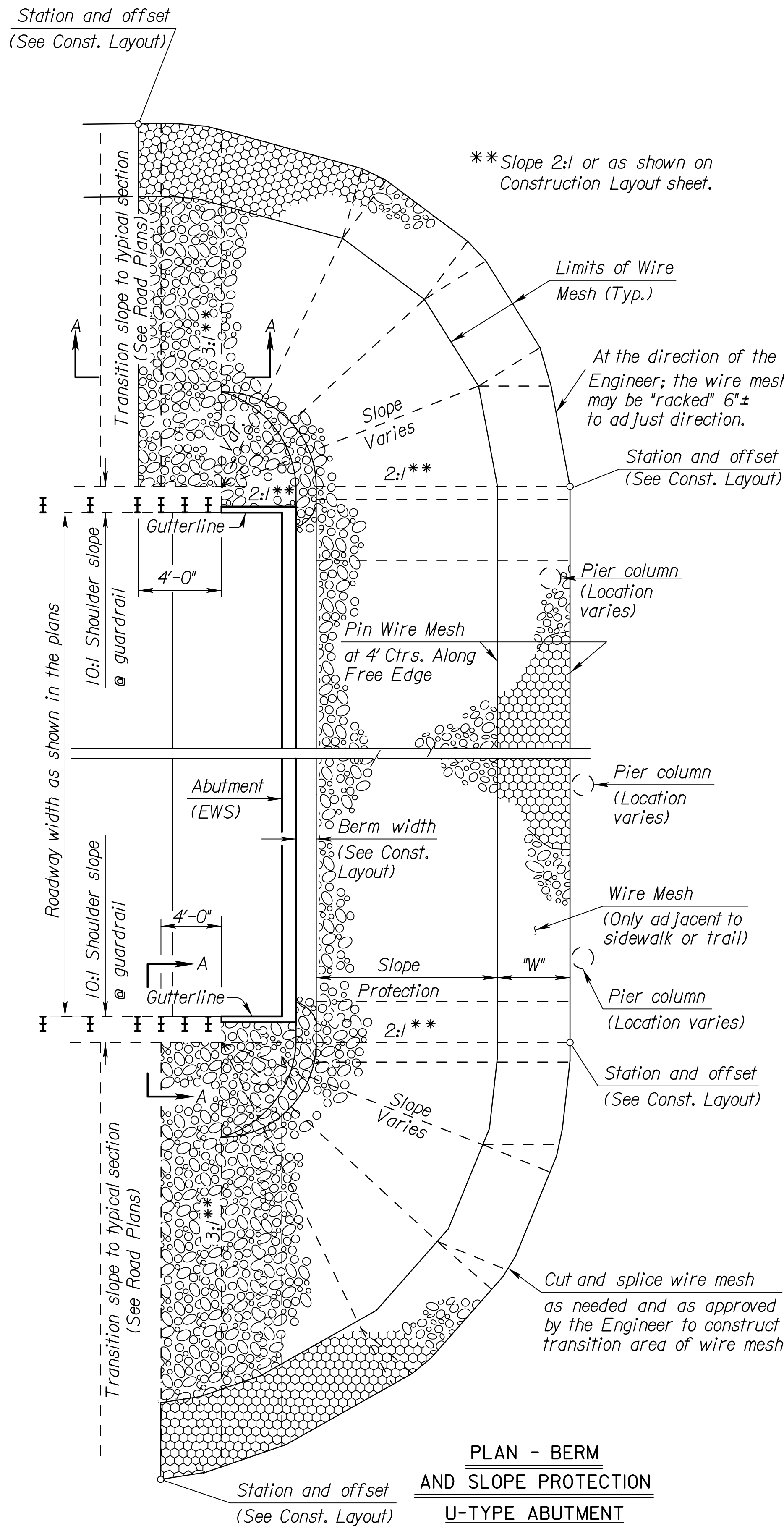


STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	CWS04	29

GENERAL NOTES

- Limits of slope protection are shown on the Construction Layout sheet. Limits may be adjusted as needed at the direction of the Engineer to match ground elevations found at the site.
- Gradation and aggregate for the Slope Protection (Aggregate) shall meet the requirements of stone for Aggregate Ditch Lining and have a D_{50} of 4 inches unless otherwise noted on the Design Documents.
- Wire mesh shall be PVC coated and have a nominal mesh opening of $2\frac{1}{2} \times 3\frac{1}{4}$ ". Wire mesh shall be furnished full width up to widths of 12.0 feet ($W = 12.0$ ft.). When widths greater than 12.0 feet are specified on the Design Documents, the furnished width shall be as recommended by the manufacturer but not less than 6.0 feet. All splices shall be made with PVC coated lacing wire, PVC coated wire ties, or stainless steel fastener clips. The longitudinal edges of the wire mesh shall be securely selvedged to prevent raveling of the mesh. Wire mesh and tie wires shall meet the material requirements for Gabions in the Contract Specifications. Wire mesh shall not be used unless noted in the Design Documents.
- Unless noted otherwise on the Construction Layout, "d" shall be a minimum of 12 in., "W" shall be 12.0 ft.
- The Design-Builder shall place the rock from the bottom to the top of the slope. Place the rock in a manner which produces a reasonably well graded mass of rock without segregation of the material sizes. Placement and measurement shall conform to Contract Specifications for Slope Protection.



TYPICAL ELEVATIONS

* See General Notes for minimum dimensions.

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 Plot Date: 6/12/2014



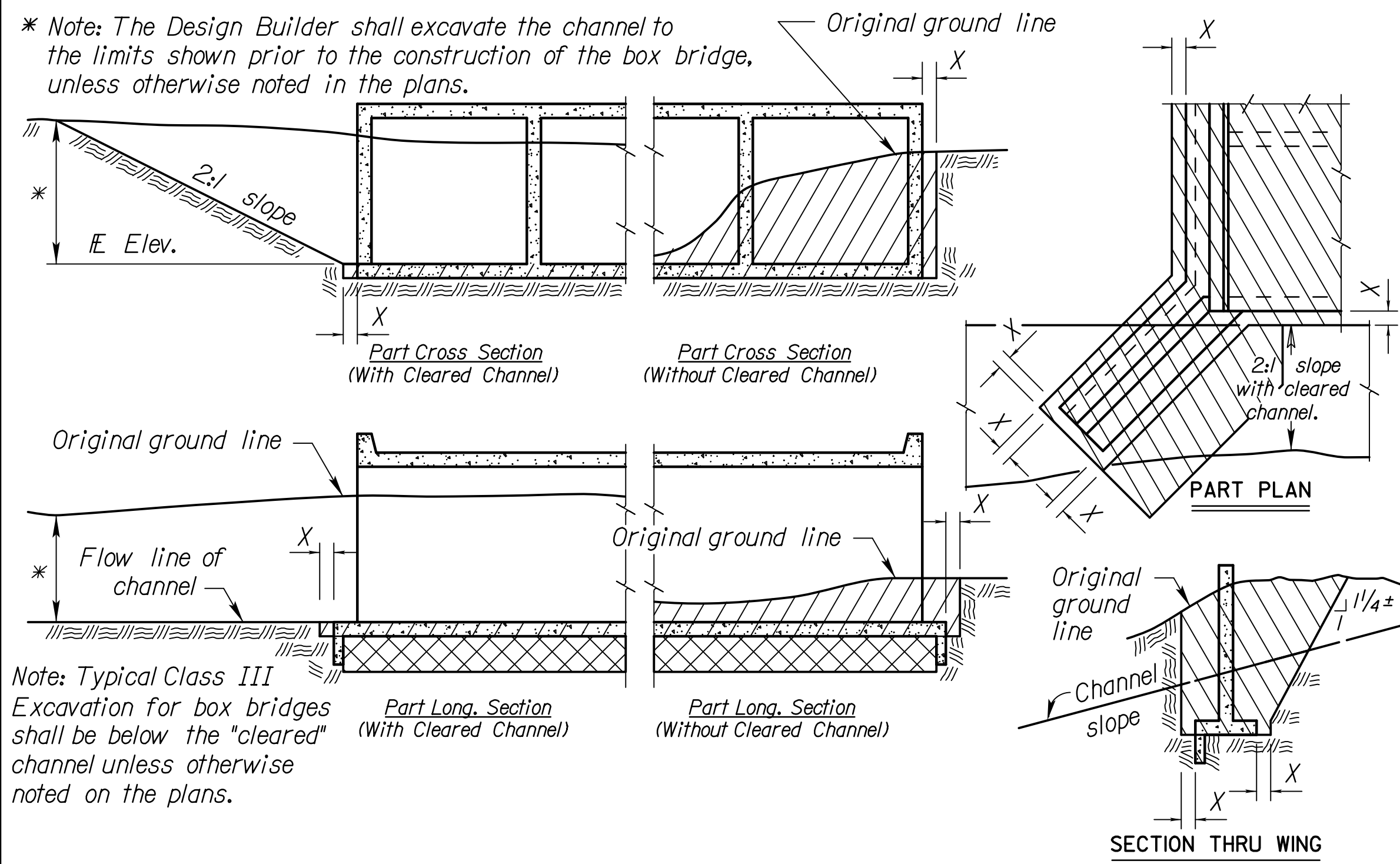
Released for Construction
 Not to Scale
 Date: 06/18/2014
 GIC Version 0.0
 RFC'd by: Document Control
 Package Submittal: RFC Package-MS00

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LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D	

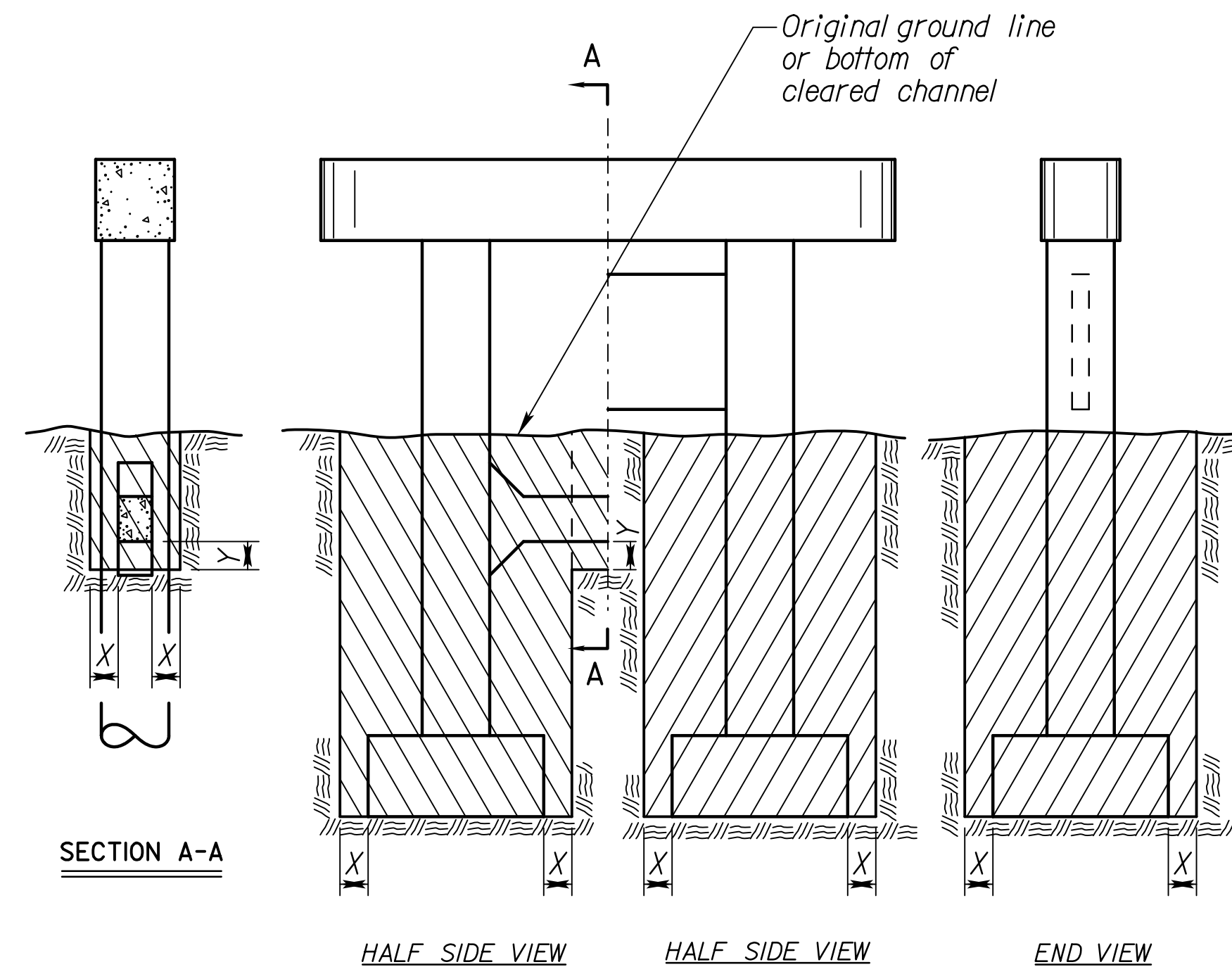
KANSAS DEPARTMENT OF TRANSPORTATION
 BRI32B- BRIDGE BERM AND SLOPE PROTECTION U-TYPE ABUTMENT
 Johnson Co.
 PIN: MS00
 SHEET NO. OF SCALE APP'D
 DESIGNED QUANTITIES CADD
 DESIGN CK. DETAIL CK. QUAN. CK. CADD CK.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	CWS05	29

* Note: The Design Builder shall excavate the channel to the limits shown prior to the construction of the box bridge, unless otherwise noted in the plans.

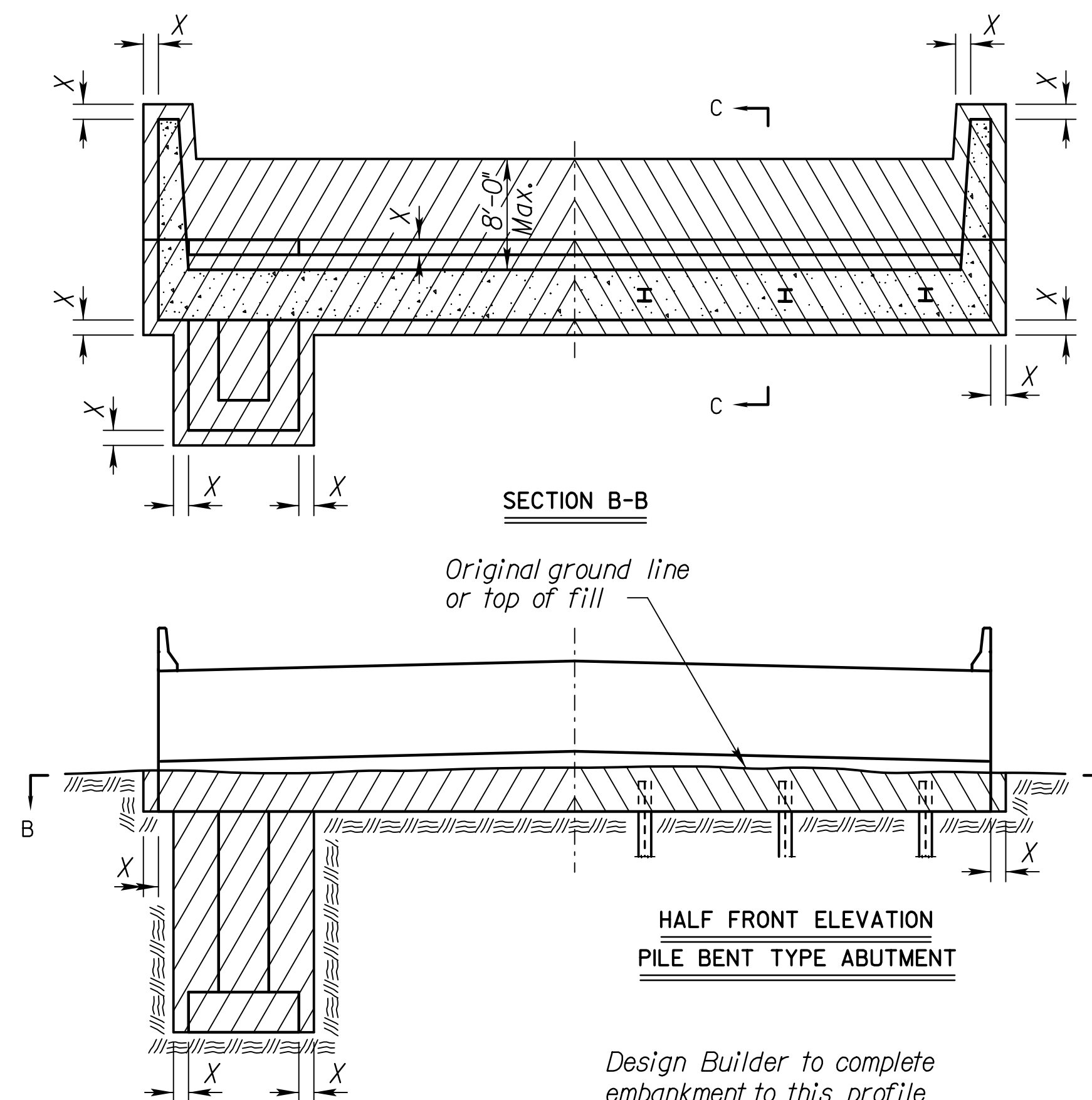


EXCAVATION DETAILS FOR REINFORCED CONCRETE BOX CULVERT



EXCAVATION DETAILS FOR TYPICAL PIERS

See detail when rock or shale (rock) is encountered.*



EXCAVATION DETAILS FOR TYPICAL ABUTMENTS

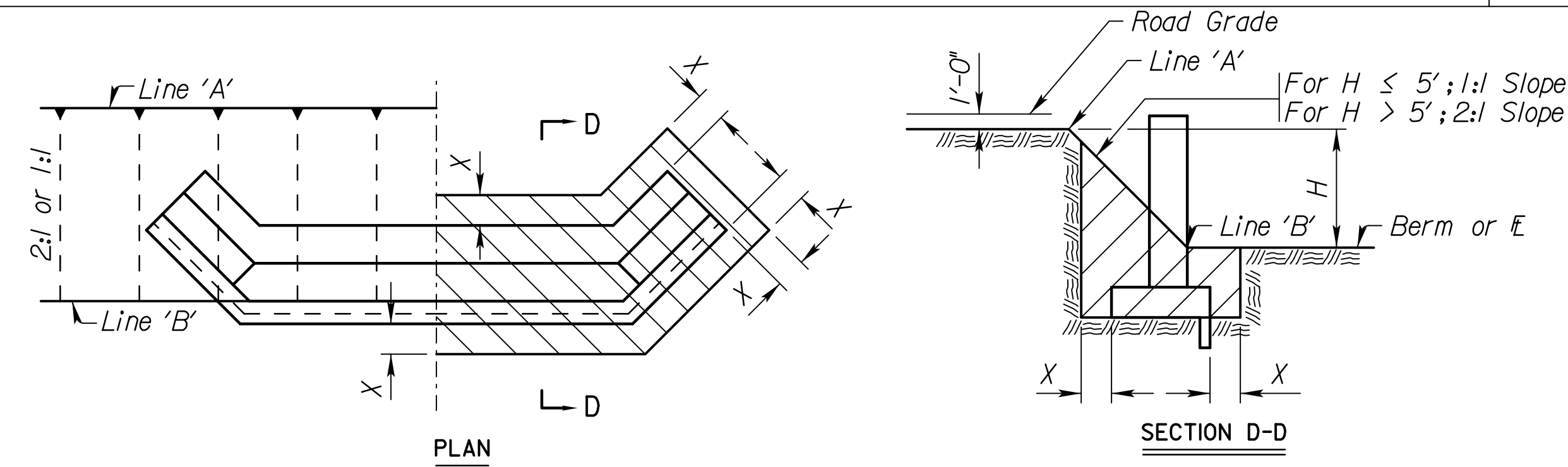
See detail when rock or shale (rock) is encountered.*

HALF FRONT ELEVATION PEDESTAL TYPE ABUTMENT

Design Builder to complete embankment to this profile prior to construction of the abutment. No excavation beyond this line. Road grade. 8'-0" Max. For H ≤ 5'; 1:1 Slope. For H > 5'; 2:1 Slope.

Note: Design Builder shall finish the embankment and berms after the construction of the abutment and dispose of any excess material according to the Contract.

SECTION C-C

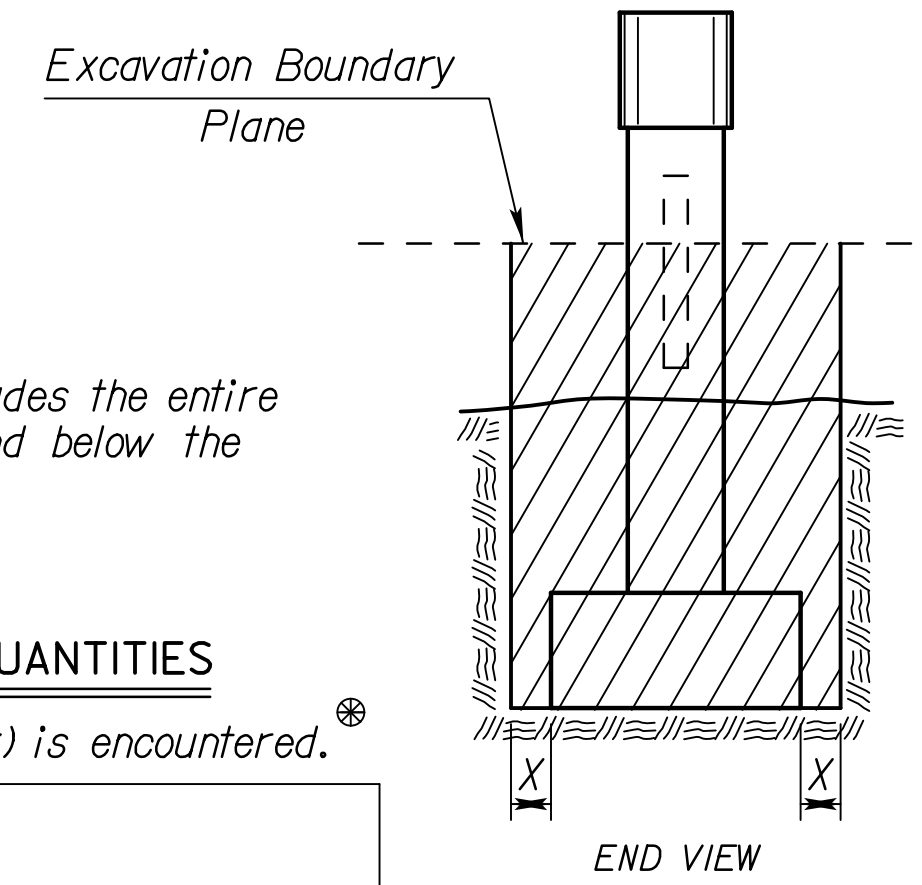


EXCAVATION DETAILS FOR ABUTMENTS WITH FLARED WINGWALLS

Note: Class II Excavation includes the entire volume of whatever nature found below the "Excavation Boundary Plane". This may include water or air.

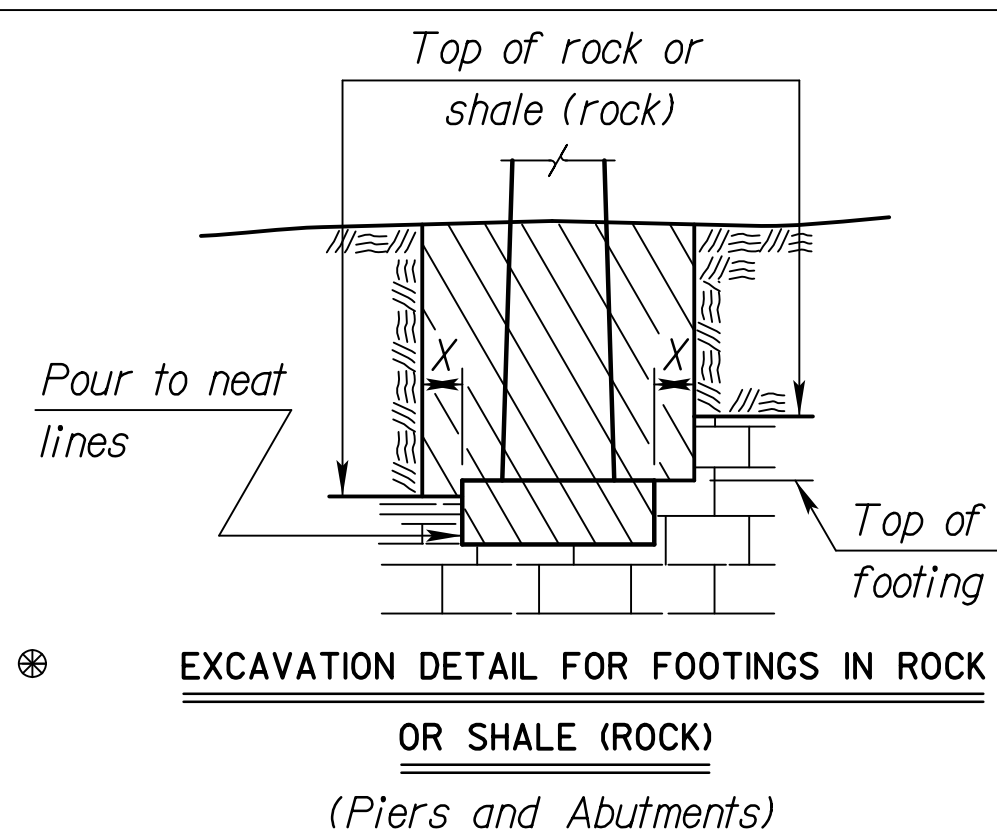
CLASS II EXCAVATION QUANTITIES

See detail when rock or shale (rock) is encountered.*



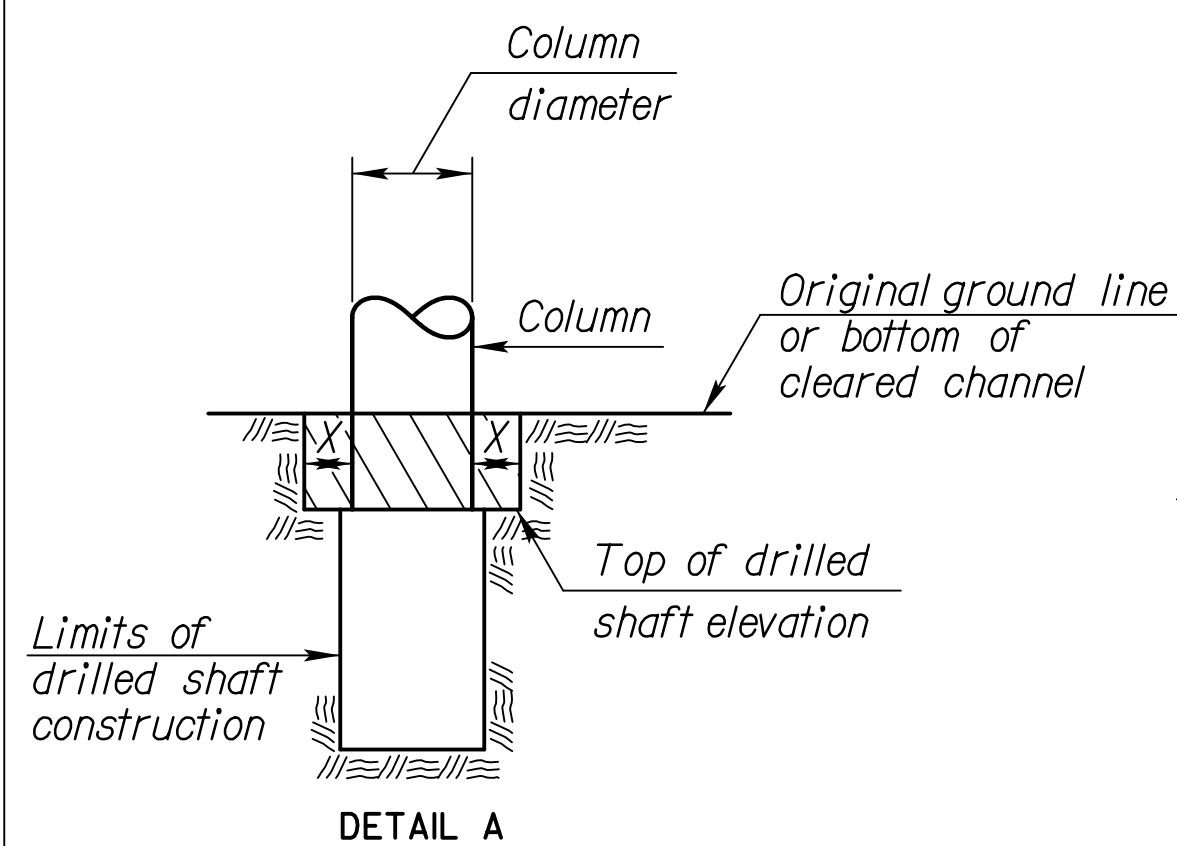
END VIEW

Note: All bridge excavation shall be computed on the basis of the cross-hatch areas and boundary lines indicated on this sheet and the Excavation Boundary Plane on the Construction Layout. Sides of trenches in hard or compacted soil including embankments shall be shored, sheeted, braced or otherwise supported when the trench is more than 5 feet in depth and 8 feet or more in length. In lieu of the shoring, the sides of the trench above the 5 foot level may be sloped to preclude collapse. The slope for average soils shall be 1:1. If the angle of repose of the soil is less, flatter slopes shall be required.

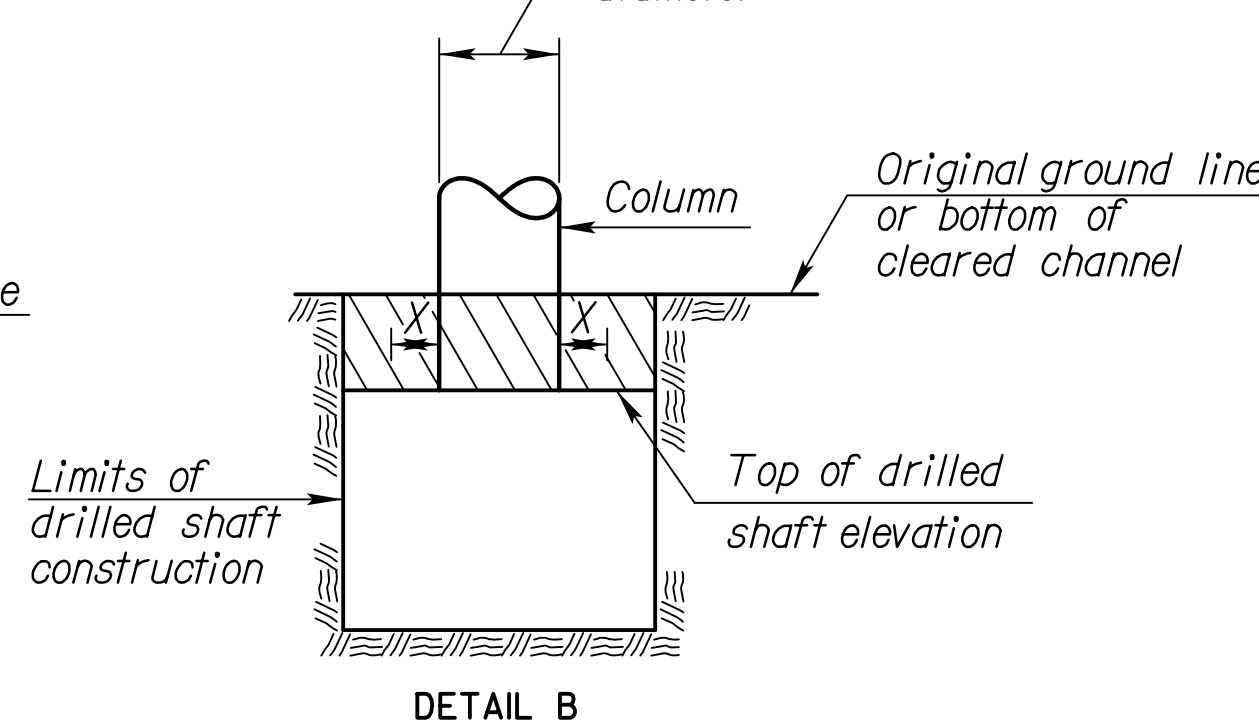


EXCAVATION DETAIL FOR FOOTINGS IN ROCK OR SHALE (ROCK) (Piers and Abutments)

Note: Excavation below top of rock, hard shale or below top of footing, whichever is lower, shall be to neat lines of the concrete construction.



DRILLED SHAFT DETAILS



DETAIL B

Note: Whenever the limits of the drilled shaft construction are greater than the Column Diameter + 2X, the limits of Class I, II or III Excavation shall be the limits of the drilled shaft construction. (See Detail B)

Dimension "X" shall be 2'-0" unless indicated otherwise on the general plans. Dimension "Y" shall be 1'-6" unless indicated otherwise on the general plans.

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Plot Date: 6/12/2014



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Date: 06/18/2014
GIC Version 0.0
RFC'd by: Document Control
Package Submittal: RFC Package-MS00

18258

Cory J. Luchko

2014.06.13
11:17:48
-0500'

LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION			
BR100B			
BRIDGE EXCAVATION (LRFD)			
PIN: MS00		Johnson Co.	
SHEET NO. OF	SCALE	APP'D	
DESIGNED	DETAILED	QUANTITIES	CADD
DESIGN CK.	DETAIL CK.	QUAN. CK.	CADD CK.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	435-46 KA-1002-04	2014	CWS07	29

GENERAL NOTES

GEOSYNTHETICS: Use material that complies with Contract Specification Section 1710 Class 2 subsurface drainage fabric. Place the Class 2 subsurface drainage fabric on graded and compacted material shaped as shown. Allow for enough material so that the top can be overlapped and the end folded to completely enclose the aggregate drain. Place the perforated drain pipe and couple to non-perforated pipe as shown. Allow the non-perforated pipe to pass through a hole carefully cut in fabric. Place aggregate within fabric to just leave the top of the pipe visible. Verify the slope of the pipe, that it is not damaged or displaced and that the couplers are firmly coupled. Continue to back fill to the elevation and shape shown. Lap the top of the fabric a minimum of 3'-0", fold and wrap the ends to enclose the drainage materials. Secure the folds and wraps by sewing or approved methods.

AGGREGATE: Use aggregates that complies with Contract Specifications for SB-1, SB-2 or SB-3.

BASE COURSE REINFORCEMENT: Use "Base Course Reinforcement" that complies with Contract Specification Section 1710 or approved material. Place this material in uniform layers without gaps or sags per the manufacturer's recommendations.

GEOFOAM: Use "Geofoam" that complies with Contract Specification 07-2005 latest revision or approved material. Bond this material to the back wall protection using materials recommended by the manufacturer.

SOIL CAP: The soil will have a Unified Soil Classification of CL or ML according to ASTM D2487. Compact to Type A, MR-90.

PIPE: Place perforated pipe within the limits and use non-perforated pipe outside the limits of the Abutment Aggregate Drain.

ABUTMENT AGGREGATE DRAIN: Backfill, compact & grade the cohesive soil to the limits shown. Place the bridge backwall protection, geofram, geotextile, perforated pipe, alternating layers of aggregate and base course reinforcement as shown. Place the outlet pipe, the CMP, and the backfill. Guide post and coarse aggregate are not required if the CMP empties onto Slope Protection. Enclose the entire Abutment Aggregate Drain with the geotextile

BRIDGE BACKWALL PROTECTION SYSTEM: Apply a non coal-tar Bridge Backwall Protective System to the approach side of the abutments and the wings in accordance with Contract Specifications and the manufacturer's recommendations. Cover the abutments and wings to the limits shown on the details. Repair any damage done.

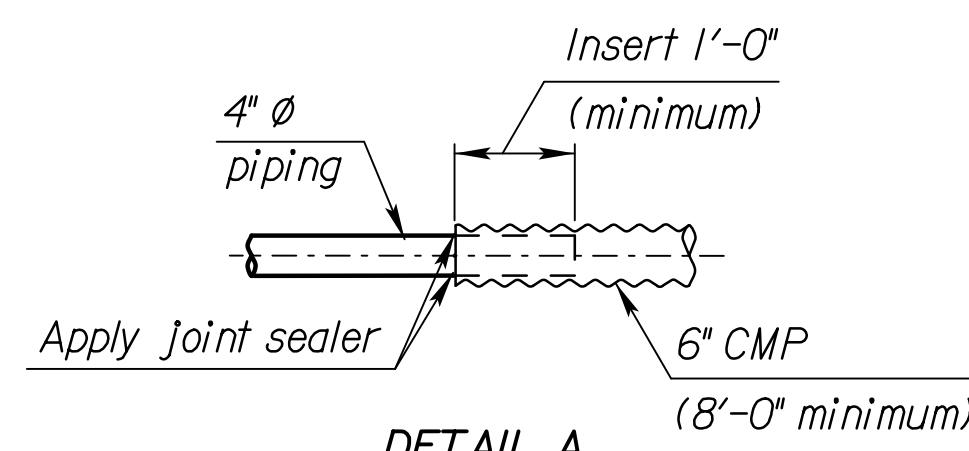
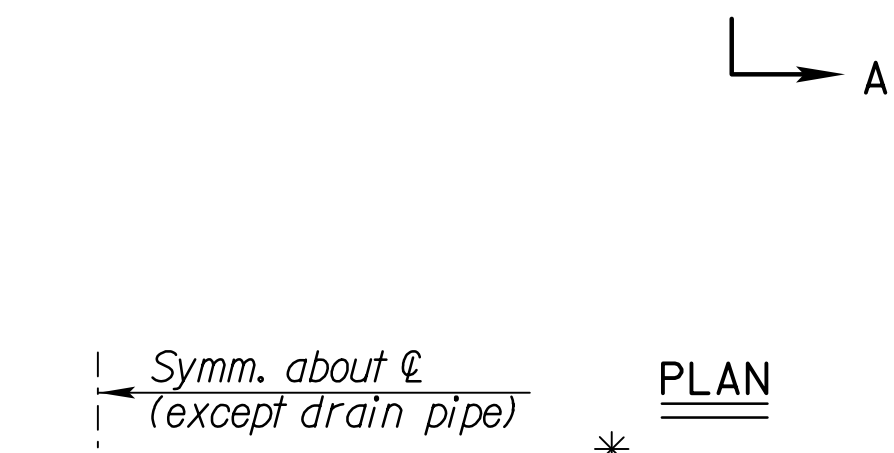
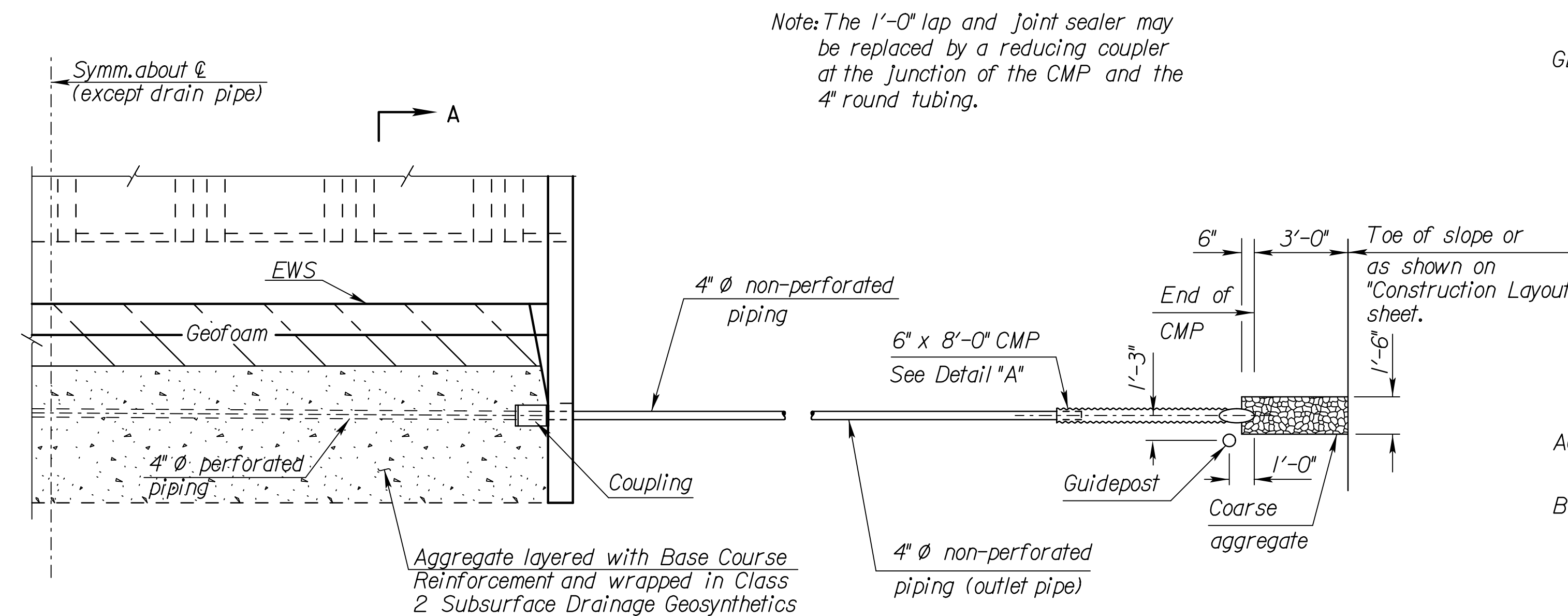
Compact the abutment backfill. See the Contract Specifications.

Perforated pipe and non-perforated outlet pipe shall be corrugated polyethylene tubing conforming to the Contract Specifications.

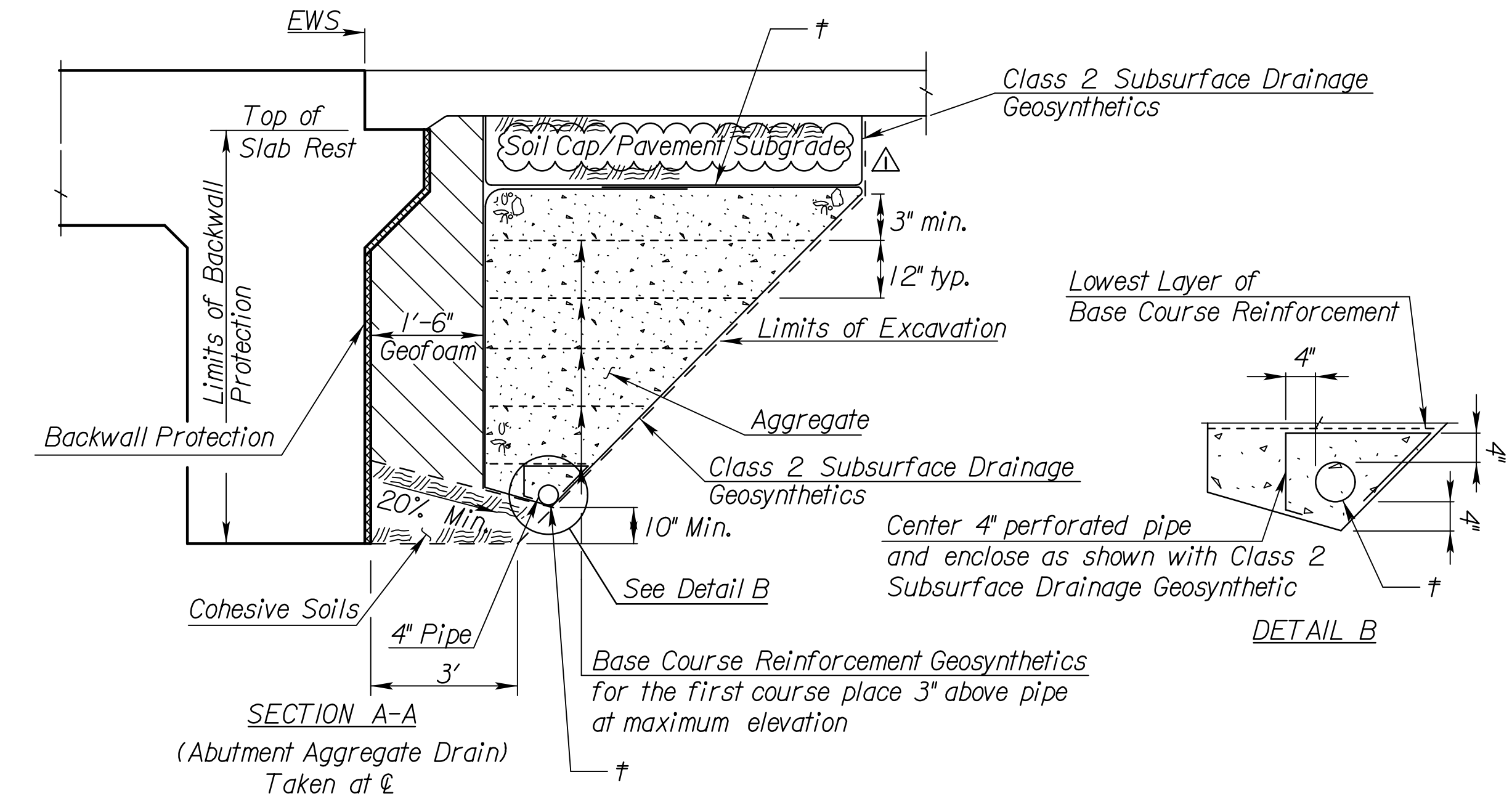
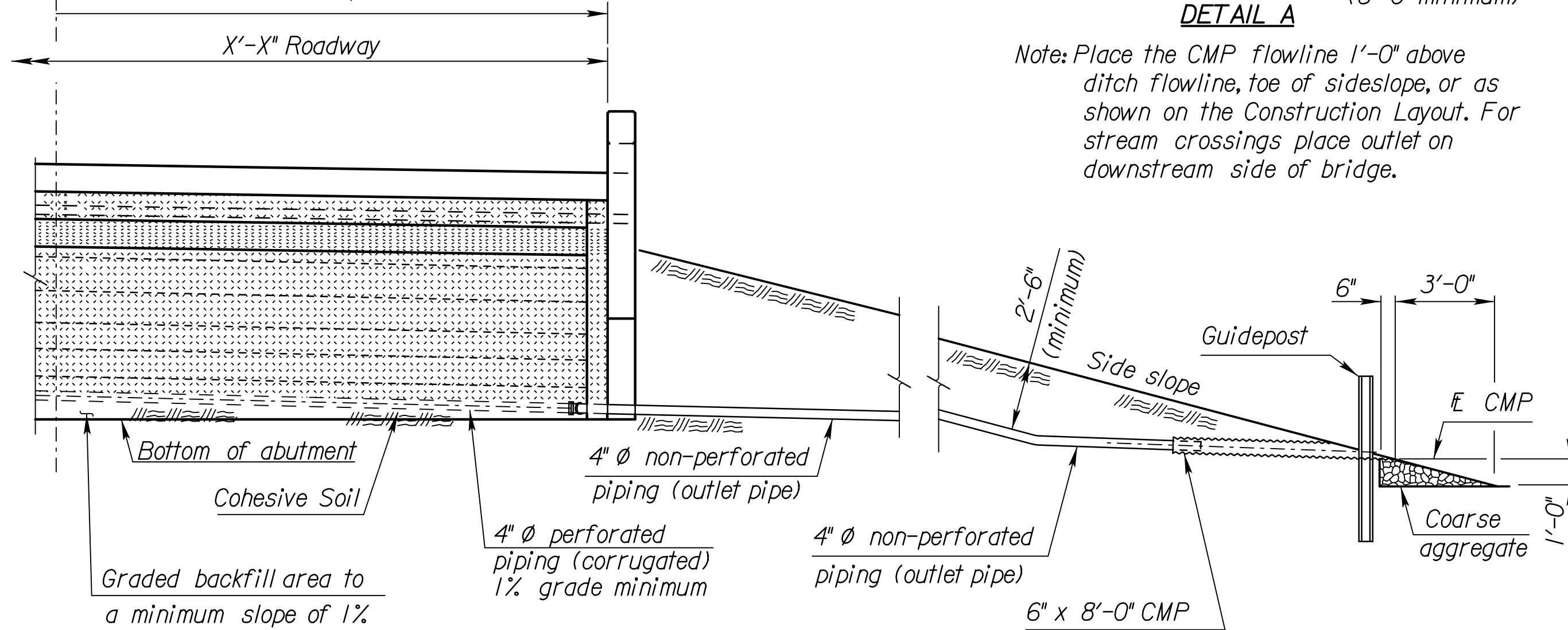
Fit the CMP end section with 1/4" galvanized mesh screen to prevent the entrance of rodents. Seal the joint between the outlet pipe and the end section with a joint sealer. Place Coarse aggregate at the outlet end as shown.

COHESIVE SOILS: Grade the bottom surface of the excavated area to drain as shown. Backfill this area with a cohesive type of soil. The soil will have a Unified Soil Classification of CL, CH, ML or MH according to ASTM D2487. Classification System with a minimum plasticity index of 13. Compact the material to Type A, MR-90 specifications. If the plasticity index cannot be met add and mix Bentonite, to the soil prior to placement and compaction so that the PI ≥ 13.

REVISED PLANS



Note: Place the CMP flowline 1'-0" above ditch flowline, toe of sideslope, or as shown on the Construction Layout. For stream crossings place outlet on downstream side of bridge.



* Limits of Bridge Backwall Protection System & Geofoam

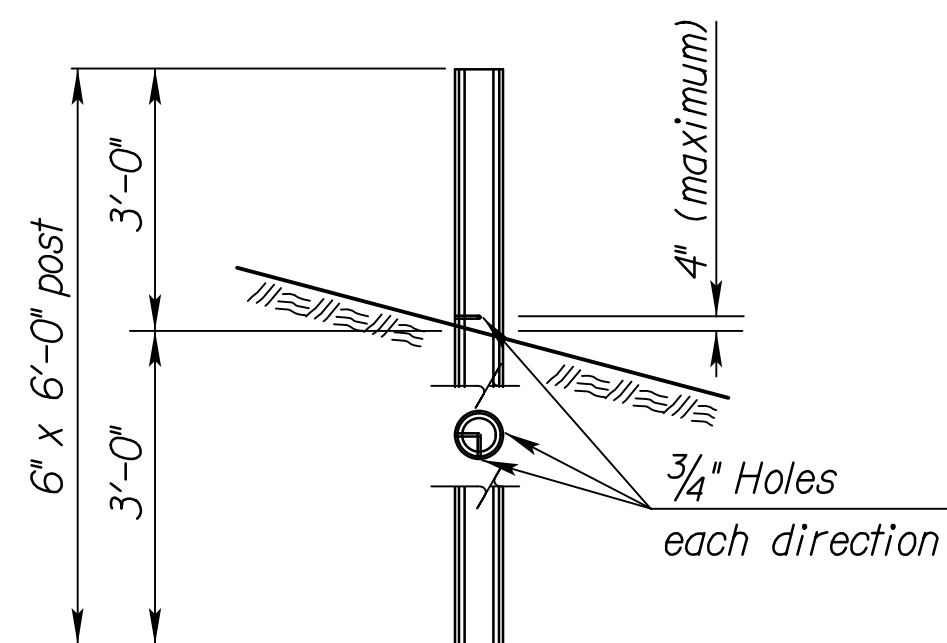
ELEVATION

GUIDE POST

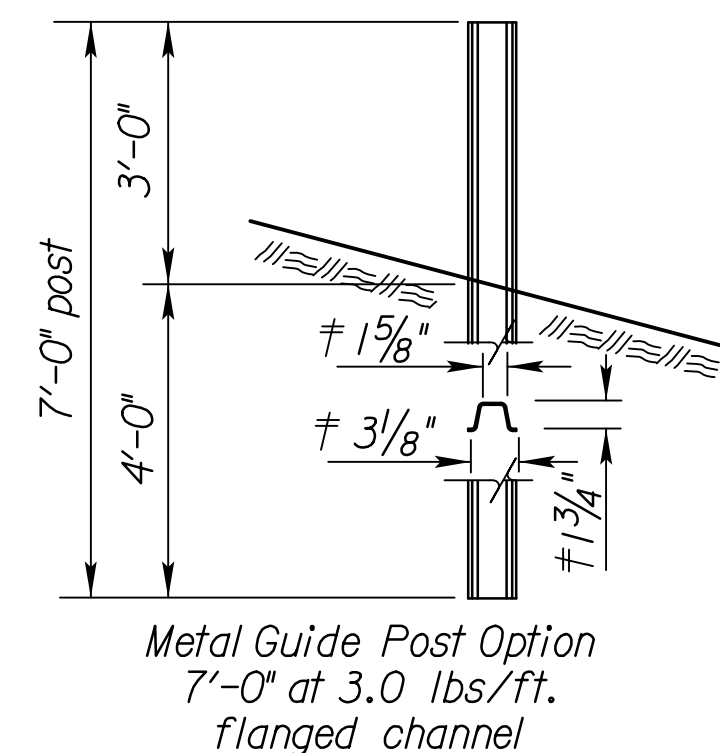
Notes:

Wood Guide Posts: Apply a preservative treatment conforming to the Contract Specifications to the posts. Use only one type of preservative treatment on a project. Apply two coats of aluminum paint to the top 18" of the posts. Apply one coat of International Orange paint to the top 12" of the posts. Apply reflectorized material.

Metal Guide Posts: Posts shall conform to the Contract Specifications. Posts shall have a galvanized or baked enamel coating. Apply one coat of International Orange paint to the top 12" of the posts.



Wood Guide Post Option (6" x 6")



† Nominal dimension.

Released for Construction
Not to Scale
Date: 12/10/2014
GIC Version 1.0
RFC'd by: Document Control
Package Submittal: RFC Package-MS00

18258	Cory J. Juchacz	2014.12.05 12:52:08 -0600'	I	12/2/2014	NDC097 - Revised Detail & Note	CDH	CMJ
LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

ABUTMENT AGGREGATE DRAIN- U-TYPE ABUTMENT

PIN: MS00 Johnson Co.

SHEET NO. OF	SCALE	APP'D
DESIGNED	DETAILED	QUANTITIES
DESIGN CK.	DETAIL CK.	QUAN. CK.
		CADD CK.

KDOT Graphics Certified 11-17-2014 Sheet No. CWS07



Plot Location: c:\pwworking\msd\16457.30\kai00204\bs\04bb_rev01.dgn
Plot Date: 12/2/2014

KDOT Graphics Certified

GENERAL NOTES

Reference is made to the latest edition of the CRSI "Manual of Standard Practice" for recommended industry practices concerning reinforcing steel.

Use only the following types of bar supports:

- 1) Wire Bar Supports:
 - a) Epoxy coated reinforcing: Class 1 Protection
 - b) Non-epoxy coated reinforcing: Class 1, 2, or 3 Protection
- 2) Plastic Bar Supports
- 3) Supplementary bars

When securing epoxy coated reinforcement, use tie wires or metal clips that are epoxy or plastic coated.

Do not weld reinforcing steel to bar supports or to other reinforcing steel. Shop weld spacer frames for haunched slabs.

Tie bars at all intersections around the perimeter of each mat and at not less than 2'-0" centers or at every intersection, whichever is greater.

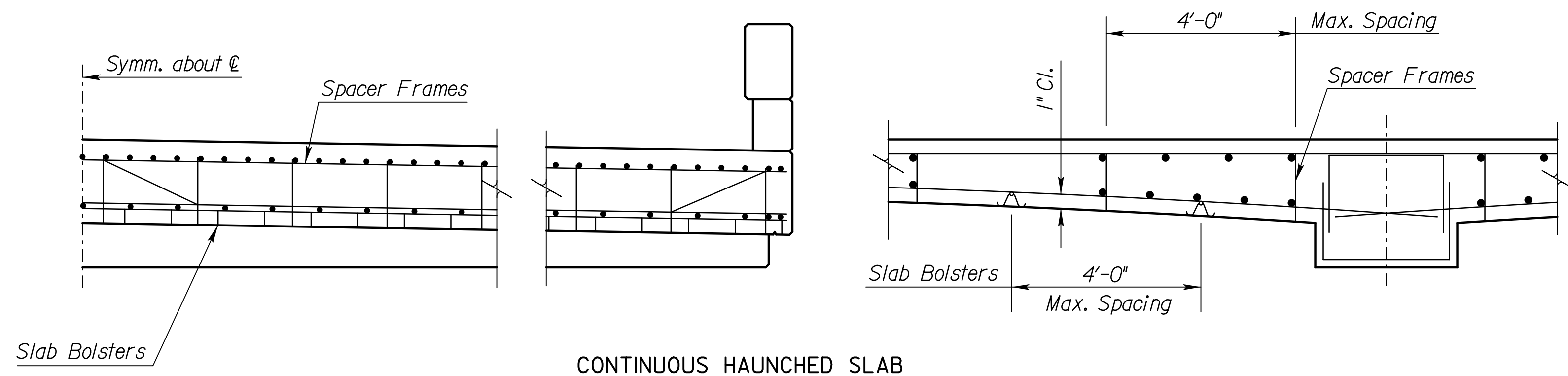
Where more than one length of bar support is required, lap the end legs so they are locked or tied together.

Use proper height supports to maintain the distance between the reinforcing and the formed surface or the top surface of deck slabs within 1/4" of that indicated on the plans.

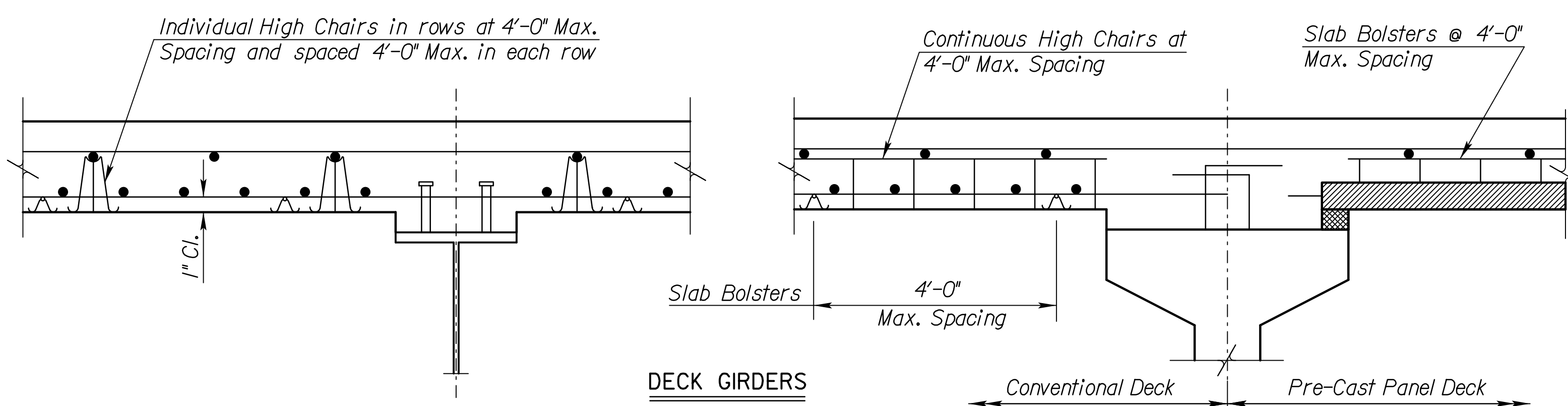
Spacings shown are maximums. Use sufficient supports, as determined by the Engineer, to retain the reinforcing steel in position.

Construct any platforms, required for the support of workers and/or equipment during concrete placement, directly on the forms and not on the reinforcing steel.

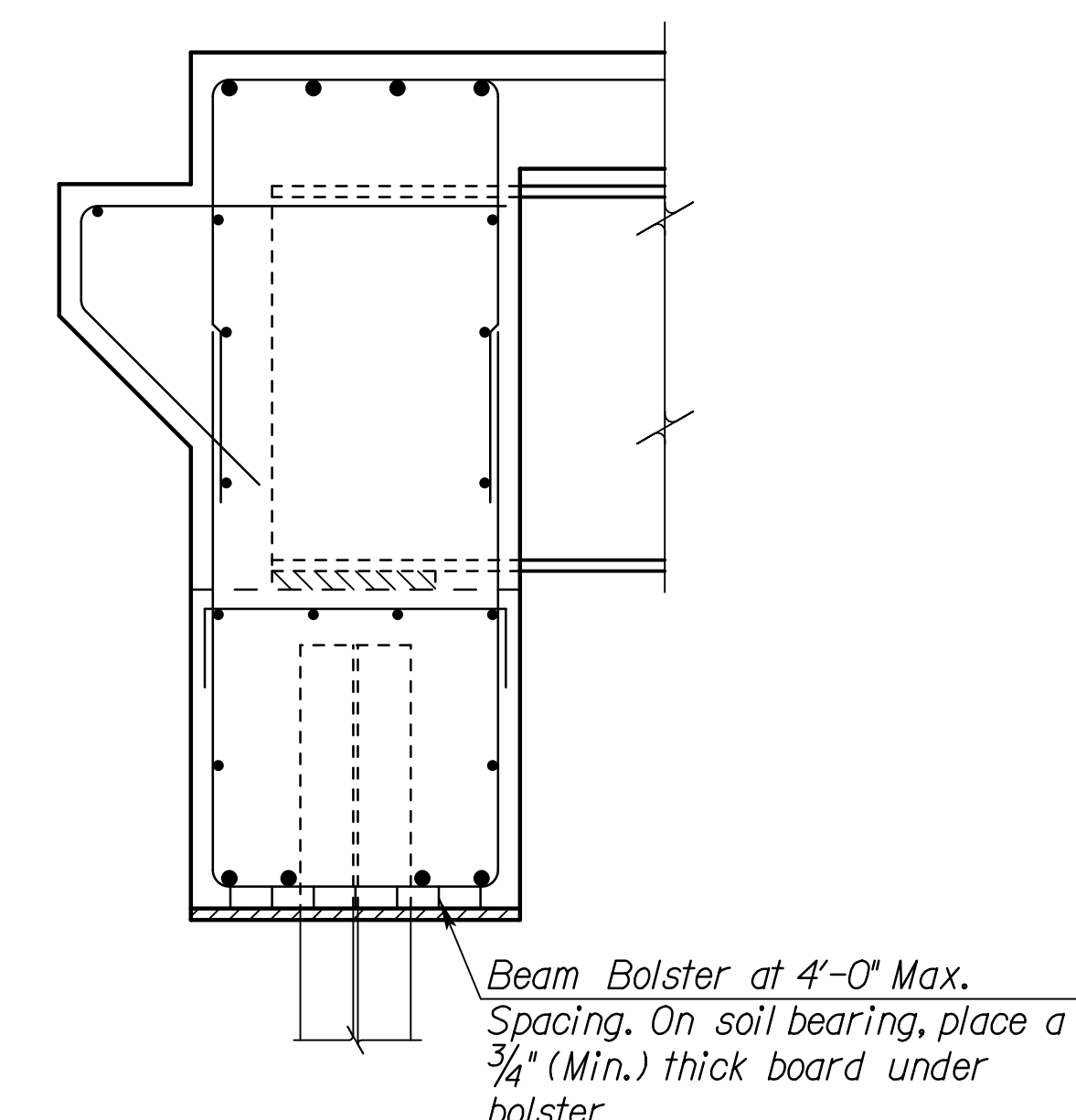
Designs and arrangements of Supports or Spacers other than as shown on this sheet, may be used with the permission of the Engineer.



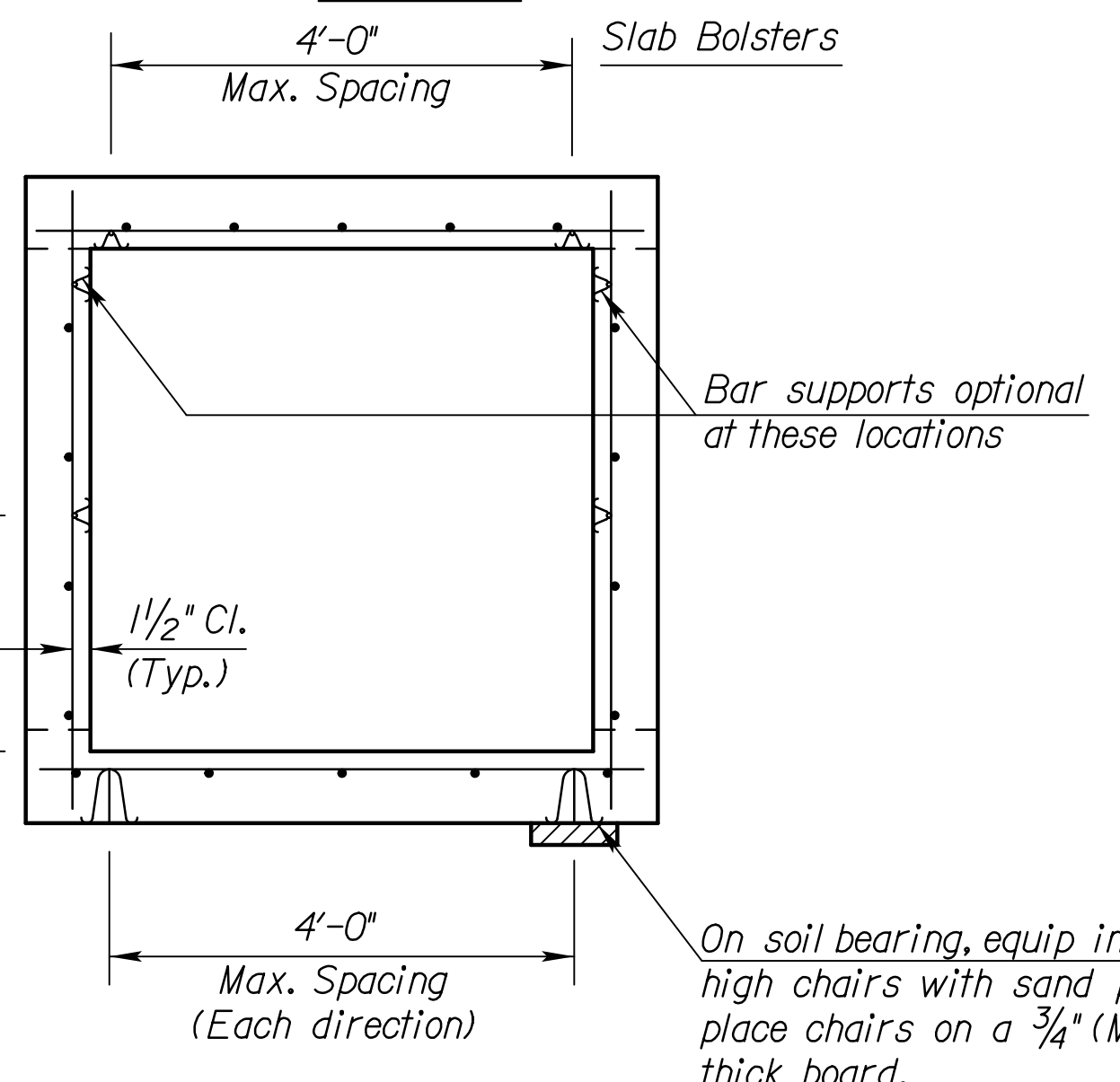
CONTINUOUS HAUNCHED SLAB



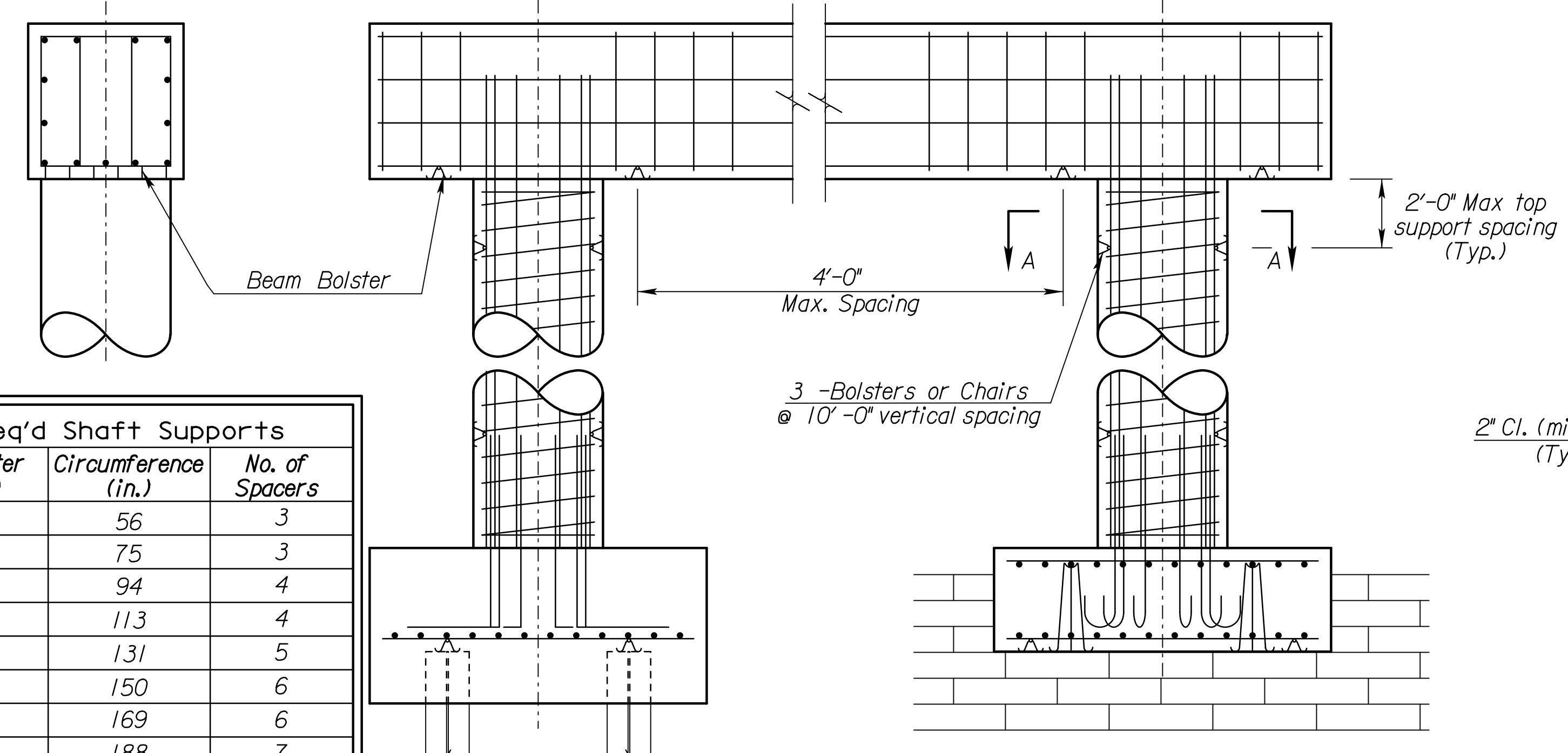
DECK GIRDERS



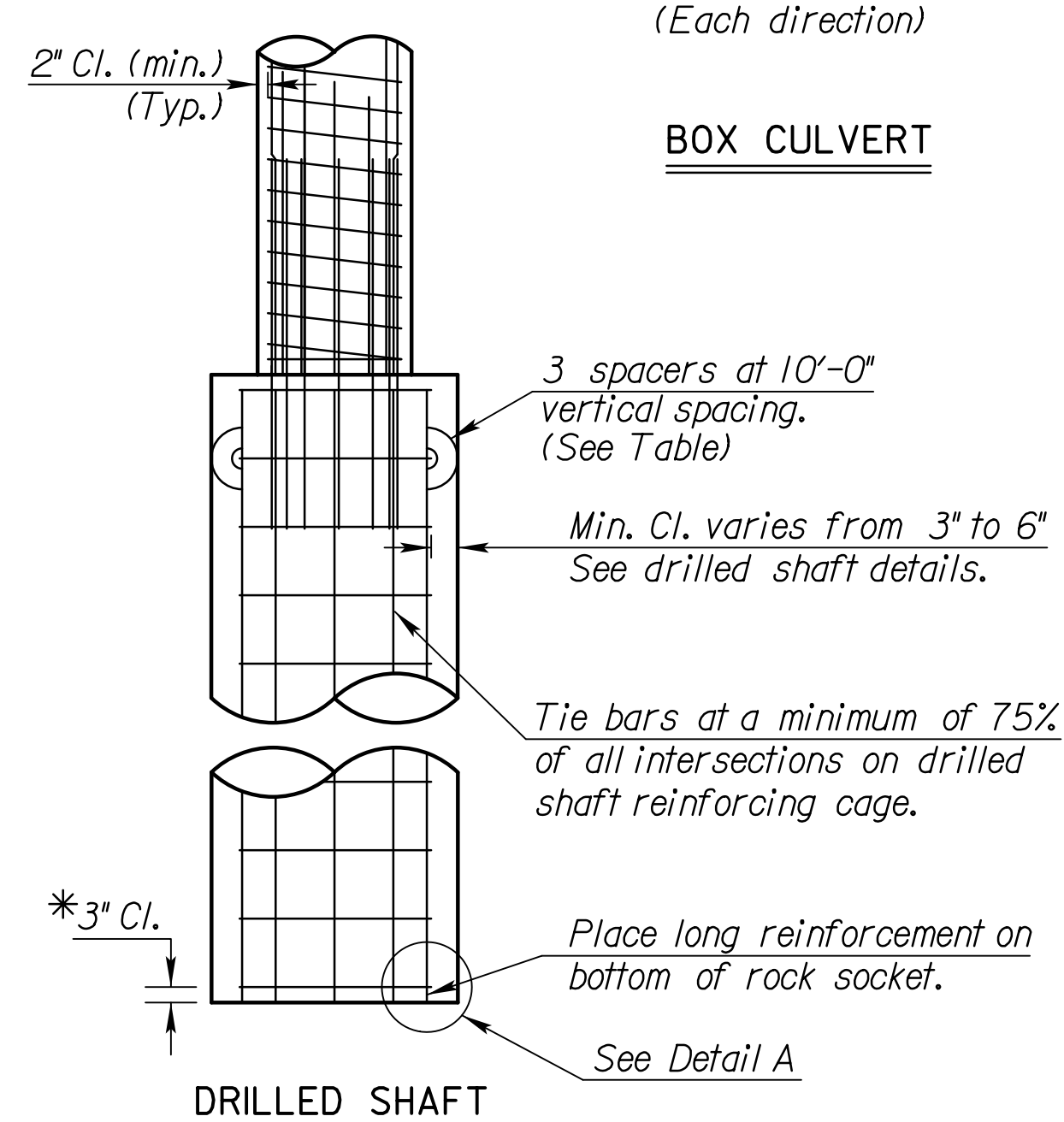
ABUTMENT



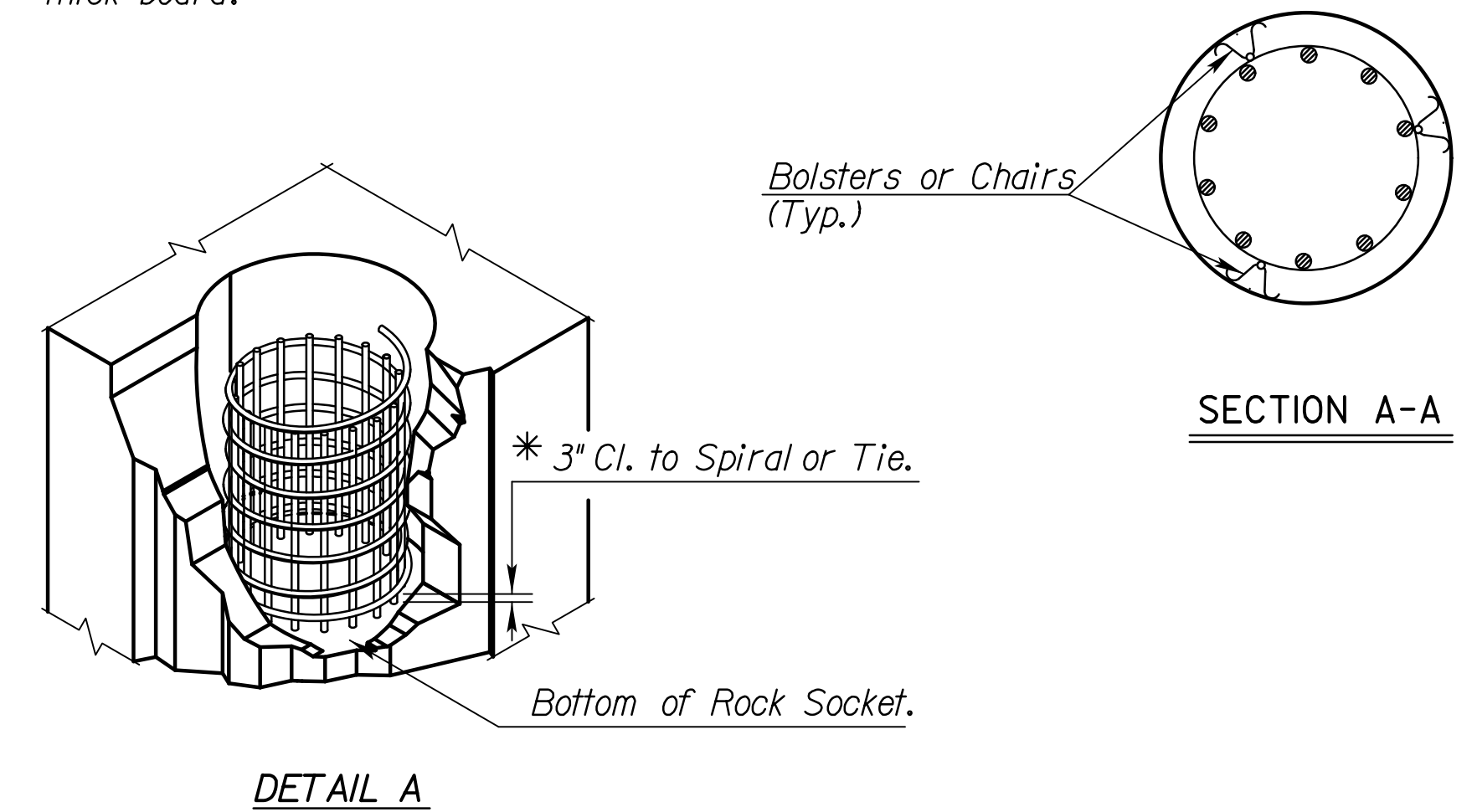
BOX CULVERT



PIER



DRILLED SHAFT



DETAIL A

* Note: Longitudinal reinforcing steel is placed on the bottom of the rock socket. Maintain 3" clearance from the bottom of rock socket to the first spiral or tie bar.

Req'd Shaft Supports		
Diameter (in.)	Circumference (in.)	No. of Spacers
18	56	3
24	75	3
30	94	4
36	113	4
42	131	5
48	150	6
54	169	6
60	188	7
66	207	7
72	226	8
78	244	9
84	263	9
90	282	10
96	301	11
102	320	11
108	339	12

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 Plot Date: 6/12/2014



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 Date: 06/18/2014
 GIC Version 0.0
 RFC'd by: Document Control
 Package Submittal: RFC Package-MS00

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LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION
 BRI20-
SUPPORTS AND SPACERS FOR REINFORCING STEEL
 Johnson Co.
 PIN: MS00

SHEET NO. OF	SCALE	APP'D
DESIGNED	DETAILED	QUANTITIES
DESIGN CK.	DETAIL CK.	QUAN. CK.
		CADD CK.

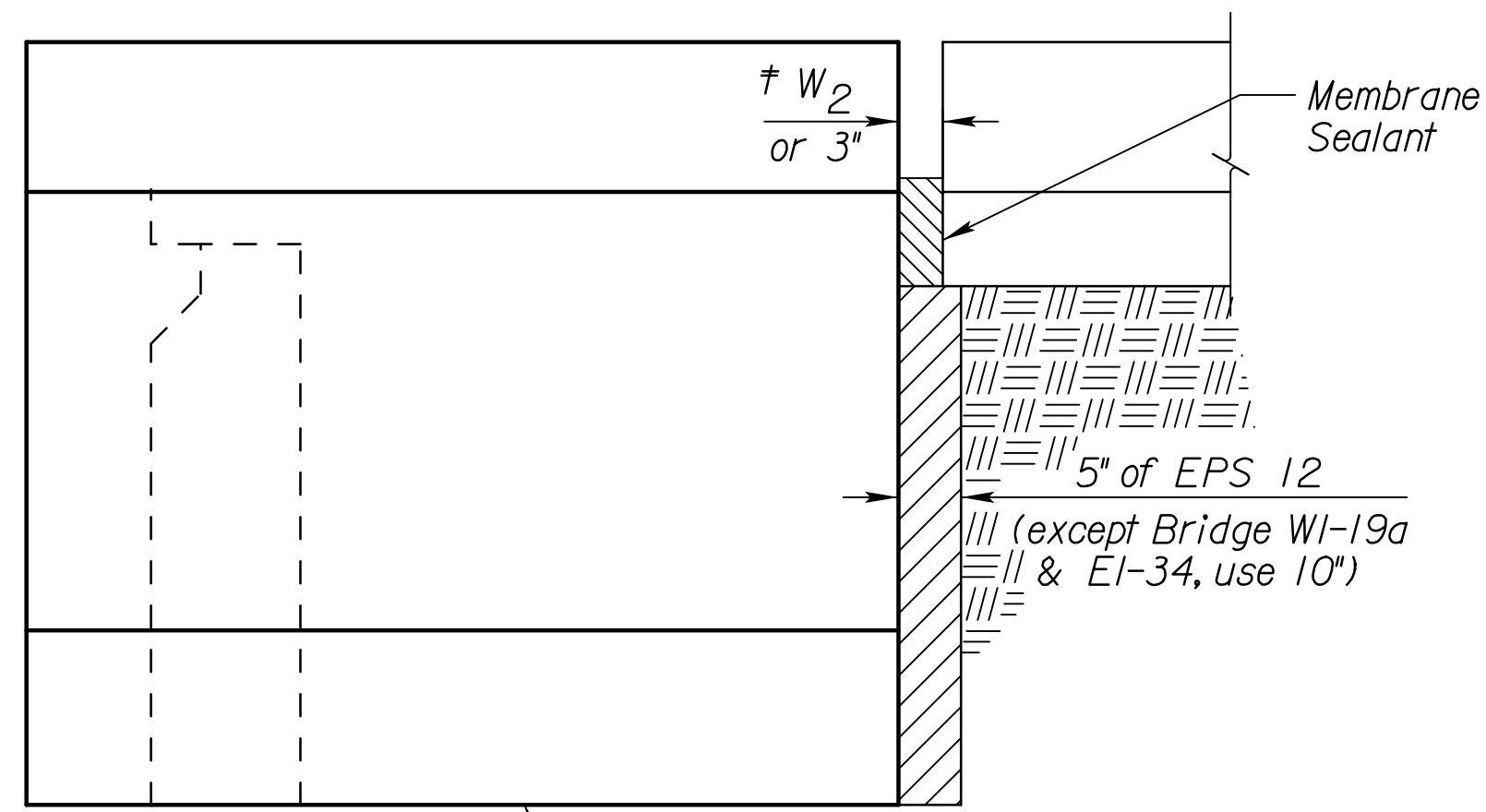
KDOT Graphics Certified 06-09-2014
 Sheet No. CWS13

KDOT Graphics Certified

GENERAL NOTES:
APPROACH SLAB EXPANSION/PRESSURE RELIEF JOINT
 Install Membrane Sealant expansion joint material with a lubricant adhesive, cut to the shape shown. Construct joint to match pressure relief joint of concrete pavement approach slabs or 3" (See Details).

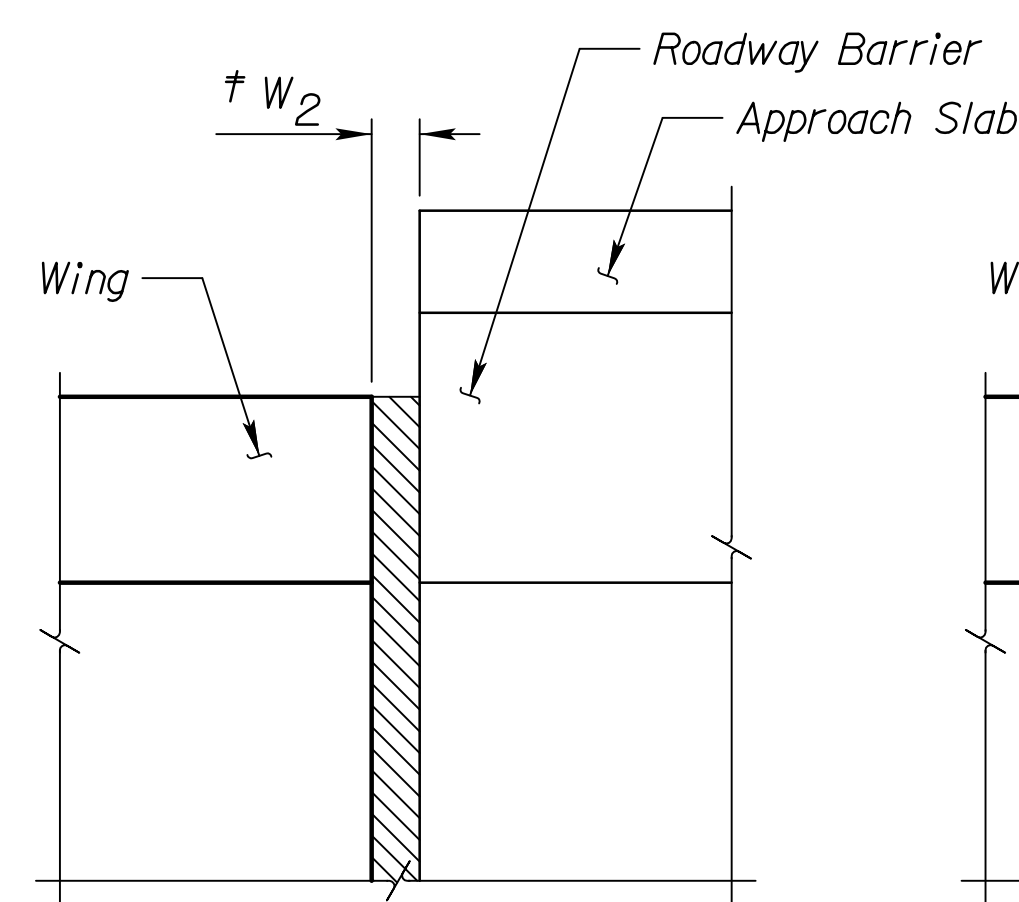
† See bridge construction layout sheet for details.

◆ Formed Concrete Opening Size - See Bridge Sheets for W2 Size. If Wing goes past W2 Joint, use 3" Gap.



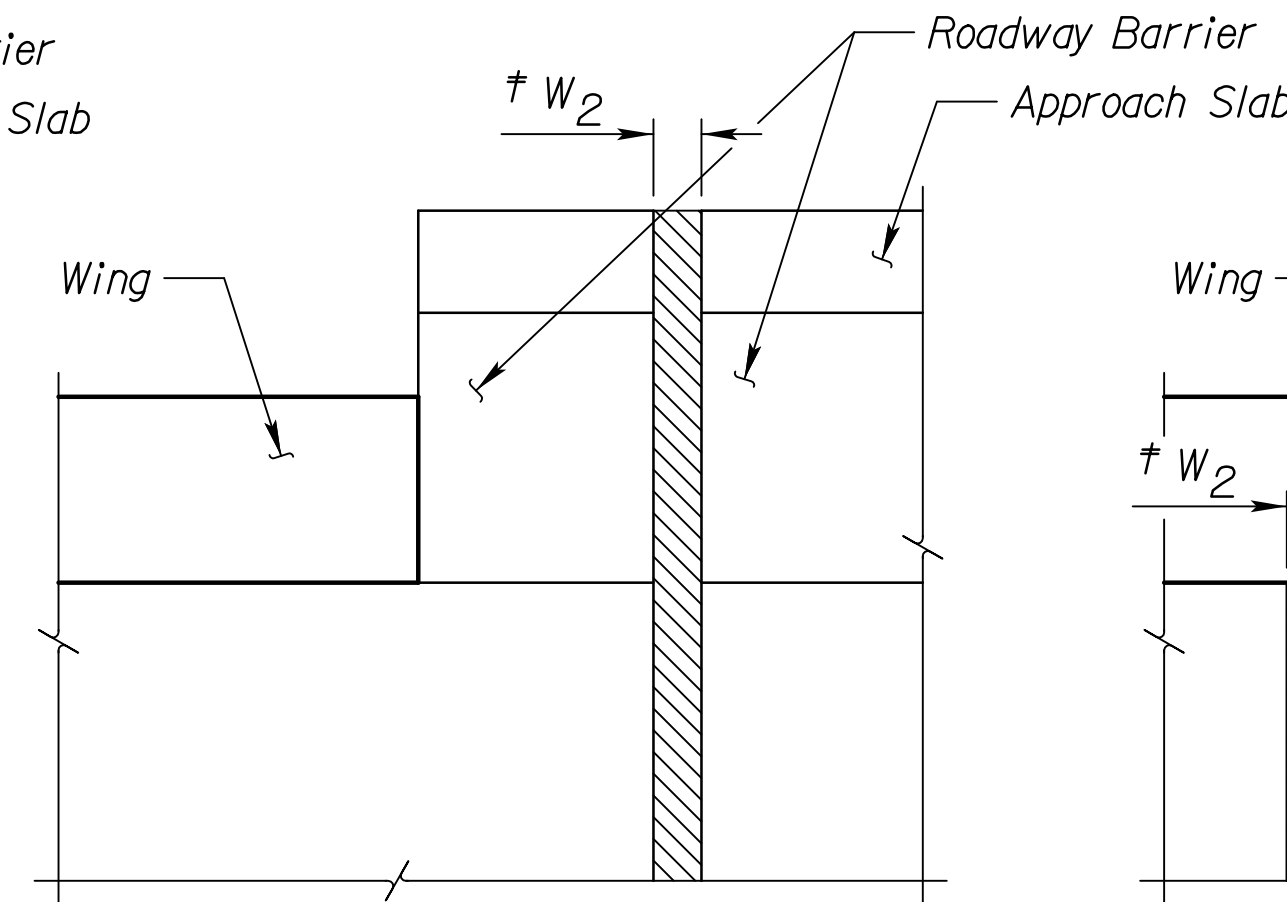
Provide 50#/Roofing Felt Bond breaker under Wing

ELEVATION OF SQUARE WINGWALL



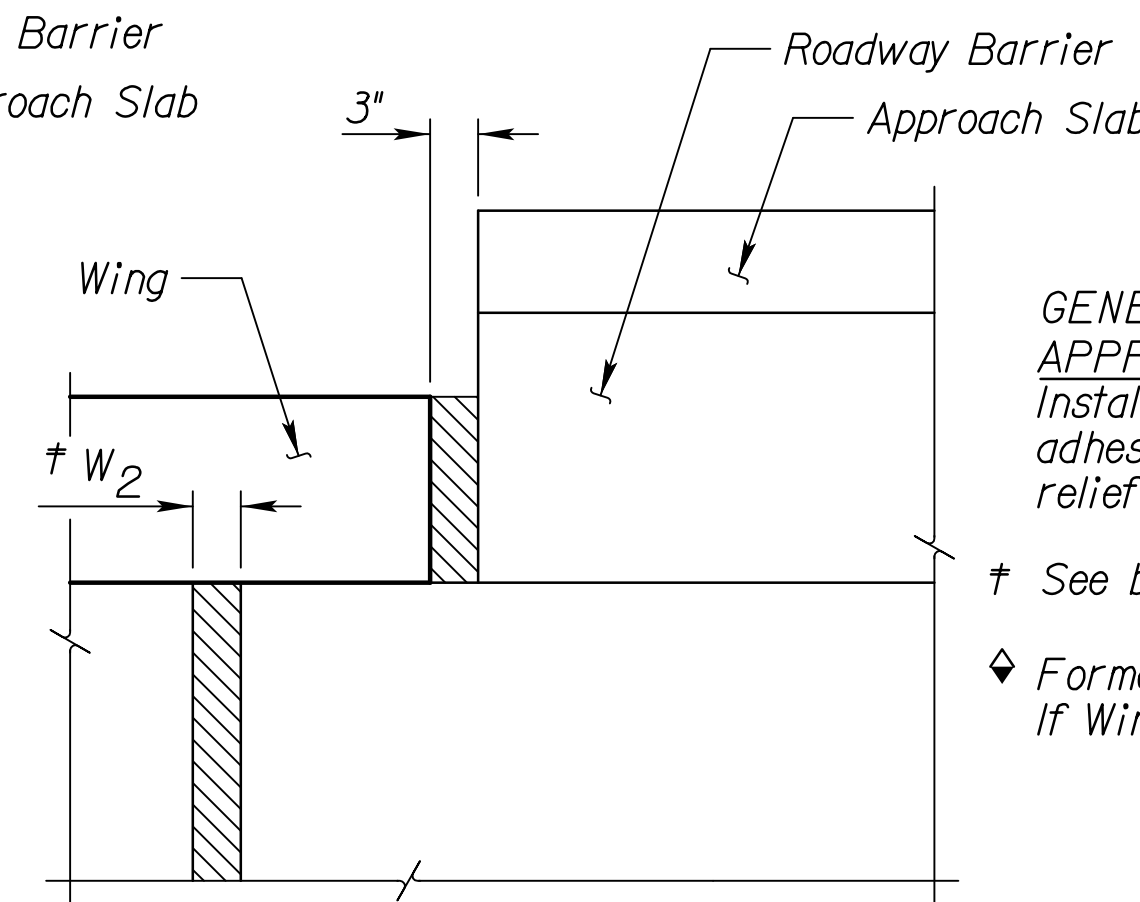
PLAN

(Wing stopping at first approach slab joint)



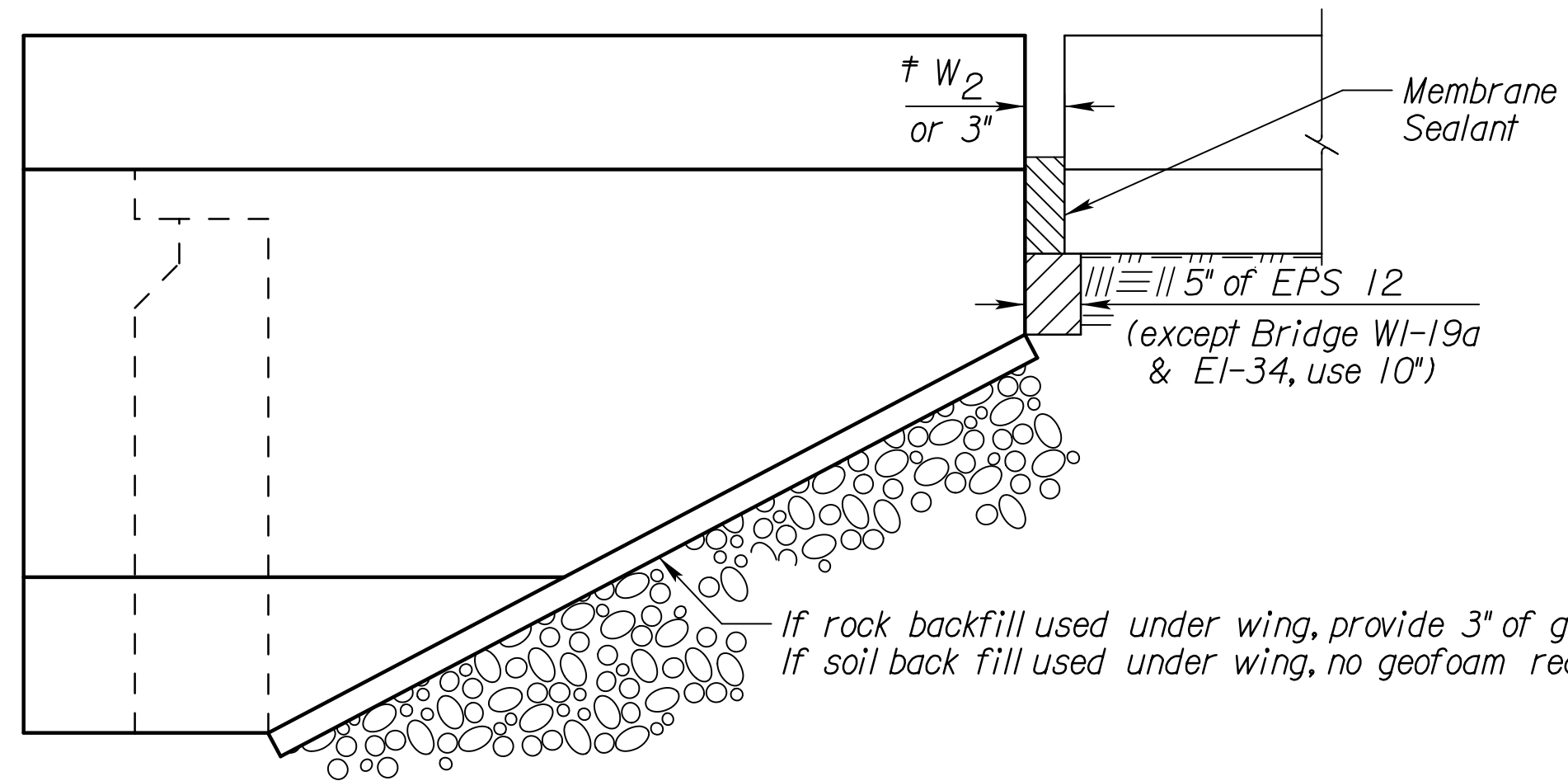
PLAN

(Wing stopping short of first approach slab joint)



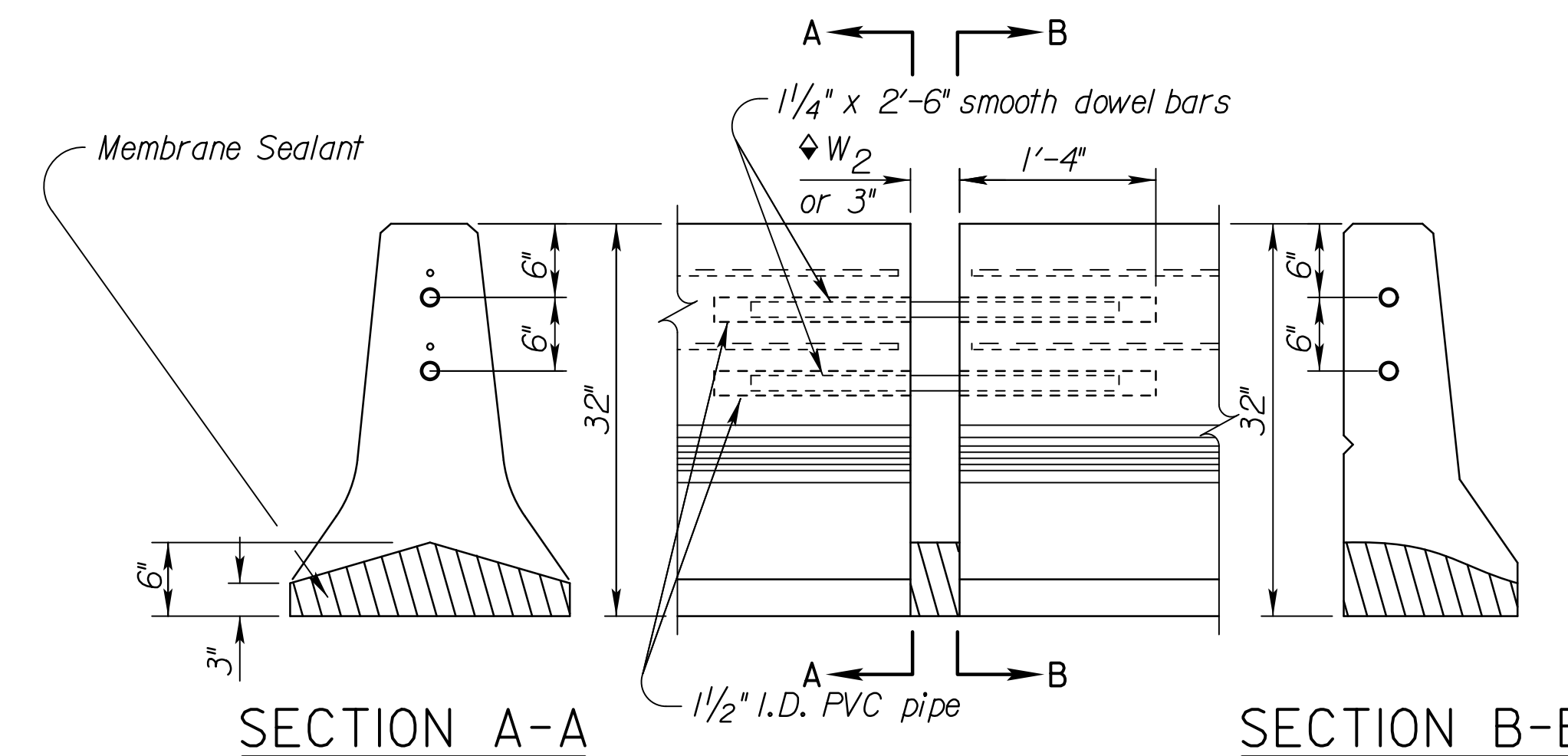
PLAN

(Wing goes past first approach slab joint)



If rock backfill used under wing, provide 3" of geomfoam.
 If soil back fill used under wing, no geofoam required.

ELEVATION OF TAPERED WINGWALL

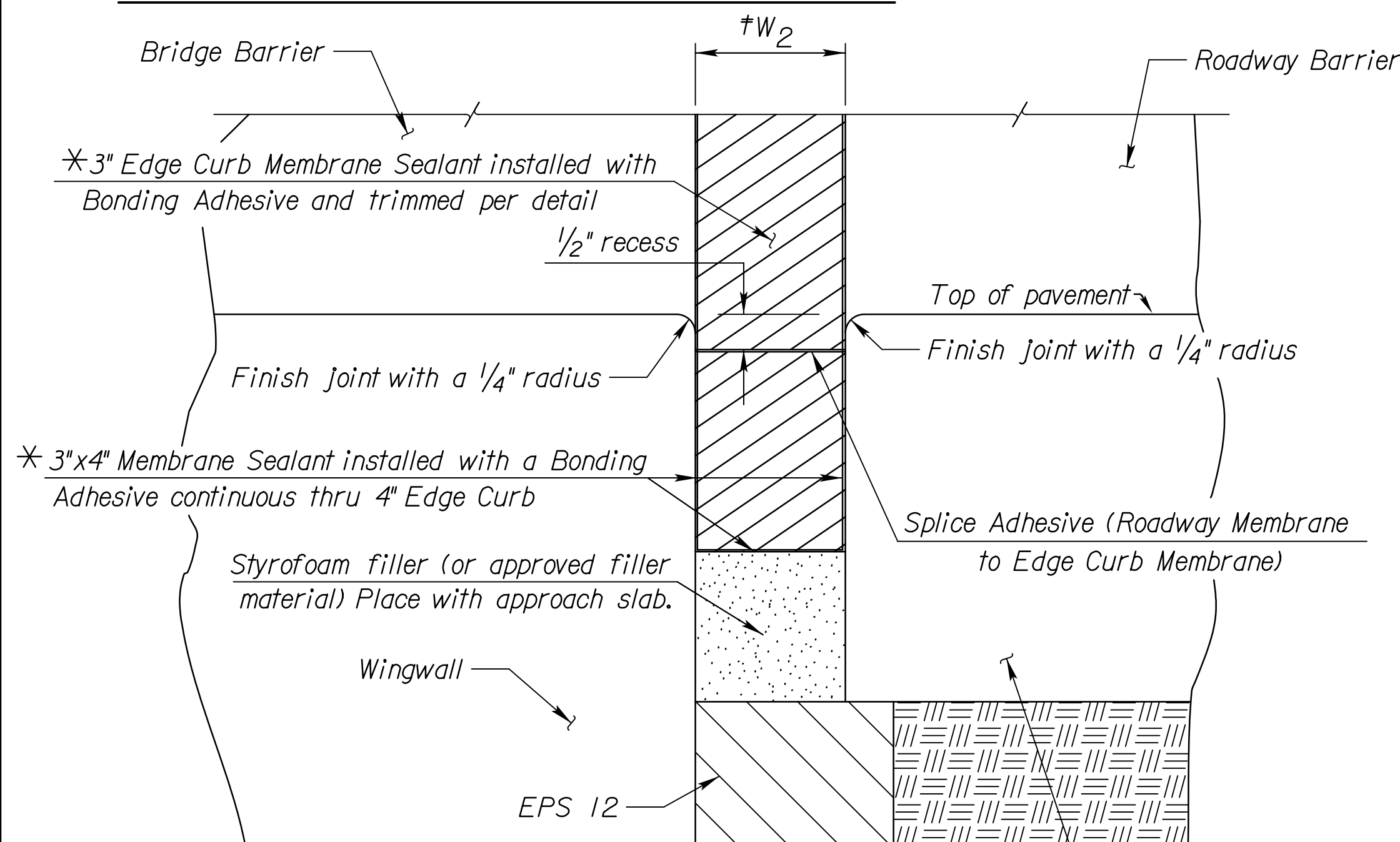


SECTION A-A

SECTION B-B

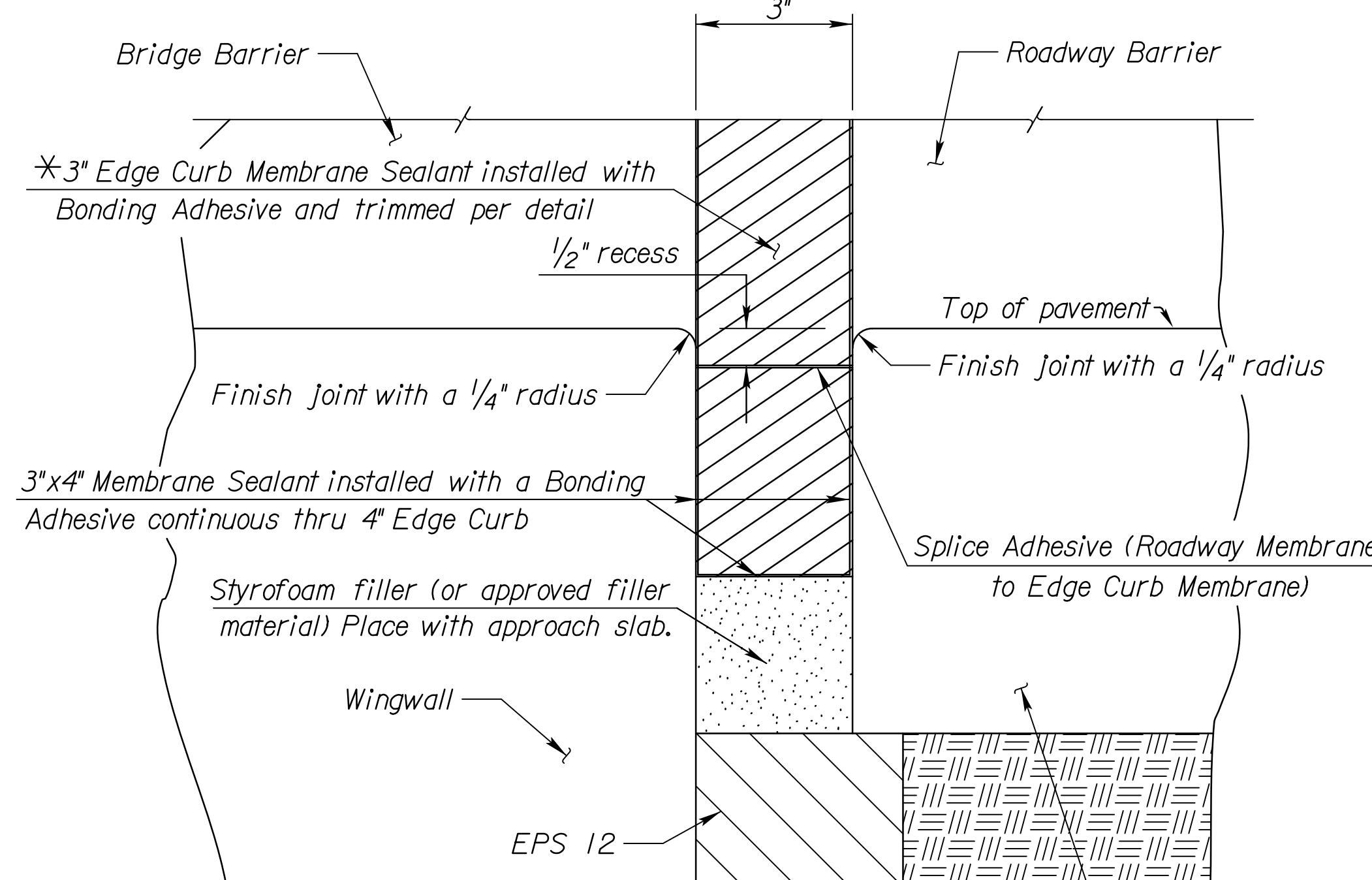
PRESSURE RELIEF/EXPANSION JOINT (BRIDGE ENDS)

Note:
 32" Barrier shown. Dowel locations based on 32" Barrier. Adjust as needed for other barrier heights.



ELEVATION EXPANSION JT.

(Wing Ends at W2 Joint)



ELEVATION EXPANSION JT.

(Wing goes past W2 Joint)

* See KDOT Standard Specifications for Membrane Sealant, Bonding Adhesive and Splice Adhesive.

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 Plot Date: 12/2/2014



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 Not to Scale
 Date: 12/10/2014
 GIC Version 0.0
 RFC'd by: Document Control
 Package Submittal: RFC Package-MS00

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LIC. NO.	NAME	DATE	NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION			
END OF WING AND BRIDGE BARRIER DETAILS			
PIN: MS00		Johnson Co.	
SHEET NO.	OF	SCALE	APP'D
DESIGNED	DETAIL	QUANTITIES	CADD
DESIGN CK.	DETAIL CK.	QUAN. CK.	CADD CK.