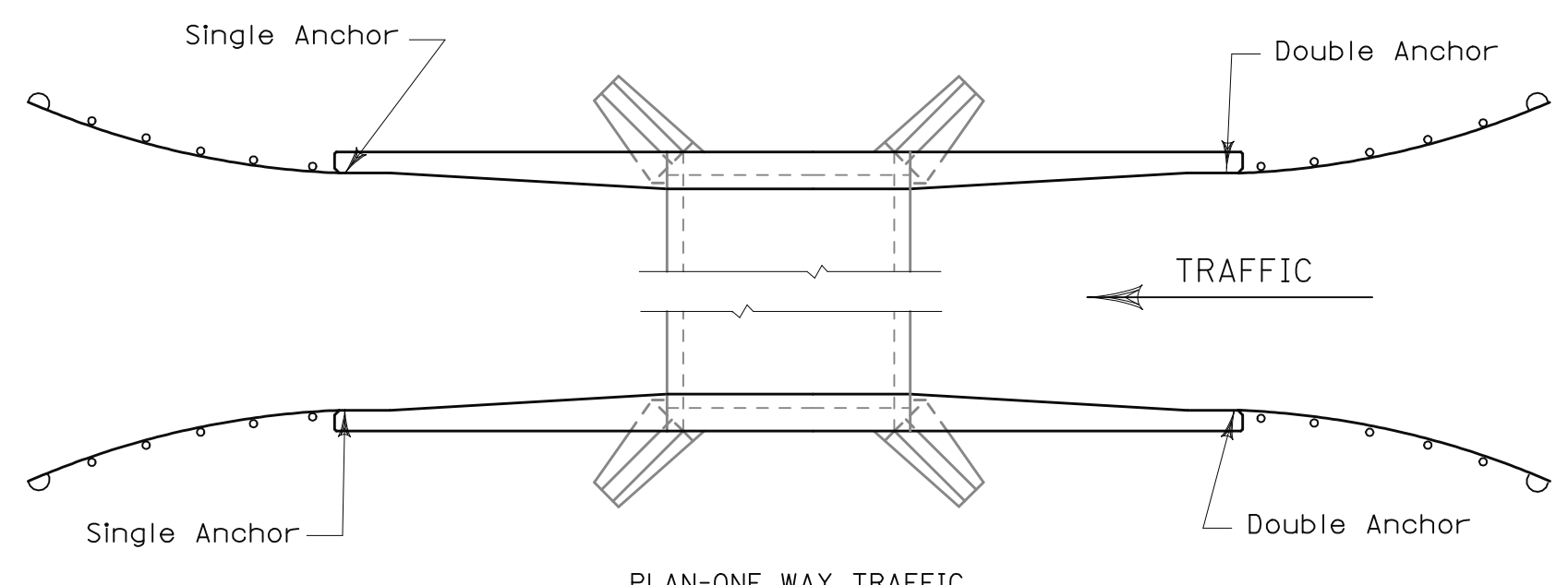


2'-0"
1"
0
SHEET REFERENCE

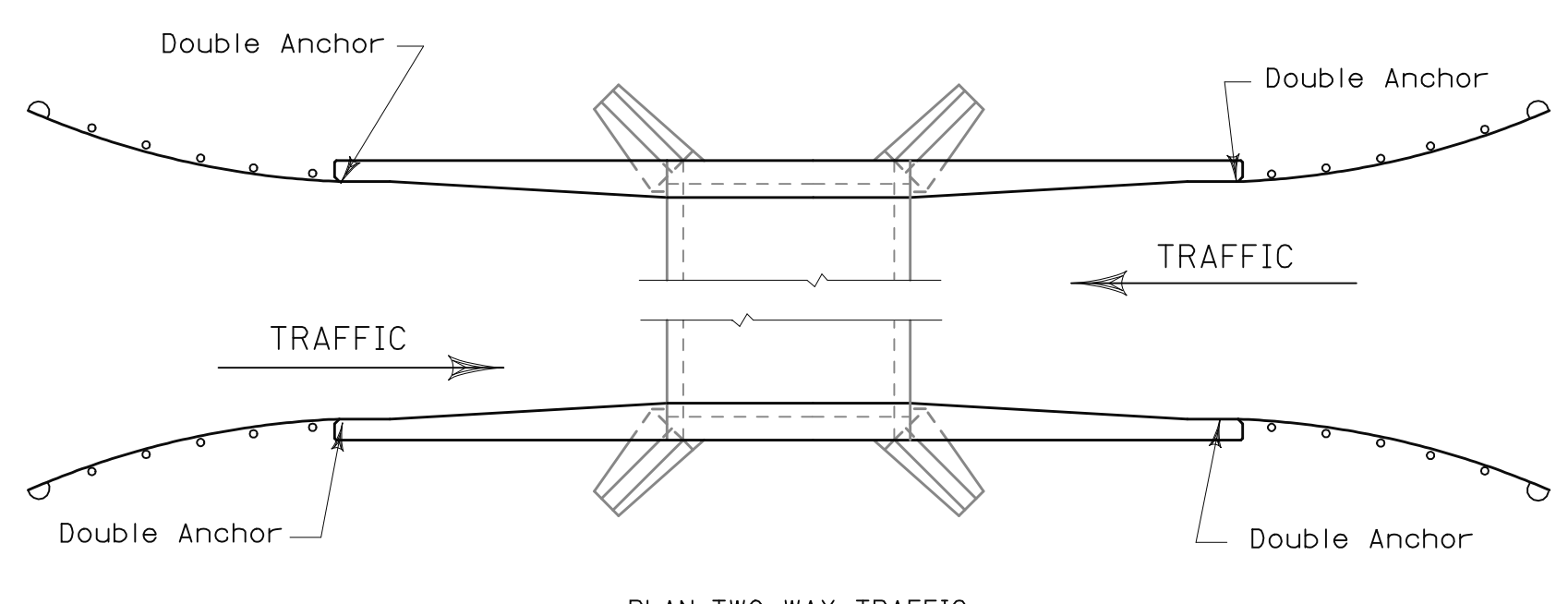
REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER
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NOTES

1. Alternate I shall be used with new construction only.
2. Alternates II and III shall be used on existing culverts only.
3. The contractor shall verify all dimensions before beginning any work or ordering any material.
4. Anchor bolt holes shall be filled with an approved type I epoxy grout. The epoxy grout shall be allowed to set before pouring the concrete barrier wall.
5. The cost of all anchor bolt assemblies, guardrail anchors, steel reinforcement, concrete, and anchor bolt hole drilling and grouting shall be included in the per linear feet of Type 4-A Modified Concrete Safety Barrier Pay Item.
6. Top of barrier rail footing and top of top culvert slab shall be at the same elevation.
7. The height of wings shall be determined by adding the height of fill over the culvert (rounded to the nearest foot) to the normal wing height.
8. Wing steel (bars type H and HH) which would normally be bent into the culvert wall shall be field bent into the barrier rail.
9. Place and compact fill material before pouring the Barrier Rail Transition. The fill material shall then be excavated (to neat lines) to the top of culvert elevation in the transition area before casting the Barrier Rail Transition. This excavation shall be paid for as 'Cubic Yards Structure Excavation'.



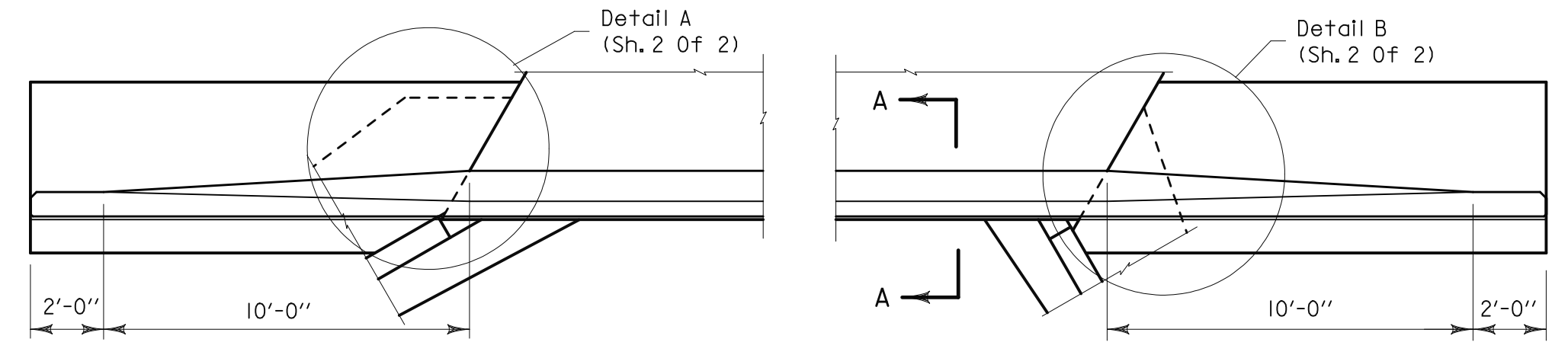
PLAN-ONE WAY TRAFFIC



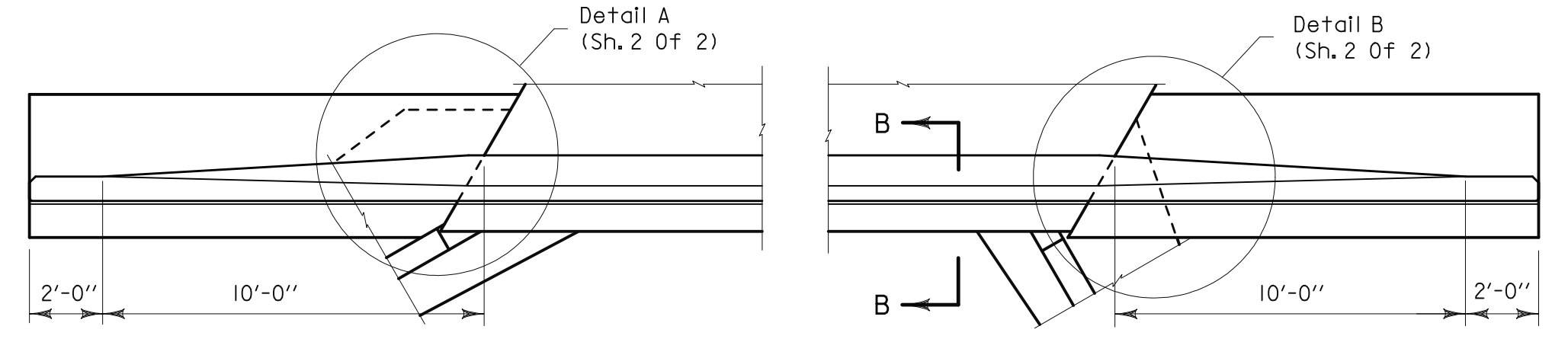
PLAN-TWO WAY TRAFFIC

ANCHOR LOCATION

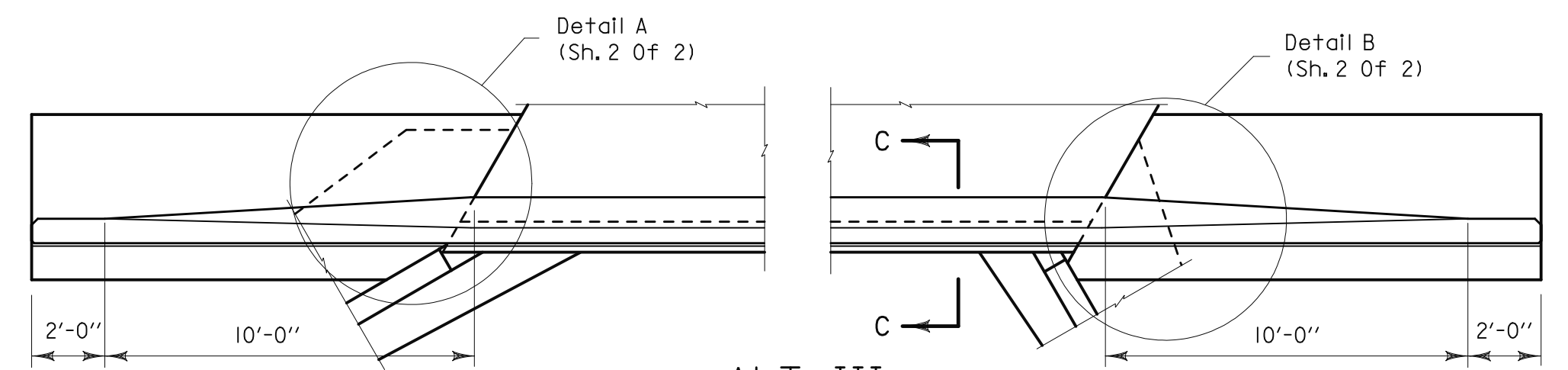
For Guardrail Anchor Detail
See Sheet 2 Of 2



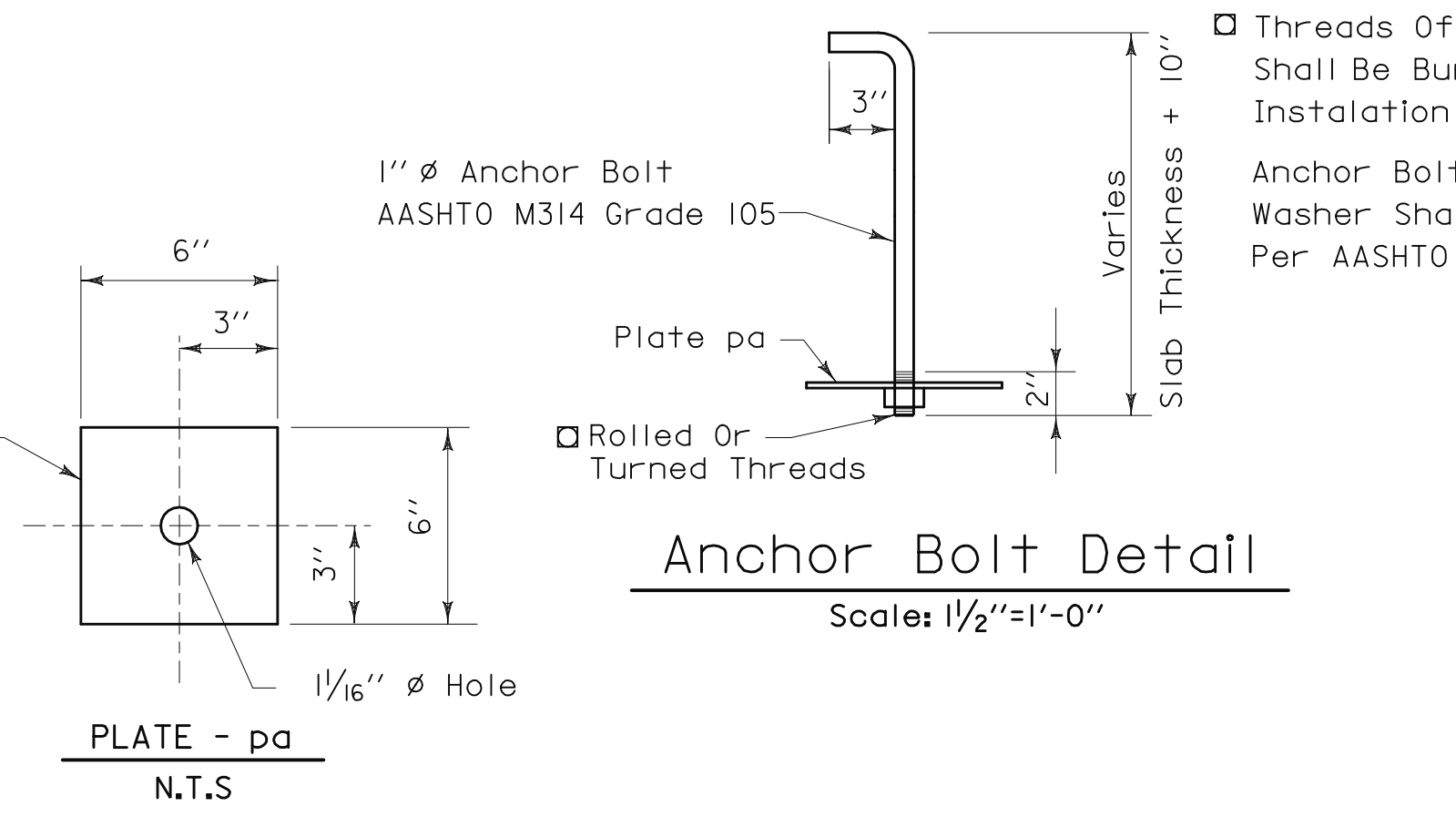
ALT I
N.T.S.



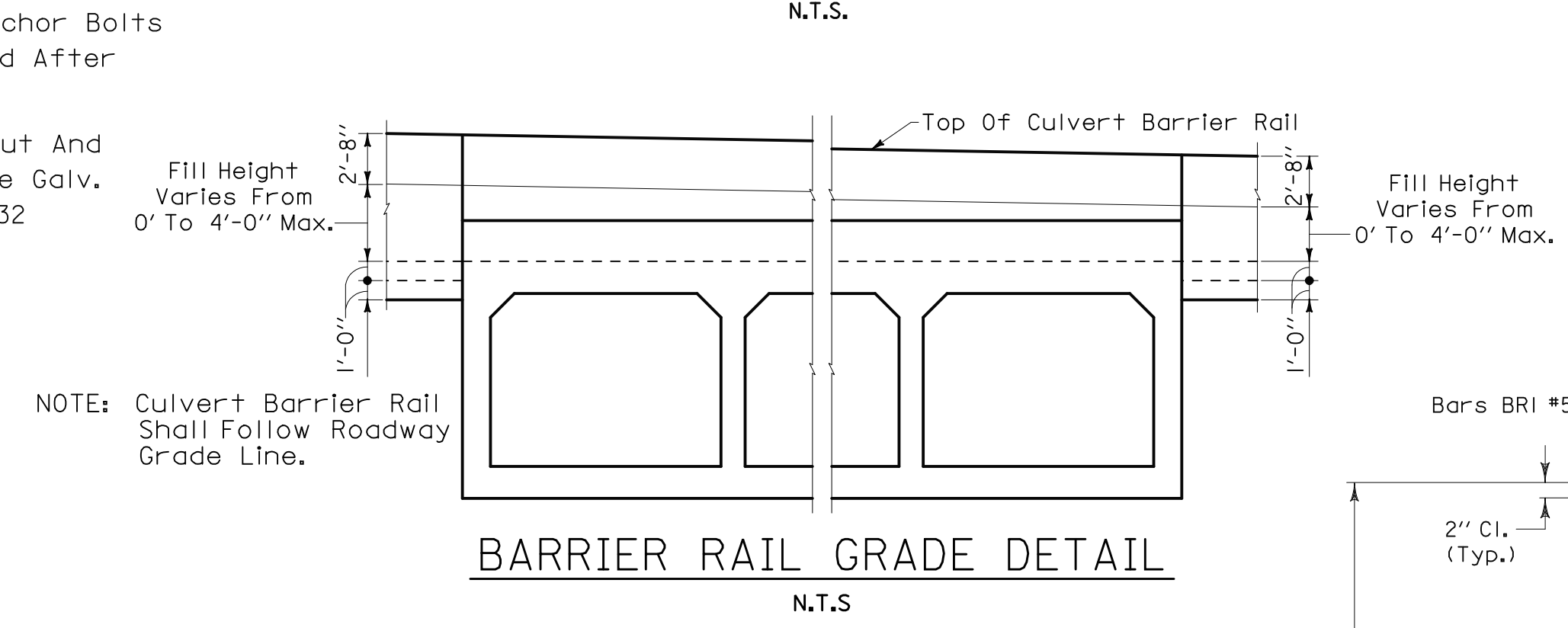
ALT II
N.T.S.



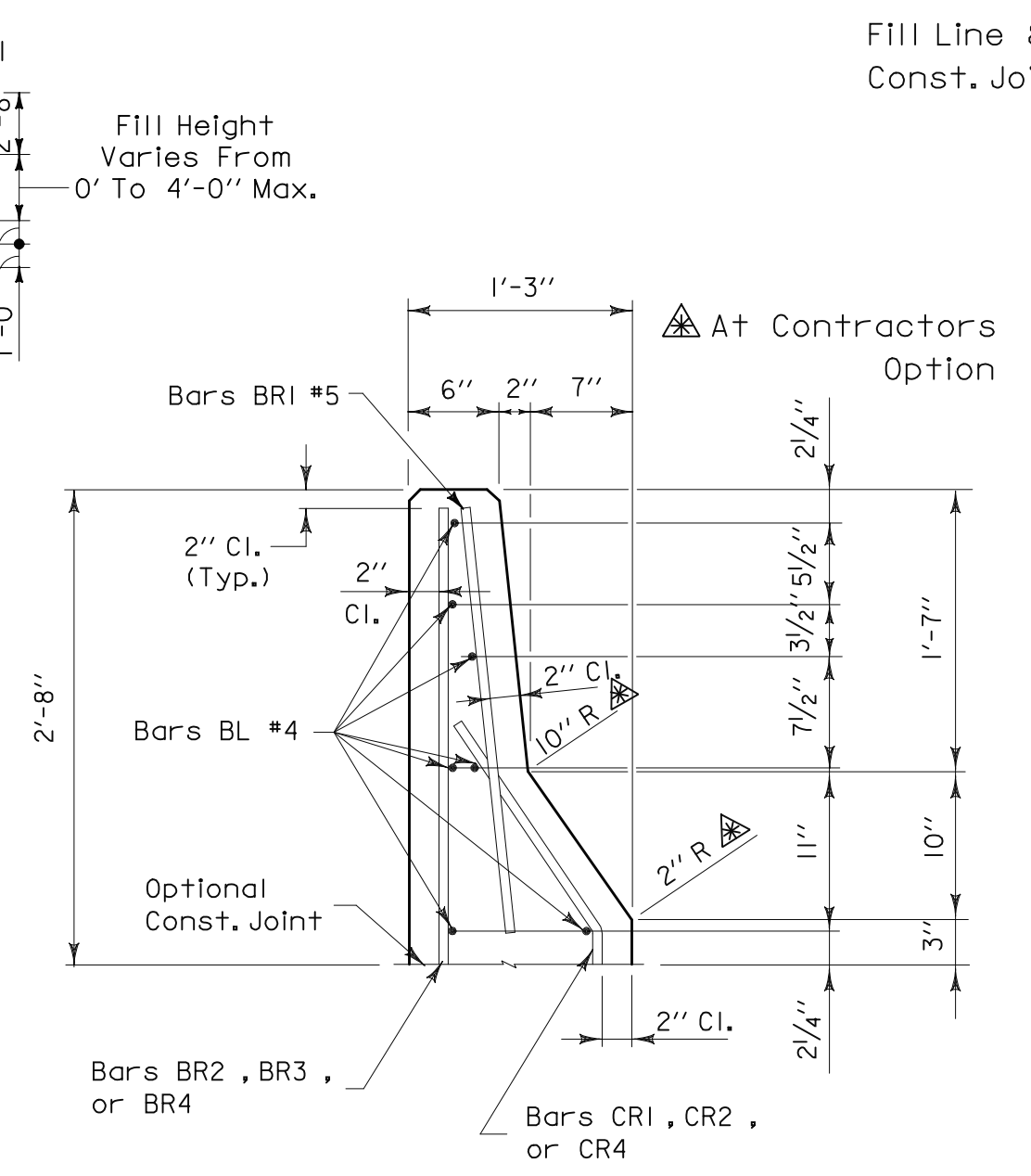
ALT III
N.T.S.



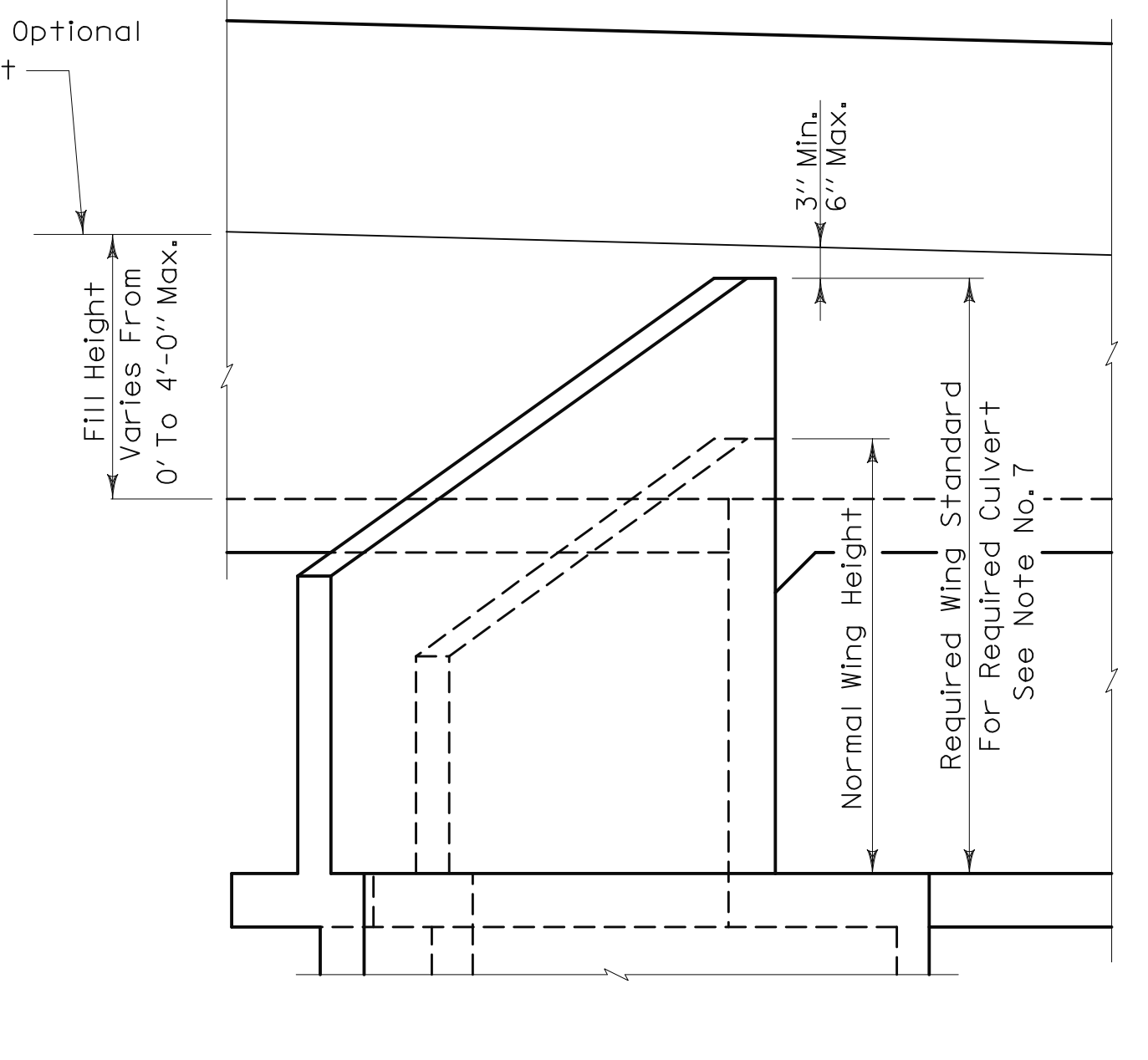
Anchor Bolt Detail
Scale: 1/2"=1'-0"



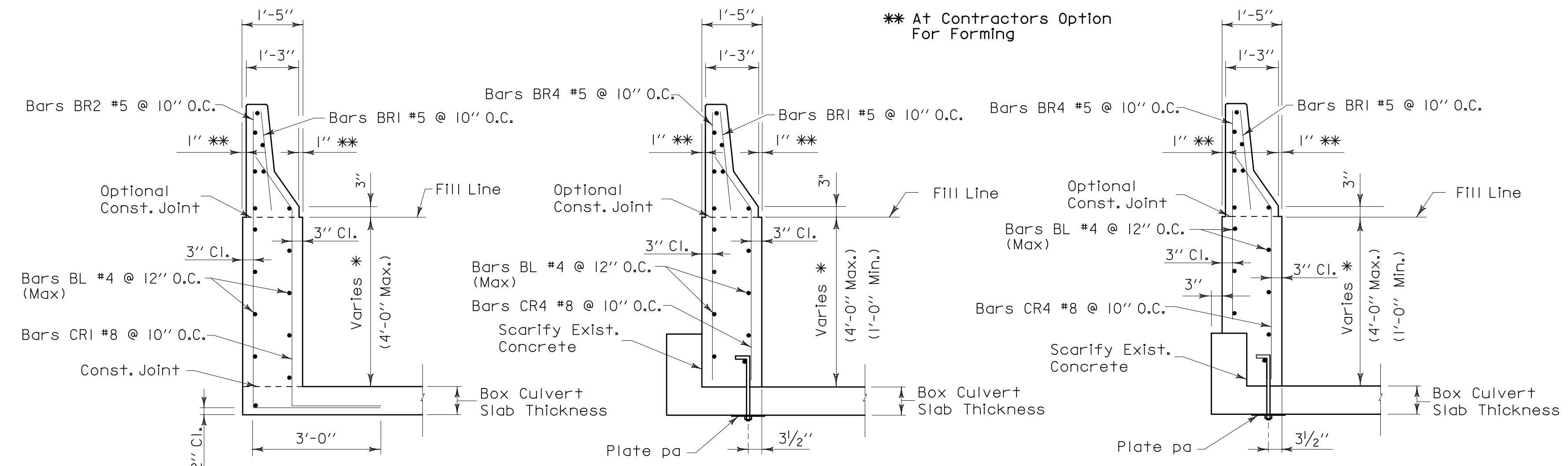
BARRIER RAIL GRADE DETAIL
N.T.S.



TYPICAL SECTION-THRU RAIL
Scale: 1"=1'-0"



REQUIRED WING HEIGHT
N.T.S.



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

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

ALT III
SECTION C-C
Scale: 1/2"=1'-0"

NOTE:
For Anchor Bolt Spacing
See Details On Sheet 2 Of 2

THESE DRAWINGS REPRESENT DESIGNS PREPARED FOR USE BY THE ALABAMA DEPARTMENT OF TRANSPORTATION AND ARE NOT TO BE COPIED, REPRODUCED, ALTERED, OR USED BY ANYONE OR ANY ORGANIZATION, WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ALABAMA DEPARTMENT OF TRANSPORTATION REPRESENTATIVE AUTHORIZED TO APPROVE SUCH USE. ANYONE MAKING UNAUTHORIZED USE OF THESE DRAWINGS MAY BE PROSECUTED TO THE FULLEST EXTENT OF THE LAW.

DESIGN SECTION SUPERVISOR
ASSISTANT BRIDGE ENGINEER
BRIDGE ENGINEER

ALABAMA DEPARTMENT OF TRANSPORTATION	
THIS STANDARD TO BE USED WITH ANY OF THE FOLLOWING STANDARDS Culv. Std. & Wing Std.	
REVISIONS	STANDARD
CULVERT BARRIER RAIL	
ESTIMATED QUANTITIES	STANDARD DWG. NO.
COMPUTED BY:	CBR-1
VERIFIED BY:	SHEET NO. 1 OF 2
CHECKED BY: R.T.	DRAWN BY: M.J.H.
DATE CHECKED: 10-31-06	DATE DRAWN:
SCALE: SHOWN	

U:\Standards\Culvert\cusrv\general\2010 StandardsBook\cbrr1.dgn
Plotted: 21-Aug-2009 11:48 AM