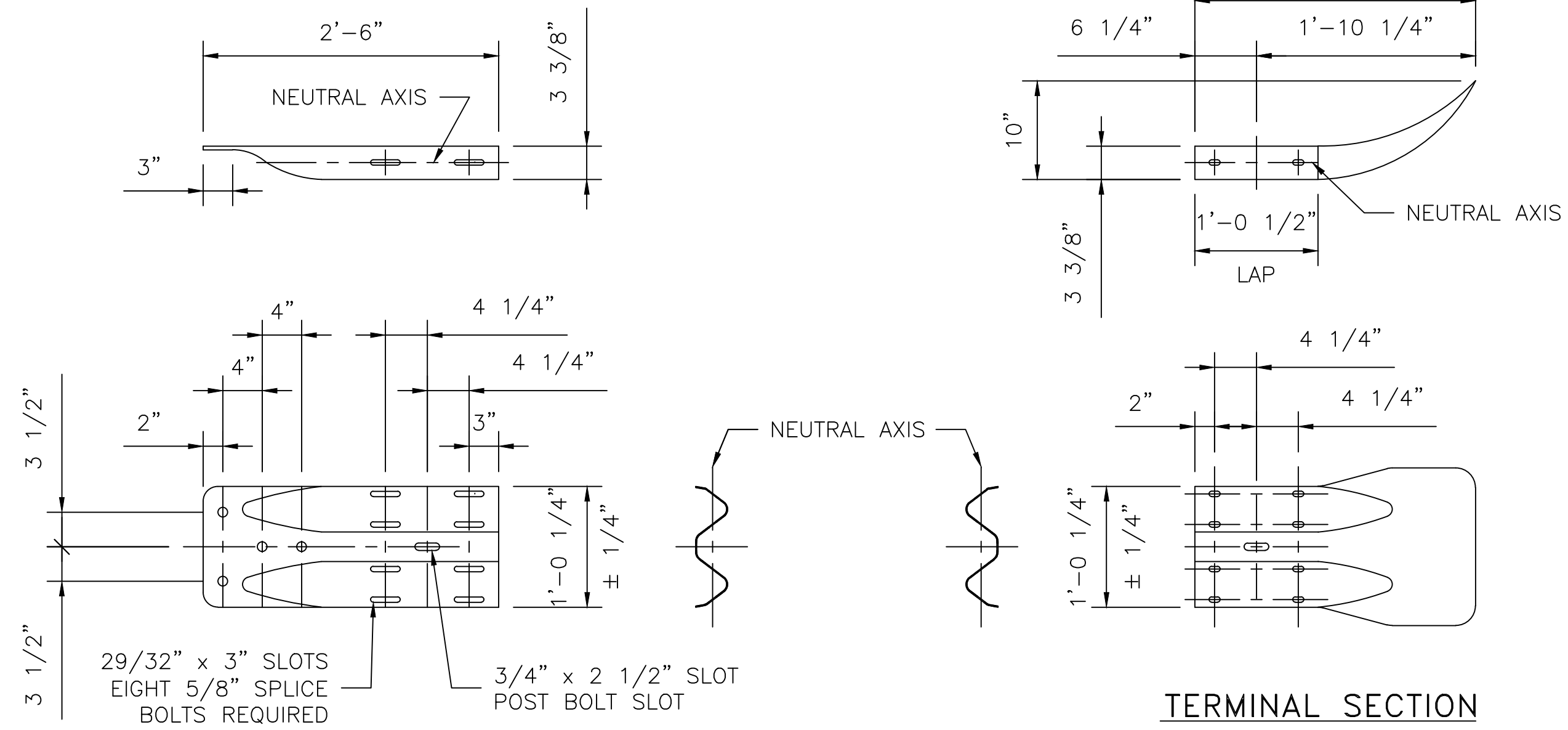
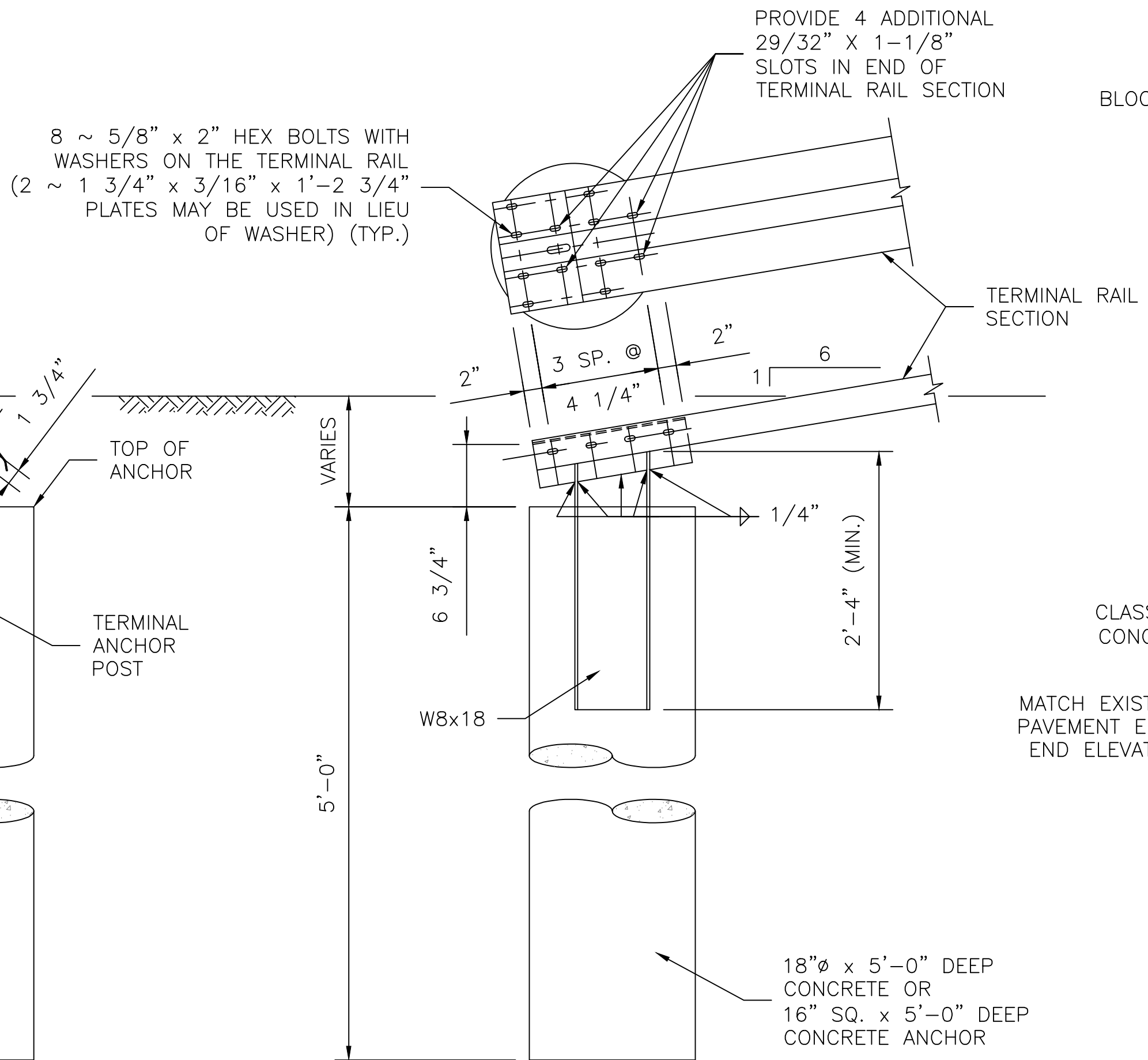


**CONNECTOR DETAILS**  
SCALE: 2" = 1'-0"

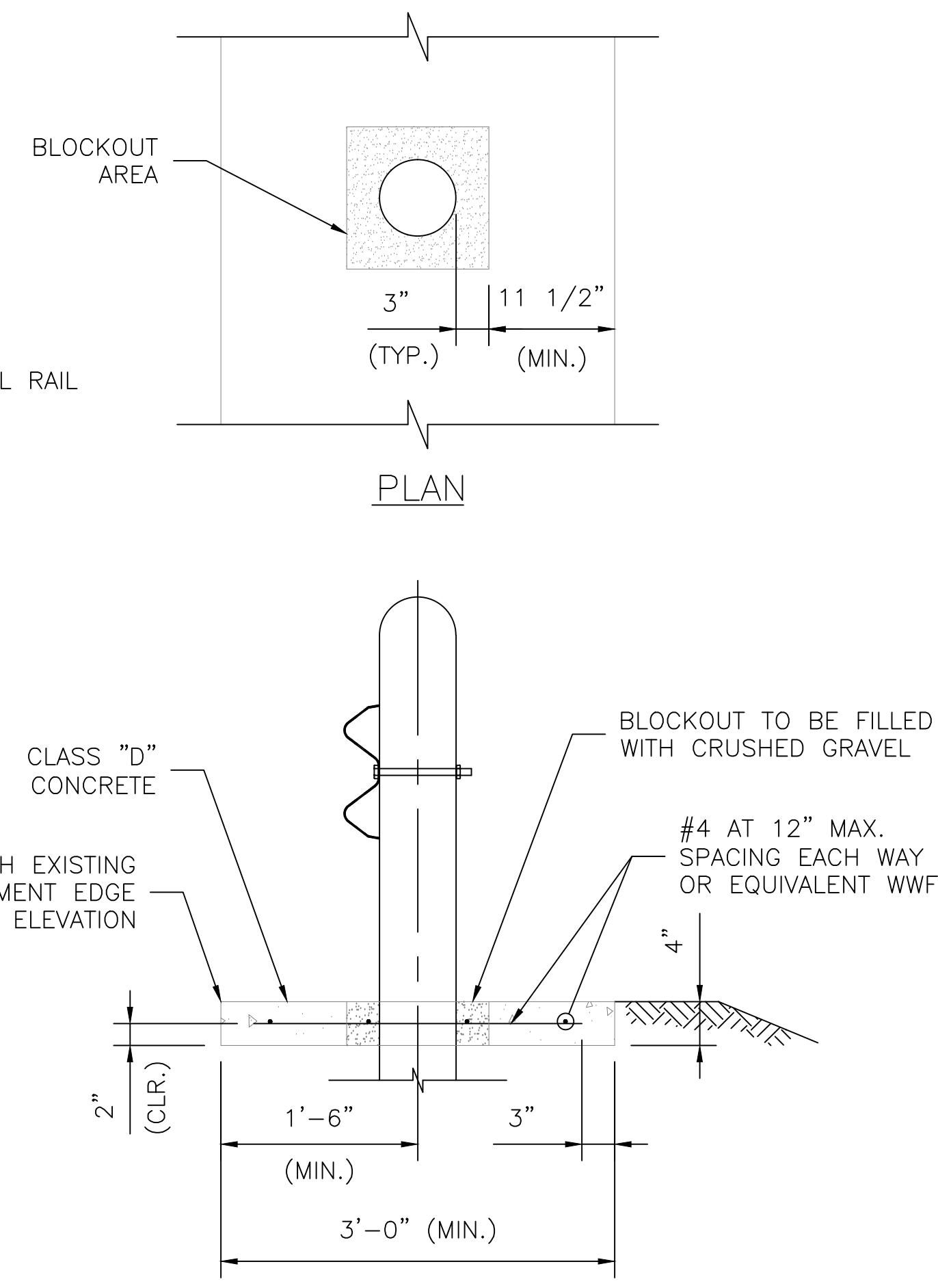


**TERMINAL CONNECTOR**

**TERMINAL SECTION**



**TERMINAL ANCHOR**



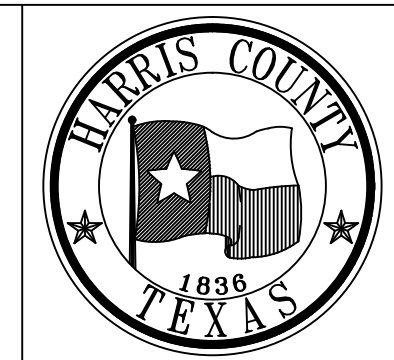
**MOWING STRIP**

**GENERAL NOTES:**

- EXCEPT WHERE USED AT STRUCTURES OR WHERE OTHERWISE INDICATED ON DRAWINGS, THE FACE OF GUARDRAIL SHALL BE LOCATED A MINIMUM OF ONE FOOT FROM THE SHOULDER EDGE ON EXISTING ROADWAYS AND A MINIMUM OF TWO FEET FROM THE SHOULDER EDGE ON NEW CONSTRUCTION. THE EXACT POSITION SHALL BE AS SHOWN ELSEWHERE ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER. RAIL SHALL BE TRANSITIONED TO A SMOOTH CONNECTION WITH OTHER STRUCTURE OR STRUCTURE RAILING AS SHOWN ELSEWHERE ON DRAWINGS.
- AT THE OPTION OF THE CONTRACTOR, THE RAIL ELEMENTS FOR THE GUARDRAIL MAY BE FURNISHED IN EITHER 12-1/2 FOOT OR 25 FOOT NOMINAL LENGTHS, RAIL SHALL BE FURNISHED WITH POST BOLT SLOTS FOR 5/8" DIAMETER BOLT CONNECTION TO POSTS.
- BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.
- THE TOP 10" OF THE TERMINAL ANCHOR POST ASSEMBLY AND ALL STEEL FITTINGS THEREON SHALL BE GALVANIZED. RAIL ELEMENTS AND ALL FITTINGS SHALL BE GALVANIZED.
- THE TERMINAL ANCHOR POST SHALL BE SET IN CLASS "C" CONCRETE IN ACCORDANCE WITH ITEM 421, "STRUCTURAL CONCRETE". CONCRETE SHALL BE SUBSIDIARY TO THE BID ITEM 516, "FLEX BEAM GUARDRAIL".
- TIMBER POSTS MAY BE BEVELED AT APPROXIMATELY 10 DEGREES ON THE TOP WITH HIGH SIDE OF TOP POST PLACED TOWARD THE ROADWAY OR THEY MAY BE DOMED.
- AN ANCHOR OTHER THAN TO A TERMINAL ANCHOR POST SHALL CONSIST OF A CONNECTION SIMILAR TO THE RAIL SPLICE.
- SPECIAL FABRICATION WILL BE REQUIRED IN INSTALLATIONS HAVING A CURVATURE OF LESS THAN 150 FOOT RADIUS.
- POST SPACING WILL BE 6'-3"; EXCEPT ON THE APPROACH END, THE FIRST POST WILL BE 25 FEET FROM THE TERMINAL ANCHOR POST AND THE NEXT TWO POSTS SPACED AT 12'-6" WITH A MINIMUM OF 8 POSTS ADJACENT TO STRUCTURES SPACED AT 3'-1/2", UNLESS OTHERWISE NOTED.
- THE ROADWAY CROWN SECTION SHALL BE WIDENED TO ACCOMMODATE GUARDRAIL AND MOWING STRIP.
- PROVIDE 4 ADDITIONAL SHOP OR FIELD DRILLED HOLES IN END OF GUARDRAIL FOR ATTACHMENT TO TERMINAL ANCHOR POST. RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND W8X18 POSTS.
- RAIL ELEMENT SHALL BE GALVANIZED BY THE HOT DIP PROCESS AND SHALL CONTAIN NOT LESS THAN 2 OZ./PER SQUARE FOOT OF GALVANIZATION IN ACCORDANCE WITH ASTM A653 OR A123. RAIL COMPONENT PARTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153. ALL PARTS SHALL BE GIVEN A CHROMATE DIP AFTER GALVANIZATION TO GIVE THE RAIL A SHINY APPEALING LOOK.
- UNLESS OTHERWISE SHOWN IN DRAWINGS, GUARDRAIL PLACED IN THE VICINITY OF CURBS SHALL BE BLOCKED OUT SO THAT THE FACE OF CURB IS LOCATED DIRECTLY BELOW. RAIL PLACED OVER CURBS SHALL BE INSTALLED SO THAT THE POST BOLT IS LOCATED APPROXIMATELY 21 INCHES ABOVE THE GUTTER PAN OR ROADWAY SURFACE.
- ALL GUARDRAIL, TERMINAL ANCHOR SECTIONS AND TERMINAL SECTIONS SHALL BE A MINIMUM OF GAUGE 10.

NO.	REVISIONS	DATE	NAME
1	UPDATED DEPARTMENT NAME	2/17/15	RS

HARRIS COUNTY  
ENGINEERING DEPARTMENT



CONSULTANT  
LOGO/INFORMATION

FOR INTERIM REVIEW ONLY  
DOCUMENT INCOMPLETE:  
NOT INTENDED FOR CONSTRUCTION,  
BIDDING, OR PERMIT PURPOSES  
ENGINEER:  
P.E. SERIAL No.  
DATE:

PROJECT TITLE:		HCED STANDARD
DRAWN BY: JDZ	SHEET DESCRIPTION: FLEX BEAM GUARDRAIL DETAILS	25
CK'D BY: PDG		
SCALE: 1"=1'-0"	SHEET 2 OF 2	SHEET NO: /
DATE: 6/14/13	APPROVED BY:	