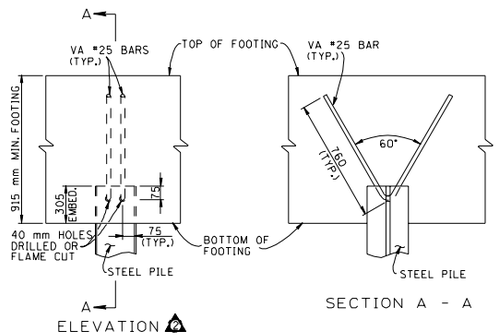
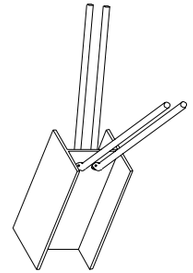
PROJECT NO.	YEAR	SHEET NO.
	1996	

REVISIONS

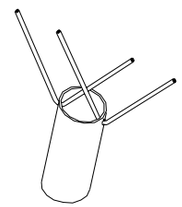
	NO.	DATE	BY	BRIEF DESCRIPTION
M/R	1	6-10-96	BRB	NEW METRIC STANDARD
M/R	2	5-21-99	MAH	REVISED PILE EMBEDMENT. NOTES & ADDED PIPE PILE ISOMETRIC





GROUTED BARS IN DRILLED HOLES: VERTICAL DRILLED HOLES SHALL BE CLEANED, PACKED WITH CEMENTITIOUS NON-SHRINK GROUT AND C BARS TURNED TO ITS SEAT. ALL GROUTING MATERIAL SHALL BE APPROVED BY TENNESSEE DEPARTMENT OF TRANSPORTATION MATERIALS AND TESTS.

NOTE: THE COST OF REINFORCING, DRILLING, PREPARING AND GROUTING THE HOLES TO BE INCLUDED IN ITEM 606M12.01, PILE ANCHORAGE SYSTEM (SEISMIC) (EA.).



STEEL PILES IN STUB ABUTMENTS AND RETAINING WALLS: IN 765 mm DEEP STUB ABUTMENTS OR RETAINING WALL FOOTINGS LESS THAN 915 mm. THE VA #25 BARS MAY BE TILTED FROM VERTICAL SUCH THAT THE BARS WILL BE FULLY ENCASED.

NOTE: APPLIES TO ALL STEEL PILE SIZES.

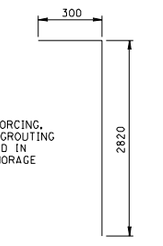
NOTE: VA #25 BAR SHALL BE SECURED IN THE VERTICAL POSITION TO PREVENT MOVEMENT DURING THE POURING OF THE FOOTING CONCRETE.

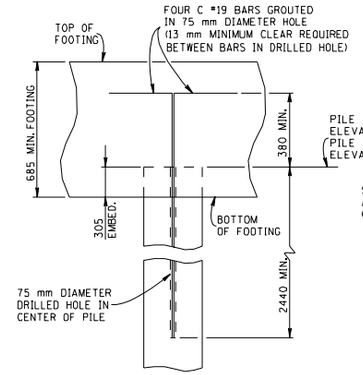
NOTE: THE COST OF DRILLING OR FLAME CUTTING THE HOLES IN THE TOP OF THE PILE TO BE INCLUDED IN THE COST OF THE PILE.

NOTE: VA #25 BAR WILL BE SHOWN IN THE BILL OF STEEL ON THE CONTRACT DRAWINGS AND PAID FOR UNDER ITEM 604M03.02.

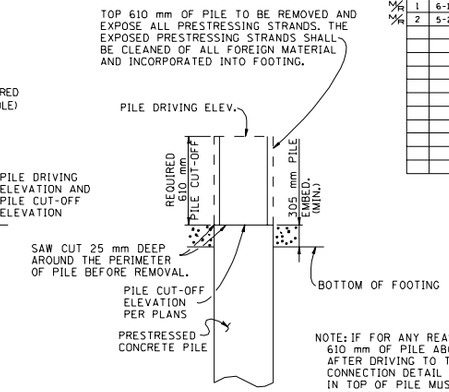
STEEL PILE DETAILS ✡

✡ PILE ATTACHMENT IS REQUIRED FOR SPC B, C AND D. ALSO, NO SPLICING OF CONCRETE PILES IS ALLOWED IN SPC B, C, AND D.





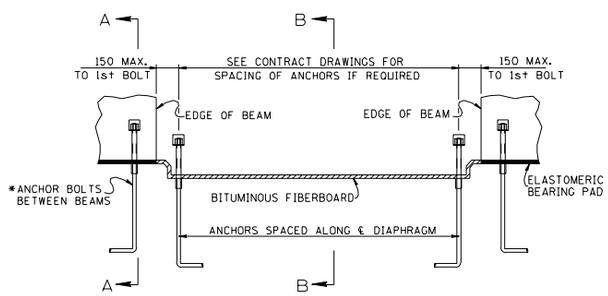
CONCRETE PILE DETAIL ✡



NOTE: IF FOR ANY REASON THERE IS NOT AT LEAST 610 mm OF PILE ABOVE THE P.C.O. ELEVATION AFTER DRIVING TO THE REQUIRED BEARING, THE CONNECTION DETAIL OF FOUR C #19 BARS GROUTED IN TOP OF PILE MUST BE USED. SEE CONCRETE PILE DETAIL, THIS DRAWING.

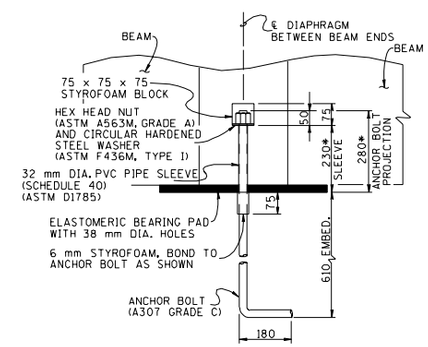
ALTERNATE DETAIL FOR PRESTRESSED CONCRETE PILE ✡

NOTE: MEASUREMENT AND PAYMENT SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION EXCEPT THE COST OF PREPARATION OF THE TOP OF THE PILE FOR SEISMIC REQUIREMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 606M12.01, PILE ANCHORAGE SYSTEM (SEISMIC) (EA.). THE CONTRACTOR SHALL BE PAID FOR PILING BASED ON THE FINAL LENGTH OF PILING IN PLACE BELOW THE PILE CUT-OFF ELEVATION. MEASUREMENT AND PAYMENT FOR PILE CUT-OFFS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT IT SHALL BE APPLICABLE ONLY FOR THE PORTION OF PILE ABOVE THE PILE DRIVING ELEVATION AND SHALL EXCLUDE THE REQUIRED 610 mm OF PILE CUT-OFF FOR EXPOSING STRANDS.



SPECIAL NOTE FOR ANCHOR BOLTS AT BENTS: ANCHOR BOLTS SHALL BE 25 mm MIN. DIAMETER BOLTS WITH CUT THREADS OR 23 mm MIN. DIAMETER BOLTS WITH ROLLED THREADS WITH A MINIMUM YIELD STRENGTH OF 250 MPa. THE ANCHOR BOLT PROJECTION SHALL HAVE A 32 mm DIAMETER PVC SLEEVE (SCHEDULE 40) CAPPED BY A HEX HEAD NUT AND WASHER. THE NUT AND WASHER SHALL BE TORQUED SNUG AGAINST THE PVC PIPE WITH THE THREADS OF THE ANCHOR BOLT BURRED. THE PROJECTING ANCHOR BOLT, NUT AND WASHER SHALL BE PAINTED WITH EPOXY PAINT. THE TOP OF THE ANCHOR BOLT SHALL BE COVERED WITH A 75 x 75 x 75 STYROFOAM BLOCK GLUED SECURELY TO THE TOP OF THE ASSEMBLY.

NOTE: WHEN THE NUT IS TIGHTENED AGAINST THE TOP OF THE PVC PIPE SLEEVE, THE BOTTOM OF THE SLEEVE SHALL BEAR UNIFORMLY UPON THE TOP OF THE BENT CAP OR RISER BLOCK.

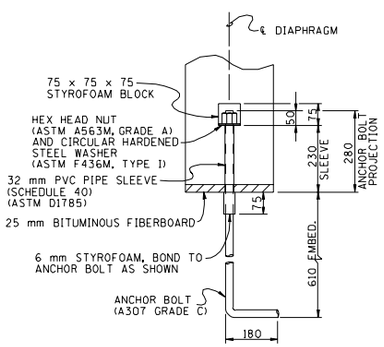


SECTION A - A

* NOTE: BETWEEN BEAMS USE 200 mm TOTAL ANCHOR BOLT PROJECTION WITH 150 mm OF PVC SLEEVE WHEN USING "TYPE I PRESTRESSED I-BEAMS".

NOTE: FOR REQUIRED NUMBER AND LOCATION OF ANCHOR BOLTS BETWEEN THE PRECAST PRESTRESSED BEAMS, SEE PIER/BENT DETAIL DRAWINGS IN THE CONTRACT PLANS.

NOTE: COST OF ELASTOMERIC PADS AND RUBBER BONDING CEMENT TO BE INCLUDED IN THE COST OF PRESTRESSED BEAM. ALL ANCHOR BOLTS, HEX HEAD NUTS, WASHERS, SCHEDULE 40 PVC PIPE AND STYROFOAM BLOCK AND LABOR NECESSARY FOR INSTALLATION OF THE ANCHOR BOLT ASSEMBLY TO BE INCLUDED IN THE COST OF CLASS 'A' CONCRETE.



SECTION B - B

DESIGN SPECIFICATIONS:
AASHTO "GUIDE SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES" CURRENT EDITION WITH ADDENDA.

SEISMIC PERFORMANCE CATEGORY (SPC)	ACCELERATION COEFFICIENT (A)
A	A ≤ 0.09
B	0.09 < A ≤ 0.19
C	0.19 < A ≤ 0.29
D	0.29 < A

LATERAL RESISTANCE AND HOLDDOWN FOR SEISMIC LOADS

REQUIRED FOR SPC A, B, C AND D

ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

M/R MINOR REVISION - FHWA APPROVAL NOT REQUIRED

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD SEISMIC DETAILS 1996

DESIGNED BY HENRY PATE DATE 10-90
DRAWN BY KIM FRANKENFIELD DATE 10-90
SUPERVISED BY HOLLORAN & PRINCE DATE 10-90
CHECKED BY _____ DATE _____

CORRECT Edward P. Wasserman
ENGINEER OF STRUCTURES

DIVISION OF METRIC ACTIVITY

SHEET 1 OF 2
STDM-6-1