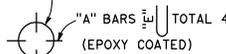


CLASS 90 = PP14 x 0.375  
CLASS 140 = PP14 x 0.438

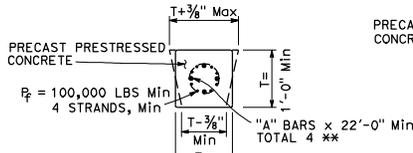
CLASS 90 = PP14 x 0.375  
CLASS 140 = PP14 x 0.438



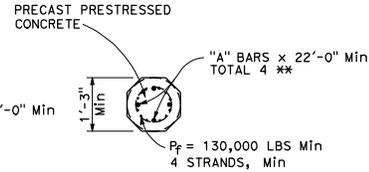
SECTION V-V



SECTION W-W

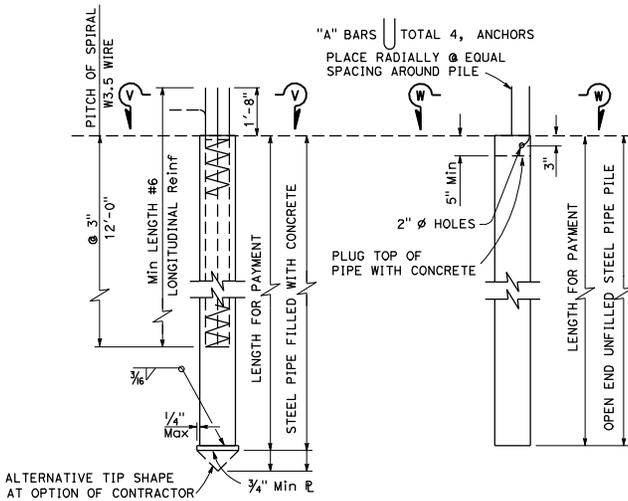


SECTION X-X

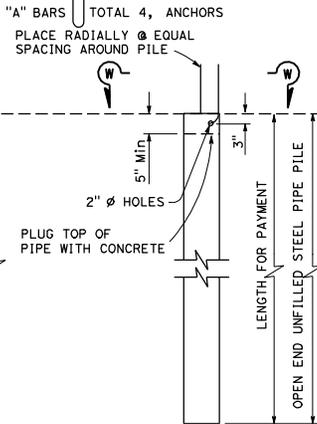


SECTION Y-Y

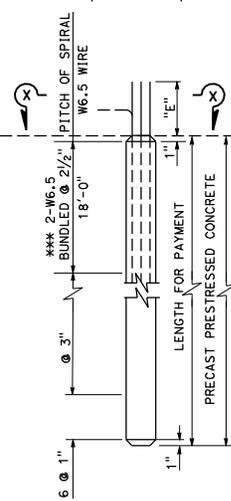
\*\* To be in place when pile is cast



ALTERNATIVE "V"

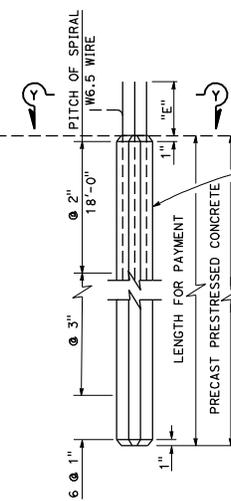


ALTERNATIVE "W"



ALTERNATIVE "X"

\*\*\* W11.0 at 2" may be substituted



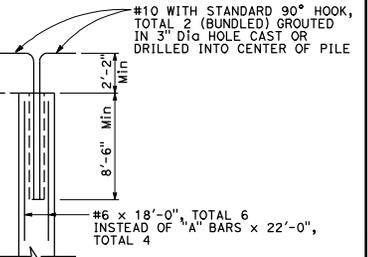
ALTERNATIVE "Y"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER  
Amir M. Malek  
No. C62397  
Exp. 9-30-11  
CIVIL  
STATE OF CALIFORNIA

May 20, 2011  
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



ALTERNATIVE PILE ANCHOR FOR PRESTRESSED PILES

DESIGN NOTES

PRECAST PRESTRESSED PILES

$P_f$  = Prestressing force (after losses) If section used is larger than the minimum section shown, then " $P_f$ " shall provide 700 psi minimum.  
Concrete Strength:  $f'c$  @ 28 days = 6,000 psi (Alternative "X")  
5,000 psi (Alternative "Y")  
 $f'ci$  @ transfer = 4,000 psi

REINFORCED CONCRETE

$f'c$  = 4,000 psi  
 $f_y$  = 60,000 psi

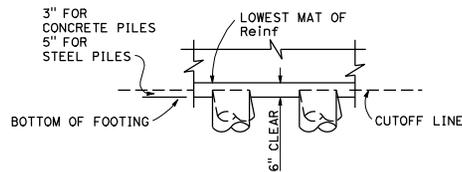
STEEL PIPE PILE

$F_y$  (Minimum yield strength) = 45,000 psi  
 $F_u$  (Minimum tensile strength) = 66,000 psi

DESIGN CAPACITY

**Class 90**  
Compression = 90 kip (Service state)  
= 180 kip (Nominal axial structural resistance)  
Tension = 36 kip (Service state)  
= 90 kip (Nominal axial structural resistance)

**Class 140**  
Compression = 140 kip (Service state)  
= 280 kip (Nominal axial structural resistance)  
Tension = 56 kip (Service state)  
= 140 kip (Nominal axial structural resistance)



PILE EMBEDMENT

	REQUIRED NOMINAL RESISTANCE (TENSION) *	
	60 kips OR LESS	GREATER THAN 60 kips
"A" BARS	#6	#8
"E" DIMENSION	1'-8"	2'-8"

\* See Pile Data Table in the Project Plans for Nominal Resistance (Tension) Requirements

NOTES:

- Details are the same for both Class 90 and Class 140 piles unless noted otherwise.
- At the Contractor's option, alternative steel pipe with at least the diameter and wall thickness shown on these plans may be used. The diameter shall not exceed 1'-6".
- Pile reinforcement and steel pile anchor bars extending into a footing shall be hooked as required to provide clearance to top of footing. Piles shall be extended only with details shown on the Project Plans.
- Lapped splices in spiral pile reinforcement shall be lapped 80 wire diameters minimum. Spiral pile reinforcement at splices and at ends shall be terminated by a 135° hook with 6" tail hooked around a longitudinal bar or strand.
- 2" clearance to spiral reinforcement shall be maintained if section used is larger than the minimum section shown.
- Maximum cutoff length at the top of the Alternative "X" and Alternative "Y" Piles is 10'-0".
- For longitudinal reinforcement and prestressing for anchor piles and load test piles, see "Load Test Pile Details (2)", Standard Plan B2-10.
- Alternative "W" piles shall not be used for corrosive environments.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PILE DETAILS**  
**CLASS 90 AND CLASS 140**

NO SCALE

B2-5