

PROJECT NO.	SHEET

GENERAL NOTES

CONCRETE: THE CONTRACTOR SHALL DESIGN AND SUBMIT FOR APPROVAL A CONCRETE MIX WITH MINIMUM COMPRESSIVE CYLINDER STRENGTH OF 6000 psi AT 28 DAYS. CONCRETE STRENGTH AT THE TIME OF TRANSFER OF PRESTRESSED FORCE SHALL BE 4500 psi OR GREATER. BUILD-UP CONCRETE SHALL MEET OR EXCEED THE DESIGN PROPERTIES OF THE ORIGINAL PILE. BUILD-UP CONCRETE NOT MEETING THE ABOVE REQUIREMENTS WILL BE REMOVED AND REPLACED WITH CONCRETE THAT DOES.

PRESTRESSING STEEL: PRETENSIONED REINFORCEMENT SHALL BE 1/2" DIA. SEVEN-WIRE, UNCOATED LOW-RELAXATION, GRADE 270 AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M203. AN INITIAL TENSION OF 30,980 LBS. SHALL BE APPLIED TO EACH STRAND.

DEFORMED REINFORCING STEEL: REINFORCING STEEL SHALL BE DEFORMED BILLET STEEL BARS, GRADE 60 AND SHALL MEET THE REQUIREMENTS OF AASHTO M31.

SPIRAL REINFORCING STEEL: SPIRAL REINFORCING STEEL SHALL BE SIZED W-4.5 COLD-DRAWN STEEL WIRE AND SHALL CONFORM TO AASHTO M 32M.

FABRICATION TOLERANCES: MANUFACTURE OF THE PILING AND FABRICATION TOLERANCES SHALL BE IN ACCORDANCE WITH THE "MANUAL FOR QUALITY CONTROL FOR PLANTS AND PRODUCTION OF STRUCTURAL PRECAST CONCRETE PRODUCTS (MNL-116, LATEST EDITION)" PUBLISHED BY PCI.

CHAMFERS AND CORNERS: ON PILES 18"Ø OR SMALLER, ALL EXPOSED CONCRETE CORNERS ARE TO HAVE 3/4" CHAMFERS. ON PILES 20"Ø OR LARGER, ALL EXPOSED CONCRETE CORNERS ARE TO HAVE 1 1/2" CHAMFERS. A 1" RADIUS CURVE WILL BE PERMITTED IN LIEU OF CHAMFERS SHOWN ABOVE. HOWEVER, ALL PILES FURNISHED SHALL BE OF THE SAME CONFIGURATION.

PICK-UP AND HANDLING: LOADING CRITERIA ARE BASED ON CAREFUL HANDLING OF THE PILE. ROTATION OF THE PILE IN THE SLING IS TO BE PREVENTED UNTILL THE PILE IS IN THE VERTICAL POSITION. PICK-UP POINTS FOR ALL PILES ARE TO BE CLEARLY MARKED ON PILES. SUPPORTS FOR STORAGE SHALL BE AT PICK-UP POINTS (FOR I-POINT PICK-UP USE SUPPORT 0.29L1 FROM EACH END). PILES WILL BE MADE AT A CENTRAL PLANT AND BE TRANSPORTED TO THE BRIDGE SITE. ALL PRESTRESSED PILING SHALL BE HELD AT THE PLANT FOR 14 DAYS AFTER CASTING, PROVIDING THE COMPRESSIVE STRENGTH OF 5000 psi HAS BEEN ATTAINED. PICK-UP POINTS SHALL BE SENT TO THE BRIDGE DESIGN ENGINEER FOR REVIEW. ALL EMBEDDED LIFTING LOOPS SHALL BE PROVIDED WITH 2" DEEP FOAM BLOCKOUTS, PRIOR TO TRANSPORT. LIFTING LOOPS SHALL BE REMOVED TO PROVIDE 2" MINIMUM CLEAR COVER. THE REMAINING CAVITIES SHALL BE CLEANED OF ALL SLAG AND LOOSE MATERIAL, AND THEN FILLED WITH A PATCHING MATERIAL FROM LADOTD NO. 49. THE PATCHING MATERIAL MUST MEET OR EXCEED PILE CONCRETE REQUIREMENTS FOR STRENGTH AND PERMEABILITY.

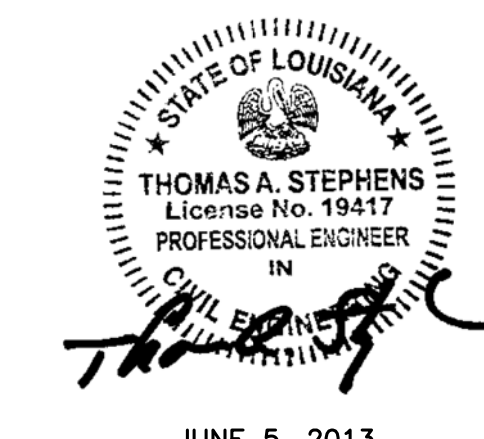
VENT HOLES: FOR VOIDED PILES THAT REQUIRE BUILD-UP OR CUT-OFF. THE 2"Ø VENT HOLES SHALL BE RE-ESTABLISHED AT 6" BELOW THE BOTTOM OF THE BENT CAP.

DRIVING: PILES SHALL BE DRIVEN TO AT LEAST THE MINIMUM TIP ELEVATION AS SHOWN ON CONTRACT PLANS UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. PILES SHALL BE DRIVEN TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.

PRESTRESSED LOSSES: BASED ON "RECOMMENDATION FOR ESTIMATING PRESTRESSED LOSSES" PCI JOURNAL VOL 20 JULY/AUGUST, 1975. PERCENT OF ULTIMATE SHRINKAGE EQUAL TO 31% AND 62% FOR 14 DAYS AND 90 DAYS RESPECTIVELY. PERCENT ULTIMATE CREEP EQUAL TO 26% AND 51% FOR 14 DAYS AND 90 DAYS RESPECTIVELY.

ALLOWABLE STRESSES: THE MAXIMUM LENGTHS FROM PICK-UP HAVE BEEN DETERMINED USING THE FOLLOWING ALLOWABLE STRESS (2007 AASHTO LRFD BRIDGE SPECS. 5.9.4.2.1, 5.9.4.2.2, & 5.13.4.4.3) AT BOTH 14 DAYS AND 90 DAYS.

ALLOWABLE TENSILE STRESS (ksi): $0.19\sqrt{f'_c}$
 ALLOWABLE COMPRESSION STRENGTH (ksi): $0.45f'_c$
 IMPACT FACTOR 1.5
 MIN. FINAL COMPRESSIVE STRESS 0.7 ksi

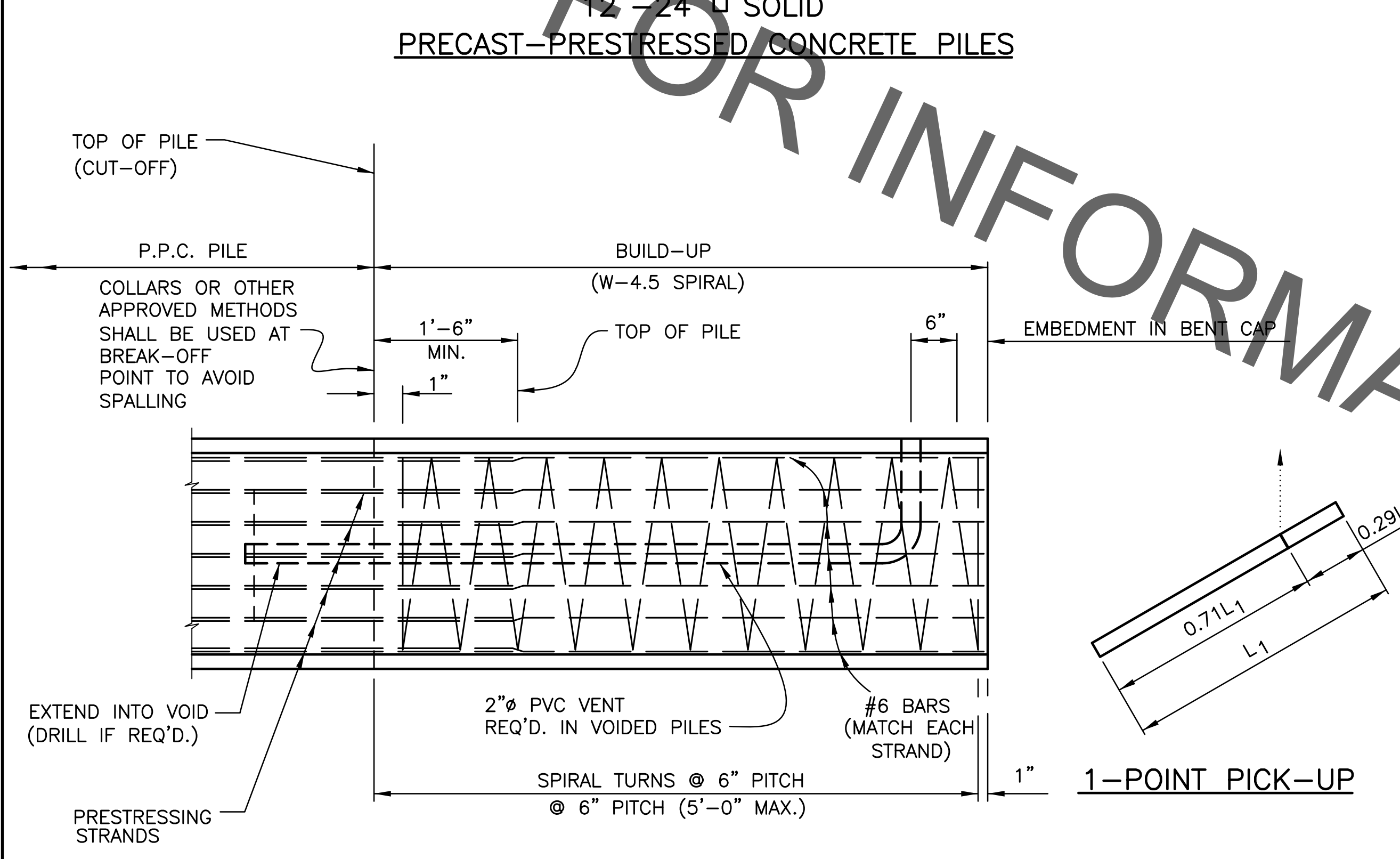
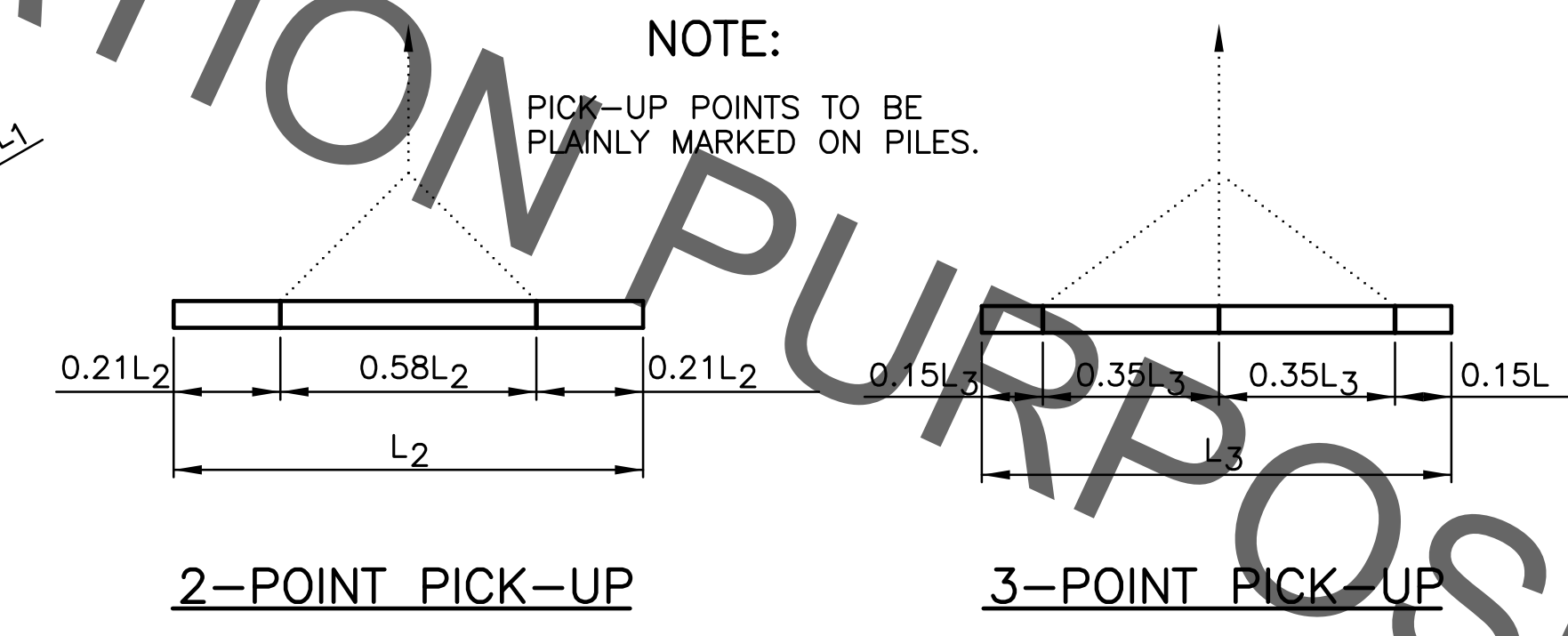
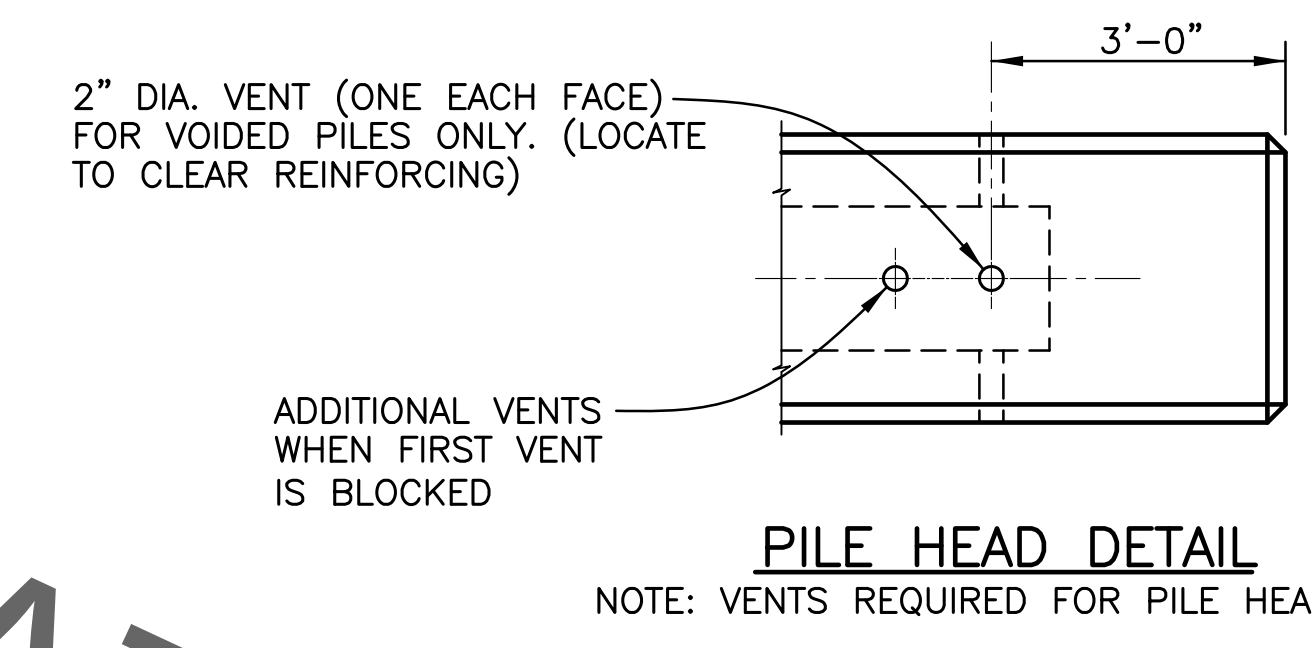
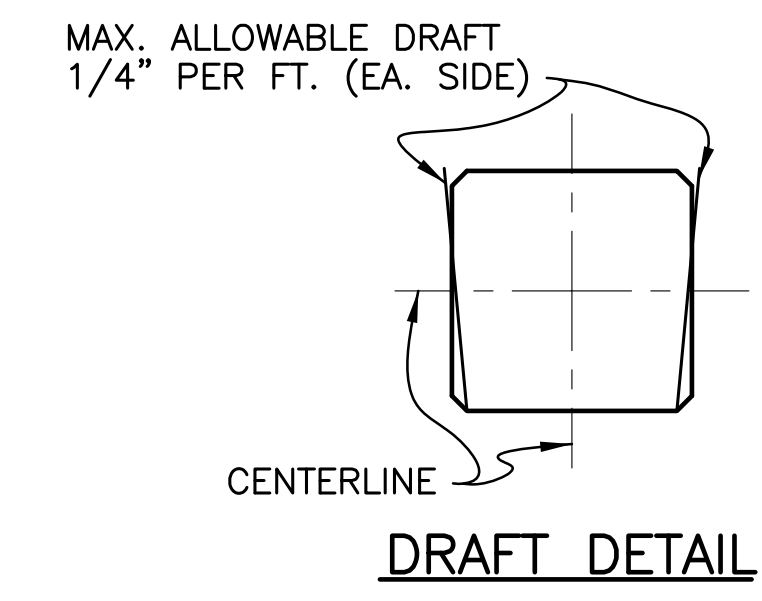
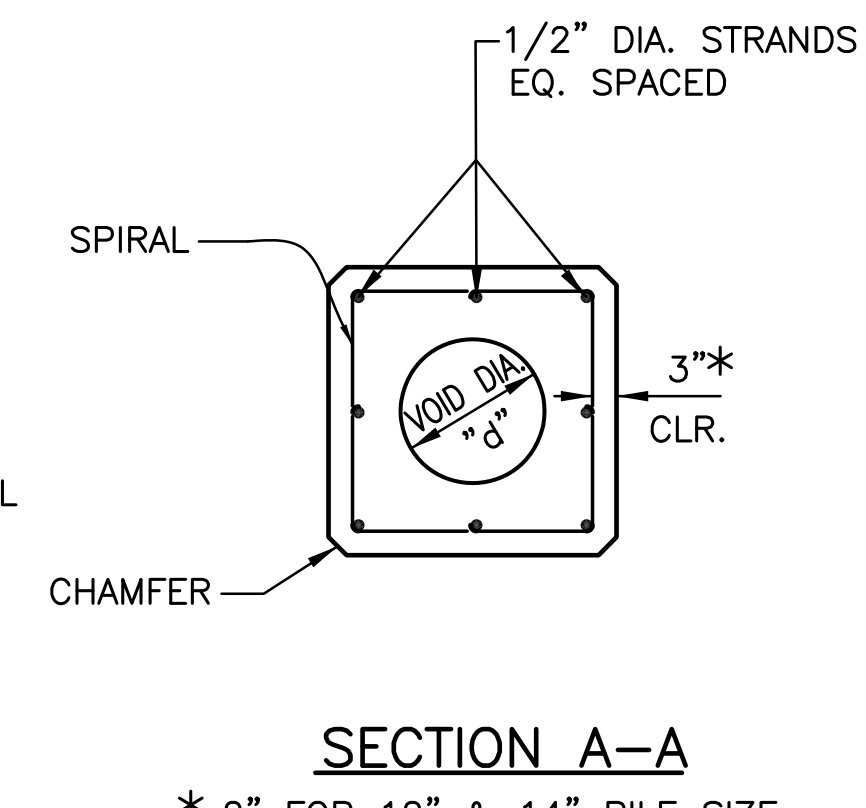
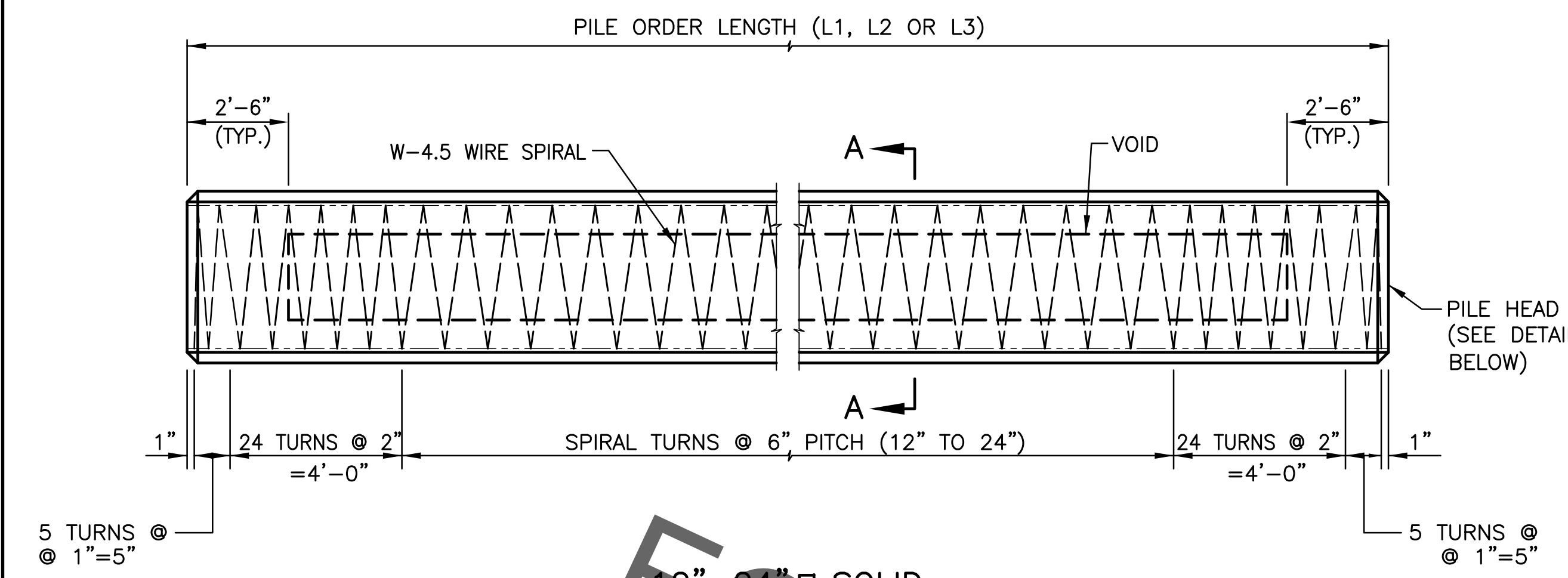


JUNE 5, 2013

STANDARD PLAN NO. 605-01	DATED February 8, 2008	SHEET NO. 1 OF 1
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PRECAST PRESTRESSED CONCRETE PILES

ENGINEERING DIVISION DEPARTMENT OF PUBLIC WORKS CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE			
DESIGNED T. STEPHENS	DRAWN G. VANNICE	CHECKED G. CHENG	APPROVED T. STEPHENS



2 POINT PICK-UP SHALL TAKE PRECEDENCE OVER 3 POINT PICK-UP WHERE APPLICABLE. FOR LONGER PILE LENGTHS THAT REQUIRE A 3 POINT PICK-UP, BUT CAN BE PROVIDED WITH A 2 POINT PICK-UP USING THE 6000 PSI CONCRETE OPTION (CLASS P(M) CONCRETE), THE CONTRACTOR SHALL FURNISH THE 2 POINT PICK-UP VERSION.

PILE INFORMATION

SECTION PROPERTIES					SQUARE SPIRAL LAYOUTS (CLASS P CONCRETE)					SQUARE SPIRAL LAYOUTS (CLASS P(M) CONCRETE)							
PILE SIZE	VOID % (in.)	AREA (in. ²)	SECTION MODULUS (in. ³)	WEIGHT PER FOOT (lb/ft.)	CHAMFER (in.)	NO. OF STRANDS	PRESTRESS IN CONCRETE (PSI.)		MAX. CASTING LENGTH (ft.)			NO. OF STRANDS	PRESTRESS IN CONCRETE (PSI.)		MAX. CASTING LENGTH (ft.)		
							AT RELEASE	AT 90 DAYS	L ₁	L ₂	L ₃		AT RELEASE	AT 90 DAYS	L ₁	L ₂	L ₃
12 SOLID	0	144	288	150	3/4"	4	828	770	52.8	74.8	106.8	4	830	774	53.7	76.1	108.6
14 SOLID	0	196	457	204	3/4"	8	1200	1109	56.4	79.9	114.1	8	1203	1116	66.0	93.4	133.4
16 SOLID	0	256	683	267	3/4"	8	928	867	63.6	90.0	128.5	12	1373	1273	67.6	95.7	136.7
18 SOLID	0	324	972	338	3/4"	12	1093	1020	66.8	94.5	134.9	12	1096	1026	72.6	102.7	146.7
20 SOLID	0	400	1333	417	1 1/2"	12	892	839	70.3	99.5	142.1	16	1180	1106	78.7	111.3	159.0
24 SOLID	0	576	2304	600	1 1/2"	20	1027	968	78.9	111.8	159.6	24	1227	1154	86.7	122.7	175.2
24 VOIDED	10.5	489	2254	510	1 1/2"	16	970	903	84.8	120.1	171.4	20	1204	1119	92.9	131.4	187.7
30 VOIDED	16.5	686	4257	715	1 1/2"	24	1035	964	98.3	139.1	198.6	28	1203	1120	107.8	152.6	217.9
36 VOIDED	22.5	898	7077	936	1 1/2"	28	926	866	109.3	154.6	220.8	36	1182	1102	120.8	170.9	244.1

DETAILS ON THIS SHEET NOT TO SCALE

DATE	DESCRIPTION	BY
	REVISIONS	