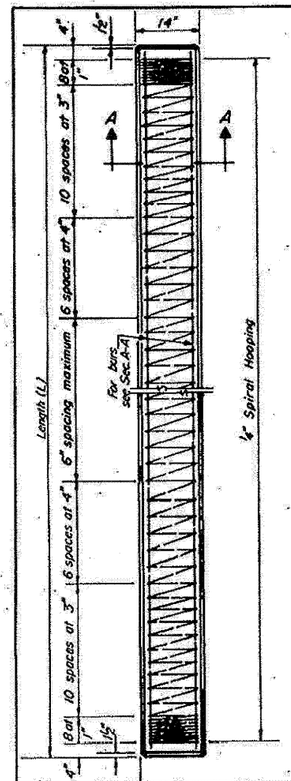
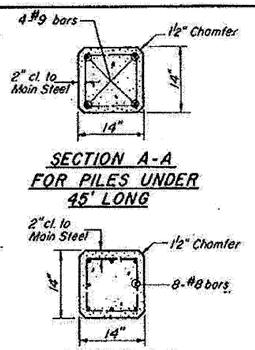
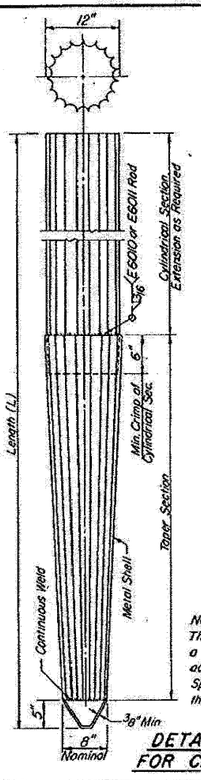
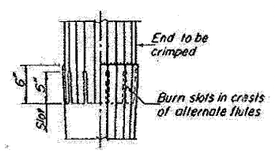


DETAIL OF PRECAST CONCRETE PILES

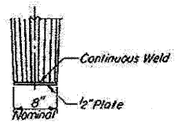


Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21 L from each end. For Piles longer than 45' use three slings placed at a distance of 0.12 L from each end and at mid point of pile.





Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.

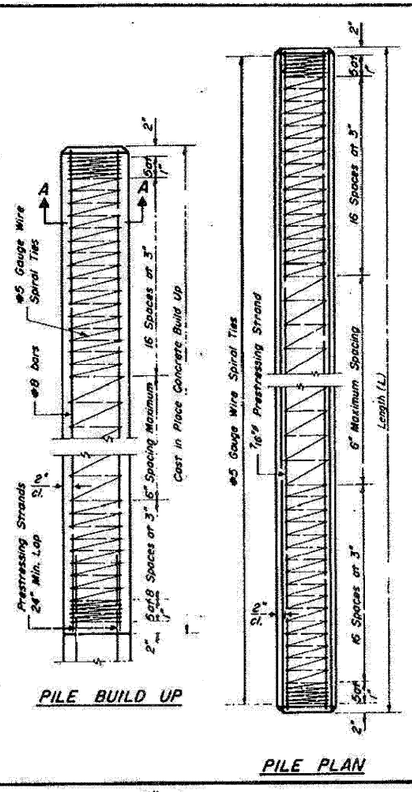


ALLOWABLE TAPER SECTIONS

10' Length - Taper 1" in 2'-6"
17' Length - Taper 1" in 4'-0"
25' Length - Taper 1" in 7'-0"
30' Length - Taper 1" in 7'-0"

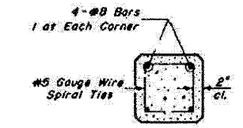
NOTE: The thickness of the shell shall be 0.1495 inches with a tolerance of 5%. The shell shall be in accordance with Article 710.05 (a) of the Standard Specification except that minimum yield strength for the steel after cold working shall be 50,000 psi

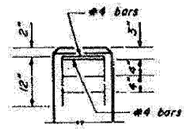
DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES

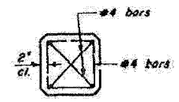


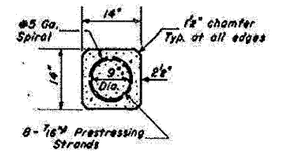
PILE BUILD UP

PILE PLAN









DESIGN STRESSES

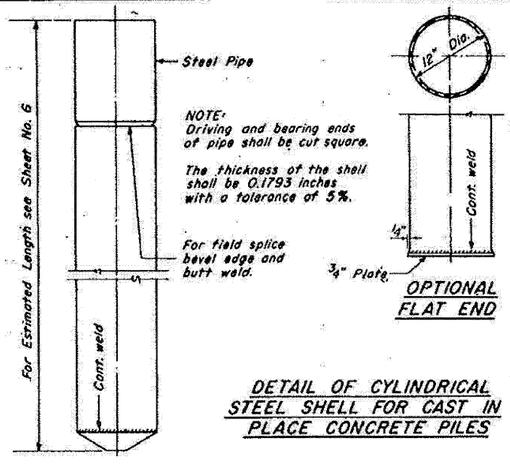
f'c' = 5,000 psi.
f'ci = 4,000 psi.
fs' = 270,000 psi. (31,000 lbs.)
f'si = 189,000 psi. (21,700 lbs.-⅜"ϕ or 28,900 lbs.-½"ϕ)

NOTES

Prestressing steel shall be non-galvanized extra high strength stress-relieved 7-wire strand. The nominal diameter shall be ⅜" and the minimum nominal cross-sectional area shall be 0.115 sq.in. or the equivalent 6-½"ϕ strands with a cross-sectional area of 0.153 sq.in. may be used.

*For Pile lengths up to 65', use two slings placed at a distance of 0.21 L * from each end. For Piles longer than 65', use three slings placed at a distance of 0.12 L * from each end and at mid-point of pile. * L = Over all length of pile to be handled.*

PRECAST PRESTRESSED CONCRETE PILE

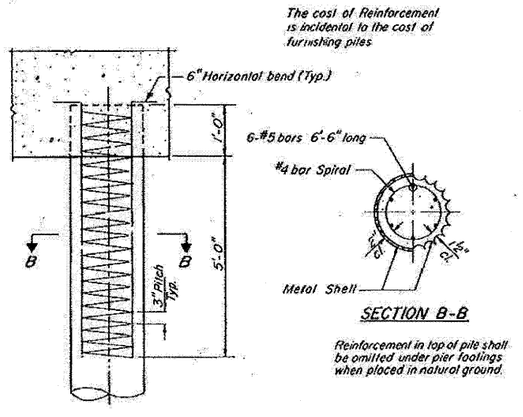


NOTE: Driving and bearing ends of pipe shall be cut square.

The thickness of the shell shall be 0.1793 inches with a tolerance of 5%.

For field splice bevel edge and butt weld.

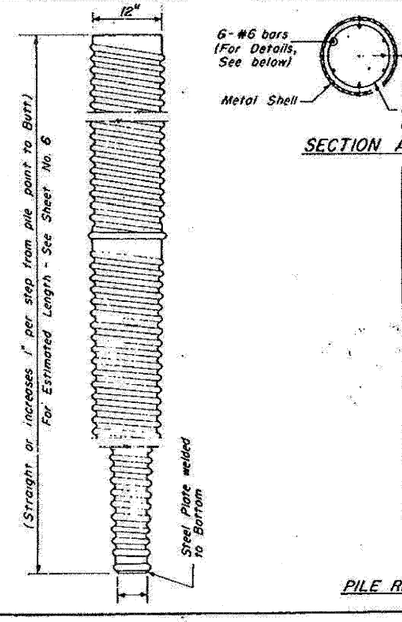
DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



The cost of Reinforcement is incidental to the cost of furnishing piles

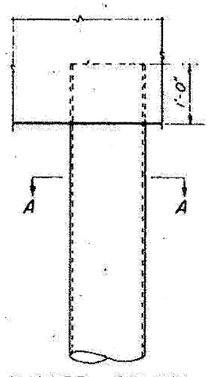
Reinforcement in top of pile shall be omitted under pier footings when placed in natural ground.

DETAIL OF REINFORCEMENT FOR METAL SHELLS



Reinforcement is incidental to the cost of furnishing piles.

At least 10% of the length of pile shall have a Butt diameter equal to or greater than 12" Gauges are furnished to suit soil conditions (16 Gauge avg. min.)



DETAIL OF MANDREL DRIVEN STRAIGHT OR STEP-TAPER PILES FOR CAST IN PLACE CONCRETE PILES

STANDARD PILE SHEET

F.A. ROUTE 587 OVER PIKE CREEK
SECTION 22BR BUREAU COUNTY
STA. 853+37.16

EXISTING PLANS FOR INFORMATION ONLY
S.N. 006-0147

GREENE & BRADFORD, Ltd.
CONSULTING ENGINEERS

		587	22BR	BUREAU	24	16

SHEET NO. 8
8 SHEETS

DELTA ENGINEERING GROUP, LLC
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS

USER NAME = kkhan	DESIGNED DB	REVISED -	
	DRAWN DB	REVISED -	
PLOT SCALE = $SCALE$	CHECKED AS	REVISED -	
PLOT DATE = 10/11/2011	DATE OCTOBER 14, 2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN – STRUCTURE

SCALE: NTS | SHEET NO. 49 OF 61 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	(22 BR)BR	BUREAU	61	49
		CONTRACT NO. 66995		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FILE NAME = g:\zp1011101\cadd sheets\rdwySN-006-0183-49exist-structure.dgn

PLAN | SURVEYED | PLOTTED | DRAWN | CHECKED | ALIGNMENT CHECKED | RT. OF WAY CHECKED | CADD FILE NAME | NOTE BOOK | NO. | BY | DATE

PROFILE | SURVEYED | PLOTTED | DRAWN | CHECKED | BM. NOTED | STRUCTURE NOTATNS CHKD | NOTE BOOK | NO. | BY | DATE