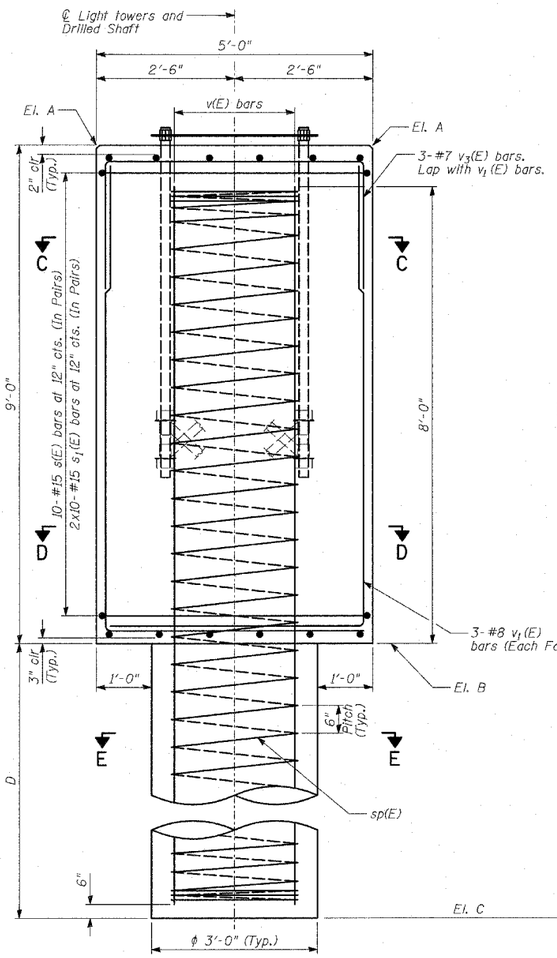
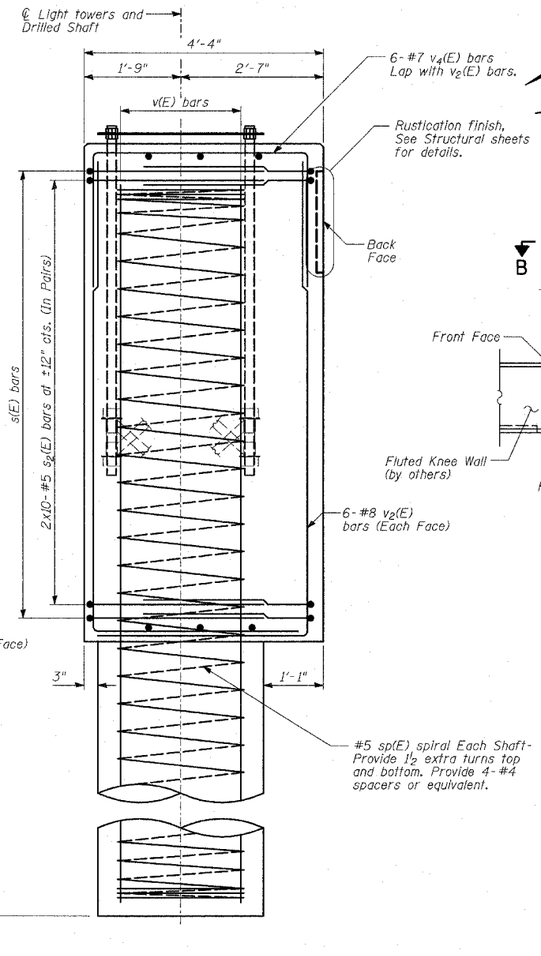
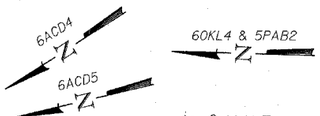
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	•	COOK	907	713
STA. 1200+00.00	TO STA. 1365+00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
• (1516.1, 1717 & 1818) R-9				62695

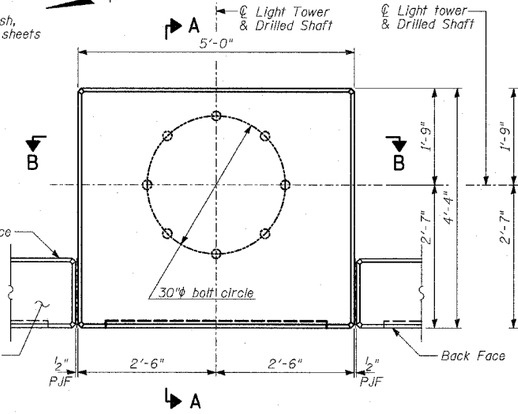


SECTION B-B

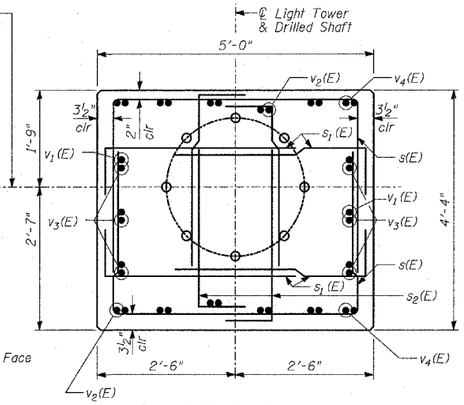


SECTION A-A

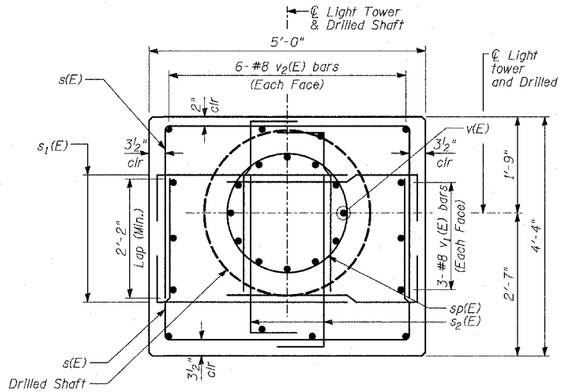




PLAN-LIGHT TOWER



SECTION C-C



SECTION D-D

BILL OF MATERIAL

(Per HMLT Foundation In Fluted Knee Wall)

Bar	No.	Size	Length	Shape
s (E)	20	#5	10'-7"	
s_1(E)	40	#5	4'-2"	
s_2(E)	40	#5	3'-11"	
sp (E)	1	#5	34'-6"	
v(E)	12	#10	34'-6"	
v_1(E)	6	#8	12'-10"	
v_2(E)	12	#8	12'-3"	
v_3(E)	3	#7	11'-2"	
v_4(E)	6	#7	10'-8"	
Reinforcement Bars, Epoxy Coated		POUND		3,650
Structure Excavation		CU YD		18
Concrete Structures		CU YD		8
Protective Coat		SQ YD		9
Rustication Finish		SQ FT		8
Drilled Shaft in Soil 36"		FOOT		27

Reinforcement bars designated (E) shall be epoxy coated.

NOTES:

1. The design loads are based on AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminares and Traffic Signals-2001.
2. Drilled shafts shall be installed according to IDOT special provisions for "Drilled Shafts".
3. Protective Coat shall be applied to exposed surfaces of the new concrete wall and tower base.
4. At all locations where reinforcement bar laps are not in direct contact, the Contractor shall provide sufficient spacing between the vertical bars, equal to the size of the largest concrete aggregate plus ½ inch.
5. Conduit is not shown for clarity. For location of conduit, see Sheet 3 of 3.
6. Cost of anchor rod assembly, conduit and wires for grounding are included with "Concrete Structures".
7. Minimum lap for spirals = 2'-6"

HMLT	EL. A	EL. B	EL. C	D
6 ACD4	13.92	4.92	-22.08	27'-0"
6 ACD5	18.53	9.53	-17.47	27'-0"
6 OKL4	13.09	4.09	-22.91	27'-0"
5 PAB2	11.70	2.70	-24.30	27'-0"

TOTAL BILL OF MATERIAL

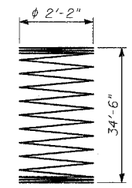
ITEM	UNIT	TOTAL
Structure Excavation	CU YD	72
Concrete Structures	CU YD	32
Protective Coat	SQ YD	24
Rustication Finish	SQ FT	32
Reinforcement Bars, Epoxy Coated	POUND	14,600
Drilled Shaft in Soil 36"	FOOT	108

DESIGN SPECIFICATION

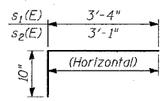
AASHTO 2002 Standard Specifications for Highway Bridges

DESIGN STRESSES FIELD UNITS

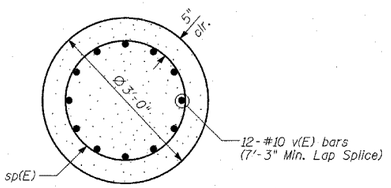
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)



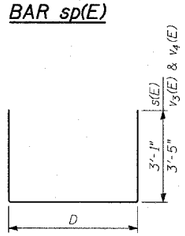
BAR sp(E)



BARS s_1(E) & s_2(E)



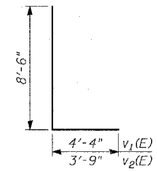
SECTION E-E



BARS s(E), v_3(E) & v_4(E)

MARK TABLE

Bar	D
s (E)	4'-5"
v_3(E)	4'-4"
v_4(E)	3'-10"



BARS v_1(E)& v_2(E)

STATE OF ILLINOIS
PHILLIP D. FREY
081-004826
CHICAGO, ILLINOIS
LICENSED STRUCTURAL ENGINEER

Signed Phillip D. Frey
Phillip D. Frey, S.E. Il. Lic. No. 081-004826 Expires 11-30-2006
For drawings 1 thru 3 of 3

Date 3/25/05

SHEET 1 OF 3

REVISIONS NAME	DATE
REVISED	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
HMLT FOUNDATION DETAILS AT FLUTED KNEE WALLS

S.N.
SCALE: N.T.S.
DATE: MARCH 25, 2005
DESIGNED BY: MI MAF
DRAWN BY: MAF, DJR
CHECKED BY: TD

TY·LIN INTERNATIONAL