

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
316	(116) I	BUREAU	6	1

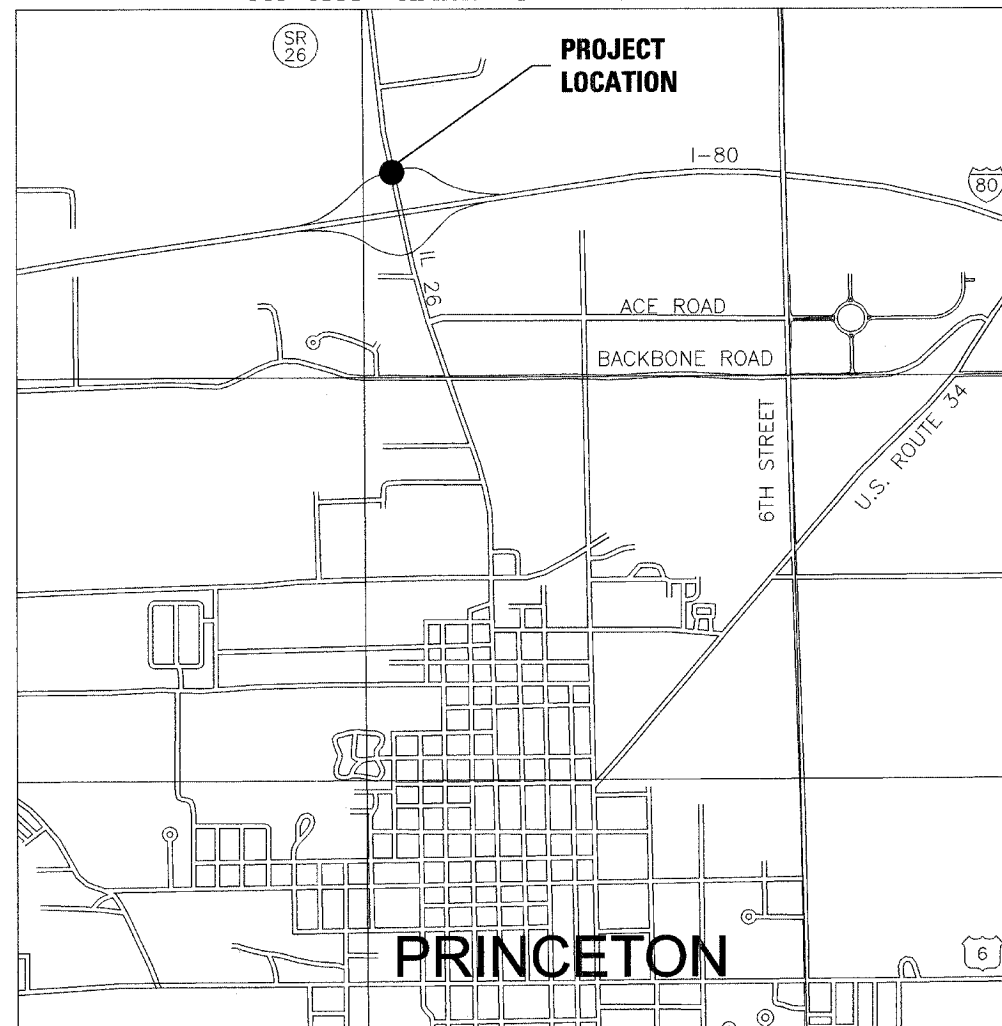
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

FAP 316 (IL 26)
SECTION (116) I

BUREAU COUNTY
C-93-022-07

RELOCATE TRAFFIC SIGNALS
AT NW RAMP OF I-80 AT IL 26



PRINCETON
LOCATION MAP

INDEX OF SHEETS

- COVER SHEET
- GENERAL NOTES AND SUMMARY OF QUANTITIES
- TRAFFIC SIGNAL PLAN
- CABLE PLAN
- TRAFFIC SIGNAL DETAILS
- SOIL BORINGS

HIGHWAY STANDARDS

- 000001-04 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 701006-02 OFF-ROAD OPERATIONS, 2L, 2W, 4.5M (15') TO 600mm (24") FROM PAVEMENT EDGE
- 701701-04 URBAN LANE CLOSURE, MULTILANE INTERSECTION
- 702001-06 TRAFFIC CONTROL DEVICES
- 857001 STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
- 873001-01 TRAFFIC SIGNAL GROUNDING & BONDING
- 877001-02 STEEL MAST ARM ASSEMBLY AND POLE
- 878001-05 CONCRETE FOUNDATION DETAILS
- 880006 TRAFFIC SIGNAL MOUNTING DETAILS

MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____
AS BUILT CHANGES WERE MADE
ON THE FOLLOWING SHEETS _____



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

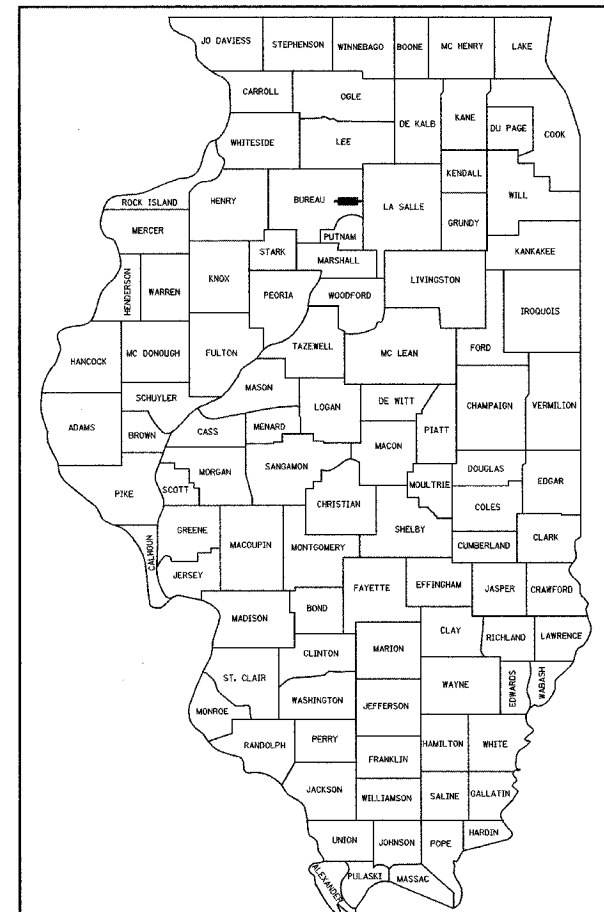
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

DISTRICT 3 NO. (815) 434-6131

PROJECT ENGINEER: JOE KANNEL
UNIT CHIEF: MICHELE LINDEMANN
TOWNSHIP: PRINCETON

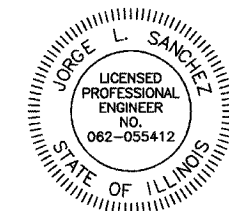
CONTRACT NO. 66696

D-93-016-07



LOCATION OF SECTION INDICATED THUS: - [black rectangle] -

1-18-2007
date



expires 11-30-2007

Jorge L. Sanchez
signature
PROFESSIONAL DESIGN FIRM
LICENSE NO. 184-001717

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 2/6 2007

James D. Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 23, 2007
Eric E. Haral
ENGINEER OF DESIGN AND ENVIRONMENT

March 23, 2007
Milton R. See, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

CHAMLIN
ASSOCIATES
PERU ILLINOIS MORRIS

*DATE- 1/07
*TSCOVER.DGN

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
316	(116) I	BUREAU	6	2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

SUMMARY OF QUANTITIES

GENERAL NOTES

- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION (JULY I.E. 800/892-0123). CONTACT IDOT FOR HIGHWAY LIGHTING LOCATE.
- ALL TRAFFIC SIGNAL HEADS SHALL BE 12" POLYCARBONATE, UNLESS OTHERWISE NOTED.
- ALL SIGNAL BASES SHALL BE LOCATED AT 6 FOOT MINIMUM CLEARANCE FROM CURB UNLESS OTHERWISE DIRECTED BY ENGINEER.
- ALL CONDUIT IN TRENCH SHALL BE P.V.C. ALL CONDUIT PUSHED MAY BE GALVANIZED STEEL OR P.V.C. CONDUIT ATTACHED TO STRUCTURES SHALL BE GALVANIZED STEEL.
- A 1/4" DIAMETER CONTINUOUS NYLON ROPE SHALL BE FURNISHED AND LEFT IN PLACE IN ALL CONDUITS BETWEEN HANDHOLES AND FOUNDATIONS OR CONTROLLER AS INCIDENTAL TO THE RESPECTIVE CONDUIT PAY ITEM.
- THE DEPARTMENT OF TRANSPORTATION (815-434-8505) SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO THE TURNING ON OF THE NEW SIGNALS.
- NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR PLACING CONDUIT AT GREATER THAN 2 FOOT MINIMUM DEPTH TO AVOID OBSTACLES SUCH AS UNDERGROUND UTILITIES.
- ALL MAST ARM SIGNAL HEADS ON AN INDIVIDUAL MAST ARM SHALL BE MOUNTED SO THAT THE "RED" INDICATIONS ARE LEVEL WITH EACH OTHER.
- THE ELECTRICAL CONDUCTORS FOR ALL TRAFFIC SIGNAL HEADS SHALL BE SOLID, SOFT COPPER.
- THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF UNCOVERING OR HAND DIGGING AROUND UTILITIES, AS NECESSARY, INCIDENTAL TO THE CONDUIT PAY ITEM.
- ALL THREADS OF BOLTS USED IN TRAFFIC COMPONENT ASSEMBLIES SHALL BE COATED WITH A NON-LEAD BASED ANTI-SEIZE COMPOUND, SIMILAR TO LEAD PLATE, PRIOR TO ASSEMBLY.
- BACK PLATES MUST BE POLYCARBONATE WITH A DEEP BACK FLANGE.
- THE CONTRACTOR SHALL PROVIDE 3 FOOT SLACK CABLE IN EACH TRAFFIC SIGNAL STRUCTURE, MAST ARM, POST, CONTROLLER. THE SLACK, WHICH IS IN ADDITION TO THE VERTICAL LENGTH OF CABLE DEFINED IN THE SPECIFICATIONS, SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR EACH CABLE.
- ALL GROUNDING MATERIALS FOR TRAFFIC SIGNAL CONCRETE FOUNDATIONS SHALL REFER TO SECTION 806 IN THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2007
- TRAFFIC SIGNAL HEADS SHALL BE PROPERLY COVERED PRIOR TO INTERSECTION TURN-ON OR AS DIRECTED BY THE ENGINEER. THIS COST SHALL BE INCLUDED WITH THE COST OF THE ASSOCIATED SIGNAL PAY ITEMS.
- ALL HARDWARE SHALL BE TIGHTENED AND WELL SECURED. CABLES SHALL BE NEATLY WOUND IN HANDHOLES. CABLES SHALL BE NEATLY TRAINED IN THE CONTROLLER CABINET.
- ALL NEW TRAFFIC AND PEDESTRIAN SIGNAL WIRING SHALL EXTEND FROM CONTROLLER TO SIGNAL. SPLICES IN JUNCTION BOXES WILL NOT BE ALLOWED.

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	100% STATE Y031-1F
67100100	MOBILIZATION	LSUM	1	1
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	LSUM	1	1
* 72000100	SIGN PANEL - TYPE 1	SQ FT	9	9
81012700	CONDUIT IN TRENCH, 2 1/2" DIA., PVC	FOOT	9	9
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	9	9
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1	1
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	195	195
87700260	STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	1	1
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	13	13
87900200	DRILL EXISTING HANDHOLE	EACH	1	1
88040090	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	2	2
88200410	TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	2	2
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1	1
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	34	34

* SPECIALTY ITEM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT THREE

PREPARED BY: *Rich Powell*
DISTRICT STUDIES & PLANS ENGINEER

DATE: 2-6-07

EXAMINED BY: *Hubert B...*
DISTRICT CONSTRUCTION ENGINEER

Mark...
DISTRICT MATERIALS ENGINEER

Gene A. Fisher
DISTRICT OPERATIONS ENGINEER

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL GENERAL NOTES AND
SUMMARY OF QUANTITIES
FAP 316 (IL 26)
SECTION (116) I
BUREAU COUNTY

SCALE: DATE 1/07
DRAWN BY ARR
CHECKED BY JLS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
316	(116) I	BUREAU	6	3
STA.		TO STA.		
FED. ROAD DIST. NO. _		ILLINOIS FED. AID PROJECT		



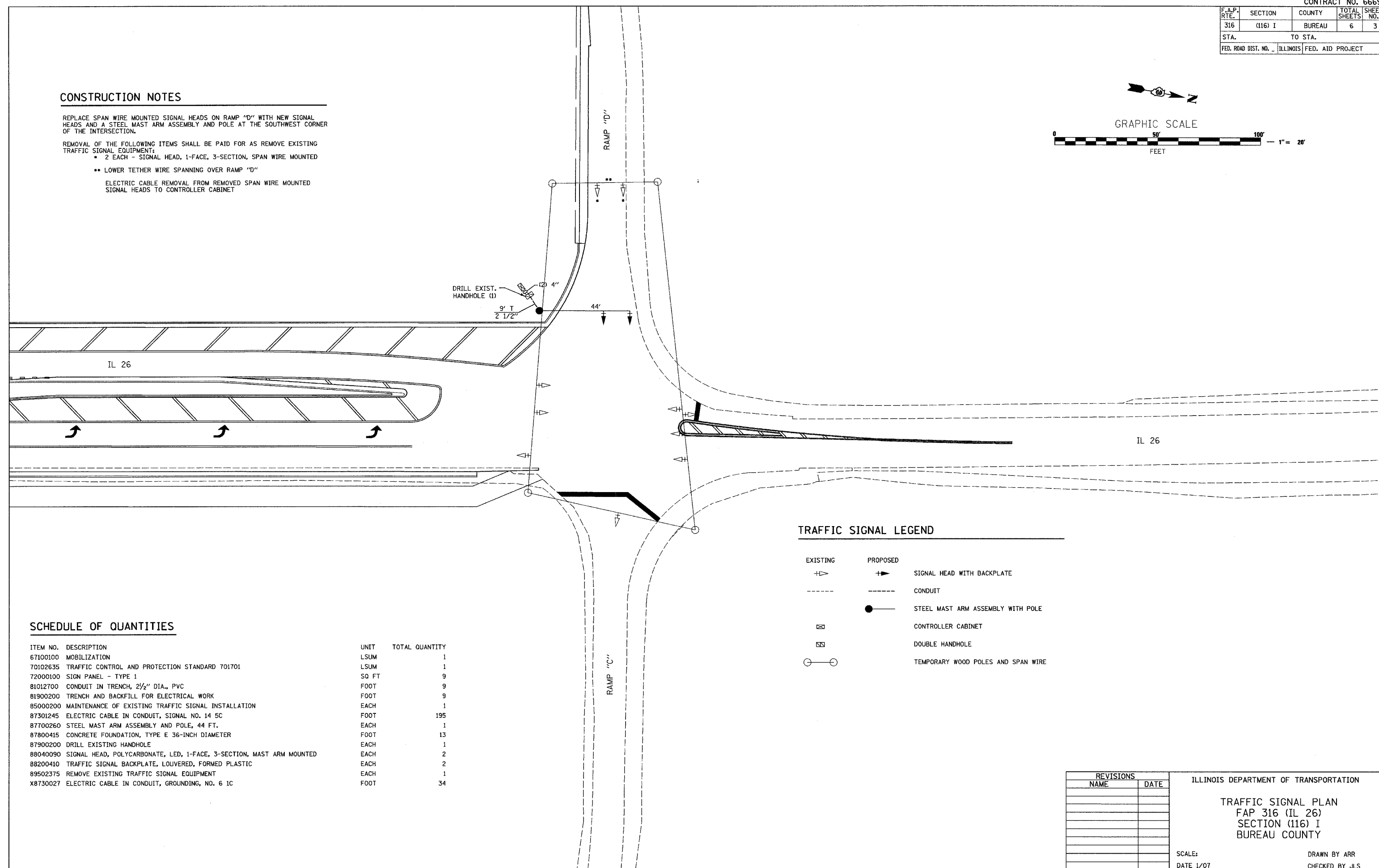
CONSTRUCTION NOTES

REPLACE SPAN WIRE MOUNTED SIGNAL HEADS ON RAMP "D" WITH NEW SIGNAL HEADS AND A STEEL MAST ARM ASSEMBLY AND POLE AT THE SOUTHWEST CORNER OF THE INTERSECTION.

REMOVAL OF THE FOLLOWING ITEMS SHALL BE PAID FOR AS REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT:

- 2 EACH - SIGNAL HEAD, 1-FACE, 3-SECTION, SPAN WIRE MOUNTED
- LOWER TETHER WIRE SPANNING OVER RAMP "D"

ELECTRIC CABLE REMOVAL FROM REMOVED SPAN WIRE MOUNTED SIGNAL HEADS TO CONTROLLER CABINET



TRAFFIC SIGNAL LEGEND

EXISTING	PROPOSED	
—+—	—+—	SIGNAL HEAD WITH BACKPLATE
----	----	CONDUIT
⊠	●	STEEL MAST ARM ASSEMBLY WITH POLE
⊠	⊠	CONTROLLER CABINET
⊠	⊠	DOUBLE HANDHOLE
○—○	○—○	TEMPORARY WOOD POLES AND SPAN WIRE

SCHEDULE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
67100100	MOBILIZATION	LSUM	1
70102635	TRAFFIC CONTROL AND PROTECTION STANDARD 701701	LSUM	1
72000100	SIGN PANEL - TYPE 1	SQ FT	9
81012700	CONDUIT IN TRENCH, 2 1/2" DIA., PVC	FOOT	9
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	9
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	195
87700260	STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	1
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	13
87900200	DRILL EXISTING HANDHOLE	EACH	1
88040090	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	2
88200410	TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	2
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	34

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL PLAN
 FAP 316 (IL 26)
 SECTION (116) I
 BUREAU COUNTY

SCALE: DATE 1/07

DRAWN BY ARR
 CHECKED BY JLS

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 USER NAME = #USER#

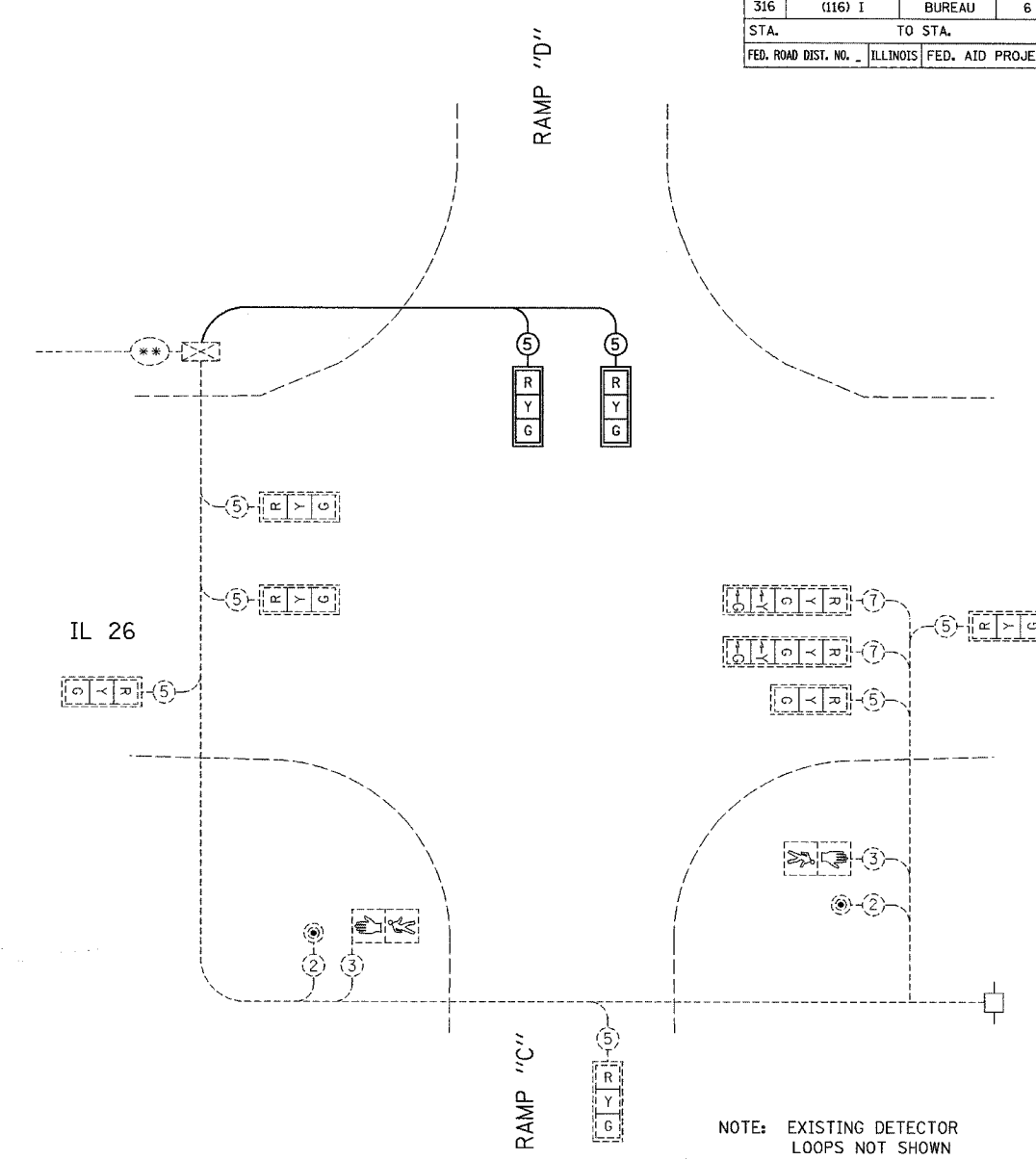
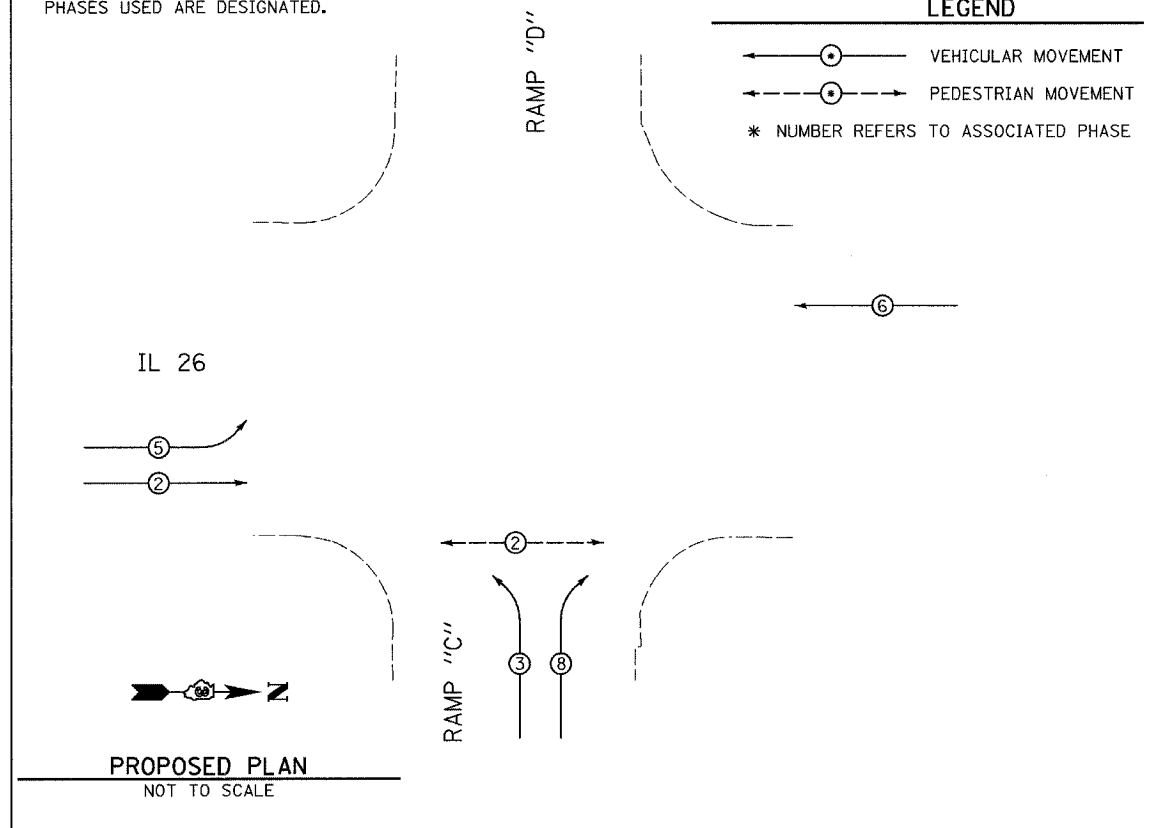
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
316	(116) I	BUREAU	6	4
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS FED. AID PROJECT		

CONTROLLER SEQUENCE

NAME OF INTERSECTION: IL 26 WITH RAMPS "C" AND "D"
 CONTROLLER SPECIFIED: FULL-ACTUATED CONTROLLER, STANDARD SEQUENCE II, 8 PHASE, IN TYPE IV CABINET REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED.

LEGEND

- ← (5) → VEHICULAR MOVEMENT
- ← (5) → PEDESTRIAN MOVEMENT
- * NUMBER REFERS TO ASSOCIATED PHASE



TRAFFIC SIGNALS LEGEND

- (*) EXISTING CABLE NUMBER *-CABLE NUMBER
- (Y) EXISTING LEFT TURN YELLOW
- (G) EXISTING LEFT TURN GREEN
- (12") EXISTING SIGNAL SECTION 12"
- (**) EXISTING INTERCONNECT CABLE
- (C) EXISTING CONTROLLER CABINET
- (B) EXISTING TRAFFIC SIGNAL BACKPLATE
- (P) EXISTING PEDESTRIAN SIGNAL
- (PB) EXISTING PEDESTRIAN PUSH BUTTON
- (5) PROPOSED CABLE NUMBER *-CABLE NUMBER
- (12") PROPOSED SIGNAL SECTION 12"
- (B) PROPOSED TRAFFIC SIGNAL BACKPLATE

PROPOSED CABLE PLAN
NOT TO SCALE

REVISIONS	
NAME	DATE



ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL CABLE PLAN
 FAP 316 (IL 26)
 SECTION (116) I
 BUREAU COUNTY

SCALE: _____
 DATE 1/07

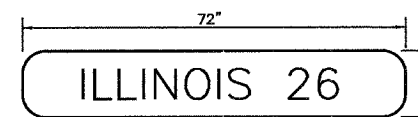
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
316	(116) I	BUREAU	6	5
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

ELECTRICAL LOAD FOR INTERSECTION				
STREET NAME	COMPONENT	NUMBER	WATTAGE EACH	BURNTIME %
RAMPS "C" & "D"	RED (LED)	2	10	70
	YELLOW (LED)	2	19	5
	GREEN (LED)	2	14	25
	RED	1	135	70
	YELLOW	1	135	5
	GREEN	1	135	25
IL 26	RED	7	135	25
	YELLOW	7	135	5
	GREEN	7	135	70
	YELLOW ARROW LT.	2	135	5
	GREEN ARROW LT.	2	135	5
		2	90	70
		2	90	30
TRAFFIC SIGNAL CABINET	CONTROLLER	1	6	100
	VEHICLE DETECTORS	4	4	100

AGENCY RESPONSIBLE FOR TRAFFIC SIGNAL ENERGY CHARGES:
CITY OF PRINCETON

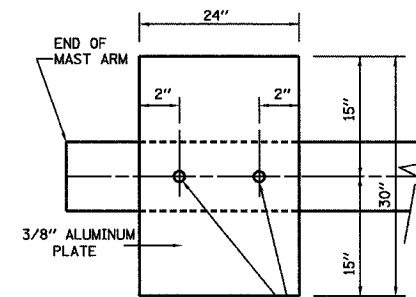


TYPE A SHEETING REQUIRED
8" D SERIES LETTERS
1 SIGN REQUIRED = 9.00 SQ. FT. EACH
= 9.00 SQ. FT. TOTAL

THIS STREET NAME SIGN SHALL BE PLACED ON THE
MAST ARMS PARALLEL WITH ILLINOIS ROUTE 26

NOTE:

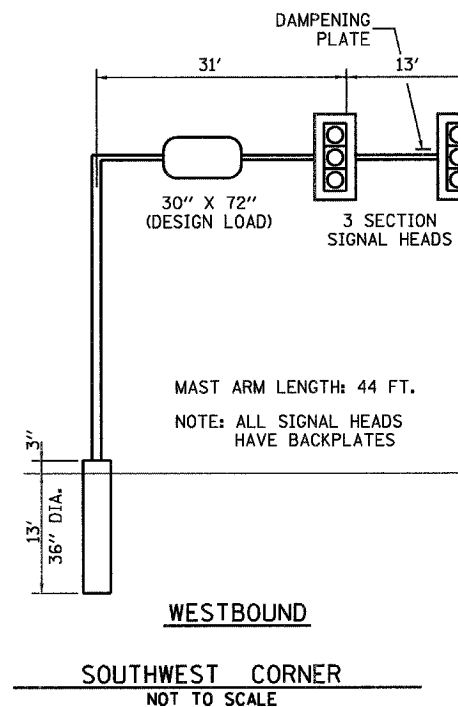
DAMPENING DEVICE SHALL CONSIST OF A 24" X 30" TYPE 1, UNPAINTED ALUMINUM SIGN STOCK MOUNTED HORIZONTALLY ON TOP OF MAST ARM WITH THE 30" LENGTH PERPENDICULAR TO THE ARM. COST OF THE DAMPENING DEVICE IS INCLUDED IN THE MAST ARM PAY ITEM.



2-5/8" STAINLESS STEEL BOLTS
THROUGH STAINLESS STEEL BANDING

NOTE:
MOUNT DAMPENING PLATE TO END OF
EACH TRAFFIC SIGNAL MAST ARM.

DAMPENING PLATE DETAIL - TOP VIEW



WESTBOUND

SOUTHWEST CORNER
NOT TO SCALE

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL DETAILS
FAP 316 (IL 26)
SECTION (116) I
BUREAU COUNTY

SCALE:
DATE 1/07

DRAWN BY ARR
CHECKED BY JLS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
316	(116) I	BUREAU	6	6
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1
Date 8/4/06

ROUTE US 34 DESCRIPTION Signal Masts: 35' W of West ST CL LOGGED BY Larry Myers
SECTION (15R)TS-1&I LOCATION NW 1/4, SEC. 27, TWP. 37N, RNG. 06E
COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.	Station	D E P T H	B L O W S	U C S Qu	M O S T	Surface Water Elev. _____ ft	Stream Bed Elev. _____ ft	D E P T H	B L O W S	U C S Qu	M O S T
BORING NO.	Station	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.: First Encounter _____ ft	Upon Completion _____ ft	(ft)	(/6")	(tsf)	(%)
	1 NW Quad										
	Offset 49.00ft N of US34 CL										
	Ground Surface Elev. 647.51 ft										
	Augered, aggregate and recycled asphalt parking lot and brown, Sand and Gravel fill										
	645.01										
	Very soft, brown, Silty Clay		1								
			1	0.1	26.1						
			2	P							
	643.01										
	Stiff, brown, Sandy Clay Loam Till										
			2								
			3	1.2	23.7						
			2	P							
	640.51										
	Loose to very loose, brown, medium, Sand with layers of Sandy Loam										
			2								
			3		11.8						
			3								
			2								
			1		15.8						
			2								
	635.01										
	Medium to dense, brown, fine to coarse, Sand with fine to coarse, Gravel with some Cobbles										
			2								
			7		12.4						
			14								
			10								
			16		5.2						
			17								
			17								
			16		5.2						
			20								
			20								

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)



Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1
Date 8/4/06

ROUTE US 34 DESCRIPTION Signal Masts: 19' E of West St CL LOGGED BY Larry Myers
SECTION (15R)TS-1&I LOCATION NW 1/4, SEC. 27, TWP. 37N, RNG. 06E
COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.	Station	D E P T H	B L O W S	U C S Qu	M O S T	Surface Water Elev. _____ ft	Stream Bed Elev. _____ ft	D E P T H	B L O W S	U C S Qu	M O S T
BORING NO.	Station	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.: First Encounter _____ ft	Upon Completion _____ ft	(ft)	(/6")	(tsf)	(%)
	2 SE Quad										
	Offset 65.00ft S of US34 CL										
	Ground Surface Elev. 647.37 ft										
	Augered, black, Silty Clay										
	644.87										
	Very stiff, brown, Silty Clay										
			3								
			3	2.5	22.2						
			4	P							
			3								
			3	2.0	15.0						
			3	P							
	640.87										
	Medium, brown, fine to medium, Sand, with some fine to coarse, Gravel, and layers of Sandy Loam										
			8								
			8		7.1						
			6								
	637.87										
	Very stiff, brown, Sandy Loam to Sandy Clay Loam										
			3								
			6	2.5	11.9						
			13	P							
	634.87										
	Hard, tan, Silt										
			13								
			13	4.0	19.1						
			13	P							
	633.87										
	Dense, clean, fine to coarse, Sand, with fine to medium, Gravel										
			16								
			16								
			22		2.9						
			25								
			11								
			17		2.5						
			24								
			20								

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

DATE = *DATE*
FILE NAME = *FILED*
PLOT SCALE = *SCALE*
USER NAME = *USER*

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL SOIL BORINGS
FAP 316 (IL 26)
SECTION (116) I
BUREAU COUNTY
SCALE: _____
DATE 1/07
DRAWN BY ARR
CHECKED BY JLS