60D20

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	1
F.H.W.A. REG.	ILLINOIS	PROJECT		

D-91-343-07

INDEX OF SHEETS

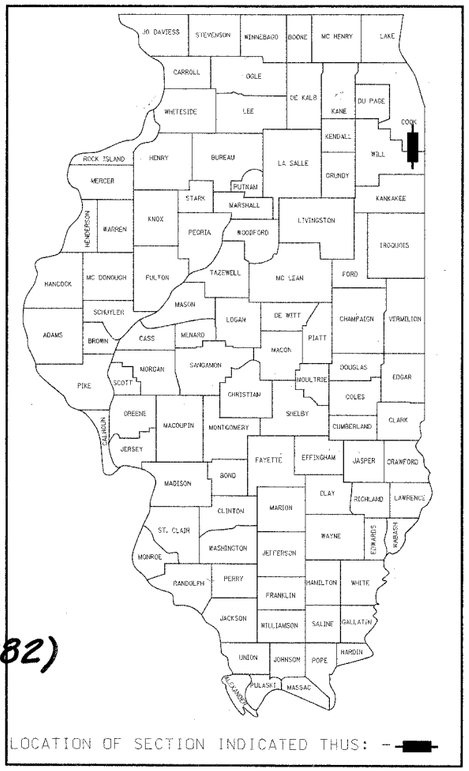
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

DISTRICT 1
F.A.P. 332 - ILL. ROUTE 394
(BISHOP FORD FREEWAY)
FROM SAUK TRAIL TO EXCHANGE STREET
AND AT RICHTON ROAD
COOK AND WILL COUNTY
TRAFFIC SIGNAL INSTALLATION AND
FIBER OPTIC INTERCONNECT
SECTION 2007-037TS
C-91-343-07

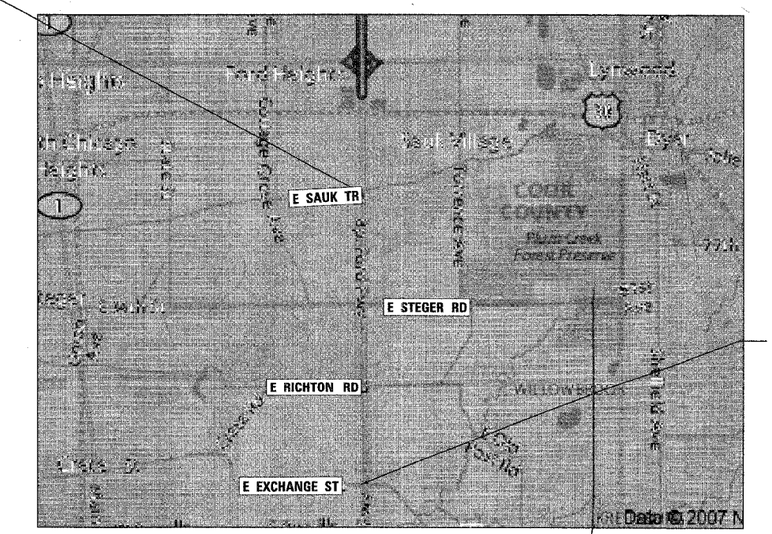
PROJ.NO.ACHSIP-0322(082)

BLOOM & CRETE TOWNSHIP



LOCATION OF SECTION INDICATED THUS: -■-

PROJECT BEGINS
STA. 365+21.37



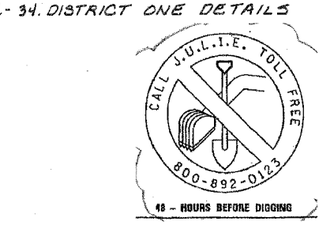
LOCATION MAP

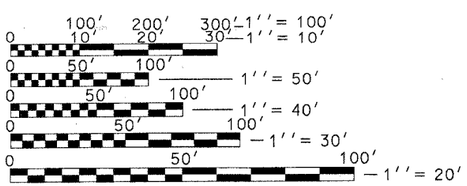
N

PROJECT ENDS
STA. 526+13.12

STANDARD DRAWINGS

701006	805001
701011	814001
701101	814006
701301	857001
701406	877001
701601	878001
701701	880001
701901	880006
720001	886001





STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Oct. 31 2007
Diane M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
December 7, 2007
Eric E. Harm
Interim ENGINEER OF DESIGN AND ENVIRONMENT
December 7, 2007
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER
20

CONTRACT NO. 60D20

PREPARED BY Steve Travia
TRAFFIC ENGINEER
10/31/07
DATE

PRINTED BY AUTHORITY OF THE STATE OF ILLINOIS

DISTRICT ONE-BUREAU OF TRAFFIC: STEVE TRAVIA/DARYLE DREW (847) 705-4420

COOK AND WILL COUNTY SECTION 2007-037TS FAP ROUTE 332

Rev.

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	2
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07

SUMMARY OF QUANTITIES

	PERCENTAGES									
	LOCATION OF WORK			90%FED./10%STATE	COOK CO I-394 AT	WILL CO I-394 AT				
				CONSTRUCTION CODE	Y031 1F	Y031 1F	Y031 1F	Y031 1F	Y031 1F	
	SUMMARY OF QUANTITIES								INTERCONNECT	
	CODE NO.	ITEM	UNIT	GRAND TOTAL	SAUK TRAIL	STEGER ROAD	RICHTON ROAD	EXCHANGE STREET	COOK CO	WILL CO
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	0.66	0.66	0.66	0.66	0.68	0.68
	67100100	MOBILIZATION	L SUM	1	0.16	0.16	0.16	0.16	0.18	0.18
	70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1	0.16	0.16	0.16	0.16	0.18	0.18
	70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1	0.16	0.16	0.16	0.16	0.18	0.18
	70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	0.16	0.16	0.16	0.16	0.18	0.18
**	72000100	SIGN PANEL - TYPE 1	SQ FT	20			20			
	X8140074	GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	24	9	8		7		
	81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	10,548	530				6474	9544
	81000700	CONDUIT IN TRENCH, 2 ½" DIA., GALVANIZED STEEL	FOOT	32				32		
	81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	100		100				
	81400200	HEAVY DUTY HANDHOLE	EACH	26					10	16
	81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	812	812					
	85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	3	1	1		1		
	85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	3		1	1	1		
	85700300	FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1	1					
	86000100	MASTER CONTROLLER	EACH	1	1					
	86400100	TRANSCEIVER - FIBER OPTIC	EACH	4	1	1	1	1		
	87200400	SPAN WIRE	FOOT	614			614			
	87200500	TETHER WIRE	FOOT	614			614			
*	87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1273		593		680		
	87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1051				1051		
	87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	2493.5	1139.5			1354		
*	87302225	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL, NO. 14 3C	FOOT	1121			1121			
	87302245	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL, NO. 14 5C	FOOT	1233			1233			
	87302255	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL, NO. 14 7C	FOOT	693			693			
	87302505	ELECTRIC CABLE AERIAL SUSPENDED, SERVICE, NO. 6 2C	FOOT	59			59			
	X0322925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	17431					7162	10269
	X8710020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM 12F	FOOT	17691					7265	10425
	X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	2342	828	755		759		
*	X8730250	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	1273		593		680		
*	X8730350	ELECTRIC CABLE AERIAL SUSPENDED, NO. 20 3/C,TWISTED,SHIELDED	FOOT	1121			1121			
	87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	2				2		
	87700250	STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.	EACH	1				1		
	87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	13				13		
	87900200	DRILL EXISTING HANDHOLE	EACH	12	6	4		2		
	88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	4				4		
	88500100	INDUCTIVE LOOP DETECTOR	EACH	44	18	17		9		
*	88700200	LIGHT DETECTOR	EACH	9		3	3	3		
*	88700300	LIGHT DETECTOR AMPLIFIER	EACH	3		1	1	1		
	89500100	RELOCATE EXISTING SIGNAL HEAD	EACH	5				5		
	89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	535				535		
	89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	3	1	1		1		
	89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	3				3		
	88030030	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, SPAN WIRE MOUNTED	EACH	12			12			
	88030120	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, SPAN WIRE MOUNTED	EACH	4			4			
	X0324773	FLASHING BEACON INSTALLATION	EACH	2	2					
	X0324007	OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	1	0.25	0.25	0.25	0.25		
	X8050015	SERVICE INSTALLATION - POLE MOUNTED	EACH	2	1		1			
	X8620020	UNINTERRUPTIBLE POWER SUPPLY	EACH	1			1			
	XX005723	VIDEO DETECTION SYSTEM COMPLETE INTERSECTION	EACH	1			1			
	X0325892	TRAFFIC SIGNAL WOOD POLE, 45 FT., CLASS 4	EACH	4			4			
	X0322256	**TEMPORARY INFORMATION SIGNING**	**SQ FT**	**102.8**			**102.8**			
	70106800	CHANGEABLE MESSAGE SIGN	CAL MO	4	1	1	1	1		
**	78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	115			115			

* 100% COST TO CRETE TOWNSHIP FIRE PROTECTION DISTRICT OR VILLAGE OF CRETE - Y031-30

** SPECIALTY ITEMS

Rev.

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

I-394 FROM SAUK TRAIL TO EXCHANGE ST.

SCALE: VERT. NONE
HORIZ.
DATE 10/29/07

DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = #DATE#
FILE NAME = #FILE#
PLOT SCALE = #SCALE#
USER NAME = #USER#

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	3
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

D-91-343-07

LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.

2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.

3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.

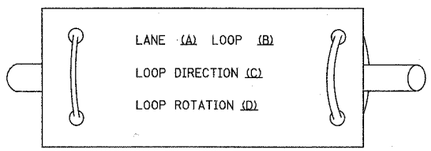
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.

5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.

6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.

7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

LOOP LEAD-IN CABLE TAG

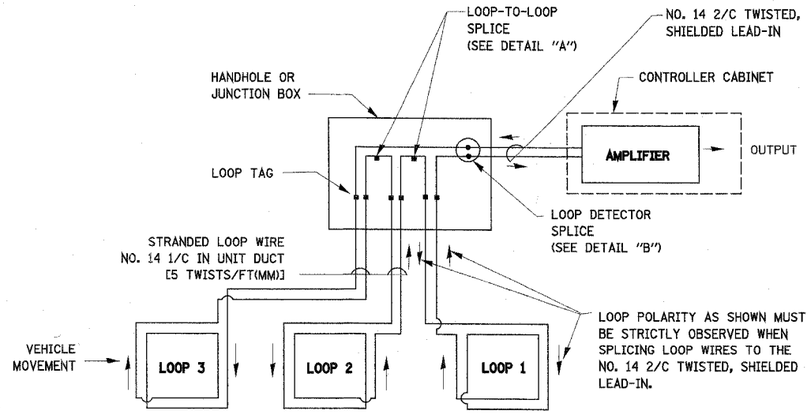


A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY

B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.

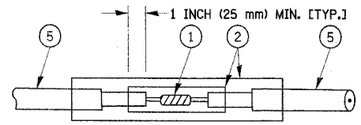
C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".

D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

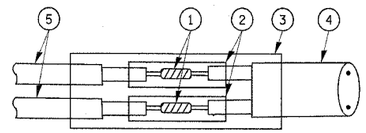


DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

(1) WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.

(2) WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.

(3) WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGHT 6" (150 mm), UNDERWATER GRADE.

(4) NO. 14 2/C TWISTED, SHIELDED CABLE.

(5) LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

REVISIONS	
NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: VERT. NONE
HORIZ.
DATE 11/26/07

DRAWN BY: BL
CHECKED BY: ER/TC

P:\DP-DOB\1224B\Task 7\DGN\Sheets\701-std1_3.sht
DATE-TIME
DGN-SPEC

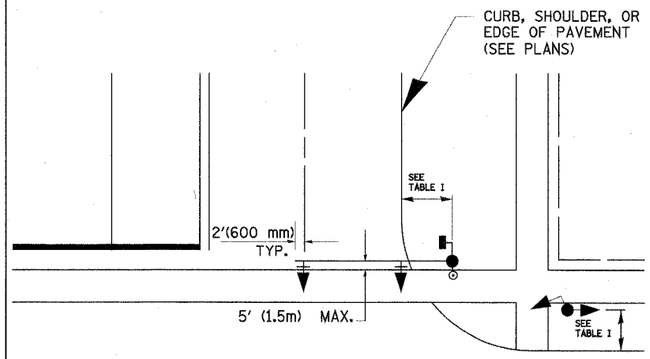
CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	4
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

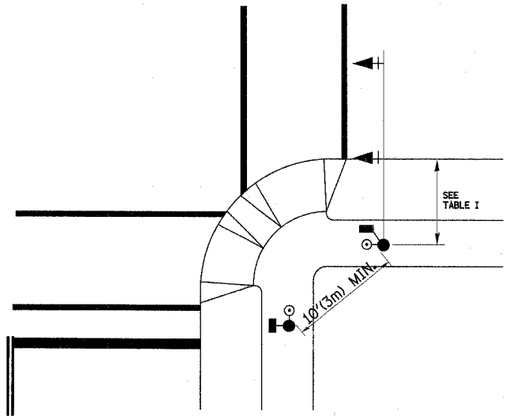
D-91-343-07

TRAFFIC SIGNAL MAST ARM AND POST

MAST ARM MOUNTED SIGNAL IN PROPOSED & FUTURE SIDEWALK AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNAL AND PUSHBUTTON DETECTOR



PEDESTRIAN SIGNAL PUSHBUTTON



RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

NOTES:

1. AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS WITH PEDESTRIAN ACTUATION. EACH PUSHBUTTON SHALL ACTIVATE BOTH THE WALK INTERVAL AND THE ACCESSIBLE PEDESTRIAN SIGNALS.

   AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS, PUSHBUTTONS SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSHBUTTON. PUSHBUTTONS AND TACTILE ARROWS SHOULD HAVE HIGH VISUAL CONTRAST (SEE THE DEPARTMENT OF JUSTICE'S AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN, 1991). TACTILE ARROWS SHOULD POINT IN THE SAME DIRECTION AS THE ASSOCIATED CROSSWALK. AT CORNERS OF SIGNALIZED LOCATIONS WITH ACCESSIBLE PEDESTRIAN SIGNALS WHERE PEDESTRIAN PUSHBUTTONS ARE PROVIDED, THE PUSHBUTTONS SHOULD BE SEPARATED BY THE DISTANCE OF AT LEAST 10 FT (3m). THIS ENABLES PEDESTRIANS WHO HAVE VISUAL DISABILITIES TO DISTINGUISH AND LOCATE THE APPROPRIATE PUSHBUTTON.

   PUSHBUTTONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHOULD BE LOCATED AS FOLLOWS:

   A: ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS AN ALL WEATHER SURFACE, WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.

   B: WITHIN 5 FT (1.5m) OF THE CROSSWALK EXTENDED.

   C: WITHIN 10 FT (3m) OF THE EDGE OF CURB, SHOULDER, OR PAVEMENT.

   D: PARALLEL TO THE CROSSWALK TO BE USED (SEE MUTCD FIGURE 4E-2).

   E: NORMAL PEDESTRIAN PUSHBUTTON MOUNTING HEIGHT SHOULD BE 3.5 FT (1.05m) ABOVE ADJACENT SIDEWALK

2. PEDESTRIAN SIGNAL FACES SHALL BE MOUNTED WITH THE BOTTOM OF THE HOUSING NOT LESS THAN 8 FT (2.4m) NOR MORE THAN 10 FT (3.0m) ABOVE THE SIDEWALK LEVEL AND SO THERE IS A PEDESTRIAN INDICATION IN THE LINE OF PEDESTRIANS' VISION WHICH PERTAINS TO THE CROSSWALK BEING USED.

3. THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, NOT MOUNTED OVER A ROADWAY, SHALL BE AT LEAST 10 FT (3.0m) BUT NOT MORE THAN 15 FT (4.5m) ABOVE THE SIDEWALK OR, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALKS EXIST.

4. THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, MOUNTED OVER A ROADWAY, SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001 AND 877006. (16 FT (5m) MIN., 18 FT (5.5m) MAX., FROM HIGHEST POINT OF PAVEMENT)

PEDESTRIAN SIGNAL POST

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION

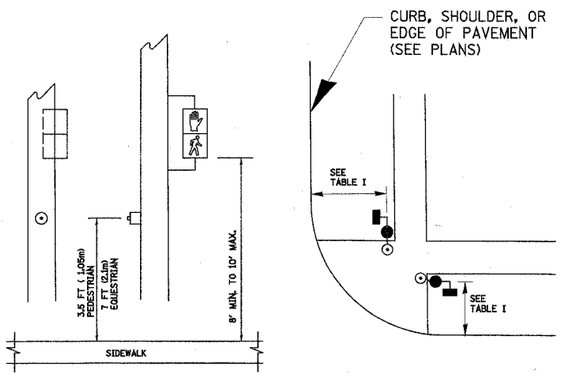


TABLE I

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM BACK OF CURB)	SHOULDER/NON-CURBED AREA (MIN. DIST. FROM EDGE OF PAVEMENT)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN PUSHBUTTON	SEE NOTE 1	SEE NOTE 1

REVISIONS NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: VERT. NONE
HORIZ.
DATE 11/26/07

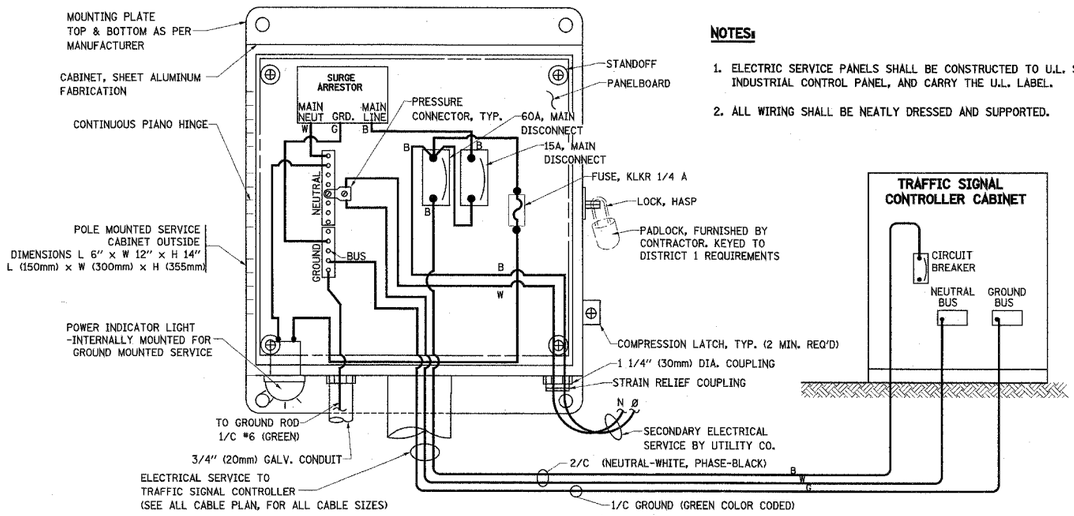
DRAWN BY: BL
CHECKED BY: ER/TC

P:\gp-00\1224\Task 7\DGN\Sheets\01-std_4.sht
DATE-TIME
DGN-SPEC

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	5
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07



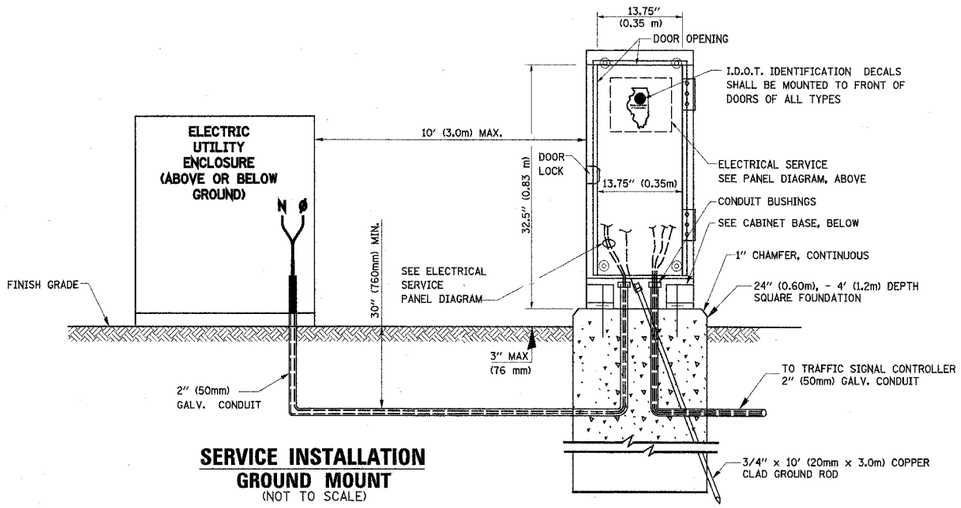
ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)

NOTES:

1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.

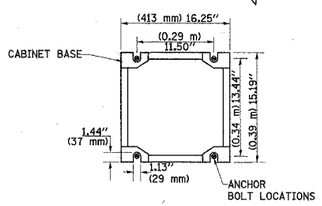
SERVICE INSTALLATION POLE MOUNT (SHOWN)

(NOT TO SCALE)



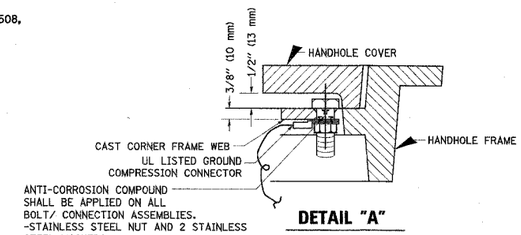
SERVICE INSTALLATION GROUND MOUNT

(NOT TO SCALE)

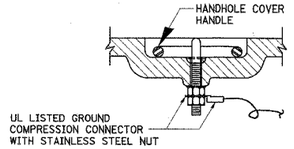


CABINET – BASE BOLT PATTERN

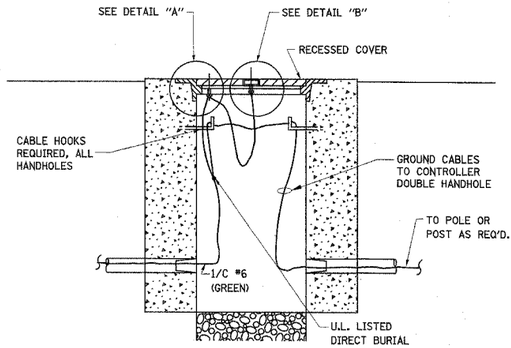
(NOT TO SCALE)



DETAIL "A"

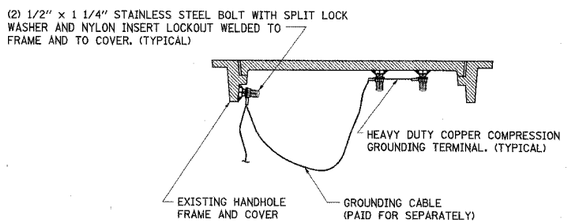


DETAIL "B"



HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)



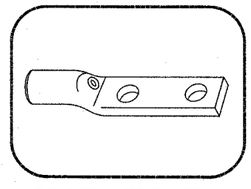
EXISTING HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)

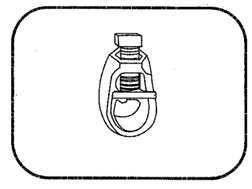
NOTES:

GROUNDING SYSTEM

1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



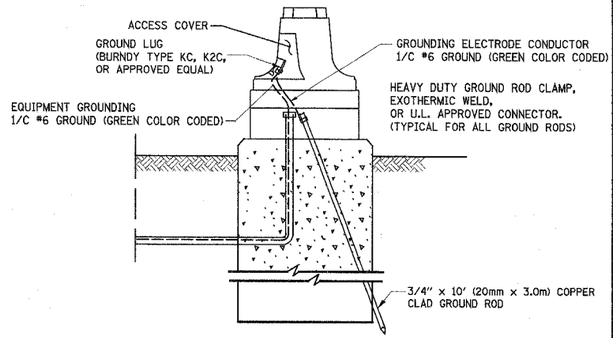
HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YGHA OR APPROVED EQUAL)



3/4" (20mm) HEAVY-DUTY GROUND ROD CLAMP (BURNDY TYPE GRC OR APPROVED EUAL)

NOTES:

- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
- GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES
  6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES
  13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES.
  5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



MAST ARM POLE / POST–GROUNDING DETAIL

(NOT TO SCALE)

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: VERT. NONE
HORIZ.
DATE 11/26/07

DRAWN BY: BL
CHECKED BY: ER/TC

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

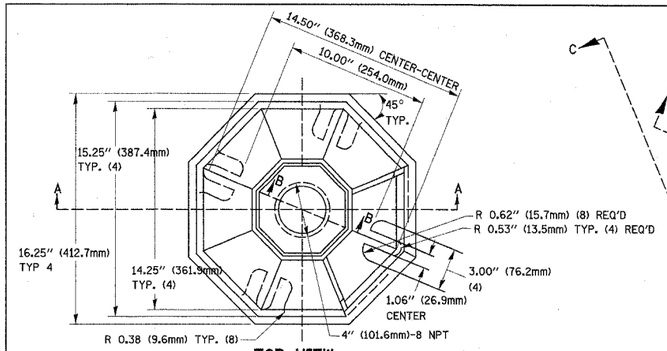
P:\GP-003\2247\tsk 7\ROUND\sheets\01-std3_5.sht

DATE-TIME
DGN-SPEC

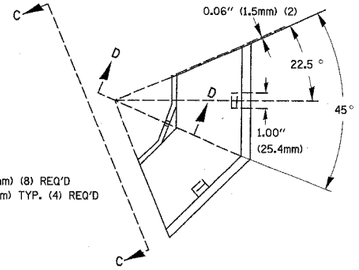
CONTRACT NO. 60D20

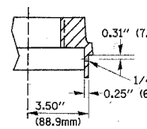
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	6
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07

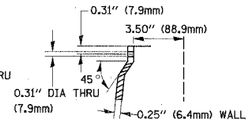


TOP VIEW

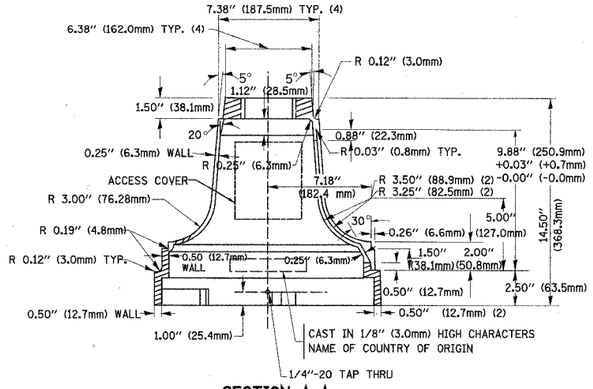




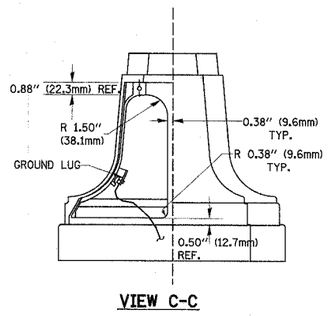
SECTION B-B



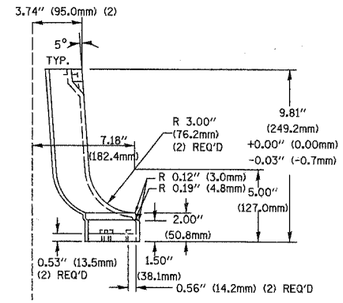
SECTION D-D



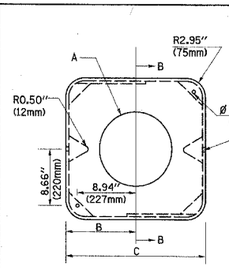
SECTION A-A

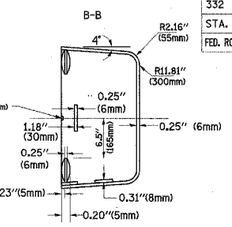


VIEW C-C



TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A



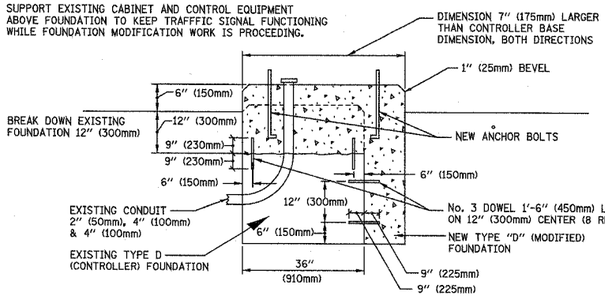


MATERIAL:
- ASTM A48 CLASS 30 GREY IRON
- ASTM A123 HOT DIPPED GALVANIZED

TYPE	A	B	C	HEIGHT	WEIGHT
I	Ø 10.125"(257mm)	9.5"(241mm)	19"(483mm)	12" (300mm)	24kg
II	Ø 11.125"(283mm)	10.75"(273mm)	21.5"(546mm)	12" (300mm)	26kg

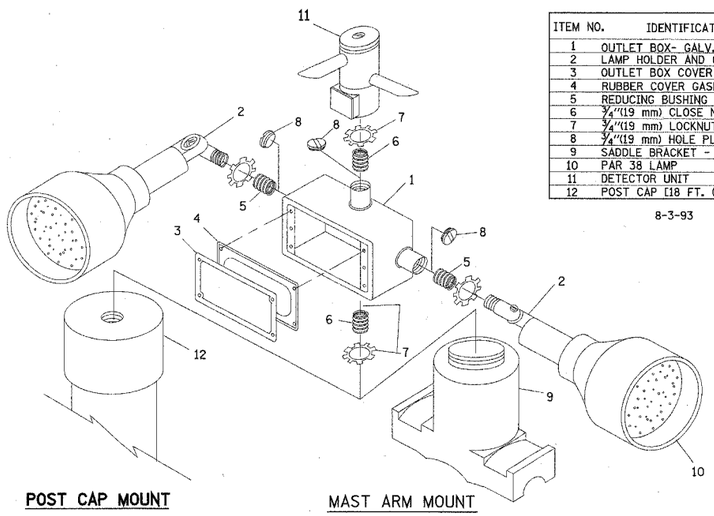
SHROUD DETAIL

NOTE:
SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



MODIFY EXISTING TYPE "D" FOUNDATION

(NOT TO SCALE)



POST CAP MOUNT

MAST ARM MOUNT

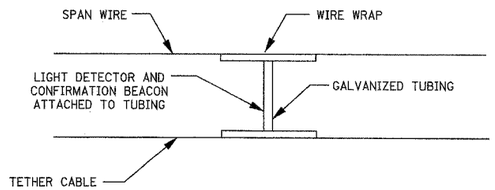
EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	¾"(19 mm) CLOSE NIPPLE
7	¾"(19 mm) LOCKNUT
8	¾"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	PAR 38 LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

8-3-93

NOTES:

1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS *2 AND *11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM *1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
   ITEM *2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT
   ITEM *9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM *9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A ¾"(19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.

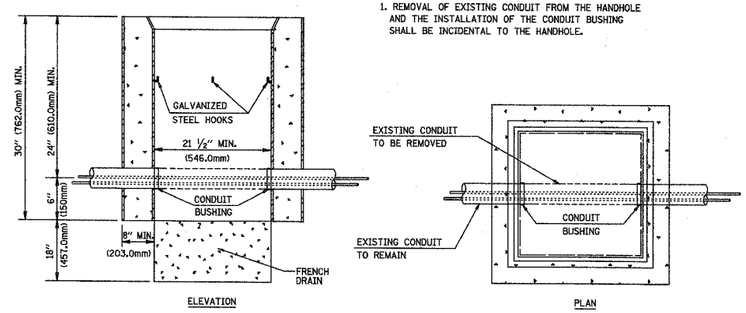


LIGHT DETECTOR AND CONFIRMATION BEACON MOUNTING FOR TEMPORARY TRAFFIC SIGNALS

(NOT TO SCALE)

NOTES:

1. REMOVAL OF EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHING SHALL BE INCIDENTAL TO THE HANDHOLE.



DETAIL
HANDHOLE TO INTERCEPT EXISTING CONDUIT
N.T.S.

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: VERT. NONE
HORIZ.
DATE 11/26/07

DRAWN BY: BL
CHECKED BY: ER/TC

INFRASTRUCTURE ENGINEERING, INC.
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CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

P:\DP-00812248\Task_78\DGN\Sheets\801-std4.6.sht
DATE-TIME
DGN-SPEC

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	7
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

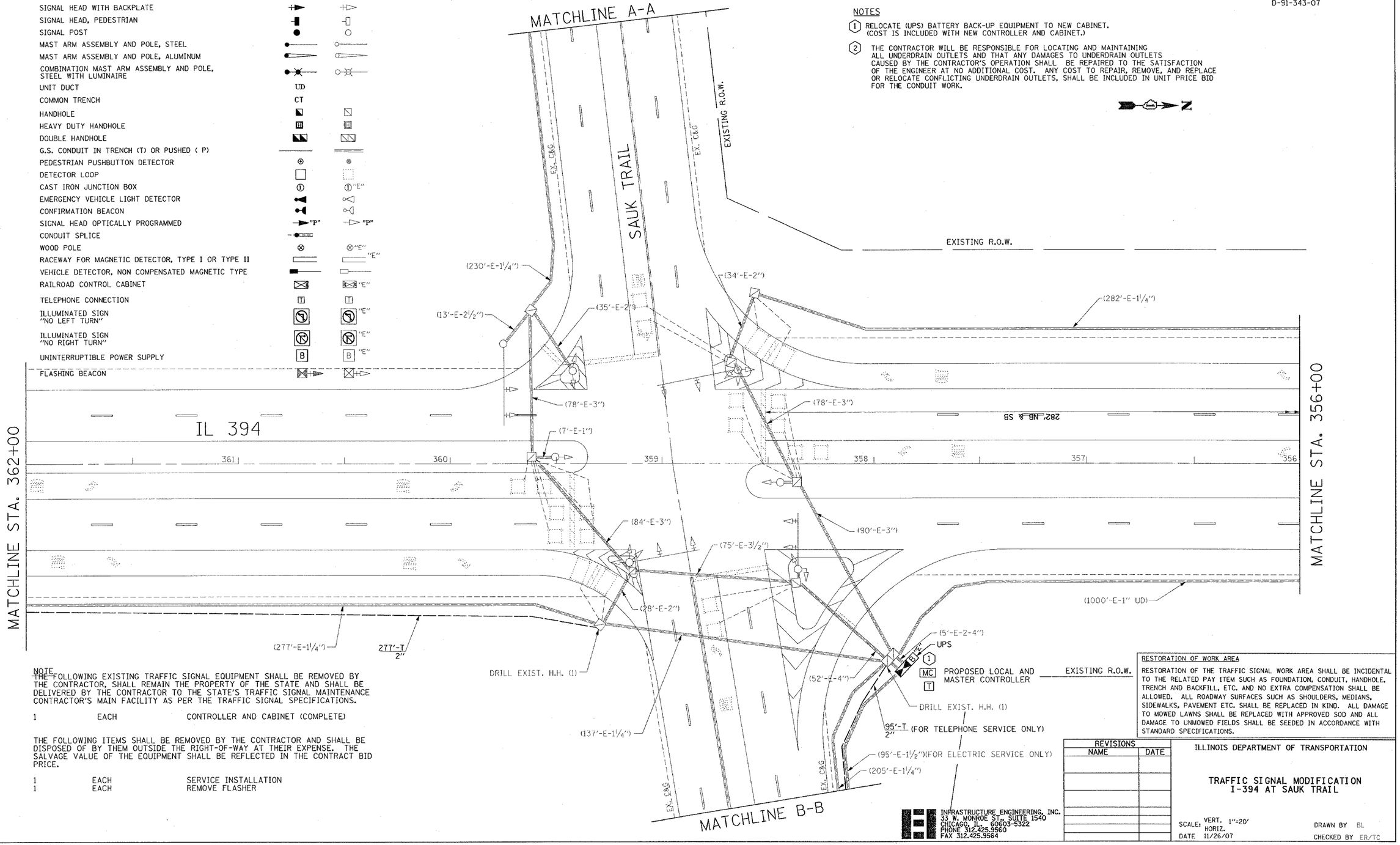
D-91-343-07

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER		
SERVICE INSTALLATION		
SIGNAL HEAD		
SIGNAL HEAD WITH BACKPLATE		
SIGNAL HEAD, PEDESTRIAN		
SIGNAL POST		
MAST ARM ASSEMBLY AND POLE, STEEL		
MAST ARM ASSEMBLY AND POLE, ALUMINUM		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE		
UNIT DUCT	UD	
COMMON TRENCH	CT	
HANDHOLE		
HEAVY DUTY HANDHOLE	H	H
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
PEDESTRIAN PUSHBUTTON DETECTOR		
DETECTOR LOOP		
CAST IRON JUNCTION BOX	1	1 "E"
EMERGENCY VEHICLE LIGHT DETECTOR		
CONFIRMATION BEACON		
SIGNAL HEAD OPTICALLY PROGRAMMED	"P"	"P"
CONDUIT SPLICE		
WOOD POLE	⊗ "E"	
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		"E"
VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
RAILROAD CONTROL CABINET		"E"
TELEPHONE CONNECTION	T	T
ILLUMINATED SIGN "NO LEFT TURN"		"E"
ILLUMINATED SIGN "NO RIGHT TURN"		"E"
UNINTERRUPTIBLE POWER SUPPLY	B	B "E"
FLASHING BEACON		

NOTES

1. RELOCATE (UPS) BATTERY BACK-UP EQUIPMENT TO NEW CABINET. (COST IS INCLUDED WITH NEW CONTROLLER AND CABINET.)
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING AND MAINTAINING ALL UNDERDRAIN OUTLETS AND THAT ANY DAMAGES TO UNDERDRAIN OUTLETS CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST. ANY COST TO REPAIR, REMOVE, AND REPLACE OR RELOCATE CONFLICTING UNDERDRAIN OUTLETS, SHALL BE INCLUDED IN UNIT PRICE BID FOR THE CONDUIT WORK.



NOTE
~~THE~~ FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

1	EACH	CONTROLLER AND CABINET (COMPLETE)

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

1	EACH	SERVICE INSTALLATION
1	EACH	REMOVE FLASHER

RESTORATION OF WORK AREA

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH APPROVED SOD AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

REVISIONS NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION I-394 AT SAUK TRAIL

SCALE: VERT. 1"=20'
HORIZ.
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/30/2007
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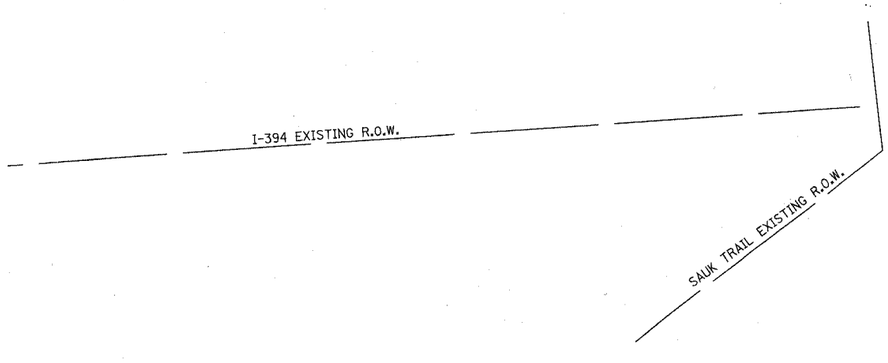
CONTRACT NO. 60D20

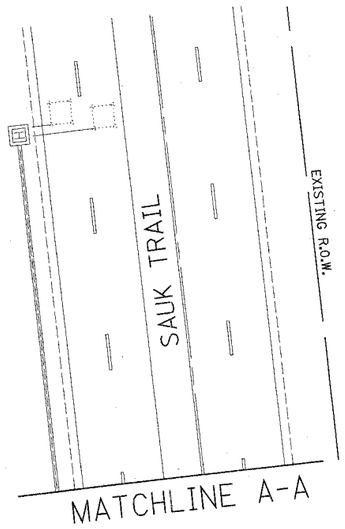
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	8
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

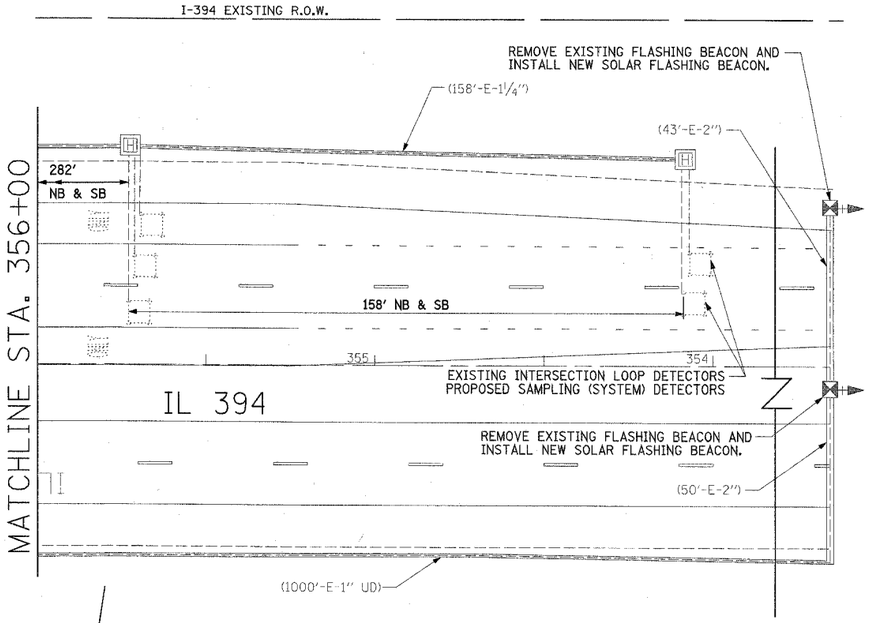
D-91-343-07

NOTE

THE REMOVAL OF EXISTING "C" SERVICE IS TO BE INCLUDED IN THE PRICE BID FOR THE PAY ITEM-SERVICE INSTALLATION POLE MOUNT.







RESTORATION OF WORK AREA

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH APPROVED SOD AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

REVISIONS NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
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CHICAGO, IL 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION I-394 AT SAUK TRAIL

SCALE: VERT. 1"=20'
HORIZ.
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

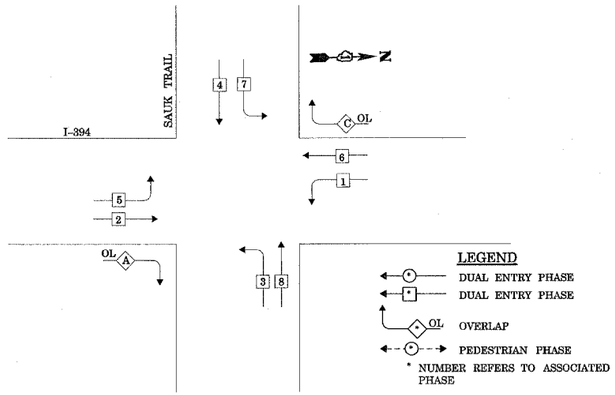
PLOT DATE = 11/26/2007
FILE NAME = e:\files\
PLOT SCALE = 40.0000 '/ in
USER NAME = @(P_NAME)

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	9
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07

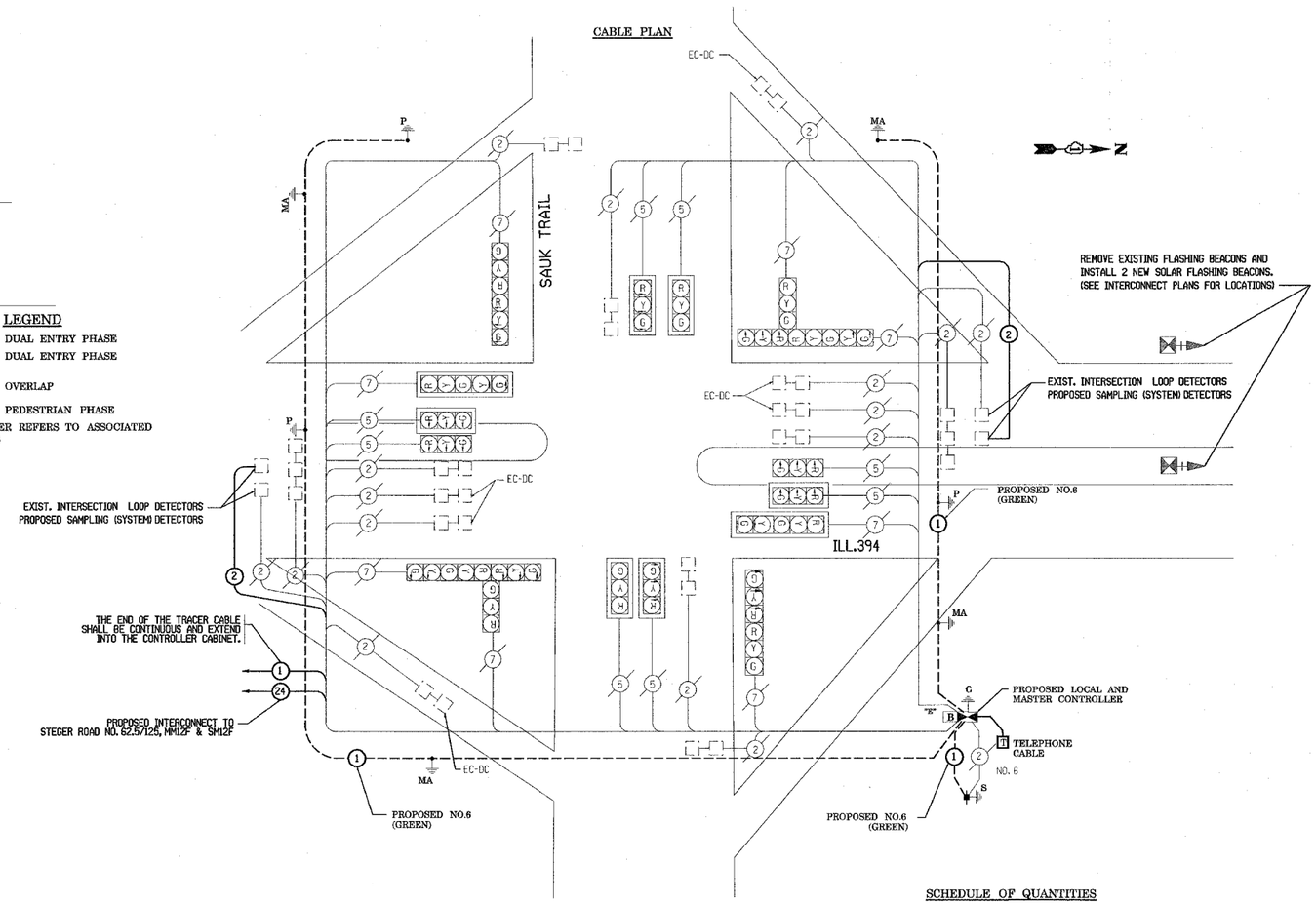
CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM

OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE
A	=	2	+	3
C	=	6	+	7

CABLE PLAN



CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" (200mm) TRAFFIC SIGNAL SECTION
R	R	12" (300mm) TRAFFIC SIGNAL SECTION
W	W	12" (300mm) PEDESTRIAN SIGNAL SECTION
		12"(300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
T	T	TELEPHONE CONNECTION
		MAGNETIC DETECTOR
		VEHICLE DETECTOR, INDUCTION LOOP
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
		VEHICLE DETECTOR, INDUCTION LOOP
(2)	(2)	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
(1)	(1)	GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
(24)	(24)	FIBER OPTIC CABLE IN CONDUIT NO.62.5/125 2-MM12F & SM12F
R Y G T R	R Y G T R	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
"P"	"P"	
"E"	"E"	RAILROAD CONTROL CABINET
"E"		ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"
"E"		ILLUMINATE SIGN, FIBER OPTIC "NO RIGHT TURN"
H/C	C	GROUND ROD AT HANDHOLE,(H)DOUBLE HANDHOLE (H), OR CONTROLLER (C)
P	P	GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
S	S	GROUND ROD AT ELECTRIC SERVICE INSTALLATION (S)
		MICROWAVE VEHICLE SENSOR
B "E"	B	UNINTERRUPTIBLE POWER SUPPLY
		FLASHING BEACON

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	9
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	530
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	530
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1
MASTER CONTROLLER	EACH	1
TRANSCEIVER - FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1139.5
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	828
DRILL EXISTING HANDHOLE	EACH	6
INDUCTIVE LOOP DETECTOR	EACH	18
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
SERVICE INSTALLATION - POLE MOUNT	EACH	1
FLASHING BEACON INSTALLATION, SOLAR	EACH	2
OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	0.25

NOTE:
EQUIPMENT GROUND CONDUCTOR (GREEN COLOR CODED) SPLICE TO FRAME AND COVER IS REQUIRED FOR ALL HANDHOLES OR DOUBLE HANDHOLES THAT CARRY SIGNAL CABLES AND SERVICE CABLES.

I.D.O.T.
TRAFFIC SIGNAL INSTALLATION
ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	X WATTAGE INCAND.	WATTAGE LED	X % OPERATION	TOTAL WATTAGE
SIGNAL (RED)	20	135	17	0.50	170.00
(YELLOW)	20	135	25	0.25	125.00
(GREEN)	20	135	15	0.25	75.00
ARROW	8	135	12	0.10	9.60
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
FLASHER				0.05	
ENERGY COSTS TO:				TOTAL=	479.60

ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY CONTACT: JERRY NISSEN
PHONE: (708)235-2340
COMPANY: COMMONWEALTH EDISON

FOUNDATION (DEPTH)	FT. (m)
TYPE A - POST	4 (1.2)
D - CONTROLLER	4 (1.2)
E - M. ARM POLE	
24" (600MM)	10 (3.0)
30" (750MM)	15 (4.6)

CABLE SLACK	FT. (m)
HANDHOLE	6.5 (2.0)
DOUBLE HANDHOLE	13 (4.0)
SIGNAL POST	2 (1.0)
CONTROLLER CAB.	1 (0.5)
FIBER OPTIC	13 (4.0)
ELECTRIC SERVICE	1 (0.5)
GROUND CABLE	1 (0.5)

VERTICAL	FT. (m)
ALL FOUNDATIONS	3.5 (1.0)
MAST ARM (L) POLE	20'+L-2= (6m+L-0.6mm)=
BRACKET MOUNTED	13 (4.0)
PED. PUSHBUTTON	4 (1.2)
ELECTRIC SERVICE	13.5 (4.1)
SERVICE TO GROUND	13.5 (4.1)
POST MOUNTED	6 (1.8)

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, SCHEDULE OF QUANTITIES

I-394 AT SAUK TRAIL

SCALE: VERT. NONE
HORIZ.
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/30/2007
FILE NAME = c:\projects\traffic\d78023\s1394_traffic.dgn
PLOT SCALE = 50.0000 '/ IN.
USER NAME = rayburnm

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	10
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07

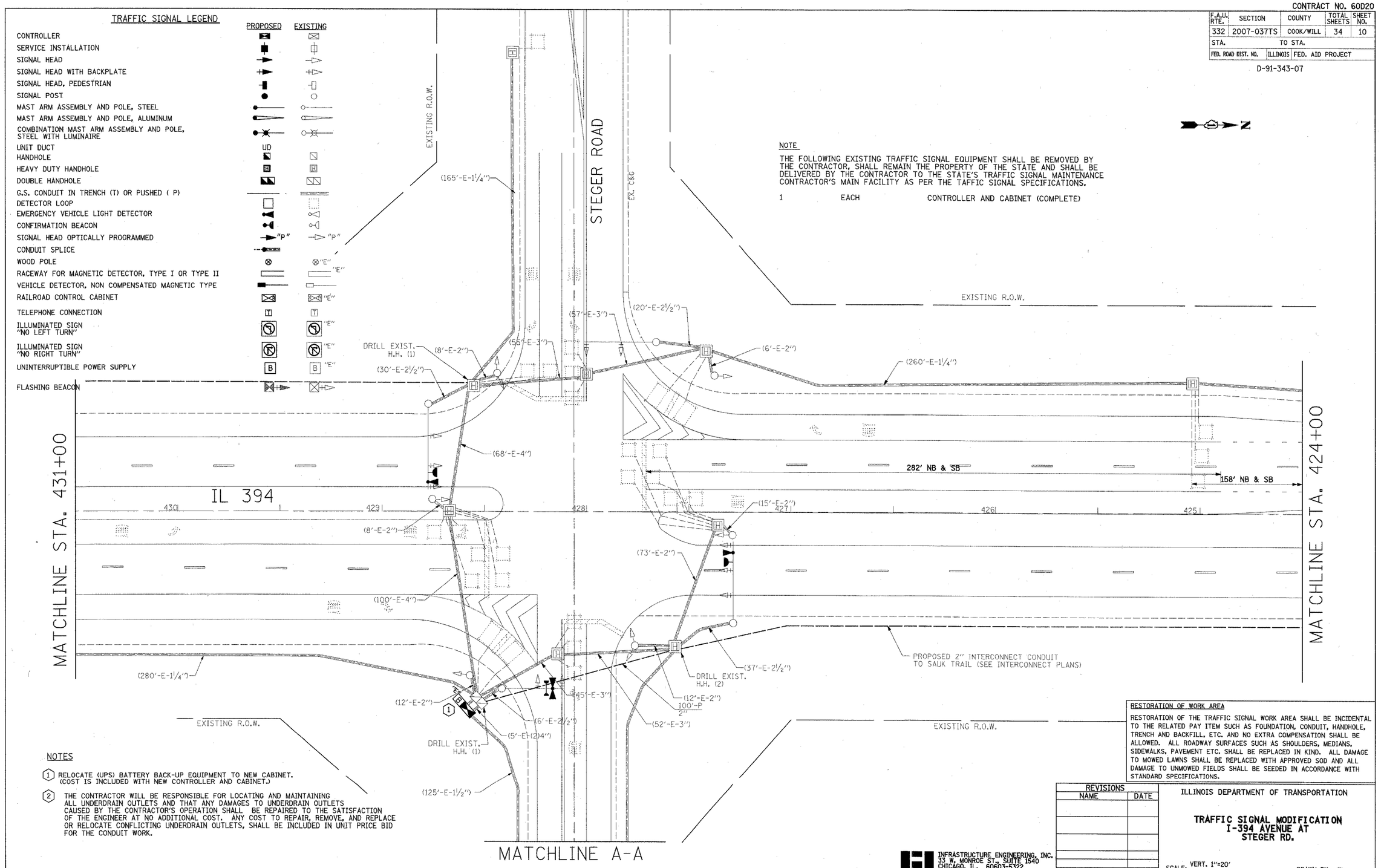
TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER		
SERVICE INSTALLATION		
SIGNAL HEAD		
SIGNAL HEAD WITH BACKPLATE		
SIGNAL HEAD, PEDESTRIAN		
SIGNAL POST		
MAST ARM ASSEMBLY AND POLE, STEEL		
MAST ARM ASSEMBLY AND POLE, ALUMINUM		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE		
UNIT DUCT	UD	
HANDHOLE		
HEAVY DUTY HANDHOLE	H	H
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
EMERGENCY VEHICLE LIGHT DETECTOR		
CONFIRMATION BEACON		
SIGNAL HEAD OPTICALLY PROGRAMMED	"P"	"P"
CONDUIT SPLICE		
WOOD POLE		"E"
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		"E"
VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
RAILROAD CONTROL CABINET		"E"
TELEPHONE CONNECTION	T	T
ILLUMINATED SIGN "NO LEFT TURN"		"E"
ILLUMINATED SIGN "NO RIGHT TURN"		"E"
UNINTERRUPTIBLE POWER SUPPLY	B	B "E"
FLASHING BEACON		

NOTE

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TAFFIC SIGNAL SPECIFICATIONS.

1 EACH CONTROLLER AND CABINET (COMPLETE)



NOTES

1. RELOCATE (UPS) BATTERY BACK-UP EQUIPMENT TO NEW CABINET. (COST IS INCLUDED WITH NEW CONTROLLER AND CABINET.)
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING AND MAINTAINING ALL UNDERDRAIN OUTLETS AND THAT ANY DAMAGES TO UNDERDRAIN OUTLETS CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST. ANY COST TO REPAIR, REMOVE, AND REPLACE OR RELOCATE CONFLICTING UNDERDRAIN OUTLETS, SHALL BE INCLUDED IN UNIT PRICE BID FOR THE CONDUIT WORK.

RESTORATION OF WORK AREA

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH APPROVED SOD AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

REVISIONS NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
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ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION I-394 AVENUE AT STEGER RD.

SCALE: VERT. 1"=20'
HORIZ.
DATE 11/26/07

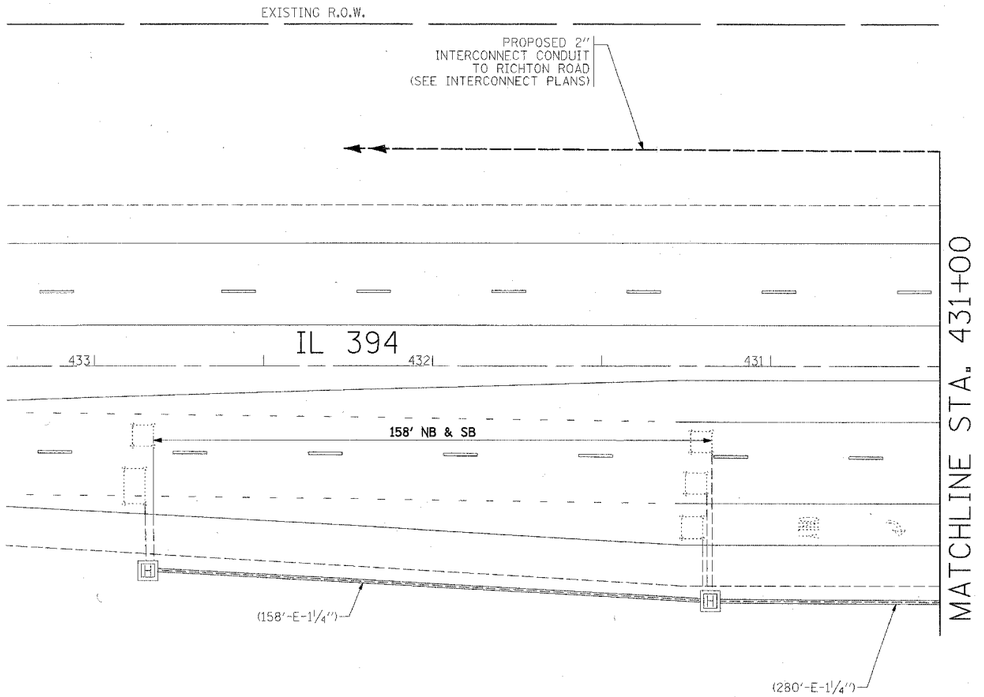
DRAWN BY BL
CHECKED BY ER/TC

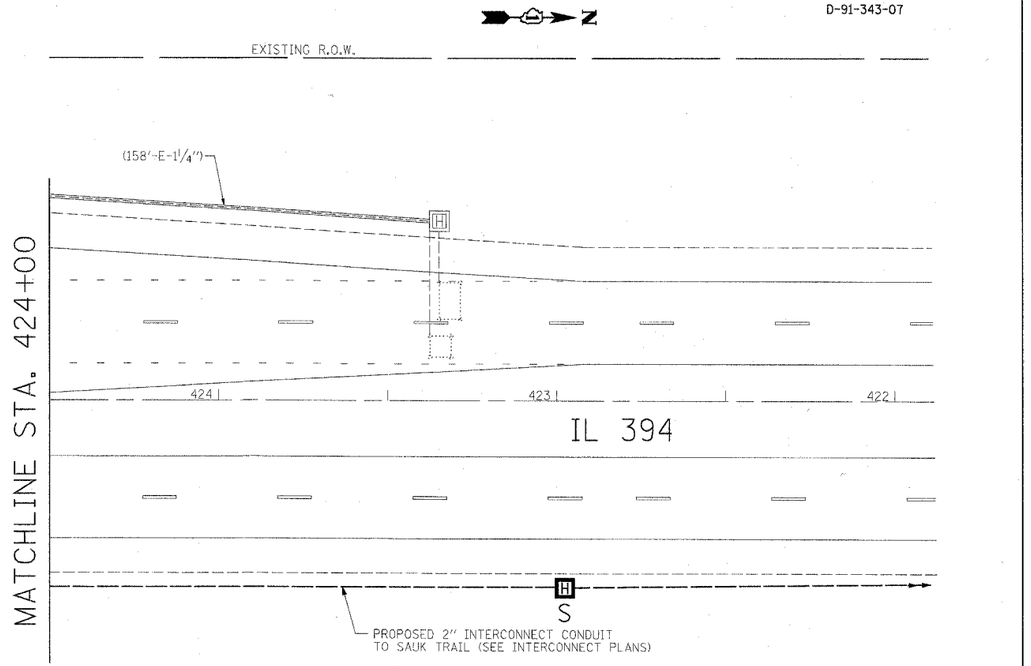
PLOT DATE = 11/26/2007
FILE NAME = #FILE#
PLOT SCALE = #SCALE#
USER NAME = #XP_NAME#

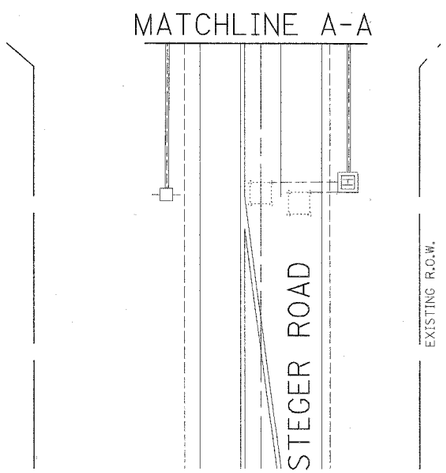
CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	11
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07







RESTORATION OF WORK AREA

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH APPROVED SOD AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION
I-394 AVENUE AT
STEGER RD.

SCALE: VERT. 1"=20'
HORIZ.
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

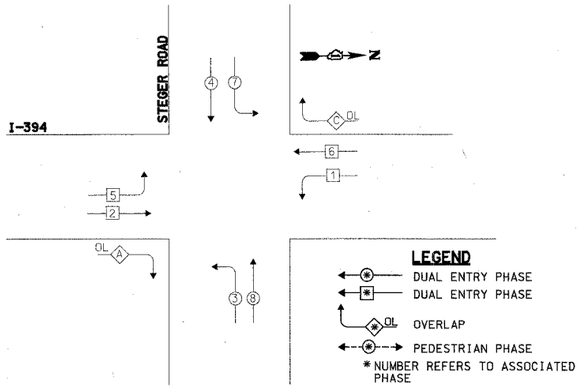
PLOT DATE = 11/26/2007
FILE NAME = #FILE$
FILE SIZE = #SIZE$
USER NAME = #P.NAME#

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-03TIS	COOK/WILL	34	12
STA. _____	TO STA. _____			
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

D-91-343-07

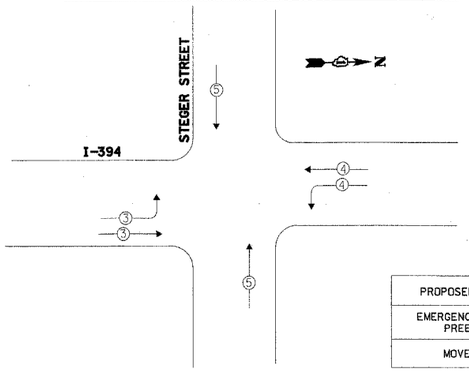
CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM

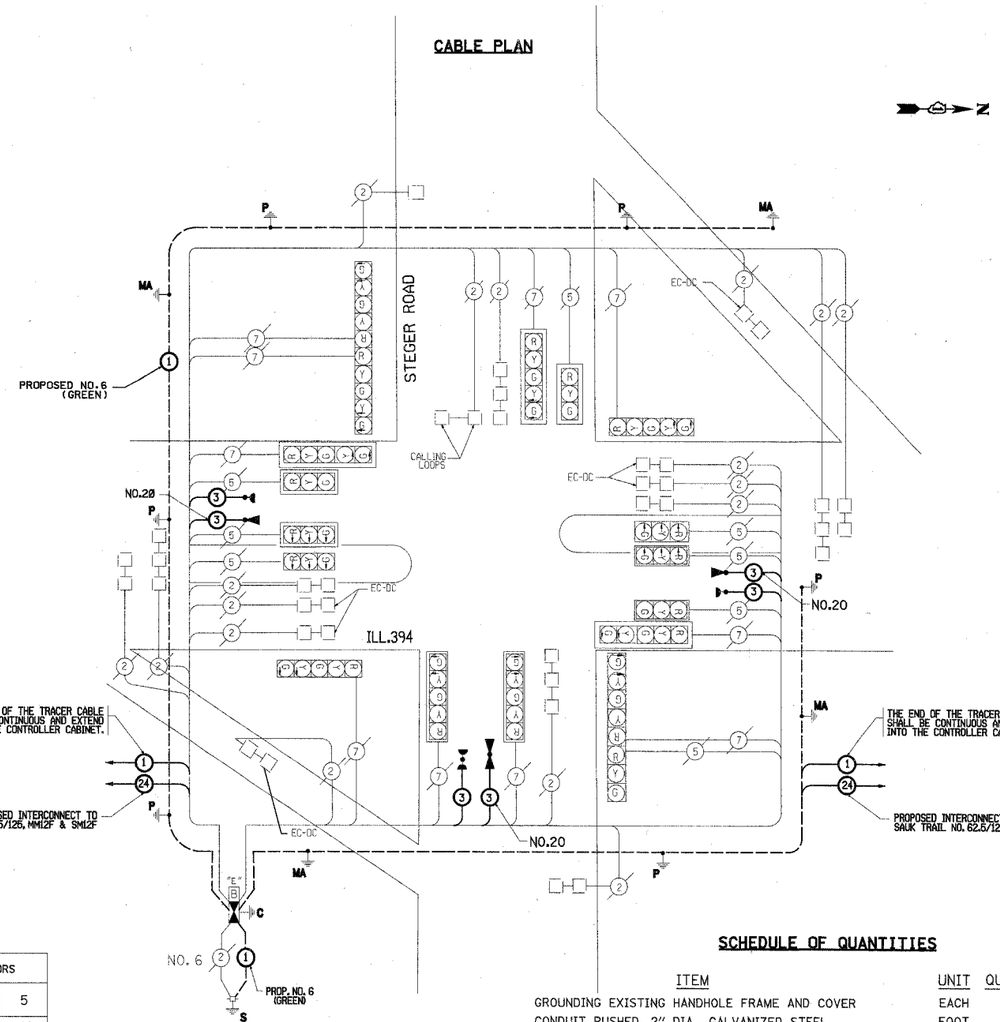
OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE
A	=	2	+	3
C	=	6	+	7

EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT			

CABLE PLAN



CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" (200mm) TRAFFIC SIGNAL SECTION
R	R	12" (300mm) TRAFFIC SIGNAL SECTION
W	W	12" (300mm) PEDESTRIAN SIGNAL SECTION
W	W	12"(300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
T	T	TELEPHONE CONNECTION
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
		VEHICLE DETECTOR, INDUCTION LOOP
2	2	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
R Y G Ø "P"	R Y G Ø "P"	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
"E"	"E"	RAILROAD CONTROL CABINET
"E"	"E"	ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"
"E"	"E"	ILLUMINATE SIGN, FIBER OPTIC "NO RIGHT TURN"
H/C	C	GROUND ROD AT HANDHOLE.(H)DOUBLE HANDHOLE (H), OR CONTROLLER (C)
P	P	GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
S	S	GROUND ROD AT ELECTRIC SERVICE INSTALLATION (S)
1	1	GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
24	24	FIBER OPTIC CABLE IN CONDUIT NO.62.5/125 2-MM12F & SM12F
		MICROWAVE VEHICLE SENSOR
B "E"	B	UNINTERRUPTIBLE POWER SUPPLY
		FLASHING BEACON

SCHEDULE OF QUANTITIES

	ITEM	UNIT	QUANTITY
	GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	8
	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	100
	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1
	TRANSCEIVER - FIBER OPTIC	EACH	1
	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	755
	DRILL EXISTING HANDHOLE	EACH	4
	INDUCTIVE LOOP DETECTOR	EACH	17
	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
✳	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	593
✳	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	593
✳	LIGHT DETECTOR	EACH	3
✳	LIGHT DETECTOR AMPLIFIER	EACH	1
	OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	0.25

✳ 100% COST TO VILLAGE OF CRETE

NOTE:
EQUIPMENT GROUND CONDUCTOR (GREEN COLOR CODED) SPLICE TO FRAME AND COVER IS REQUIRED FOR ALL HANDHOLES OR DOUBLE HANDHOLES THAT CARRY SIGNAL CABLE AND SERVICE CABLES.

I.D.O.T.
TRAFFIC SIGNAL INSTALLATION
ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	X WATTAGE INCAND.	WATTAGE LED	X % OPERATION	TOTAL WATTAGE
SIGNAL (RED)	18	135	17	0.50	153.00
(YELLOW)	18	135	25	0.25	112.50
(GREEN)	18	135	15	0.25	67.50
ARROW	18	135	12	0.10	21.60
PED. SIGNAL		90	25	1.00	–
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN		84		0.05	–
FLASHER				0.05	–
				TOTAL=	454.60

ENERGY COSTS TO: ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY CONTACT: JERRY NISSEN
PHONE: (708)235-2340
COMPANY: COMMONWEALTH EDISON

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2=
E - M. ARM POLE		SIGNAL POST	2 (1.0)		(6m+L-0.6mm)=
24" (600MM)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
30" (750MM)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
		ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
		GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, SCHEDULE OF QUANTITIES

I-394 AT STEGER

SCALE: VERT. NONE HORIZ.
DATE 11/26/07
DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/27/2007
FILE NAME = #FILE#
PLOT SCALE = #SCALE#
USER NAME = #P-NAME#

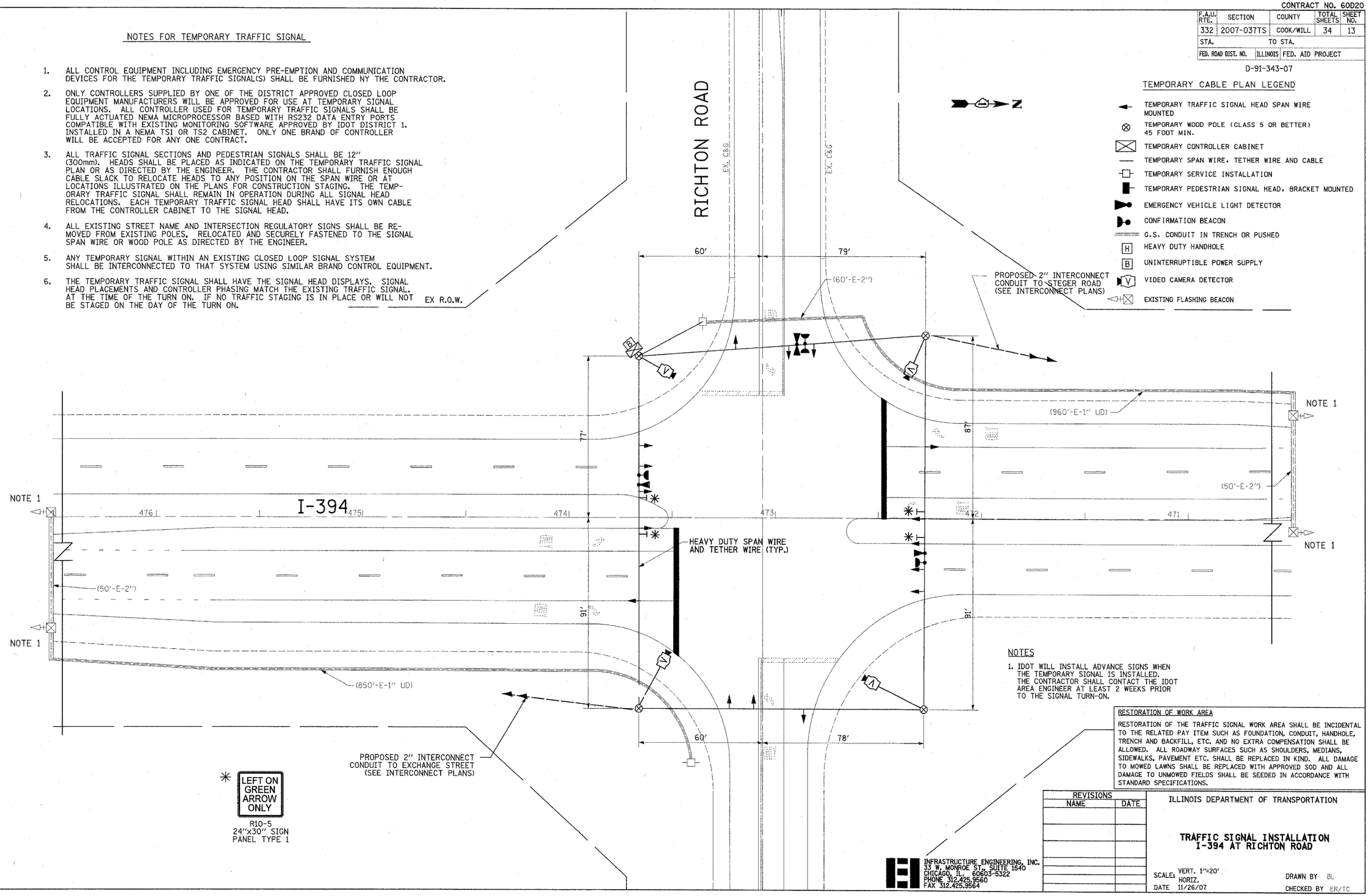
CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	13
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07

NOTES FOR TEMPORARY TRAFFIC SIGNAL

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED NY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLER USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1. INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNALS SHALL BE 12" (300mm). HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
6. THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL. AT THE TIME OF THE TURN ON. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.



TEMPORARY CABLE PLAN LEGEND

- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT MIN.
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- G.S. CONDUIT IN TRENCH OR PUSHED
- H — HEAVY DUTY HANDHOLE
- B — UNINTERRUPTIBLE POWER SUPPLY
- V — VIDEO CAMERA DETECTOR
- EXISTING FLASHING BEACON

NOTES

1. IDOT WILL INSTALL ADVANCE SIGNS WHEN THE TEMPORARY SIGNAL IS INSTALLED. THE CONTRACTOR SHALL CONTACT THE IDOT AREA ENGINEER AT LEAST 2 WEEKS PRIOR TO THE SIGNAL TURN-ON.

RESTORATION OF WORK AREA

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH APPROVED SOD AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

REVISIONS NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL INSTALLATION I-394 AT RICHTON ROAD

SCALE: VERT. 1"=20'
HORIZ.
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

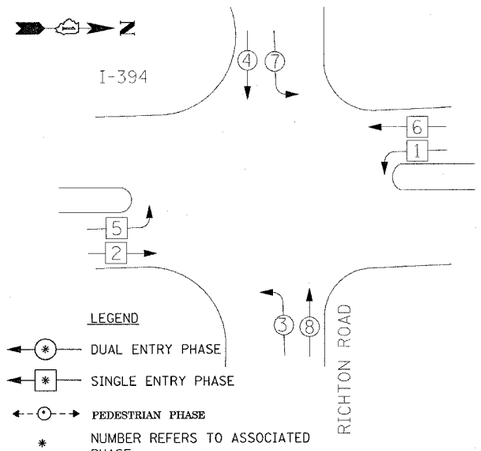
PLOT DATE = 11/27/2007
FILE NAME = #FILE$
PLOT SCALE = #SCALE
USER NAME = #P_NAME#

CONTRACT NO. 60D20

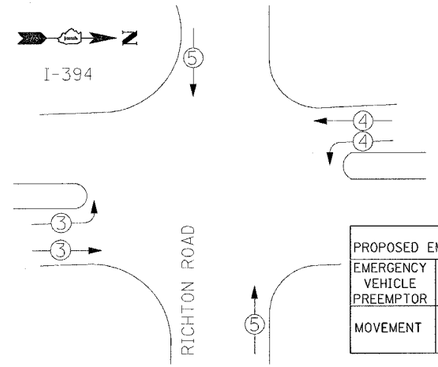
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	14
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07

CONTROLLER SEQUENCE

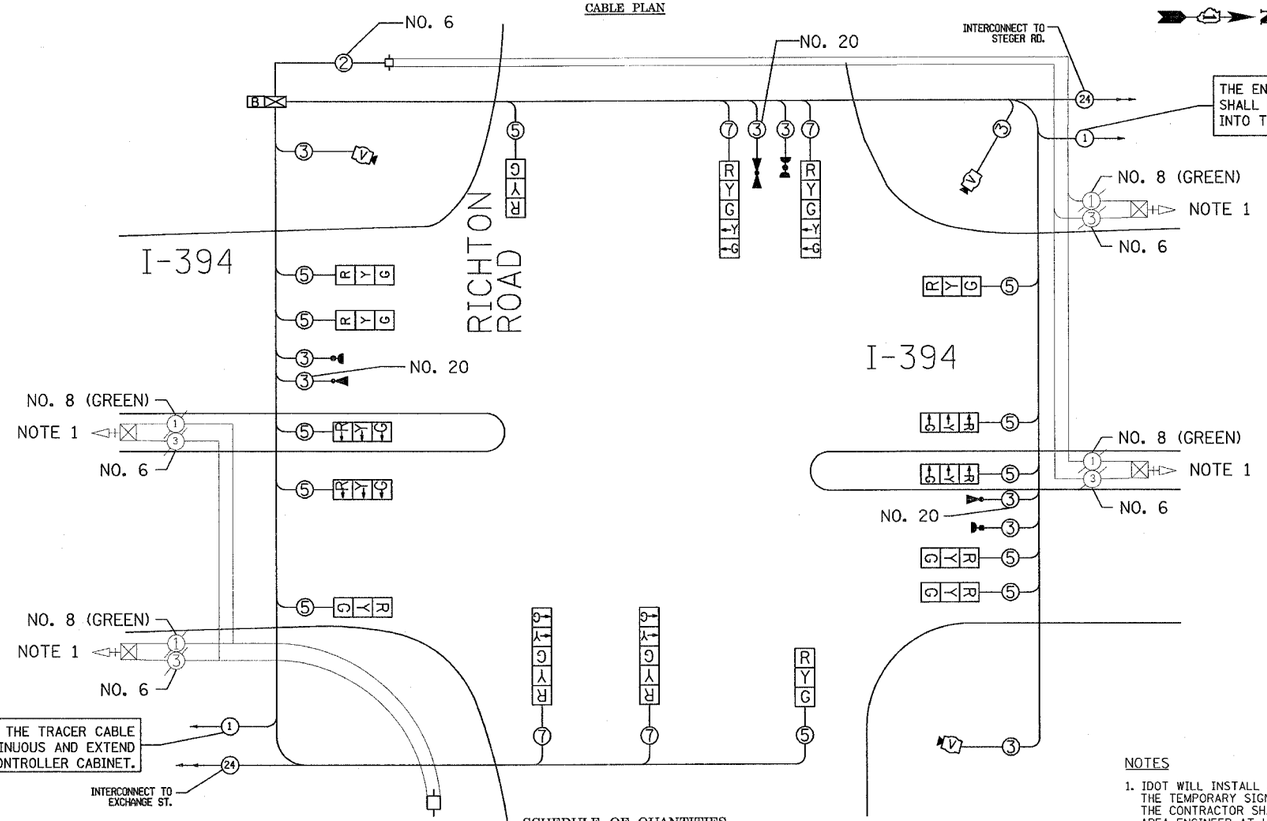


TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT			

CABLE PLAN



TEMPORARY CABLE PLAN LEGEND

- TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12"
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NO. 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- PEDESTRIAN PUSHBUTTON DETECTOR
- 12" PEDESTRIAN SIGNAL SECTION
- VEHICLE DETECTOR, INDUCTION LOOP
- VIDEO CAMERA DETECTOR
- UNTERRUPTIBLE POWER SUPPLY
- EXISTING FLASHING BEACON

SCHEDULE OF QUANTITIES

	ITEM	UNIT	QUANTITY
	SIGN PANEL - TYPE 1	SQ FT	20
	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1
	TRANSCEIVER - FIBER OPTIC	EACH	1
	SPAN WIRE (HEAVY DUTY)	FOOT	614
	TETHER WIRE (HEAVY DUTY)	FOOT	614
*	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL, NO. 14 3C	FOOT	1121
	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL, NO. 14 5C	FOOT	1233
	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL, NO. 14 7C	FOOT	693
	ELECTRIC CABLE AERIAL SUSPENDED, SERVICE, NO. 6 2C	FOOT	59
*	ELECTRIC CABLE AERIAL SUSPENDED, NO. 20 3/C, TWISTED, SHIELDED	FOOT	1121
*	LIGHT DETECTOR	EACH	3
*	LIGHT DETECTOR AMPLIFIER	EACH	1
	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, SPAN WIRE MOUNTED	EACH	12
	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, SPAN WIRE MOUNTED	EACH	4
	SERVICE INSTALLATION - POLE MOUNTED	EACH	1
	UNINTERRUPTIBLE POWER SUPPLY	EACH	1
	VIDEO DETECTION SYSTEM, COMPLETE INTERSECTION	EACH	1
	TRAFFIC SIGNAL WOOD POLE, 45 FT., CLASS 4	EACH	4
	OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	0.25
	THERMOPLASTIC PAVEMENT MARKING LINE	FOOT	115
	CHANGEABLE MESSAGE SIGN	CAL MO	4

* 100% COST TO VILLAGE OF CRETE

NOTES

1. IDOT WILL INSTALL ADVANCE SIGNS WHEN THE TEMPORARY SIGNAL IS INSTALLED. THE CONTRACTOR SHALL CONTACT THE IDOT AREA ENGINEER AT LEAST 2 WEEKS PRIOR TO THE SIGNAL TURN-ON.

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	20	135	17	0.50	170.00
(YELLOW)	20	135	25	0.25	125.00
(GREEN)	20	135	15	0.25	75.00
ARROW	8	135	12	0.10	9.60
PED. SIGNAL		90	25	1.00	-
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN		84		0.05	-
					-
FLASHER				0.05	

TOTAL= 479.60

ENERGY COSTS TO:
ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY CONTACT: MR. JERRY NISSEN
PHONE: (7087)235-2340
COMPANY: COMMONWEALTH EDISON

FOUNDATION (DEPTH)	FT. (m)
TYPE A - POST	4 (1.2)
D - CONTROLLER	4 (1.2)
E - M. ARM POLE	
24" (600MM)	10 (3.0)
30" (750MM)	15 (4.6)

CABLE SLACK	FT. (m)
HANDHOLE	6.5 (2.0)
DOUBLE HANDHOLE	13 (4.0)
SIGNAL POST	2 (1.0)
CONTROLLER CAB.	1 (0.5)
FIBER OPTIC	13 (4.0)
ELECTRIC SERVICE	1 (0.5)
GROUND CABLE	1 (0.5)

VERTICAL	FT. (m)
ALL FOUNDATIONS	3.5 (1.0)
MAST ARM (L) POLE	20'+L-2= (6m+L-0.6mm)=
BRACKET MOUNTED	13 (4.0)
PED. PUSHBUTTON	4 (1.2)
ELECTRIC SERVICE	13.5 (4.1)
SERVICE TO GROUND	13.5 (4.1)
POST MOUNTED	6 (1.8)

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN,
TEMPORARY PHASE DESIGNATION DIAGRAM,
TEMPORARY EMERGENCY VEHICLE PREEMPTION
SCHEDULE OF QUANTITIES
I-394 AT RICHTON ROAD

SCALE: VERT. NONE
HORIZ.
DATE 11/26/07
DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/30/2007
FILE NAME = c:\projects\traffic\d0702301\i394_traffic.dgn
PLOT SCALE = 50.0000 ' / IN.
USER NAME = rguderman

CONTRACT NO. 60D20

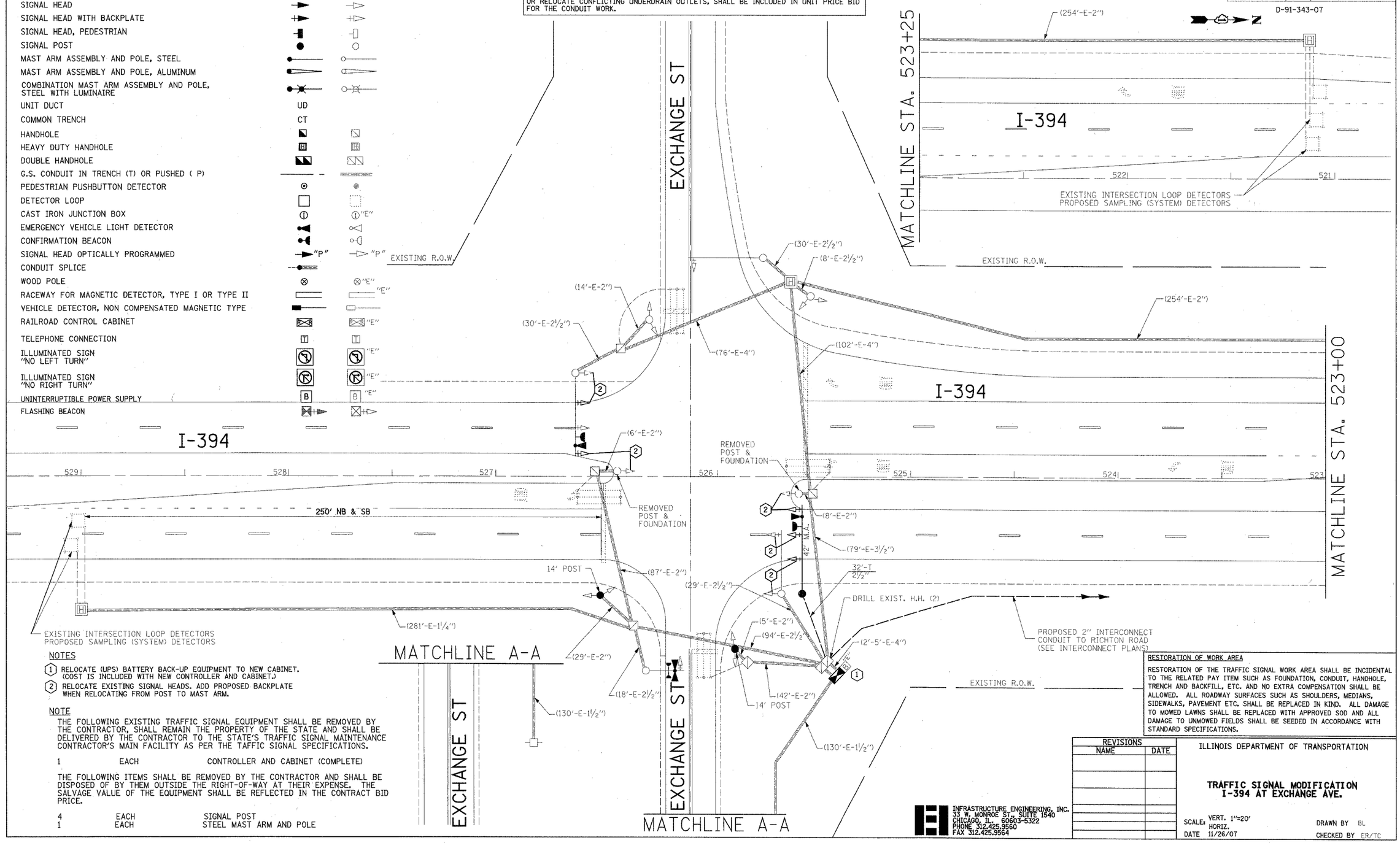
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	15
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER	■	⊠
SERVICE INSTALLATION	■	⊡
SIGNAL HEAD	►	▷
SIGNAL HEAD WITH BACKPLATE	►+	▷+
SIGNAL HEAD, PEDESTRIAN	■►	⊡▷
SIGNAL POST	●	○
MAST ARM ASSEMBLY AND POLE, STEEL	●———	○———
MAST ARM ASSEMBLY AND POLE, ALUMINUM	●———	○———
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE	●—✱	○—✱
UNIT DUCT	UD	
COMMON TRENCH	CT	
HANDHOLE	◪	◪
HEAVY DUTY HANDHOLE	H	H
DOUBLE HANDHOLE	◪◪	◪◪
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	———	———
PEDESTRIAN PUSHBUTTON DETECTOR	⊙	◉
DETECTOR LOOP	□	⬚
CAST IRON JUNCTION BOX	Ⓘ	Ⓘ"E"
EMERGENCY VEHICLE LIGHT DETECTOR	◄	◅
CONFIRMATION BEACON	●◄	○◅
SIGNAL HEAD OPTICALLY PROGRAMMED	►"P"	▷"P"
CONDUIT SPLICE	⊸●⊸	
WOOD POLE	⊗	⊗"E"
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II	▭	▭"E"
VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE	■—	▭—
RAILROAD CONTROL CABINET	⊠	⊠"E"
TELEPHONE CONNECTION	T	T
ILLUMINATED SIGN "NO LEFT TURN"	⊠	⊠"E"
ILLUMINATED SIGN "NO RIGHT TURN"	⊠	⊠"E"
UNINTERRUPTIBLE POWER SUPPLY	B	B"E"
FLASHING BEACON	⊠►	⊠▷

NOTE: THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING AND MAINTAINING ALL UNDERDRAIN OUTLETS AND THAT ANY DAMAGES TO UNDERDRAIN OUTLETS CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST. ANY COST TO REPAIR, REMOVE, AND REPLACE OR RELOCATE CONFLICTING UNDERDRAIN OUTLETS, SHALL BE INCLUDED IN UNIT PRICE BID FOR THE CONDUIT WORK.



NOTES

1. RELOCATE (UPS) BATTERY BACK-UP EQUIPMENT TO NEW CABINET. (COST IS INCLUDED WITH NEW CONTROLLER AND CABINET.)
2. RELOCATE EXISTING SIGNAL HEADS. ADD PROPOSED BACKPLATE WHEN RELOCATING FROM POST TO MAST ARM.

NOTE

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TAFFIC SIGNAL SPECIFICATIONS.

1	EACH	CONTROLLER AND CABINET (COMPLETE)

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4	EACH	SIGNAL POST
1	EACH	STEEL MAST ARM AND POLE

RESTORATION OF WORK AREA

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH APPROVED SOD AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION I-394 AT EXCHANGE AVE.

SCALE: VERT. 1"=20'
HORIZ.
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

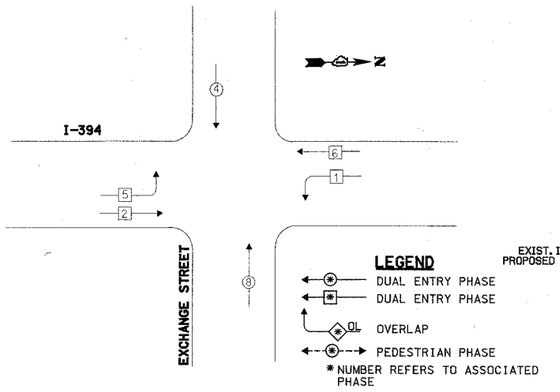
PLOT DATE = 11/26/2007
FILE NAME = e:\FILE\
PLOT SCALE = 50.0000
USER NAME = e:\P_NAME\

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	16
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

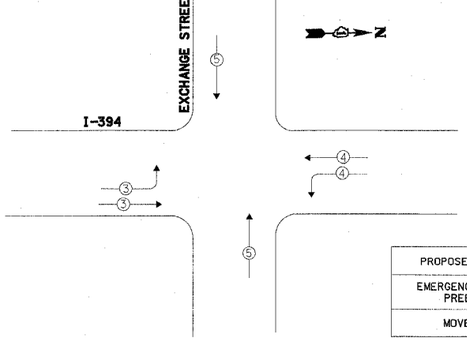
D-91-343-07

CONTROLLER SEQUENCE



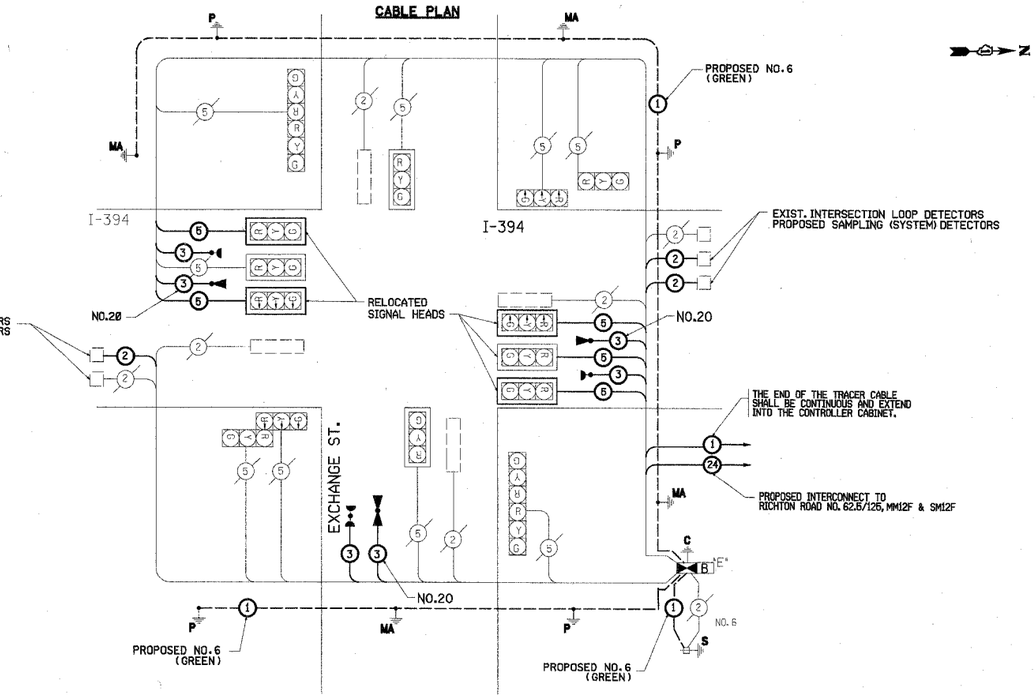
PHASE DESIGNATION DIAGRAM

EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT			

CABLE PLAN



CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" (200mm) TRAFFIC SIGNAL SECTION
R	R	12" (300mm) TRAFFIC SIGNAL SECTION
W	W	12" (300mm) PEDESTRIAN SIGNAL SECTION
		12"(300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
T	T	TELEPHONE CONNECTION
		MAGNETIC DETECTOR
		VEHICLE DETECTOR, INDUCTION LOOP
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
		VEHICLE DETECTOR, INDUCTION LOOP
(2)	(2)	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
(1)	(1)	GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
(24)	(24)	FIBER OPTIC CABLE IN CONDUIT NO.62.5/125 2-MM12F & SM12F
R Y G G Y R	R Y G G Y R	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
"P"	"P"	
"E"	"E"	RAILROAD CONTROL CABINET
"E"	"E"	ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"
"E"	"E"	ILLUMINATE SIGN, FIBER OPTIC "NO RIGHT TURN"
H/C	C	GROUND ROD AT HANDHOLE,(H)DOUBLE HANDHOLE (H), OR CONTROLLER (C)
P	P	GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
S	S	GROUND ROD AT ELECTRIC SERVICE INSTALLATION (S)
		MICROWAVE VEHICLE SENSOR
V	V	VIDEO CAMERA DETECTOR
B	B	UNTERRUPTIBLE POWER SUPPLY
		FLASHING BEACON

SCHEDULE OF QUANTITIES

	ITEM	UNIT	QUANTITY
	GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	7
	CONDUIT IN TRENCH, 2 ½" DIA., GALVANIZED STEEL	FOOT	32
	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1
	TRANSCEIVER - FIBER OPTIC	EACH	1
✳	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	680
	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1051
	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1354
	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	759
✳	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	680
	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	2
	STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.	EACH	1
	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	13
	DRILL EXISTING HANDHOLE	EACH	2
	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	4
	INDUCTIVE LOOP DETECTOR	EACH	9
✳	LIGHT DETECTOR	EACH	3
✳	LIGHT DETECTOR AMPLIFIER	EACH	1
	RELOCATE EXISTING SIGNAL HEAD	EACH	5
	REMOVE ELECTRIC CABLE FROM CONDUIT	EACH	535
	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
	REMOVE EXISTING CONCRETE FOUNDATION	EACH	3
	OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	0.25
	CHANGEABLE MESSAGE SIGN	CAL MO	2

✳ 100% COST TO CRETE TOWNSHIP FIRE PROTECTION DISTRICT

NOTE:
EQUIPMENT GROUND CONDUCTOR (GREEN COLOR CODED) SPLICE TO FRAME AND COVER IS REQUIRED FOR ALL HANDHOLES OR DOUBLE HANDHOLES THAT CARRY SIGNAL CABLE AND SERVICE CABLES.

I.D.O.T.
TRAFFIC SIGNAL INSTALLATION
ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	X WATTAGE INCAND.	WATTAGE LED	X % OPERATION	TOTAL WATTAGE
SIGNAL (RED)	14	135	17	0.50	119.00
(YELLOW)	14	135	25	0.25	87.50
(GREEN)	14	135	15	0.25	52.50
ARROW	4	135	12	0.10	4.80
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN		84		0.05	-
FLASHER				0.05	-
				TOTAL=	363.80

ENERGY COSTS TO:
ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY CONTACT: JERRY NISSEN
PHONE: (708)235-2340
COMPANY: COMMONWEALTH EDISON

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2=
E - M. ARM POLE		SIGNAL POST	2 (1.0)		(6m+L-0.6mm)=
24" (600MM)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
30" (750MM)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
		ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
		GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

PLOT DATE = 11/27/2007
FILE NAME = #PTLE$
PLOT SCALE = #SCALE$
USER NAME = #P_NAME$

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, SCHEDULE OF QUANTITIES

I-394 AT EXCHANGE

SCALE: VERT. NONE HORIZ.
DATE 11/26/07
DRAWN BY BL
CHECKED BY ER/TC

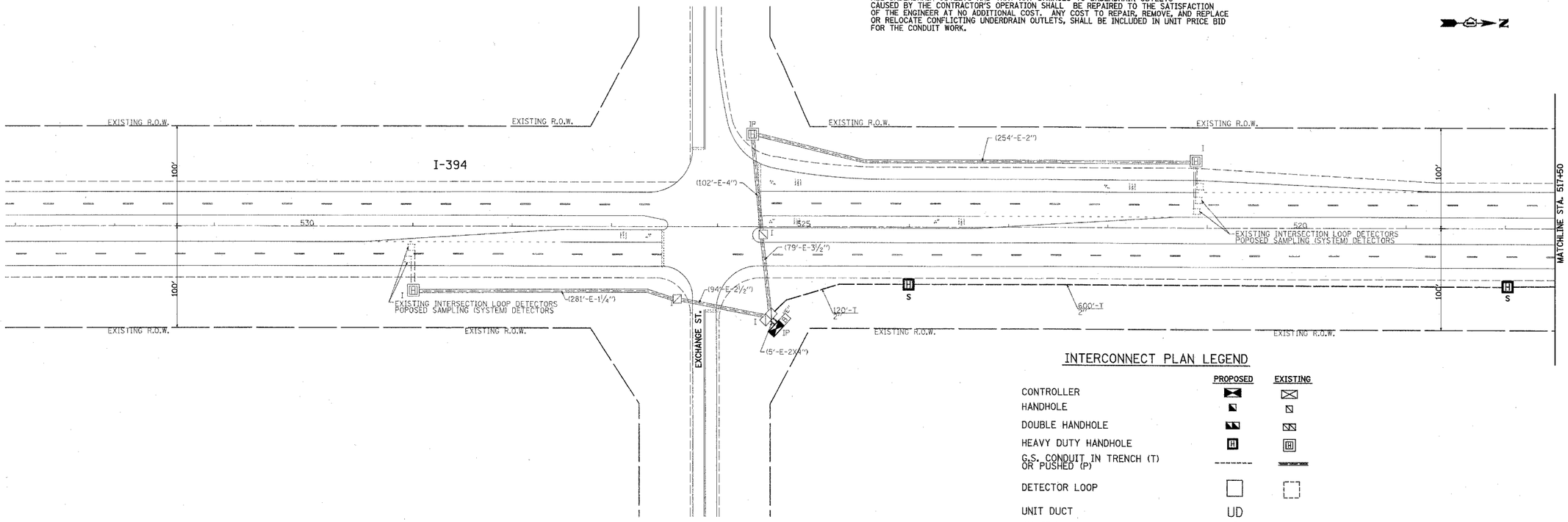
CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	17
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

D-91-343-07

NOTE:

THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING AND MAINTAINING ALL UNDERDRAIN OUTLETS AND THAT ANY DAMAGES TO UNDERDRAIN OUTLETS CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST. ANY COST TO REPAIR, REMOVE, AND REPLACE OR RELOCATE CONFLICTING UNDERDRAIN OUTLETS, SHALL BE INCLUDED IN UNIT PRICE BID FOR THE CONDUIT WORK.



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER	▣	▣
HANDHOLE	◪	◪
DOUBLE HANDHOLE	◪◪	◪◪
HEAVY DUTY HANDHOLE	H	H
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	----------	----------
DETECTOR LOOP	□	□
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
UNINTERRUPTIBLE POWER SUPPLY	B	B "E"
FLASHING BEACONS	⊠→	⊠→

NOTE:

(1) THE CONTRACTOR SHALL VERIFY THE EXISTING CONDUITS AND HANDHOLES.

RESTORATION OF WORK AREA

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH APPROVED SOD AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST. SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN
I-394 FROM SAUK TRAIL TO EXCHANGE ST.

SCALE: VERT. 1"=50'
HORIZ.
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

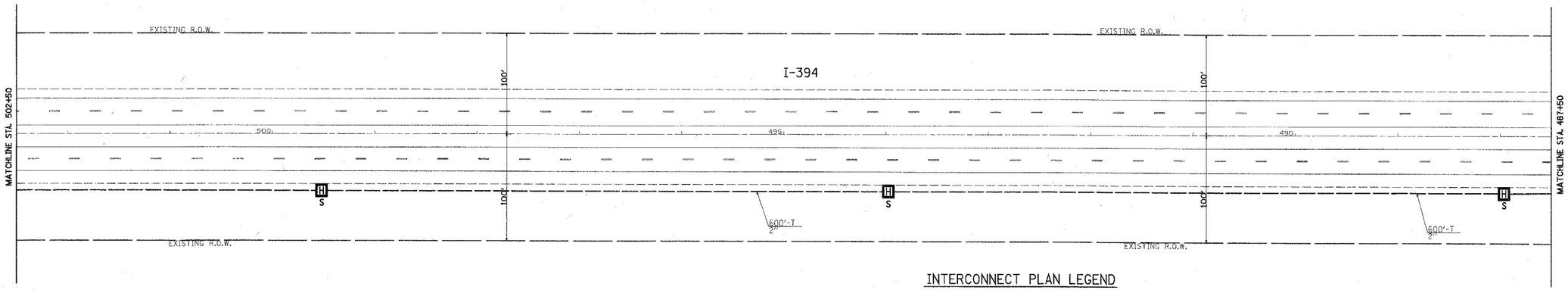
PLOT DATE = 11/26/2007
FILE NAME = #FILE%
PLOT SCALE = #SCALE
USER NAME = #OP_NAME

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	18
STA. _____	TO STA. _____			
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

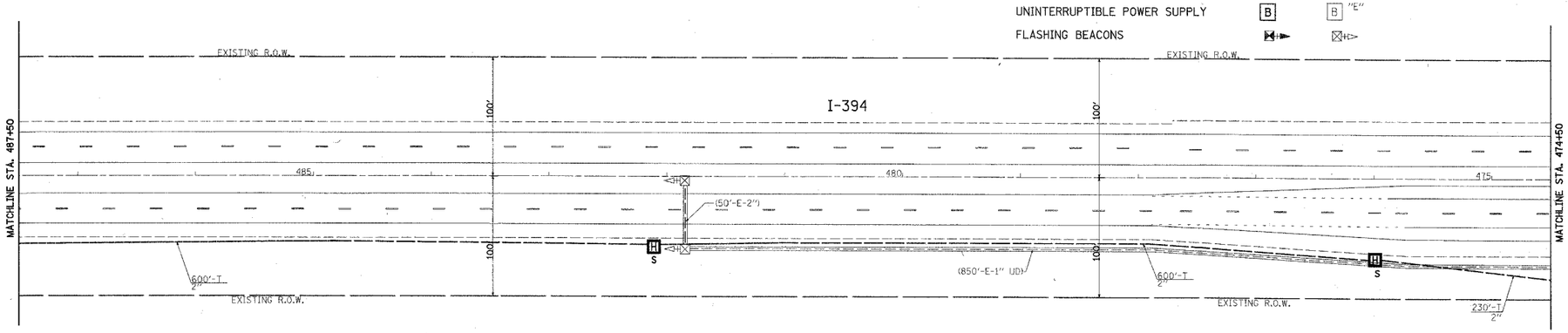
D-91-343-07

NOTE:
THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING AND MAINTAINING ALL UNDERDRAIN OUTLETS AND THAT ANY DAMAGES TO UNDERDRAIN OUTLETS CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST. ANY COST TO REPAIR, REMOVE, AND REPLACE OR RELOCATE CONFLICTING UNDERDRAIN OUTLETS, SHALL BE INCLUDED IN UNIT PRICE BID FOR THE CONDUIT WORK.



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER	▪	⊠
HANDHOLE	▪	▨
DOUBLE HANDHOLE	▪	▨
HEAVY DUTY HANDHOLE	H	H
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	----------	==========
DETECTOR LOOP	□	⬚
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
UNINTERRUPTIBLE POWER SUPPLY	B	B "E"
FLASHING BEACONS	⊠►| ⊠►|



NOTE:

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RESTORATION OF WORK AREA

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INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN I-394 FROM SAUK TRAIL TO EXCHANGE ST.

SCALE: VERT. 1"=50'
HORIZ.
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

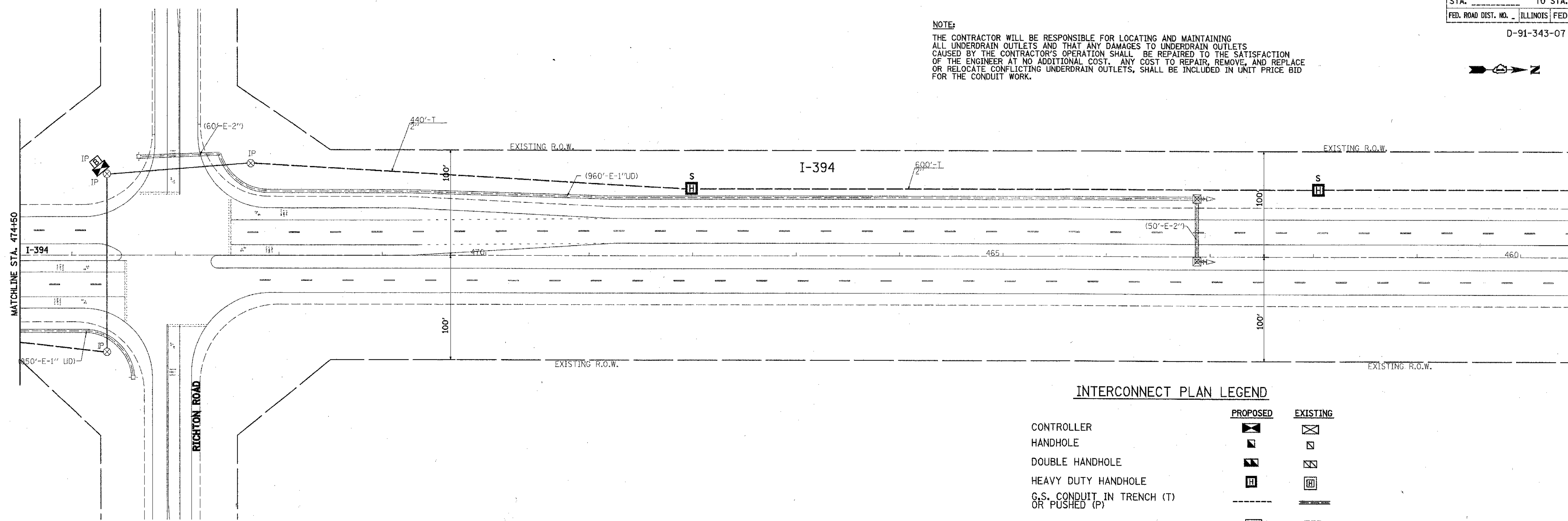
CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	19
STA. ________	TO STA. ________			
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

D-91-343-07

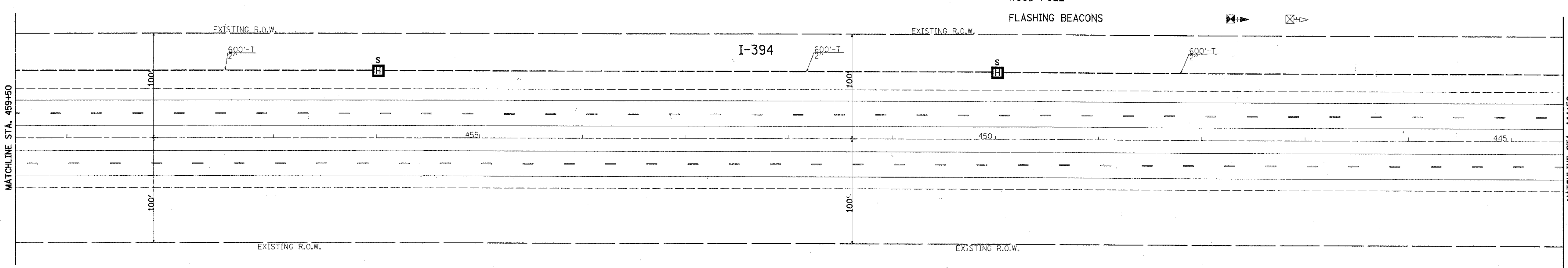
NOTE:

THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING AND MAINTAINING ALL UNDERDRAIN OUTLETS AND THAT ANY DAMAGES TO UNDERDRAIN OUTLETS CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST. ANY COST TO REPAIR, REMOVE, AND REPLACE OR RELOCATE CONFLICTING UNDERDRAIN OUTLETS, SHALL BE INCLUDED IN UNIT PRICE BID FOR THE CONDUIT WORK.



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
UNINTERRUPTIBLE POWER SUPPLY	B	B "E"
WOOD POLE		
FLASHING BEACONS		



NOTE:

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RESTORATION OF WORK AREA

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INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN I-394 FROM SAUK TRAIL TO EXCHANGE ST.

SCALE: VERT. HORIZ. 1"=50'
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/26/2007
FILE NAME = $FILEL$
PLOT SCALE = $SCALE$
USER NAME = P_NAME

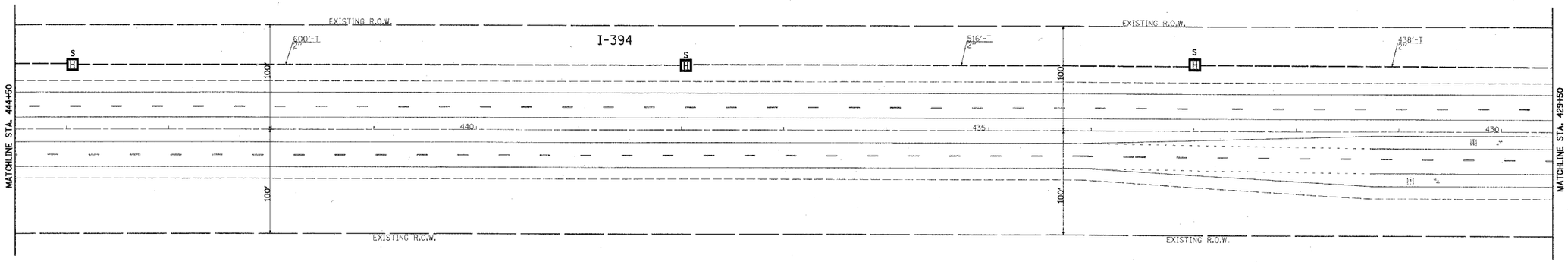
CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	20
STA. _____	TO STA. _____			
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

D-91-343-07

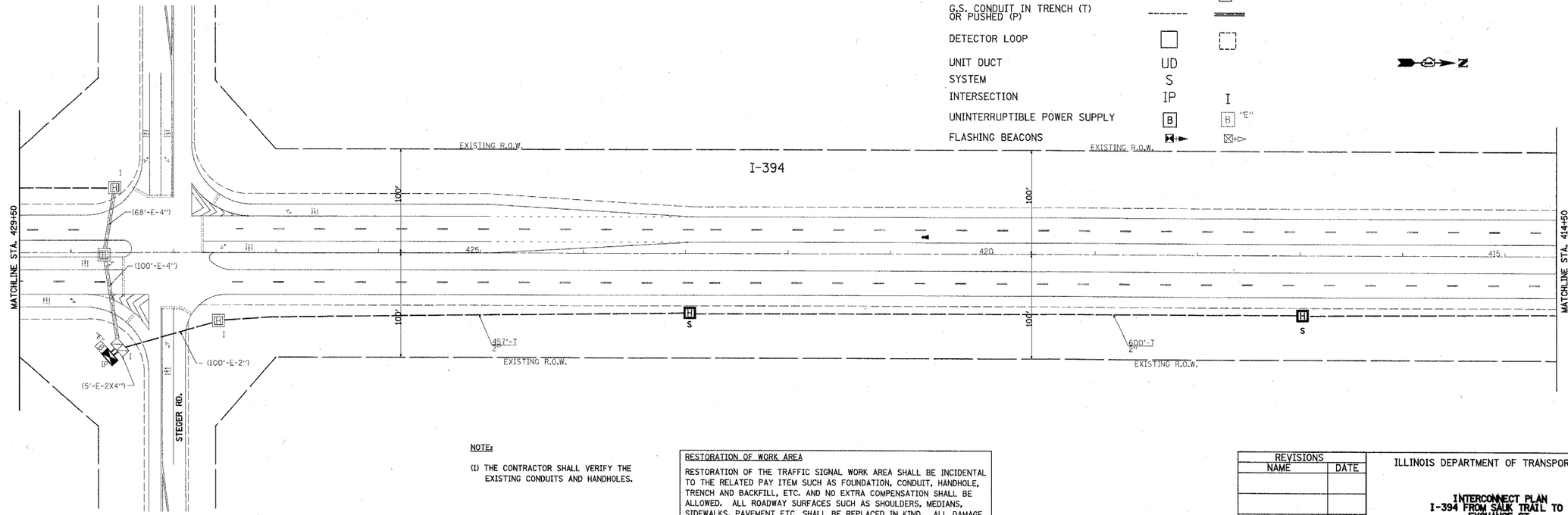
NOTE:

THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING AND MAINTAINING ALL UNDERDRAIN OUTLETS AND THAT ANY DAMAGES TO UNDERDRAIN OUTLETS CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST. ANY COST TO REPAIR, REMOVE, AND REPLACE OR RELOCATE CONFLICTING UNDERDRAIN OUTLETS, SHALL BE INCLUDED IN UNIT PRICE BID FOR THE CONDUIT WORK.



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER	⊠	⊠
HANDHOLE	◪	◪
DOUBLE HANDHOLE	◪◪	◪◪
HEAVY DUTY HANDHOLE	H	H
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	-------	═══
DETECTOR LOOP	□	⬚
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
UNINTERRUPTIBLE POWER SUPPLY	B	B "E"
FLASHING BEACONS	⊠	⊠



NOTE:

(1) THE CONTRACTOR SHALL VERIFY THE EXISTING CONDUITS AND HANDHOLES.

RESTORATION OF WORK AREA

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH APPROVED SOD AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1840
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN
I-394 FROM SAUK TRAIL TO EXCHANGE ST.

SCALE: VERT. 1"=50'
HORIZ.
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/26/2007
FILE NAME = e:\FILE\
PLOT SCALE = 0.0417 '/ in
USER NAME = e\P_NAME\

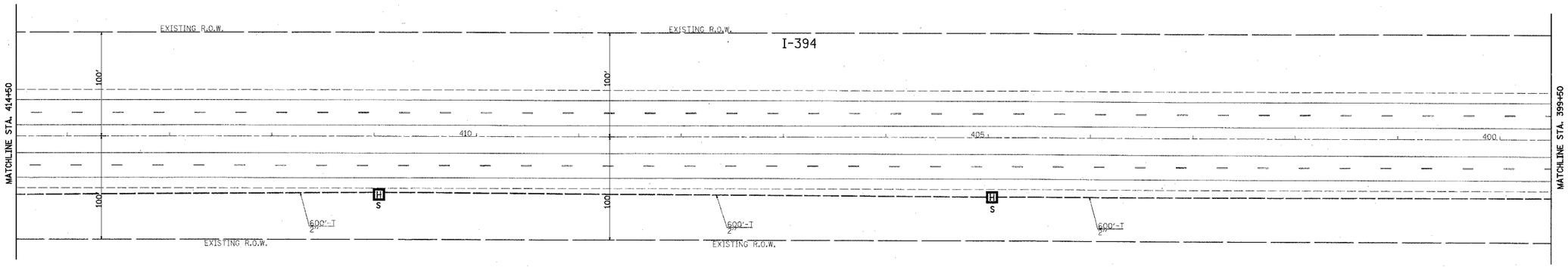
CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037IS	COOK/WILL	34	21
STA. _____	TO STA. _____			
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

D-91-343-07

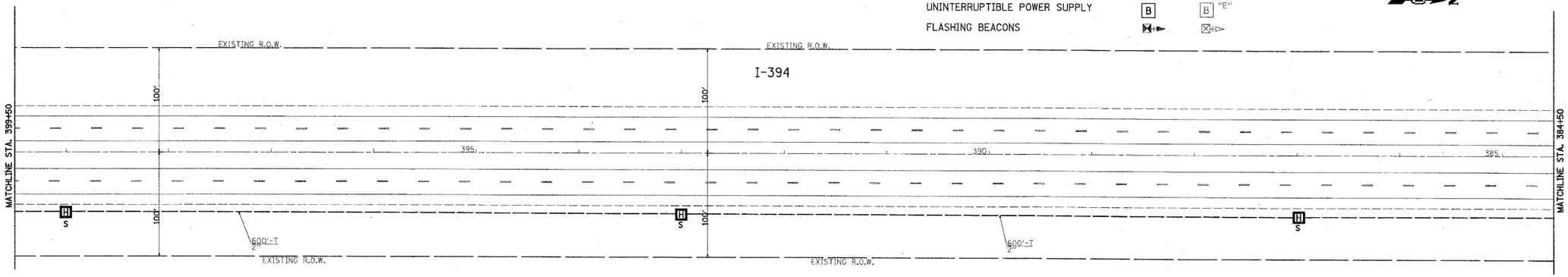
NOTE:

THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING AND MAINTAINING ALL UNDERDRAIN OUTLETS AND THAT ANY DAMAGES TO UNDERDRAIN OUTLETS CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST. ANY COST TO REPAIR, REMOVE, AND REPLACE OR RELOCATE CONFLICTING UNDERDRAIN OUTLETS, SHALL BE INCLUDED IN UNIT PRICE BID FOR THE CONDUIT WORK.



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER	▣	⊠
HANDHOLE	◪	◪
DOUBLE HANDHOLE	◪	◪
HEAVY DUTY HANDHOLE	H	H
C.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	-------	═══
DETECTOR LOOP	□	⬚
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
UNINTERRUPTIBLE POWER SUPPLY	B	B "E"
FLASHING BEACONS	⊠	⊠



NOTE:

(1) THE CONTRACTOR SHALL VERIFY THE EXISTING CONDUITS AND HANDHOLES.

RESTORATION OF WORK AREA

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH APPROVED SOD AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST. SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN
I-394 FROM SAUK TRAIL TO EXCHANGE ST.

SCALE: VERT. 1"=50'
HORIZ.
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/26/2007
FILE NAME = #FILE#
PLOT SCALE = #SCALE#
USER NAME = #P_NAME#

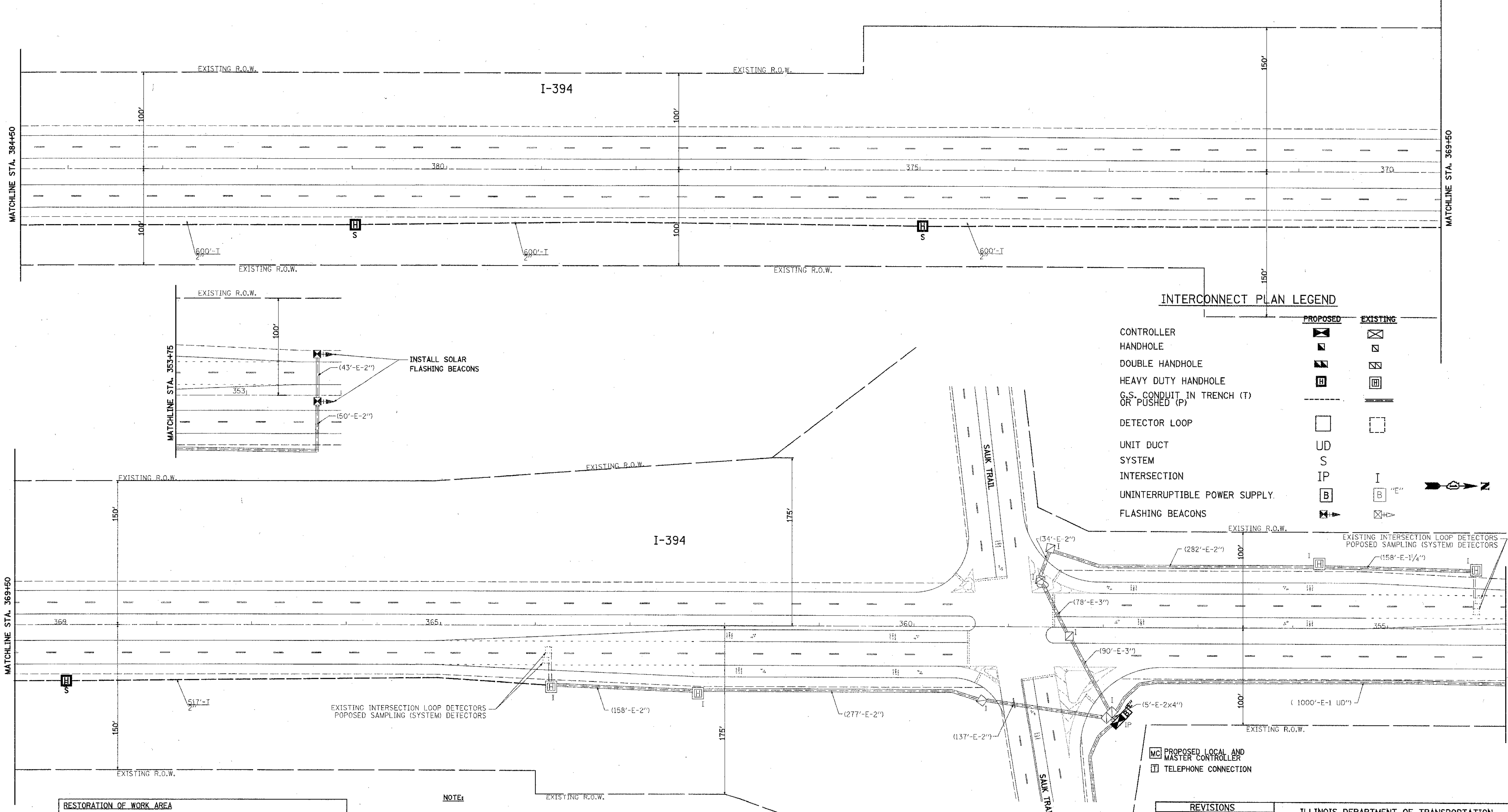
CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	22
STA. ________	TO STA. ________			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07

NOTE:

THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING AND MAINTAINING ALL UNDERDRAIN OUTLETS AND THAT ANY DAMAGES TO UNDERDRAIN OUTLETS CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST. ANY COST TO REPAIR, REMOVE, AND REPLACE OR RELOCATE CONFLICTING UNDERDRAIN OUTLETS, SHALL BE INCLUDED IN UNIT PRICE BID FOR THE CONDUIT WORK.



RESTORATION OF WORK AREA

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH APPROVED SOD AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

NOTE:

(1) THE CONTRACTOR SHALL VERIFY THE EXISTING CONDUITS AND HANDHOLES.

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN I-394 FROM SAUK TRAIL TO EXCHANGE ST.

SCALE: VERT. HORIZ. 1"=50'
DATE 11/26/07
DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/26/2007
FILE NAME = $FILE$
PLOT SCALE = $SCALE$
USER NAME = P_NAME

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	23
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

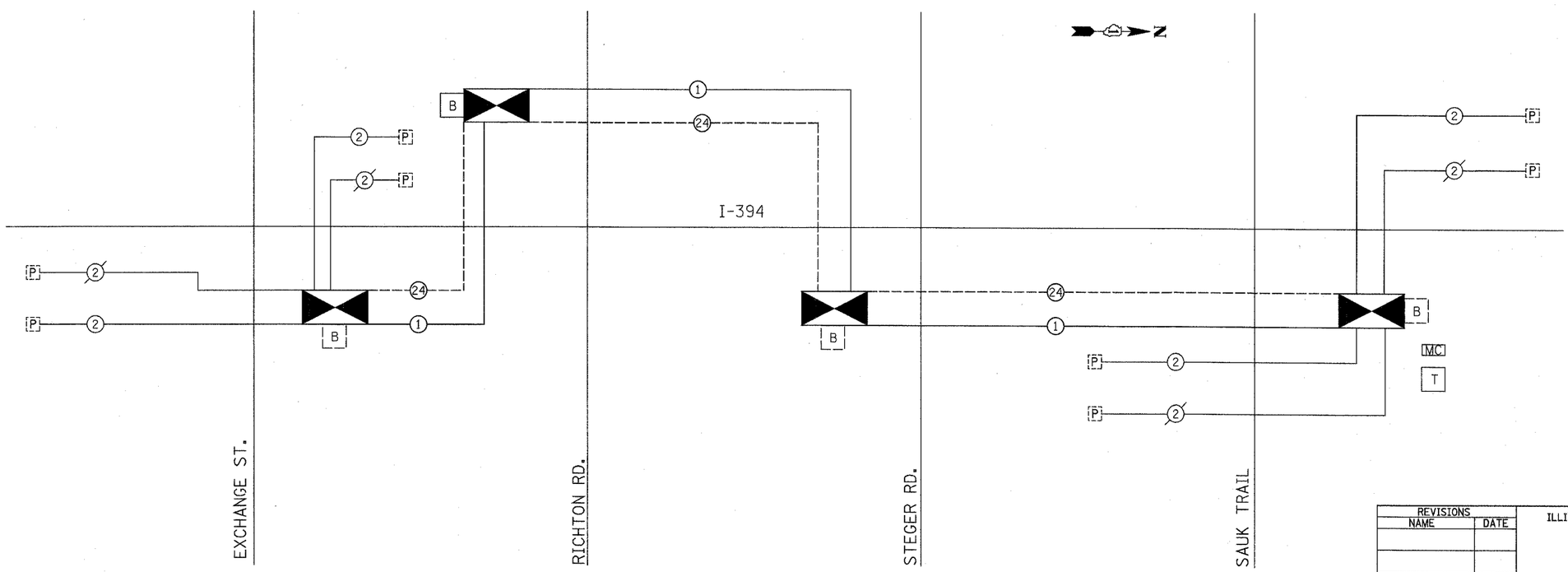
D-91-343-07

INTERCONNECT SCHEMATIC LEGEND

- EXISTING INTERSECTION CONTROLLER
- PROPOSED INTERSECTION CONTROLLER
- EXISTING MASTER CONTROLLER — EMC
- PROPOSED MASTER CONTROLLER — MC
- MASTER MASTER CONTROLLER — MMC
- EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS
- PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS
- EXISTING INTERSECTION LOOP DETECTORS PROPOSED SAMPLING (SYSTEM) DETECTORS — P
- EXISTING SAMPLING (SYSTEM) DETECTORS — ES
- PROPOSED SAMPLING (SYSTEM) DETECTORS — PS
- EXISTING SAMPLING (SYSTEM) DETECTORS. PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS. — ESP
- EXISTING SAMPLING (SYSTEM) DETECTORS. PROPOSED SAMPLING (SYSTEM) DETECTORS. — ESPS
- EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS — PD
- PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS — PD
- EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS — ESPD
- PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS — PSPD
- EXISTING FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F — 24
- PROPOSED FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F — 24
- EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE — 12
- PROPOSED INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE — 12
- EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED — 6
- PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED — 6
- EXISTING LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED — 2
- PROPOSED LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED — 2
- EXISTING ELECTRIC CABLE, 1/C (NO. 10 OR AS SPECIFIED) — 1
- PROPOSED ELECTRIC CABLE, 1/C (NO. 14 OR AS SPECIFIED) — 1
- EXISTING TELEPHONE CONNECTION — T
- PROPOSED TELEPHONE CONNECTION — T
- PROPOSED UNINTERUPTIBLE POWER SUPPLY — B
- EXISTING UNINTERRUPTIBLE POWER SUPPLY — B

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	16018
HEAV DUTY HANDHOLE	EACH	26
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	17431
FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F & SM 12F	FOOT	17691



PLOT DATE = 11/26/2007
FILE NAME = #FILE1#
PLOT SCALE = #SCALE#
USER NAME = #P_NAME#

REVISIONS NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT SCHEMATIC
I-394
FROM SAUK TRAIL TO EXCHANGE ST.

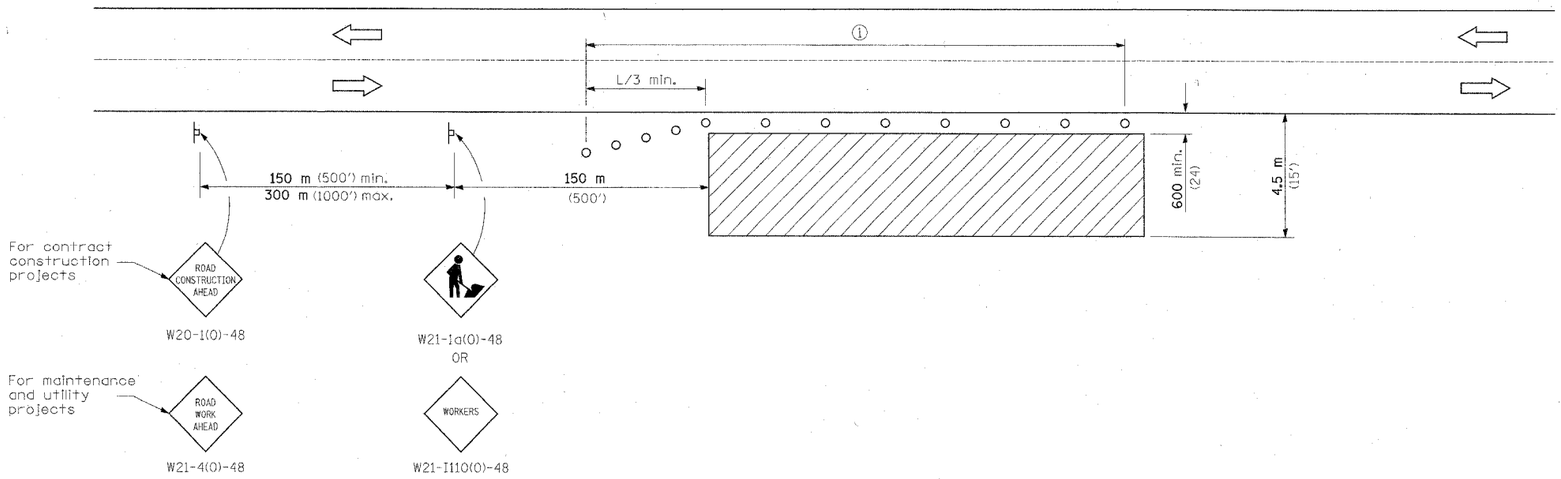
SCALE: VERT. NONE
HORIZ.
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	24
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07



TYPICAL APPLICATIONS

Utility operations
Culvert extensions
Side slope changes
Guardrail installation and maintenance
Delineator installation
Landscaping operations
Shoulder repair
Sign installation and maintenance

SYMBOLS

Work area

Sign

Cone, drum or barricade

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 8 m (25') centers for L/3 distance, and at 15 m (50') centers through the remainder of the work area.

GENERAL NOTES

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 4.5 m (15') to 600 (24) from the edge of pavement.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	Metric	(English)
70 km/h (40 mph) or less:	$L = \frac{WS^2}{150}$	$L = \frac{WS^2}{60}$
80 km/h (45 mph) or greater:	$L = 0.65(W)(S)$	$L = (W)(S)$

W = Width of offset in meters (feet).

S = Normal posted speed km/h (mph).

All dimensions are in millimeters (inches) unless otherwise shown.

OFF-RD OPERATIONS, 2L, 2W, 4.5 m (15') TO 600 mm (24") FROM PAVEMENT EDGE

STANDARD 701006-02

REVISIONS NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
EXPRESSWAY LANE CLOSURE
DETAILS

SCALE: VERT.
HORIZ.
DATE 11/26/07

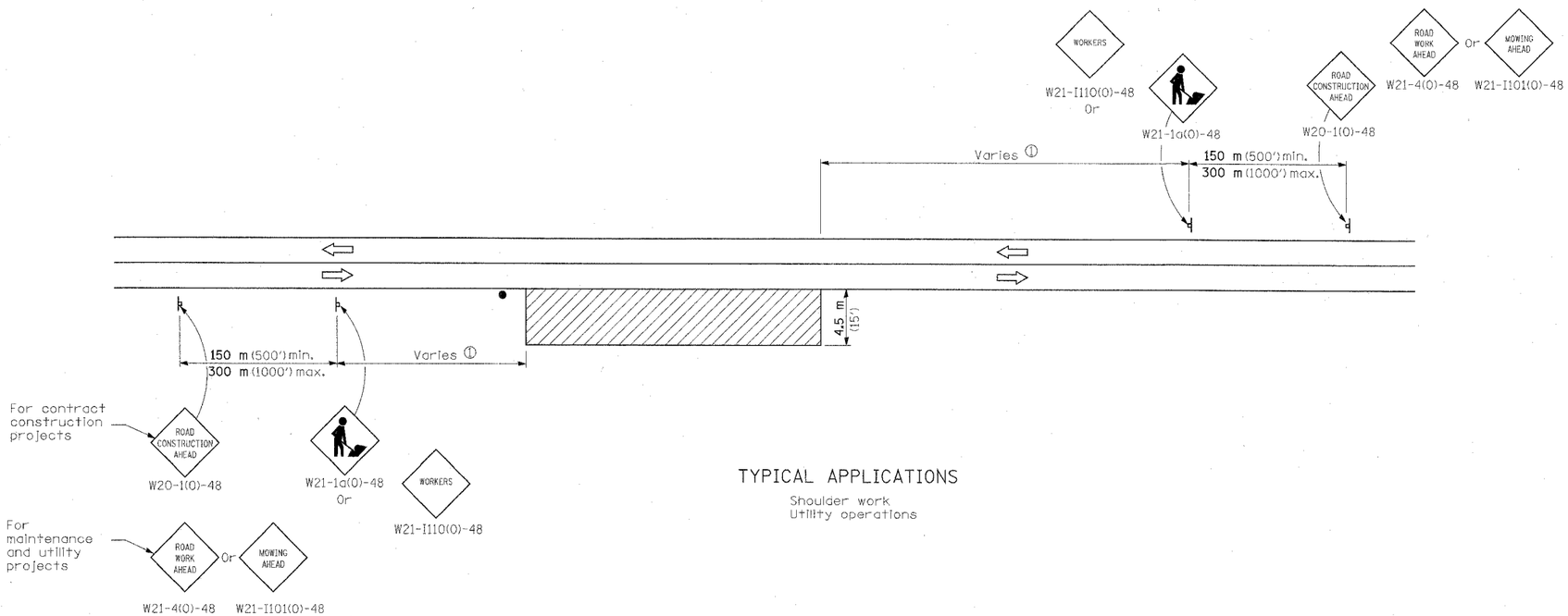
DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/26/2007
FILE NAME = $FILE$
PLOT SCALE = $SCALE$
USER NAME = P_NAME

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	25
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07



TYPICAL APPLICATIONS

Shoulder work
Utility operations

① Minimum distance is 60 m (200'). Maximum distance to be determined by the Engineer but should not exceed ½ the length required for one normal working day's operation, or 6.4 km (4 miles) which ever is less.

SYMBOLS

- Work area
- Sign
- Flagger with traffic control sign when required

GENERAL NOTES

This Standard is used where at any time, any vehicle, equipment, workers or their activities require an intermittent or continuous moving operation on the shoulder, where the average speed is 2 km/h (1 mph) or less.

When the work operation does not exceed 60 minutes, traffic control may be according to Standard 701301.

All dimensions are in millimeters (inches) unless otherwise shown.

OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY

STANDARD 701011-01

REVISIONS NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
EXPRESSWAY LANE CLOSURE DETAILS

SCALE: VERT.
HORIZ.
DATE 11/26/07

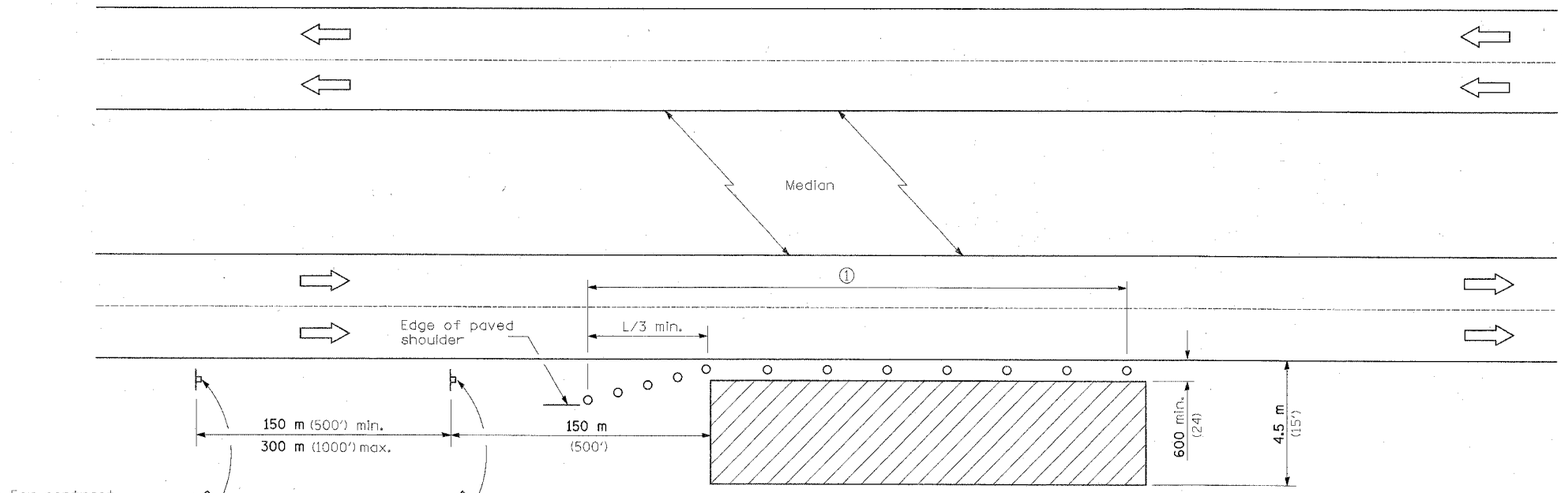
DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/26/2007
FILE NAME = #FILE1#
PLOT SCALE = #SCALE#
USER NAME = #P_NAME#

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	26
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07



TYPICAL APPLICATIONS

Utility operations
Culvert extensions
Side slope changes
Guardrail installation and maintenance
Delineator installation
Landscaping operations
Shoulder repair
Sign installation and maintenance

SYMBOLS

Work area

Sign

Cone, drum or barricade

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 8 m (25') centers for L/3 distance, and at 15 m (50') centers through the remainder of the work area.

GENERAL NOTES

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 4.5 m (15') to 600 (24) from the edge of pavement.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	Metric	(English)
70 km/h (40 mph) or less:	$L = \frac{WS^2}{150}$	$L = \frac{WS^2}{60}$
80 km/h (45 mph) or greater:	L=0.65(W)(S)	L=(W)(S)

W = Width of offset in meters (feet).

S = Normal posted speed km/h (mph).

All dimensions are in millimeters (inches) unless otherwise shown.

OFF-RD OPERATIONS, MULTILANE, 4.5 m (15') TO 600 mm (24") FROM PAVEMENT EDGE

STANDARD 701101-01

REVISIONS NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
EXPRESSWAY LANE CLOSURE DETAILS

SCALE: VERT.
HORIZ.
DATE 11/26/07

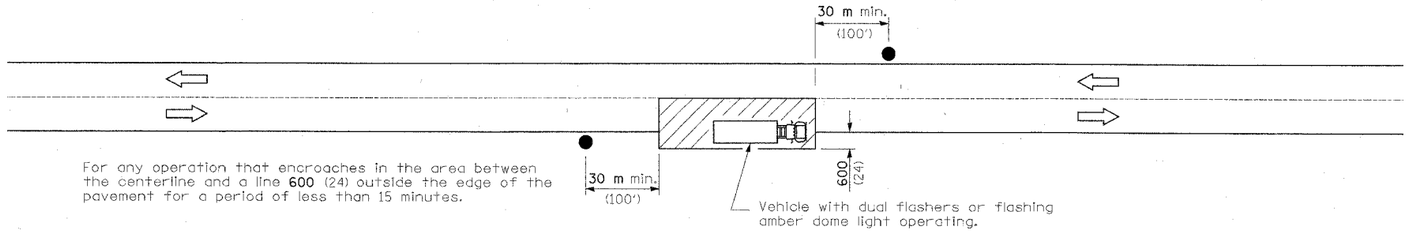
DRAWN BY BL
CHECKED BY ER/TC

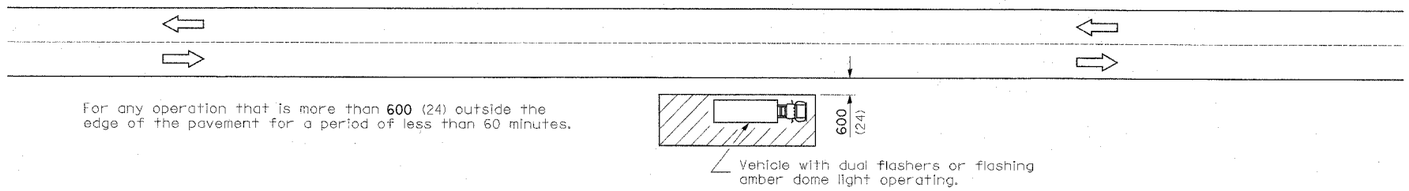
PLOT DATE = 11/26/2007
FILE NAME = #FILE$
FILE SCALE = #SCALE#
USER NAME = <#P_NAME>

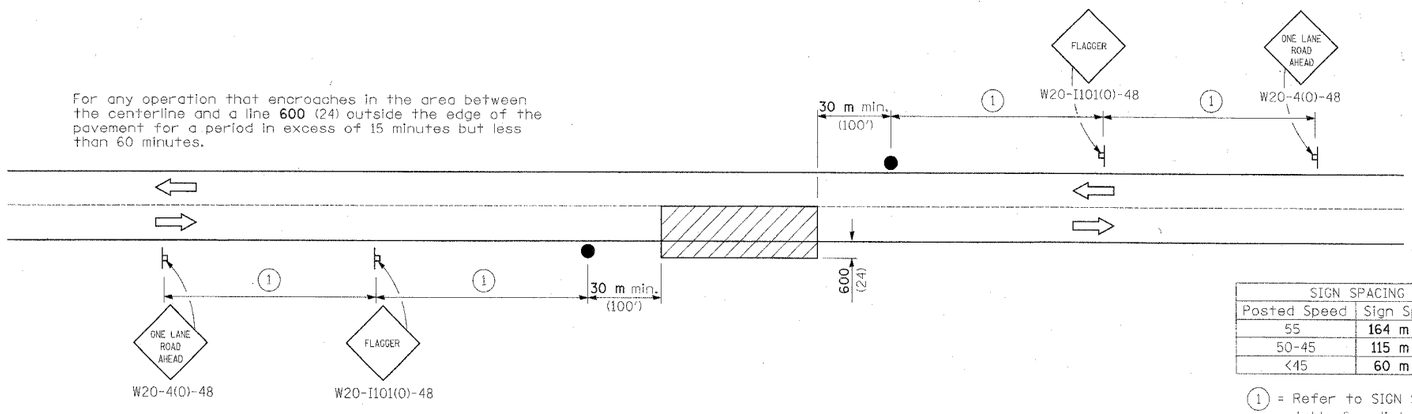
CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	27
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07







SIGN SPACING	
Posted Speed	Sign Spacing
55	164 m (500')
50-45	115 m (350')
<45	60 m (200')

(1) = Refer to SIGN SPACING table for distances.

All dimensions are in millimeters (inches) unless otherwise shown.

TYPICAL APPLICATIONS

Marking patches
Field survey
String line
Utility operations
Cleaning up debris on pavement

SYMBOLS

Work area
Sign on portable or permanent support
Flagger with traffic control sign

LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS

STANDARD 701301-02

REVISIONS	
NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST. SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
EXPRESSWAY LANE CLOSURE
DETAILS

SCALE: VERT.
HORIZ.
DATE 11/26/07

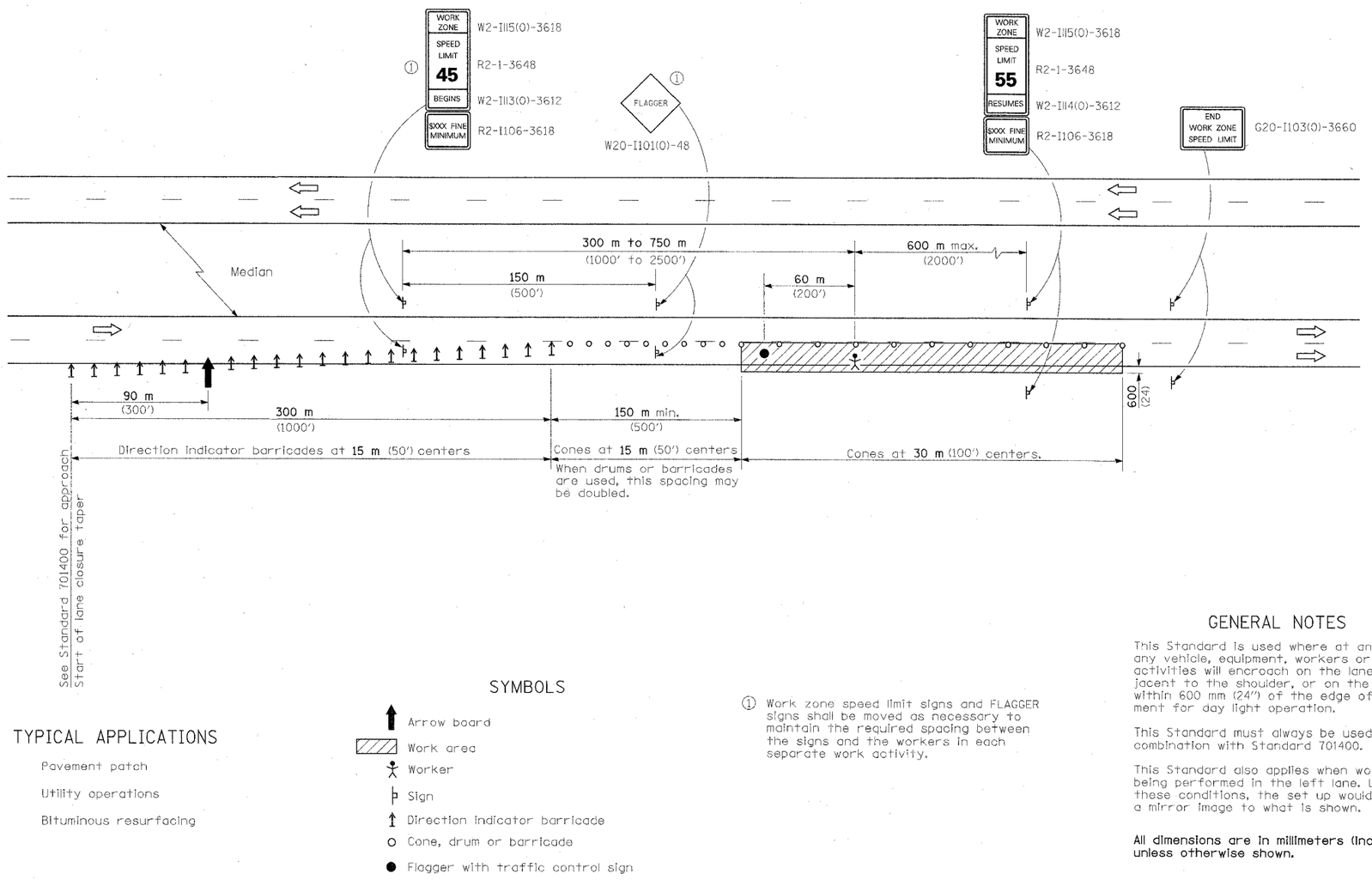
DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/26/2007
FILE NAME = #FILE1#
PLOT SCALE = #SCALE#
USER NAME = #P_NAME#

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	28
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07



TYPICAL APPLICATIONS

Pavement patch

Utility operations

Bituminous resurfacing

SYMBOLS

- Arrow board
- Work area
- Worker
- Sign
- Direction indicator barricade
- Cone, drum or barricade
- Flagger with traffic control sign

① Work zone speed limit signs and FLAGGER signs shall be moved as necessary to maintain the required spacing between the signs and the workers in each separate work activity.

GENERAL NOTES

This Standard is used where at any time, any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 600 mm (24") of the edge of pavement for day light operation.

This Standard must always be used in combination with Standard 701400.

This Standard also applies when work is being performed in the left lane. Under these conditions, the set up would be a mirror image to what is shown.

All dimensions are in millimeters (inches) unless otherwise shown.

LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY

STANDARD 701406-04

PLOT DATE = 11/26/2007
FILE NAME = #FILE1#
PLOT SCALE = #SCALE#
USER NAME = #KP_NAME#

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
EXPRESSWAY LANE CLOSURE
DETAILS

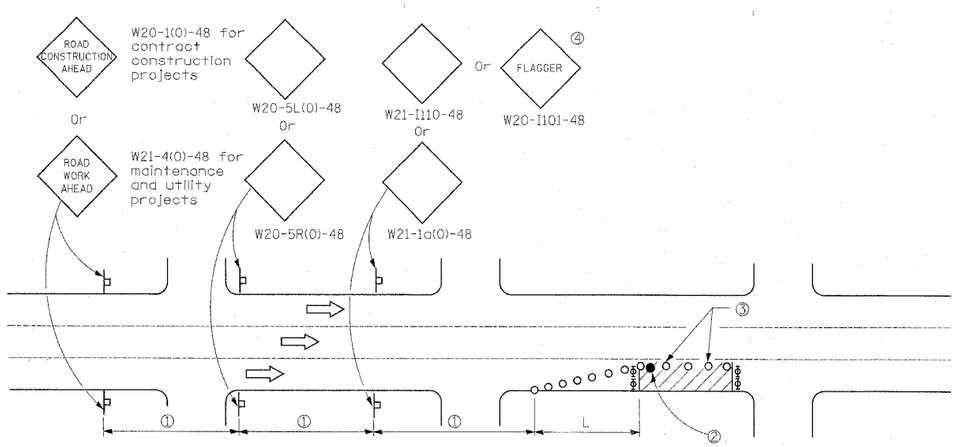
SCALE: VERT.
HORIZ.
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	29
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07



SIGN SPACING	
Posted Speed	Sign Spacing
55	164 m (500')
50-45	115 m (350')
<45	60 m (200')

SYMBOLS

- Arrow board
- Cone, drum or barricade
- Sign on portable or permanent support
- Work area
- Barricade or drum with flashing light
- Type III barricade with flashing lights
- Flagger with traffic control sign.

① Refer to SIGN SPACING TABLE for distances.

② Required for speeds > 40 MPH

③ Cones at **8 m** (25') centers for **75 m** (250'). Additional cones may be placed at **15 m** (50') centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.

④ Use flagger sign only when flagger is present.

⑤ For approved sideroad closures.

GENERAL NOTES

This Standard is used where at any-time, day or night, any vehicle, equip-ment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in urban areas.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	Metric	(English)
70 km/h (40 mph) or less:	$L = \frac{WS^2}{150}$	$L = \frac{WS^2}{60}$
80 km/h (45 mph) or greater:	$L = 0.65(W)(S)$	$L = (W)(S)$

W = Width of offset in meters (feet).

S = Normal posted speed km/h (mph).

All dimensions are in millimeters (inches) unless otherwise shown.

URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN

(Sheet 1 of 2)

STANDARD 701601-04

REVISIONS	
NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL 60603-5322
PHONE 312.425.9560
FAX 312.425.9564

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
EXPRESSWAY LANE CLOSURE
DETAILS

SCALE: VERT.
HORIZ.
DATE 11/26/07

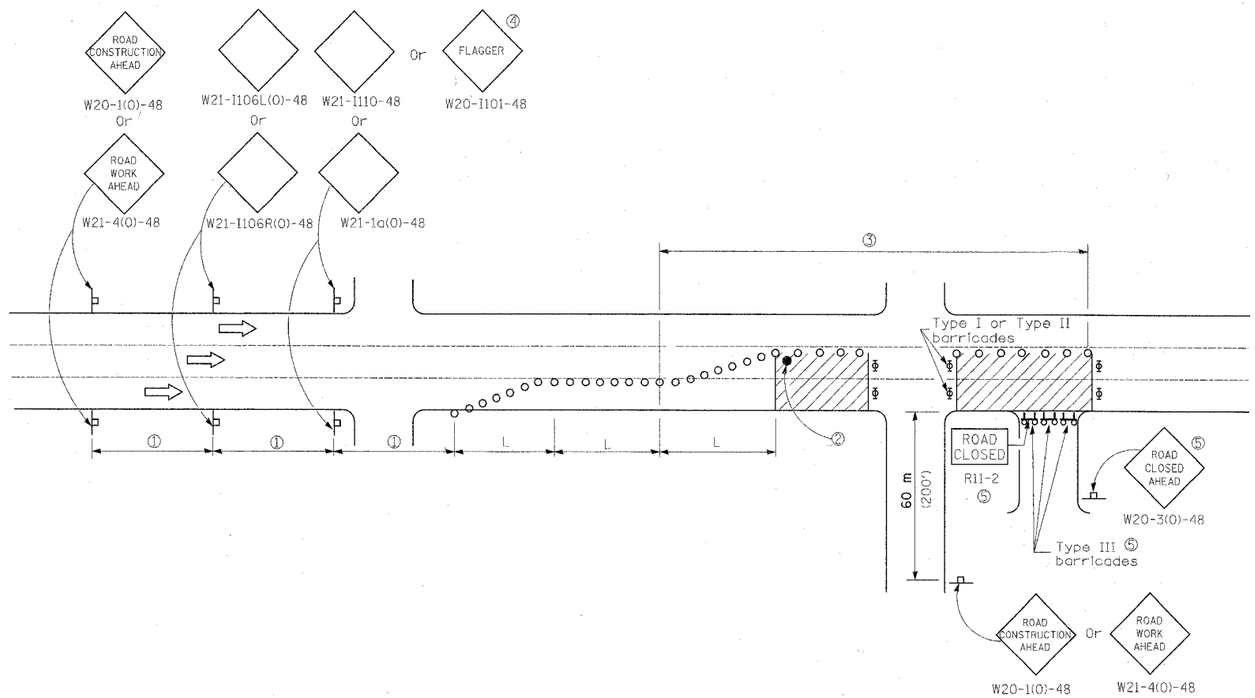
DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/26/2007
FILE NAME = #FILE#
PLOT SCALE = #SCALE#
USER NAME = #IP_NAME#

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	30
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07



All dimensions are in millimeters (inches) unless otherwise shown.

URBAN LANE CLOSURE,
MULTILANE, 1W OR 2W WITH
NONTRAVERSABLE MEDIAN
(Sheet 2 of 2)

STANDARD 701601-04

REVISIONS	
NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
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PHONE 312.425.9560
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ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
EXPRESSWAY LANE CLOSURE
DETAILS

SCALE: VERT.
HORIZ.
DATE 11/26/07

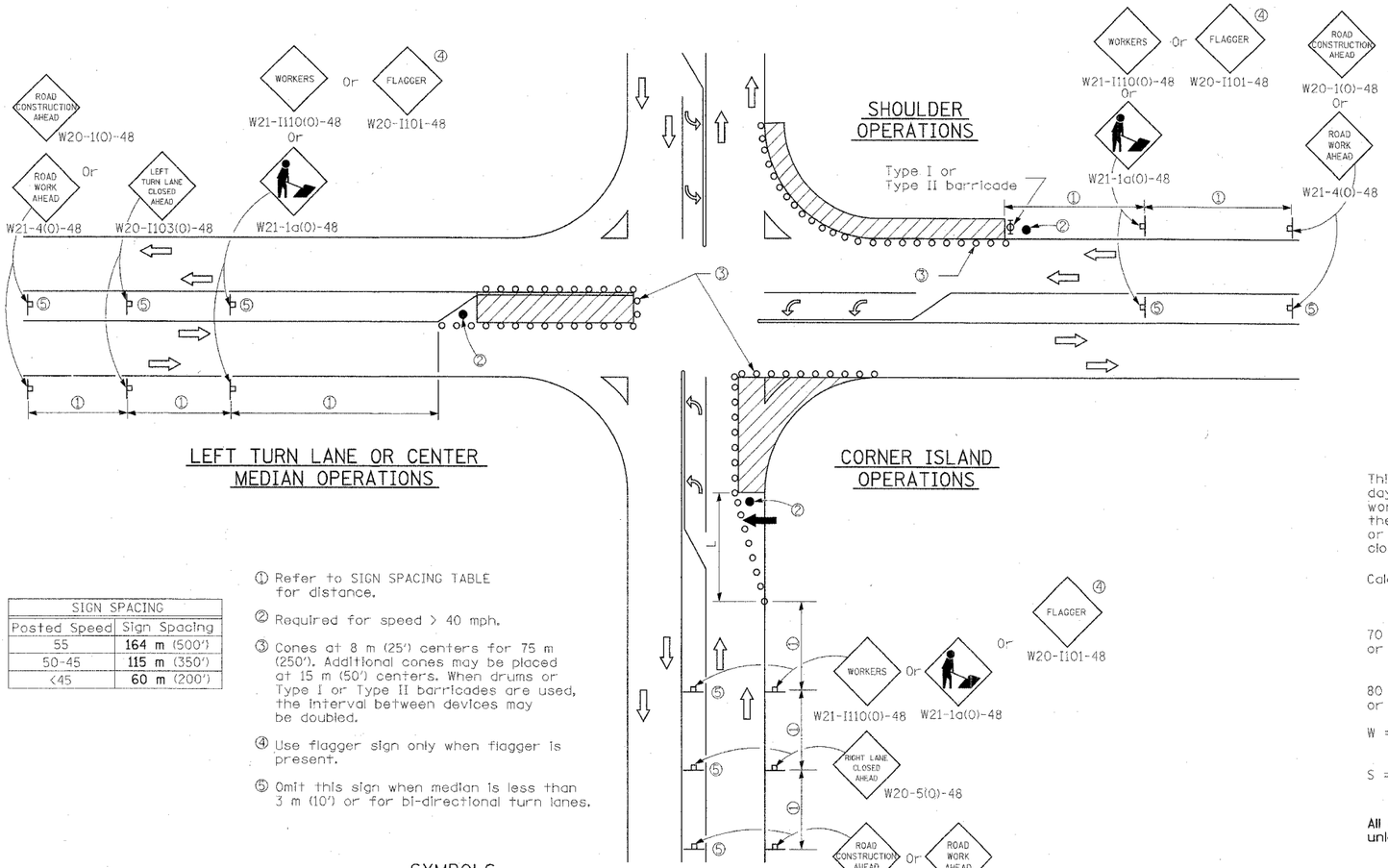
DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/26/2007
FILE NAME = #FILE1#
PLOT SCALE = #SCALE#
USER NAME = #P_NAME#

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	31
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07



SIGN SPACING	
Posted Speed	Sign Spacing
55	164 m (500')
50-45	115 m (350')
<45	60 m (200')

① Refer to SIGN SPACING TABLE for distance.

② Required for speed > 40 mph.

③ Cones at 8 m (25') centers for 75 m (250'). Additional cones may be placed at 15 m (50') centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.

④ Use flagger sign only when flagger is present.

⑤ Omit this sign when median is less than 3 m (10') or for bi-directional turn lanes.

SYMBOLS

- Work area
- Cone, drum or barricade
- Sign on portable or permanent support
- Arrow board
- Barricade or drum with flashing light
- Flagger with traffic control sign

GENERAL NOTES

This Standard is used where at anytime, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in an urban area.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
70 km/h (40 mph) or less:	Metric $L = \frac{WS^2}{150}$	(English) L =
80 kh/h (45 mph) or greater:	L = 0.65(W)(S)	L = (W)(S)

W = Width of offset in meters (feet).

S = Normal posted speed km/h (mph).

All dimensions are in millimeters (inches) unless otherwise shown.

URBAN LANE CLOSURE, MULTILANE INTERSECTION

STANDARD 701701-04

REVISIONS NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST. SUITE 1540
CHICAGO, IL. 60603-5322
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ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
EXPRESSWAY LANE CLOSURE
DETAILS

SCALE: VERT.
HORIZ.
DATE 11/26/07

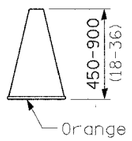
DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/26/2007
FILE NAME = #FILE#
PLOT SCALE = #SCALE#
USER NAME = #IP_NAME#

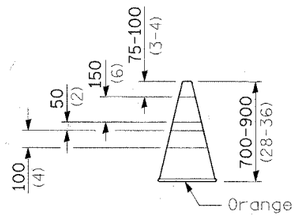
CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037IS	COOK/WILL	34	32
STA. _____	TO STA. _____			
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

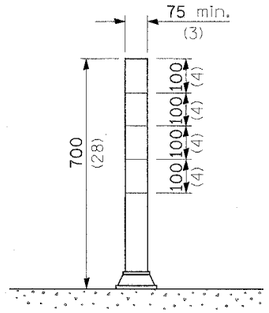
D-91-343-07



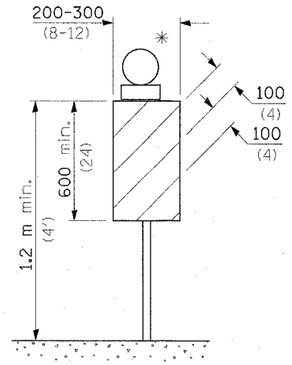
CONE



REFLECTORIZED CONE

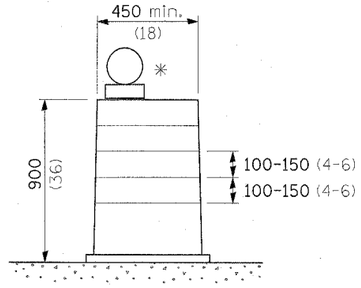


FLEXIBLE DELINEATOR

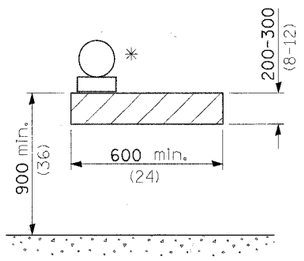


VERTICAL PANEL

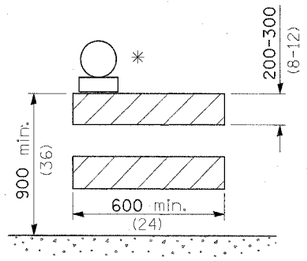
POST MOUNTED



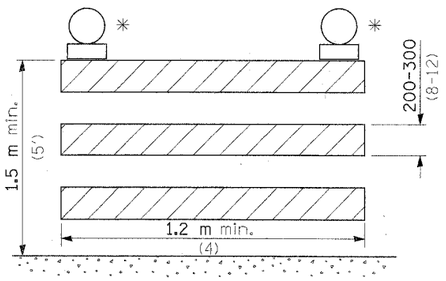
DRUM



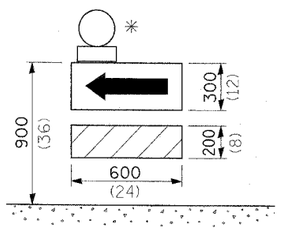
TYPE I BARRICADE



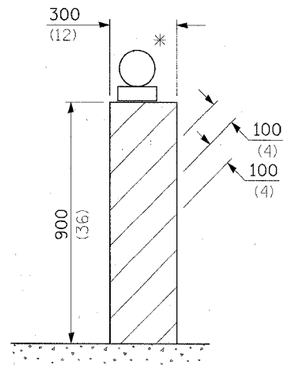
TYPE II BARRICADE



TYPE III BARRICADE



DIRECTION INDICATOR BARRICADE



VERTICAL BARRICADE

GENERAL NOTES

All heights shown shall be measured above the pavement surface.

All dimensions are in millimeters (inches) unless otherwise shown.

* Warning lights (if required)

TRAFFIC CONTROL DEVICES

STANDARD 701901

SHEET 1 OF 3

REVISIONS NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL 60603-5322
PHONE 312.425.9560
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ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
EXPRESSAY LANE CLOSURE
DETAILS

SCALE: VERT.
HORIZ.
DATE 11/26/07

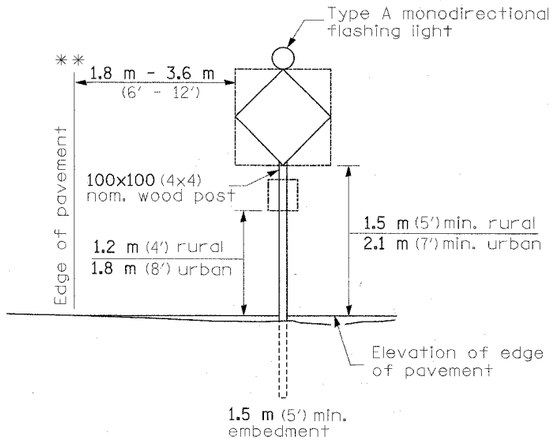
DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/29/2007
FILE NAME = #FILE$
PLOT SCALE = #SCALE#
USER NAME = #P_NAME#

CONTRACT NO. 60D20

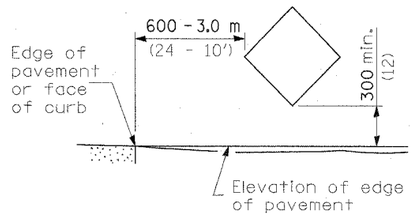
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	33
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07

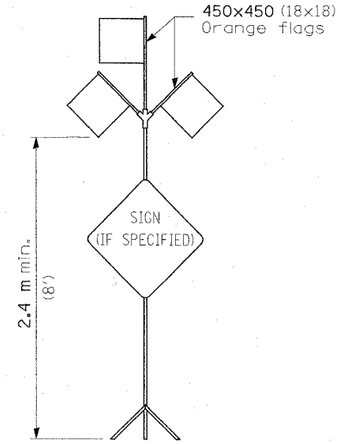


POST MOUNTED SIGNS

** When curb or paved shoulder are present this dimension shall be 600 (24) to the face of curb or 1.8 m (6') to the outside edge of the paved shoulder.



SIGNS ON TEMPORARY SUPPORTS



HIGH LEVEL WARNING DEVICE

ROAD CONSTRUCTION NEXT X MILES	END CONSTRUCTION
G20-1(0)-6036	G20-2a(0)-6024

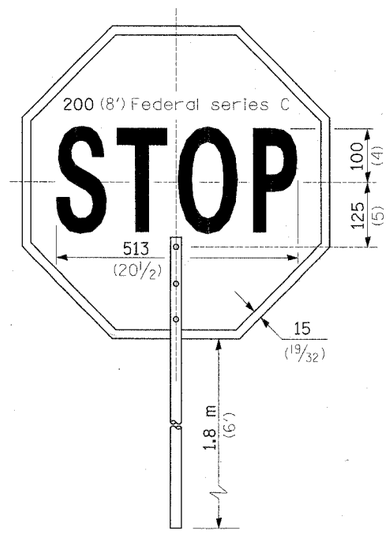
This signing is required for all projects 3200 m (2 miles) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 150 m (500') in advance of project limits.

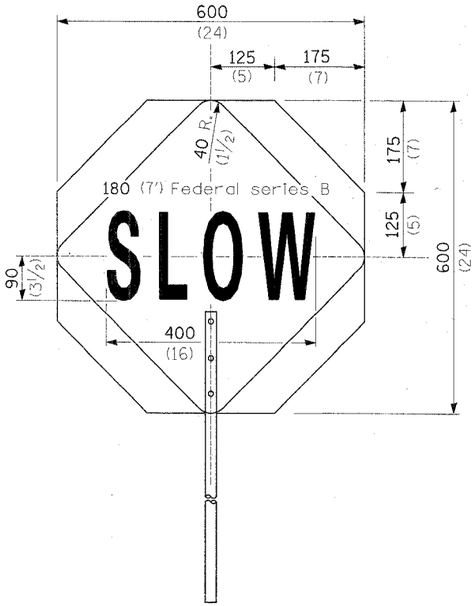
END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 3200 m (2 miles).

Dual sign displays shall be utilized on multi-lane highways.

WORK LIMIT SIGNING



FRONT SIDE



REVERSE SIDE

FLAGGER TRAFFIC CONTROL SIGN

All dimensions are in millimeters (inches) unless otherwise shown.

TRAFFIC CONTROL DEVICES

STANDARD 701901

SHEET 2 OF 3

REVISIONS NAME	DATE

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
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ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
EXPRESSWAY LANE CLOSURE
DETAILS

SCALE: VERT.
HORIZ.
DATE 11/26/07

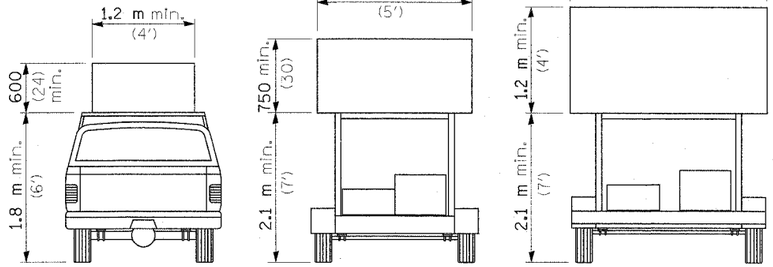
DRAWN BY BL
CHECKED BY ER/TC

PLOT DATE = 11/28/2007
FILE NAME = #FILE1#
PLOT SCALE = #SCALE#
USER NAME = #P_NAME#

CONTRACT NO. 60D20

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-037TS	COOK/WILL	34	34
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-343-07

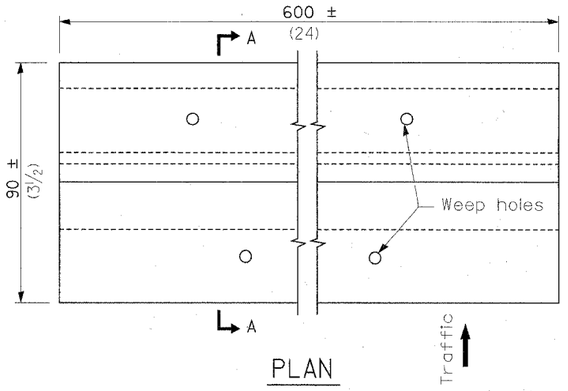


TYPE A ROOF MOUNTED

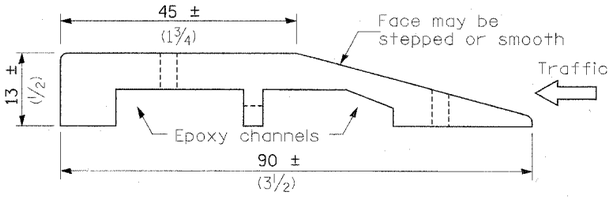
TYPE B ROOF OR TRAILER MOUNTED

TYPE C TRAILER MOUNTED

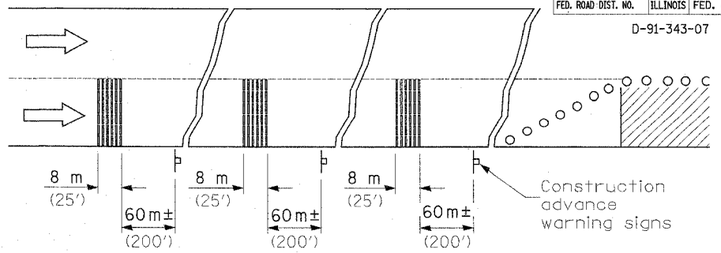
ARROW BOARDS

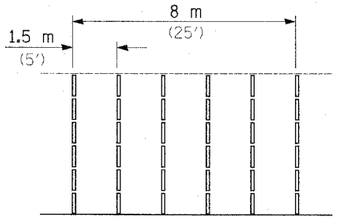


PLAN



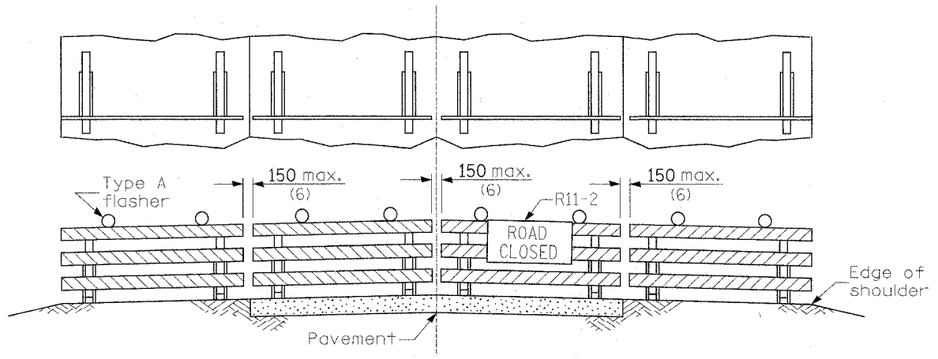
SECTION A-A





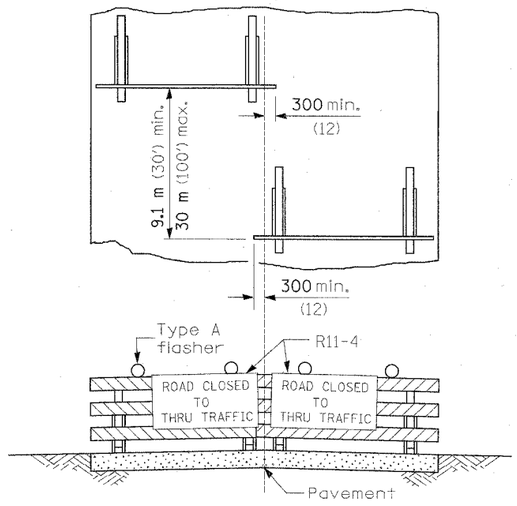
TYPICAL INSTALLATION

TEMPORARY RUMBLE STRIPS



ROAD CLOSED TO ALL TRAFFIC

Reflectorized striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.



ROAD CLOSED TO THRU TRAFFIC

Reflectorized striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD

All dimensions are in millimeters (inches) unless otherwise shown.

TRAFFIC CONTROL DEVICES

STANDARD 701901

SHEET 3 OF 3

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
EXPRESSAY LANE CLOSURE DETAILS

SCALE: VERT.
HORIZ.
DATE 11/26/07

DRAWN BY BL
CHECKED BY ER/TC

INFRASTRUCTURE ENGINEERING, INC.
33 W. MONROE ST., SUITE 1540
CHICAGO, IL. 60603-5322
PHONE 312.425.9560
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PLOT DATE = 11/26/2007
FILE NAME = #FILE$
PLOT SCALE = #SCALE$
USER NAME = #P-NAME#