

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
365	97-N-2	KANE	21	1
FED. ROAD DIST. NO. 1	ILLINOIS	CONTRACT NO. 60148		

\*21+4=25

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

F.A.P. ROUTE 365 / ILL 31 / ILL 56

I-88 RAMPS

SECTION: 97-N-2

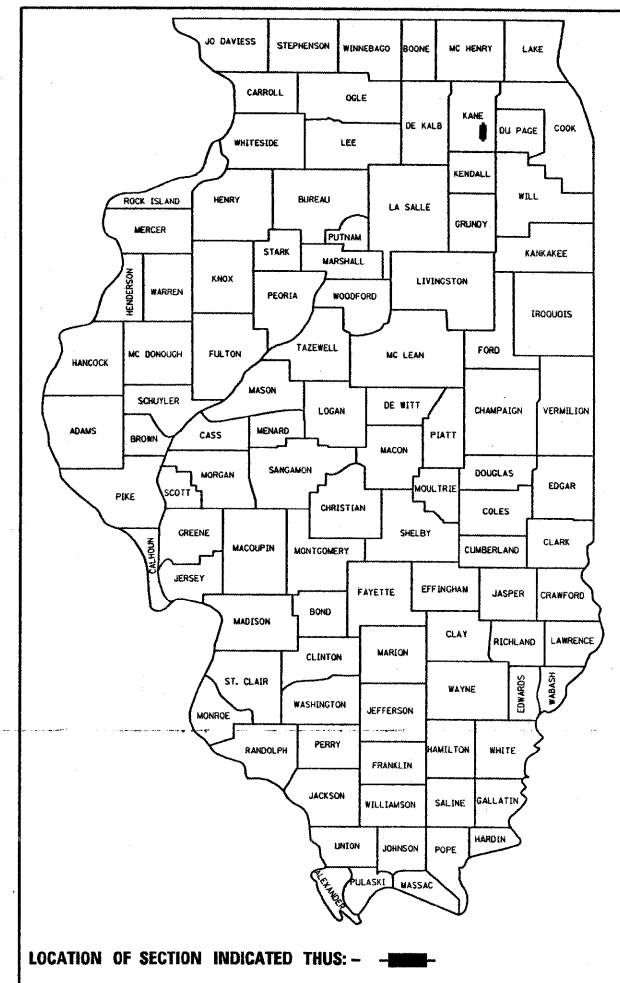
INTERSECTION IMPROVEMENT &  
TRAFFIC SIGNAL

PROJECT: ACHSIP-0365(010)

KANE COUNTY

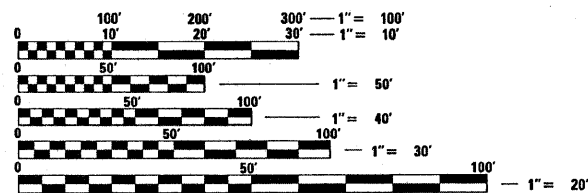
C-91-047-10

D-91-047-10



FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROJECT IS LOCATED IN THE  
VILLAGE OF NORTH AURORA

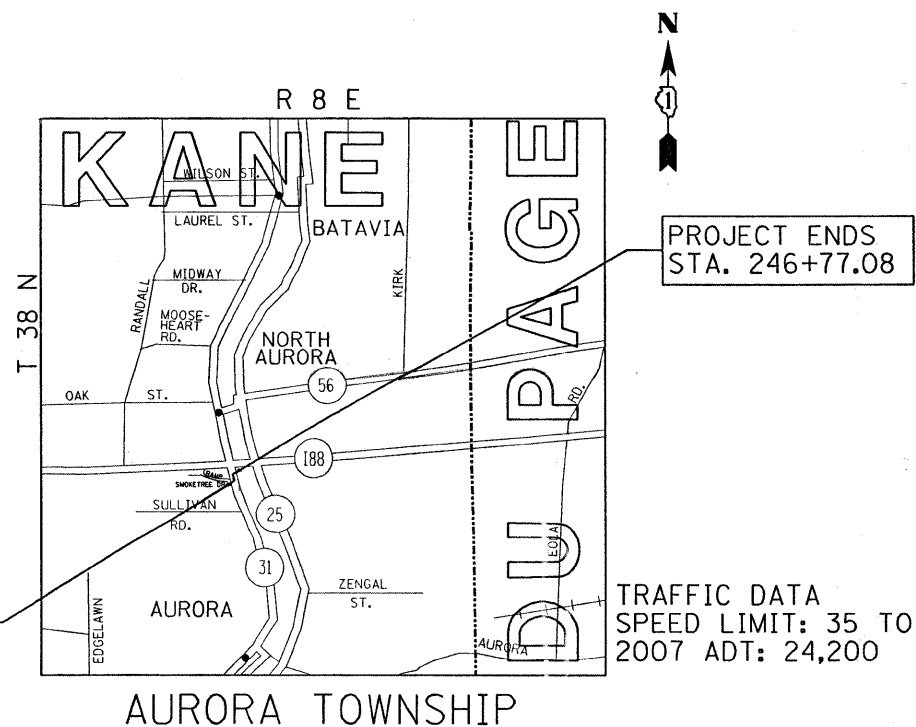


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT ENGINEER: DAN WILGREEN (847) 705-4240  
PROJECT MANAGER: KEN ENG

CONTRACT NO. 60148



PROJECT BEGINS  
STA. 233+92.02

PROJECT ENDS  
STA. 246+77.08

TRAFFIC DATA  
SPEED LIMIT: 35 TO 40 MPH  
2007 ADT: 24,200

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED OCTOBER 13 2009

*Diane M. O'Keefe*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER  
December 4, 2009

*Charles G. Ingross*  
ENGINEER OF DESIGN AND ENVIRONMENT  
December 4, 2009

*Christine M. Reed*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

GROSS LENGTH OF PROJECT = NET LENGTH OF PROJECT = 1,285 FEET (0.24 MILES)

INDEX OF SHEETS

SHEET NO.

DESCRIPTION

STATE STANDARDS

GENERAL NOTES:

1	TITLE SHEET
2	INDEX OF SHEETS, STATE STANDARDS, AND GENERAL NOTES
3-4	SUMMARY OF QUANTITIES
5	TYPICAL SECTIONS
6	ROADWAY & PAVEMENT MARKING PLANS
7-14	TRAFFIC SIGNAL PLANS
15	CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT (BD-24)
16	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW PLOW RESISTANT) (TC-11)
17	DISTRICT ONE TYPICAL PAVEMENT MARKINGS (TC-13)
18	TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) (TC-14)
19A-19D	DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS (TS-05)
20	SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS (TC-18)
21	ARTERIAL ROAD INFORMATION SIGNING (TC-22)

000001-05	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
606001-04	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB & GUTTER
606301-04	PC CONCRETE ISLANDS AND MEDIANS
701601-06	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701701-06	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-01	TRAFFIC CONTROL DEVICES
720001-01	SIGN PANEL MOUNTING DETAILS
814001-02	CONCRETE HANDHOLES
814006-02	DOUBLE HANDHOLES
857001-01	STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
877001-04	STEEL MAST AREM ASSEMBLY AND POLE
878001-08	CONCRETE FOUNDATION DETAILS
880001-01	SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
880006-01	TRAFFIC SIGNAL MOUNTING DETAILS
886001-01	DETECTOR LOOP INSTALLATIONS
886006-01	TYPICAL LAYOUT FOR DETECTION LOOPS

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT 800-892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS FACILITIES. ( 48 HOUR NOTIFICATION IS REQUIRED)

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND THE VILLAGE NORH AURORA.

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

BUTT JOINTS WILL BE INSTALLED AT THE ENDS OF ALL RESURFACING (WHERE RESURFACING MEETS EXISTING PAVEMENT), IN ACCORDANCE WITH THE "BUTT JOINT AND HMA TAPER DETAILS" SHEET INCLUDED IN THE PLANS, UNLESS OTHERWISE SPECIFIED.

WHEN MILLED PAVEMENT IS OPEN TO TRAFFIC THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES OF THE MILLING MACHINE SHALL NOT EXCEED 1 1/2 INCHES (40MM) WHERE THE SPEED LIMIT IS 45 MPH (80KM/H) OR LESS AND 1 INCH (25 MM) WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH (80 KM/H), WITH WRITTEN APPROVAL FROM THE ENGINEER, A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES (75 MM) MAY BE ALLOWED IF THE EDGE OF THE MILLING IS SLOPED A MINIMUM 1:3 (V:H).

10 FEET (3 METER) TRANSITION SHALL BE USED TO MATCH PROPOSED CURB AND GUTTER TO EXISTING CURB AND GUTTERS IN THE FIELD, UNLESS OTHERWISE SHOWN. THE TRANSITION SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEMS OF WORK SPECIFIED.

THE RESIDENT ENGINEER SHALL VERIFY THE LOCATIONS OF ALL EXISTING PAVEMENT MARKINGS PRIOR TO MILLING OR RESURFACING.

ALL PAVEMENT MARKINGS SHALL BE PLACED THROUGHOUT THE IMPROVEMENT ACCORDING TO DISTRICT 1 TYPICAL PAVEMENT MARKING.

TWO WEEKS PRIOR TO PLACING PERMANENT PAVEMENT MARKINGS, CONTACT DON CHIARUGI, AREA TRAFFIC FIELD ENGINEER AT (847) 741 9857-.

RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED THROUGHOUT THE IMPROVEMENT ACCORDING TO THE DISTRICT STANDARDS AS NOTED IN THE DETAIL.

THE UNIT WEIGHT (CONVERSION FACTOR) QUOTED IS FOR THE ESTIMATING PLAN QUANTITIES ONLY. ACTUAL QUANTITIES TO FULFILL CONTRACT REQUIREMENTS WILL BE DETERMINED BASED ON UNIT WEIGHT OF APPROVED MIX DESIGN, PLAN DIMENSIONS, AND DENSITY LIMITATIONS. MAXIMUM PAYMENT WILL BE COMPUTED BASED ON WEIGHT AVERAGE DENSITIES OF THE IN-PLACE MIXTURE.

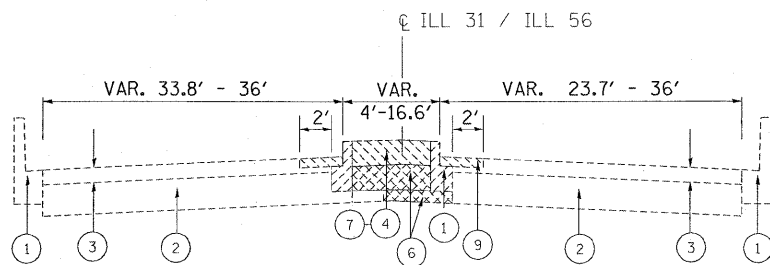
THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS PRIOR TO THE PLACEMENT OF ANY TEMPORARY TRAFFIC CONTROL DEVICES.

FILE NAME =	USER NAME = abreuah	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>ILL 31 / ILL 56 AT I-88 RAMP</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pwork\PWIDOT\ABREUAH\0158873\PR11	997-topo.dgn	DRAWN -	REVISED -			365	97-N-2	KANE	21	2	
	PLOT SCALE = 50,000' / IN.	CHECKED -	REVISED -			INDEX OF SHEETS STATE STANDARDS AND GENERAL NOTES					
	PLOT DATE = 10/20/2009	DATE -	REVISED -			SCALE: 1" = 50'	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT CONTRACT NO. 60148		

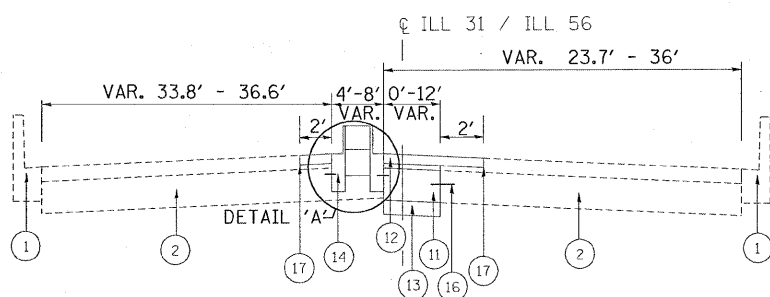
SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE					SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE								
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	1000-2A	TRAF. SIG. YO31-1F	EVP YO31-3D	100% VILLAGE OF NORTH AURORA				CODE NO	ITEM	UNIT	URBAN TOTAL QUANTITIES	1000-2A	TRAF. SIG. YO31-1F	EVP YO31-3D				
				90% FED. 10% STATE	90% FED. 10% STATE	100% VILLAGE OF NORTH AURORA									90% FED. 10% STATE	90% FED. 10% STATE	100% VILLAGE OF NORTH AURORA				
35300600	PORTLAND CEMENT CONCRETE BASE COURSE 11"	SQ YD	229	229							81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	575		575					
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.2	0.2							81000700	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	5		5					
40600300	AGGREGATE (PRIME COAT)	TON	0.8	0.8							81000800	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	48		48					
40600400	MIXTURE FOR CRACKS, JOINTS, AND FLANGWAYS	TON	0.4	0.4							81001000	CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL	FOOT	10		10					
40600635	LEVELING BINDER (MACHINE METHOD), N70	TON	10	10							81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	62		62					
40600895	CONSTRUCTING TEST STRIP	EACH	1	1							81018900	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	266		266					
40603595	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90	TON	47	47							81400100	HANDHOLE	EACH	6		6					
42001300	PROTECTIVE COAT	SQ YD	362	362							81400200	HEAVY-DUTY HANDHOLE	EACH	2		2					
44000156	HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4"	SQ YD	371	371							81400300	DOUBLE HANDHOLE	EACH	1		1					
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	1108	1108							81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	633		633					
44003100	MEDIAN REMOVAL	SQ FT	3669	3669							85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2		2					
44300200	STRIP REFLECTIVE CRACK CONTROL TREATMENT	FOOT	287	287							85700205	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1		1					
60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	1092	1092							86400100	TRANSCEIVER - FIBER OPTIC	EACH	1		1					
60618300	CONCRETE MEDIAN SURFACE, 4 INCH	SQ FT	953	953							87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	722			722				
60619600	CONCRETE MEDIAN, TYPE SB-6.12	SQ FT	30	30							87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1811		1811					
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6							87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	886		886					
67100100	MOBILIZATION	L SUM	1	1							87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	2147		2147					
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1	1							87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	76		76					
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	1							87700180	STEEL MAST ARM ASSEMBLY AND POLE, 28 FT.	EACH	1		1					
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	12	12							87700190	STEEL MAST ARM ASSEMBLY AND POLE, 30 FT.	EACH	1		1					
72000100	SIGN PANEL - TYPE 1	SO FT	15		15						87700210	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1		1					
78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SO FT	109.2	109.2							87700300	STEEL MAST ARM ASSEMBLY AND POLE, 52 FT.	EACH	1		1					
78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	2552	2552							87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4		4					
78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	750	750							87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	15		15					
78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	65	65							87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	45		45					
78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	74	74																	
78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	28	28																	
78300105	PAVEMENT MARKING REMOVAL	FOOT	2556	2556																	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	17	17																	

SUMMARY OF QUANTITIES			URBAN	CONSTRUCTION TYPE CODE					SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT		TOTAL QUANTITIES	I000-2A 90% FED. 10% STATE	TRAF. SIG. Y031-1F 90% FED. 10% STATE	EVP Y031-3D 100% VILLAGE OF NORTH AURORA							I000-2A 90% FED. 10% STATE	TRAF. SIG. Y031-1F 90% FED. 10% STATE	EVP Y031-3D 100% VILLAGE OF NORTH AURORA		
• 88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	7		7													
• 88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1		1													
• 88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1		1													
• 88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	3		3													
• 88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	2		2													
• 88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	10		10													
• 88500100	INDUCTIVE LOOP DETECTOR	EACH	9		9													
• 88600100	DETECTOR LOOP, TYPE I	FOOT	624		624													
• 88700200	LIGHT DETECTOR	EACH	4			4												
• 88700300	LIGHT DETECTOR AMPLIFIER	EACH	1			1												
• 89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1		1													
• 89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	7647		7647													
• 89502350	REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	FOOT	575		575													
• 89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1		1													
• 89502380	REMOVE EXISTING HANDHOLE	EACH	9		9													
• 89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	5		5													
X0322256	TEMPORARY INFORMATION SIGNING	SO FT	77.1	77.1														
• X0323412	REMOVE EXISTING SERVICE INSTALLATION	EACH	1		1													
• X0325737	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1		1													
• X0325890	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 1	EACH	1		1													
• X8050015	SERVICE INSTALLATION - POLE MOUNTED	EACH	1		1													
• X8620020	UNINTERRUPTIBLE POWER SUPPLY	EACH	1		1													
• X8710020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	FOOT	2895		2895													
• X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	453		453													
• X8730250	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	722			722												

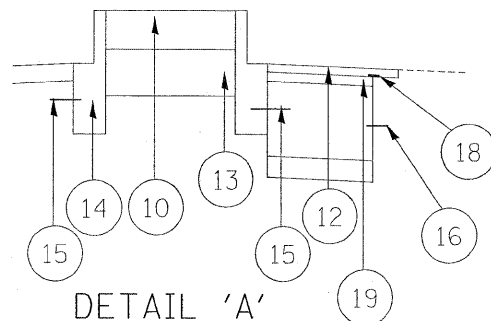
• SPECIALTY ITEM



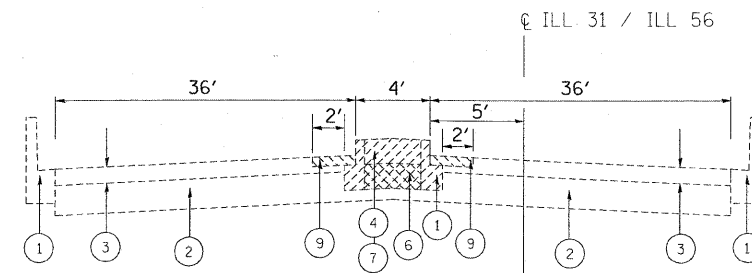
EXISTING TYPICAL SECTION  
ILL 31/ ILL 56  
STA. 233+92.02 TO STA. 236+79



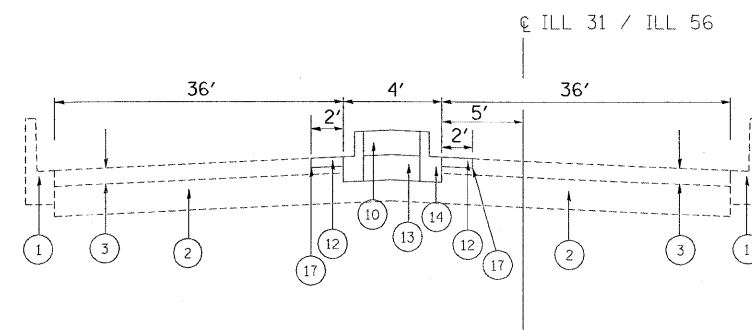
PROPOSED TYPICAL SECTION  
ILL 31/ ILL 56  
STA. 233+92.02 TO STA. 236+79



DETAIL 'A'



EXISTING TYPICAL SECTION  
ILL 31/ ILL 56  
STA. 236+79 TO STA. 240+45  
(LOOKING NORTH)



PROPOSED TYPICAL SECTION  
ILL 31/ ILL 56  
STA. 236+79 TO STA. 240+45  
(LOOKING NORTH)

**LEGEND**

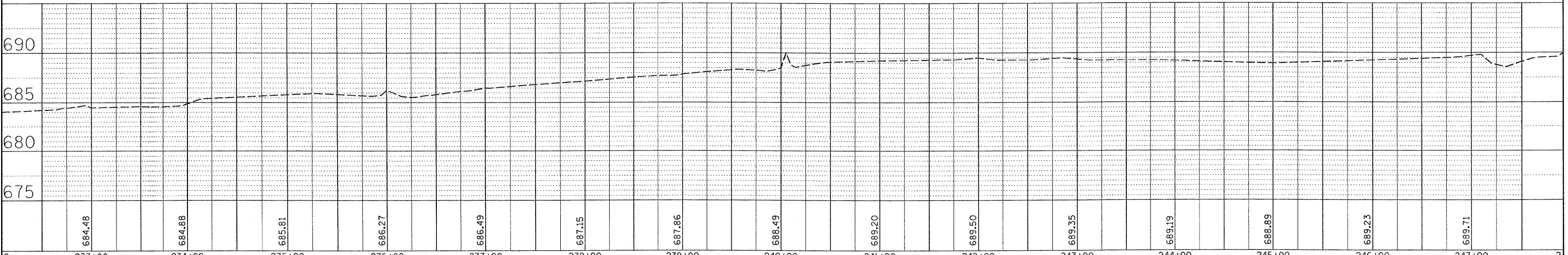
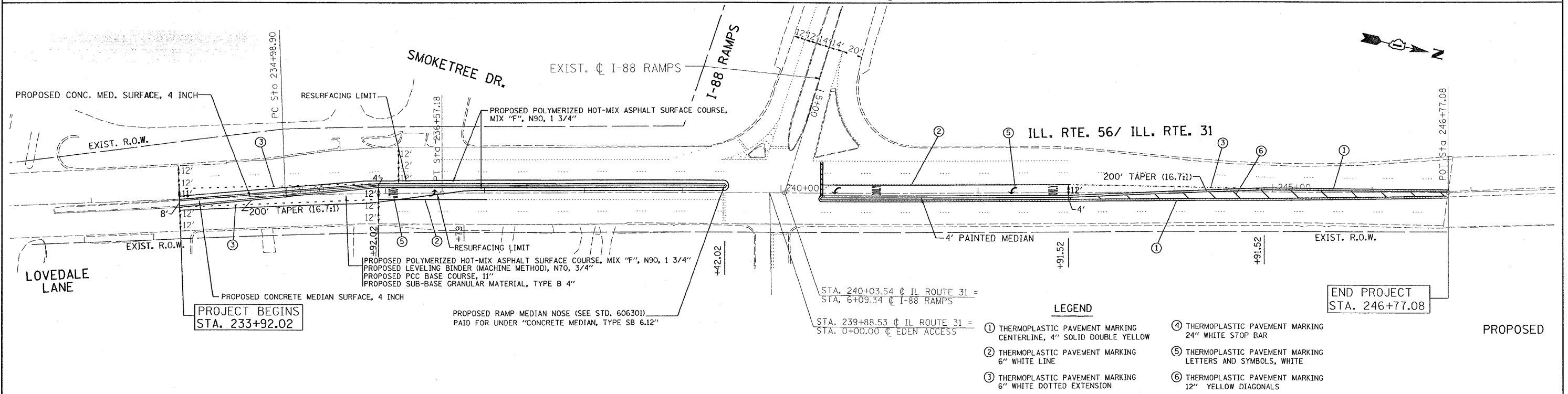
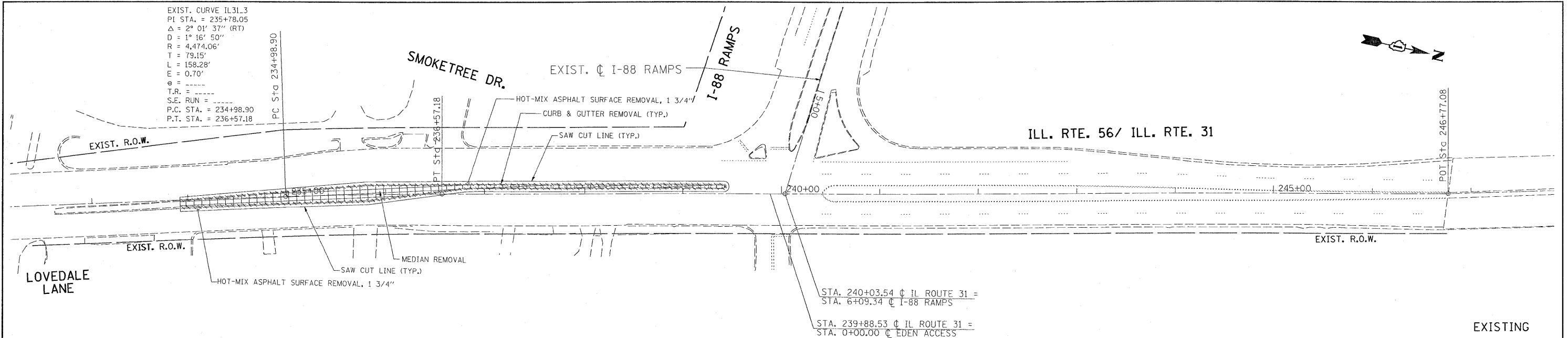
- ① EXISTING COMBINATION CONCRETE CURB & GUTTER
- ② EXISTING PCC PAVEMENT ±11"
- ③ EXISTING HMA OVERLAY ±3 1/4"
- ④ EXISTING HMA MEDIAN
- ⑤ EXISTING GRASS MEDIAN
- ⑥ PROPOSED EARTH EXCAVATION (TO BE INCLUDED IN THE COST OF MEDIAN REMOVAL ITEM)
- ⑦ PROPOSED MEDIAN REMOVAL
- ⑧ PROPOSED CURB & GUTTER REMOVAL (SAW CUT & REMOVAL OF HMA OVERLAY OVER GUTTER SHALL BE INCLUDED IN THE PRICE OF REMOVAL)
- ⑨ PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4"
- ⑩ PROPOSED CONCRETE MEDIAN SURFACE, 4 INCH
- ⑪ PROPOSED PCC BASE COURSE, 11'
- ⑫ PROPOSED POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90, 1 3/4"
- ⑬ PROPOSED SUB-BASE GRANULAR MATERIAL, TYPE B 4" (TO BE INCLUDED IN THE COST OF PCC BASE COURSE & CONCRETE MEDIAN SURFACE ITEM)
- ⑭ PROPOSED COMBINATION CONCRETE CURB AND GUTTER, TYPE B 6.12
- ⑮ PROPOSED NO. 6 EPOXY COATED TIE BAR, DEFORMED, (DRILL AND GROUT), AT 24" SPACING, (INCLUDED IN THE COST OF COMBINATION CURB AND GUTTER)
- ⑯ PROPOSED NO. 8 EPOXY COATED TIE BAR, DEFORMED, (DRILL AND GROUT), AT 24" SPACING, (INCLUDED IN THE COST OF PCC BASE COURSE ITEM)
- ⑰ PROPOSED SAW CUT (INCLUDED IN THE COST OF HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4")
- ⑱ PROPOSED STRIP REFLECTIVE CRACK CONTROL TREATMENT
- ⑲ PROPOSED LEVELING BINDER (MACHINE METHOD), N70, 3/4"

HOT-MIX ASPHALT MIXTURE REQUIREMENTS	
MIXTURE TYPE	AIR VOIDS
RESURFACING	
POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90 (IL 9.5 mm)	4% @ 90 GYR
LEVELING BINDER (MACHINE METHOD), N70	4% @ 70 GYR

THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LB/ SQ YD/IN.

THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 70-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64 -22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS. FOR "PERCENT OF RAP" SEE DISTRICT ONE SPECIAL PROVISIONS.

EXIST. CURVE IL31.3  
 PI STA. = 235+78.05  
 $\Delta = 2^\circ 01' 37''$  (RT)  
 $D = 1^\circ 16' 50''$   
 $R = 4,474.06'$   
 $L = 79.15'$   
 $E = 158.28'$   
 $e = 0.70'$   
 T.R. = -----  
 S.E. RUN = -----  
 P.C. STA. = 234+98.90  
 P.T. STA. = 236+57.18



- LEGEND**
- ① THERMOPLASTIC PAVEMENT MARKING CENTERLINE, 4" SOLID DOUBLE YELLOW
  - ② THERMOPLASTIC PAVEMENT MARKING 6" WHITE LINE
  - ③ THERMOPLASTIC PAVEMENT MARKING 6" WHITE DOTTED EXTENSION
  - ④ THERMOPLASTIC PAVEMENT MARKING 24" WHITE STOP BAR
  - ⑤ THERMOPLASTIC PAVEMENT MARKING LETTERS AND SYMBOLS, WHITE
  - ⑥ THERMOPLASTIC PAVEMENT MARKING 12" YELLOW DIAGONALS

DATE	
BY	
REVIEWED	
PLAN	
NO.	

DATE	
BY	
REVIEWED	
PROFILE	
NO.	

FILE NAME =	USER NAME = abreuh	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>ILLINOIS ROUTE 31 AT INTERSTATE 88 RAMPS</b>	F.A.P. RTE. 365	SECTION 97-N-2	COUNTY KANE	TOTAL SHEETS 21	SHEET NO. 6	
DRAWN -	REVISOR -	CHECKED -	REVISOR -			SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.
DATE -	REVISOR -	DATE -	REVISOR -			CONTRACT NO. 60148					
ILLINOIS FED. AID PROJECT											

**NOTES FOR TEMPORARY TRAFFIC SIGNALS**

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PREEMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY 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 CONTROLLERS 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 SIGNAL SECTIONS SHALL BE 12". 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 TRAFFIC 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.

**PATCH CABLE:**  
DRILL EXISTING HANDHOLE (1). INSTALL 2" UNIT DUCT FROM HANDHOLE TO POLE. CONTRACTOR SHALL RUN FIBER OPTIC CABLE UP TEMPORARY POLE AND ON SPAN WIRE FROM EXISTING HANDHOLE TO TEMPORARY CONTROLLER IN ORDER TO MAINTAIN INTERCONNECT SERVICE DURING THE INSTALLATION OF NEW SIGNAL.

**PATCH CABLE:**  
DRILL EXISTING HANDHOLE (1). INSTALL 2" UNIT DUCT FROM HANDHOLE TO POLE. CONTRACTOR SHALL RUN FIBER OPTIC CABLE UP TEMPORARY POLE AND ON SPAN WIRE FROM EXISTING HANDHOLE TO TEMPORARY CONTROLLER IN ORDER TO MAINTAIN INTERCONNECT SERVICE DURING THE INSTALLATION OF NEW SIGNAL.

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 REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 1 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 1 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 3-SECTION
- 2 EACH SIGNAL HEAD, 3-FACE, 2-3-SECTION
- 1 EACH SIGNAL HEAD, 3-FACE, 2-3-SECTION, 1-5-SECTION
- 2 EACH TRAFFIC SIGNAL BACKPLATE
- 2 EACH TRAFFIC SIGNAL POST
- 2 EACH MAST ARM ASSEMBLY AND POLE

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR AND RETURNED TO THE VILLAGE OF NORTH AURORA.

- 3 EACH LIGHT DETECTOR
- 1 EACH LIGHT DETECTOR AMPLIFIER

**EXISTING EQUIPMENT TO BE REMOVED LEGEND**

- "E"-□ EXISTING SERVICE INSTALLATION TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ◊ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- "E" ⊗ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" ⊠ EXISTING HANDHOLE TO BE REMOVED
- "E" ⊡ EXISTING HEAVY DUTY HANDHOLE TO BE REMOVED
- ⊞ EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- ⊙ EXISTING PEDESTRIAN PUSH-BUTTON TO BE REMOVED
- ⊕ EXISTING PRIORITY VEHICLE DETECTOR TO BE REMOVED
- ⊖ EXISTING CONFIRMATION BEACON TO BE REMOVED
- ⊗ EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ⊘ EXISTING TRAFFIC SIGNAL HEAD WITH BACKPLATE TO BE REMOVED
- ⊙ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED

**I-88 RAMPS**

**PRIVATE DRIVE**

**MATCHLINE A-A**

**IL ROUTE 31 (LINCOLNWAY STREET)**

**IL ROUTE 31 (LINCOLNWAY STREET)**

**MATCHLINE A-A**

**TEMPORARY TRAFFIC SIGNAL LEGEND**

- ▶ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊙ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM
- ⊞ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- ⊞ TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- ▶ VIDEO VEHICLE SENSOR
- ⊙ PEDESTRIAN PUSH-BUTTON DETECTOR
- ▶ EMERGENCY VEHICLE LIGHT DETECTOR
- ⊙ CONFIRMATION BEACON
- ⊞ VEHICLE DETECTOR, INDUCTION LOOP
- UD UNIT DUCT
- G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)
- HANDHOLE
- ⊡ HEAVY DUTY HANDHOLE
- CT COMMON TRENCH
- ⊞ RADIO ANTENNA (TRANSMITTER/RECEIVER)

**TEMPORARY INTERCONNECT NOTES**

1. FIBER OPTIC CABLE MAY BE SPLICED FOR TEMPORARY USE ONLY. CABLE USED IN PERMANENT INSTALLATION SHALL BE CONTINUOUS FROM CONTROLLER TO CONTROLLER.
2. COST OF THIS WORK SHALL BE INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION.

**NOTE:**  
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

FILE NAME = \MICROST\352884\	USER NAME = RDS	DESIGNED - KK	REVISED -
RTE 30 @ RIDGELAND TEMP SIG.DGN	PLOT SCALE = 1"=20'	DRAWN - RDS	REVISED -
	PLOT DATE = 10-15-09	CHECKED - BPT	REVISED -
		DATE - 10-15-09	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

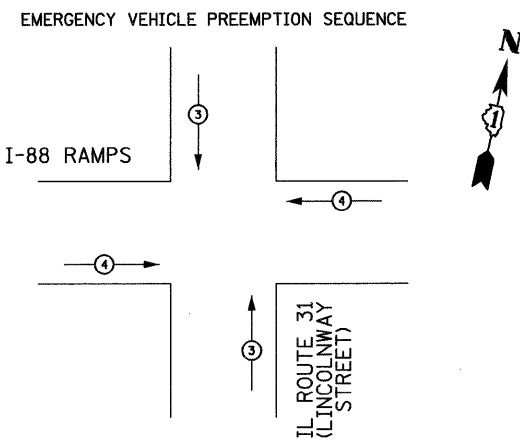
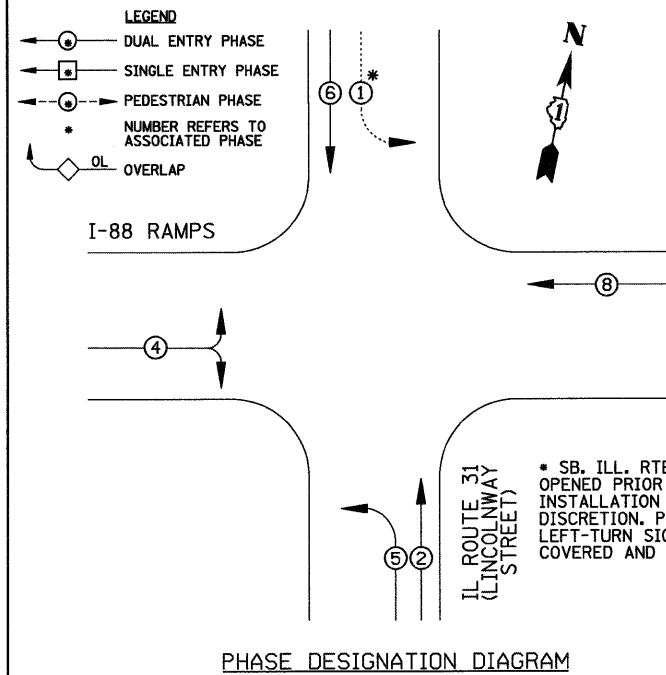
**TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL PLAN  
IL. ROUTE 31 AT I-88 TOLLWAY**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

PREPARED BY:  
**CEMCON, Ltd.**  
Consulting Engineers, Land Surveyors & Planners  
2280 White Oak Circle, Suite 100  
Aurora, Illinois 60504-9875  
Ph: 630.862.2100 Fax: 630.862.2199  
E-Mail: cadd@cemcon.com Website: www.cemcon.com

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
365	97-N-2	KANE	21	7
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60148	

**CONTROLLER SEQUENCE**



PROPOSED EMERGENCY VEHICLE PREEMPTOR		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	↔	↕

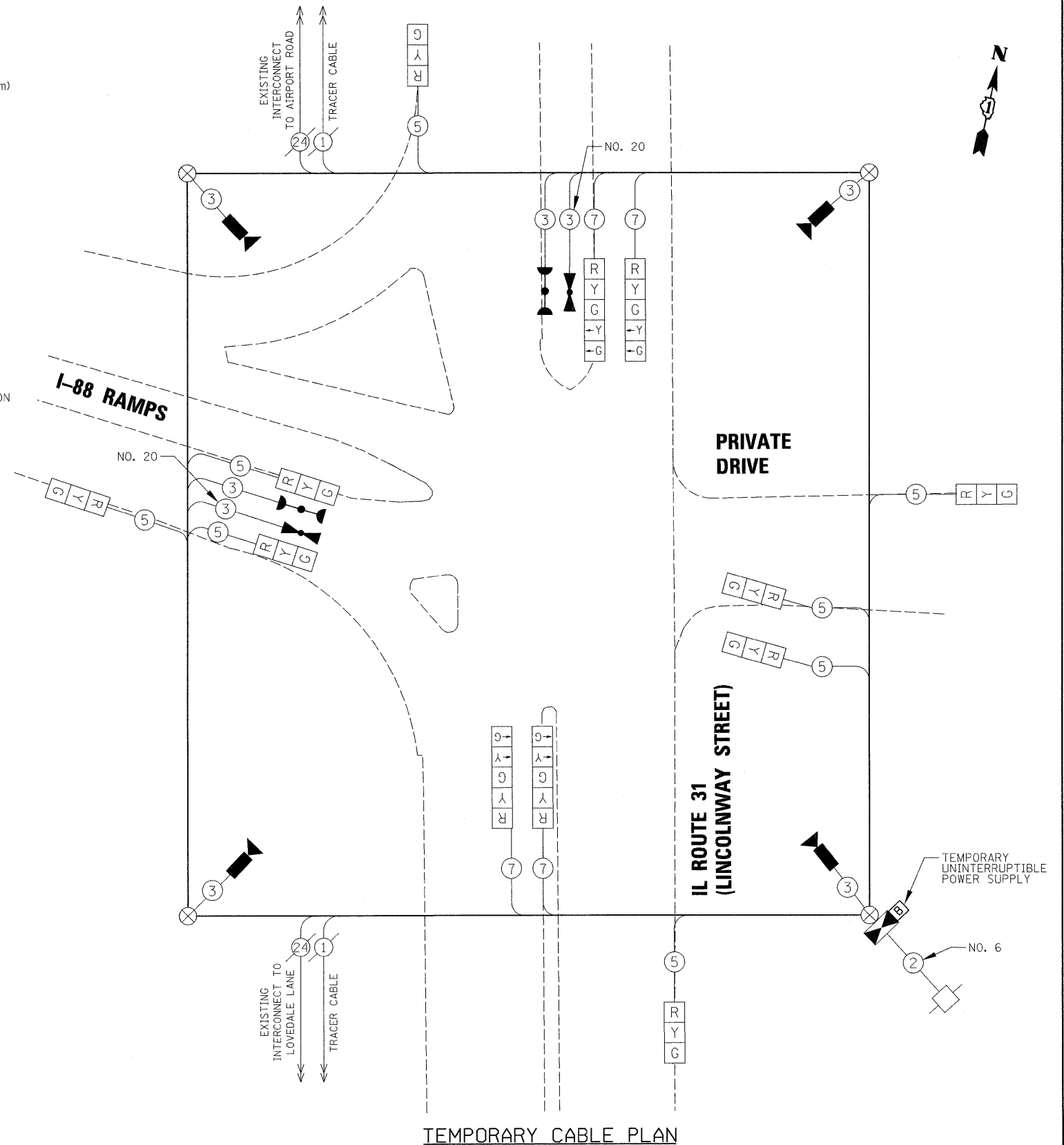
I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	8	135	12	0.10	9.6
PED. SIGNAL	-	90	25	1.00	-
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	-	84	-	0.05	-
FLASHER	-	-	-	0.50	-
ENERGY COSTS TO: ILLINOIS DEPARTMENT OF TRANSPORTATION 201 W. CENTER COURT SCHAUMBURG, IL 60196					TOTAL = 331.6

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.0 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20.0 (6.0)
E - M. ARM POLE	-	SIGNAL POST	0 (0.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	0 (0.0)	PED. PUSH-BUTTON	6 (2.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
		ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	13 (4.0)

NOTE:  
 THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

**TEMPORARY CABLE DIAGRAM LEGEND**

- ⊠ TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12" (300 mm)
- ⊠ TEMPORARY CONTROLLER CABINET
- ⊠ TEMPORARY SERVICE INSTALLATION
- ⑤ INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- 🚒 EMERGENCY VEHICLE LIGHT DETECTOR
- 📡 CONFIRMATION BEACON
- ⊙ PEDESTRIAN PUSH-BUTTON DETECTOR
- VEHICLE DETECTOR, INDUCTION LOOP
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- 📹 VIDEO VEHICLE SENSOR
- ⊗ TEMPORARY WOOD POLE
- Ⓛ UNINTERRUPTIBLE POWER SUPPLY



FILE NAME = \MICROST\352084\

USER NAME = RDS  
 PLOT SCALE = 1"=20'  
 PLOT DATE = 10-15-09

DESIGNED - KK  
 DRAWN - RDS  
 CHECKED - BPT  
 DATE - 10-15-09

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

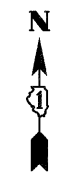
**TEMPORARY CABLE PLAN,  
 PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION  
 IL ROUTE 31 AT I-88 TOLLWAY**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

PREPARED BY:  
**CEMCON, Ltd.**  
 Consulting Engineers, Land Surveyors & Planners  
 2280 White Oak Circle, Suite 100  
 Aurora, Illinois 60504-9675  
 Ph: 630.862.2100 Fax: 630.862.2199  
 E-Mail: codd@cemcon.com Website: www.cemcon.com

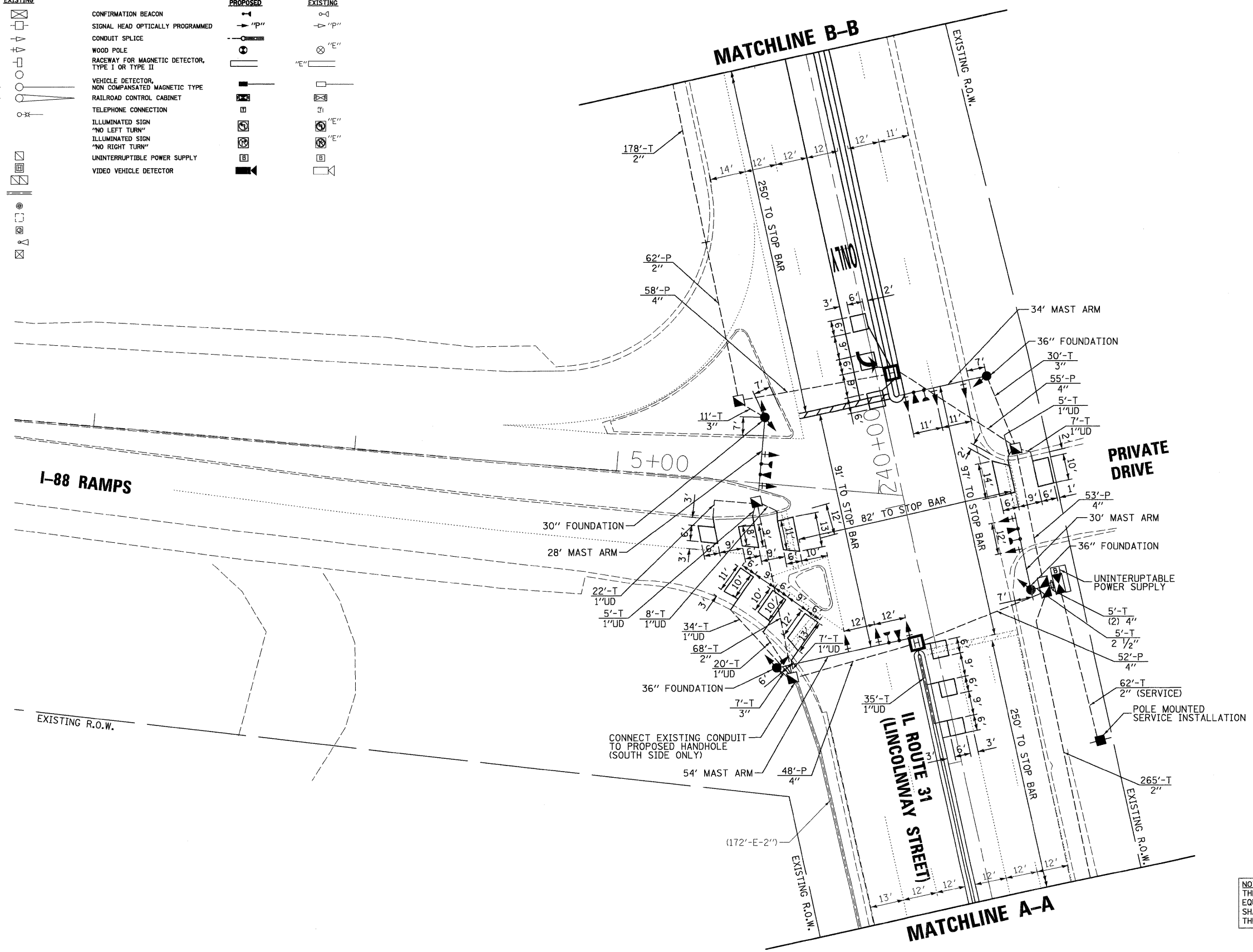
F.A.P. RTE. 365	SECTION 97-N-2	COUNTY KANE	TOTAL SHEETS 21	SHEET NO. 8
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60148	





**TRAFFIC SIGNAL LEGEND**

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



NOTE:  
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

FILE NAME = MICROST\352084\	USER NAME = RDS	DESIGNED - KK	REVISED -
RTE 30 @ RIDGELAND TEMP SIG.DGN	PLOT SCALE = 1"=20'	DRAWN - RDS	REVISED -
	PLOT DATE = 10-15-09	CHECKED - BPT	REVISED -
		DATE - 10-15-09	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>TRAFFIC SIGNAL INSTALLATION PLAN IL ROUTE 31 AT I-88 TOLLWAY</b>			
SCALE: N.T.S.	SHEET NO. OF SHEETS	STA. TO STA.	

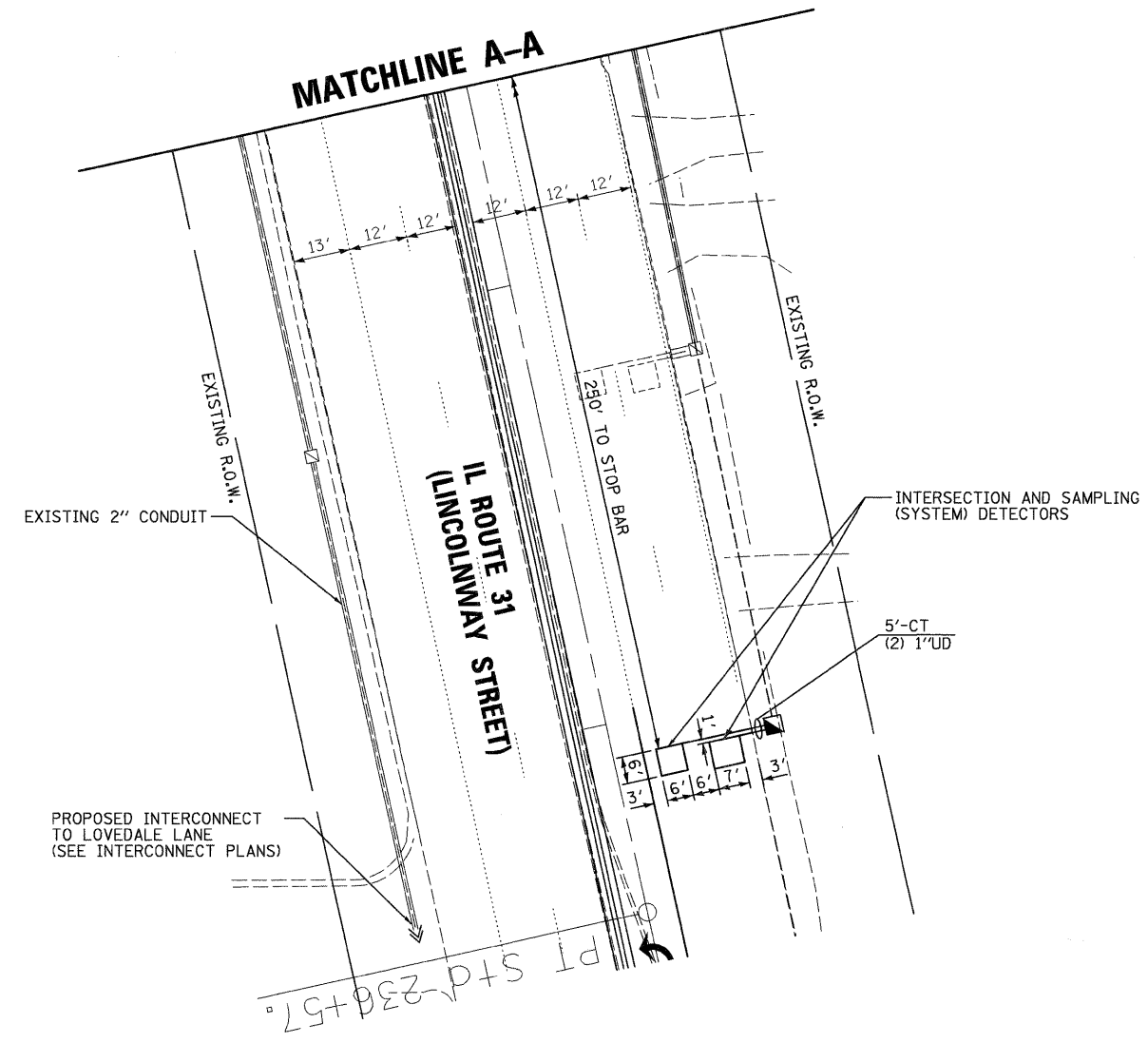
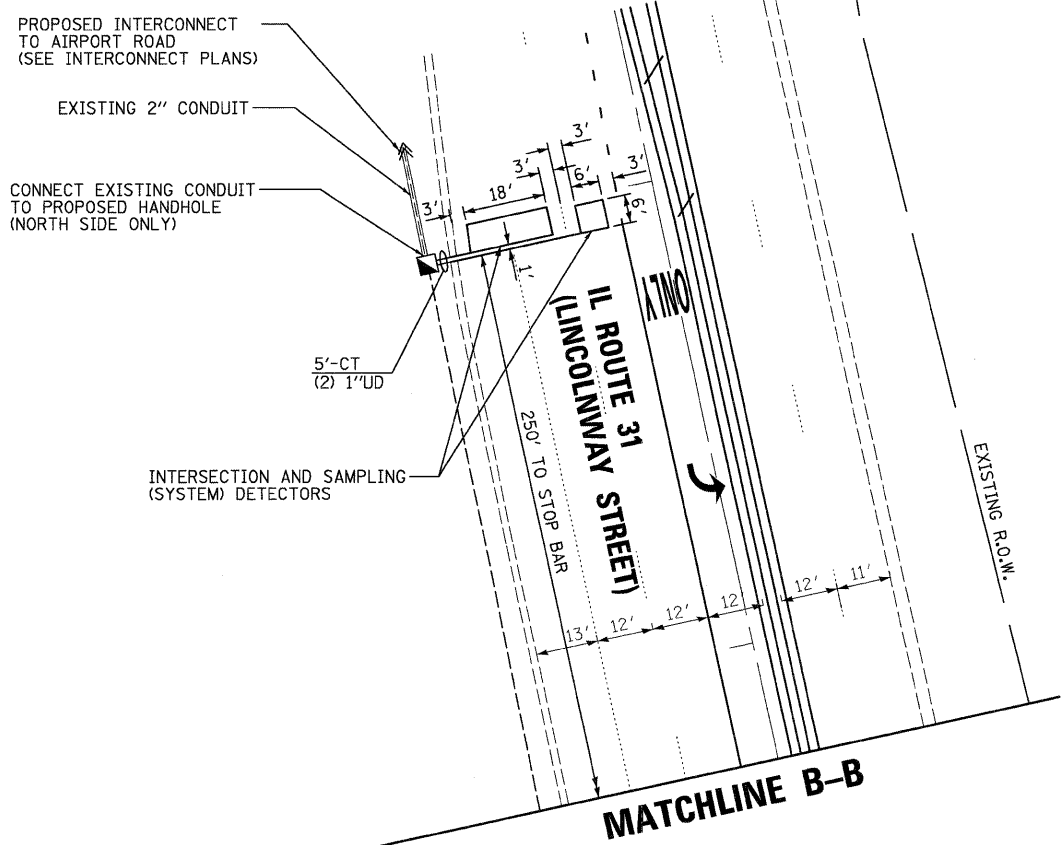
PREPARED BY:  
**CEMCON, Ltd.**  
Consulting Engineers, Land Surveyors & Planners  
2280 White Oak Circle, Suite 100  
Aurora, Illinois 60504-9675  
Ph: 630.862.2100 Fax: 630.862.2199  
E-Mail: cadd@cemcon.com Website: www.cemcon.com

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
365	97-N-2	KANE	21	9
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 60148	



**TRAFFIC SIGNAL LEGEND**

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



NOTE:  
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

PREPARED BY:  
**CEMCON, Ltd.**  
Consulting Engineers, Land Surveyors & Planners  
2280 White Oak Circle, Suite 100  
Aurora, Illinois 60504-3875  
Ph: 630.862.2100 Fax: 630.862.2199  
E-Mail: cadd@cemcon.com Website: www.cemcon.com

FILE NAME = MICROST\352084\	USER NAME = RDS	DESIGNED - KK	REVISED -
RTE 38 @ RIDGELAND TEMP SIG.DGN	PLOT SCALE = 1"=20'	DRAWN - RDS	REVISED -
	PLOT DATE = 10-15-09	CHECKED - BPT	REVISED -
		DATE - 10-15-09	REVISED -

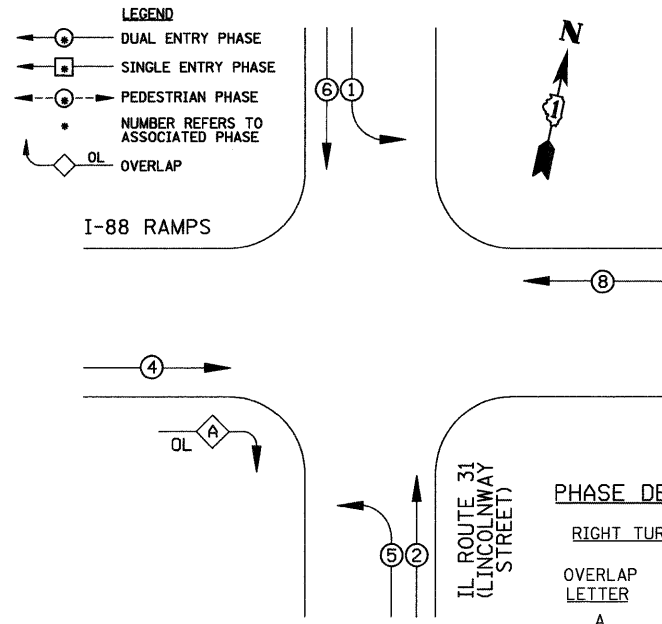
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC SIGNAL INSTALLATION PLAN  
IL ROUTE 31 AT I-88 TOLLWAY**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

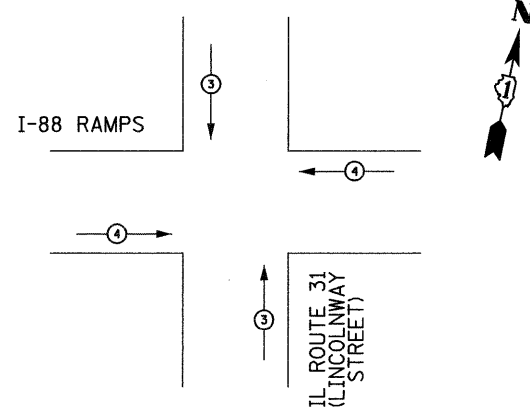
F.A.P. RTE. 365	SECTION 97-N-2	COUNTY KANE	TOTAL SHEETS 21	SHEET NO. 10
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60148	

**CONTROLLER SEQUENCE**



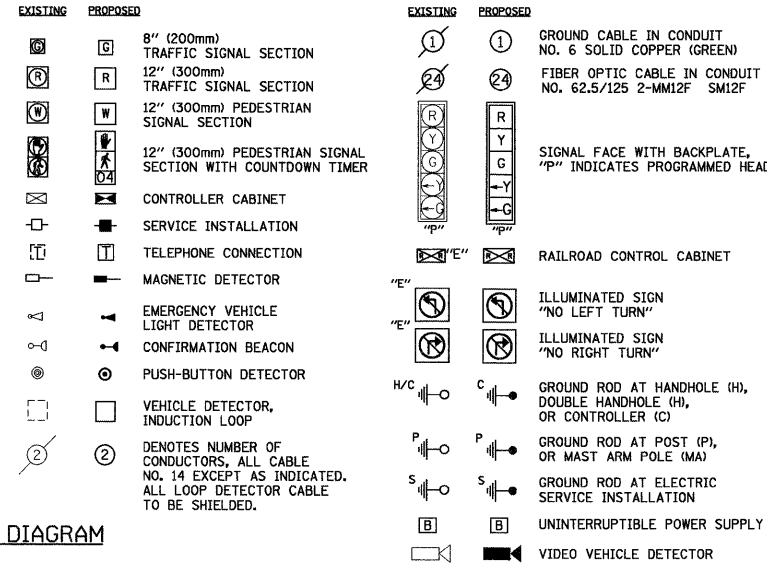
PHASE DESIGNATION DIAGRAM

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



PROPOSED EMERGENCY VEHICLE PREEMPTOR			
EMERGENCY VEHICLE PREEMPTOR	3	4	
MOVEMENT	↔	↕	

**CABLE PLAN LEGEND**



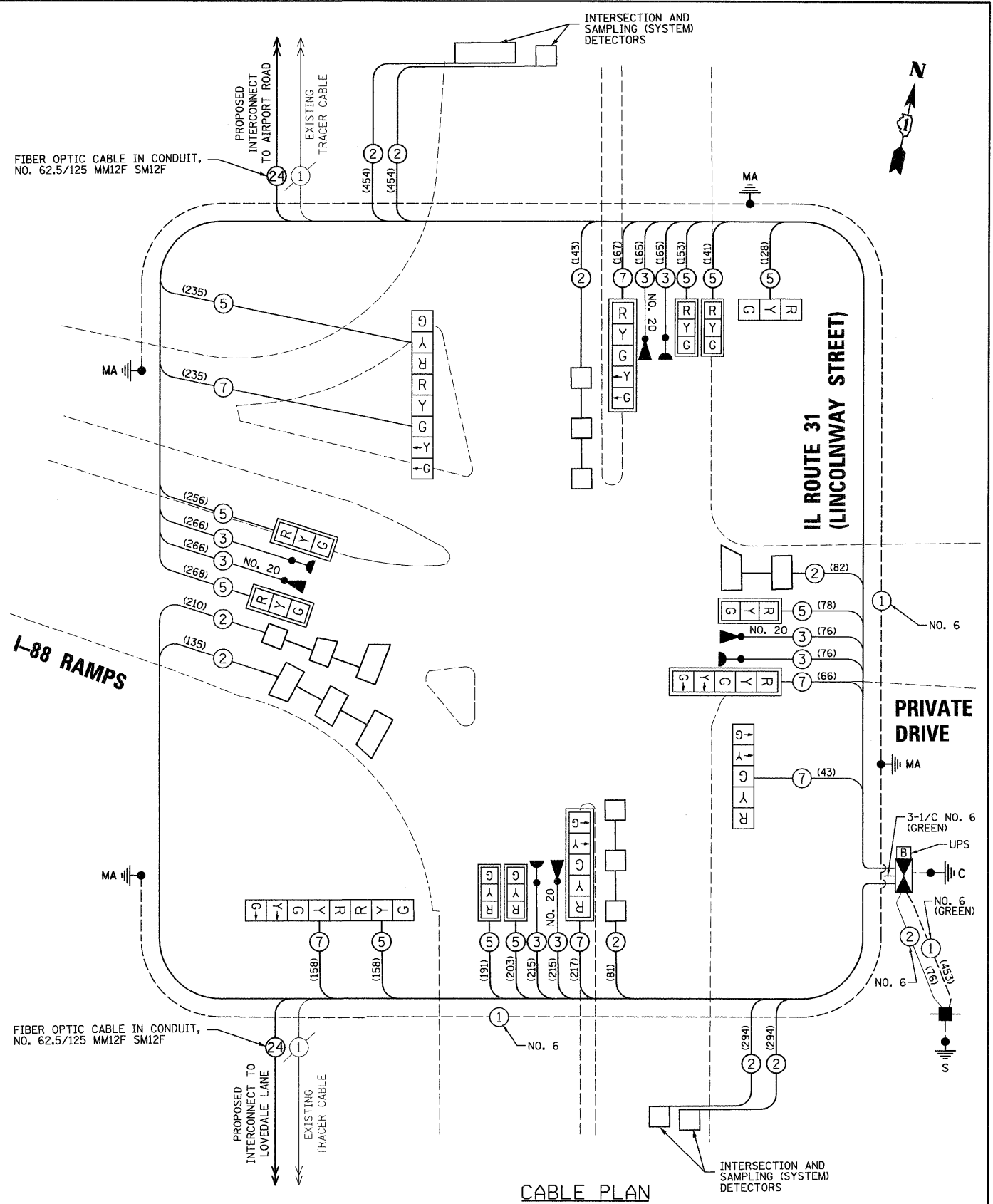
**SCHEDULE OF QUANTITIES**

SIGN PANEL, TYPE 1	15	SQ FT	15
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	575	FOOT	575
CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	5	FOOT	5
CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	48	FOOT	48
CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL	10	FOOT	10
CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	62	FOOT	62
CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	266	FOOT	266
TRENCH AND BACKFILL FOR ELECTRICAL WORK	633	FOOT	633
TRANSCEIVER - FIBER OPTIC	1	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	1	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	722	FOOT	722
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	1811	FOOT	1811
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	886	FOOT	886
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	76	FOOT	76
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	2147	FOOT	2147
HANDHOLE	6	EACH	6
HEAVY DUTY HANDHOLE	2	EACH	2
DOUBLE HANDHOLE	1	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 28 FT.	1	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 30 FT.	1	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	1	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 52 FT.	1	EACH	1
CONCRETE FOUNDATION, TYPE C	4	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	15	FOOT	15
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	45	EACH	45
SIGNAL HEAD, LED, 1-FACE, 2-SECTION, MAST-ARM MOUNTED	7	EACH	7
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	1	EACH	1
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	1	EACH	1
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	3	EACH	3
SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	2	EACH	2
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	10	EACH	10
INDUCTIVE LOOP DETECTOR	9	EACH	9
DETECTOR LOOP, TYPE 1	624	FOOT	624
LIGHT DETECTOR	4	EACH	4
LIGHT DETECTOR AMPLIFIER	1	EACH	1
TEMPORARY TRAFFIC SIGNAL INSTALLATION	1	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	7647	FOOT	7647
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	1	EACH	1
REMOVE EXISTING HANDHOLE	9	EACH	9
REMOVE EXISTING CONCRETE FOUNDATION	5	EACH	5
REMOVE EXISTING SERVICE INSTALLATION	1	EACH	1
TEMPORARY TRAFFIC SIGNAL TIMING	1	EACH	1
SERVICE INSTALLATION, POLE MOUNT	2	EACH	2
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	453	FOOT	453
ELECTRIC CABLE IN CONDUIT, NO. 20 3/C, TWISTED & SHIELDED	722	FOOT	722
UNINTERRUPTIBLE POWER SUPPLY	1	EACH	1

• 100% COST TO THE VILLAGE OF NORTH AURORA.

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.0 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20.0 (6.0)
E - M. ARM POLE	0 (0.0)	SIGNAL POST	0 (0.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	0 (0.0)	PED. PUSH-BUTTON	6 (2.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
		ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	13 (4.0)

NOTE: THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.



**CABLE PLAN**

NOTE: (XXX) DENOTES CABLE LENGTH

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	%OPERATION	
SIGNAL (RED)	16	135	17	0.50	136
(YELLOW)	16	135	25	0.25	100
(GREEN)	16	135	15	0.25	60
ARROW	12	135	12	0.10	14.4
PED. SIGNAL	-	90	25	1.00	-
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	-	84	-	0.05	-
FLASHER	-	-	-	0.50	-
ENERGY COSTS TO: ILLINOIS DEPARTMENT OF TRANSPORTATION 201 W. CENTER COURT SCHAUMBURG, IL 60196					TOTAL = 410.4
ENERGY SUPPLY CONTACT: COMED					

FILE NAME = \MICROST\352084\	USER NAME = RDS	DESIGNED - KK	REVISED -
		DRAWN - RDS	REVISED -
		CHECKED - BPT	REVISED -
		DATE - 10-15-09	REVISED -

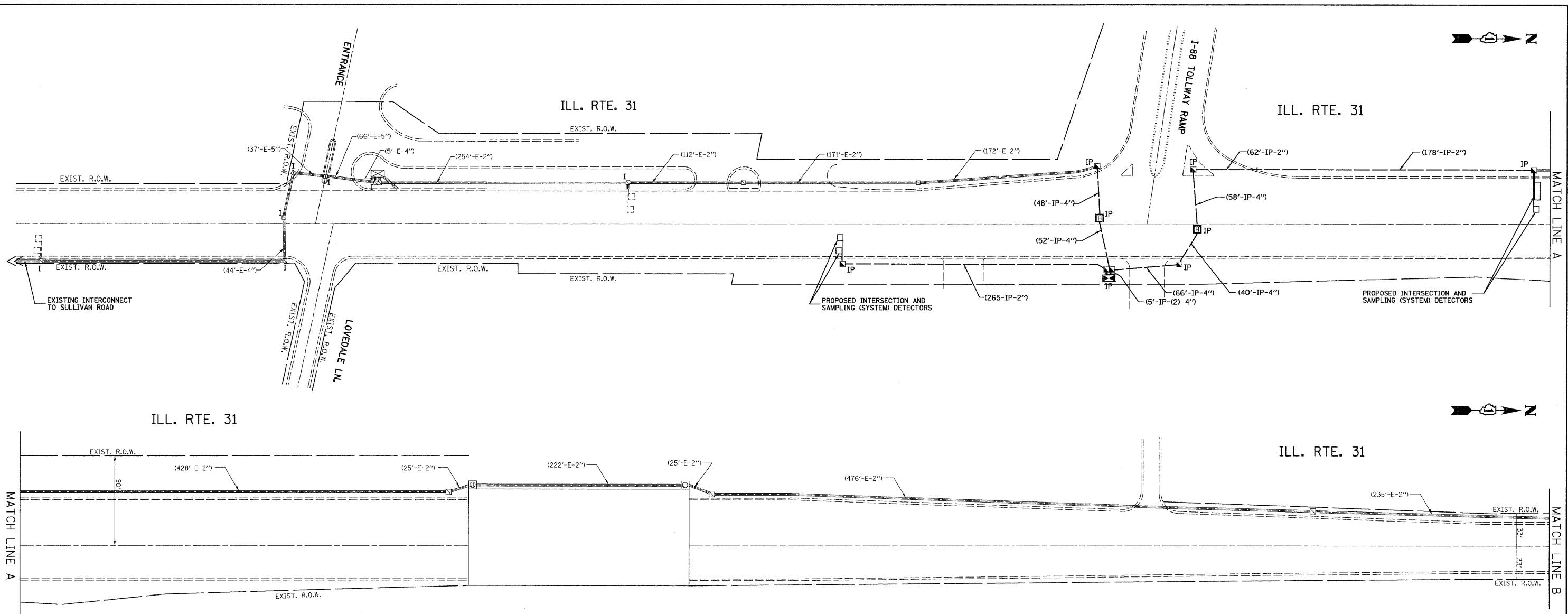
**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION			
IL ROUTE 31 AT I-88 TOLLWAY			
SCALE: N.T.S.	SHEET NO. OF SHEETS	STA. TO STA.	

PREPARED BY: **CEMCON, Ltd.**  
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
365	97-N-2	KANE	21	11

CONTRACT NO. 60148  
 FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

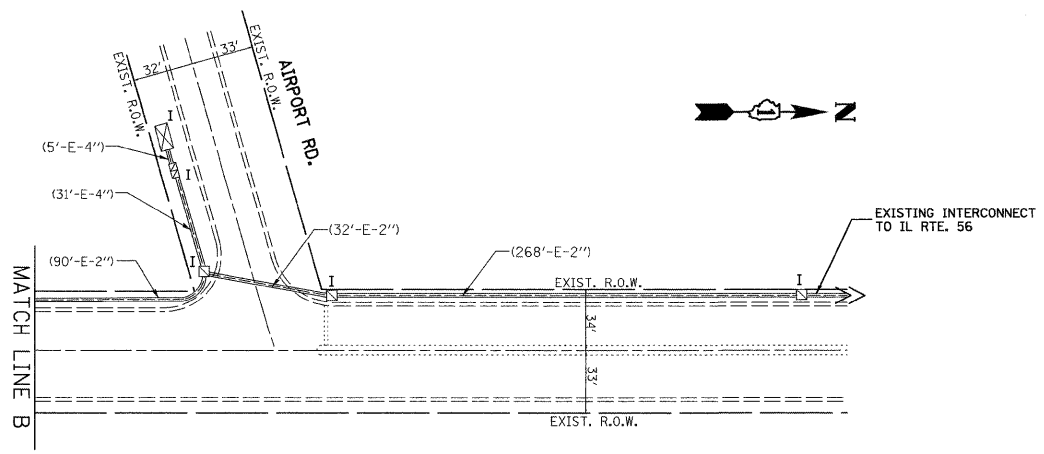


**INTERCONNECT PLAN LEGEND**

	PROPOSED	EXISTING
CONTROLLER CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT		
TELEPHONE CONNECTION		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	
COMMON TRENCH	CT	
DETECTOR LOOP, TYPE I		
PREFORMED DETECTOR LOOP		
JUNCTION BOX		

**NOTES:**

- INSTALL NEW FIBER OPTIC CABLE FROM LOVEDALE LANE TO AIRPORT RD.
- RE-USE EXISTING TRACER CABLE.



FILE NAME = MICROST\352084\	USER NAME = RDS	DESIGNED - KK	REVISED -
RTE 31 SIG INTERCONNECT.DGN	PLOT SCALE = 1"=50'	DRAWN - RDS	REVISED -
	PLOT DATE = 10-15-09	CHECKED - BPT	REVISED -
		DATE - 10-15-09	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

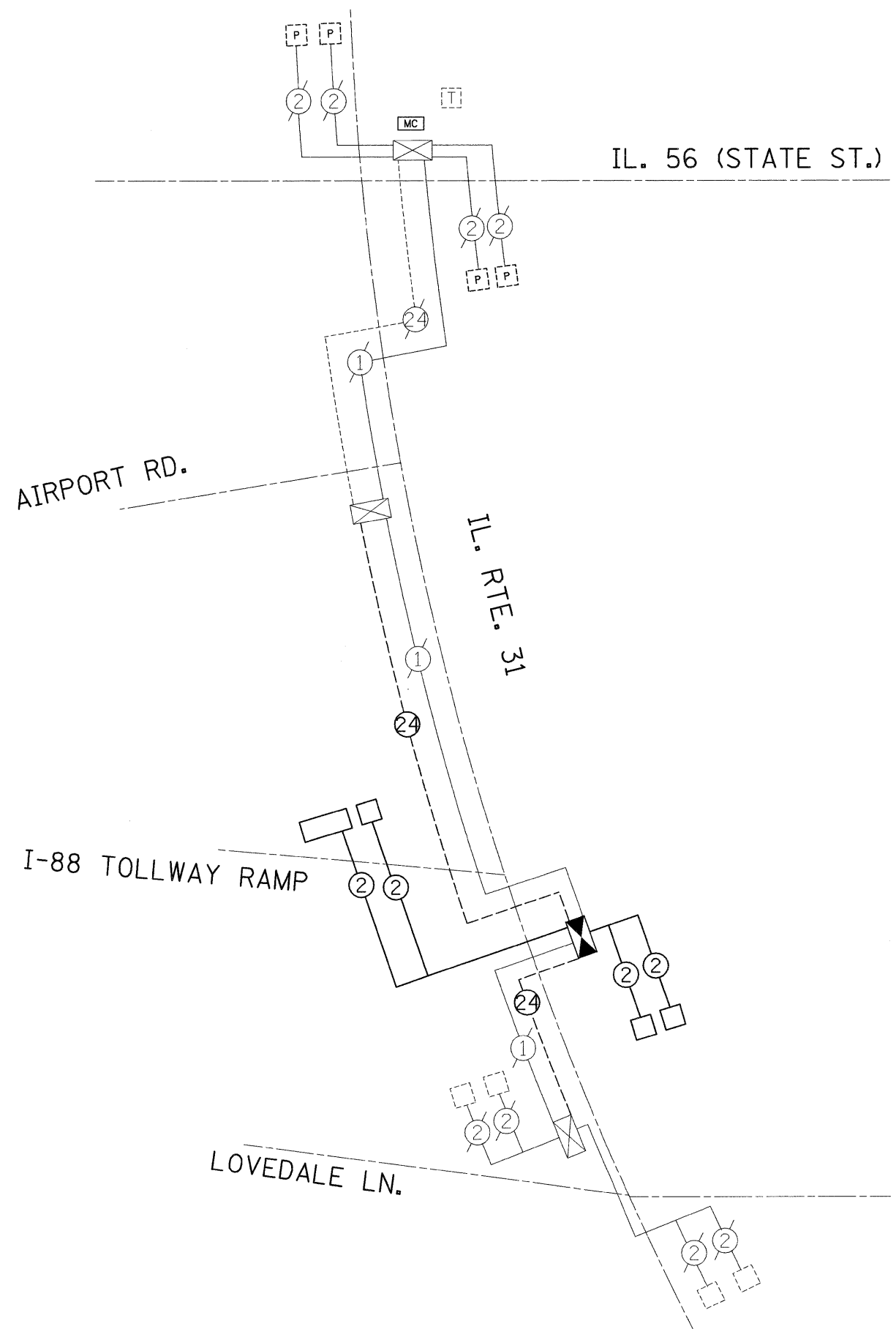
**TRAFFIC SIGNAL INTERCONNECT PLAN  
IL ROUTE 31 AT I-88 TOLLWAY**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

PREPARED BY:  
**CEMCON, Ltd.**  
Consulting Engineers, Land Surveyors & Planners  
2280 White Oak Circle, Suite 100  
Aurora, Illinois 60504-9675  
Ph: 630.862.2100 Fax: 630.862.2199  
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
365	97-N-2	KANE	21	12

CONTRACT NO. 60148  
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT



**INTERCONNECT SCHEMATIC LEGEND**

	PROPOSED	EXISTING
INTERSECTION CONTROLLER		
MASTER CONTROLLER		
MASTER MASTER CONTROLLER		
TELEPHONE CONNECTION		
INTERSECTION & SAMPLING (SYSTEM) DETECTORS		
PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		
EXISTING INTERSECTION LOOP DETECTORS, PROPOSED SAMPLING (SYSTEM) DETECTORS		
SAMPLING (SYSTEM) DETECTORS		
SAMPLING (SYSTEM) PREFORMED DETECTORS		
EXISTING SAMPLING (SYSTEM) DETECTORS; PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS.		
EXISTING SAMPLING (SYSTEM) DETECTORS, PROPOSED SAMPLING (SYSTEM) DETECTORS		
FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED		
INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED		
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, 1 PAIR		
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE		

**INTERCONNECT SCHEDULE OF QUANTITIES**

ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2
REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	FOOT	575
FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	FOOT	2895
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM - LEVEL I (per Intersection)	EACH	1

FILE NAME = MICROST\352884\	USER NAME = RDS	DESIGNED - KK	REVISED -
RTE 31 INTERCONNECT SCH.DGN	PLOT SCALE = NONE	DRAWN - RDS	REVISED -
	PLOT DATE = 10-15-09	CHECKED - BPT	REVISED -
		DATE - 10-15-09	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

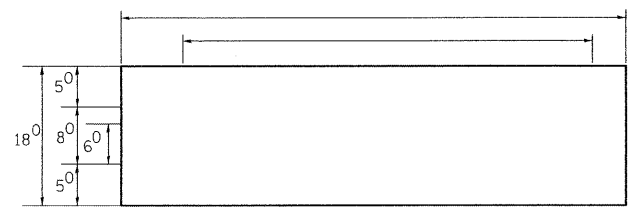
**INTERCONNECT SCHEMATIC  
IL ROUTE 31 AT I-88 TOLLWAY**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

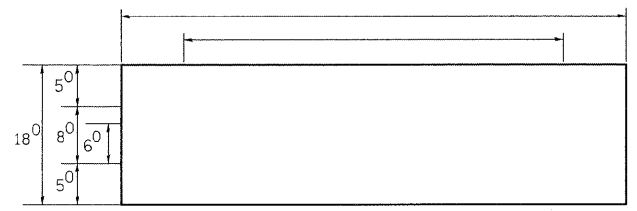
PREPARED BY:  
**CEMCON, Ltd.**  
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2280 White Oak Circle, Suite 100  
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
365	97-N-2	KANE	21	13
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60148	

PANEL SIGN DESIGN TYPE 1



\_\_\_ Sq. M. each  
\_\_\_ Sq. Ft. each  
\_\_\_ Required  
Design Series \_\_\_



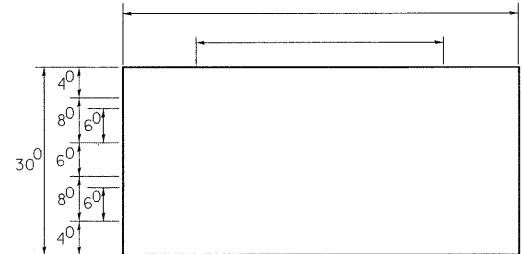
\_\_\_ Sq. M. each  
\_\_\_ Sq. Ft. each  
\_\_\_ Required  
Design Series \_\_\_



\_\_\_ Sq. M. each  
7.5 Sq. Ft. each  
\_\_\_ Required  
Design Series D

NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS

PANEL SIGN DESIGN TYPE 2



\_\_\_ Sq. M. each  
\_\_\_ Sq. Ft. each  
\_\_\_ Required  
Design Series \_\_\_

GENERAL NOTES

- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 834001, 834006 AND 834011, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 6'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
- ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
- THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 6'-0".
- ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:
  - \* A.K.T. CORPORATION SCHAUMBURG, IL
  - \* TUCKER COMPANY, INC. WAUWATOSA, WI
  - \* AMERICAN FABRICATION CO. CHICAGO HEIGHTS, IL
  - \* WESTERN TRAFFIC CONTROL INC. CICERO, IL

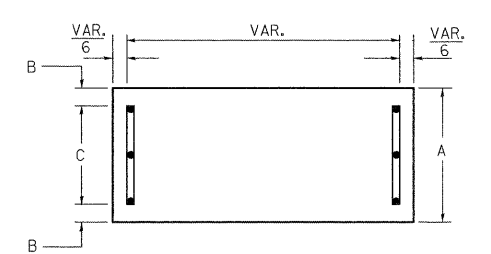
**PARTS LISTING:**

SIGN CHANNEL      PART #HPN053 (MED. CHANNEL)  
SIGN SCREWS      1/4" x 14 x 1" H.W.H. #3  
                        SELF TAPPING WITH NEOPRENE WASHER

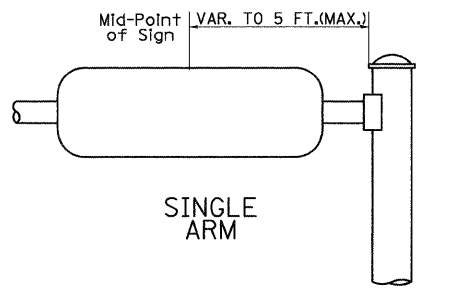
BRACKETS          PART #HPN034 (UNIVERSAL)  
                        CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BRACKET OF THE ABOVE PRODUCT.

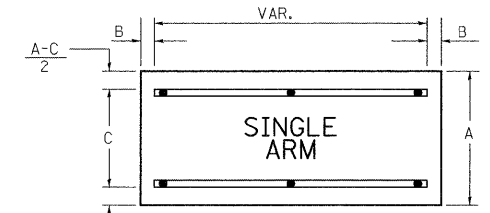
SUPPORTING CHANNELS



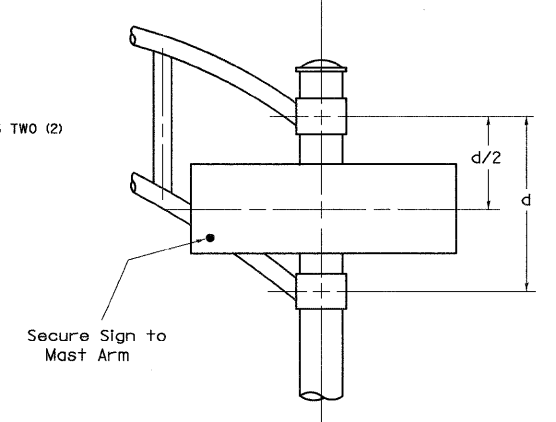
A	B	C
18"	2"	14"



SUPPORTING CHANNELS



A	B	C
30"	2"	22"



DUAL ARM

SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM Shall be used. See Note #5.

Upper Case To Lower Case Spacing Chart 8-6 Inch Series "C & D"

EXAMPLE, 2 3 DENOTES 3/8

SERIES	SECOND LETTER																											
	a c d e		b h i k l		f w		J		s t		v y		x		z													
	g	o	q	m	n	p	r	u																				
FIRST LETTER	A	W	X	B	C	E	G	D	O	Q	R	F	H	I	M	N	J	U	K	L	P	S	T	V	Y	Z		
	12	14	14	15	12	14	06	10	11	14	06	10	11	12	12	14	06	10	05	06	06	10	06	10	06	10	11	12

Lower Case To Lower Case Spacing Chart 6 Inch Series "C & D"

SERIES	SECOND LETTER																											
	a c d e		b h i k l		f w		J		s t		v y		x		z													
	g	o	q	m	n	p	r	u																				
FIRST LETTER	a	d	h	g	l	i	m	n	q	b	f	k	o	p	s	t	v	y	r	c	e							
	16	17	22	24	16	17	12	14	14	15	14	15	16	17	16	17	16	17	06	10	12	14	12	14	12	14	12	14

Number To Number Spacing Chart 8 Inch Series "C & D"

SERIES	SECOND NUMBER																																	
	0		1		2		3		4		5		6		7		8		9															
FIRST LETTER	0	9	1	2	3	4	5	6	7	8	9	0	9	1	2	3	4	5	6	7	8	9	0	9	1	2	3	4	5	6	7	8	9	
	16	17	16	17	14	15	12	14	14	15	14	15	16	17	12	14	16	17	16	17	16	17	16	17	16	17	16	17	16	17	16	17	16	17

UPPER AND LOWER CASE LETTER WIDTHS

LETTERS	6 INCH UPPER CASE LETTERS		8 INCH UPPER CASE LETTERS		LETTERS	6 INCH LOWER CASE LETTERS	
	SERIES		SERIES			SERIES	
	C	D	C	D		C	D
A	3 <sup>6</sup>	5 <sup>0</sup>	5 <sup>0</sup>	6 <sup>5</sup>	a	3 <sup>5</sup>	4 <sup>2</sup>
B	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	b	3 <sup>5</sup>	4 <sup>2</sup>
C	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	c	3 <sup>5</sup>	4 <sup>1</sup>
D	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	d	3 <sup>5</sup>	4 <sup>2</sup>
E	3 <sup>0</sup>	3 <sup>5</sup>	4 <sup>0</sup>	4 <sup>7</sup>	e	3 <sup>5</sup>	4 <sup>2</sup>
F	3 <sup>0</sup>	3 <sup>5</sup>	4 <sup>0</sup>	4 <sup>7</sup>	f	2 <sup>3</sup>	2 <sup>6</sup>
G	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	g	3 <sup>5</sup>	4 <sup>2</sup>
H	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	h	3 <sup>5</sup>	4 <sup>2</sup>
I	0 <sup>7</sup>	0 <sup>7</sup>	1 <sup>1</sup>	1 <sup>2</sup>	i	1 <sup>1</sup>	1 <sup>1</sup>
J	3 <sup>0</sup>	3 <sup>6</sup>	4 <sup>0</sup>	5 <sup>0</sup>	j	2 <sup>0</sup>	2 <sup>2</sup>
K	3 <sup>2</sup>	4 <sup>1</sup>	4 <sup>3</sup>	5 <sup>4</sup>	k	3 <sup>5</sup>	4 <sup>2</sup>
L	3 <sup>0</sup>	3 <sup>5</sup>	4 <sup>0</sup>	4 <sup>7</sup>	l	1 <sup>1</sup>	1 <sup>1</sup>
M	3 <sup>7</sup>	4 <sup>5</sup>	5 <sup>1</sup>	6 <sup>1</sup>	m	6 <sup>0</sup>	7 <sup>0</sup>
N	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	n	3 <sup>5</sup>	4 <sup>2</sup>
O	3 <sup>4</sup>	4 <sup>2</sup>	4 <sup>5</sup>	5 <sup>5</sup>	o	3 <sup>6</sup>	4 <sup>3</sup>
P	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	p	3 <sup>5</sup>	4 <sup>2</sup>
Q	3 <sup>4</sup>	4 <sup>2</sup>	4 <sup>5</sup>	5 <sup>5</sup>	q	3 <sup>5</sup>	4 <sup>2</sup>
R	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	r	2 <sup>6</sup>	3 <sup>2</sup>
S	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	s	3 <sup>6</sup>	4 <sup>2</sup>
T	3 <sup>0</sup>	3 <sup>5</sup>	4 <sup>0</sup>	4 <sup>7</sup>	t	2 <sup>7</sup>	3 <sup>2</sup>
U	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	u	3 <sup>5</sup>	4 <sup>2</sup>
V	3 <sup>5</sup>	4 <sup>4</sup>	4 <sup>7</sup>	6 <sup>0</sup>	v	4 <sup>2</sup>	4 <sup>7</sup>
W	4 <sup>4</sup>	5 <sup>2</sup>	6 <sup>0</sup>	7 <sup>0</sup>	w	5 <sup>5</sup>	6 <sup>4</sup>
X	3 <sup>4</sup>	4 <sup>0</sup>	4 <sup>5</sup>	5 <sup>3</sup>	x	4 <sup>4</sup>	5 <sup>1</sup>
Y	3 <sup>6</sup>	5 <sup>0</sup>	5 <sup>0</sup>	6 <sup>6</sup>	y	4 <sup>6</sup>	5 <sup>3</sup>
Z	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	z	3 <sup>6</sup>	4 <sup>3</sup>

NUMBER	6 INCH SERIES		8 INCH SERIES	
	C	D	C	D
	1	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>
2	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
3	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
4	3 <sup>5</sup>	4 <sup>3</sup>	4 <sup>7</sup>	5 <sup>7</sup>
5	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
6	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
7	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
8	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
9	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
0	3 <sup>4</sup>	4 <sup>2</sup>	4 <sup>5</sup>	5 <sup>5</sup>

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VARIABLE - TO MEET EXISTING DIMENSIONS AND FIELD CONDITIONS (SEE NOTE ②)

PROP. CONC. CURB OR CURB AND GUTTER REPLACEMENT IN ACCORDANCE WITH STATE STANDARD 606001. (SEE NOTE ②)

SAW CUT FULL DEPTH - INCLUDED IN THE COST OF SIDEWALK, DRIVEWAY OR MEDIAN SURFACE REMOVAL PAY ITEM.

SEE STATE STANDARD 606001

18" (450) MAX.

EXISTING OR PROPOSED HMA SURFACE (IF APPLICABLE)

1/4" (5) \*\*

EXISTING SIDEWALK, DRIVEWAY, MEDIAN SURFACE OR GROUND.

PROPOSED SIDEWALK, DRIVEWAY PAVEMENT, MEDIAN SURFACE OR SALT TOLERANT SOD AND TOP SOIL, 4" (100) SOD RESTORATION (SEE NOTE ①).

SUITABLE BACKFILL MATERIAL (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT)

PROPOSED 3/4" (20) PREFORMED EXPANSION JOINT AT CONCRETE SIDEWALKS, DRIVEWAYS, AND MEDIANS. (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.)

3" (75) MIN.

UNSUITABLE SUB-BASE MATERIAL TO BE REMOVED, IF DIRECTED BY THE ENGINEER, SHALL BE REPLACED WITH EITHER SUB-BASE GRANULAR MATERIAL, TYPE B OR ADDITIONAL THICKNESS OF CONCRETE.

REMOVAL AND REPLACEMENT 4" (100) OR LESS IS INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

REMOVAL AND REPLACEMENT IN EXCESS OF 4" (100) WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

PROPOSED #6 (20) EPOXY COATED TIE BARS 24" (600) LONG AT 24" (600) CENTERS WILL NOT BE PAID FOR SEPARATELY. DELETE EPOXY COATED TIE BARS IF EXISTING TIE BARS ARE USUABLE AS DETERMINED BY THE ENGINEER. (SEE NOTE ③).

**BASIS OF PAYMENT:**

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT (METER) FOR "CURB REMOVAL AND REPLACEMENT" OR "COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT".

\* 3" (75) MINIMUM FROM TOP AND BOTTOM OF THE CONCRETE PAVEMENT OR BASE COURSE.

\*\* IF THE FINAL SURFACE OF THE PAVEMENT IS CONCRETE, THE GUTTER IS TO BE FLUSH WITH THE PAVEMENT.

NOTE: ① SIDEWALK, DRIVEWAY PAVEMENT OR MEDIAN SURFACE SHALL BE SIMILAR TO THE MATERIAL BEING REMOVED AND WILL BE PAID FOR SEPARATELY.

SALT TOLERANT SOD AND TOP SOIL, 4" (100) RESTORATION WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

② CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.

③ FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.

④ LONGITUDINAL BARS, IF ENCOUNTERED IN THE EXISTING CURB OR CURB AND GUTTER, ARE NOT TO BE REPLACED. CUTTING AND REMOVING LONGITUDINAL BARS SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

⑤ THE COST OF HMA SURFACE REMOVAL IN THE EXISTING GUTTER FLAG SHALL BE INCLUDED IN THE COST OF THE CURB AND GUTTER REMOVAL AND REPLACEMENT.

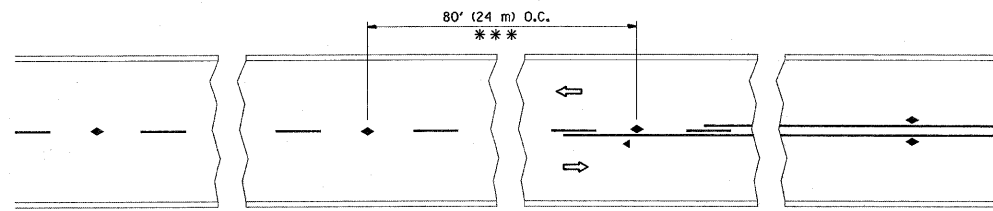
⑥ THE REMOVAL AND REPLACEMENT OF THE EXISTING CURB OR CURB AND GUTTER SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 440 AND 606 OF THE STANDARD SPECIFICATIONS.

⑦ THE LOCATIONS OF REMOVAL AND REPLACEMENT OF EXISTING CURB OR CURB AND GUTTER SHALL BE DETERMINED BY THE RESIDENT ENGINEER AT THE TIME OF CONSTRUCTION.

# CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

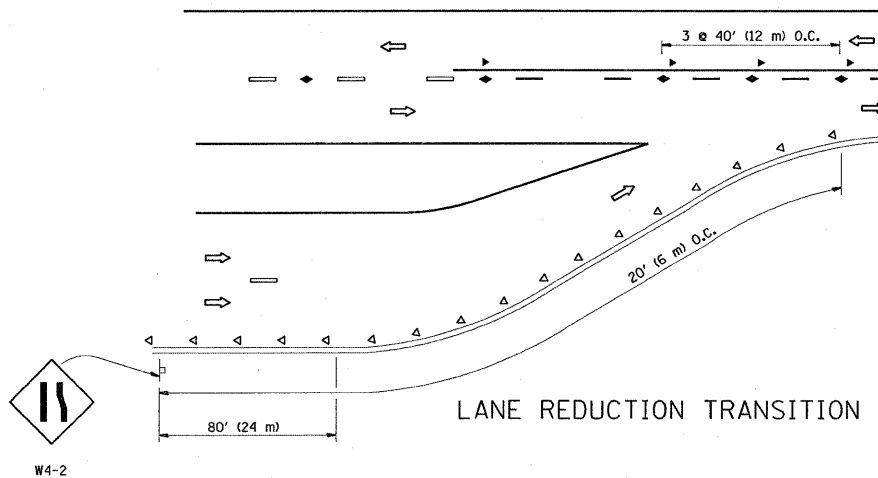
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = abrouah	DESIGNED - A. HOUSEH	REVISED - R. SHAH 10-03-96	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT</b>			F.A.P. RTE. 365	SECTION 97-N-2	COUNTY KANE	TOTAL SHEETS 21	SHEET NO. 15
DRAWN -	CHECKED -	DATE - 03-11-94	REVISED - A. ABBAS 03-21-97		SCALE: NONE	SHEET NO. 1 OF 1	SHEETS	STA.	TO STA.	CONTRACT NO. 60148		
PLOT SCALE = 50.0000' / IN.			REVISED - M. GOMEZ 01-22-01		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							
PLOT DATE = 10/14/2009			REVISED - R. BORO 01-01-07									

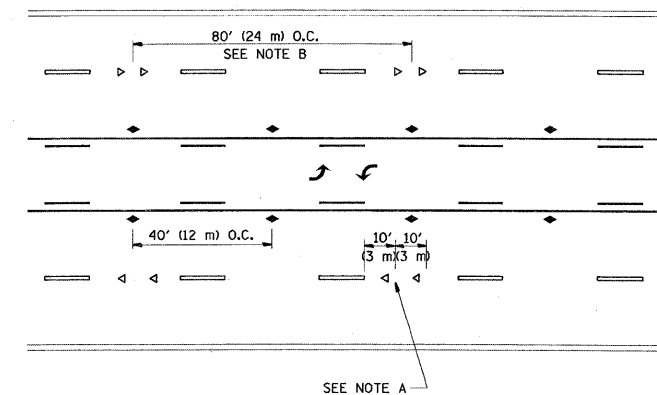


\*\*\* REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

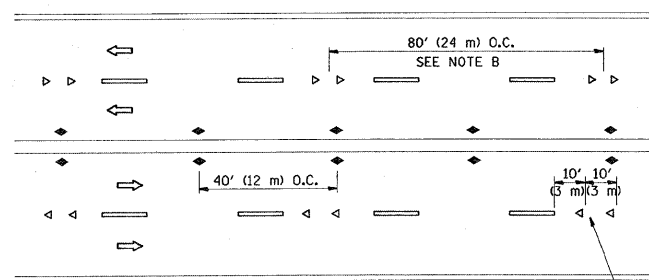
TWO-LANE/TWO-WAY



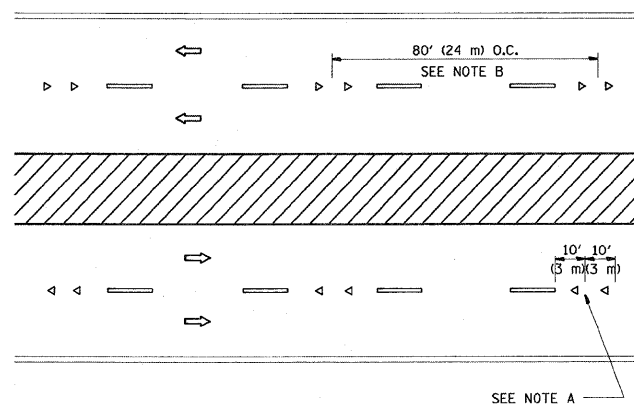
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

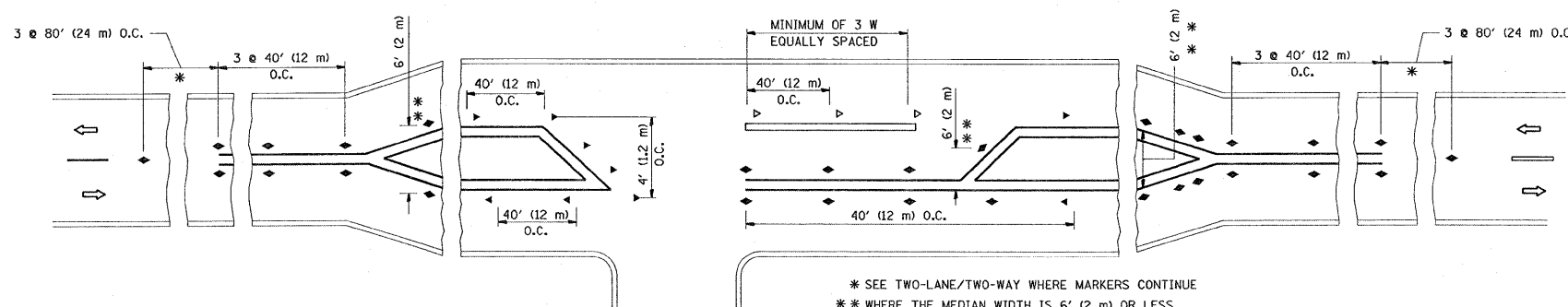
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H. (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



\* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE  
 \*\* WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

LEFT TURN

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

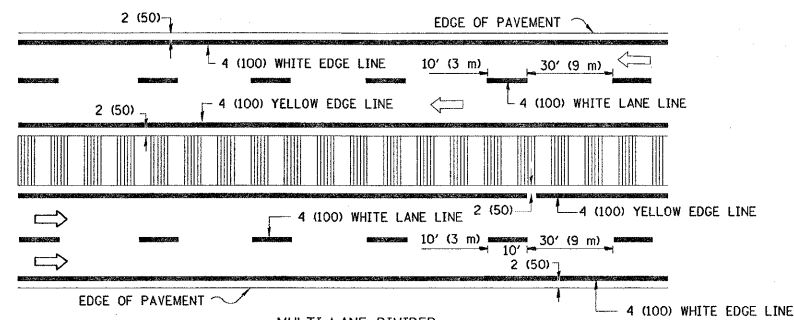
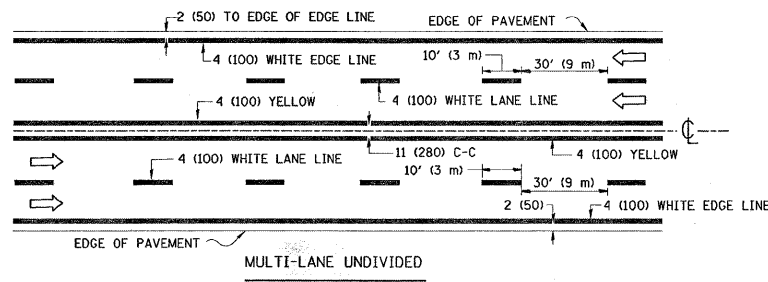
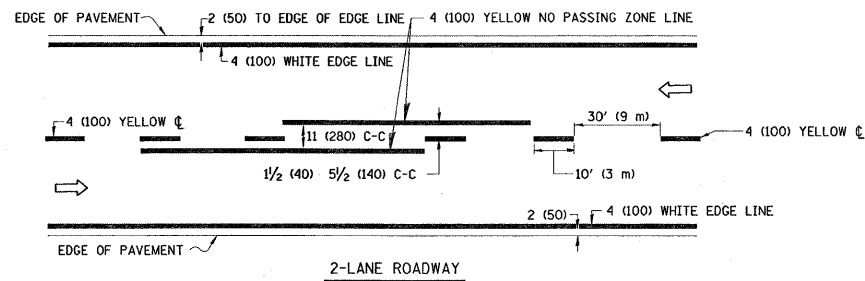
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ca:\pwork\p\1007\ABREUAH\20158873\01.s	std.dgn	DRAWN -	REVISED - T. RAMMACHER 03-12-99
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	PLOT DATE = 12/14/2009	DATE -	REVISED - C. JUCIUS 09-09-09

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS			
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

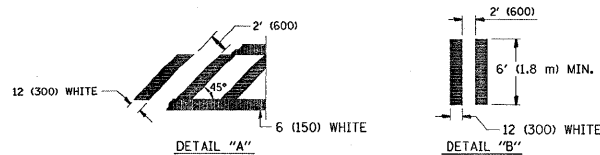
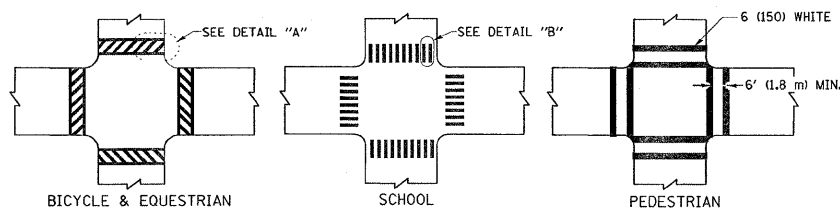
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
365	97-N-2	KANE	21	16
TC-11			CONTRACT NO. 60148	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



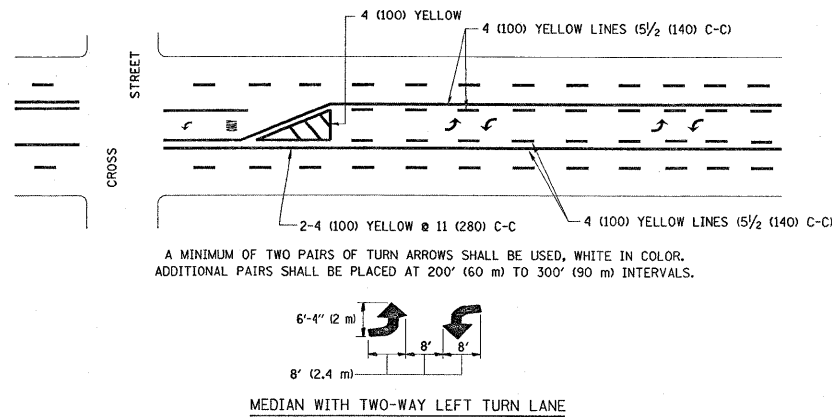
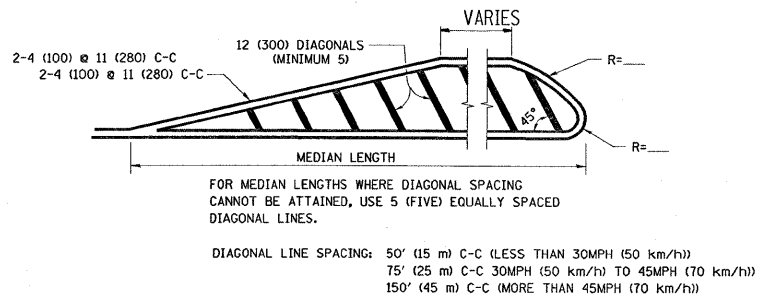
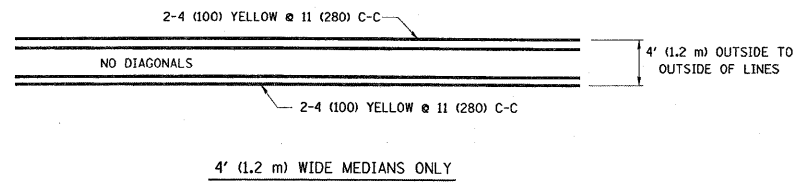


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

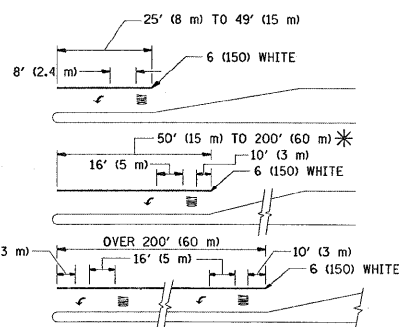
**TYPICAL LANE AND EDGE LINE MARKING**



**TYPICAL CROSSWALK MARKING**



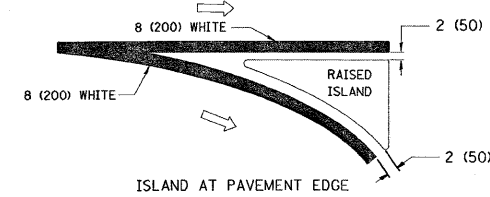
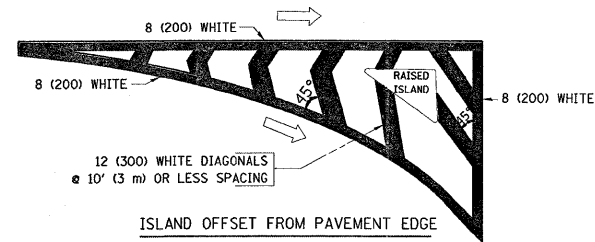
**TYPICAL PAINTED MEDIAN MARKING**



FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.  
 \* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

**TYPICAL LEFT (OR RIGHT) TURN LANE**

**TYPICAL TURN LANE MARKING**

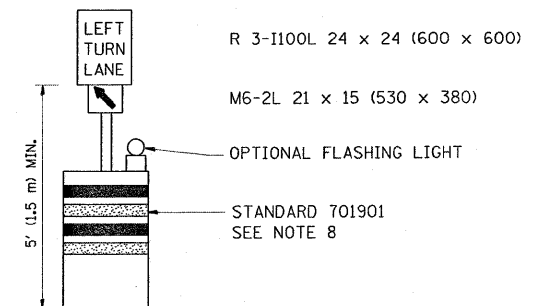
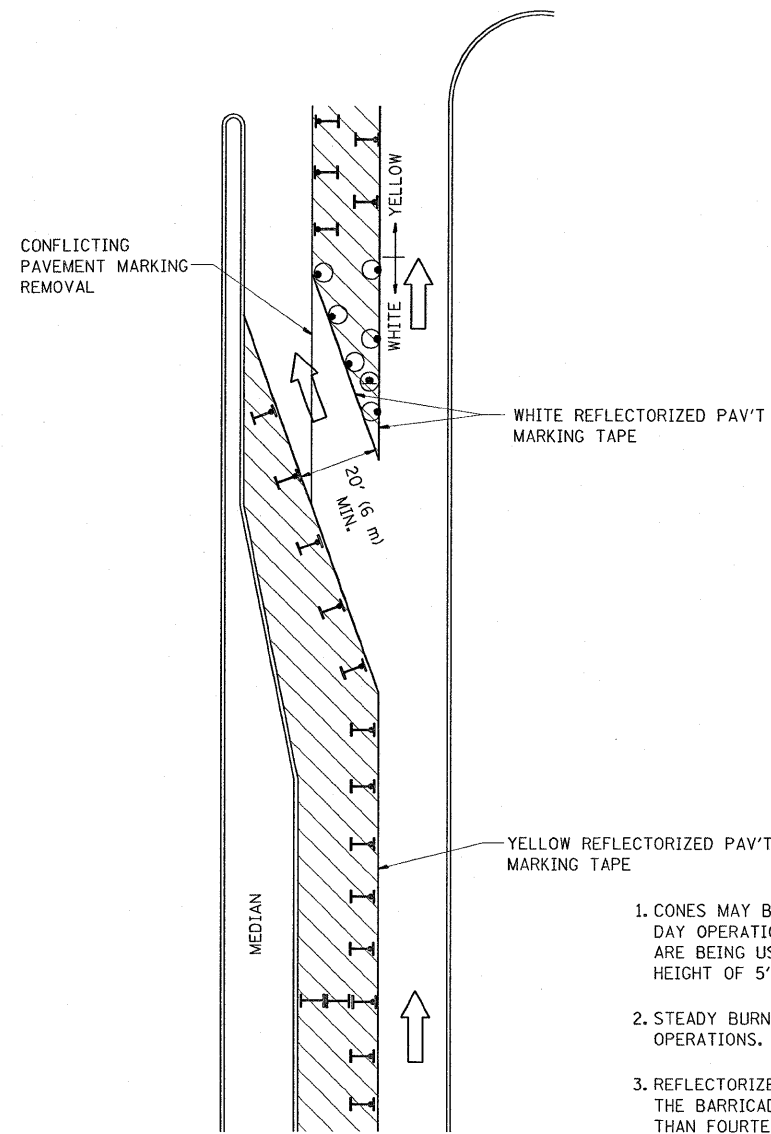


**TYPICAL ISLAND MARKING**

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m <sup>2</sup> ) EACH "X"=54.0 SQ. FT. (5.0 m <sup>2</sup> )
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

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

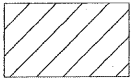







**GENERAL NOTES**

1. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT. WHEN CONES ARE BEING USED, THE "LEFT TURN LANE" SIGN MAY BE SKID MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).
2. STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
3. REFLECTORIZED TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH TURN BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.
4. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
5. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
7. FORM OPER 725 IS REQUIRED.
8. IF A DRUM OR TYPE II BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 PREQUIREMENTS.
9. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

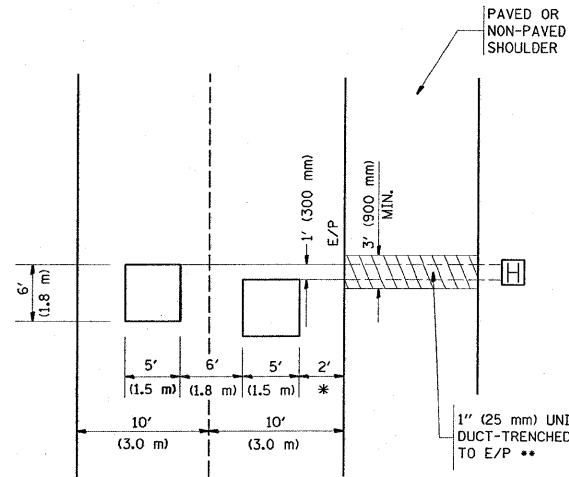
**LEGEND**

-  WORK AREA
-  LANE OPEN TO TRAFFIC
-  TYPE I OR II BARRICADE WITH STEADY BURN LIGHT
-  DRUM WITH STEADY BURN LIGHT
-  DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL
-  TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

FILE NAME =	USER NAME = abreuah	REVISED - T. RAMMACHER 09-08-94	REVISED - R. BORO 09-14-09	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)</b>			F.A.P. RTE. 365	SECTION 97-N-2	COUNTY KANE	TOTAL SHEETS 21	SHEET NO. 18
CONFLICTING PAVEMENT MARKING REMOVAL		REVISED - A. HOUSEH 11-07-95	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	<b>TC-14</b>				
CONFLICTING PAVEMENT MARKING REMOVAL		REVISED - A. HOUSEH 10-12-96	REVISED -		CONTRACT NO. 60148							
CONFLICTING PAVEMENT MARKING REMOVAL		REVISED - T. RAMMACHER 01-06-00	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							

**LOOPS NEXT TO SHOULDERS**

PROVIDE A PAVEMENT REPLACEMENT NOTE WHICH SHOULD EQUAL 3' (900 mm) X WIDTH OF PAVED SHOULDER.

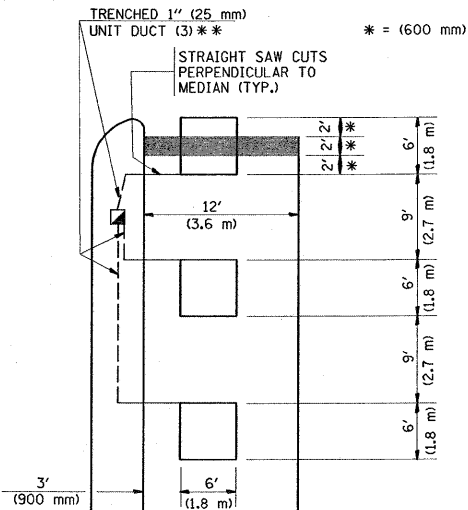


\* = (600 mm)

\*\* UNIT DUCT IS TO BE SHOWN ON PLAN SHEETS BUT SHALL NOT BE INCLUDED IN THE PAY ITEMS.

**LEFT TURN LANES WITH MEDIANS  
VOLUME DENSITY ("FAR OUT" DETECTION)  
ON SAME APPROACH  
(PROTECTED / PERMITTED LEFT TURN PHASING)**

HANDHOLE LOCATION MAY VARY DEPENDING ON GEOMETRICS AND DESIGN OF TRAFFIC SIGNALS. HEAVY-DUTY HANDHOLES TO BE USED WHEN THE MEDIAN IS MOUNTABLE. REFER TO STANDARD 814001 TO ENSURE THAT HANDHOLE FITS IN MEDIAN.

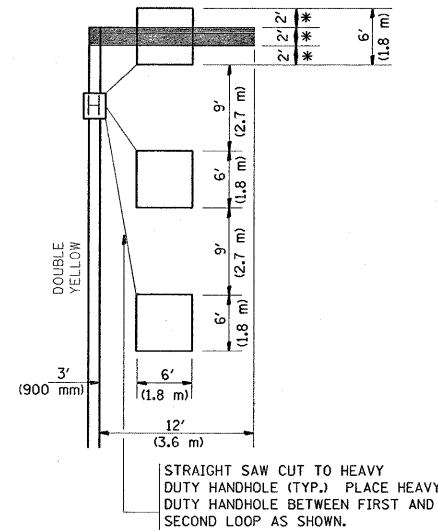


\*\* UNIT DUCT IS TO BE SHOWN ON PLAN SHEETS BUT SHALL NOT BE INCLUDED IN THE PAY ITEMS.

NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

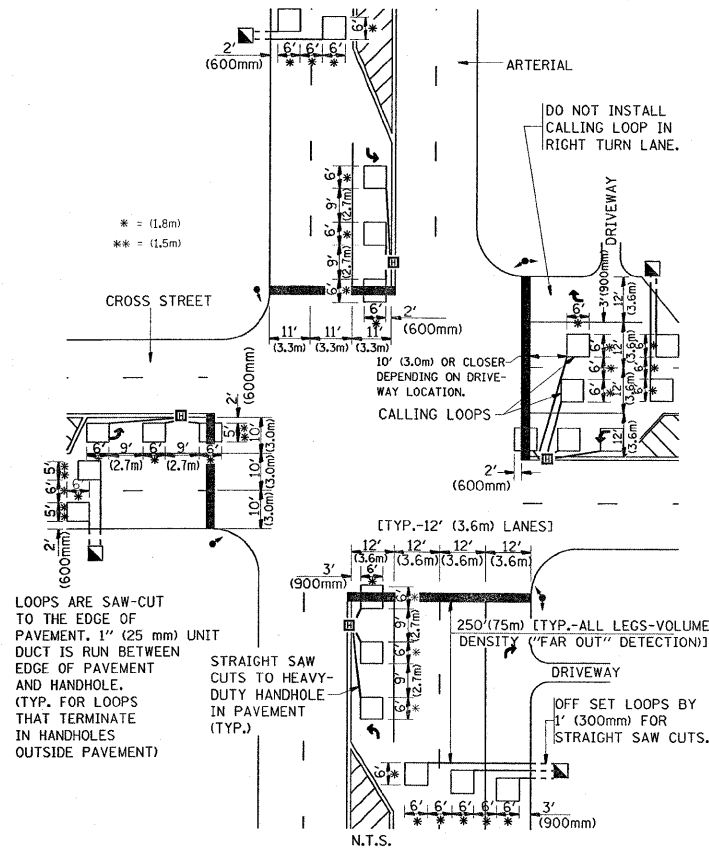
**LEFT TURN LANES WITHOUT MEDIANS  
VOLUME DENSITY ("FAR OUT" DETECTION)  
ON SAME APPROACH  
(PROTECTED / PERMITTED LEFT TURN PHASING)**

\* = (600 mm)



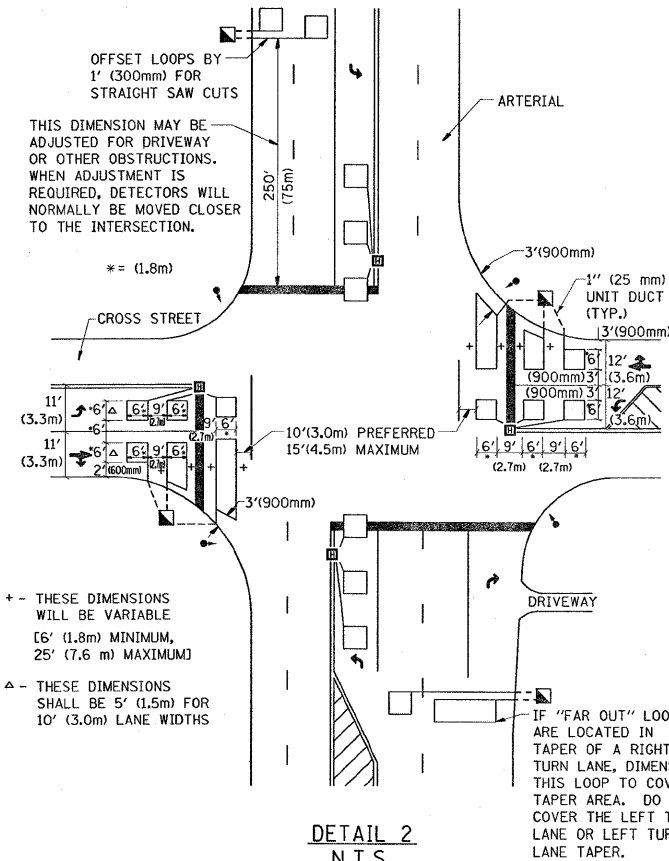
NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

**ARTERIAL-VOLUME DENSITY ("FAR OUT" DETECTION)  
CROSS STREET-VOLUME DENSITY ("FAR OUT" DETECTION)**



**DETAIL 1**  
N.T.S.

**ARTERIAL-VOLUME DENSITY ("FAR OUT" DETECTION)  
CROSS STREET-NON VOLUME DENSITY ("UPTIGHT" PRESENCE DETECTION)**



**DETAIL 2**  
N.T.S.

**NOTES:**

**VEHICLES LOOP DETECTORS**

- \* ALL LEAD IN CABLE SHALL BE TWO CONDUCTOR NO. 14 TWISTED, SHIELDED.
- \* EACH DETECTOR LOOP SHALL HAVE ITS OWN SAW CUT FROM THE LOOP TO THE EDGE OF PAVEMENT OR TO A HANDHOLE IN THE PAVEMENT.
- \* EACH DETECTOR LOOP SHALL HAVE ITS OWN ONE INCH (25 mm) UNIT DUCT BETWEEN THE EDGE OF PAVEMENT AND THE FIRST HANDHOLE OR JUNCTION BOX. EACH UNIT DUCT RUN SHALL BE SHOWN ON THE PLANS BY THE DESIGNER, BUT SHALL NOT BE PAID FOR SEPARATELY. THIS ITEM IS INCIDENTAL TO THE PAY ITEM FOR DETECTOR LOOPS.
- \* ONE DIMENSION OF ALL DETECTOR LOOPS SHALL BE SIX FEET (1.8 m)
- \* EACH LANE OF NON-LOCKING, PRESENCE DETECTION AND EACH LANE OF A DOUBLE LEFT TURN LANE REQUIRES A SEPARATE INDUCTIVE LOOP DETECTOR AND LEAD IN CABLE.
- \* WHEN NON-LOCKING, PRESENCE DETECTION IS USED, MORE THAN ONE LOOP PER LANE IS REQUIRED BEHIND THE STOP BAR (i.e. 1-1/2, 1-3/4, 2).
- \* WHEN SYSTEM LOOPS ARE REQUIRED ON AN APPROACH OF AN INTERSECTION, THE LOOPS USED FOR VOLUME DENSITY AND INTERSECTION TIMING SHALL ALSO BE USED AS SYSTEM DETECTORS. EACH ONE OF THESE TYPE OF LOOPS REQUIRES A SEPARATE TWO CONDUCTOR NO. 14 TWISTED SHIELDED CABLE AND A SEPARATE INDUCTIVE LOOP DETECTOR WHEN NEW CONTROLLERS ARE UTILIZED. THE DESIGNER SHALL LABEL THESE TYPES OF LOOPS AS "INTERSECTION AND SAMPLING (SYSTEM) DETECTORS" ON THE SIGNAL LAYOUT, THE INTERCONNECT PLAN AND THE SYSTEM CABLE PLAN. WHEN AN EXISTING CONTROLLER IS UTILIZED FOR THIS TYPE OF DETECTION, THE PAY ITEM "INDUCTIVE LOOP DETECTOR WITH SYSTEM OUTPUT" SHOULD BE USED.

**PLACEMENT OF DETECTORS**

THE FOLLOWING FIGURES REPRESENT THE MOST COMMON DETECTOR LOOP LOCATIONS AND SIZES. ADJUSTMENTS WILL BE NECESSARY FOR SPECIFIC GEOMETRIC CONSIDERATIONS.

LOCATIONS AND DEMENSIONS OF DETECTOR LOOPS ARE REQUIRED ON ALL SIGNAL LAYOUT PLAN SHEETS.

"FAR OUT" DETECTION REFERS TO LOCKING, PRESENCE TYPE DETECTION LOCATED IN THRU LANES, RIGHT TURN LANES, AND RIGHT TURN LANE TAPER AREAS (IF APPLICABLE), USUALLY 250' (75 m) IN ADVANCE OF STOP BARS. "UPTIGHT" DETECTION REFERS TO NON-LOCKING PRESENCE TYPE DETECTION LOCATED IN ALL LANES AND 10'-15' (3.0 m-4.5 m) BEHIND THE CROSSING STREET'S EDGE OF PAVEMENT EXTENDED.

**NOTE:**

ALL DETAILS AND NOTES SHOWN ARE FROM THE I.D.O.T. DISTRICT 1 TRAFFIC SIGNAL DESIGN GUIDELINES DATED JANUARY 1995

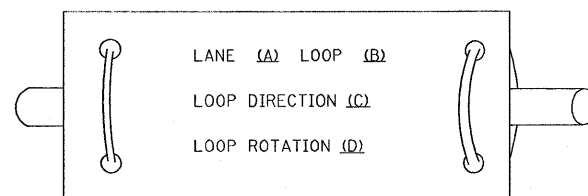
THIS DRAWING HAS BEEN PREPARED TO ASSIST THE RESIDENT ENGINEER FOR ALL ROADWAY RESURFACING OR S.M.A.R.T. PROJECTS WHERE THE DIMENSIONS ARE NOT SHOWN ON THE PLANS AND THE FINAL LOCATIONS FOR CROSSWALKS OR STOP BARS ARE NOT DETERMINED.

FILE NAME =	USER NAME = abreuah	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT 1 - DETECTOR LOOP INSTALLATION DETAILS FOR ROADWAY RESURFACING</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
tes\pwork\KVPWIDOT\ABREUAH\09158873\Dist	td.dgn	DRAWN -	REVISED -			365	97-N-2	KANE	21	19
PLOT SCALE = 50.0000' / IN.	CHECKED - R.K.F.	REVISED -	REVISED -			<b>TS-07</b>		<b>CONTRACT NO. 60148</b>		
PLOT DATE = 10/14/2009	DATE -	REVISED -	REVISED -			SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	

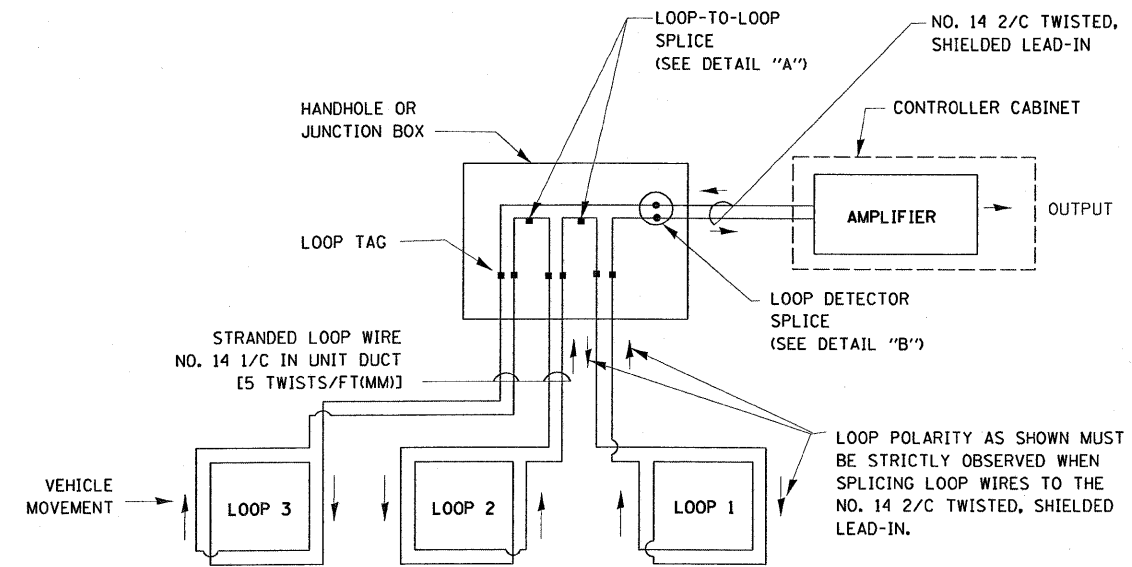
## LOOP DETECTOR NOTES

- 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.
- 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.
- 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.
- ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
- IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVESHOLES 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.
- 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.
- 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

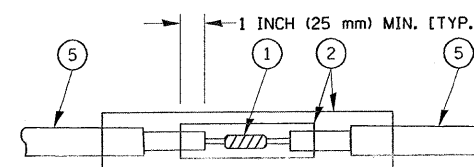


- LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

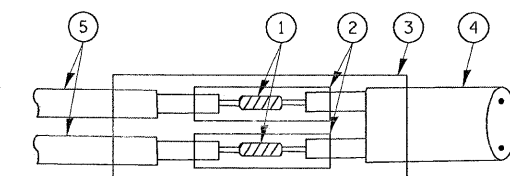


### DETECTOR LOOP WIRING SCHEMATIC

- 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

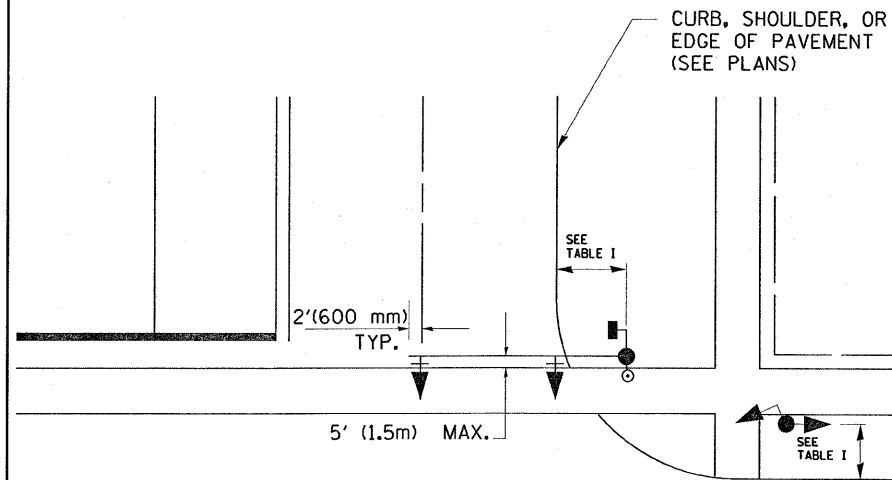
### LOOP DETECTOR SPLICE

- WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- NO. 14 2/C TWISTED, SHIELDED CABLE.
- LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

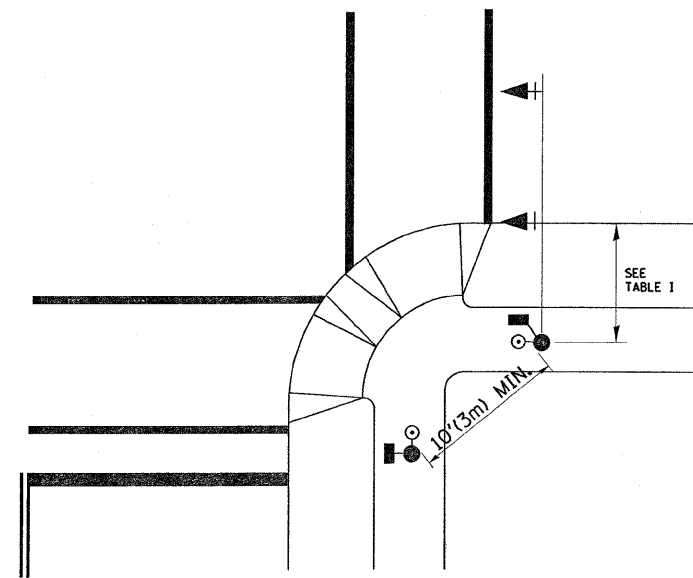
FILE NAME =	USER NAME = abreuah	DESIGNED - D.A.D.	REVISED - 11-12-01	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>	F.A.P. RTE. 365	SECTION 97-N-2	COUNTY KANE	TOTAL SHEETS 21	SHEET NO. 19A	
et\pwwork\pwwid\ABREUAH\d0158873\01.tsd	td.dgn	DRAWN - R.W.P.	REVISED - BUR. TRAFFIC 01-01-02			SCALE: NONE	SHEET NO. 1 OF 4 SHEETS	STA. TO STA.	<b>TS-05</b>		CONTRACT NO. 60148
	PLOT SCALE = 50.0000' / IN.	CHECKED - D.A.Z.	REVISED -					FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT	
	PLOT DATE = 10/28/2009	DATE - 05-30-00	REVISED -								

**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**



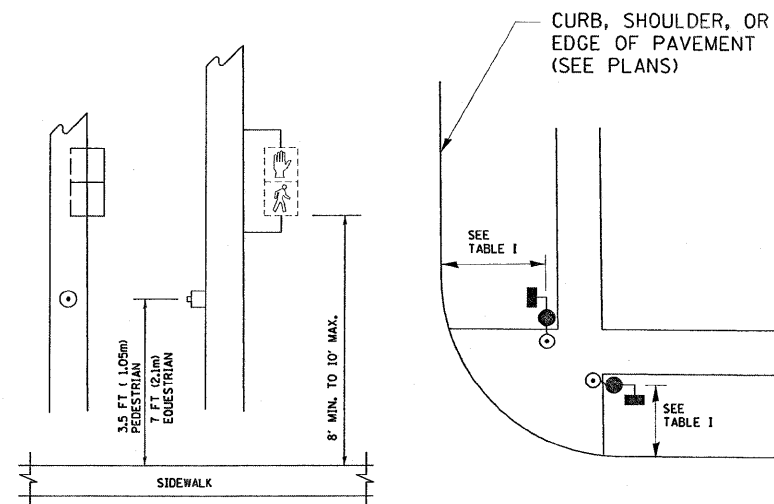
RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

**NOTES:**

- 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
- 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.
- 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.
- 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)

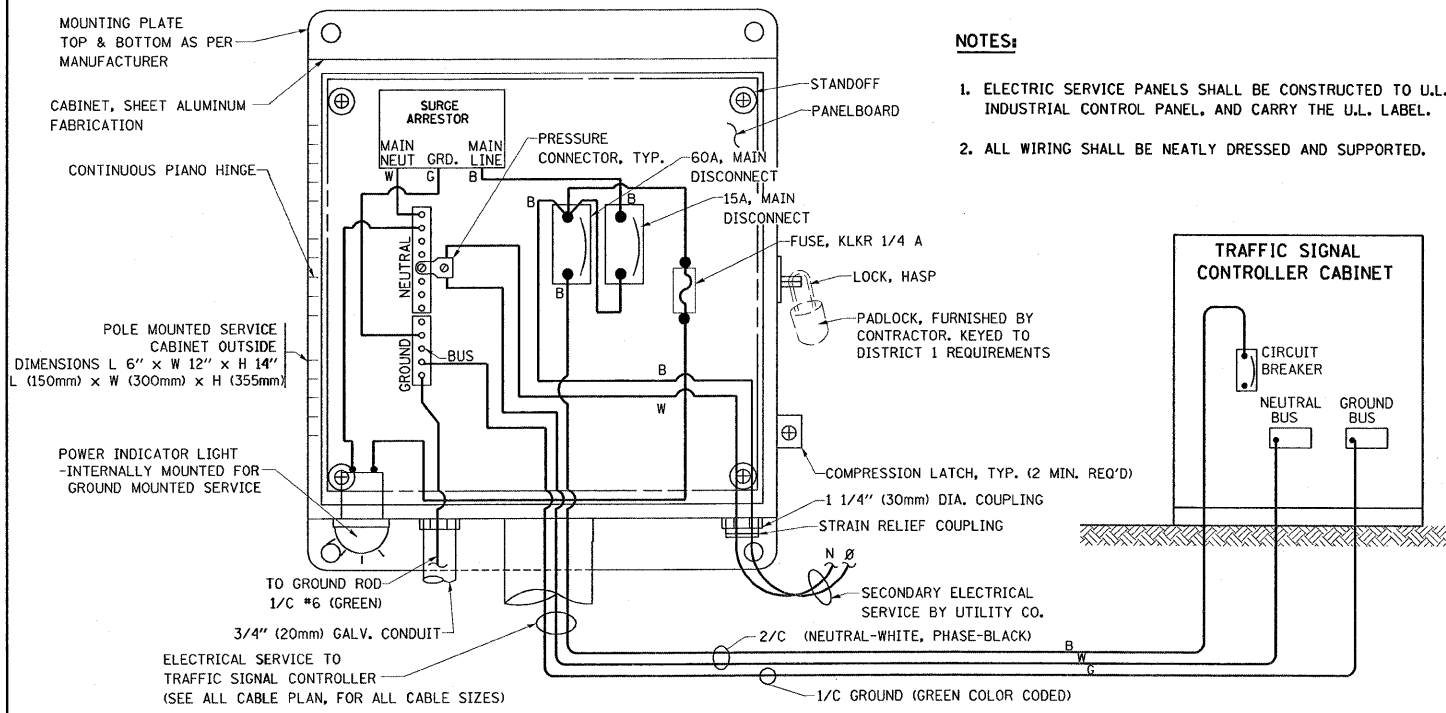
**PEDESTRIAN SIGNAL POST**

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION

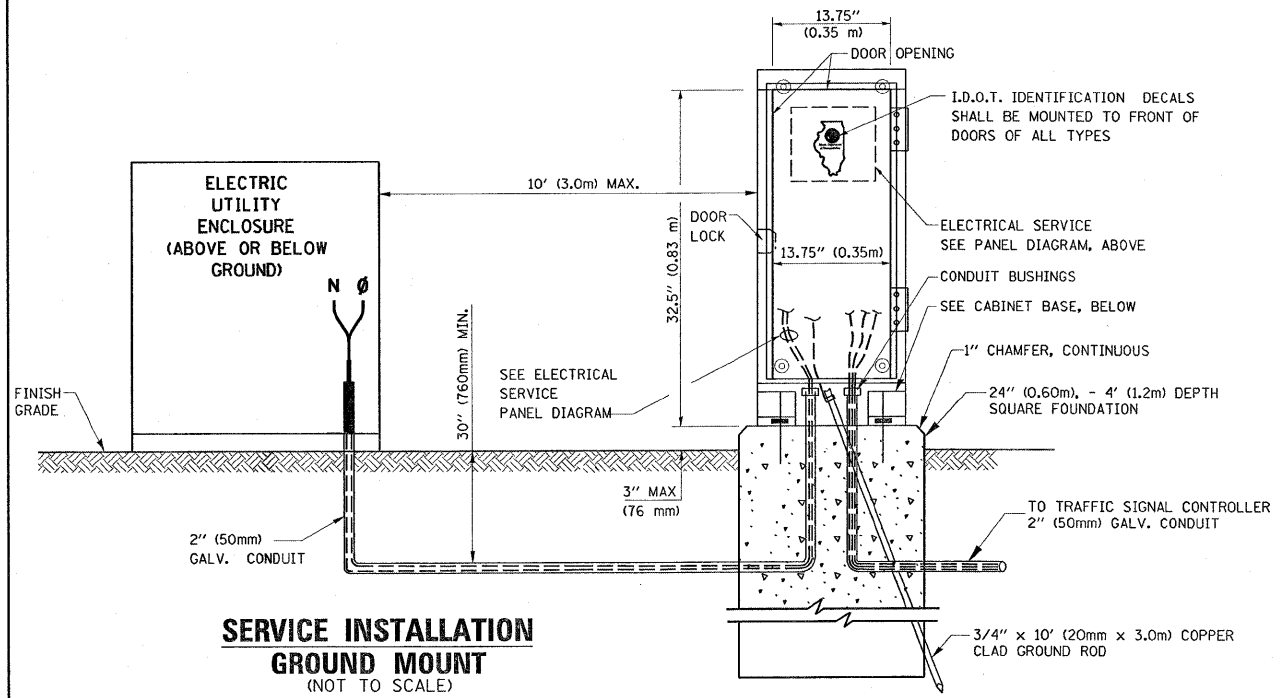


**TABLE I**

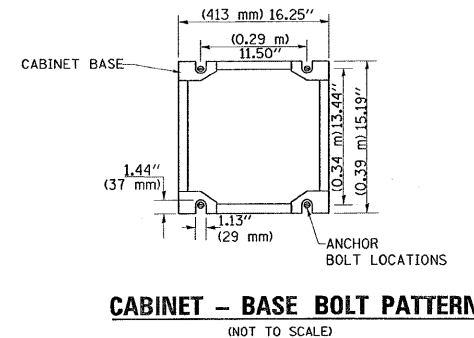
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM BACK OF CURB)	SHOULDER/NON-CURBED AREA (MIN. DIST. FROM EDGE OF PAVEMENT)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m),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



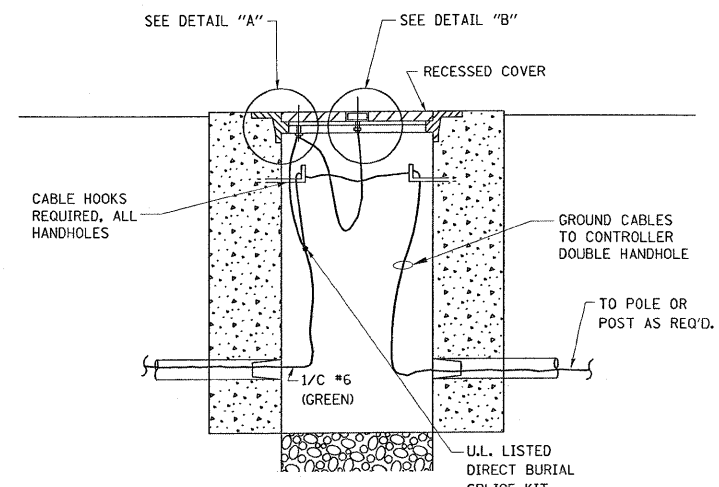
**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)



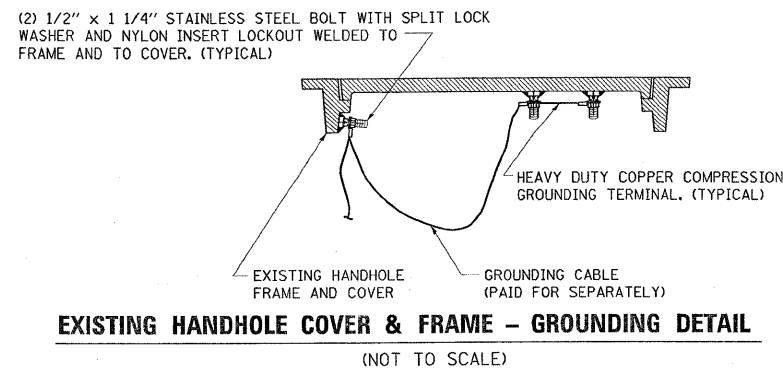
**SERVICE INSTALLATION GROUND MOUNT**  
 (NOT TO SCALE)



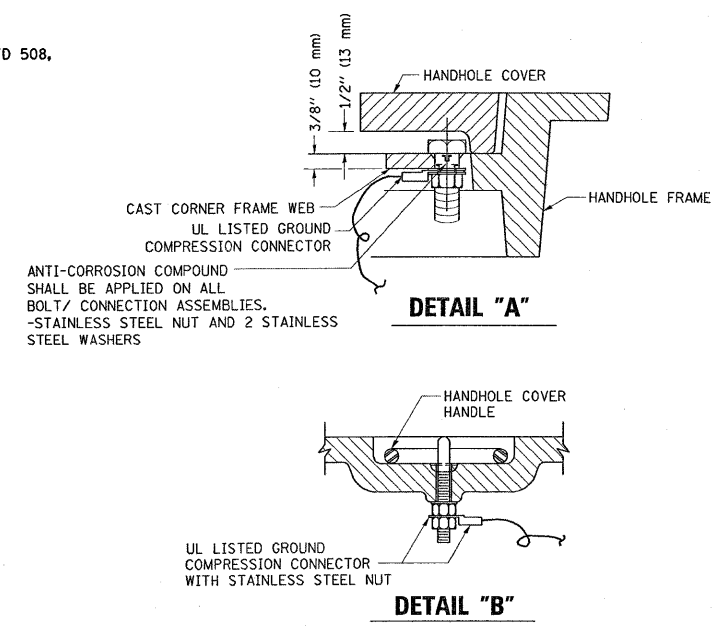
**CABINET - BASE BOLT PATTERN**  
 (NOT TO SCALE)



**HANDHOLE COVER & FRAME - GROUNDING DETAIL**  
 (NOT TO SCALE)

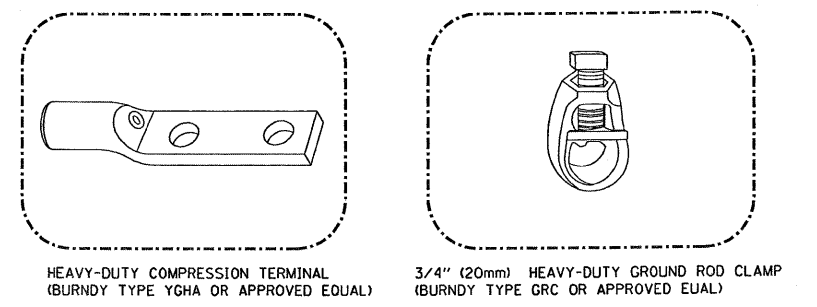


**EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL**  
 (NOT TO SCALE)

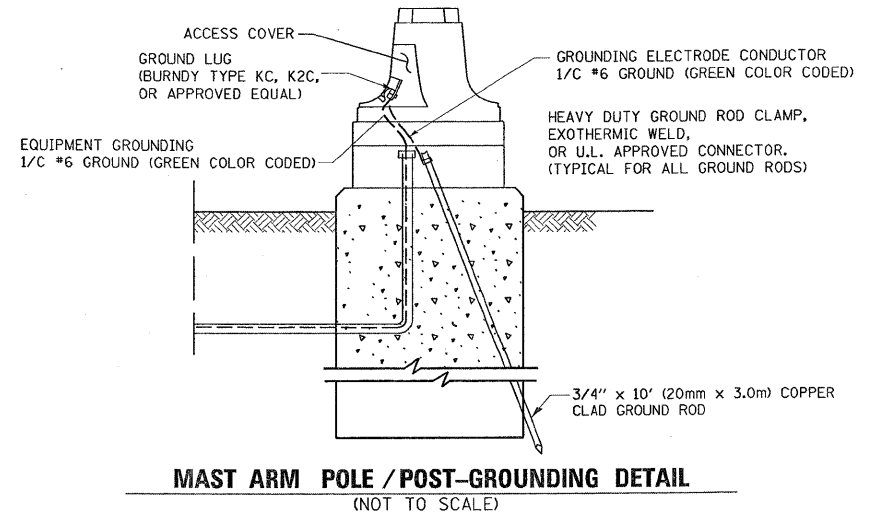


**NOTES:**  
**GROUNDING SYSTEM**

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.

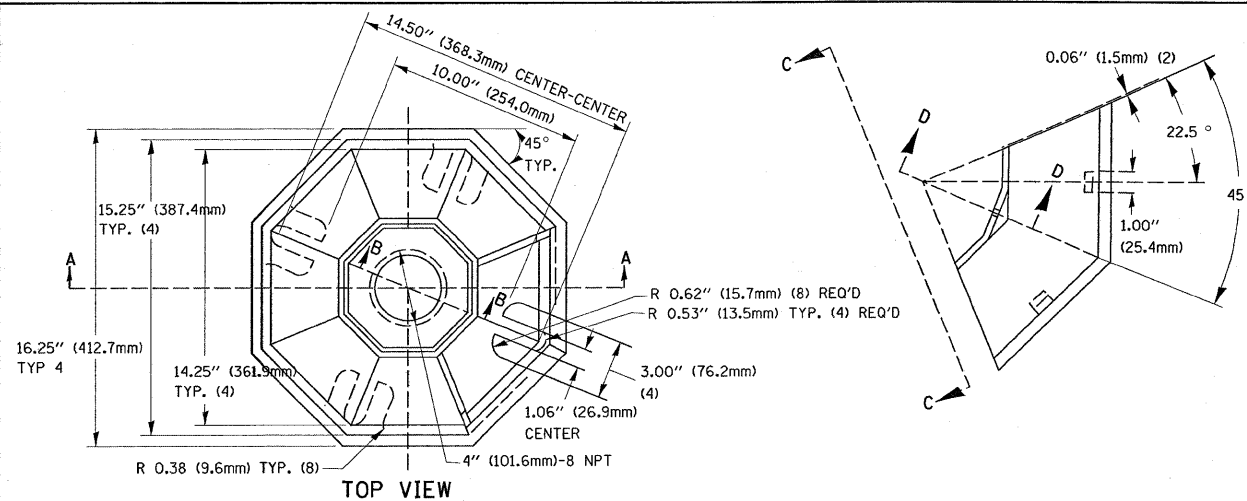


- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
  - GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.

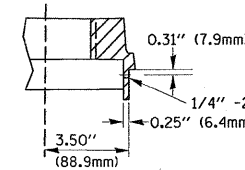


**MAST ARM POLE / POST-GROUNDING DETAIL**  
 (NOT TO SCALE)

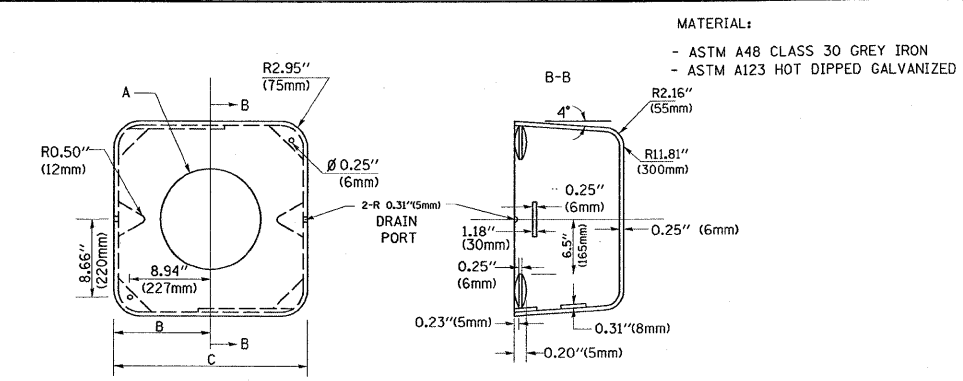
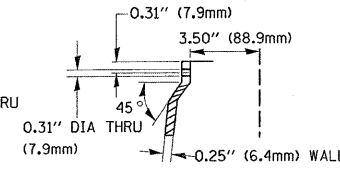
FILE NAME =	USER NAME = abreuah	DESIGNED - D.A.D.	REVISED - 03-15-01	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Drawn by: PW1001ABREUAH.dwg	DRAWN - R.W.P.	CHECKED - D.A.Z.	REVISED - BUR. TRAFFIC 01-01-02			365	97-N-2	KANE	21	19C
PLOT SCALE = 50,0000 / IN.	DATE - 05-30-00					<b>TS-05</b>		CONTRACT NO. 60148		
PLOT DATE = 10/20/2009						SCALE: NONE		SHEET NO. 3 OF 4 SHEETS		STA. TO STA.
						FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT				



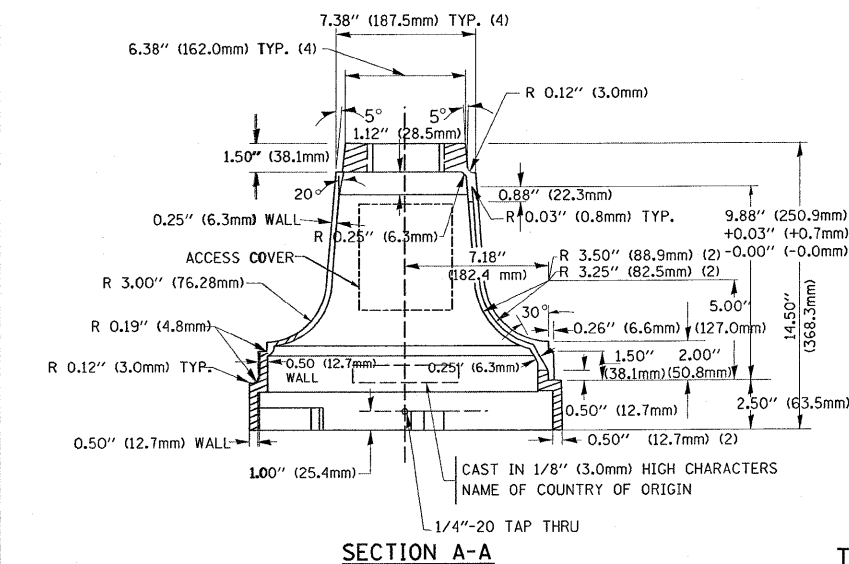
SECTION B-B



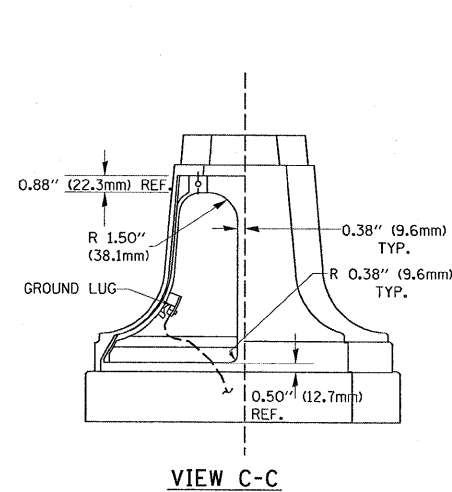
SECTION D-D



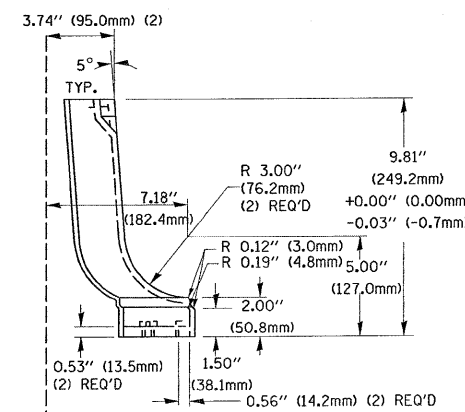
TYPE	A	B	C	HEIGHT	WEIGHT
I	∅ 10.125\"(257mm)	9.5\"(241mm)	19\"(483mm)	12\"(300mm)	24kg
II	∅ 11.125\"(283mm)	10.75\"(273mm)	21.5\"(546mm)	12\"(300mm)	26kg



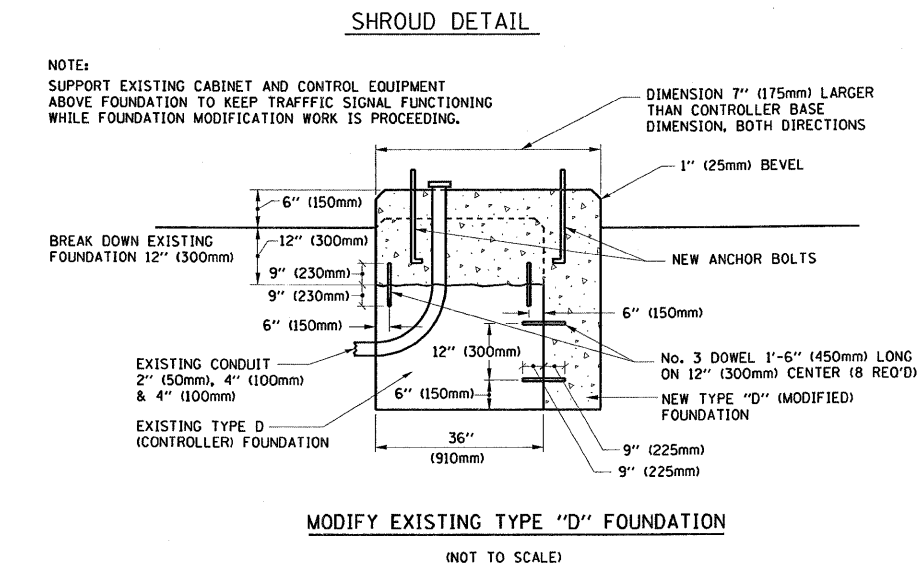
SECTION A-A



VIEW C-C

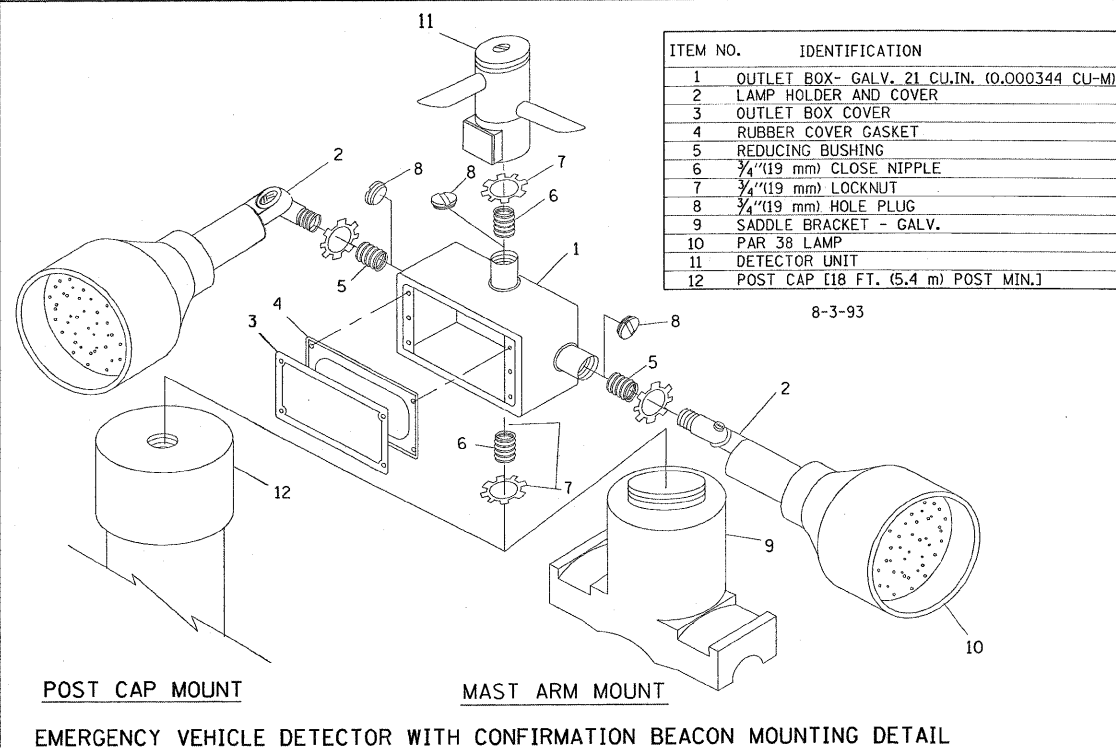


TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A



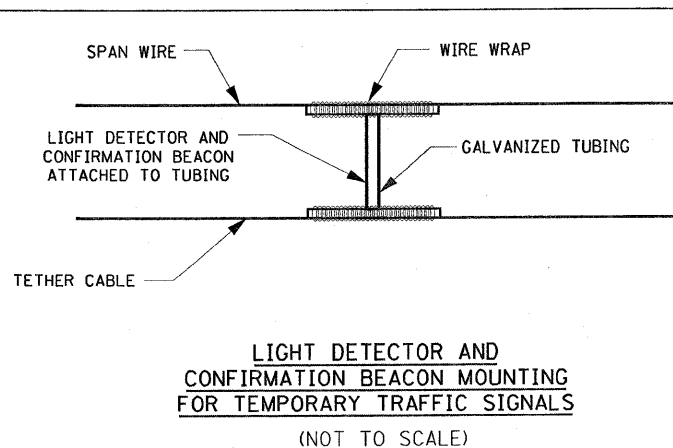
MODIFY EXISTING TYPE "D" FOUNDATION

(NOT TO SCALE)



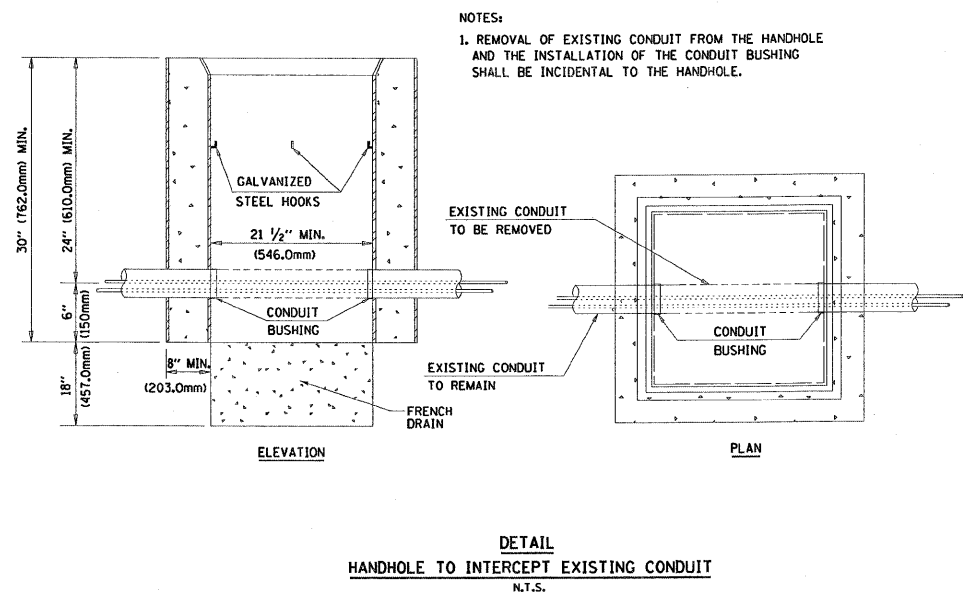
ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\"(19 mm) CLOSE NIPPLE
7	3/4\"(19 mm) LOCKNUT
8	3/4\"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	PAR 38 LAMP
11	DETECTOR UNIT
12	POST CAP [18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

- NOTES:
- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
  - 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
  - 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 3/4\"(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)



HANDHOLE TO INTERCEPT EXISTING CONDUIT

N.T.S.

FILE NAME =	USER NAME = abreuah	DESIGNED - D.A.D.	REVISED - BUR.TRAFFIC 03-15-01
ct:\pwork\p\WIDOT\ABREUAH\20158873\Dist\Std.dgn		DRAWN - R.W.P.	REVISED - BUR.TRAFFIC 11-12-01
		CHECKED - D.A.Z.	REVISED - BUR.TRAFFIC 01-01-02
PLOT SCALE = 50.0000 / IN.		DATE - 05-30-00	REVISED -
PLOT DATE = 10/20/2009			

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

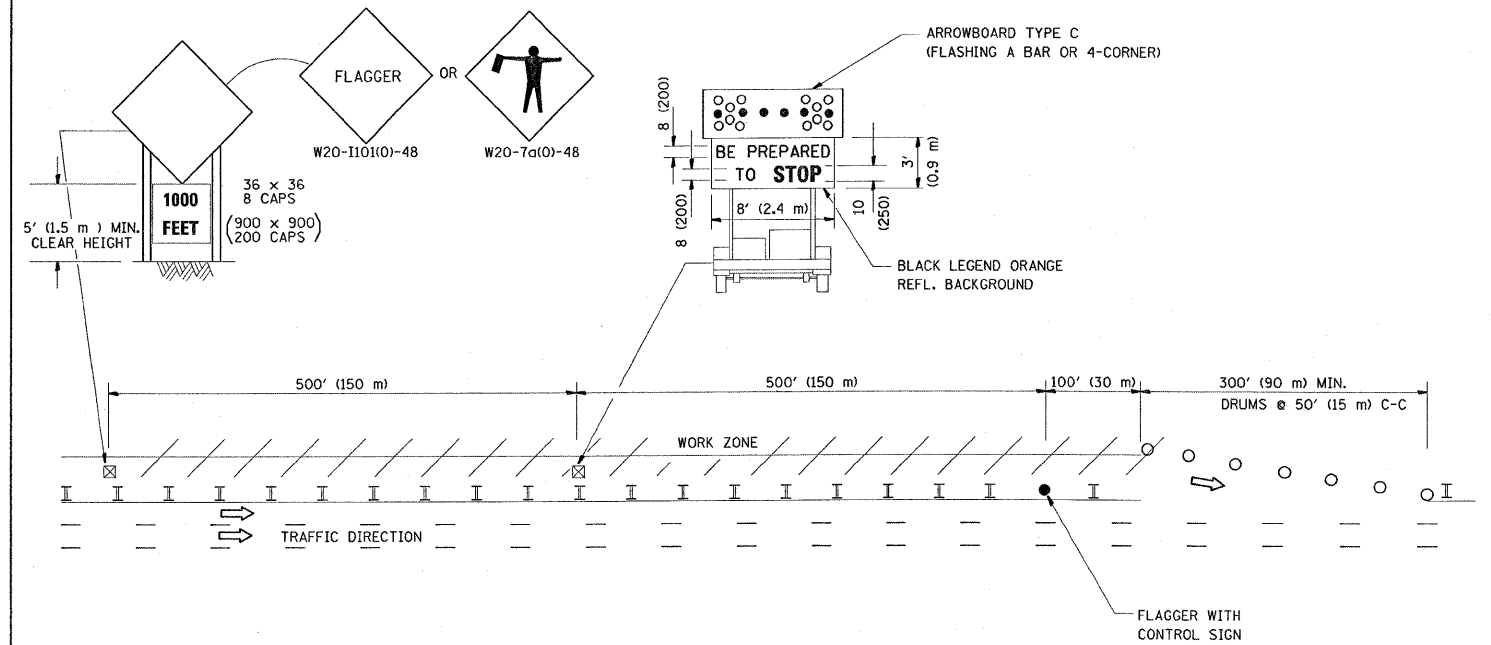
DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE SHEET NO. 4 OF 4 SHEETS STA. TO STA.

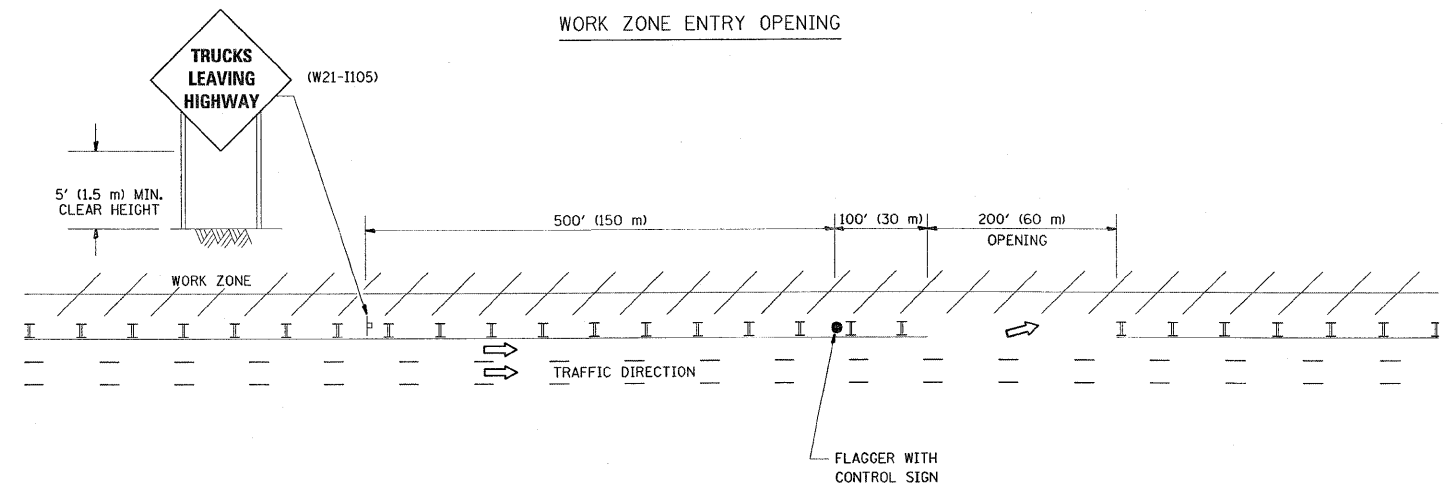
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
365	97-N-2	KANE	21	19D
TS-05			CONTRACT NO. 60148	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



NOTES:

1. The Arrowboard, the Flagger Ahead trailer mounted sign, and the Trucks Leaving Highway sign shall be removed or turned away from traffic and the exit and entry openings shall be closed when the flagging operation ceases.
2. Work Zone Exit Openings should be a minimum of one half mile apart.
3. Exiting the work zone at any place other than at a Work Zone Exit Opening will be prohibited.
4. All vehicles shall enter the work zone at entry openings, using their turn signals to warn motorists

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

FILE NAME =	USER NAME = abreuah	DESIGNED -	REVISED - D.W.S. 08-98
ts:\pw\work\PIWIDOT\ABREUAH\0158873\01st	td.dgn	DRAWN -	REVISED - J.A.F. 04-03
	PLOT SCALE = 50,000 / IN.	CHECKED -	REVISED - J.A.F. 02-06
	PLOT DATE = 10/14/2009	DATE -	REVISED - S.P.B. 01-07

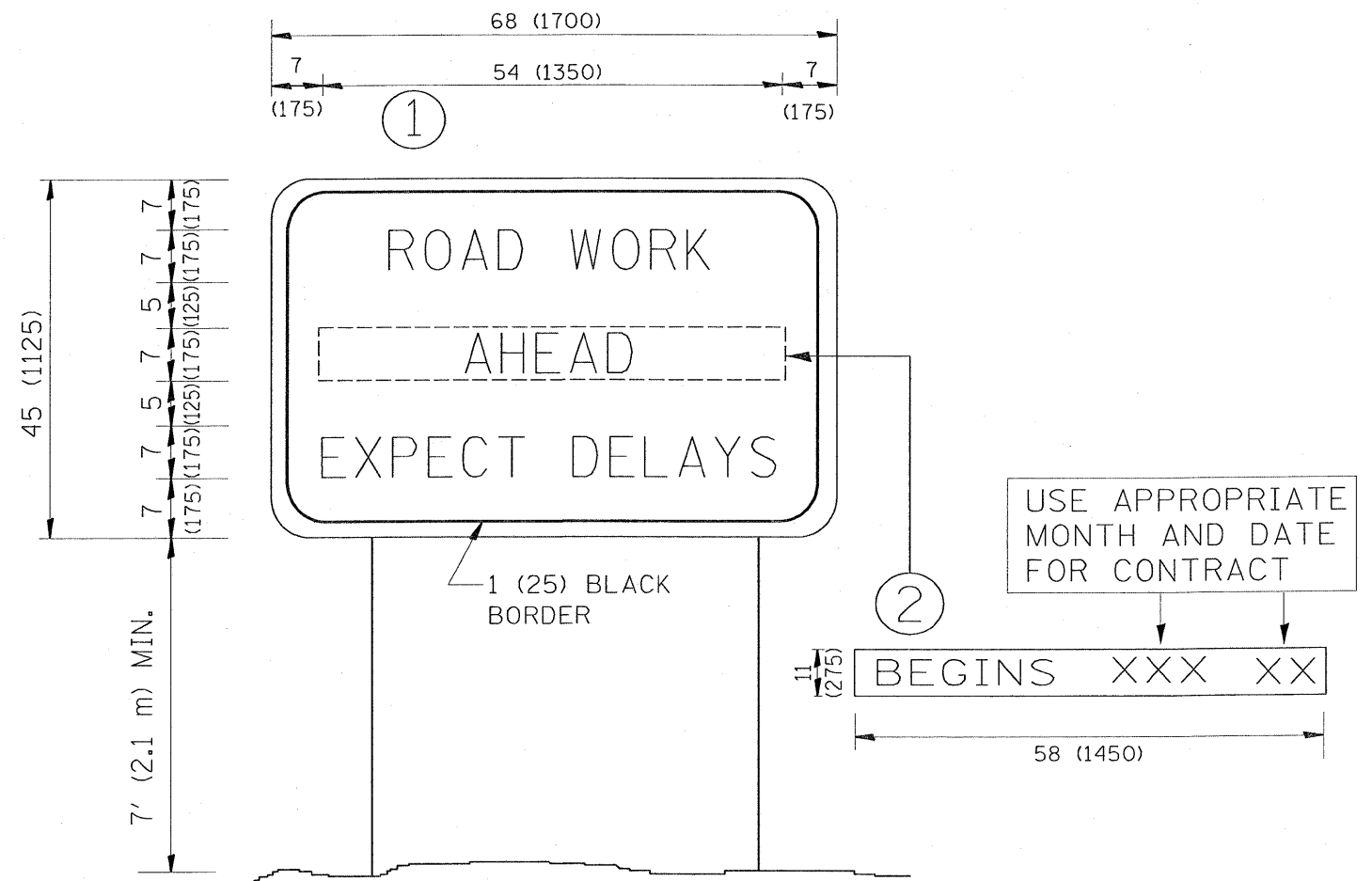
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SIGNING FOR FLAGGING OPERATIONS  
AT WORK ZONE OPENINGS

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
365	97-N-2	KANE	21	20
TC-18			CONTRACT NO. 60148	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				





NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = abreugh	DESIGNED -	REVISED - R. MIRS 09-15-97	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>ARTERIAL ROAD INFORMATION SIGN</b>		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ct:\pwork\pwidot\ABREUGH\0158873\Dist.dgn		DRAWN -	REVISED - R. MIRS 12-11-97		365	97-N-2	KANE	21	21			
		CHECKED -	REVISED - T. RAMMACHER 02-02-99		SCALE: NONE		SHEET NO. 1 OF 1 SHEETS		STA. TO STA.		TC-22	
		DATE -	REVISED - C. JUCIUS 01-31-07		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							
				CONTRACT NO. 60148								