

08-02-2019 LETTING ITEM 003

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.P. RATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008TS&I	COOK	44	1
CONTRACT NO. 62C21				

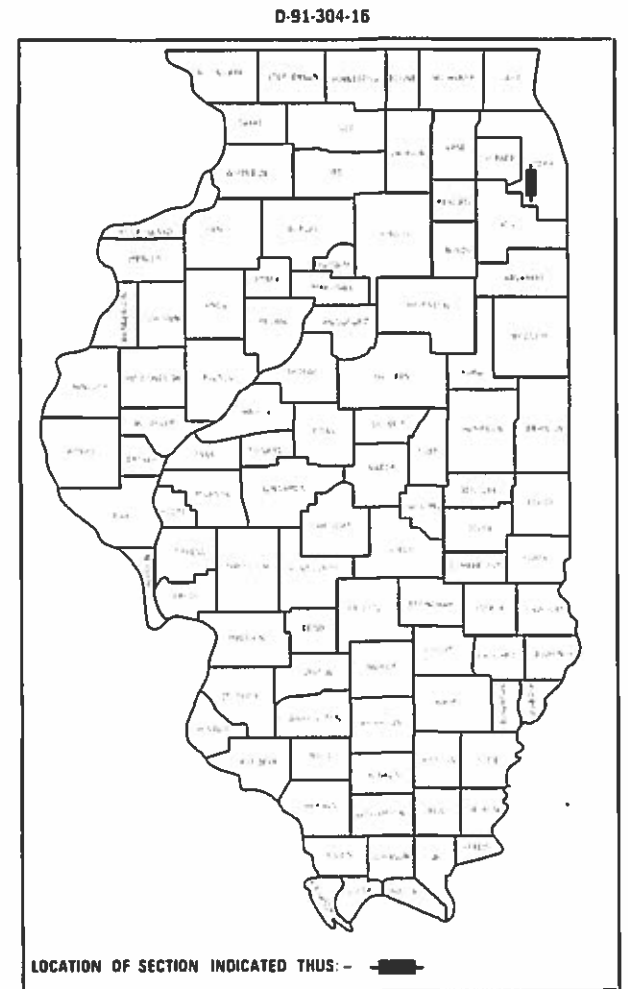
FOR INDEX OF SHEETS, SEE SHEET NO. 2

THIS PROJECT IS LOCATED IN:  
 THE CITY OF COUNTRYSIDE  
 THE VILLAGE OF HODGKINS  
 THE VILLAGE OF WILLOW SPRINGS  
 THE VILLAGE OF PALOS PARK  
 THE VILLAGE OF JUSTICE

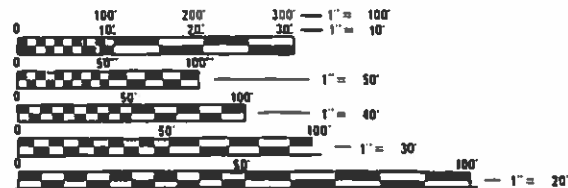
# PROPOSED HIGHWAY PLANS

FAP ROUTE 330: US 12/20/45 (LA GRANGE ROAD)  
 LIMITS: 63RD ST. TO CREEK RD.  
 SECTION: 2016-008TS&I  
 PROJECT: HSIP-KPIZ(541)  
 TRAFFIC SIGNAL MODERNIZATION, AND  
 GUARDRAIL END SECTION REPLACEMENT  
 COOK COUNTY

C-91-304-16



FOR LOCATION MAPS SEE SHEET NO. 7-8



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: DANIEL WILGREEN 847) 705-4240  
 PROJECT MANAGER: FAWAD AQUEEL (847) 705-4247

CONTRACT NO. 62C21

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SUBMITTED MAY 10 2019  
*Anthony J. Danzig* / OAB  
 REGIONAL ENGINEER

June 28 2019  
*[Signature]*  
 ENGINEER OF DESIGN AND ENVIRONMENT

June 28 2019  
*[Signature]*  
 DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

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# STANDARDS

000001-07	STANDARD SYBMBOLS, ABBREVIATIONS, AND PATTERNS
630001-12	STEEL PLATE BEAM GUARDRAIL
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631033-07	TRAFFIC BARRIER TERMINAL, TYPE 6B
635001-02	DELINEATORS
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701101-05	OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701421-08	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS ≥ 45 MPH TO 55 MPH
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-08	TRAFFIC CONTROL DEVICES
720011-01	METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
725001-01	OBJECT AND TERMINAL MARKERS
782006	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
814001-03	HANDHOLES
814006-02	DOUBLE HANDHOLES
857001-01	STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
862001-01	UNINTERRUPTABLE POWER SUPPLY (UPS)
873001-02	TRAFFIC SIGNAL GROUNDING & BONDING
877001-07	STEEL MAST ARM ASSEMBLY AND POLE 16' THROUGH 55'
878001-10	CONCRETE FOUNDATION DETAILS
880001-01	SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
880006-01	TRAFFIC SIGNAL MOUNTING DETAILS
886001-01	DETECTOR LOOP INSTALLATIONS

# GENERAL NOTES

- ① BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 OR 8:11 OR DIGGER AT 312-744-700 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.
- ② THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.39 OF THE STANDARD SPECIFICATIONS. ANY DAMAGE TO THE UNDERGROUND FACILITIES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE SATISFACTION OF THE DEPARTMENT AT THE CONTRACTOR'S EXPENSE, INCLUDING TEMPORARY REPAIRS WHICH MAY BE REQUIRED TO KEEP THE FACILITY OPERATIONAL WHILE MATERIAL IS BEING OBTAINED TO MAKE PERMANENT REPAIRS.
- ③ THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, AND THE MUNICIPALITIES LISTED ON THE COVER SHEET.
- ④ THE RESIDENT ENGINEER SHALL CONTACT THE DEPARTMENT'S ELECTRICAL MAINTENANCE CONTRACTOR, MEADE ELECTRIC COMPANY, AT (773) 287-7672 PRIOR TO THE START OF CONSTRUCTION TO LOCATE ALL IDOT ELECTRICAL EQUIPMENT AND UNDERGROUND CABLES.
- ⑤ THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 AND THE EXPRESSWAY TRAFFIC CONTROL SUPERVISOR AT (847) 705-4155 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK. THE CONTRACTOR SHALL REGISTER ACCOUNT AT WWW.IDOTLCS.COM TO REQUEST CLOSURES ON THE EXPRESSWAYS.
- ⑥ THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
- ⑦ THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.
- ⑧ IN ADDITION TO FIELD AND AERIAL SURVEYS, PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING FACILITIES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND EXISTING CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS. SUCH VARIATIONS SHALL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION DUE TO A CHANGE IN THE SCOPE OF WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
- ⑨ THE LOCATIONS OF THOSE BURIED AND ABOVE GROUND UTILITIES SHOWN ARE APPROXIMATE, ARE SHOWN FOR CONTRACTOR INFORMATIONAL USE ONLY, AND ARE NOT TO BE REFERENCED FOR CONSTRUCTION PURPOSES. THE IMPLIED PRESENCE OR ABSENCE OF UTILITIES IS NOT TO BE CONSTRUED BY THE OWNER, ENGINEER, CONTRACTOR, OR SUBCONTRACTORS TO BE AN ACCURATE AND COMPLETE REPRESENTATION OF UTILITIES THAT MAY OR MAY NOT EXIST ON THE CONSTRUCTION SITE. BURIED AND ABOVE GROUND UTILITY LOCATIONS, IDENTIFICATION, AND MARKING ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. REROUTING, DISCONNECTION, PROTECTION, ETC. OF ANY UTILITIES MUST BE COORDINATED BETWEEN CONTRACTOR, UTILITY COMPANY, AND OWNER. SITE SAFETY, INCLUDING THE AVOIDANCE OF HAZARDS ASSOCIATED WITH BURIED AND ABOVE GROUND UTILITES REMAIN THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- ⑩ DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.
- ⑪ THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION OF EXISTING PLANT MATERIAL FOR WHICH THE CONTRACT DOES NOT PROVIDE REMOVAL. THE PROTECTION OF EXISTING PLANT MATERIAL AND THE REPAIR OR REPLACEMENT OF EXISTING PLANT MATERIAL DAMAGED BY THE CONTRACTOR SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 201 OF THE STANDARD SPECIFICATIONS.
- ⑫ FRAMES AND GRATES ADJUSTMENT OF PRIVATE UTILITIES WITHIN THE LIMITS OF THE IMPROVEMENTS SHALL BE DONE BY THEIR RESPECTIVE OWNERS AND ARE NOT PART OF THIS CONTRACT.
- ⑬ THE CONTRACTOR SHALL VERIFY THE EXISTING TYPE/HEIGHT OF EXISTING GUARDRAIL BEFORE ORDERING THE NEW TERMINAL SECTION. THE TERMINAL SECTION SHALL MATCH THE HEIGHT OF THE EXISTING GUARDRAIL.
- ⑭ REMOVED GUARDRAIL MUST BE REPLACED ON THE SAME DAY UNLESS AUTHORIZED BY THE RESIDENT ENGINEER. NO LOCATIONS WILL BE LEFT WITHOUT EITHER LIGHTED BARRICADES OR RESTORED GUARDRAIL AT ANY TIME.
- ⑮ THE CONTRACTOR SHALL ONLY PERFORM WORK ON ONE SIDE OF THE ROADWAY AT ANY TIME.
- ⑯ NO MATERIAL SHOULD BE LEFT ON OR NEAR THE ROADWAY DURING NON-WORKING HOURS.
- ⑰ WHEN GUARDRAIL POSTS ARE PLACED BEHIND CONCRETE HEADWALLS, THE POSTS SHALL NOT BE PLACED TO BLOCK THE DRAINAGE OPENING.
- ⑱ ALL TYPE 1 (SPECIAL) TERMINALS SHALL BE MASH COMPLIANT.

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	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -			330	2016-008T5&I	COOK	44	2	
	PLOT DATE = 4/19/2019	DATE -	REVISED -			CONTRACT NO. 62C21					
						SCALE:	SHEET	OF	SHEETS	STA.	TO
ILLINOIS FED. AID PROJECT											

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE			
CODE NO	ITEM	UNIT		00021 90% FED 10% STATE	0021 90% FED 10% STATE	0021 100% LOCALS					00021 90% FED 10% STATE		0021 90% FED 10% STATE	0021 100% LOCALS		
			GUARDRAIL		EVP				GUARDRAIL		EVP					
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	887.5	887.5					* 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	50	50			
63100089	TRAFFIC BARRIER TERMINAL, TYPE 6B	EACH	1	1					* 81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	827	827			
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	14	14					* 81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	80	80			
63200310	GUARDRAIL REMOVAL	FOOT	300	300					* 81028240	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	308	308			
63500105	DELINEATORS	EACH	861	861					* 81400100	HANDHOLE	EACH	5	5			
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6					* 81400200	HEAVY-DUTY HANDHOLE	EACH	2	2			
67100100	MOBILIZATION	L SUM	1	1					* 81400300	DOUBLE HANDHOLE	EACH	1	1			
70100310	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	L SUM	1	0.5	0.5				* 85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	8	8			
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	0.5	0.5				* 87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	264	264			
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	0.5	0.5				* 87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1062	1062			
* 72000200	SIGN PANEL - TYPE 2	SO FT	70	70					* 87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1396	1396			
* 72400500	RELOCATE SIGN PANEL ASSEMBLY - TYPE A	EACH	2	2					* 87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1058	1058			
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	14	14												

FILE NAME =	USER NAME = dshawbkeym	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	US ROUTE 12/20/45 - TSM AND GR END SECTION REPLACEMENT SUMMARY OF QUANTITIES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
dwg\planroom\dtd\11\m\supv\PW\DOT\Documents\DOT - Files\Dist\Tot N\Projects\DI\30416\CADData\Design\DI\30416-sh	DRAWN -	REVISED -	330			2016-008T5&1	COOK	44	3	
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PLOT DATE = 5/10/2019	DATE -	REVISED -	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							

\*= SPECIALTY ITEM

SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE					SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	00021	0021	0021				CODE NO	ITEM	UNIT	TOTAL QUANTITIES	00021	0021	0021			
				90% FED 10% STATE	90% FED 10% STATE	100% LOCALS								90% FED 10% STATE	90% FED 10% STATE	100% LOCALS			
				GUARDRAIL		EVP								GUARDRAIL		EVP			
* 87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	237		237					* 88500100	INDUCTIVE LOOP DETECTOR	EACH	4		4				
* 87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	776		776					* 88600100	DETECTOR LOOP, TYPE 1	FOOT	327		327				
* 87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4		4					* 88700200	LIGHT DETECTOR	EACH	2			2			
* 87700200	STEEL MAST ARM ASSEMBLY AND POLE, 32 FT.	EACH	1		1					* 88700300	LIGHT DETECTOR AMPLIFIER	EACH	1			1			
* 87700220	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	2		2				89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1		1					
* 87700230	STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	1		1				89500100	RELOCATE EXISTING SIGNAL HEAD	EACH	8		8					
* 87800100	CONCRETE FOUNDATION, TYPE A	FOOT	20		20				89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	9		9					
* 87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4		4				89502380	REMOVE EXISTING HANDHOLE	EACH	10		10					
* 87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	54		54				89502382	REMOVE EXISTING DOUBLE HANDHOLE	EACH	1		1					
* 88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	6		6				89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	9		9					
* 88200510	TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE	EACH	65		65				X0324085	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	264			264				
									X1400107	FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET	EACH	1		1					
									X1400150	SERVICE INSTALLATION, GROUND MOUNTED, METERED	EACH	1		1					

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	00021	0021	0021		
				90% FED 10% STATE	90% FED 10% STATE	100% LOCALS		
				GUARDRAIL		EVP		
* X1400201	RADAR VEHICLE DETECTION SYSTEM, SINGLE APPROACH, STOP BAR	EACH	2		2			
X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1	1				
* X8620200	UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	1		1			
Z0030850	TEMPORARY INFORMATION SIGNING	SO FT	51.4	51.4				
Z0076600	TRAINEES	HOUR	1000	1000				
Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	1000	1000				

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	00021	0021	0021		
				90% FED 10% STATE	90% FED 10% STATE	100% LOCALS		
				GUARDRAIL		EVP		

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		CHECKED -	REVISED -
		DATE -	REVISED -
PLOT SCALE = 1000000' / in.			
PLOT DATE = 5/10/2019			

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

US ROUTE 1220/45 - TSM AND GR END SECTION REPLACEMENT			
SUMMARY OF QUANTITIES			
SCALE:	SHEET NO. OF SHEETS	STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008TS&I	COOK	44	5
CONTRACT NO. 62C21				
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT				

GUARDRAIL END SECTION REPLACEMENT AND  
NEW GUARDRAIL PLACEMENT SCHEDULE

LOCATION	SPB GR, TY. A 6FT POSTS ( FOOT)	TRAFFIC BAR TERM, TYPE 6B ( EACH)	TRAFFIC BAR TERM, TYPE 1 ( SP) TANGENT ( EACH)	GUARDRAIL REMOVAL ( FOOT)	TEMINAL MARKER - DIRECT APPLIED ( EACH)	GUARDRAIL REFLECTOR S, TY. A ( EACH)
	63000001	63100089	63100167	63200310	72501000	78200005
GUARDRAIL END SECTION REPLACEMENT						
1	12.5		1	12.5	1	2
2	12.5		1	12.5	1	2
3			1	50	1	1
4			1	50	1	1
5		1	1	50	1	1
6	87.5		1	25	1	2
7			1	50	1	1
NEW GUARDRAIL FOR SIGN TRUSS PROTECTION						
8	62.5		1		1	4
9	137.5		1		1	7
10	187.5		1		1	9
11	125		1		1	6
12	112.5		1		1	6
13	150		1		1	7
TOTAL	887.5	1	14	250	14	50

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PROJECT: I:\CADD\DATA\Design\130416\16-ent-schedule.dgn

USER NAME = alshawabkehym	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 4/17/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US ROUTE 1220/45 - TSM AND GR END SECTION REPLACEMENT  
SCHEDULE OF QUANTITIES**

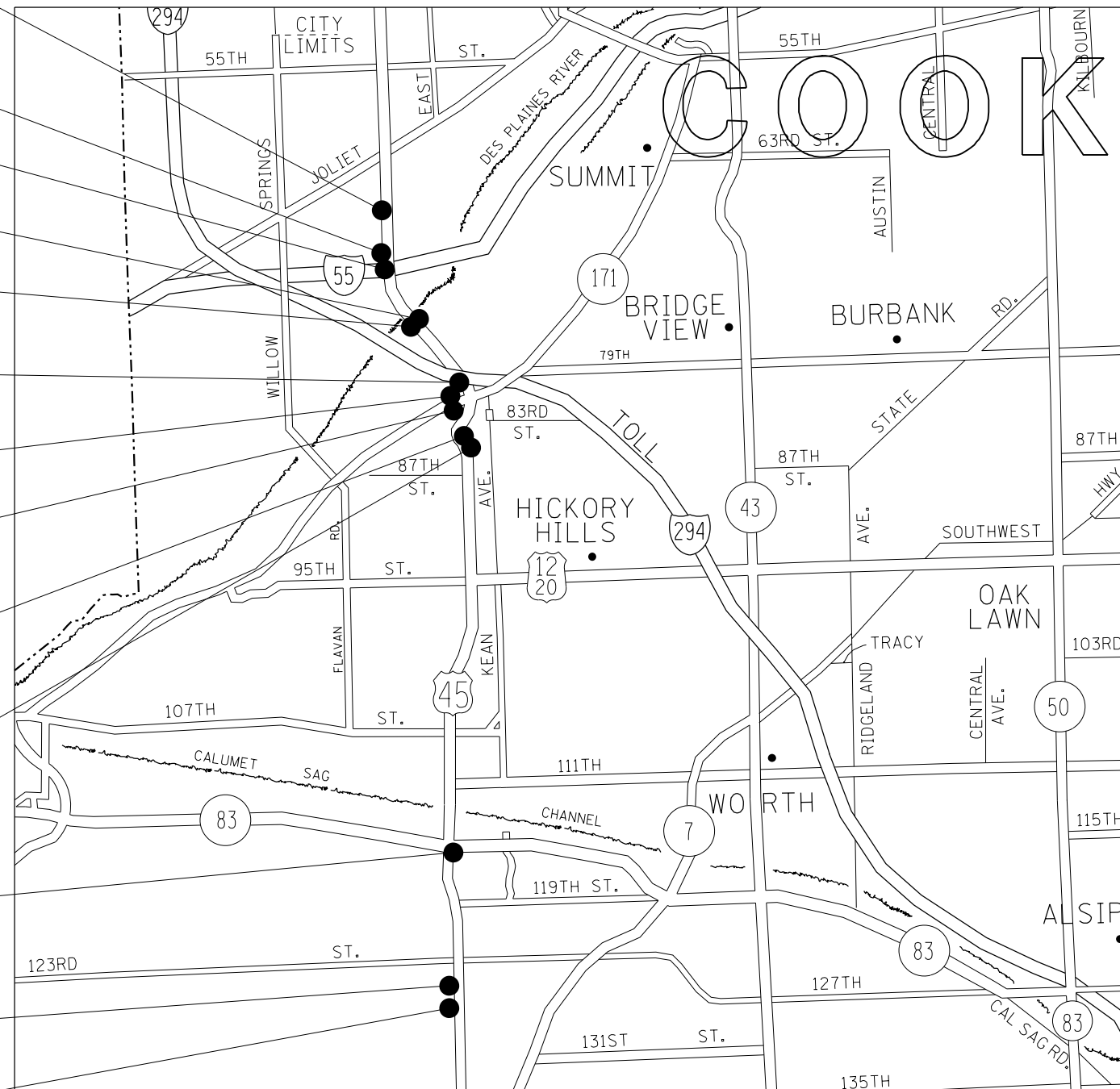
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008T5&I	COOK	44	6
CONTRACT NO. 62C21			ILLINOIS FED. AID PROJECT	

# GUARDRAIL END TERMINAL UPDATES AND NEW GUARDRAIL



- LOCATION 7**  
GUARDRAIL END TERMINAL UPDATE  
• SOUTHBOUND U.S. RTE. 45, RIGHT SIDE,  
AT INTERSECTION WITH 67TH STREET
- LOCATION 13**  
NEW GUARDRAIL FOR SIGN TRUSS  
• SOUTHBOUND U.S. RTE. 45, RIGHT SIDE,  
BEFORE EXIT TO SOUTH I-55
- LOCATION 12**  
NEW GUARDRAIL FOR SIGN TRUSS  
• SOUTHBOUND U.S. RTE. 45, RIGHT SIDE,  
AFTER EXIT RAMP TO SOUTH I-55
- LOCATION 6**  
GUARDRAIL END TERMINAL UPDATE  
• CANAL BANK ROAD, LEFT SIDE,  
AT INTERSECTION WITH NORTHBOUND U.S. RTE. 45
- LOCATION 5**  
GUARDRAIL END TERMINAL UPDATE  
• ON SIDE STREET AFTER CROSSING DES PLAINES RIVER,  
RIGHT SIDE, AT INTERSECTION WITH SOUTHBOUND U.S. RTE. 45
- LOCATION 11**  
NEW GUARDRAIL FOR SIGN TRUSS  
• SOUTHBOUND U.S. RTE. 45, RIGHT SIDE,  
BEFORE EXIT RAMP TO SOUTH IL RTE. 171
- LOCATION 10**  
NEW GUARDRAIL FOR SIGN TRUSS  
• SOUTHBOUND IL RTE. 171, RIGHT SIDE,  
OFF RAMP FROM SOUTHBOUND U.S. RTE. 45
- LOCATION 9**  
NEW GUARDRAIL FOR SIGN TRUSS  
• NORTHBOUND IL RTE. 171, RIGHT SIDE,  
BEFORE EXIT RAMP ONTO SOUTH U.S. RTE. 45
- LOCATION 4**  
GUARDRAIL END TERMINAL UPDATE  
• NORTHBOUND U.S. RTE. 45, RIGHT SIDE,  
0.4 MILES NORTH OF 87TH STREET
- LOCATION 8**  
NEW GUARDRAIL FOR SIGN TRUSS  
• NORTHBOUND U.S. RTE. 45, RIGHT SIDE,  
0.3 MILES NORTH OF 87TH STREET
- LOCATION 3**  
GUARDRAIL END TERMINAL UPDATE  
• ON RAMP FROM NORTHBOUND U.S. RTE. 45  
TO IL RTE. 83, RIGHT SIDE
- LOCATION 2**  
GUARDRAIL END TERMINAL UPDATE  
• POWELL ROAD, LEFT SIDE, AT INTERSECTION  
WITH SOUTHBOUND U.S. RTE. 45
- LOCATION 1**  
GUARDRAIL END TERMINAL UPDATE  
• POWELL ROAD, RIGHT SIDE, AT INTERSECTION  
WITH SOUTHBOUND U.S. RTE. 45



MODEL: Default  
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USER NAME = alshawa@kehy	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40,0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 4/17/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US ROUTE 1220/45 - TSM AND GR END SECTION REPLACEMENT  
LOCATION MAP**

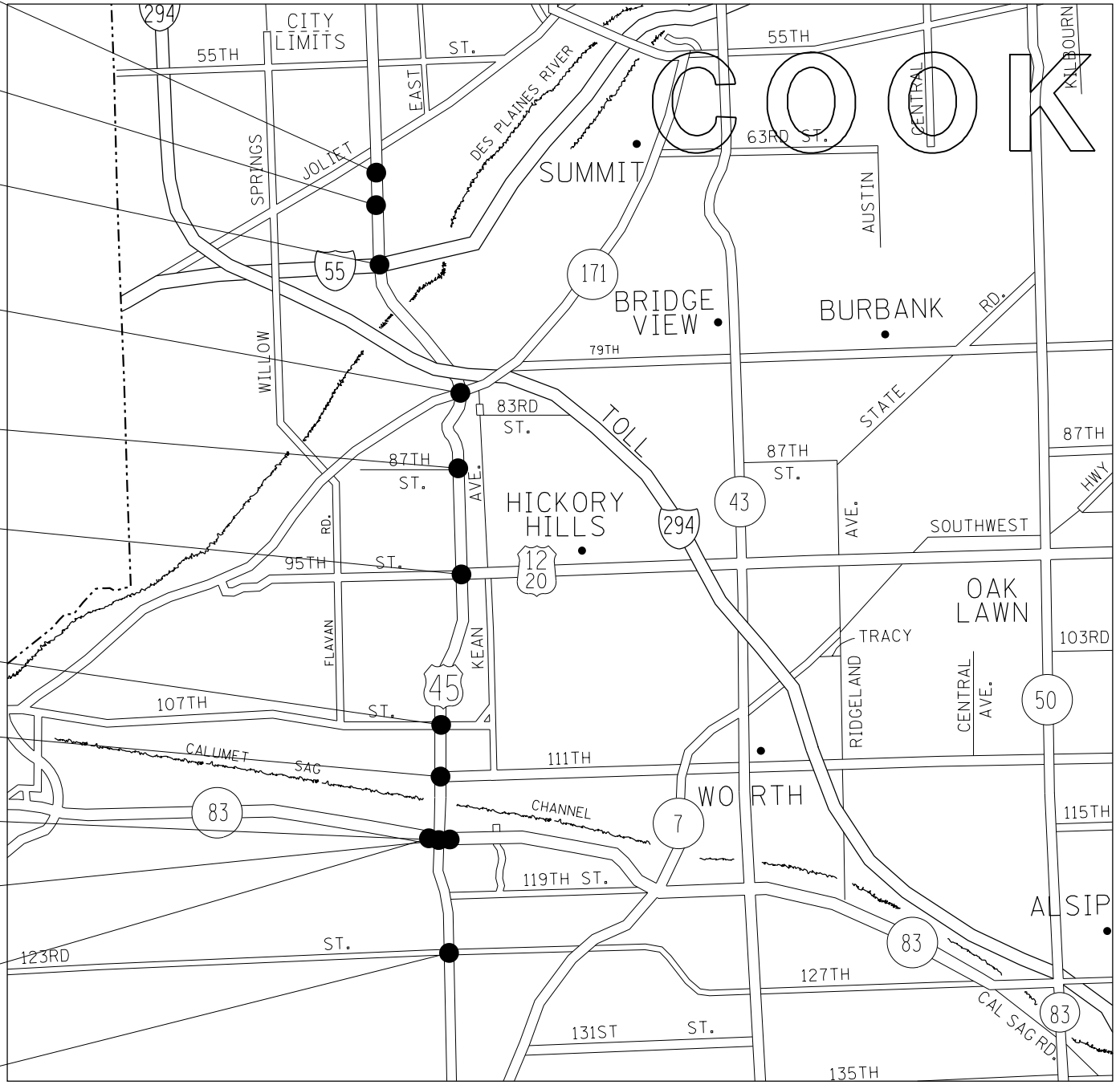
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008T5&I	COOK	44	7
CONTRACT NO. 62C21				
ILLINOIS FED. AID PROJECT				

# DELINEATOR POSTS, REFLECTORIZED BACKPLATES, AND TRAFFIC SIGNAL MODERNIZATION



- LOCATION 24  
INSTALL REFLECTORIZED BACKPLATES  
• 63RD STREET
  
- LOCATION 23  
INSTALL REFLECTORIZED BACKPLATES  
• 67TH STREET
  
- LOCATION 16  
UPDATE DELINEATOR POSTS  
• ALL RAMP AT INTERSECTION OF U.S. RTE. 45 AND I-55
  
- LOCATION 15  
UPDATE DELINEATOR POSTS  
• ALL RAMP AT INTERSECTION OF U.S. RTE. 45 AND IL RTE. 171
  
- LOCATION 22  
INSTALL REFLECTORIZED BACKPLATES  
• 87TH STREET
  
- LOCATION 21  
INSTALL REFLECTORIZED BACKPLATES  
• 95TH STREET
  
- LOCATION 20  
INSTALL REFLECTORIZED BACKPLATES  
• 107TH STREET
  
- LOCATION 19  
INSTALL REFLECTORIZED BACKPLATES  
• 111TH STREET
  
- LOCATION 14  
UPDATE DELINEATOR POSTS  
• ALL RAMP AT INTERSECTION OF U.S. RTE. 45 AND IL RTE. 83
  
- LOCATION 18  
INSTALL REFLECTORIZED BACKPLATES  
• IL RTE. 83 RAMP WEST
  
- LOCATION 17  
INSTALL REFLECTORIZED BACKPLATES  
• IL RTE. 83 RAMP EAST
  
- LOCATION 25  
TRAFFIC SIGNAL MODERNIZATION  
• MCCARTHY ROAD



MODEL: Default  
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PLOT DATE = 4/17/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US ROUTE 1220/45 - TSM AND GR END SECTION REPLACEMENT  
LOCATION MAP**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE. 330	SECTION 2016-008T5&I	COUNTY COOK	TOTAL SHEETS 44	SHEET NO. 8
			CONTRACT NO. 62C21	
		ILLINOIS FED. AID PROJECT		



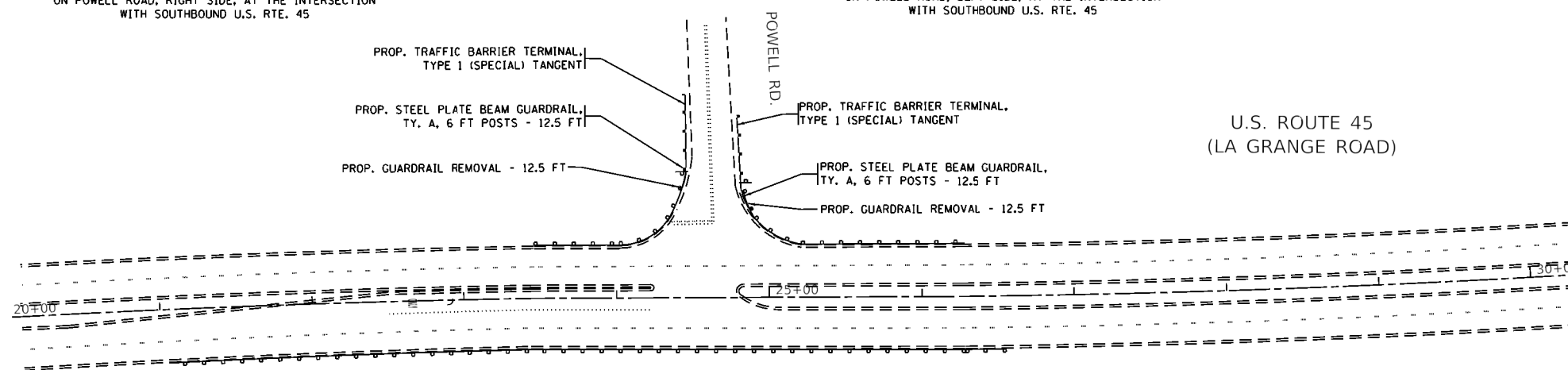


LOCATION 1

LOCATION 2

ON POWELL ROAD, RIGHT SIDE, AT THE INTERSECTION  
WITH SOUTHBOUND U.S. RTE. 45

ON POWELL ROAD, LEFT SIDE, AT THE INTERSECTION  
WITH SOUTHBOUND U.S. RTE. 45



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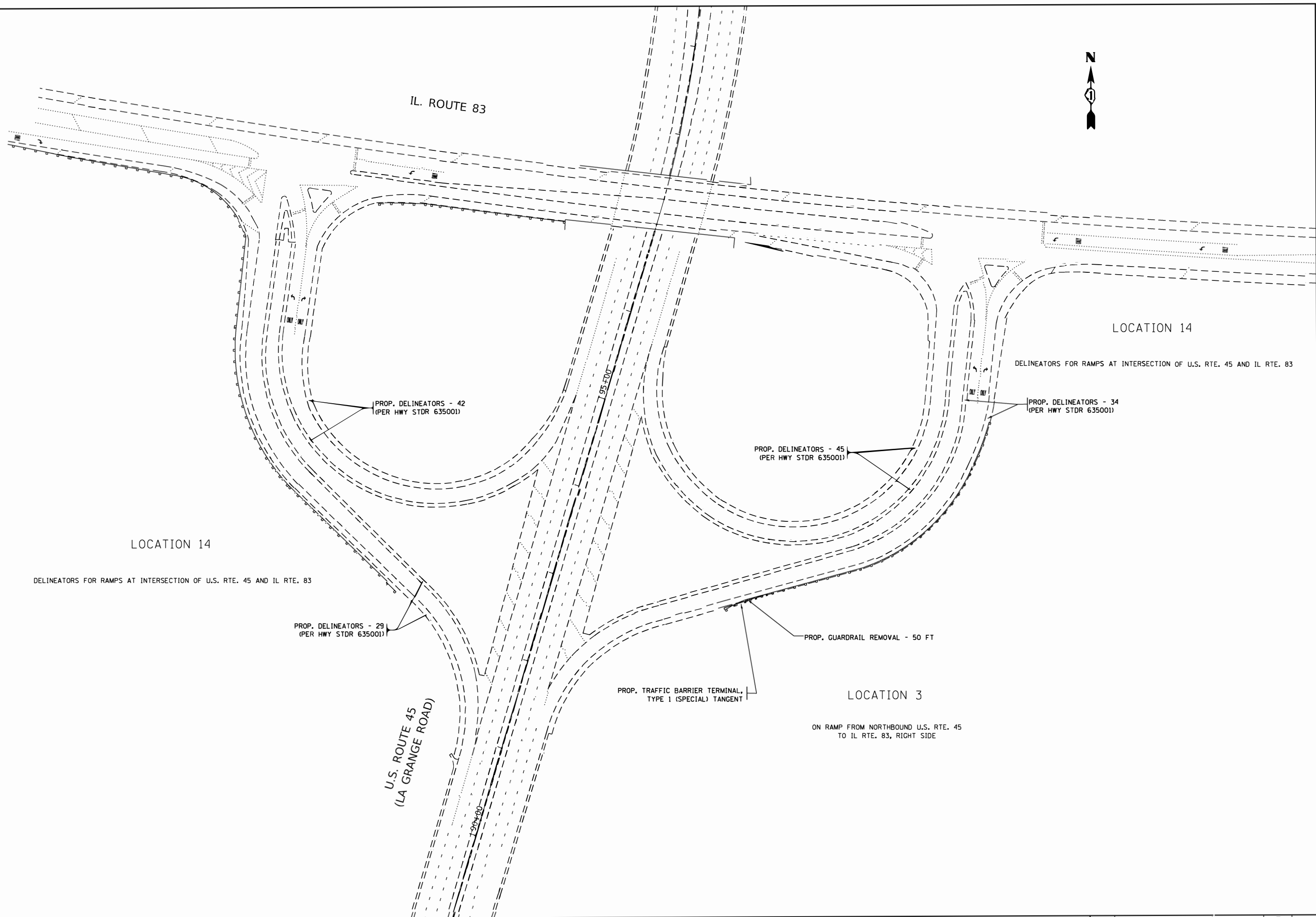
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US ROUTE 1220/45 - TSM AND GR END SECTION REPLACEMENT  
ROADWAY PLAN**

SCALE: 1"=50'    SHEET    OF    SHEETS    STA.    TO    STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008T5&I	COOK	44	9
CONTRACT NO. 62C21			ILLINOIS FED. AID PROJECT	



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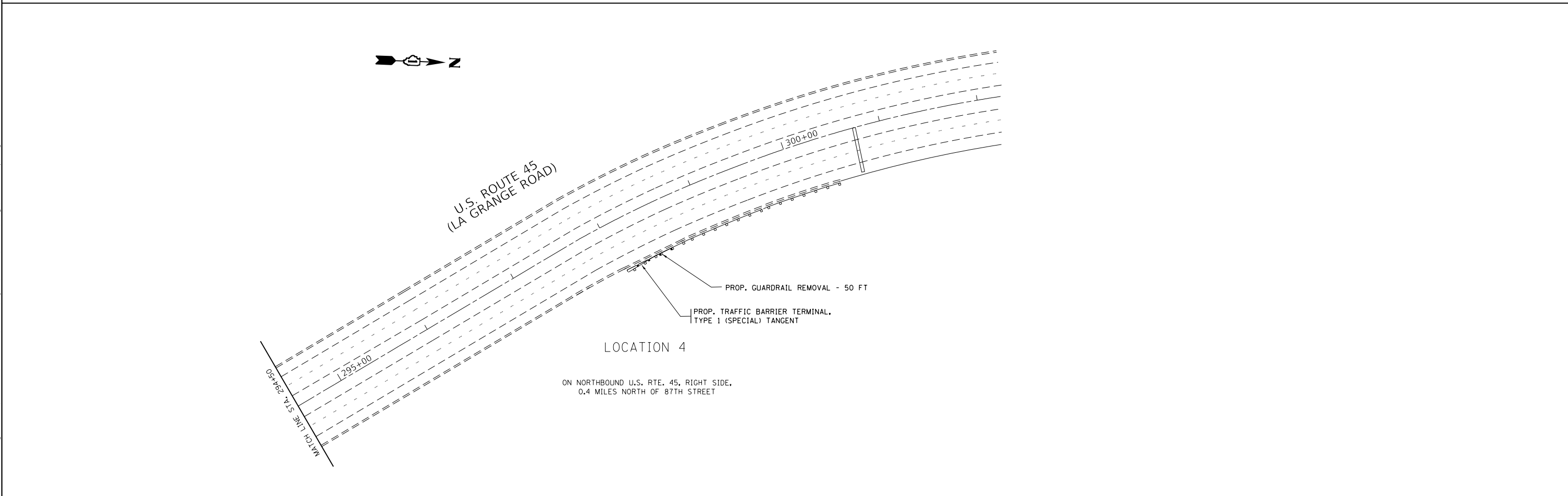
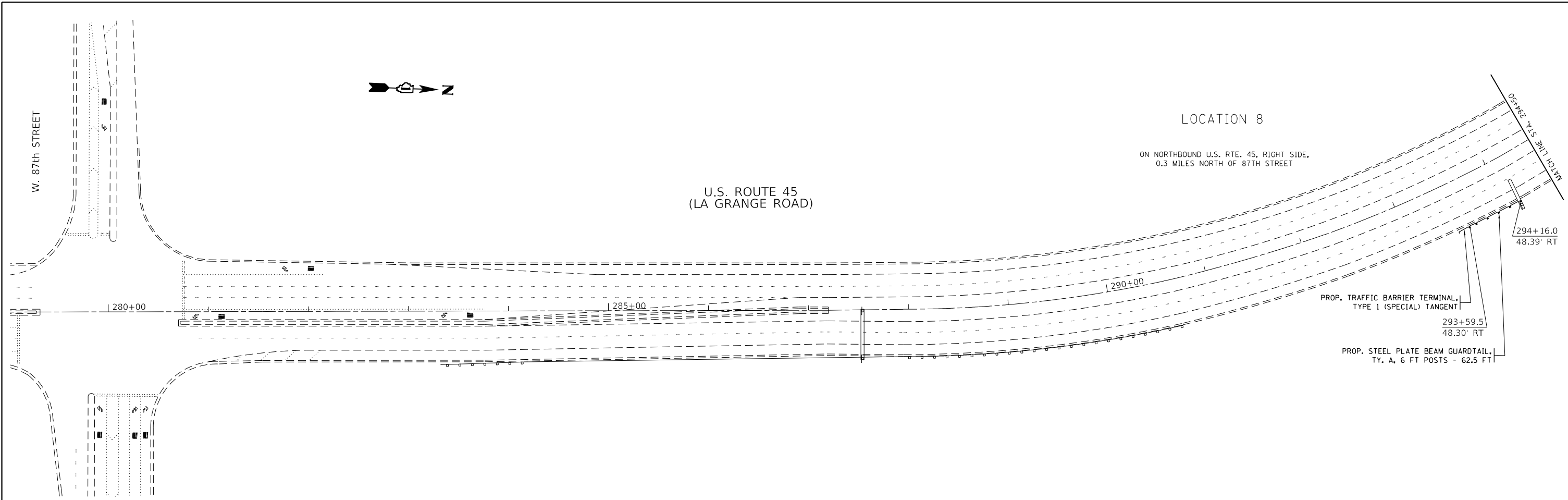
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**US ROUTE 122045 - TSM AND GR END SECTION REPLACEMENT**  
**ROADWAY PLAN**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008TS&I	COOK	44	10
CONTRACT NO. 62C21				
ILLINOIS FED. AID PROJECT				

SCALE: 1"=50'    SHEET    OF    SHEETS    STA.    TO    STA.



MODEL: Default  
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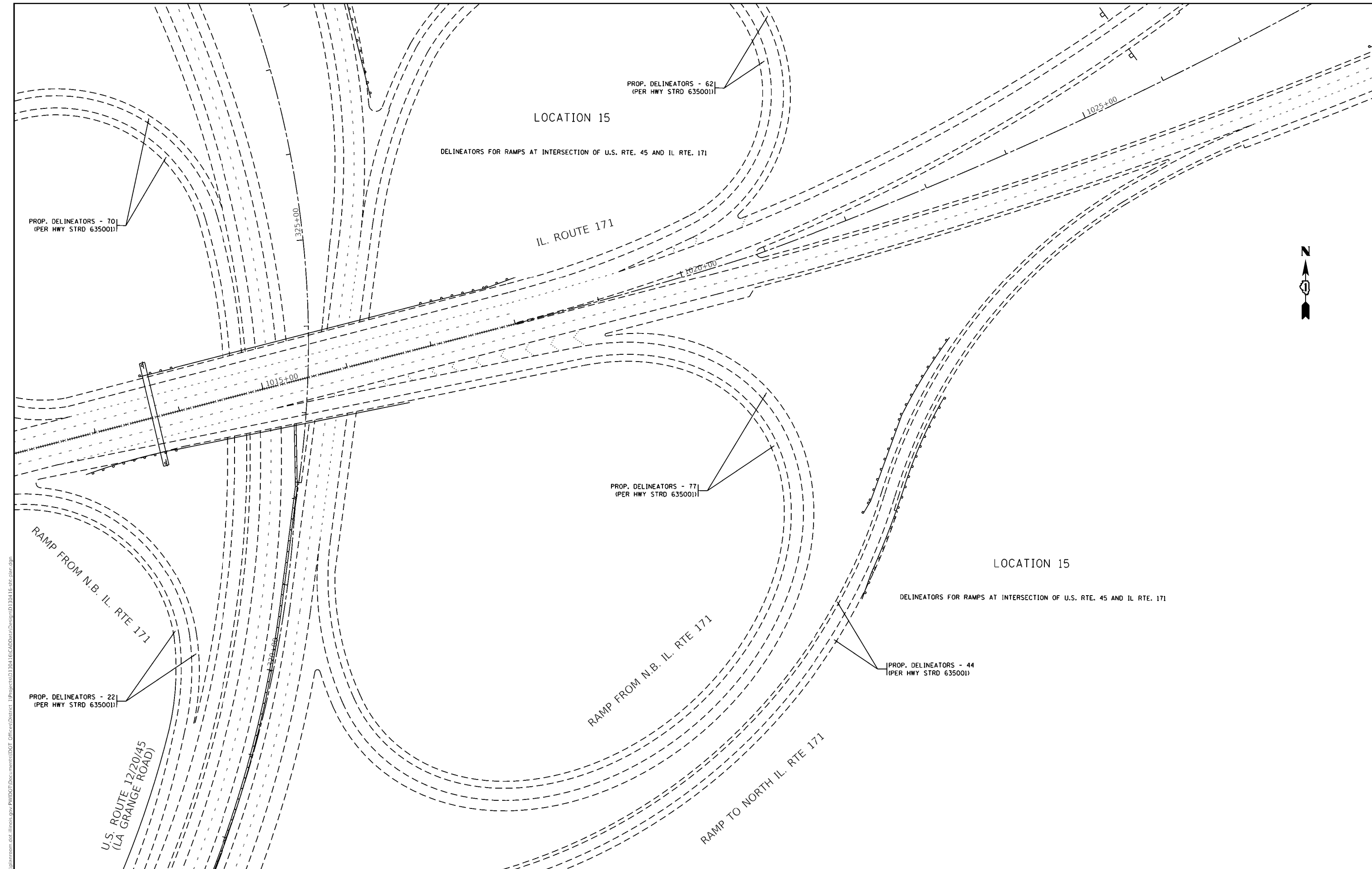
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**US ROUTE 1220/45 - TSM AND GR END SECTION REPLACEMENT**  
**ROADWAY PLAN**

SCALE: 1"=50'    SHEET    OF    SHEETS    STA.    TO    STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008T5&I	COOK	44	11
CONTRACT NO. 62C21				
ILLINOIS FED. AID PROJECT				



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 PLOT DATE: 5/10/2019

PROP. DELINEATORS - 70  
(PER HWY STRD 635001)

PROP. DELINEATORS - 62  
(PER HWY STRD 635001)

PROP. DELINEATORS - 22  
(PER HWY STRD 635001)

PROP. DELINEATORS - 77  
(PER HWY STRD 635001)

PROP. DELINEATORS - 44  
(PER HWY STRD 635001)

LOCATION 15

DELINEATORS FOR RAMP AT INTERSECTION OF U.S. RTE. 45 AND IL RTE. 171

LOCATION 15

DELINEATORS FOR RAMP AT INTERSECTION OF U.S. RTE. 45 AND IL RTE. 171

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US ROUTE 1220/45 - TSM AND GR END SECTION REPLACEMENT  
ROADWAY PLAN**

USER NAME = alshawabkehym	DESIGNED -	REVISED -
PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -
PLOT DATE = 5/10/2019	CHECKED -	REVISED -
	DATE -	REVISED -

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008T5&I	COOK	44	12
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62C21	

LOCATION 10

ON SOUTHBOUND IL RTE. 171, RIGHT SIDE,  
AT THE EXIT OF RAMP FROM U.S. RTE. 45 SOUTHBOUND

PROP. TRAFFIC BARRIER TERMINAL,  
TYPE 1 (SPECIAL) TANGENT

PROP. STEEL PLATE BEAM GUARDTAIL,  
TY. A, 6 FT POSTS - 187.5 FT

1008+17.9  
83.56' LT

1006+50.3  
45.99' LT

IL. ROUTE 171

1005+00

1006+15.3  
45.76' LT

PROP. STEEL PLATE BEAM GUARDTAIL,  
TY. A, 6 FT POSTS - 137.5 FT

1004+86.5  
40.69' LT

PROP. TRAFFIC BARRIER TERMINAL,  
TYPE 1 (SPECIAL) TANGENT

LOCATION 9

ON NORTHBOUND IL RTE. 171, RIGHT SIDE,  
BEFORE ENTERING RAMP TO SOUTH U.S. RTE. 45

LOCATION 15

DELINEATORS FOR RAMPS AT  
INTERSECTION OF U.S. RTE. 45 AND IL RTE. 171

PROP. DELINEATORS - 221  
(PER HWY STRD 6350011)

RAMP FROM N.B. IL. RTE. 171

U.S. ROUTE 12/20/45  
(LA GRANGE ROAD)



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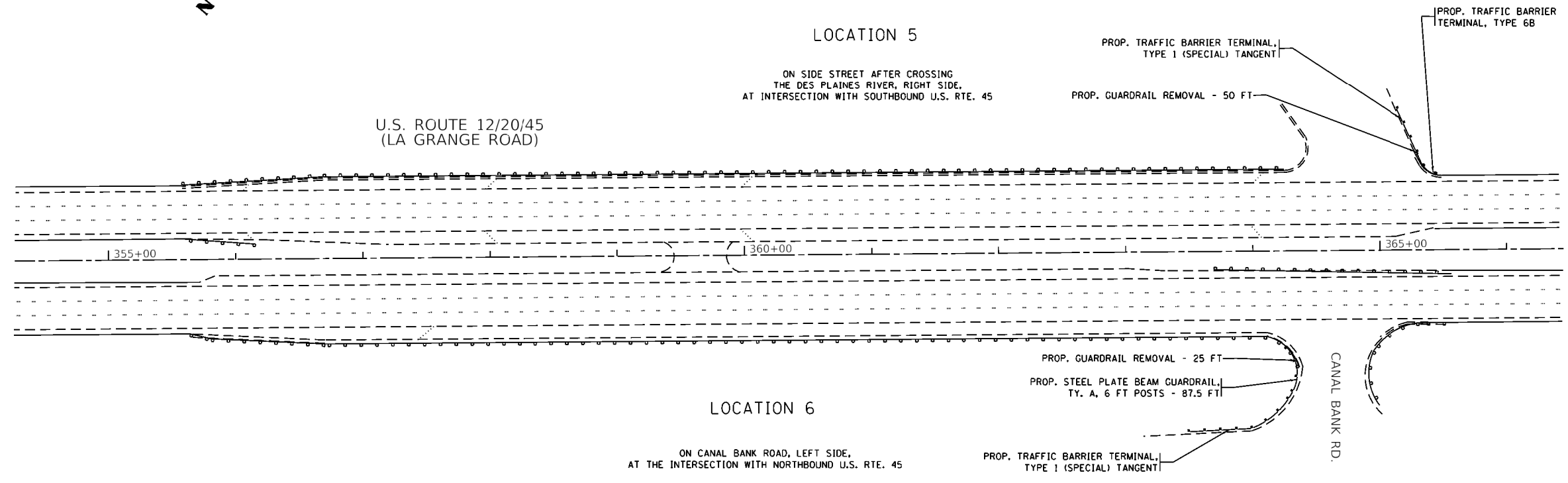
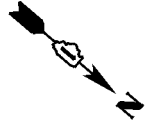
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US ROUTE 12/20/45 - TSM AND GR END SECTION REPLACEMENT  
ROADWAY PLAN**

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008T5&I	COOK	44	13
CONTRACT NO. 62C21			ILLINOIS FED. AID PROJECT	





LOCATION 5

ON SIDE STREET AFTER CROSSING  
THE DES PLAINES RIVER, RIGHT SIDE,  
AT INTERSECTION WITH SOUTHBOUND U.S. RTE. 45

U.S. ROUTE 12/20/45  
(LA GRANGE ROAD)

PROP. TRAFFIC BARRIER TERMINAL,  
TYPE 1 (SPECIAL) TANGENT

PROP. GUARDRAIL REMOVAL - 50 FT

PROP. TRAFFIC BARRIER  
TERMINAL, TYPE 6B

355+00

360+00

365+00

LOCATION 6

ON CANAL BANK ROAD, LEFT SIDE,  
AT THE INTERSECTION WITH NORTHBOUND U.S. RTE. 45

PROP. GUARDRAIL REMOVAL - 25 FT

PROP. STEEL PLATE BEAM GUARDRAIL,  
TY. A, 6 FT POSTS - 87.5 FT

CANAL BANK RD.

PROP. TRAFFIC BARRIER TERMINAL,  
TYPE 1 (SPECIAL) TANGENT

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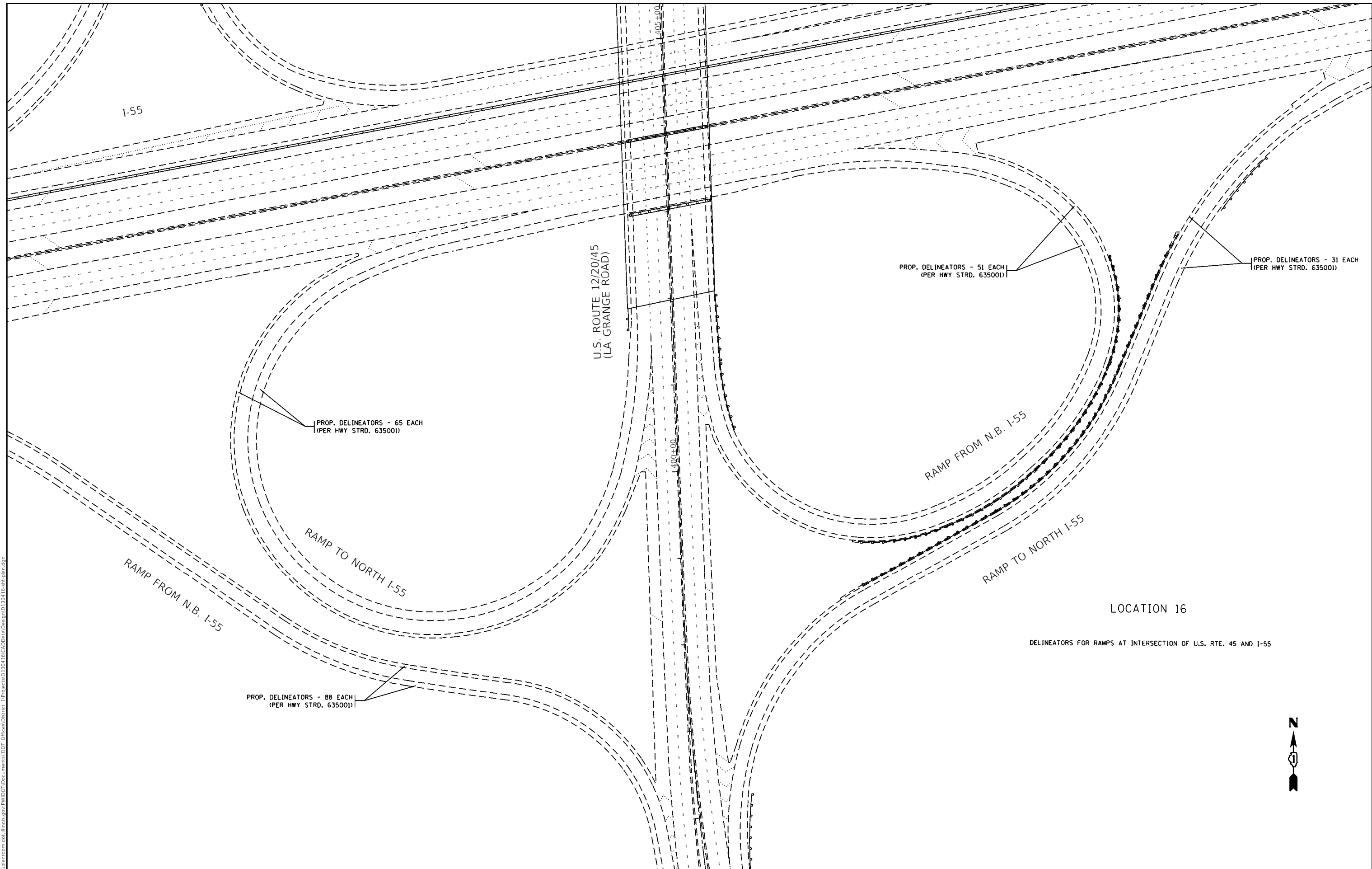
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US ROUTE 1220/45 - TSM AND GR END SECTION REPLACEMENT  
ROADWAY PLAN**

SCALE: 1"=50'    SHEET    OF    SHEETS    STA.    TO    STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008T5&I	COOK	44	15
CONTRACT NO. 62C21			ILLINOIS FED. AID PROJECT	



I-55

U.S. ROUTE 12/20/45  
(LA GRANGE ROAD)

PROP. DELINEATORS - 65 EACH  
(PER HWY STRD. 635001)

PROP. DELINEATORS - 51 EACH  
(PER HWY STRD. 635001)

PROP. DELINEATORS - 31 EACH  
(PER HWY STRD. 635001)

RAMP FROM N.B. I-55

RAMP TO NORTH I-55

RAMP TO NORTH I-55

RAMP FROM N.B. I-55

PROP. DELINEATORS - 88 EACH  
(PER HWY STRD. 635001)

LOCATION 16

DELINEATORS FOR RAMPS AT INTERSECTION OF U.S. RTE. 45 AND I-55



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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US ROUTE 1220/45 - TSM AND GR END SECTION REPLACEMENT  
ROADWAY PLAN**

SCALE: 1"=50'    SHEET    OF    SHEETS    STA.    TO    STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008T5&I	COOK	44	16
CONTRACT NO. 62C21				
ILLINOIS FED. AID PROJECT				



LOCATION 12

ON SOUTHBOUND U.S. RTE. 45, RIGHT SIDE,  
AFTER THE EXIT OF RAMP TO SOUTH I-55

PROP. TRAFFIC BARRIER TERMINAL,  
TYPE 1 (SPECIAL) TANGENT

411+66.0  
35.33' LT

PROP. STEEL PLATE BEAM GUARDTAIL,  
TY. A, 6 FT POSTS - 112.5 FT

410+56.0  
35.33' LT

LOCATION 16

DELINEATORS FOR RAMPS AT INTERSECTION OF U.S. RTE. 45 AND I-55

PROP. DELINEATORS - 29 EACH  
(PER HWY STRD. 635001)

PROP. DELINEATORS - 39 EACH  
(PER HWY STRD. 635001)

PROP. DELINEATORS - 43 EACH  
(PER HWY STRD. 635001)

PROP. DELINEATORS - 41 EACH  
(PER HWY STRD. 635001)

LOCATION 16

DELINEATORS FOR RAMPS AT INTERSECTION OF U.S. RTE. 45 AND I-55

U.S. ROUTE 12/20/45  
(LA GRANGE ROAD)

RAMP TO SOUTH I-55

RAMP FROM S.B. I-55

RAMP TO SOUTH I-55

RAMP FROM S.B. I-55



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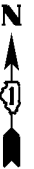
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	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US ROUTE 1220/45 - TSM AND GR END SECTION REPLACEMENT  
ROADWAY PLAN**

SCALE: 1"=50'    SHEET    OF    SHEETS    STA.    TO STA.

F.A.P. RTE. 330	SECTION 2016-00BTS&I	COUNTY COOK	TOTAL SHEETS 44	SHEET NO. 17
CONTRACT NO. 62C21				
ILLINOIS FED. AID PROJECT				



**LOCATION 13**

ON SOUTHBOUND U.S. RTE. 45, RIGHT SIDE,  
BEFORE ENTERING RAMP TO SOUTH I-55

PROP. TRAFFIC BARRIER TERMINAL,  
TYPE 1 (SPECIAL) TANGENT

417+38.2  
40.64' LT

PROP. STEEL PLATE BEAM GUARDTAIL,  
TY. A, 6 FT POSTS - 150 FT

415+89.6  
46.35' LT

U.S. ROUTE 45  
(LA GRANGE ROAD)

**LOCATION 12**

ON SOUTHBOUND U.S. RTE. 45, RIGHT SIDE,  
AFTER THE EXIT OF RAMP TO SOUTH I-55

PROP. TRAFFIC BARRIER TERMINAL,  
TYPE 1 (SPECIAL) TANGENT

411+66.0  
35.33' LT

PROP. STEEL PLATE BEAM GUARDTAIL,  
TY. A, 6 FT POSTS - 112.5 FT

410+56.0  
35.33' LT

**LOCATION 16**

DELINEATORS FOR RAMPS AT INTERSECTION OF U.S. RTE. 45 AND I-55

PROP. DELINEATORS - 29 EACH  
(PER HWY STRD. 635001)

RAMP TO SOUTH I-55

RAMP TO SOUTH I-55

RAMP FROM S.B. I-55

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 DATE: 5/10/2019

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US ROUTE 122045 - TSM AND GR END SECTION REPLACEMENT  
ROADWAY PLAN**

SCALE: 1"=50'    SHEET    OF    SHEETS    STA.    TO    STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008T5&I	COOK	44	18
CONTRACT NO. 62C21				
ILLINOIS FED. AID PROJECT				

LOCATION 7

ON SOUTHBOUND U.S. RTE. 45, RIGHT SIDE,  
AT INTERSECTION WITH 67TH STREET



U.S. ROUTE 45  
(LA GRANGE ROAD)

PROP. GUARDRAIL REMOVAL - 50 FT

PROP. TRAFFIC BARRIER TERMINAL,  
TYPE 1 (SPECIAL) TANGENT

FOREST PRESERVE  
ENTRANCE

430+00

435+00

440+00

67th STREET

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

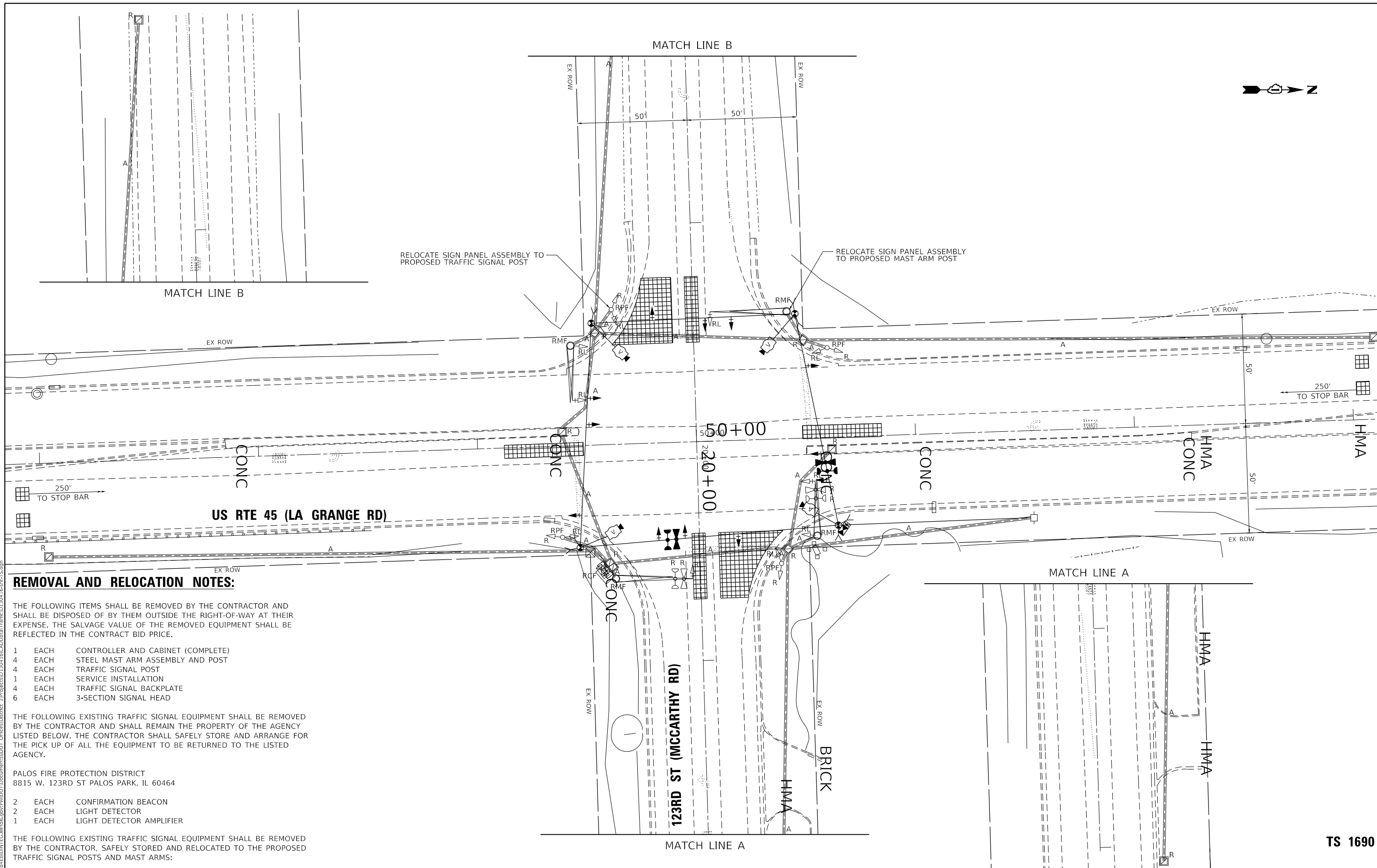
**US ROUTE 1220/45 - TSM AND GR END SECTION REPLACEMENT  
ROADWAY PLAN**

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008T5&I	COOK	44	19
CONTRACT NO. 62C21			ILLINOIS FED. AID PROJECT	

TS SHT NO. 9

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**REMOVAL AND RELOCATION NOTES:**

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)
- 4 EACH STEEL MAST ARM ASSEMBLY AND POST
- 4 EACH TRAFFIC SIGNAL POST
- 1 EACH SERVICE INSTALLATION
- 4 EACH TRAFFIC SIGNAL BACKPLATE
- 6 EACH 3-SECTION SIGNAL HEAD

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR AND SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR THE PICK UP OF ALL THE EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY.

PALOS FIRE PROTECTION DISTRICT  
 8815 W. 123RD ST PALOS PARK, IL 60464

- 2 EACH CONFIRMATION BEACON
- 2 EACH LIGHT DETECTOR
- 1 EACH LIGHT DETECTOR AMPLIFIER

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SAFELY STORED AND RELOCATED TO THE PROPOSED TRAFFIC SIGNAL POSTS AND MAST ARMS:

- 8 EACH 5-SECTION SIGNAL HEAD

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DRAWN - RR	REVISIONS -	
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

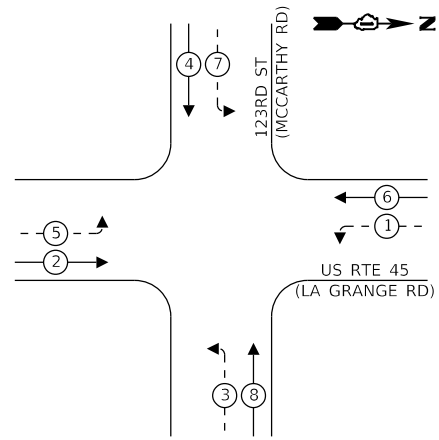
TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND  
 EXISTING TRAFFIC SIGNAL EQUIPMENT REMOVAL PLAN  
 US 45 (LAGRANGE RD) AND MCCARTHY ROAD (123TH ST)

SCALE: 1"=20' SHEET 1 OF 1 SHEETS STA. - TO STA. -

F.A.P. RTE. 330	SECTION 2016-008TS&I	COUNTY COOK	TOTAL SHEETS 44	SHEET NO. 20
CONTRACT NO. 62C21			ILLINOIS FED. AID PROJECT	

TS 1690

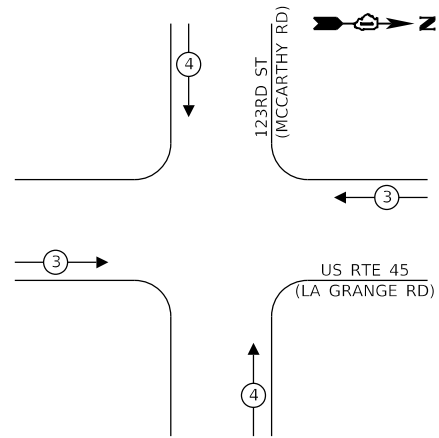
**TEMPORARY CONTROLLER SEQUENCE**



**LEGEND:**

- ← \* → PROTECTED PHASE
- ← \* - - → PROTECTED/PERMITTED PHASE
- ← \* → PEDESTRIAN PHASE
- ← \* OL → OVERLAP

**TEMPORARY EMERGENCY VEHICLE  
PREEMPTION SEQUENCE**



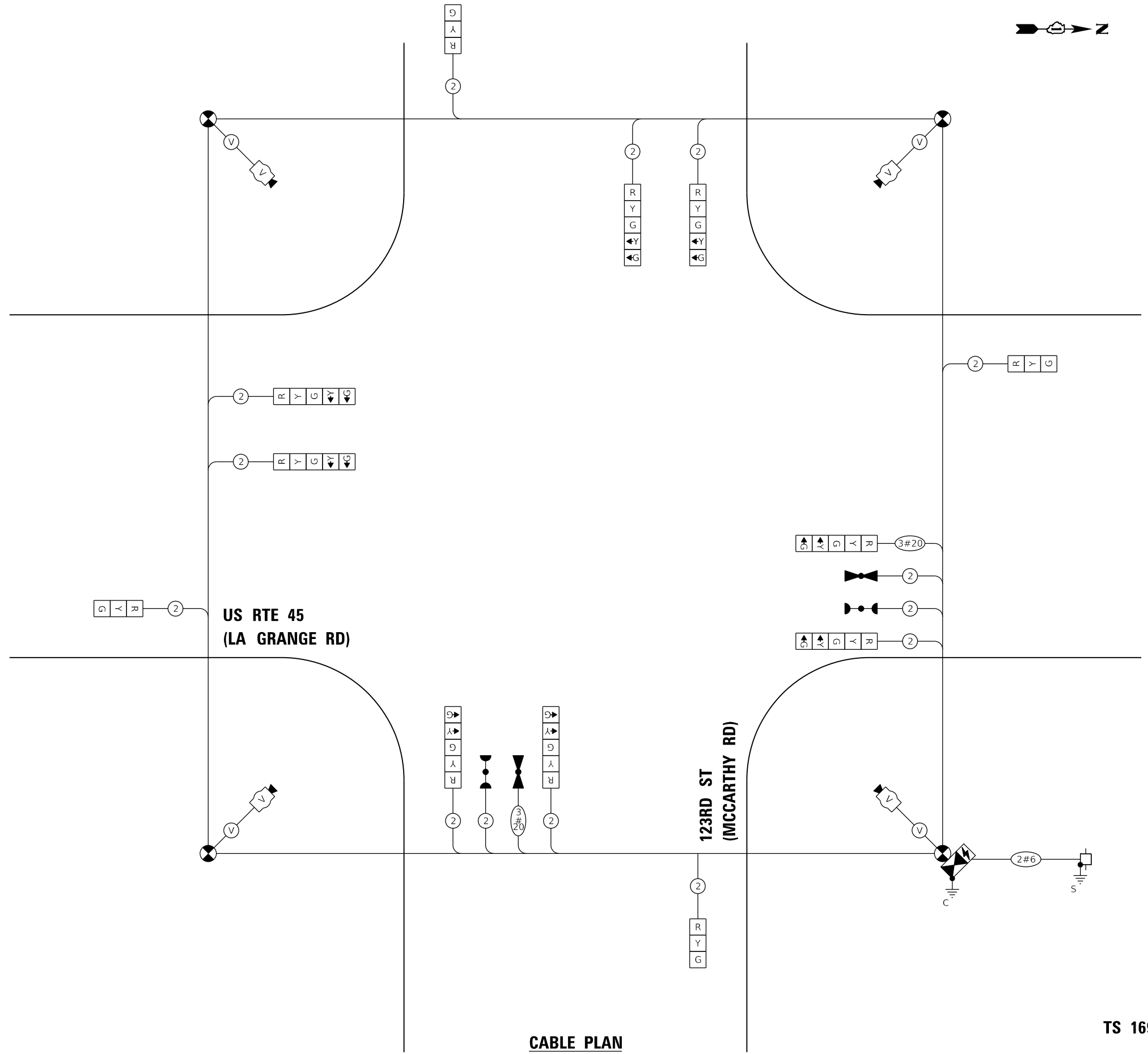
**TRAFFIC SIGNAL  
ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	12	11	50	66.0
(YELLOW)	12	20	5	12.0
(GREEN)	12	12	45	64.8
PERMISSIVE ARROW	8	10	10	9.6
PED. SIGNAL	-	20	100	-
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	1	150	100	150.0
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	-	-	-
TOTAL =				427.4

ENERGY COSTS TO:

VILLAGE OF PALOS PARK

ENERGY SUPPLY: CONTACT: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
COMPANY: \_\_\_\_\_  
ACCOUNT NUMBER: \_\_\_\_\_



**CABLE PLAN**  
(NOT TO SCALE)

TS SHT NO. 10

TS 1690

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

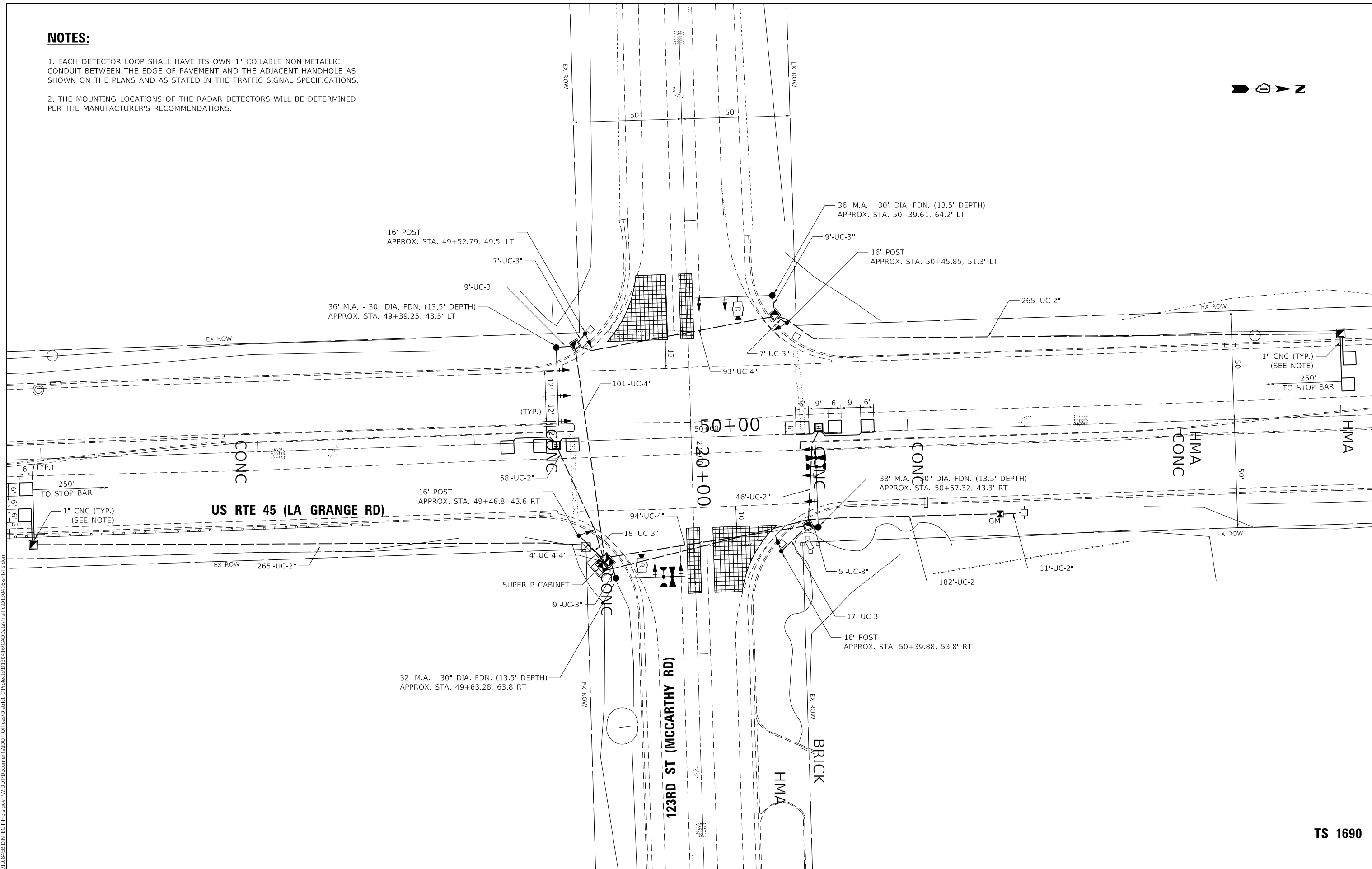
**TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION DIAGRAM,  
AND TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE  
US 45 (LAGRANGE RD) AND MCCARTHY ROAD (123TH ST)**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. - TO STA. -

F.A.P. RTE. 330	SECTION 2016-008TS&I	COUNTY COOK	TOTAL SHEETS 44	SHEET NO. 21
CONTRACT NO. 62C21				
ILLINOIS FED. AID PROJECT				

**NOTES:**

1. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALLIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND THE ADJACENT HANDHOLE AS SHOWN ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.
2. THE MOUNTING LOCATIONS OF THE RADAR DETECTORS WILL BE DETERMINED PER THE MANUFACTURER'S RECOMMENDATIONS.



TS SHT NO. 11

TS 1690

MODEL: Default  
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DRAWN - RR	REVISIONS -	
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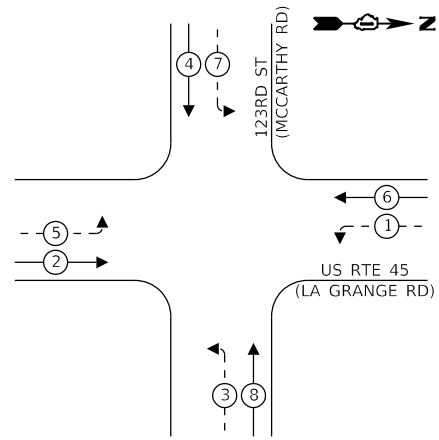
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC SIGNAL MODERNIZATION PLAN  
US 45 (LAGRANGE RD) AND MCCARTHY ROAD (123TH ST)**

F.A.P. RTE. 330	SECTION 2016-008TS&I	COUNTY COOK	TOTAL SHEETS 44	SHEET NO. 22
CONTRACT NO. 62C21			ILLINOIS FED. AID PROJECT	

SCALE: 1"=20'    SHEET 1 OF 1 SHEETS    STA. - TO STA. -

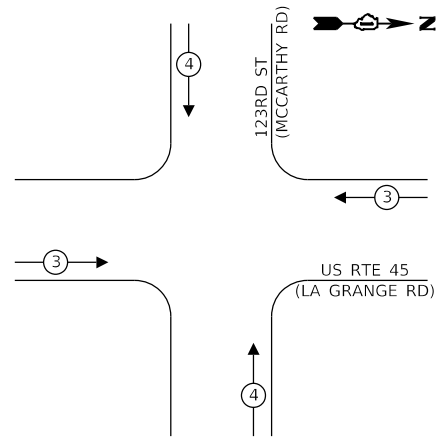
**PROPOSED CONTROLLER SEQUENCE**



**LEGEND:**

- ← \* → PROTECTED PHASE
- ← \* - - → PROTECTED/PERMITTED PHASE
- ← \* → PEDESTRIAN PHASE
- ◊ OL OVERLAP

**PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE**



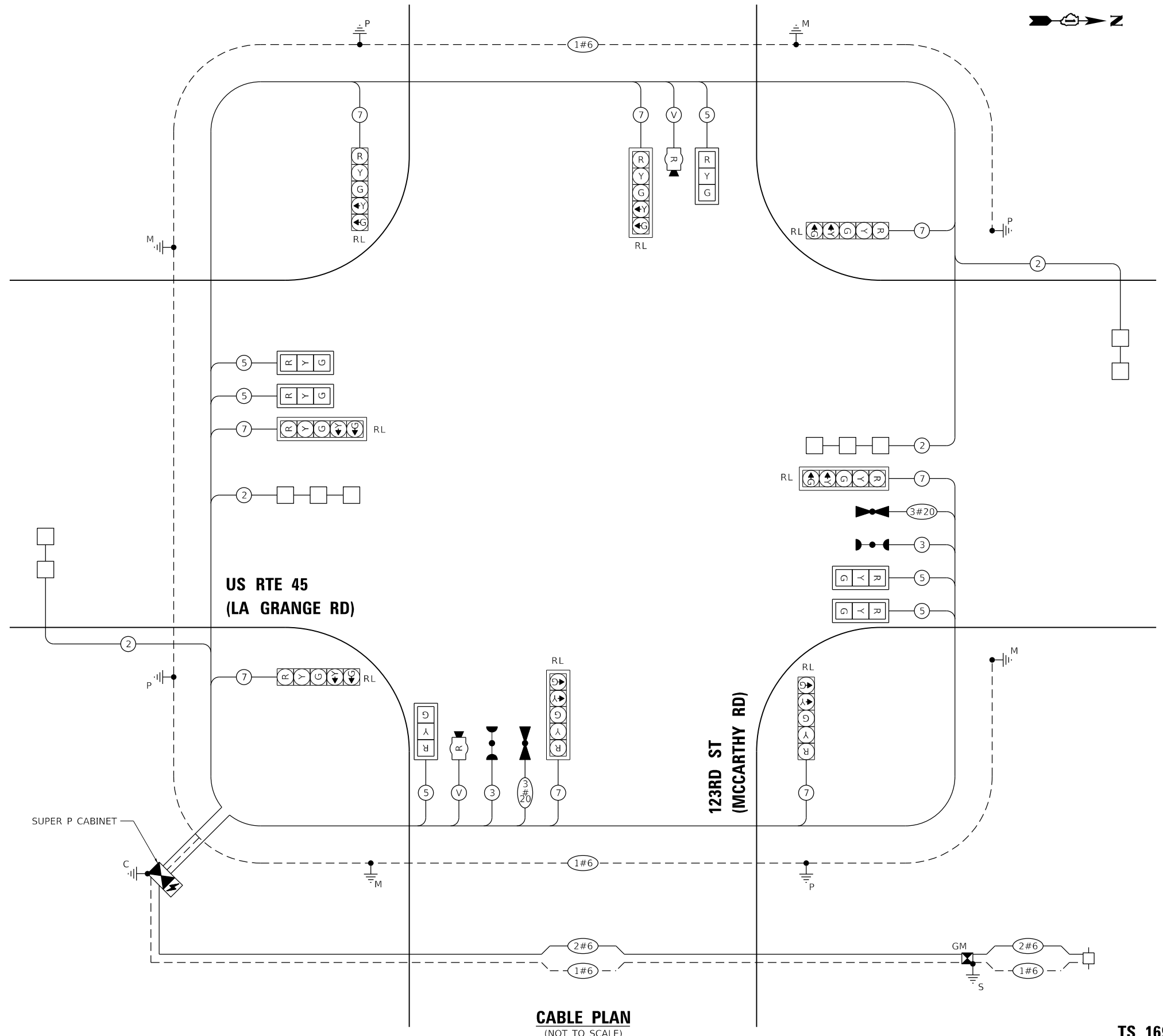
**TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	14	11	50	77.0
(YELLOW)	14	20	5	14.0
(GREEN)	14	12	45	75.6
PERMISSIVE ARROW	16	10	10	19.2
PED. SIGNAL	-	20	100	-
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	1	150	100	150.0
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	-	-	-
TOTAL =				460.8

ENERGY COSTS TO:

VILLAGE OF PALOS PARK

ENERGY SUPPLY: CONTACT: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 COMPANY: \_\_\_\_\_  
 ACCOUNT NUMBER: \_\_\_\_\_



**CABLE PLAN**  
(NOT TO SCALE)

TS SHT NO.12

TS 1690

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, AND  
EMERGENCY VEHICLE PREEMPTION SEQUENCE  
US 45 (LAGRANGE RD) AND MCCARTHY ROAD (123TH ST)

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008TS&I	COOK	44	23
CONTRACT NO. 62C21				
ILLINOIS FED. AID PROJECT				

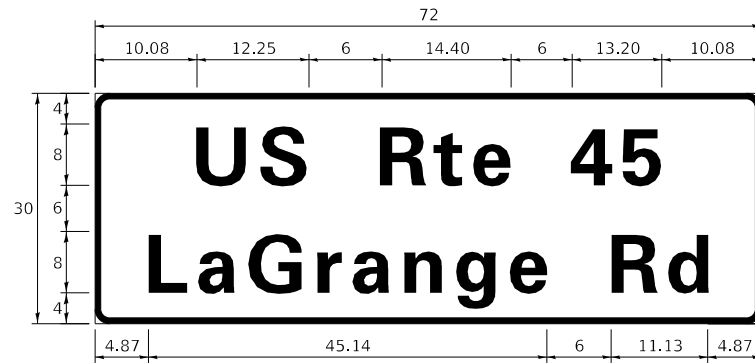
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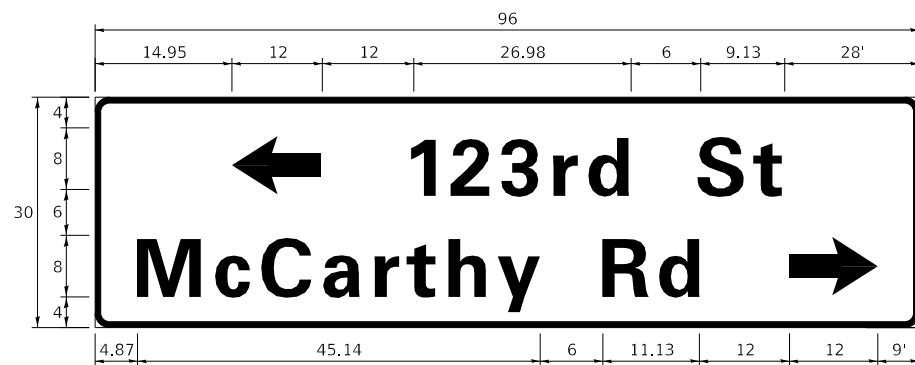
SCALE: NONE SHEET 1 OF 1 SHEETS STA. - TO STA. -

**SIGN PANEL – TYPE 1 OR TYPE 2**

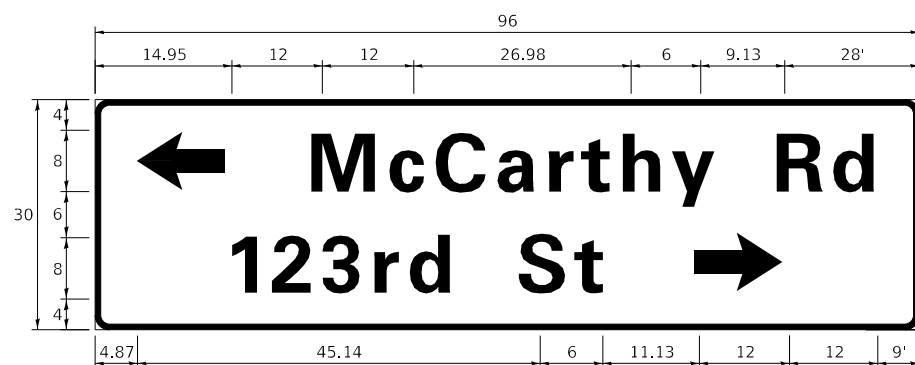
ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	15	2	ZZ	2



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	20	2	ZZ	1



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	20	2	ZZ	1

NOTE: FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION PLEASE SEE DISTRICT ONE MAST ARM MOUNTED STREET NAME SIGNS DETAIL.

**SCHEDULE OF QUANTITIES**

PAY ITEM	ITEM DESCRIPTION	UNITS	TOTAL QTY.
72000200	SIGN PANEL - TYPE 2	SQ FT	70
72400500	RELOCATE SIGN PANEL ASSEMBLY - TYPE A	EACH	2
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	827
81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	80
81028240	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	308
81400100	HANDHOLE	EACH	5
81400200	HEAVY-DUTY HANDHOLE	EACH	2
81400300	DOUBLE HANDHOLE	EACH	1
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	264
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1062
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1396
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1058
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	237
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	776
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4
87700200	STEEL MAST ARM ASSEMBLY AND POLE, 32 FT.	EACH	1
87700220	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	2
87700230	STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	1
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	20
87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4
87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	54
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	6
88200510	TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE	EACH	6
88500100	INDUCTIVE LOOP DETECTOR	EACH	4
88600100	DETECTOR LOOP, TYPE I	FOOT	327
* 88700200	LIGHT DETECTOR	EACH	2
* 88700300	LIGHT DETECTOR AMPLIFIER	EACH	1
89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
89500100	RELOCATE EXISTING SIGNAL HEAD	EACH	8
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
89502380	REMOVE EXISTING HANDHOLE	EACH	10
89502382	REMOVE EXISTING DOUBLE HANDHOLE	EACH	1
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	9
* X0324085	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	264
X1400107	FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET	EACH	1
X1400150	SERVICE INSTALLATION, GROUND MOUNTED, METERED	EACH	1
X1400201	RADAR VEHICLE DETECTION SYSTEM, SINGLE APPROACH, STOP BAR	EACH	2
X8620200	UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	1

\* 100% COST TO LOCALS

TS SHT NO. 13

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

MAST ARM MOUNTED STREET NAME SIGNS AND SCHEDULE OF QUANTITIES US 45 (LAGRANGE RD) AND MCCARTHY ROAD (123TH ST)			
SCALE: NONE	SHEET 1	OF 1 SHEETS	STA. - TO STA. -

F.A.P. RTE. 330	SECTION 2016-008T5&I	COUNTY COOK	TOTAL SHEETS 44	SHEET NO. 24
CONTRACT NO. 62C21			ILLINOIS FED. AID PROJECT	



**TRAFFIC SIGNAL BACKPLATE REPLACEMENT SCHEDULE OF QUANTITIES**

**REMOVAL AND RELOCATION NOTES:**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AT INDICATED INTERSECTIONS 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.

59 EACH TRAFFIC SIGNAL BACKPLATE

ITEM	ITEM DESCRIPTION	TOTAL	MCCARTHY ROAD (SEE MODERNIZATION PLANS)								
			IL 83 RAMP EAST	IL 83 RAMP WEST	111TH STREET	107TH STREET	95TH STREET	87TH STREET	67TH STREET	63RD STREET	
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	8	-	1	1	1	1	1	1	1	1
88200510	TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE	59	-	4	4	7	10	12	12	4	6
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	8	-	1	1	1	1	1	1	1	1

**NOTE:**  
REMOVAL OF EXISTING TRAFFIC SIGNAL BACK PLATES IS INCLUDED UNDER THE REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT ITEM

**TS SHT NO. 14**

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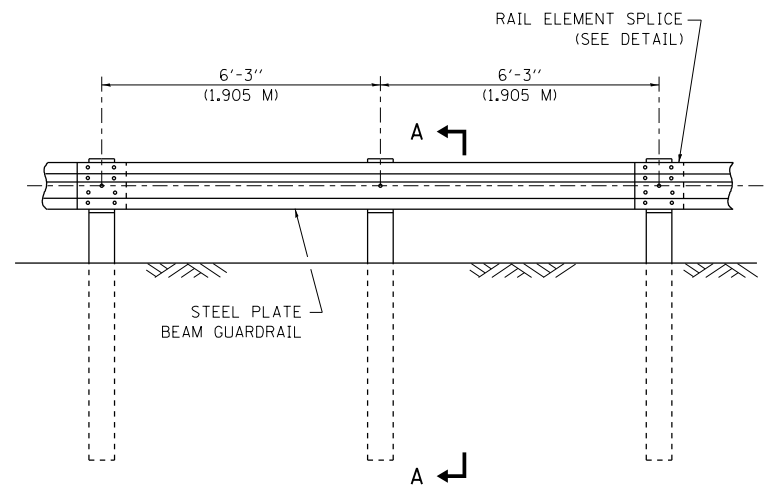
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PLOT DATE = 8/1/2018	DATE - 8/1/2018	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC BACK PLATE REPLACEMENT SCHEDULE OF QUANTITIES  
US 45 (LAGRANGE RD), MCCARTHY RD TO 63RD ST**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. - TO STA. -

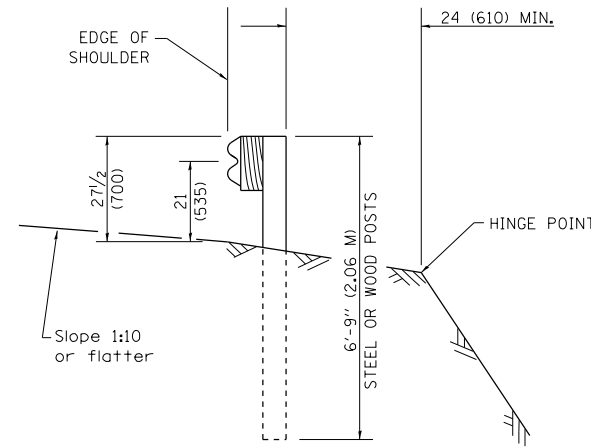
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CONTRACT NO. 62C21			ILLINOIS FED. AID PROJECT	



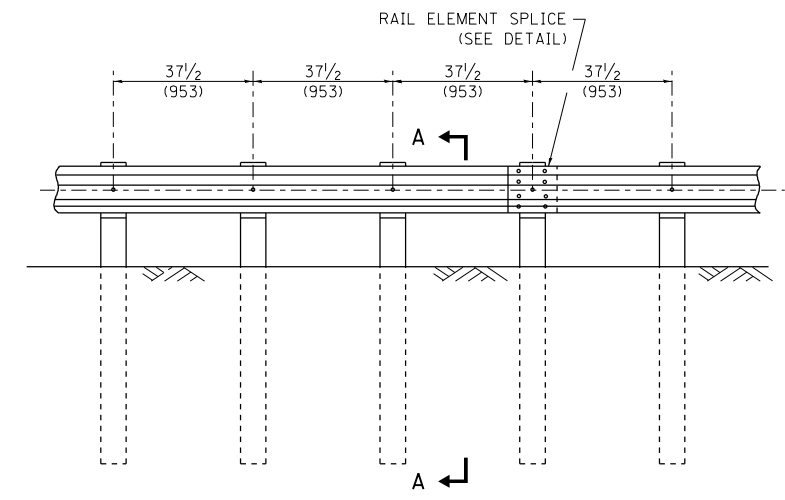
ELEVATION

**TYPE A**

6'-3" (1.905 M) TYPICAL POST SPACING



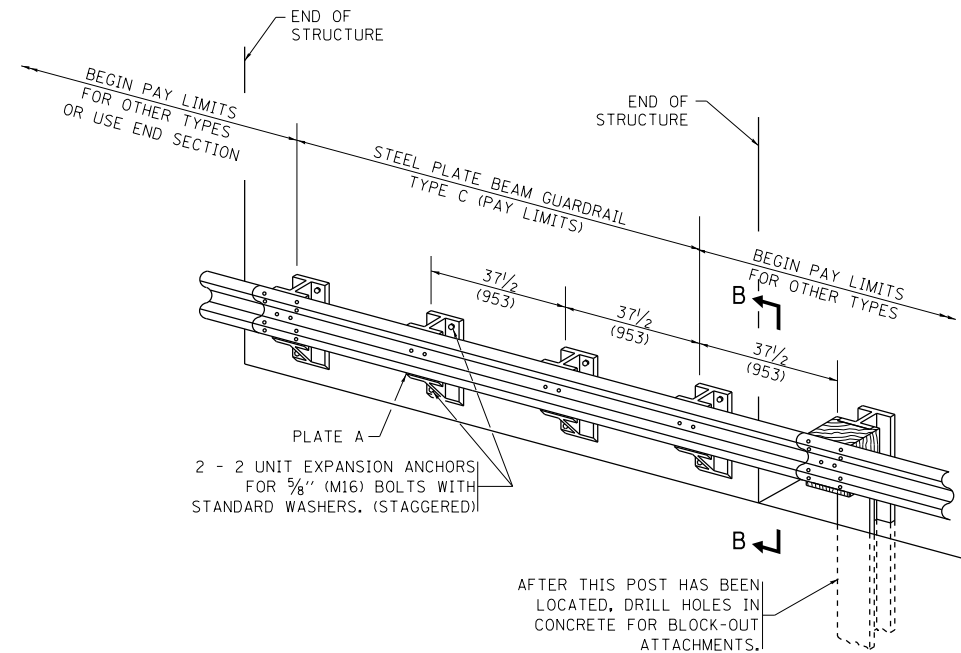
SECTION A-A



ELEVATION

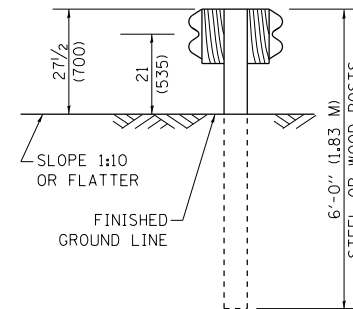
**TYPE A**

37 1/2 (953) CLOSED POST SPACING

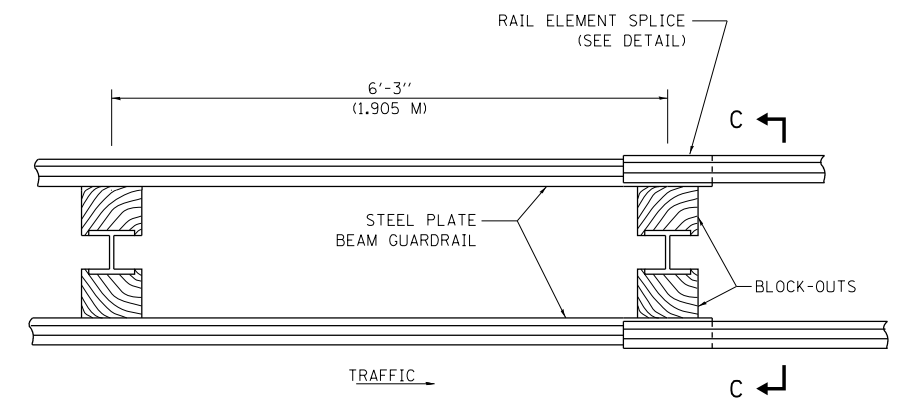


**TYPE C**

37 1/2 (953) BLOCK-OUT SPACING



SECTION C-C

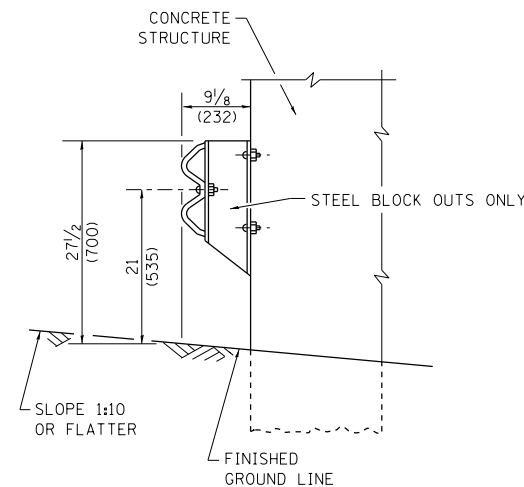


TRAFFIC

PLAN

**TYPE D**

DOUBLE STEEL PLATE BEAM GUARDRAIL  
6'-3" (1.905 M) TYPICAL POST SPACING



SECTION B-B

**GENERAL NOTES**

ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).

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

THE EXISTING STEEL POSTS MAY BE DRILLED TO MATCH THE BOLT PATTERN SHOWN HEREIN FOR THE WOOD BLOCK-OUT, OR A NEW STEEL POST SHALL BE PROVIDED.

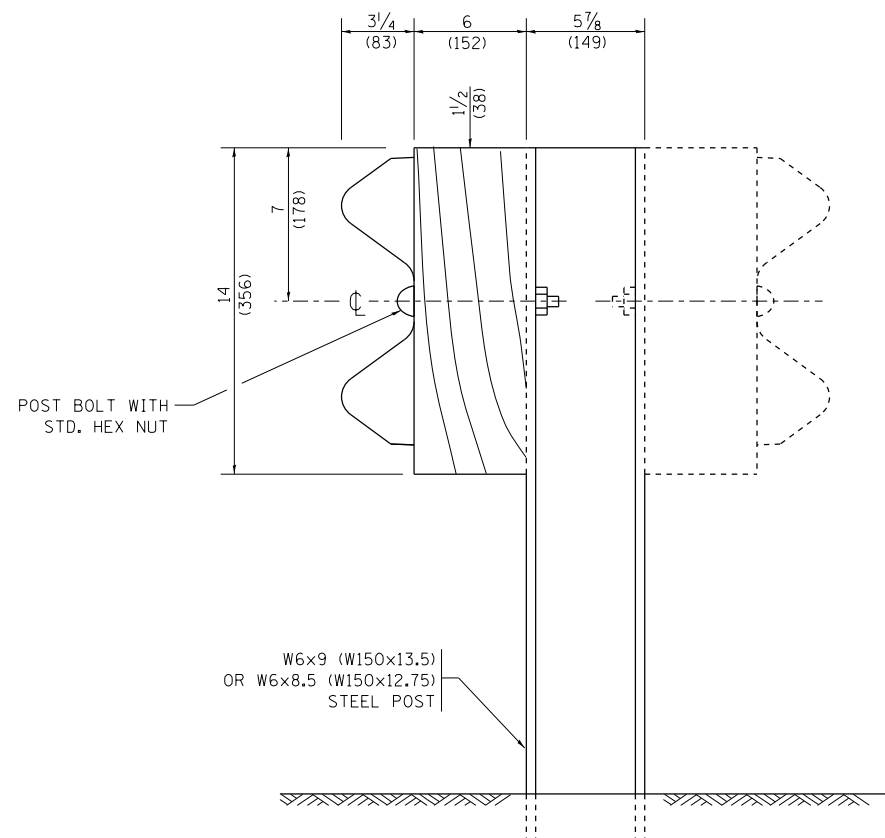
THIS DETAIL IS APPLICABLE TO THE GUARDRAIL SYSTEM USED PRIOR TO JANUARY 1, 2007. FOR DETAILS ON THE MIDWEST GUARDRAIL SYSTEM, SEE STANDARD 630001.

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		DATE -	REVISED -

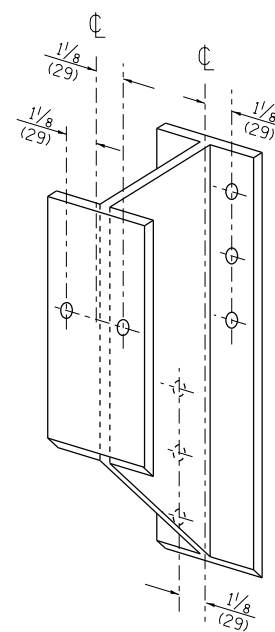
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL</b>			
SCALE: NONE	SHEET NO. 1 OF 4 SHEETS	STA.	TO STA.

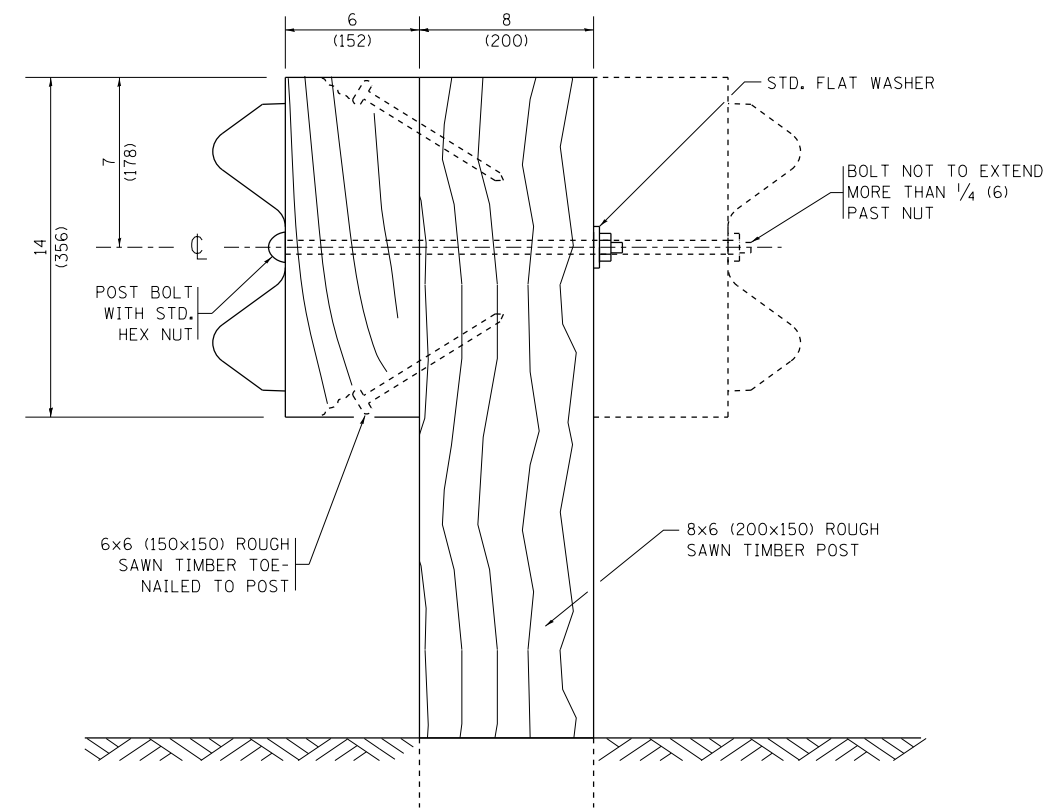
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330	2016-008T&I	COOK	44	26
<b>BM-21</b>			<b>CONTRACT NO. 62C21</b>	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



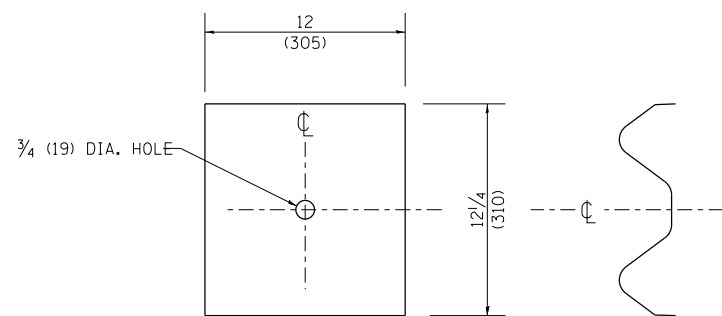
STEEL POST CONSTRUCTION



STEEL BLOCK-OUT DETAIL



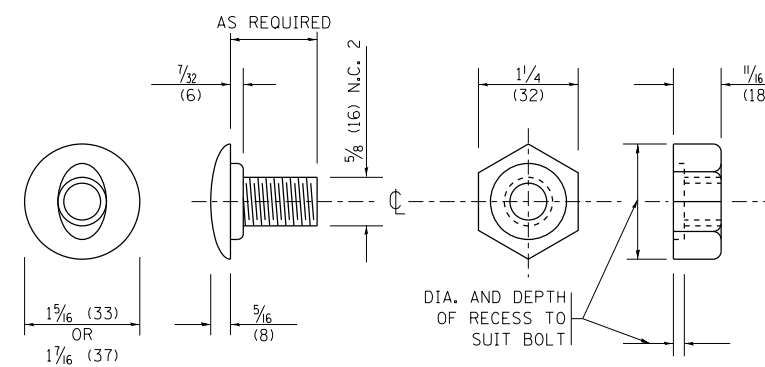
WOOD POST CONSTRUCTION



NOTE:

PLATE A SHALL BE PLACED BETWEEN RAIL ELEMENT AND BLOCK-OUT AT NON-SPLICE MOUNTING POINTS ONLY WHEN STEEL BLOCK-OUTS ARE USED.

PLATE A



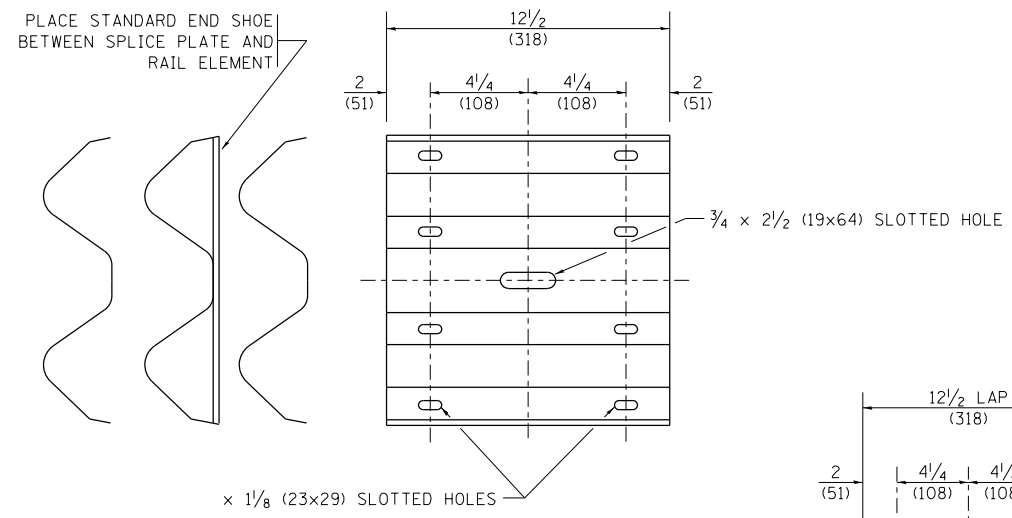
POST OR SPLICE BOLT & NUT

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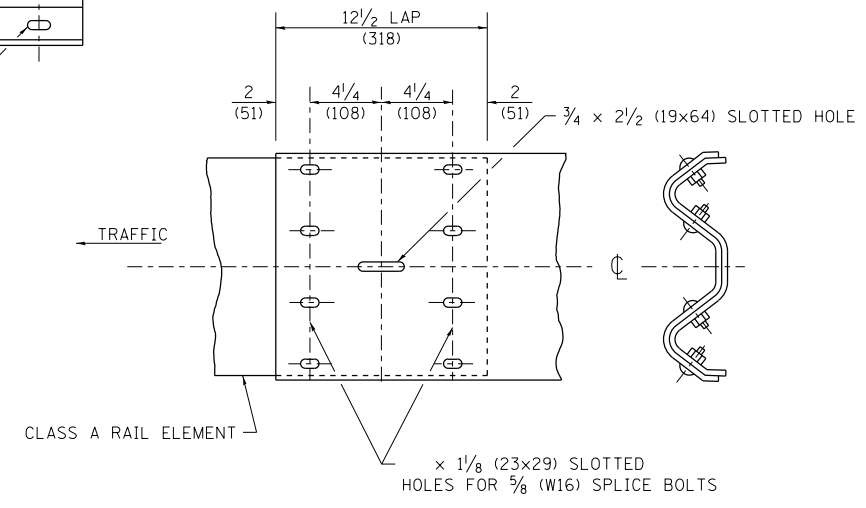
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL			
SCALE: NONE	SHEET NO. 2 OF 4 SHEETS	STA.	TO STA.

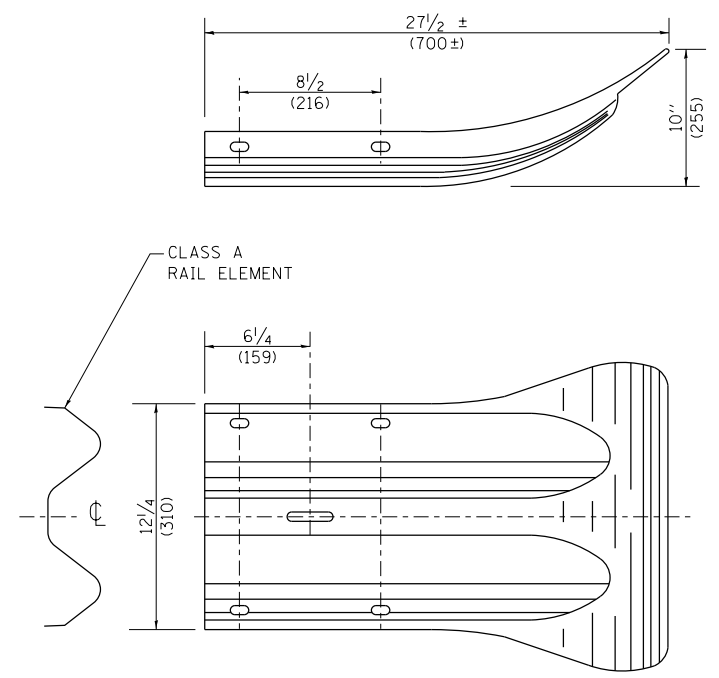
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-00BTS&I	COOK	44	27
BM-21			CONTRACT NO. 62C21	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



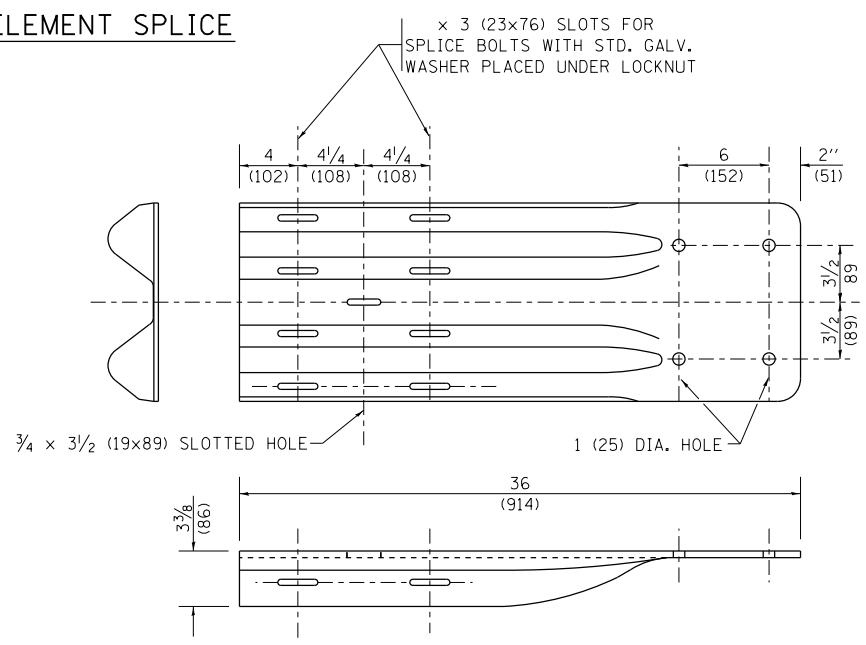
**SPLICE PLATE**



**RAIL ELEMENT SPLICE**



**END SECTION**



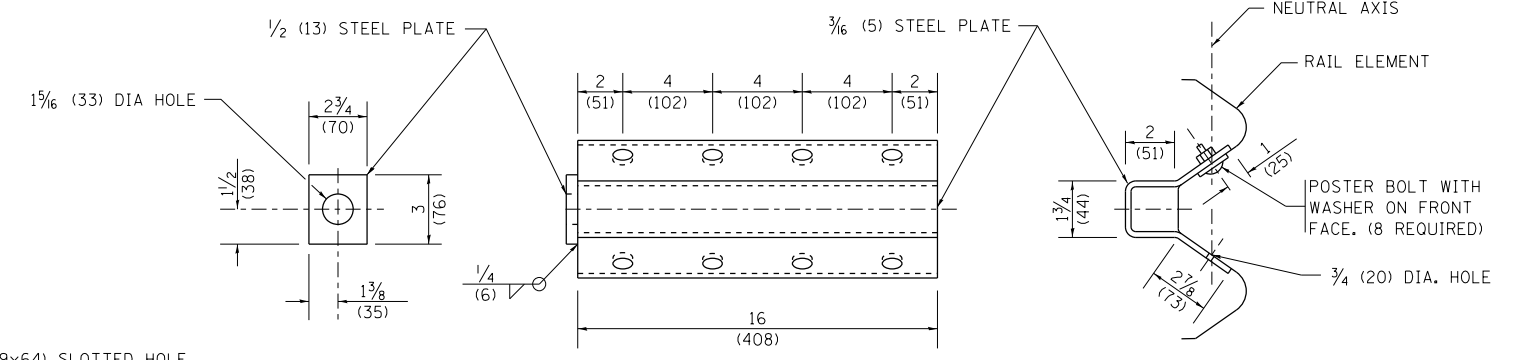
**END SHOE**

**NOTE:**

WHEN END SHOE IS ATTACHED TO A BRIDGE PARAPET WHICH HAS AN EXPANSION JOINT, THE BOLTS SHALL BE PROVIDED WITH A LOCKNUT OR DOUBLE NUT AND SHALL BE TIGHTENED ONLY TO A POINT THAT WILL ALLOW GUARDRAIL MOVEMENT.

THE STANDARD END SHOE SHALL BE ATTACHED TO THE CONCRETE WITH PRE-DRILLED OR SELF-DRILLING ANCHOR BOLTS. THE ANCHOR CONE SHALL BE SET FLUSH WITH THE SURFACE OF THE CONCRETE.

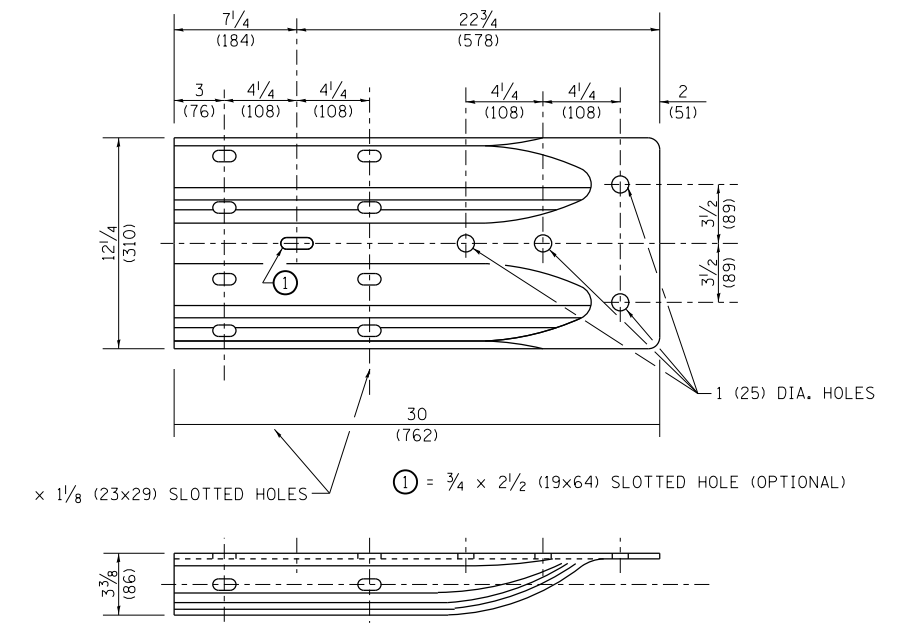
EXTERNALLY THREADED STUDS PROTRUDING FROM THE SURFACE OF THE CONCRETE WILL NOT BE PERMITTED.



**NOTE:**

ANCHOR PLATE T SHALL BE USED TO ATTACH CABLE ASSEMBLY TO GUARDRAIL WHEN REQUIRED ON TRAFFIC BARRIER TERMINALS.

**ANCHORE PLATE T DETAILS**



**ALTERNATE END SHOE**

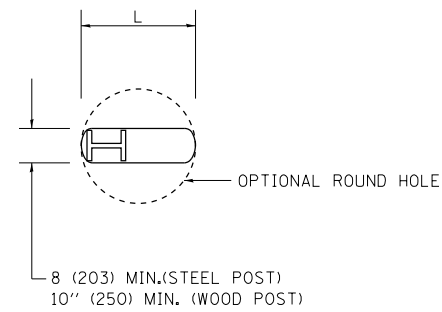
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

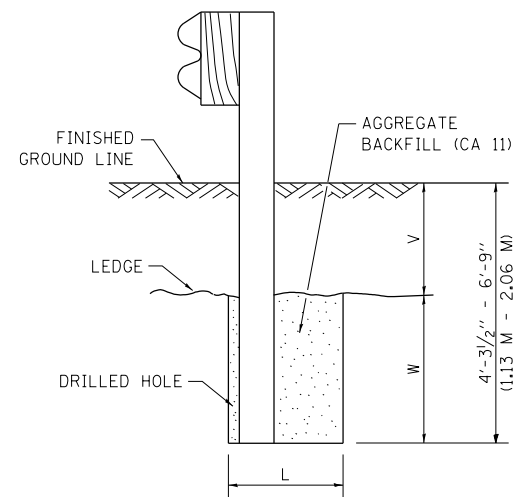
**REMOVE AND REERECT  
STEEL PLATE BEAM GUARDRAIL**

SCALE: NONE SHEET NO. 3 OF 4 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-00BTS&I	COOK	44	28
	<b>BM-21</b>			<b>CONTRACT NO. 62C21</b>
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



PLAN

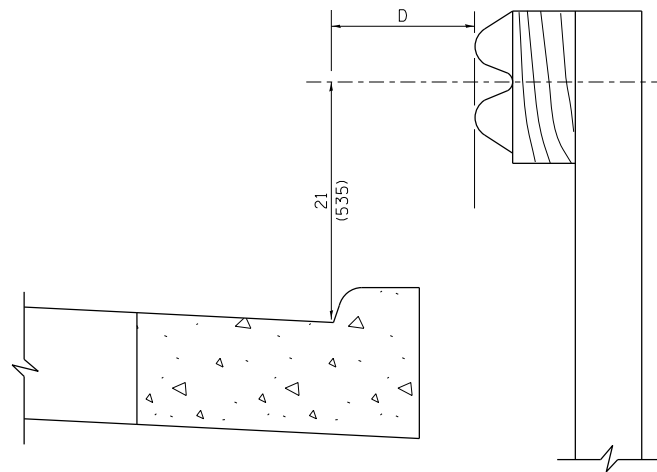


NOTE:

LEDGE LINE IS TOP OF ROCK LEDGE OR HARD SLAG FILL.

ELEVATION

**FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED**



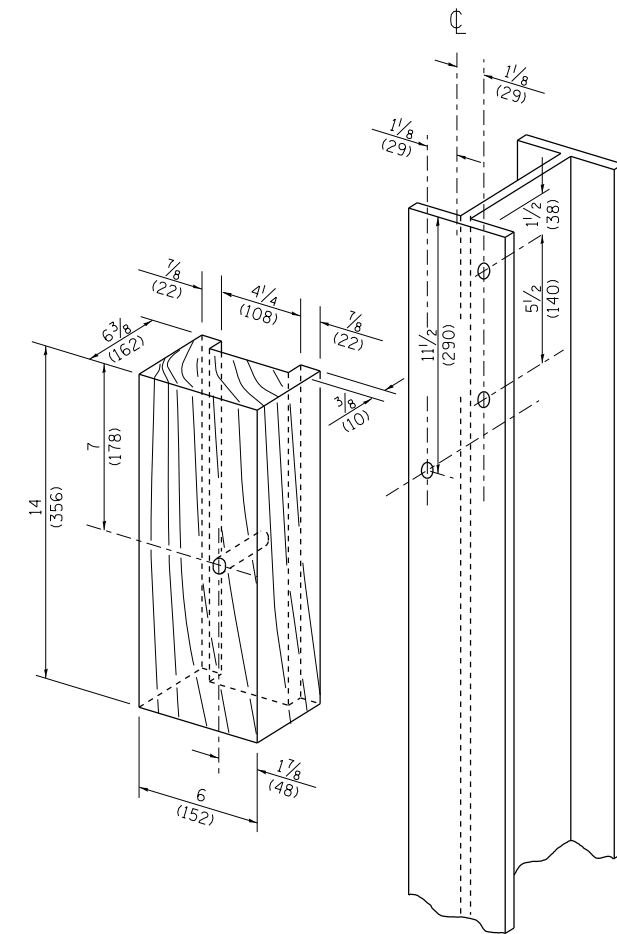
NOTE:

IF IT IS NECESSARY FOR D TO BE MORE THAN 12 (300) AND LESS THAN 10'-0'' (3.0 M) TYPE M-2 (M-5) CURB AND GUTTER (STD. 606001) SHALL BE USED IN FRONT OF AND IN ADVANCE OF THE GUARDRAIL.

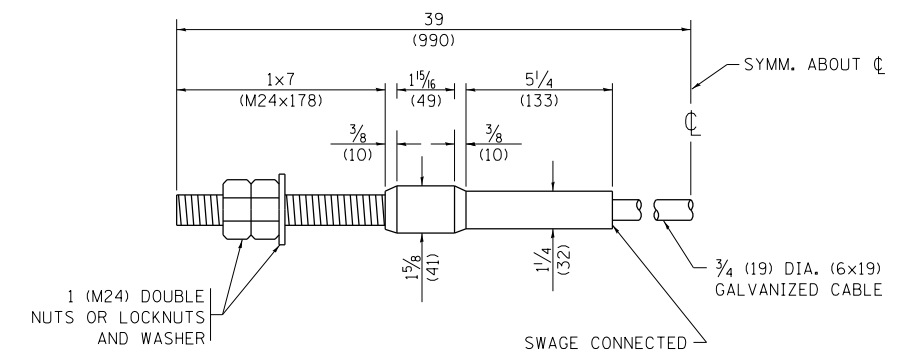
**GUARDRAIL PLACED BEHIND CURB**

(D = 0 DESIRABLE TO 12 (300) MAXIMUM)

V	W	L	
		STEEL POST	WOOD POST
0 - 18 (0 - 460)	24 (610)	21 (530)	23 (580)
>18 - 41.5 (> 460 - 825)	12 (305)	8 (203)	10 (250)
>41.5 - 53.5 (> 825 - 1.13 M)	12 - 0 (350 - 0)	8 (203)	10 (250)



**WOOD BLOCK-OUT AND STEEL POST DETAILS**



**CABLE ASSEMBLY**

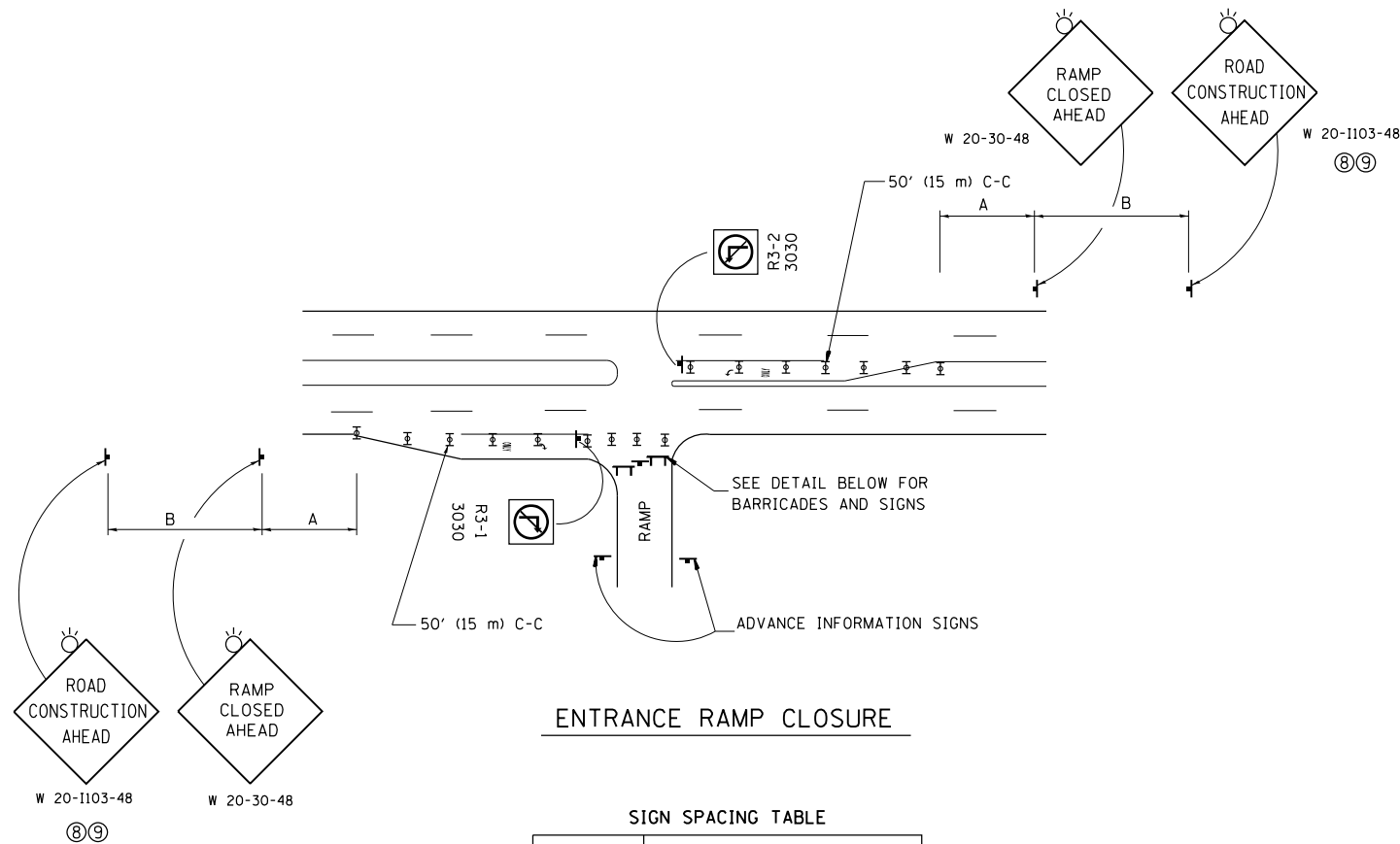
(40,000 LBS (18,100 KG) MIN. BREAKING STRENGTH)  
TIGHTEN TO TAUT TENSION

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		DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL</b>	
SCALE: NONE	SHEET NO. 4 OF 4 SHEETS
STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-00BTS&I	COOK	44	29
<b>BM-21</b>		<b>CONTRACT NO. 62C21</b>		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

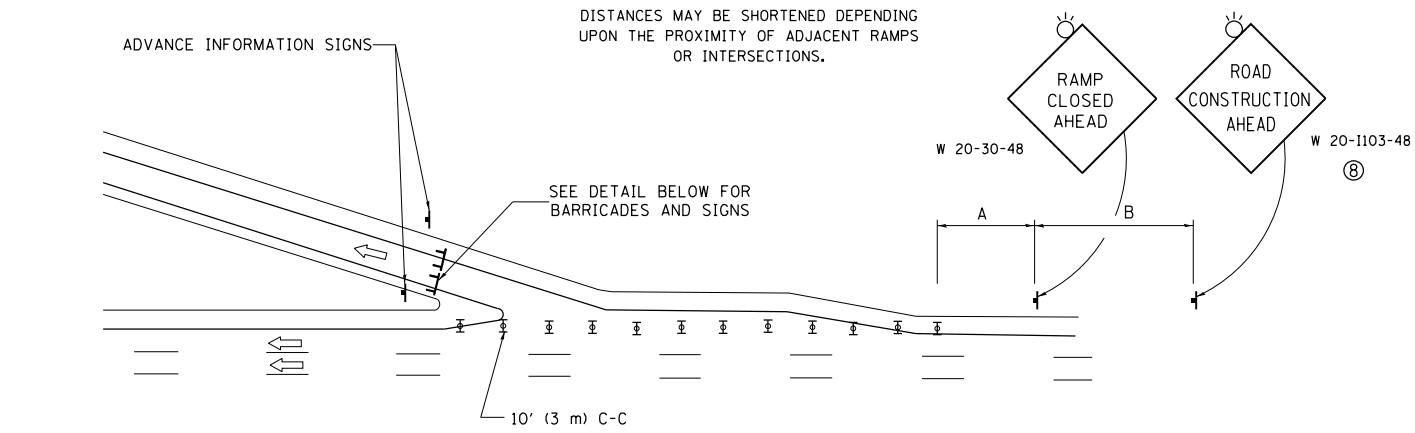


**ENTRANCE RAMP CLOSURE**

**SIGN SPACING TABLE**

FACILITY	DISTANCE BETWEEN SIGNS	
	A	B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY <24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL 55 MPH	500' (150 m)	500' (150 m)
ARTERIAL 50-45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	200' (60 m)	200' (60 m)

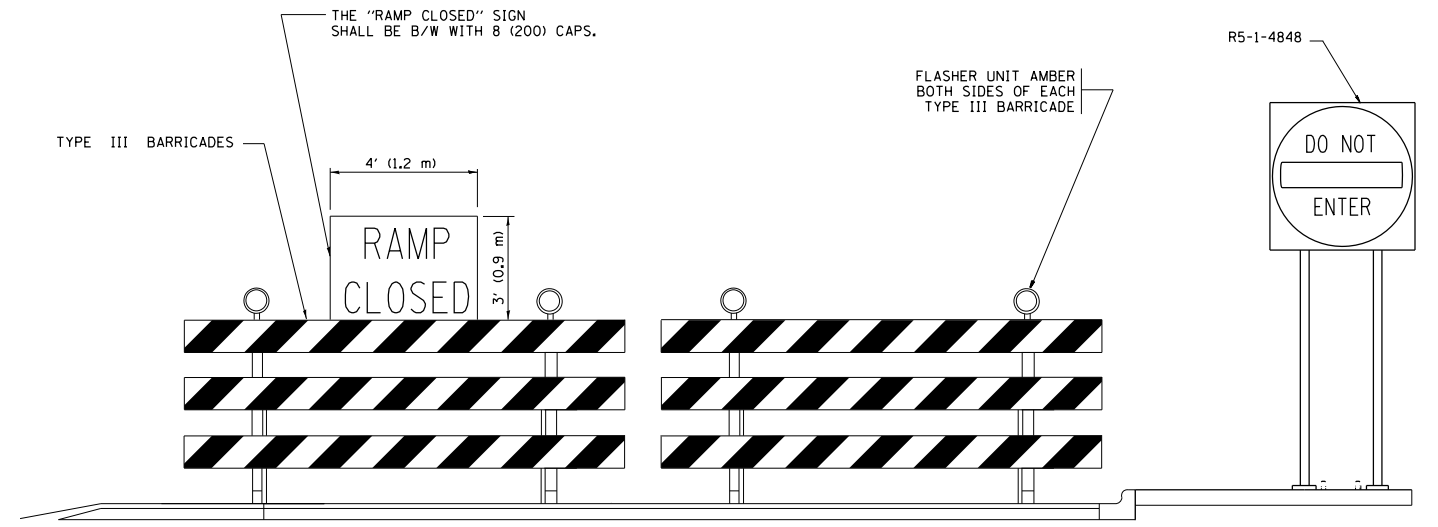
DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.



**EXIT RAMP CLOSURE**

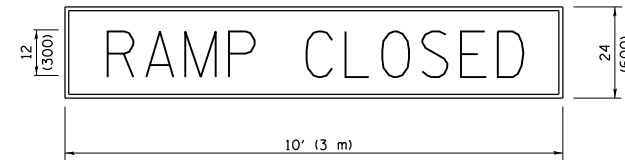
**SYMBOLS**

- ⊥ TYPE II BARRICADE OR DRUM
- ⊓ TYPE III BARRICADE WITH 2 FLASHING LIGHTS



**DETAIL FOR REQUIRED BARRICADES & SIGNS**

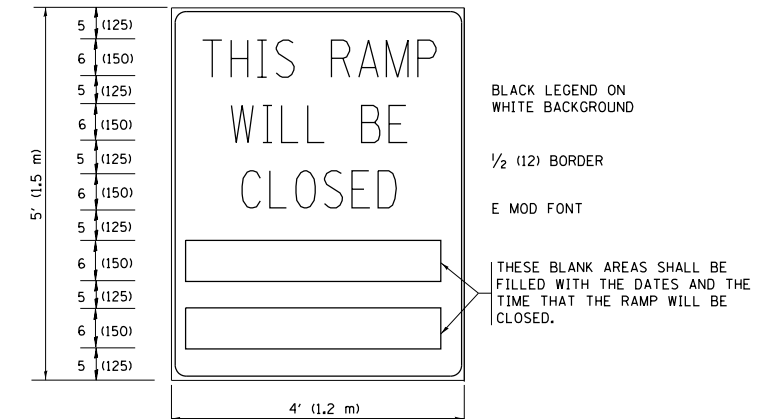
**RAMP CLOSURE ADVANCE WARNING SIGN**



BLACK LEGEND ON ORANGE BACKGROUND MOUNTED DIAGONALLY  
E MOD FONT  
1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR EXIT RAMPS THAT WILL BE CLOSED FOR MORE THAN FOUR (4) CONSECUTIVE DAYS.

**RAMP CLOSURE ADVANCE INFORMATION SIGN**



BLACK LEGEND ON WHITE BACKGROUND

1/2 (12) BORDER

E MOD FONT

THESE BLANK AREAS SHALL BE FILLED WITH THE DATES AND THE TIME THAT THE RAMP WILL BE CLOSED.

THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

THESE SIGNS SHALL BE FABRICATED AND PAID FOR ACCORDING TO THE TEMPORARY INFORMATION SIGNING SPECIAL PROVISION

**GENERAL NOTES:**

- ① CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
- ② VERTICAL BARRICADES SHALL NOT BE USED FOR RAMP CLOSURES.
- ③ A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES, PRECEDED BY A W20-7 FLAGGER WARNING SIGN.
- ④ ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED WHEN THE RAMP IS CLOSED FOR MORE THAN FOUR (4) DAYS.
- ⑤ THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
- ⑥ AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
- ⑦ THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED FOUR (4) DAYS IN LENGTH.
- ⑧ ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.
- ⑨ ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS SHALL BE INSTALLED ON THE LEFT SIDE OF TRAFFIC IF THE MEDIAN IS MORE THAN 10 FT WIDE.

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

FILE NAME =	USER NAME = DEFEXV	DESIGNED - D.W.S.	REVISED - S.P.B. 01-07
p:\1\084EBID\INTEG\illinois.gov\PI\DOT\Documents\DOT Offices\District 1\Projects\DI304\Drawings\Design\DistStd.dgn		REVISED - S.P.B. 12-09	
Default	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - M.D. 06-13
	PLOT DATE = 8/31/2018	DATE - 02-83	REVISED - M.D. 01-18

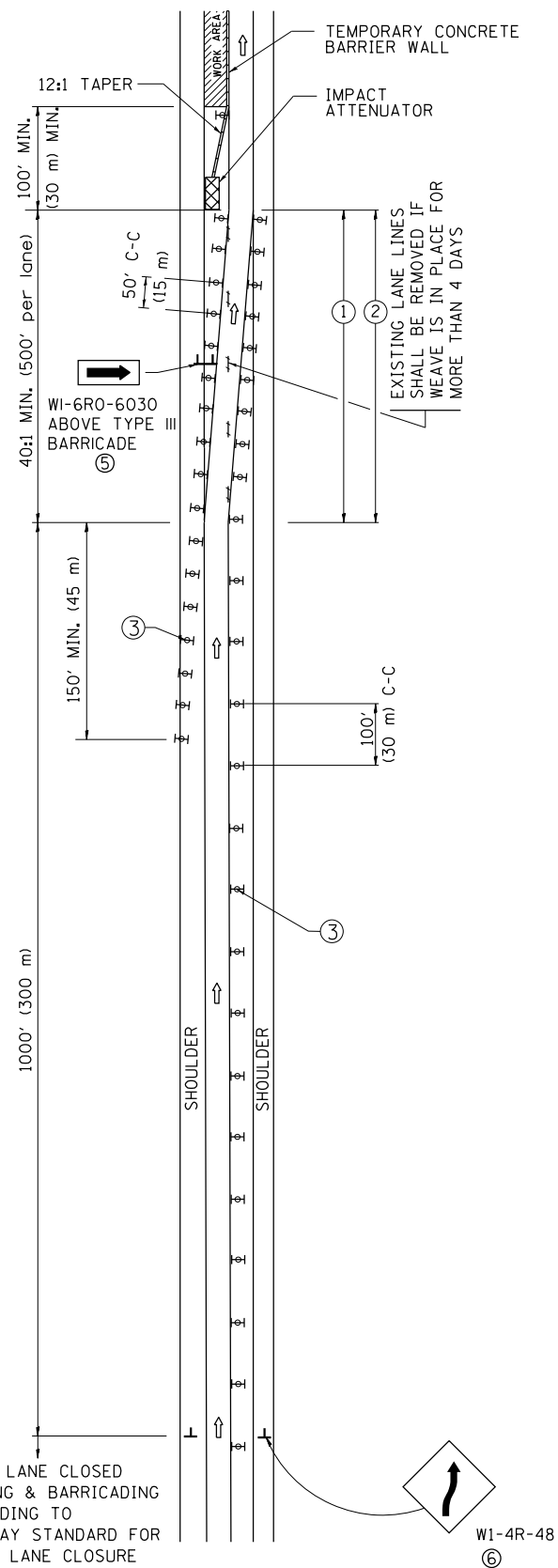
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ENTRANCE AND EXIT RAMP  
CLOSURE DETAILS**

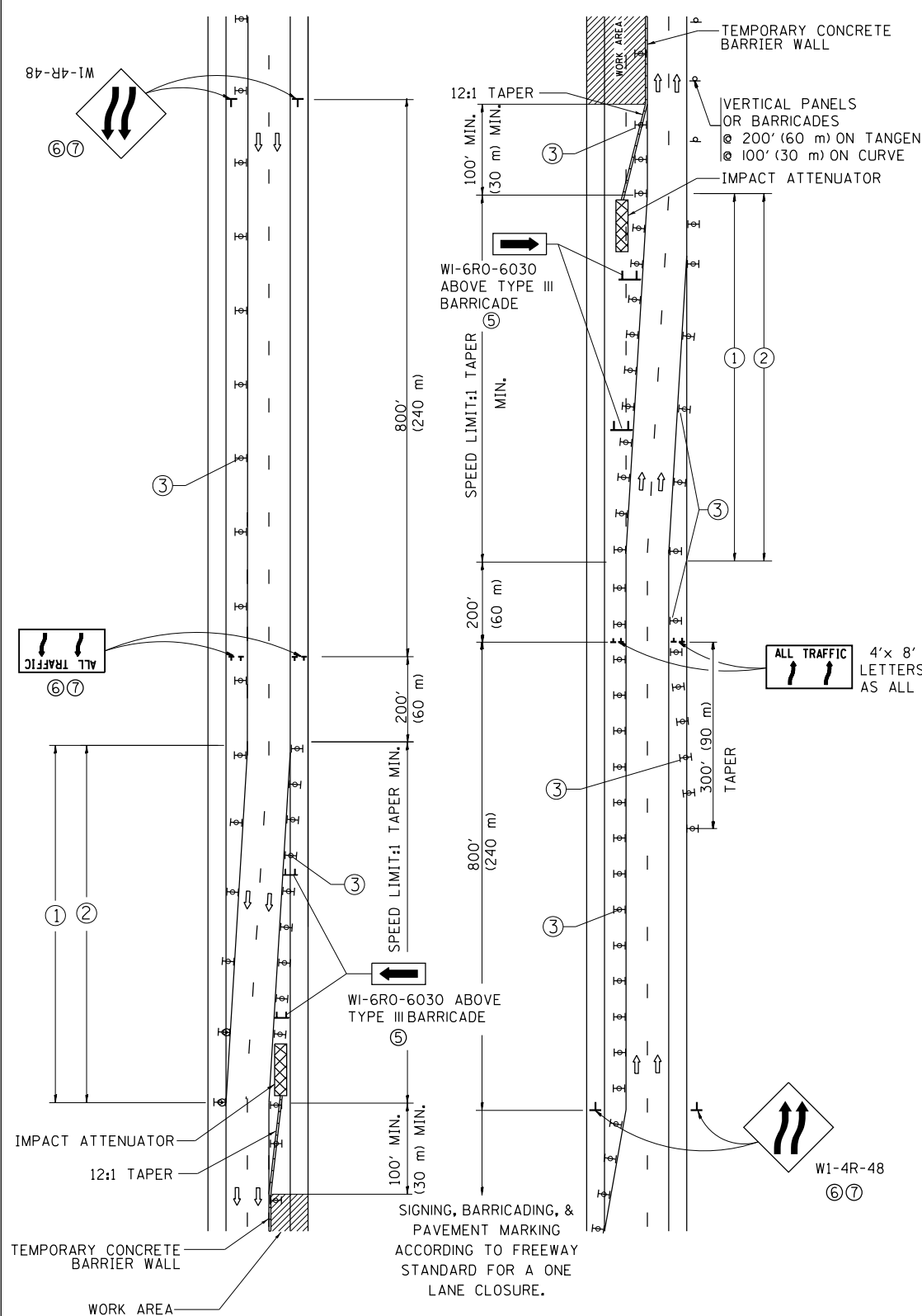
SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-00BTS&I	COOK	44	30
<b>TC-08</b>		<b>CONTRACT NO. 62C21</b>		
ILLINOIS FED. AID PROJECT				

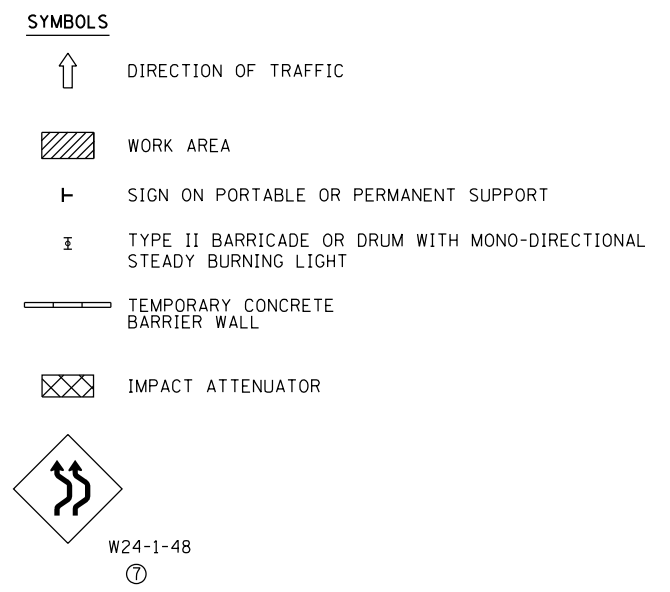
# SINGLE LANE WEAVE



# MULTI-LANE WEAVE

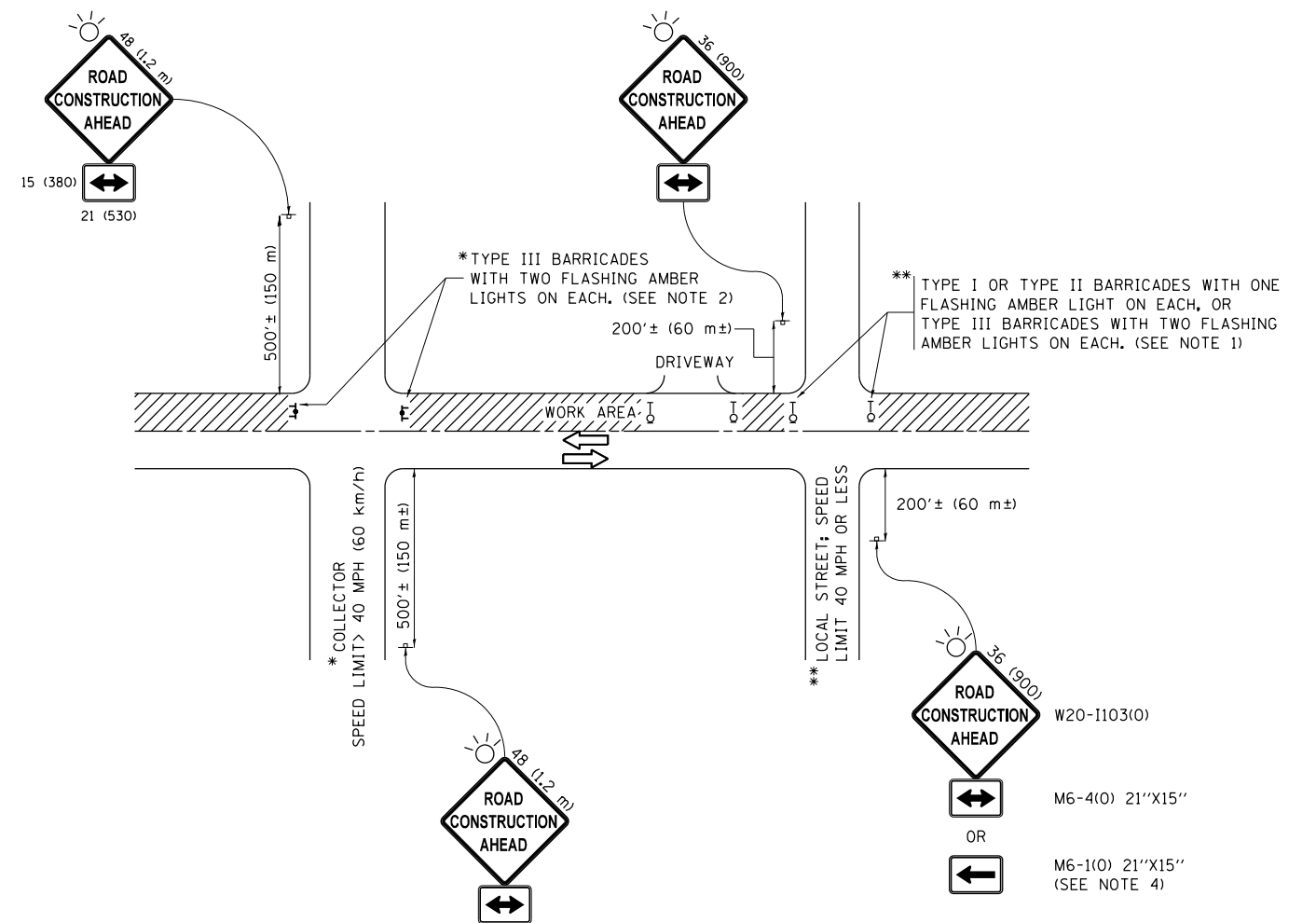


- ### GENERAL NOTES
- EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 4 DAYS IN DURATION.
  - CONTINUOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.
  - PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.
  - ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
  - TYPE III BARRICADES MAY BE OMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.
  - WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.
  - THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.



ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

FILE NAME =	USER NAME = DEFEV	DESIGNED - DWS	REVISED - JAF 02-06	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE &amp; MULTI-LANE WEAVE</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw:\11\084EBID\INTEG\illinois.gov\PIWID\Documents\IDOT Offices\District 1\Projects\DI304\Drawings\Design\DistStd.dgn	PLOT SCALE = 100.0000' / 1"	CHECKED -	REVISED - SPB 01-07					330	2016-008TS&I	COOK	44	31
PLOT DATE = 8/31/2018	DATE - 02-87	REVISED - MD 06-13	REVISED - SPB 12-09		<b>TC-09</b>			<b>CONTRACT NO. 62C21</b>				
					SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		



**NOTES:**

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 36 x 36 (900x900) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
3. 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.
4. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
5. WHEN WORK IS BEING PERFORMED ON A SIDE ROAD OR DRIVEWAY, FOLLOW THE APPLICABLE STANDARD(S). THE DIRECTIONAL ARROW (M6-1 OR M6-4) SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE TRAFFIC CONTROL SET-UP.
6. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAYS UNLESS OTHERWISE SPECIFIED IN THE PLANS OR BY THE ENGINEER.
7. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

FILE NAME =	USER NAME = DEFEVY	DESIGNED - L.H.A.	REVISED - A. HOUSEH 10-15-96
pw:\IL\084EBIDINTEG\Illinois.gov\PWIDOT\Documents\IDOT Offices\District 1\Projects\DI304\Drawings\Design\DistStd.dgn			REVISED - T. RAMMACHER 01-06-00
Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED - A. SCHUETZE 07-01-13
	PLOT DATE = 8/31/2018	DATE - 06-89	REVISED - A. SCHUETZE 09-15-16

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

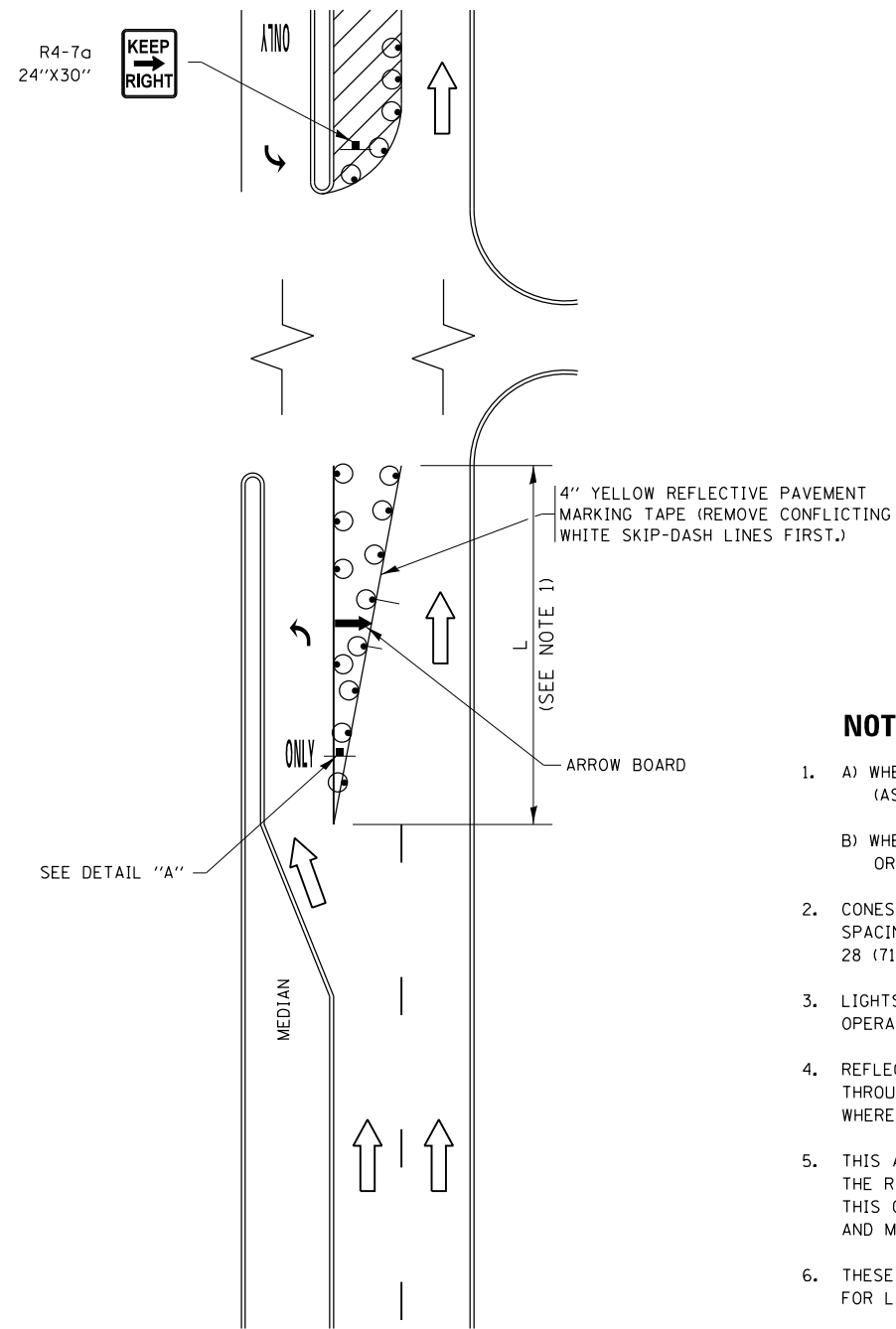
**TRAFFIC CONTROL AND PROTECTION FOR  
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-00BTS&I	COOK	44	32
<b>TC-10</b>			<b>CONTRACT NO. 62C21</b>	
ILLINOIS FED. AID PROJECT				

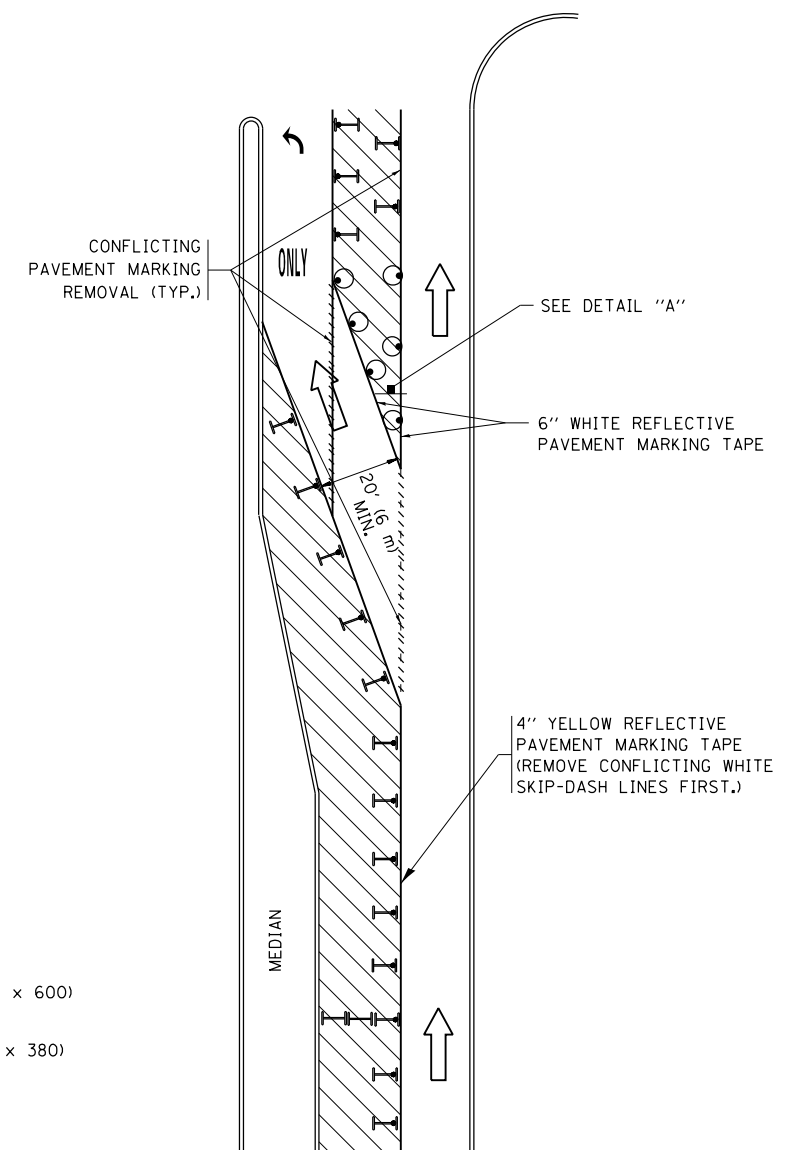


# TURN BAY ENTRANCE AT START OF LANE CLOSURE TAPER

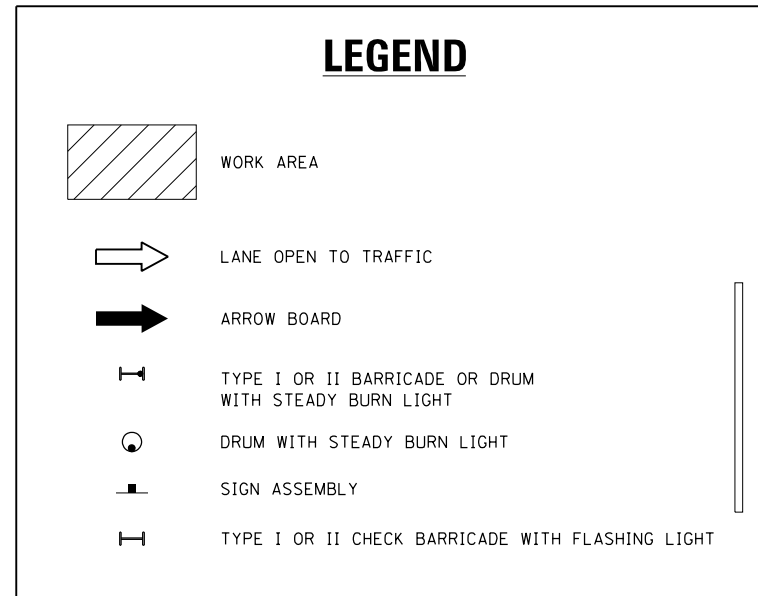


**FIGURE 1**

# TURN BAY ENTRANCE WITHIN A LANE CLOSURE

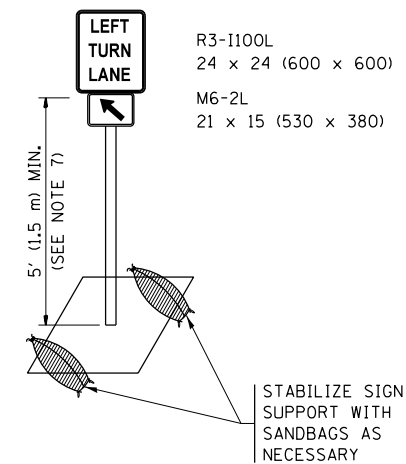


**FIGURE 2**



### NOTES:

1. A) WHEN "L" IS  $\leq$  THE STORAGE LENGTH OF THE TURN LANE (AS SHOWN IN FIG. 1), USE FIGURE 1.  
B) WHEN "L" IS  $>$  THE STORAGE LENGTH OF THE TURN LANE OR THE TURN LANE IS WITHIN THE LANE CLOSURE, USE FIGURE 2.
2. 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.
3. LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
4. REFLECTIVE TEMPORARY PAVEMENT MARKINGS SHALL BE PLACED THROUGHOUT THE BARRICADED AREAS OF EACH TURN BAY AS SHOWN WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN (14) DAYS.
5. 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" R3-1100R 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
6. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
7. THE SIGNS SHALL BE MOUNTED ABOVE THE BARRICADES/DRUMS ON SEPARATE SIGN SUPPORTS THAT MEET NCHRP 350 OR MASH PREQUIREMENTS.
8. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

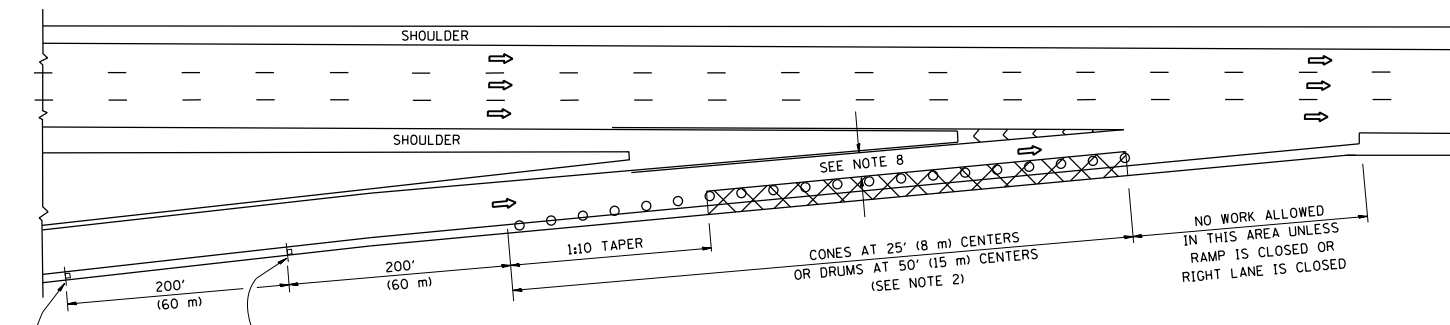


**DETAIL A**

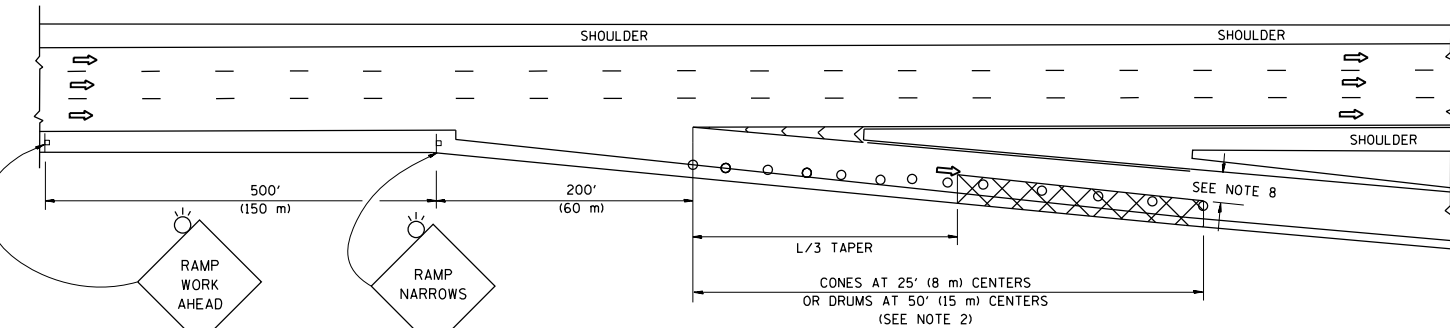
All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = DEFEXV	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. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw\1\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\IDOT Offices\District 1\Projects\DI304\REVISED Design\HOUSEH 11-07-95	REVISED - A. HOUSEH 11-07-95	REVISED - A. SCHUETZE 07-01-13	REVISED - A. SCHUETZE 07-01-13			330	2016-008TS&I	COOK	44	33
Default	PLOT SCALE = 100.0000' / in.	REVISED - A. HOUSEH 10-12-96	REVISED - A. SCHUETZE 09-15-16			<b>TC-14</b>		<b>CONTRACT NO. 62C21</b>		
	PLOT DATE = 8/31/2018	REVISED - T. RAMMACHER 01-06-00	REVISED -			SCALE: NONE		SHEET 1 OF 1 SHEETS		STA. TO STA.

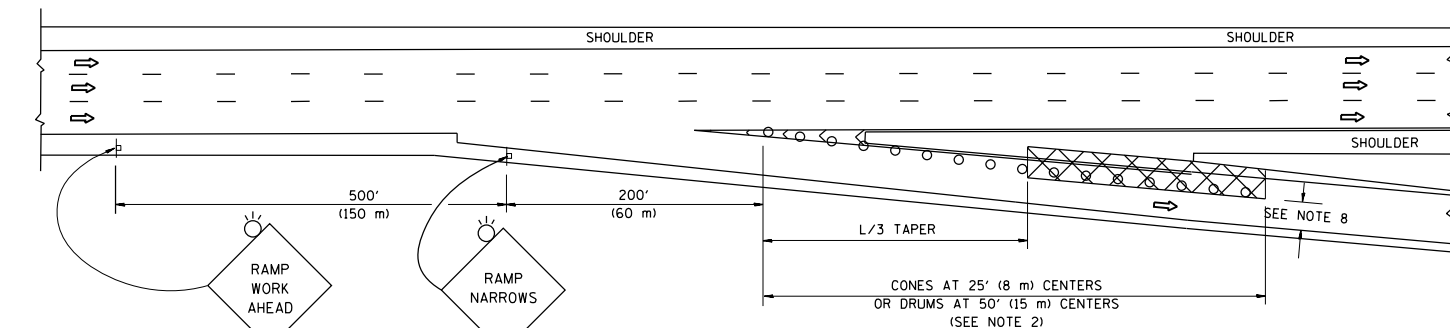
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

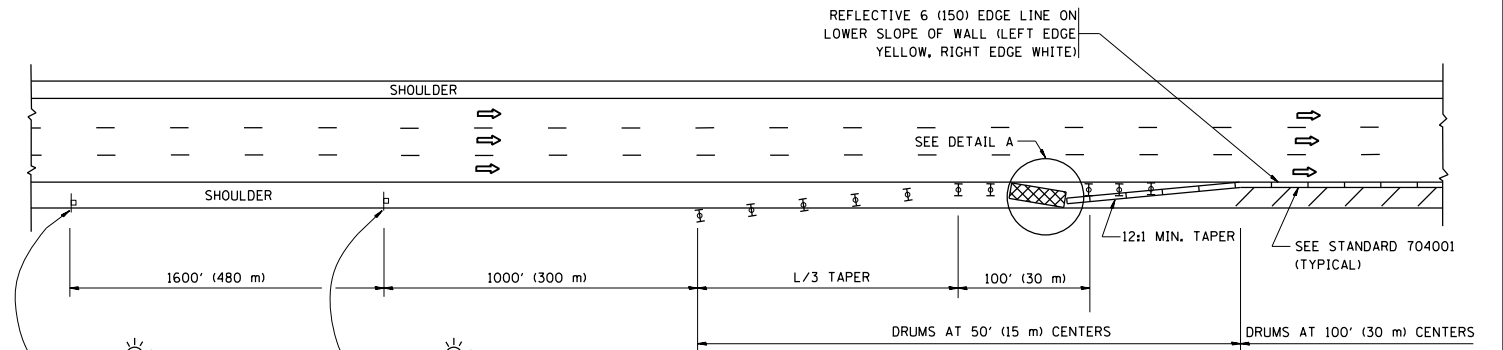
- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

GENERAL NOTES

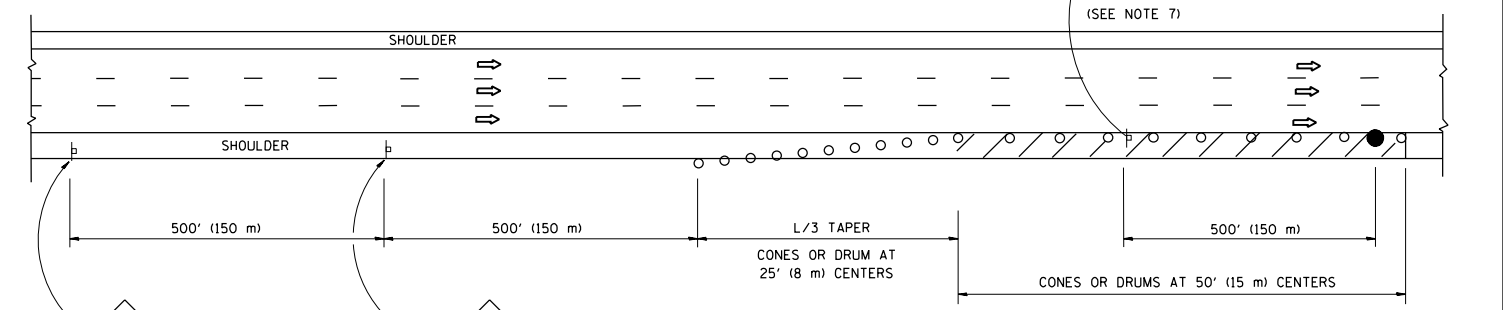
1. THE "L" DISTANCE EQUALS:  

SPEED LIMIT	FORMULAS
45 mph (80 km/h) OR GREATER:	METRIC: $L=0.65(W)(S)$ ENGLISH: $L=(W)(S)$
	W = WIDTH OF OFFSET IN FEET (METERS)
	S = NORMAL POSTED SPEED MPH (KM/H)
2. TYPE II BARRICADES OR DRUMS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES. TYPE II BARRICADES OR DRUMS WITH MONODIRECTIONAL STEADY BURN LIGHTS ARE REQUIRED FOR DELINEATING OBSTACLES, EXCAVATIONS, OR HAZARDS EXCEEDING 100 FT (30m) IN LENGTH AT NIGHT.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.
5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
  - a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
  - b. THE WORK ACTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.
8. 12' MIN. WIDTH TANGENT SECTION  
16' MIN. WIDTH CURVE SECTION.

SHOULDER CLOSURE DETAILS

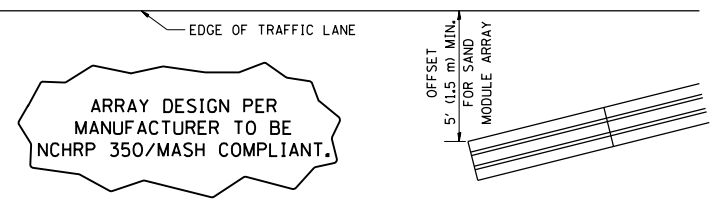


PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:  
 1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.



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

FILE NAME =	USER NAME = DEFEVX	DESIGNED -	REVISED - S.P.B. 01-07
pw:\11084EBID\INTEG\11084EBID\Documents\DOT Offices\District 1\Projects\11084EBID\Design\DWG\Std.dgn		DRWN -	REVISED - S.P.B. 12-09
Default	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - M.D. 06-13
	PLOT DATE = 8/31/2018	DATE - 11-96	REVISED - M.D. 01-18

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

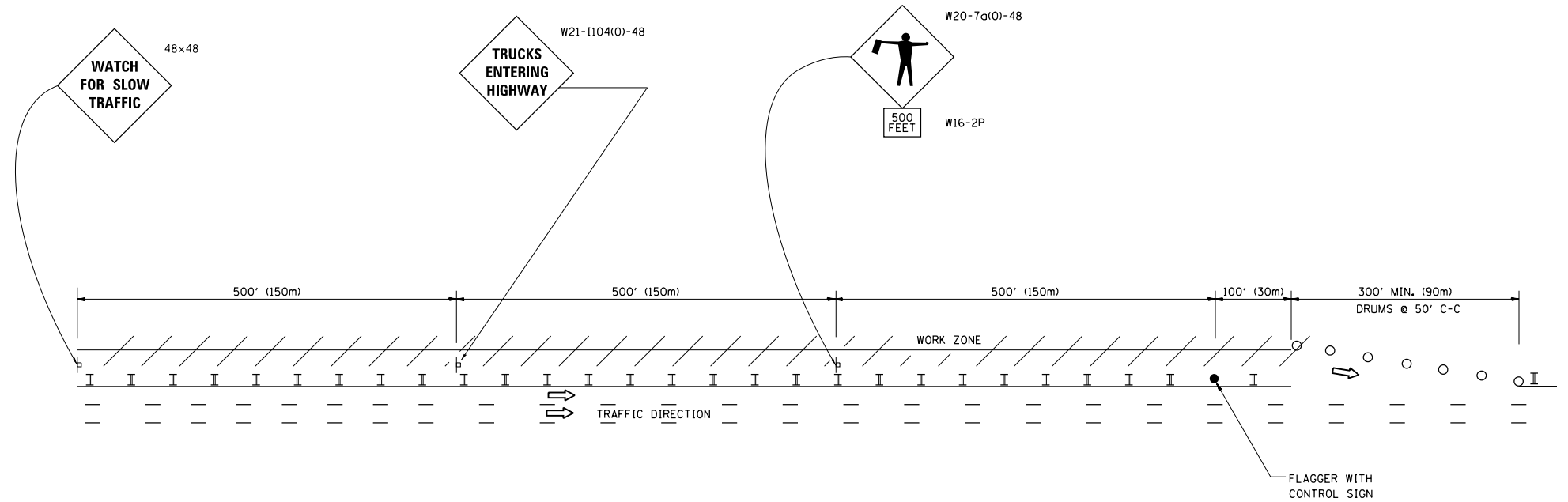
TRAFFIC CONTROL DETAILS FOR FREEWAY  
SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

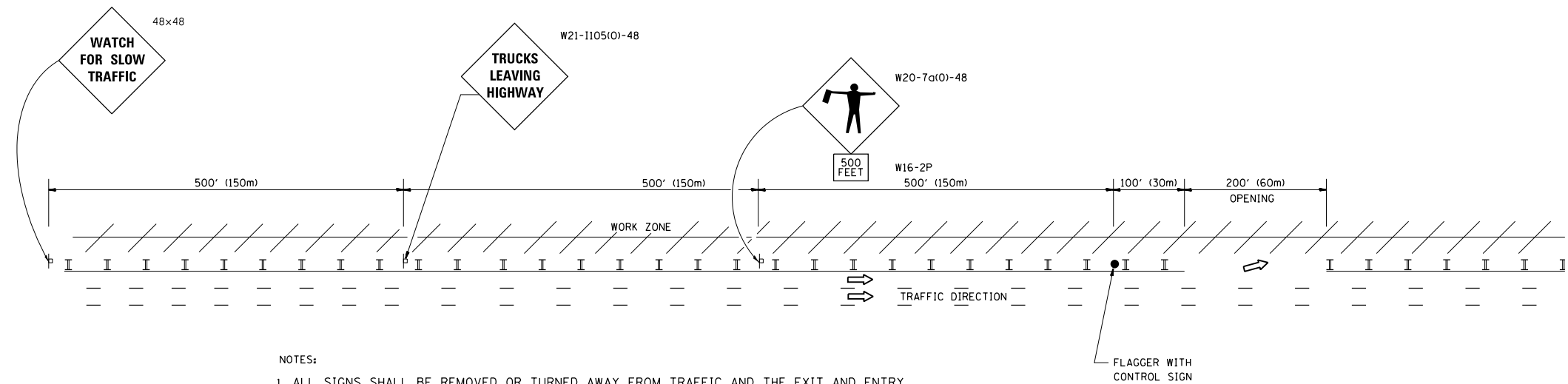
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-00BTS&I	COOK	44	34
TC-17		CONTRACT NO. 62C21		
ILLINOIS FED. AID PROJECT				

# SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

## WORK ZONE EXIT OPENING



## WORK ZONE ENTRY OPENING

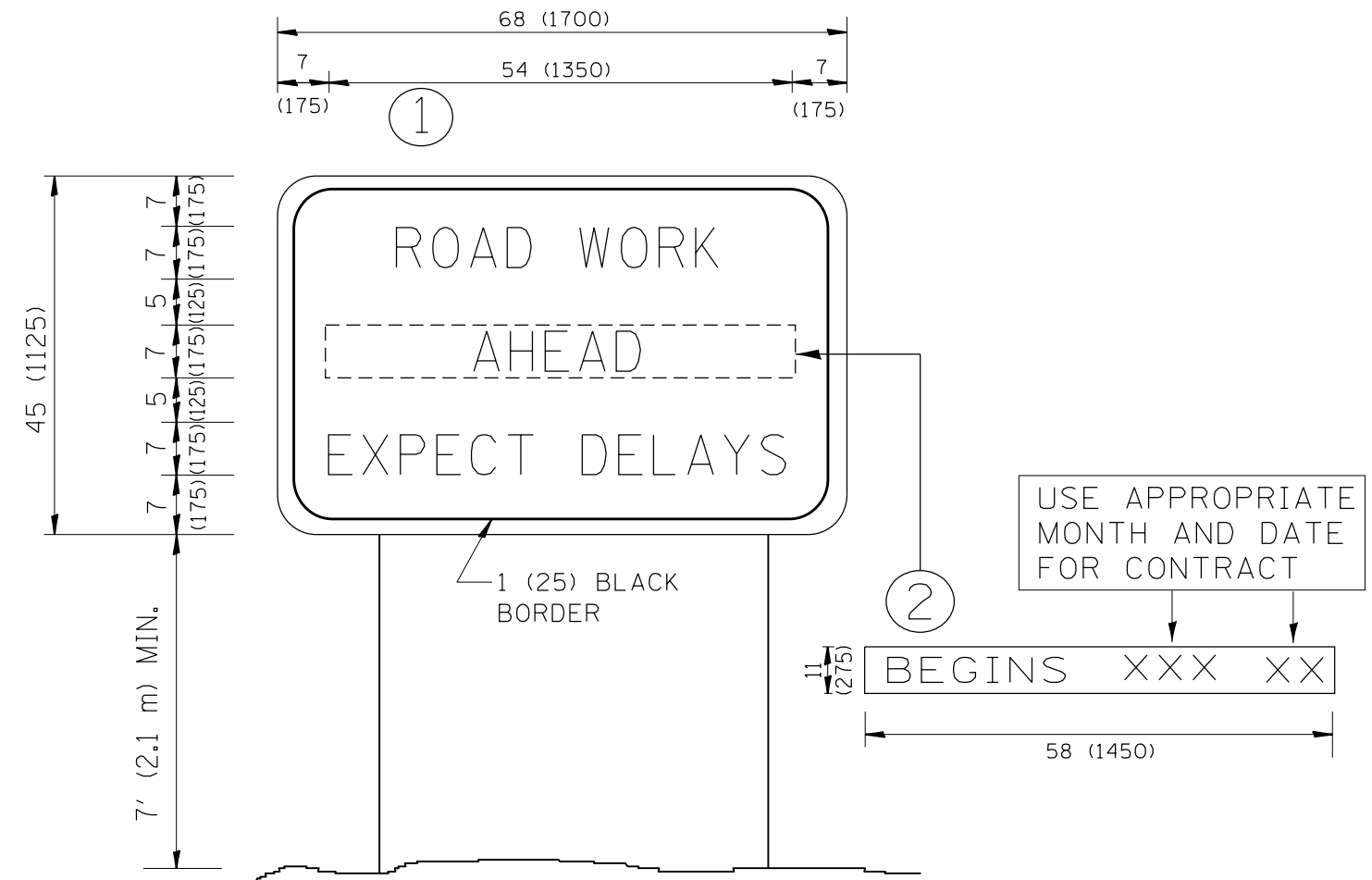


**NOTES:**

1. ALL SIGNS SHALL BE REMOVED OR TURNED AWAY FROM TRAFFIC AND THE EXIT AND ENTRY OPENINGS SHALL BE CLOSED WHEN THE FLAGGING OPERATION CEASES. NON OPERATING EQUIPMENT SHALL COMPLY WITH ARTICLE 701.11
2. WORK ZONE OPENINGS SHALL BE A MINIMUM OF ONE HALF MILE APART AND A MINIMUM OF ONE QUARTER MILE FROM ALL ENTRANCE AND EXIT RAMPS.
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
5. FLAGGERS SHALL NOT STOP TRAFFIC OR DIRECT TRAFFIC INTO AN ADJACENT LANE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

FILE NAME =	USER NAME = DEFEXV	DESIGNED -	REVISED - J.A.F. 02-06	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>FREEWAY/EXPRESSWAY SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS ON FREEWAYS/EXPRESSWAYS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
pw:\IL\084EBIDINTEG.illinois.gov\PIDOT\Documents\IDOT Offices\District 1\Projects\DI304\Drawings\Design\DistStd.dgn		REVISED - S.P.B. 01-07	REVISED - S.P.B. 12-09			330	2016-00BTS&I	COOK	44	35	
PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - M.D. 06-13				<b>TC-18</b>		<b>CONTRACT NO. 62C21</b>			
PLOT DATE = 8/31/2018	DATE -					SCALE: NONE		SHEET NO. 1 OF 1 SHEETS		STA. TO STA.	



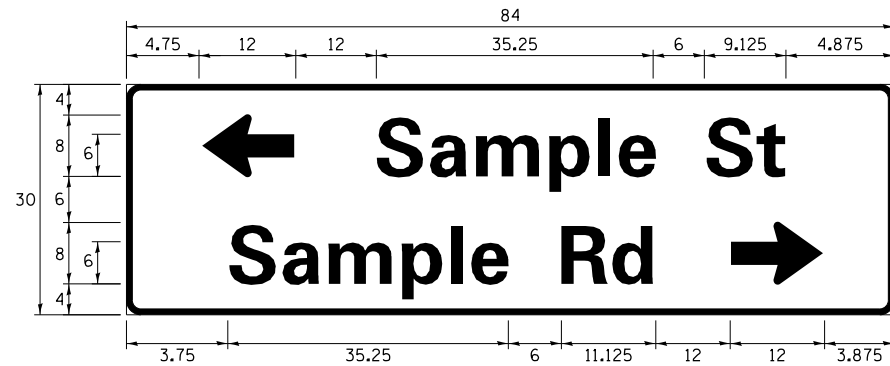
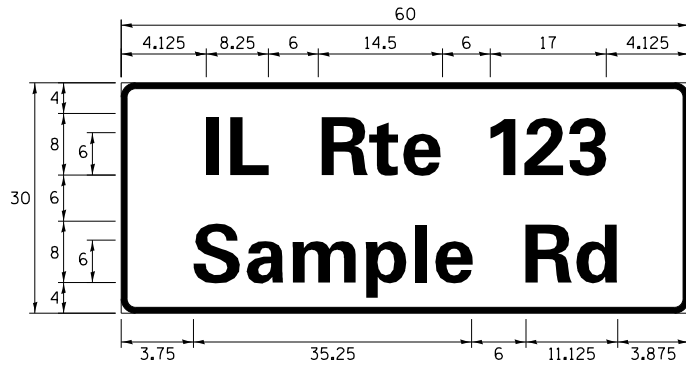
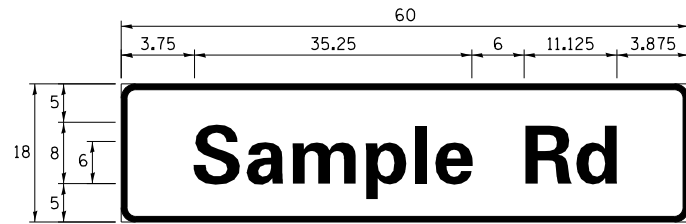
**NOTES:**

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 = DEFEVY	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.
p:\11\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\DOT Offices\District 1\Projects\DI304\Drawings\Design\DistStd.dgn		REVISED - R. MIRS 12-11-97	REVISED - T. RAMMACHER 02-02-99			330	2016-008TS&I	COOK	44	36
PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - C. JUCIUS 01-31-07				<b>TC-22</b>		<b>CONTRACT NO. 62C21</b>		
PLOT DATE = 8/31/2018	DATE -					SCALE: NONE		SHEET NO. 1 OF 1 SHEETS		STA. TO STA.

**SIGN PANEL – TYPE 1 OR TYPE 2**



DESIGN SERIES	AREA ( SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D OR C	-	1 OR 2	ZZ	-

ALL DIMENSIONS ARE IN INCHES EXCEPT NOTED OTHERWISE

**COMMON STREET NAME ABBREVIATIONS AND WIDTHS**

NAME	ABBREVIATION	WIDTH ( INCH)	
		SERIES "C"	SERIES "D"
AVENUE	Ave	15.000	18.250
BOULEVARD	Blvd	17.125	20.000
CIRCLE	Cir	11.125	13.000
COURT	Ct	8.250	9.625
DRIVE	Dr	8.625	10.125
HIGHWAY	Hwy	18.375	22.000
ILLINOIS	IL	7.000	8.250
LANE	Ln	9.125	10.750
PARKWAY	Pkwy	23.375	27.375
PLACE	Pl	7.125	7.750
ROAD	Rd	9.625	11.125
ROUTE	Rte	12.625	14.500
STREET	St	8.000	9.125
TERRACE	Ter	12.625	14.625
TRAIL	Tr	7.750	9.125
UNITED STATES	US	10.375	12.250

**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 877001, 877002, 877006, 877011 AND 877012, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 8'-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 CONSIST OF A WHITE LEGEND AND BORDER (TYPE ZZ SHEETING) ON A GREEN BACKGROUND (TYPE ZZ SHEETING)
- THE SIGN LENGTH SHALL BE IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHALL NOT EXCEED 8'-0". ALL BORDERS SHALL BE 3/4" WIDE. CORNER RADIUS SHALL BE 1-7/8". THE SPACING BETWEEN THE WORDS SHOULD BE 6", IF POSSIBLE, BUT MAY BE REDUCED TO 5" WHEN SPACING IS CRITICAL. A MINIMUM OF 2-1/2" SHALL BE INCLUDED BETWEEN THE WORD AND THE RIGHT AND LEFT EDGES OF THE SIGN.
- A PREFERRED METHOD FOR THE SIGN DESIGN IS TO USE SERIES "D" LETTER ON A ONE-LINE SIGN 18" IN HEIGHT AND A MAXIMUM OF 8'-0" IN WIDTH. IF SERIES "D" DOES NOT FIT ON A 8'-0" SIGN, THEN SERIES "C" SHOULD BE TRIED. IF SERIES "C" DOES NOT FIT ON A 8'-0" SIGN, A 30" HIGH TWO-LINE SIGN CAN BE USED. THE CROSSROAD DESIGNATION AS TO STREET, AVENUE, ETC. SHOULD BE SPELLED OUT ON THE SECOND LINE, IF THE ABBREVIATION CANNOT FIT ON THE FIRST LINE.
- LED ILLUMINATED STREET NAME SIGNS CAN BE USED IN PLACE OF REGULAR SIGN PANELS BUT ANY SPECIAL WORDING AND SYMBOLOGY MUST BE APPROVED BY THE DEPARTMENT. GENERAL DESIGN REQUIREMENT AS LISTED ABOVE (COLOR, FONT, SIZE, ETC.) MUST BE FOLLOWED.
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS.

**LOCAL SUPPLIERS:**

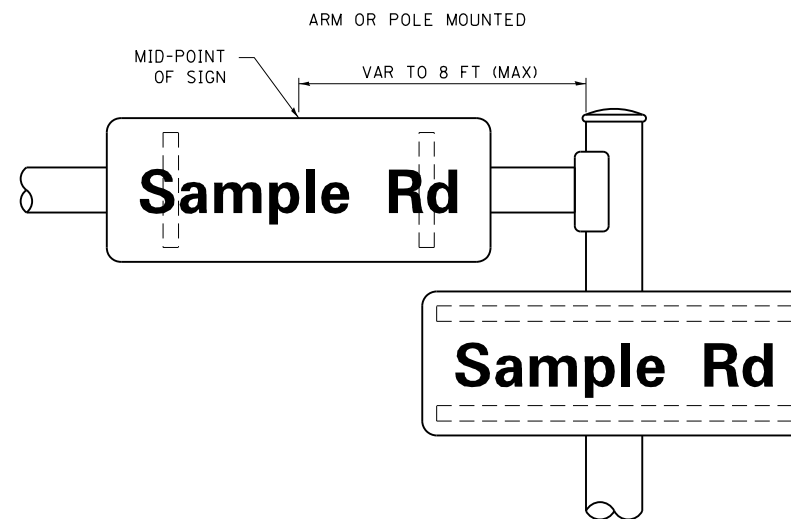
- J.O. HERBERT COMPANY, INC  
MIDLOTHIAN, VA
- WESTERN REMAC, INC.  
WOODRIDGE, IL

**PARTS LISTING:**

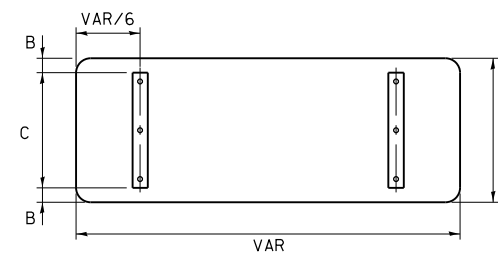
- SIGN CHANNEL PART \*HPN053 (MED. CHANNEL)  
1/4" x 14 x 1" H.W.H. #3  
SELF TAPPING WITH NEOPRENE WASHER
- SIGN SCREWS PART \*HPN034 (UNIVERSAL)  
CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING
- BRACKETS

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

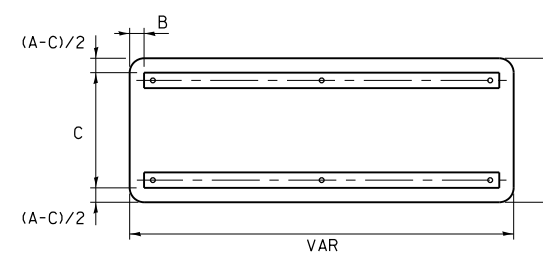
**MOUNTING LOCATION**



**SUPPORTING CHANNELS**



A	B	C
18"	2"	14"
30"	2"	24"



A	B	C
18"	2"	12"
30"	2"	22"

**STANDARD ALPHABETS SPACING CHART**

( 8" ) UPPER CASE AND ( 6" ) LOWER CASE

CHARACTER	FHWA SERIES "C"			FHWA SERIES "D"			
	LEFT SPACING ( INCH)	WIDTH ( INCH)	RIGHT SPACING ( INCH)	CHARACTER	LEFT SPACING ( INCH)	WIDTH ( INCH)	RIGHT SPACING ( INCH)
A	0.240	5.122	0.240	A	0.240	6.804	0.240
B	0.880	4.482	0.480	B	0.960	5.446	0.400
C	0.720	4.482	0.720	C	0.800	5.446	0.800
D	0.880	4.482	0.720	D	0.960	5.446	0.800
E	0.880	4.082	0.480	E	0.960	4.962	0.400
F	0.880	4.082	0.240	F	0.960	4.962	0.240
G	0.720	4.482	0.720	G	0.800	5.446	0.800
H	0.880	4.482	0.880	H	0.960	5.446	0.960
I	0.880	1.120	0.880	I	0.960	1.280	0.960
J	0.240	4.082	0.880	J	0.240	5.122	0.960
K	0.880	4.482	0.480	K	0.960	5.604	0.400
L	0.880	4.082	0.240	L	0.960	4.962	0.240
M	0.880	5.284	0.880	M	0.960	6.244	0.960
N	0.880	4.482	0.880	N	0.960	5.446	0.960
O	0.720	4.722	0.720	O	0.800	5.684	0.800
P	0.880	4.482	0.720	P	0.960	5.446	0.240
Q	0.720	4.722	0.720	Q	0.800	5.684	0.800
R	0.880	4.482	0.480	R	0.960	5.446	0.400
S	0.480	4.482	0.480	S	0.400	5.446	0.400
T	0.240	4.082	0.240	T	0.240	4.962	0.240
U	0.880	4.482	0.880	U	0.960	5.446	0.960
V	0.240	4.962	0.240	V	0.240	6.084	0.240
W	0.240	6.084	0.240	W	0.240	7.124	0.240
X	0.240	4.722	0.240	X	0.400	5.446	0.400
Y	0.240	5.122	0.240	Y	0.240	6.884	0.240
Z	0.480	4.482	0.480	Z	0.400	5.446	0.400
a	0.320	3.842	0.640	a	0.400	4.562	0.720
b	0.720	4.082	0.480	b	0.800	4.802	0.480
c	0.480	4.002	0.240	c	0.480	4.722	0.240
d	0.480	4.082	0.720	d	0.480	4.802	0.800
e	0.480	4.082	0.320	e	0.480	4.722	0.320
f	0.320	2.480	0.160	f	0.320	2.882	0.160
g	0.480	4.082	0.720	g	0.480	4.802	0.800
h	0.720	4.082	0.640	h	0.800	4.722	0.720
i	0.720	1.120	0.720	i	0.800	1.280	0.800
j	0.000	2.320	0.720	j	0.000	2.642	0.800
k	0.720	4.322	0.160	k	0.800	5.122	0.160
l	0.720	1.120	0.720	l	0.800	1.280	0.800
m	0.720	6.724	0.640	m	0.800	7.926	0.720
n	0.720	4.082	0.640	n	0.800	4.722	0.720
o	0.480	4.082	0.480	o	0.480	4.882	0.480
p	0.720	4.082	0.480	p	0.800	4.802	0.480
q	0.480	4.082	0.720	q	0.480	4.802	0.800
r	0.720	2.642	0.160	r	0.800	3.042	0.160
s	0.320	3.362	0.240	s	0.320	3.762	0.240
t	0.080	2.882	0.080	t	0.080	3.202	0.080
u	0.640	4.082	0.720	u	0.720	4.722	0.800
v	0.160	4.722	0.160	v	0.160	5.684	0.160
w	0.160	7.524	0.160	w	0.160	9.046	0.160
x	0.000	5.202	0.000	x	0.000	6.244	0.000
y	0.160	4.962	0.160	y	0.160	6.004	0.160
z	0.240	3.362	0.240	z	0.240	4.002	0.240
1	0.720	1.680	0.880	1	0.800	2.000	0.960
2	0.480	4.482	0.480	2	0.800	5.446	0.800
3	0.480	4.482	0.480	3	1.440	5.446	0.800
4	0.240	4.962	0.720	4	0.160	6.004	0.960
5	0.480	4.482	0.480	5	0.800	5.446	0.800
6	0.720	4.482	0.720	6	0.800	5.446	0.800
7	0.240	4.482	0.720	7	0.560	5.446	0.560
8	0.480	4.482	0.480	8	0.800	5.446	0.800
9	0.480	4.482	0.480	9	0.800	5.446	0.800
0	0.720	4.722	0.720	0	0.800	5.684	0.800
-	0.240	2.802	0.240	-	0.240	2.802	0.240

# TRAFFIC SIGNAL LEGEND

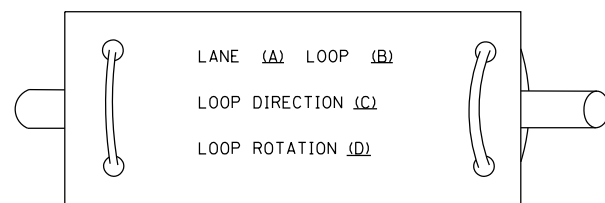
(NOT TO SCALE)

ITEM	EXISTING	PROPOSED	ITEM	EXISTING	PROPOSED	ITEM	EXISTING	PROPOSED
CONTROLLER CABINET			HANDHOLE -SQUARE -ROUND	 	 	SIGNAL HEAD -(P) PROGRAMMABLE SIGNAL HEAD		
COMMUNICATION CABINET			HEAVY DUTY HANDHOLE -SQUARE -ROUND	 	 	SIGNAL HEAD WITH BACKPLATE -(P) PROGRAMMABLE SIGNAL HEAD -(RB) RETROREFLECTIVE BACKPLATE		
MASTER CONTROLLER			DOUBLE HANDHOLE			PEDESTRIAN SIGNAL HEAD AT RAILROAD INTERSECTIONS		
MASTER MASTER CONTROLLER			JUNCTION BOX			PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER		
UNINTERRUPTABLE POWER SUPPLY			RAILROAD CANTILEVER MAST ARM			ILLUMINATED SIGN "NO LEFT TURN"/"NO RIGHT TURN"		
SERVICE INSTALLATION -(P) POLE MOUNTED			RAILROAD FLASHING SIGNAL			NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED		
SERVICE INSTALLATION -(G) GROUND MOUNTED -(GM) GROUND MOUNTED METERED	 	 	RAILROAD CROSSING GATE			GROUND CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN)		
TELEPHONE CONNECTION			RAILROAD CROSSBUCK			ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1/C		
STEEL MAST ARM ASSEMBLY AND POLE			RAILROAD CONTROLLER CABINET			COAXIAL CABLE		
ALUMINUM MAST ARM ASSEMBLY AND POLE			UNDERGROUND CONDUIT (UC), GALVANIZED STEEL			VENDOR CABLE		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE			TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE			COPPER INTERCONNECT CABLE, NO. 18, 3 PAIR TWISTED, SHIELDED		
SIGNAL POST -(BM) BARREL MOUNTED - TEMPORARY		 	SYSTEM ITEM	S	SP	FIBER OPTIC CABLE -NO. 62.5/125, MM12F -NO. 62.5/125, MM12F SM12F -NO. 62.5/125, MM12F SM24F		
WOOD POLE			INTERSECTION ITEM	I	IP	GROUND ROD -(C) CONTROLLER -(M) MAST ARM -(P) POST -(S) SERVICE		
GUY WIRE			REMOVE ITEM		R			
SIGNAL HEAD			RELOCATE ITEM		RL			
SIGNAL HEAD WITH BACKPLATE			ABANDON ITEM		A			
SIGNAL HEAD OPTICALLY PROGRAMMED			CONTROLLER CABINET AND FOUNDATION TO BE REMOVED		RCF			
FLASHER INSTALLATION -(FS) SOLAR POWERED	 	 	MAST ARM POLE AND FOUNDATION TO BE REMOVED		RMF			
PEDESTRIAN SIGNAL HEAD			SIGNAL POST AND FOUNDATION TO BE REMOVED		RPF			
PEDESTRIAN PUSH BUTTON -(APS) ACCESSIBLE PEDESTRIAN PUSH BUTTON	 	 	DETECTOR LOOP, TYPE I					
RADAR DETECTION SENSOR			PREFORMED DETECTOR LOOP					
VIDEO DETECTION CAMERA			SAMPLING (SYSTEM) DETECTOR					
RADAR/VIDEO DETECTION ZONE			INTERSECTION AND SAMPLING (SYSTEM) DETECTOR					
PAN, TILT, ZOOM (PTZ) CAMERA			QUEUE AND SAMPLING (SYSTEM) DETECTOR					
EMERGENCY VEHICLE LIGHT DETECTOR			WIRELESS DETECTOR SENSOR					
CONFIRMATION BEACON			WIRELESS ACCESS POINT					
WIRELESS INTERCONNECT								
WIRELESS INTERCONNECT RADIO REPEATER								

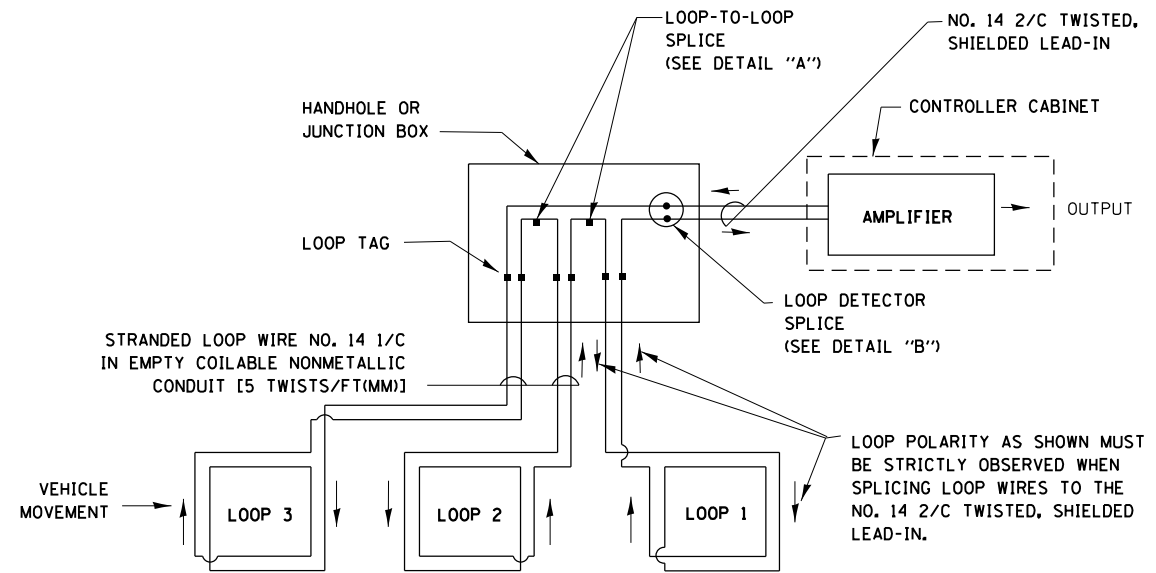
**LOOP DETECTOR NOTES**

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT 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**

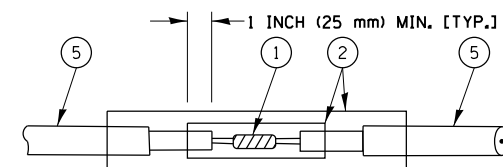


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

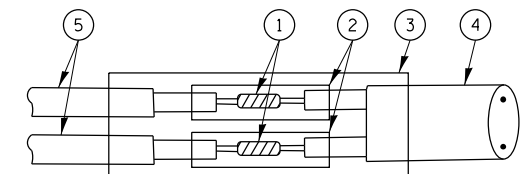


**DETECTOR LOOP WIRING SCHEMATIC**

- 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.

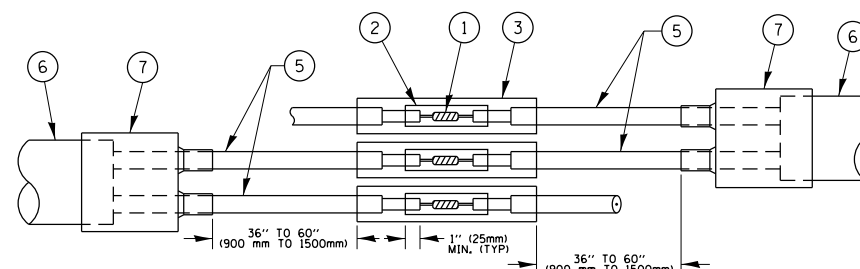


DETAIL "A"  
LOOP-TO-LOOP SPLICE

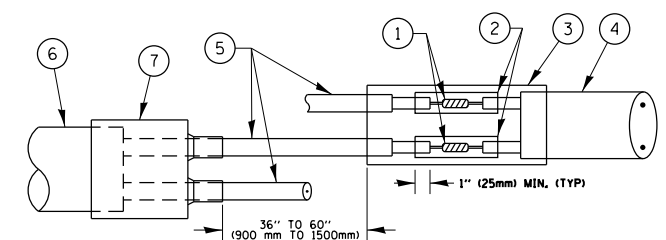


DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

**TYPE I LOOP**



DETAIL "A"  
LOOP-TO-LOOP SPLICE



DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

**PRE-FORMED LOOP**

**LOOP DETECTOR SPLICE**

- 1 WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH, THE WESTERN UNION SPLICES SHALL BE STAGGERED.
- 2 WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- 3 WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- 4 NO. 14 2/C TWISTED, SHIELDED CABLE.
- 5 LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- 6 PRE-FORMED LOOP
- 7 XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS, TYCO CBR-2 OR APPROVED EQUAL

FILE NAME =	USER NAME = DEFEXV	DESIGNED -	REVISED -
pw:\IL\084EBID\INTEG\Illinois.gov\PIWIDOT\Documents\DOT Offices\District 1\Projects\DI304\Drawings\Design\DistStd.dgn		CHECKED -	REVISED -
Default	PLOT DATE = 8/31/2018	DATE -	REVISED -

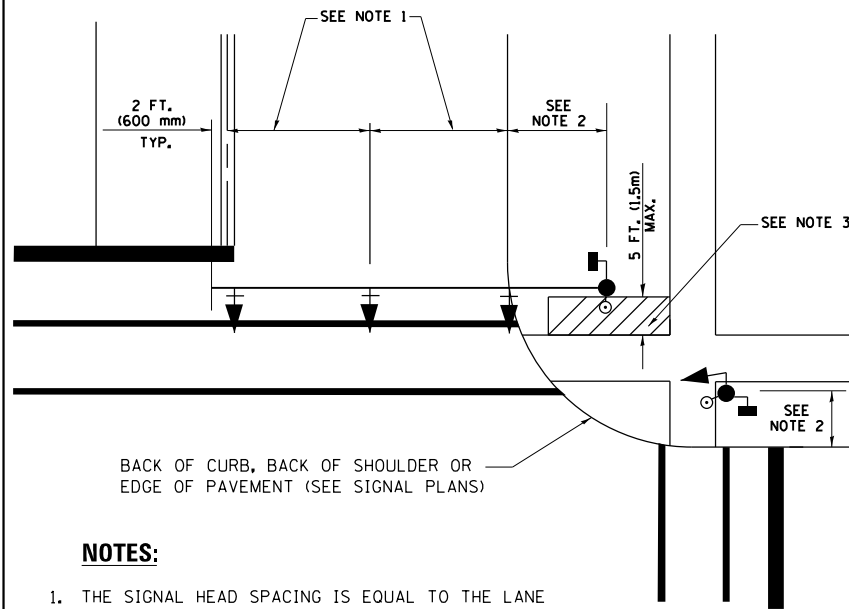
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET 2 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008TS&I	COOK	44	39
TS-05		CONTRACT NO. 62C21		
ILLINOIS FED. AID PROJECT				

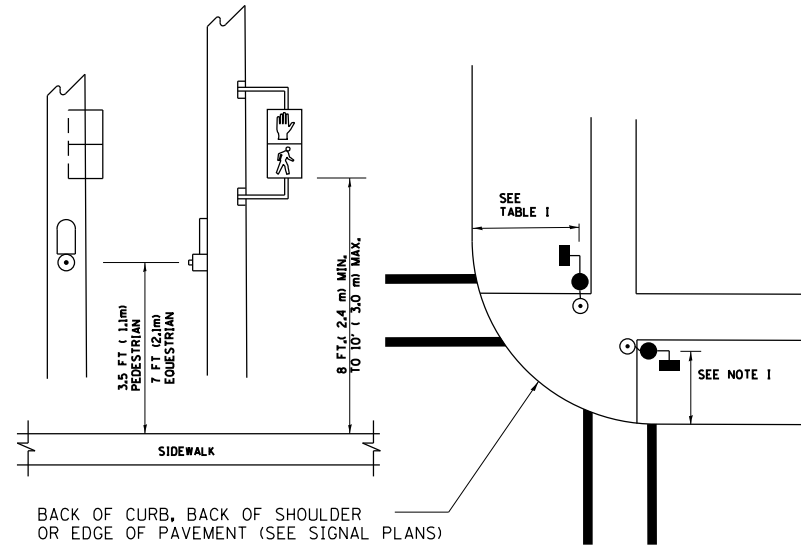
**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST  
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR  
FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN  
WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.**



**NOTES:**

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

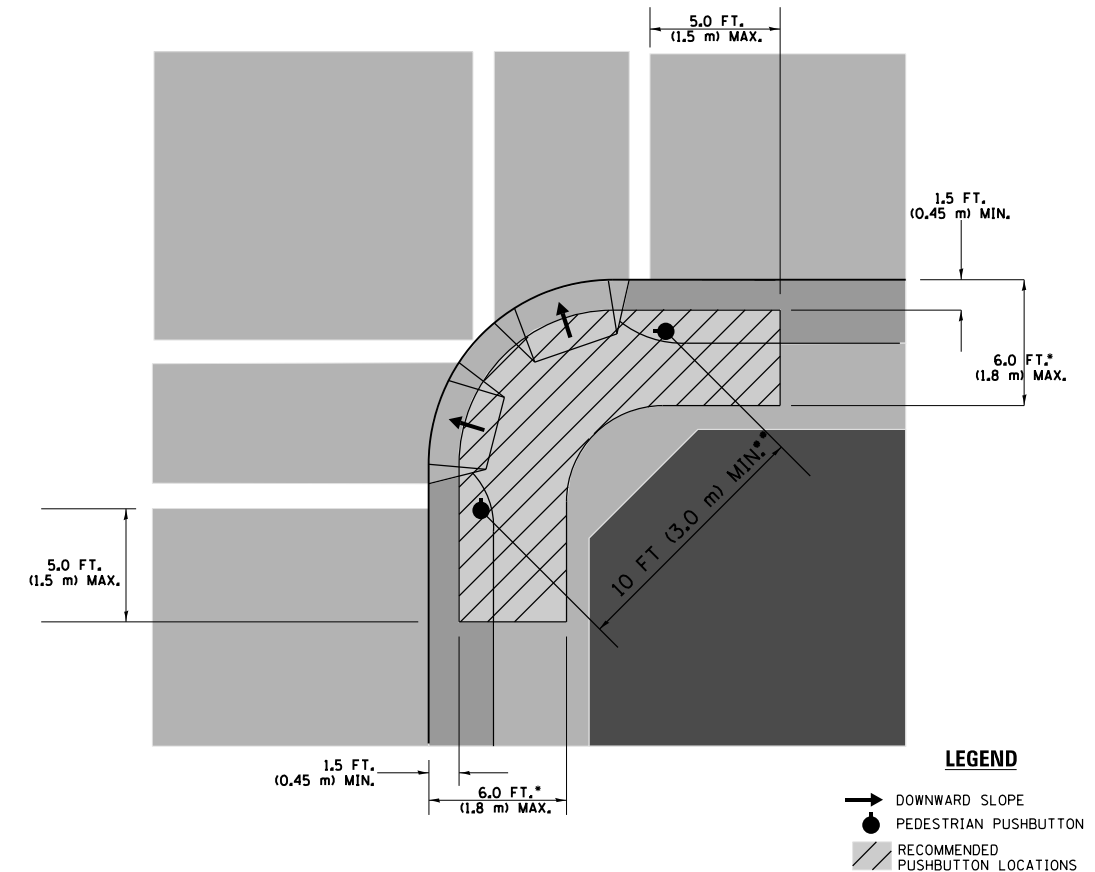
**PEDESTRIAN SIGNAL POST  
AND  
PEDESTRIAN PUSH BUTTON POST**



**NOTES:**

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

**RECOMMENDED PUSHBUTTON LOCATIONS**



- WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT ( 1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

**NOTES:**

1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

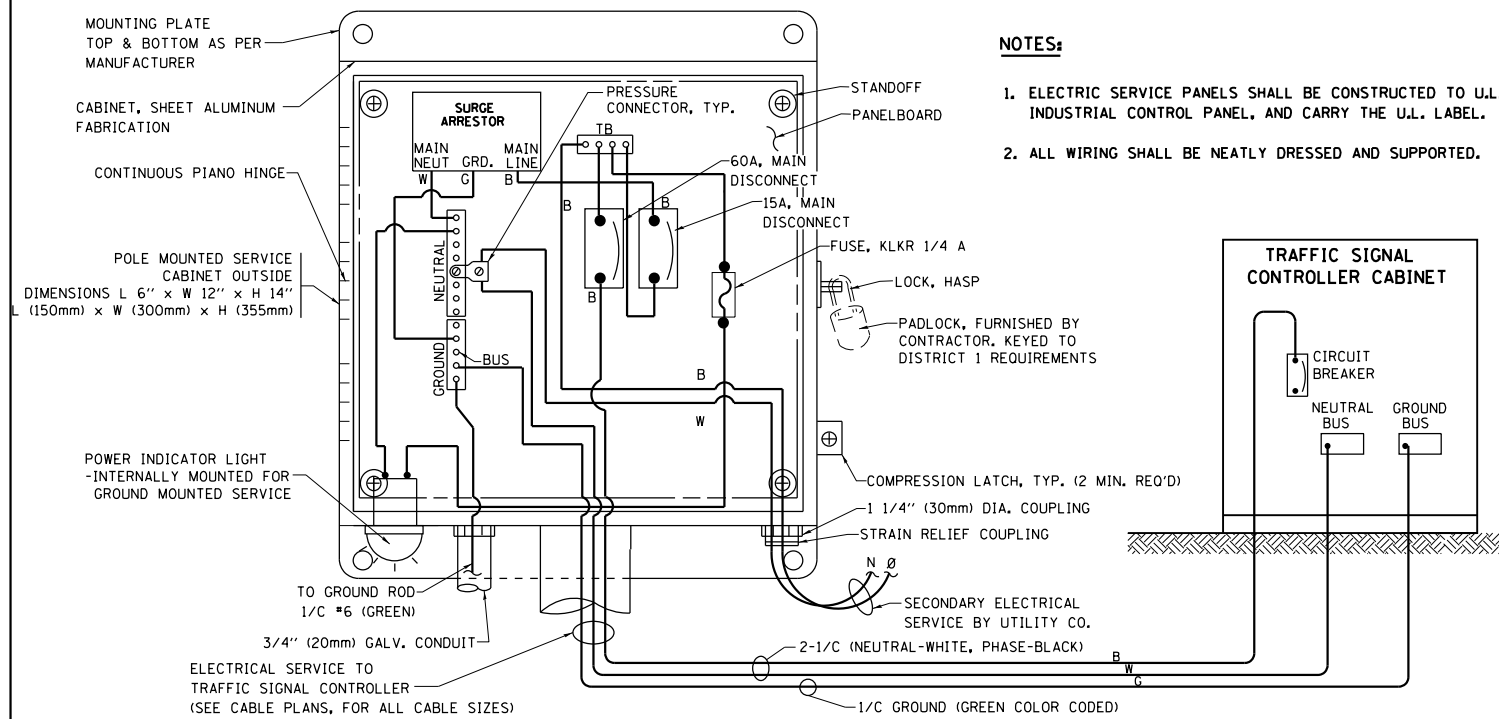
**TRAFFIC SIGNAL EQUIPMENT OFFSET**

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

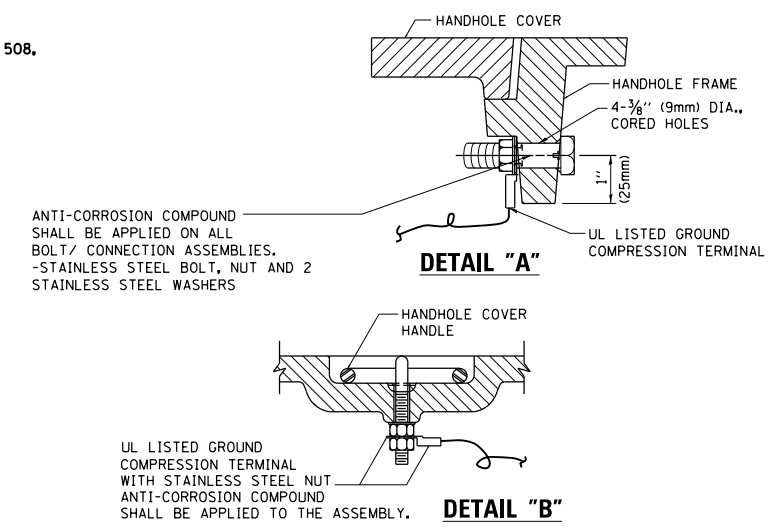
**NOTES:**

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.



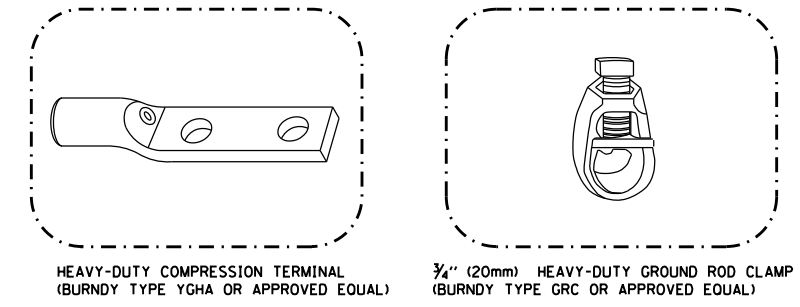
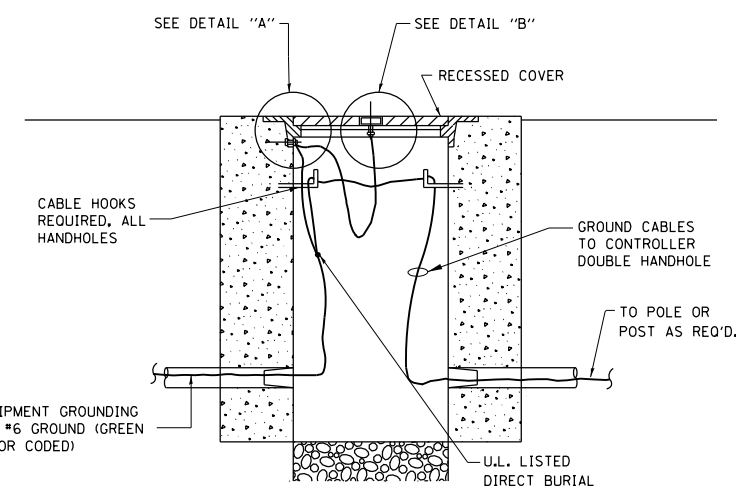


**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE) SERVICE INSTALLATION POLE MOUNT (SHOWN) (NOT TO SCALE)**

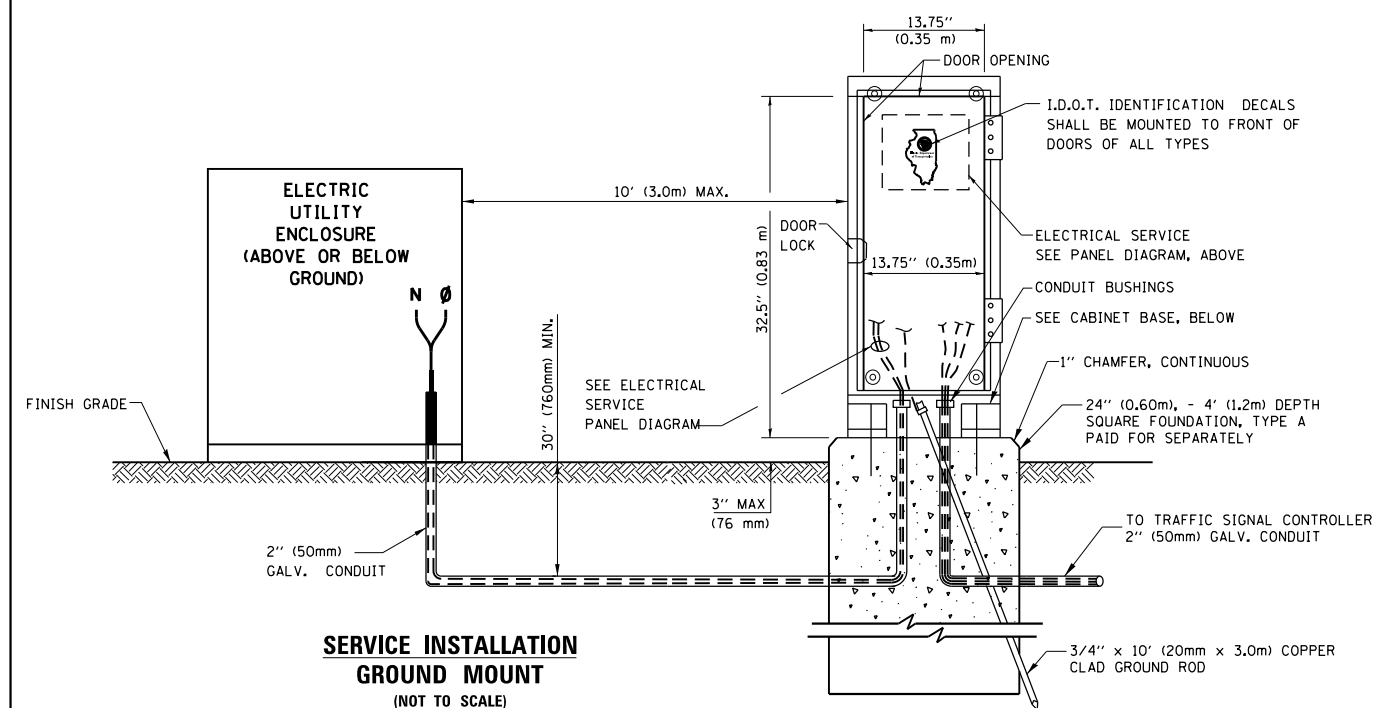
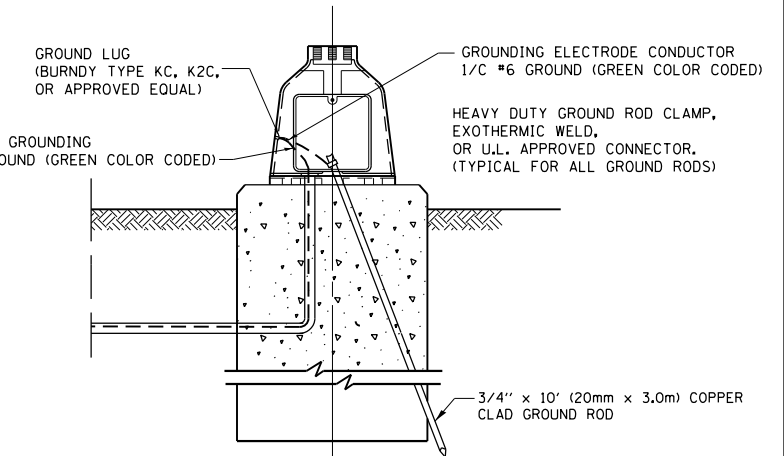
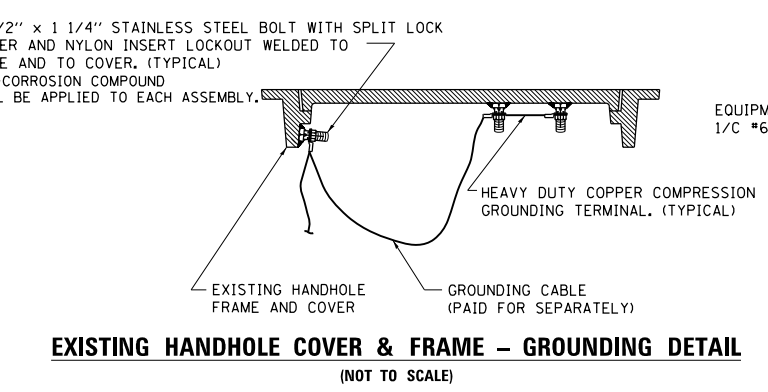


**NOTES:**  
**GROUNDING SYSTEM**

- 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 ENCLOSED. 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.
- 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.
- ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
- THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.

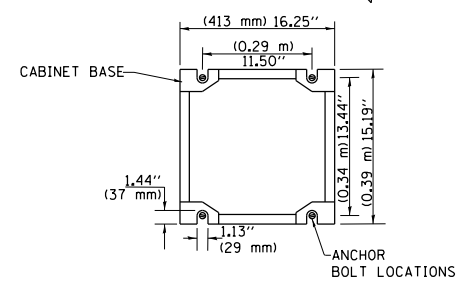


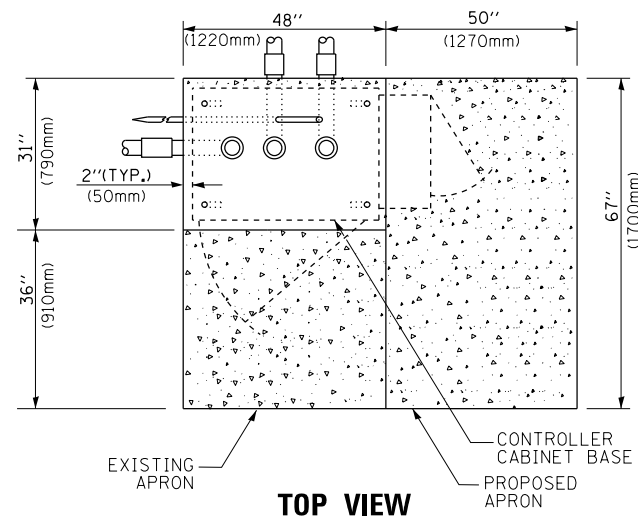
- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
  - GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



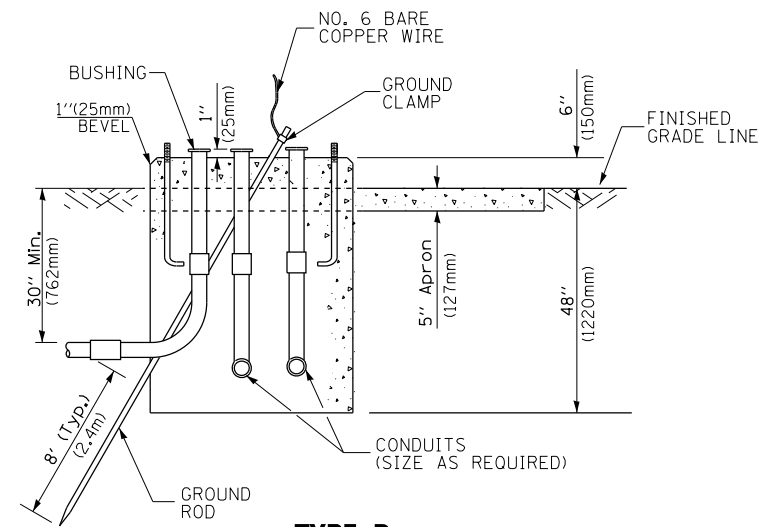
**SERVICE INSTALLATION GROUND MOUNT (NOT TO SCALE)**

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

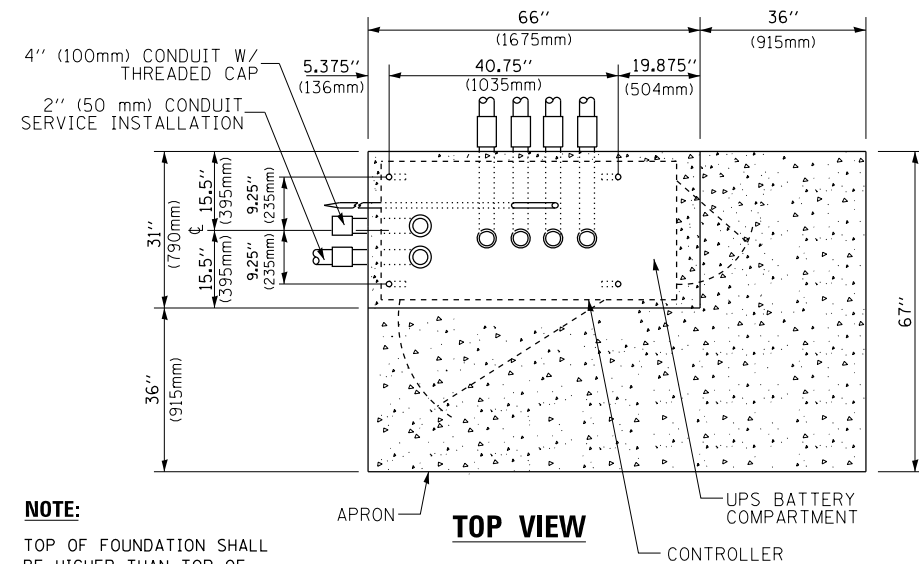




**TOP VIEW**

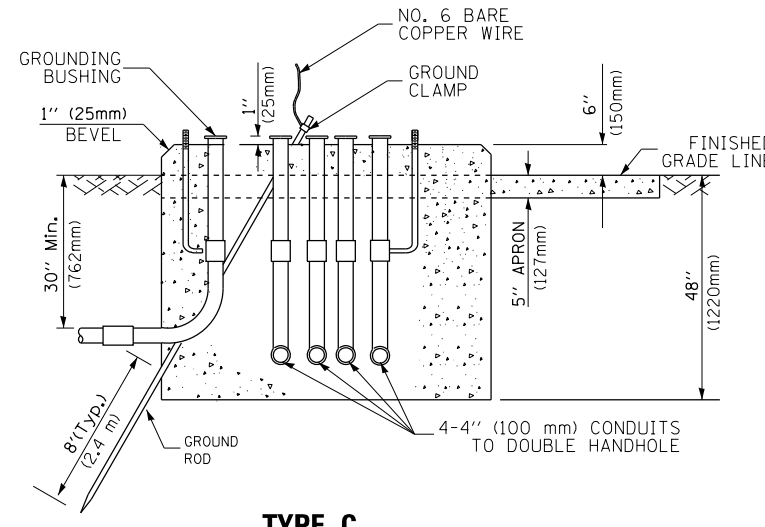


**TYPE D  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET**

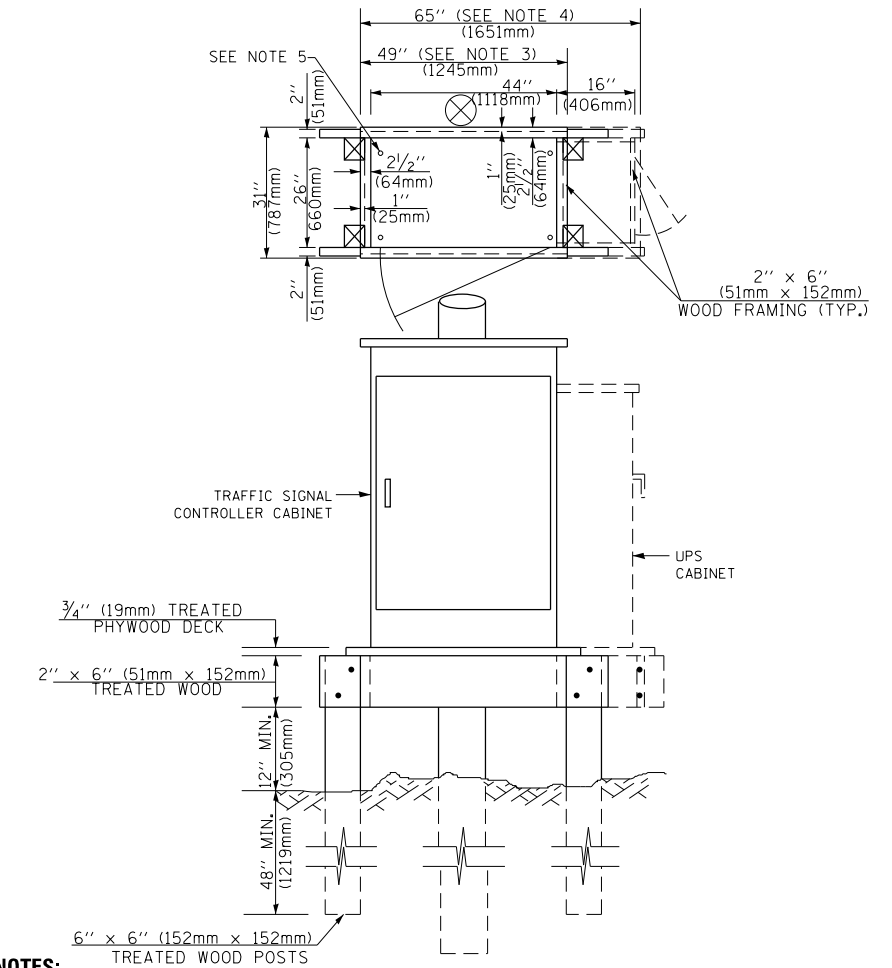


**TOP VIEW**

**NOTE:**  
TOP OF FOUNDATION SHALL BE HIGHER THAN TOP OF DOUBLE HANDHOLE



**TYPE C  
FOR GROUND MOUNTED  
SUPER P (TYPE IV) AND SUPER R (TYPE V)  
CONTROLLER CABINETS**



**NOTES:**

1. BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
2. BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
5. DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
6. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION..

**TEMPORARY SIGNAL CONTROLLER  
WOOD SUPPORT PLATFORM**

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

**CABLE SLACK**

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE ( MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

**VERTICAL CABLE LENGTH**

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

**DEPTH OF FOUNDATION**

MAST ARM LENGTH	① FOUNDATION DEPTH	FOUNDATION DIAMETER	SPIRAL DIAMETER	QUANTITY OF REBARS	SIZE OF REBARS
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 55' (16.8 m) and less than 65' (19.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 75' (22.9 m) and up to 85' (25.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

**NOTES:**

1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average unconfined compressive strength (qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & Structures should be contacted for a revised design if other conditions are encountered.
2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
4. For mast arm assemblies with dual arms refer to state standard 878001..

**DEPTH OF MAST ARM FOUNDATIONS, TYPE E**

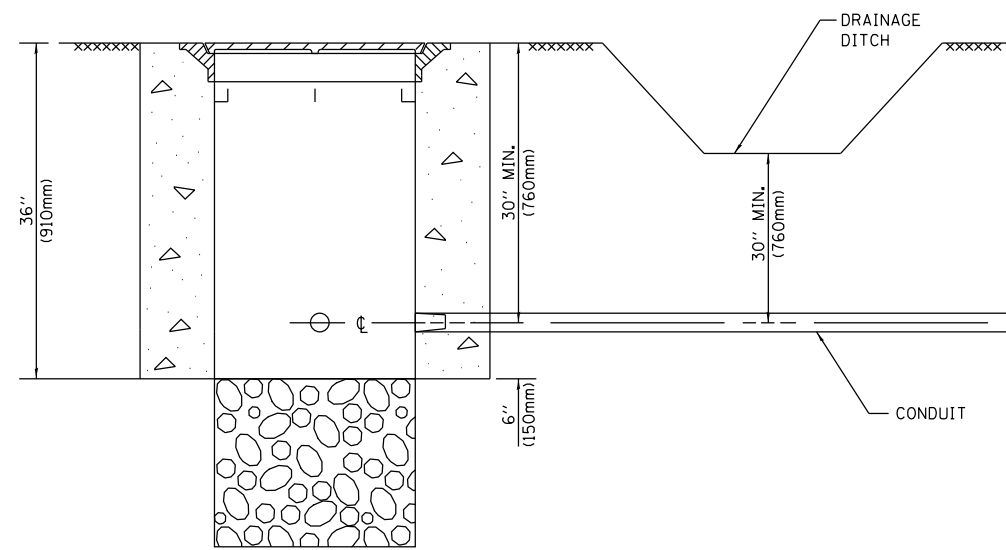
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET 5 OF 7 SHEETS STA. TO STA.

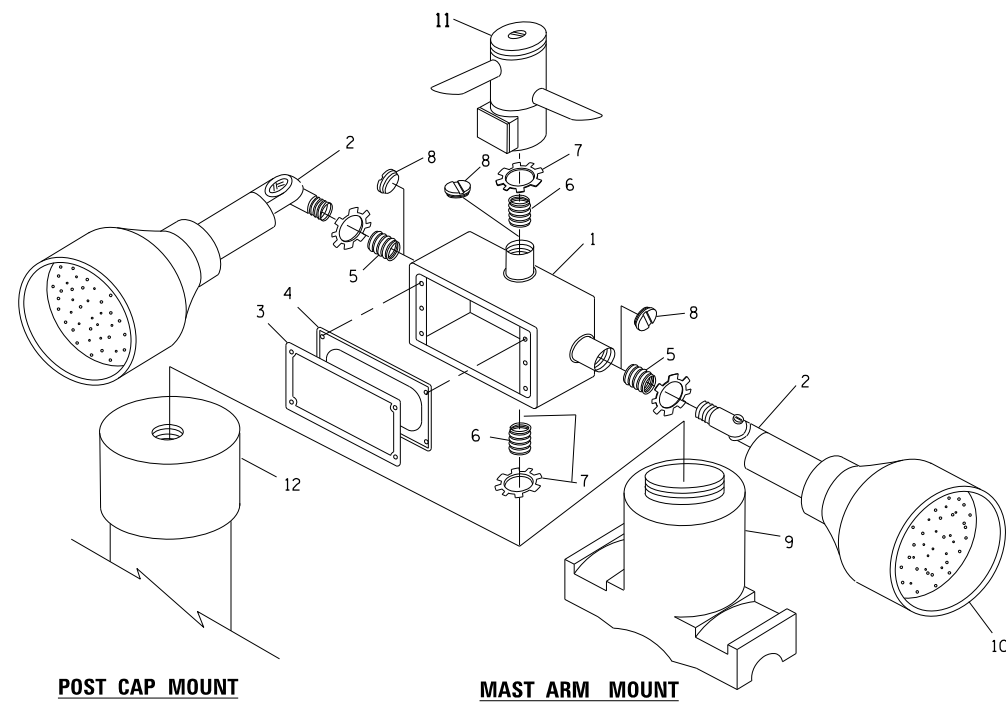
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<b>TS-05</b>		<b>CONTRACT NO. 62C21</b>		
ILLINOIS FED. AID PROJECT				



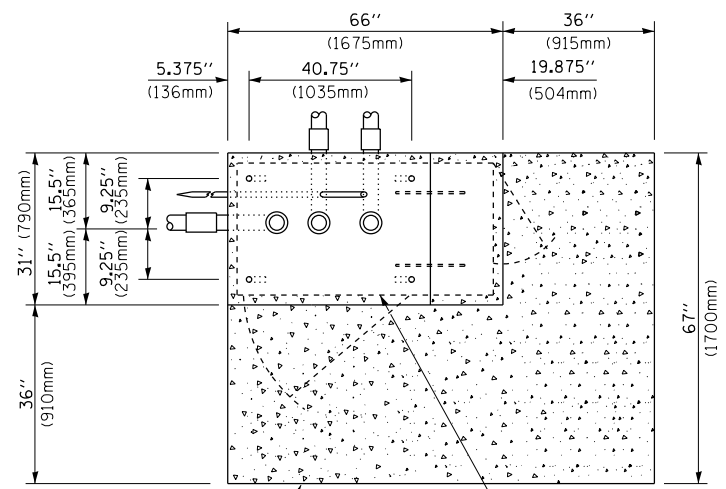
**NOTES:**

1. CONDUIT DEPTH SHALL BE A MINIMUM OF 30" (760mm) BELOW THE BOTTOM OF THE DRAINAGE DITCH OR ANY SLOPING GROUND
2. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL CONDUIT PLACED UNDER ROADWAY PAVEMENT, MULTI-USE PATHS, SIDEWALKS AND SOIL SURFACES.
3. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL HANDHOLES, HEAVY DUTY HANDHOLES AND DOUBLE HANDHOLES.

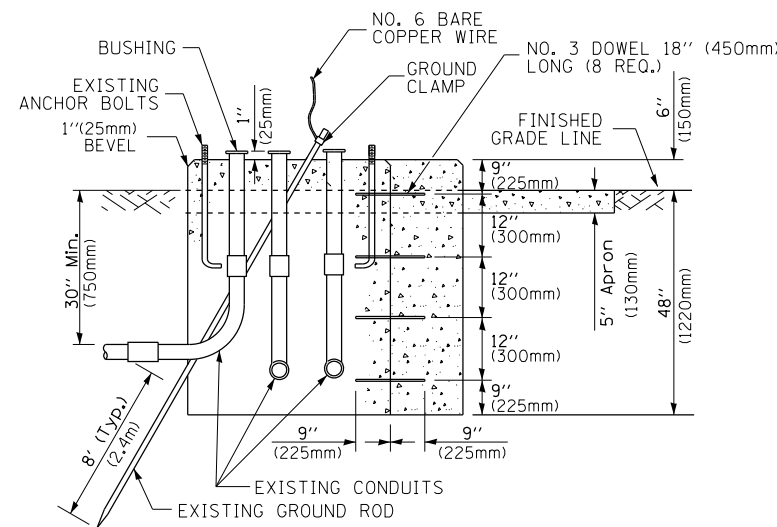
**HANDHOLE WITH MINIMUM CONDUIT DEPTH**  
(NOT TO SCALE)



**EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL**



**TOP VIEW**  
(NOT TO SCALE)

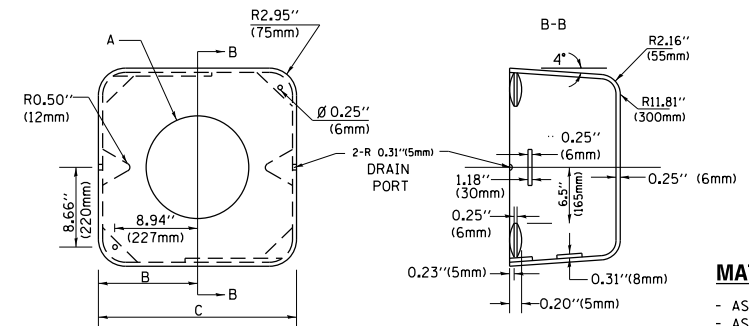


**MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION**  
(NOT TO SCALE)

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	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

**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-0-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 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.



A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5"(241mm)	19"(483mm)	7" (178mm) - 12" (300mm)	53 lbs (24kg)
VARIABLES	10.75"(273mm)	21.5"(546mm)	7" (178mm) - 12" (300mm)	68 lbs (31 kg)
VARIABLES	13.0"(330mm)	26"(660mm)	7" (178mm) - 12" (300mm)	81 lbs (37 kg)
VARIABLES	18.5"(470mm)	37"(940mm)	7" (178mm) - 12" (300mm)	126 lbs (57 kg)

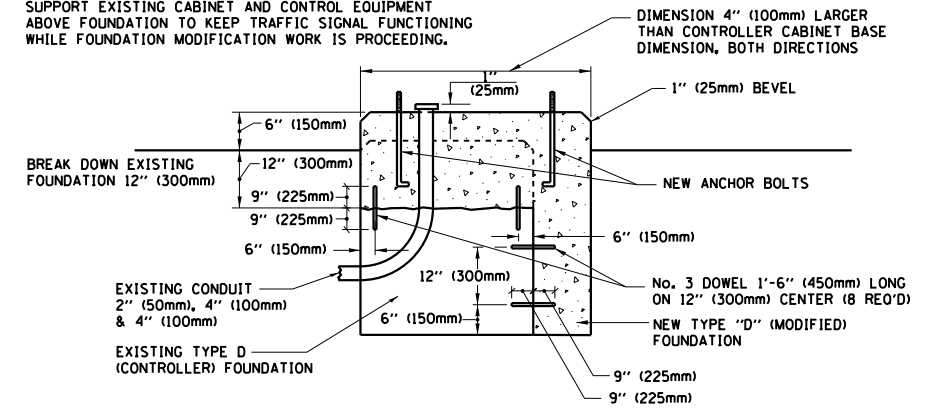
**SHROUD**

**NOTES:**

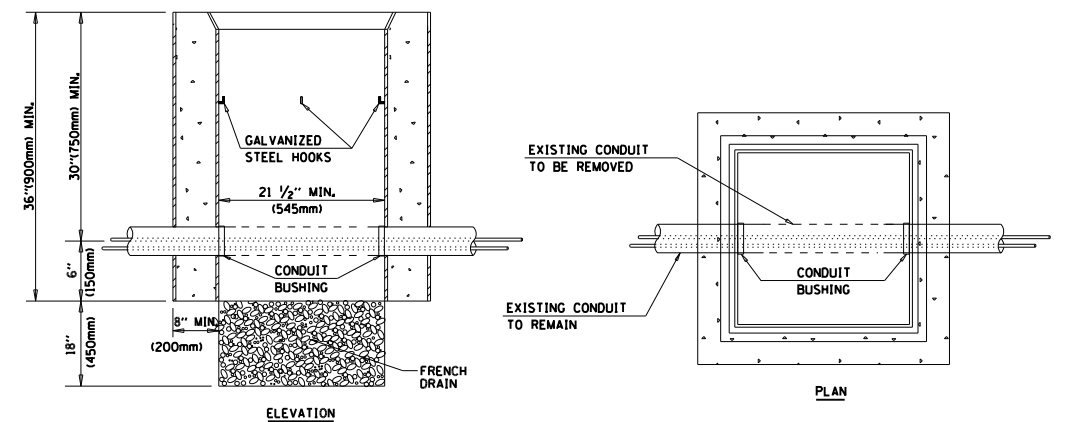
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

**NOTE:**

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



**MODIFY EXISTING TYPE "D" FOUNDATION**



**NOTES:**

1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCLUDED WITH THE COST OF THE HANDHOLE.

**HANDHOLE TO INTERCEPT EXISTING CONDUIT**

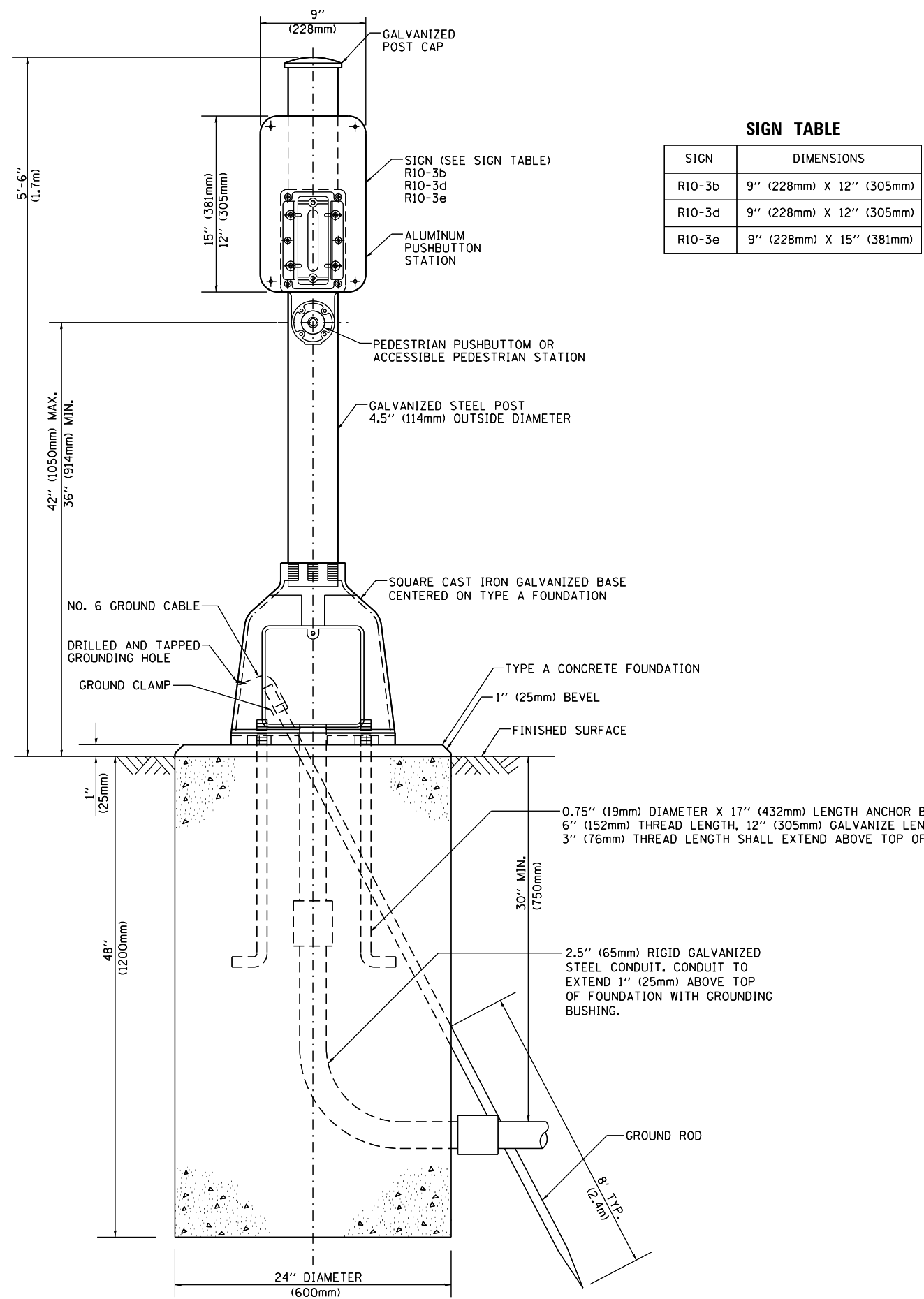
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE**  
**STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

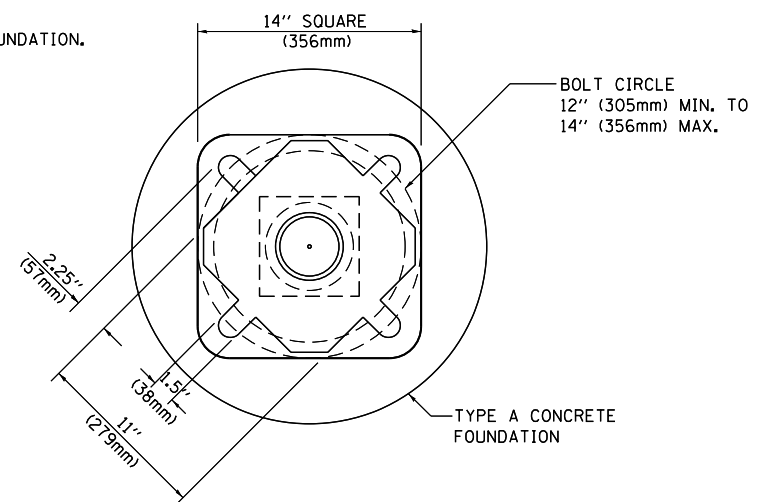
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-00BTS&I	COOK	44	43
TS-05		CONTRACT NO. 62C21		
ILLINOIS FED. AID PROJECT				



**SIGN TABLE**

SIGN	DIMENSIONS
R10-3b	9" (228mm) X 12" (305mm)
R10-3d	9" (228mm) X 12" (305mm)
R10-3e	9" (228mm) X 15" (381mm)



**BOLT PATTERN**

**PEDESTRIAN PUSH BUTTON POST, TYPE A**

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE    SHEET 7 OF 7 SHEETS    STA.    TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-008TS&I	COOK	44	44
<b>TS-05</b>			<b>CONTRACT NO. 62C21</b>	
ILLINOIS FED. AID PROJECT				