

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

F.A.U. ROUTE 2943: BURNHAM AVE  
AT RIVER OAKS DRIVE  
SECTION: 3162A-N-1  
TRAFFIC SIGNAL MODERNIZATION; CHANNELIZATION  
PROJECT: ACHSIP-2943(018)  
COOK COUNTY  
C-91-364-12

F.A.U. RTE. 2943	SECTION 3162A-N-1	COUNTY COOK	TOTAL SHEETS 42	SHEET NO. 1
ILLINOIS			CONTRACT NO. 60T47	

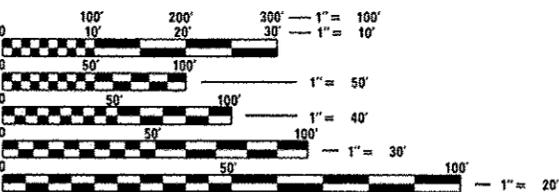
FOR INDEX OF SHEETS, SEE SHEET NO. 2

THE PROJECT IS LOCATED IN THE CITY OF CALUMET

**TRAFFIC DATA**

2010 ADT: 12,300 (BURNHAM AVE)  
19,200 (RIVER OAKS DRIVE)

POSTED SPEED LIMIT: 35 MPH (BURNHAM AVE)  
40-35 MPH (RIVER OAKS DRIVE)

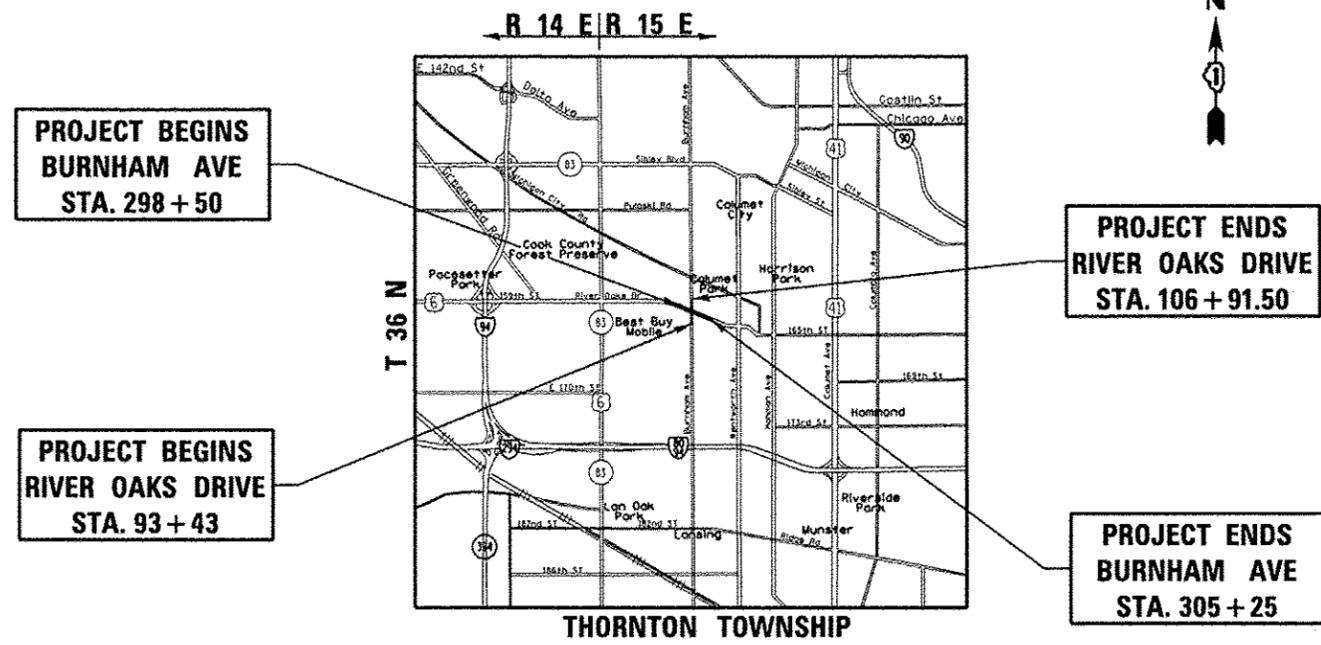


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

PROJECT ENGINEER: ROBERT BORO (847) 705-4237  
PROJECT MANAGER: ISSAM RAYYAN (847) 705-4178

CONTRACT NO. 60T47



GROSS LENGTH OF PROJECT (BURNHAM AVE AND RIVER OAKS DRIVE) = 1773.50 FT. = 0.336 MILE  
NET LENGTH OF PROJECT (BURNHAM AVE AND RIVER OAKS DRIVE) = 1773.50 FT. = 0.336 MILE

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
SUBMITTED October 19 20 12  
John Fortmann  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER  
Dec 7 20 12  
John D. Baramelli  
acting ENGINEER OF DESIGN AND ENVIRONMENT  
Dec 7 20 12  
William R. Freyer  
acting DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

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## LIST OF STATE STANDARDS

STANDARD NO.	DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
424001-07	PERPENDICULAR CURB RAMPS FOR SIDEWALKS
442201-03	CLASS C AND D PATCHES
604001-03	FRAME AND LIDS TYPE 1
606001-05	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
701101-03	OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5 M) AWAY
701427-01	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS ≤ 40 MPH
701502-05	URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
701601-08	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701602-06	URBAN LANE CLOSURE, MULTILANE, 2W WITH BIDIRECTIONAL LEFT TURN LANE
701606-08	MOUNTABLE MEDIAN MULTILANE, 2W WITH URBAN LANE CLOSURE
701701-08	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701801-05	LANE CLOSURE MULTILANE, 1W OR 2W CROSSWALK OF SIDEWALK CLOSURE
701901-03	TRAFFIC CONTROL DEVICES
720001-01	SIGN PANEL MOUNTING DETAILS
720006-03	SIGN PANEL ERECTION DETAILS
780001-03	TYPICAL PAVEMENT MARKINGS
814001-02	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
876001-02	PEDESTRIAN PUSH BUTTON POST
877001-05	STEEL MAST ARM ASSEMBLY AND POLE 16' THROUGH 55'
878001-09	CONCRETE FOUNDATION DETAILS
880001-01	SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
880006-01	TRAFFIC SIGNAL MOUNTING DETAILS
886001-01	DETECTOR LOOP INSTALLATIONS

FILE NAME : c:\p\work\p\p\dot\handanah\0206304\PI1	USER NAME : handanah 712-shr-typical.dgn	DESIGNED - DRAWN -	REVISED REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BURNHAM AVE AT RIVER OAKS DRIVE INDEX OF SHEETS AND LIST OF STATE STANDARDS PLAN</b>	F.A.U. RTE. 2943	SECTION 3162A-N-1	COUNTY COOK	TOTAL SHEETS 42	SHEET NO. 2	
PLOT SCALE : 100.0000 // in.	CHECKED -	REVISED REVISED -	SCALE:			SHEET NO. 1 OF 2 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT CONTRACT NO. 6047		
PLOT DATE : 10/23/2012	DATE -	REVISED -									

**GENERAL NOTES**

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

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, AND THE CITY OF CALUMET

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

BUTT JOINTS WILL BE INSTALLED AT THE ENDS OF ALL RESURFACING (WHERE RESURFACING MEETS EXISTING PAVEMENT) ACCORDING TO THE "BUTT JOINT AND HOT-MIX ASPHALT TAPER DETAILS" SHEET INCLUDED IN THE PLANS, UNLESS OTHERWISE SPECIFIED.

DOUBLE LANE MARKERS ARE TO BE USED AS SHOWN ON THE DISTRICT ONE DETAIL "TYPICAL APPLICATIONS - RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)" SHOWN IN THE PLANS.

TEN (10) FOOT TRANSITIONS SHALL BE USED TO MATCH PROPOSED CURB AND GUTTER AND MEDIAN ITEMS OF WORK TO EXISTING CURBS AND GUTTER AND MEDIANS IN THE FIELD, UNLESS OTHERWISE SHOWN. THE TRANSITIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEMS OF WORK SPECIFIED.

THE ENGINEER SHALL CONTACT PATRICE HARRIS, AREA TRAFFIC FIELD ENGINEER (OR TECHNICIAN), AT (847) 715-8422 A MINIMUM OF TWO (2) WEEKS PRIOR TO THE PLACEMENT OF PERMANENT PAVEMENT MARKINGS.

ALL PAVEMENT PATCHING LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

LOCATION OF COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT (OR COMBINATION CURB AND GUTTER (THE TYPE SPECIFIED ON THE PLANS)), WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847)705-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

THE THICKNESS OF THE HMA MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HMA MIXTURE IS PLACED.

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ADJUTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.

FOR FRAMES AND LIDS ADJUSTMENT WITHOUT MILLING, REUSE EXISTING FRAME AND LID UNLESS OTHERWISE SPECIFIED IN THE PLANS.

ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE THE REMOVAL LINE SHOWN ON THE PLANS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE DEPARTMENT.

BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE REFERENCE, ALL EXISTING PAVEMENT MARKING LINES (AND RAISED REFLECTIVE PAVEMENT MARKERS) IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER.

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

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

TOP OF FRAME ("RIM") ELEVATIONS GIVEN ON THE PLANS ARE ONLY TO ASSIST THE CONTRACTOR IN DETERMINING THE APPROXIMATE OVERALL HEIGHT OF EACH STRUCTURE. FRAMES ON ALL NEW STRUCTURES SHALL BE ADJUSTED TO THE FINAL ELEVATIONS OF THE AREAS IN WHICH THEY ARE LOCATED, AS PART OF THE STRUCTURE COST.

ANY AREA WHERE THERE IS NO PROPOSED GRADING THE EXISTING GROUND COVER SHALL REMAIN.

THE EXACT LOCATION OF ALL UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR BEFORE ORDERING ANY MATERIALS AND STARTING ANY WORK. FOR LOCATIONS OF UTILITIES, LOCALLY OWNED EQUIPMENT, LEASED ENFORCEMENT CAMERA SYSTEM FACILITIES AND IDOT UNDERGROUND FACILITIES, CONTACT THE LOCAL COUNTIES, MUNICIPALITIES AND IDOT FOR LOCATES. THE CONTRACTOR SHALL CALL "JULIE" AT (800) 892-0123 OR 811, IN THE CITY OF CHICAGO CONTACT DIGGER AT (312) 744-7000 FOR FIELD LOCATIONS OF BURIED UTILITIES (48 HOURS NOTIFICATION REQUIRED).

IF THIS CONTRACT REQUIRES THE SERVICES OF AN ELECTRICAL CONTRACTOR, THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS/HER OWN EXPENSE FOR LOCATING EXISTING IDOT ELECTRICAL FACILITIES PRIOR TO PERFORMING ANY WORK. IF THIS CONTRACT DOES NOT REQUIRE THE SERVICES OF AN ELECTRICAL CONTRACTOR, THE CONTRACTOR MAY REQUEST ONE FREE LOCATE FOR EXISTING IDOT ELECTRICAL FACILITIES FROM THE DISTRICT ONE ELECTRICAL MAINTENANCE CONTRACTOR PRIOR TO THE START OF ANY WORK. ADDITIONAL REQUESTS MAY BE AT THE EXPENSE OF THE CONTRACTOR. THE LOCATION OF UNDERGROUND TRAFFIC FACILITIES DOES NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO REPAIR ANY FACILITIES DAMAGED DURING CONSTRUCTION AT THEIR EXPENSE.

THE CONTRACTOR SHALL CHECK THE PROPOSED TRAFFIC SIGNAL EQUIPMENT LOCATIONS FOR OVERHEAD UTILITY CONFLICTS. THE CONTRACTOR SHALL COORDINATE ANY CONFLICTS WITH THE UTILITY COMPANIES AND THE RESIDENT ENGINEER BEFORE ORDERING MATERIALS.

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**TEMPORARY TRAFFIC SIGNAL NOTES**

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12 INCHES (300 MM). TRAFFIC SIGNAL SECTIONS SHALL BE LED WITH EXPANDABLE VIEW, UNLESS OTHERWISE APPROVED BY THE ENGINEER. PEDESTRIAN SIGNAL HEADS SHALL BE LIGHT EMITTING DIODE (LED) PEDESTRIAN COUNTDOWN SIGNAL HEADS EXCEPT WHEN A TEMPORARY TRAFFIC SIGNAL IS INSTALLED AT AN INTERSECTION INTERCONNECTED WITH A RAILROAD GRADE CROSSING, WHEN A TEMPORARY TRAFFIC SIGNAL IS INSTALLED AT AN INTERSECTION INTERCONNECTED WITH A RAILROAD GRADE CROSSING, LIGHT EMITTING DIODE (LED) PEDESTRIAN SIGNAL HEADS SHALL BE FURNISHED. THE TEMPORARY TRAFFIC SIGNAL HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH EXTRA CABLE LENGTH TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT AT NO ADDITIONAL COST TO THE CONTRACT.
6. THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.
7. ALL TEMPORARY TRAFFIC SIGNAL INSTALLATIONS SHALL HAVE UNINTERRUPTABLE POWER SUPPLY (UPS). THE UPS CABINET SHALL BE MOUNTED TO THE TEMPORARY TRAFFIC SIGNAL CABINET AND MEET THE REQUIREMENTS OF UNINTERRUPTABLE POWER SUPPLY IN DIVISIONS 800 AND 1000 OF THESE SPECIFICATIONS.
8. TRAFFIC SIGNAL MANAGEMENT SYSTEMS SHALL BE MAINTAINED IN OPERATION AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. REQUIRED EQUIPMENT SHALL BE AS SHOWN ON THE PLANS AND THE CONTRACTOR SHALL PLACE THE EQUIPMENT IN OPERATION TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE TRAFFIC SIGNAL MANAGEMENT SYSTEM.
9. DETECTION AT TEMPORARY TRAFFIC SIGNALS SHALL BE INCLUDED FOR ALL APPROACHES OF THE INTERSECTION UNLESS INDICATED OTHERWISE ON THE PLANS. PEDESTRIAN PUSH BUTTONS SHALL BE PROVIDED FOR ALL PEDESTRIAN SIGNAL HEADS/PHASES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE DETECTION SYSTEM MUST MEET THE SPECIFICATIONS OF DISTRICT 1 AND THE CONTRACTOR SHALL PLACE THE DETECTORS INTO OPERATION TO THE SATISFACTION OF THE ENGINEER. DETECTION SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM.
10. WHEN PAN, TILT, ZOOM CAMERAS ARE INSTALLED AT THE EXISTING INTERSECTION OR ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THE CAMERAS TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE CAMERAS.

FILE NAME	USER NAME	DESIGNED	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BURNHAM AVE AT RIVER OAKS DRIVE				F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\pwork\hondanah\0286304\VP11	hondanah	DRAWN	REVISED		GENERAL AND TEMPORARY TRAFFIC SIGNAL NOTES PLAN				2943	3162A-N-1	COOK	42	3
		CHECKED	REVISED		SCALE	SHEET NO. 1 OF 2 SHEETS	STA.	TO STA.	CONTRACT NO. 60147				
		DATE	REVISED		ILLINOIS FED. AID PROJECT								

SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE					SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	URBAN 90% FEDERAL 10% STATE 0004	TRAFFIC 90% FEDERAL 5% STATE 5% CITY OF CALUMET 0021	TRAFFIC INTER- CONNECT 100% STATE 0021	TRAFFIC EVP 100% CITY OF CALUMET 0021			CODE NO	ITEM	UNIT	TOTAL QUANTITIES	URBAN 90% FEDERAL 10% STATE 0004	TRAFFIC 90% FEDERAL 5% STATE 5% CITY OF CALUMET 0021	TRAFFIC INTER- CONNECT 100% STATE 0021	TRAFFIC EVP 100% CITY OF CALUMET 0021		
21101615	TOPSOIL FURNISH AND PLACE, 4"	SO YD	3.8	3.8						44002216	HOT-MIX ASPHALT REMOVAL OVER PATCHES, 4"	SO YD	157	157					
25200110	SODDING, SALT TOLERANT	SO YD	3.8	3.8						44003510	MEDIAN REMOVAL PARTIAL DEPTH	SO FT	9626	9626					
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	11	11						44201741	CLASS D PATCHES, TYPE II, 8 INCH	SO YD	92	92					
40600300	AGGREGATE (PRIME COAT)	TON	26	26						44201745	CLASS D PATCHES, TYPE III, 8 INCH	SO YD	92	92					
40600400	MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS	TON	20	20						44201747	CLASS D PATCHES, TYPE IV, 8 INCH	SO YD	105	105					
40600827	POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4, 75, N50	TON	547	547						60250500	CATCH BASINS TO BE ADJUSTED WITH NEW TYPE I FRAME, CLOSED LID	EACH	1	1					
40600895	CONSTRUCTING TEST STRIP	EACH	1	1						60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	184	184					
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SO YD	969	969						67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	4					
40601005	HOT-MIX ASPHALT REPLACEMENT OVER PATCHES	TON	35	35						67100100	MOBILIZATION	L SUM	1	1					
40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	1276	1276						70102622	TRAFFIC CONTROL AND PROTECTION, STANDARD 701502	L SUM	1	1					
42001300	PROTECTIVE COAT	SO YD	206	206						70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L SUM	1	1					
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SO FT	1300	1300						70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1	1					
44000159	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"	SO YD	13014	13014						70102632	TRAFFIC CONTROL AND PROTECTION, STANDARD 701602	L SUM	1	1					
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	184	184						70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	1					
44000600	SIDEWALK REMOVAL	SO FT	1300	1300															

\* SPECIALTY ITEMS

FILE NAME: c:\p\work\p100\hardcopy\020630\PH1712.dgn	USER NAME: hns2001	DESIGNED: -	REVISED: -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BURNHAM AVE AT RIVER OAKS DR SUMMARY OF QUANTITIES		F.A.U. RTE. 2943	SECTION 3162A-N-1	COUNTY COOK	TOTAL SHEETS 42	SHEET NO. 4
PLOT SCALE: 100,000' / 1"	CHECKED: -	REVISED: -	SCALE:		SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		CONTRACT NO. 60147		
PLOT DATE: 10/22/2012	DATE: -	REVISED: -									

SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE					SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	URBAN 90% FEDERAL 10% STATE 0004	TRAFFIC 90% FEDERAL 5% STATE 5% CITY OF CALUMET 0021	TRAFFIC INTER- CONNECT 100% STATE 0021	TRAFFIC EVP 100% CITY OF CALUMET 0021			CODE NO	ITEM	UNIT	TOTAL QUANTITIES	URBAN 90% FEDERAL 10% STATE 0004	TRAFFIC 90% FEDERAL 5% STATE 5% CITY OF CALUMET 0021	TRAFFIC INTER- CONNECT 100% STATE 0021	TRAFFIC EVP 100% CITY OF CALUMET 0021		
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	1						* 80500010	SERVICE INSTALLATION - GROUND MOUNTED	EACH	1		1				
* 70300100	SHORT TERM PAVEMENT MARKING	FOOT	2909	2909						* 81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	1940		1650	290			
* 70300210	TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS	SO FT	600	600						* 81028210	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.	FOOT	57		57				
* 70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	7647	7647						* 81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	53		53				
* 70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	1038	1038						* 81028240	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	370		370				
* 70300260	TEMPORARY PAVEMENT MARKING - LINE 12"	FOOT	101	101						* 81400100	HANDHOLE	EACH	7		7				
* 70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	175	175						* 81400200	HEAVY-DUTY HANDHOLE	EACH	4		4				
* 72000100	SIGN PANEL - TYPE 1	SO FT	37.5	37.5						* 81400300	DOUBLE HANDHOLE	EACH	1		1				
* 78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SO FT	602.5	602.5						* 85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1			1			
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	7647	7647						* 86400100	TRANSCEIVER - FIBER OPTIC	EACH	1		1				
* 78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	1038	1038						* 87300925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	2232				2232		
* 78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	101	101						* 87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1340		1340				
* 78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	175	175						* 87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1710		1710				
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	194	194						* 87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2080		2080				
* 78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	184	184						* 87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1820		1820				

\* SPECIALTY ITEMS

FILE NAME	USER NAME	DESIGNED	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				BURNHAM AVE AT RIVER OAKS DR SUMMARY OF QUANTITIES				F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ORIG. WORK		DRAWN	REVISED									2943	3162A-N-1	COOK	42	5
PLOT SCALE		CHECKED	REVISED									CONTRACT NO. 60747				
PLOT DATE		DATE	REVISED									FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE					SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	URBAN 90% FEDERAL 10% STATE 0004	TRAFFIC 90% FEDERAL 5% STATE 5% CITY OF CALUMET 0021	TRAFFIC INTER- CONNECT 100% STATE 0021	TRAFFIC EVP 100% CITY OF CALUMET 0021			CODE NO	ITEM	UNIT	TOTAL QUANTITIES	URBAN 90% FEDERAL 10% STATE 0004	TRAFFIC 90% FEDERAL 5% STATE 5% CITY OF CALUMET 0021	TRAFFIC INTER- CONNECT 100% STATE 0021	TRAFFIC EVP 100% CITY OF CALUMET 0021		
* 87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	3566		3566					* 88030220	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1		1				
* 87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	190		190					* 88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	3		3				
* 87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	802		802					* 88102717	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	8		8				
* 87502440	TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.	EACH	1		1					* 88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	12		12				
* 87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4		4					* 88500100	INDUCTIVE LOOP DETECTOR	EACH	11		11				
* 87700210	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1		1					* 88600100	DETECTOR LOOP, TYPE I	FOOT	680		680				
* 87700220	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	1		1					* 88700200	LIGHT DETECTOR	EACH	2				2		
* 87700240	STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.	EACH	1		1					* 88700300	LIGHT DETECTOR AMPLIFIER	EACH	1				1		
* 87700250	STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.	EACH	1		1					* 88800100	PEDESTRIAN PUSH-BUTTON	EACH	8		8				
* 87800100	CONCRETE FOUNDATION, TYPE A	FOOT	20		20					* 89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1		1				
* 87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4		4					* 89502200	MODIFY EXISTING CONTROLLER	EACH	1		1				
* 87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	48		48					* 89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	5140		5140				
* 87900200	DRILL EXISTING HANDHOLE	EACH	1			1				* 89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1		1				
* 88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	7		7					* 89502380	REMOVE EXISTING HANDHOLE	EACH	7		7				
* 88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	5		5					* 89502382	REMOVE EXISTING DOUBLE HANDHOLE	EACH	1		1				

\* SPECIALTY ITEMS

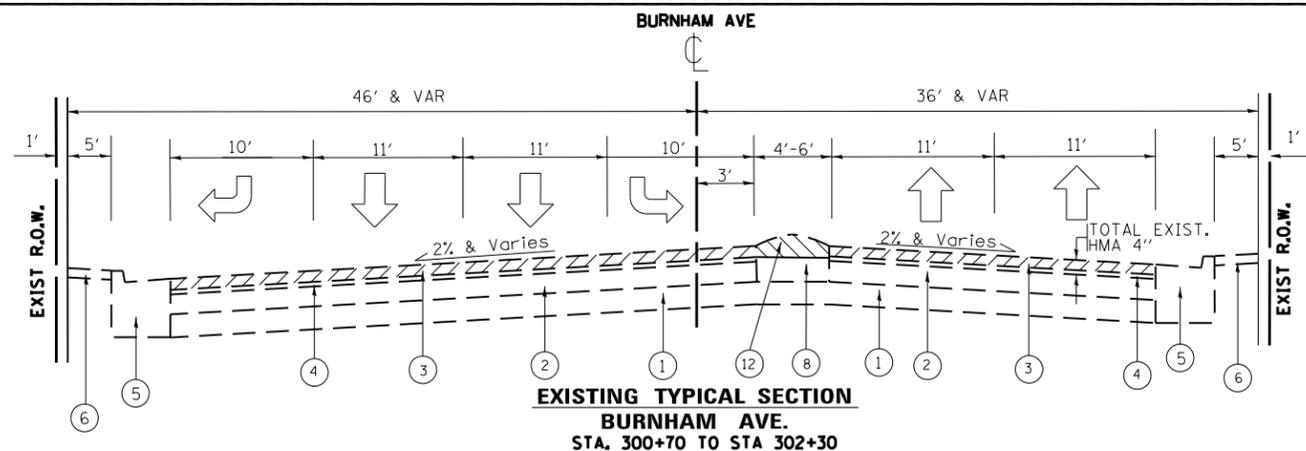
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PLOT SCALE : 100,0000 / 1/4		CHECKED -	REVISED -
PLOT DATE : 10/23/2012		DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

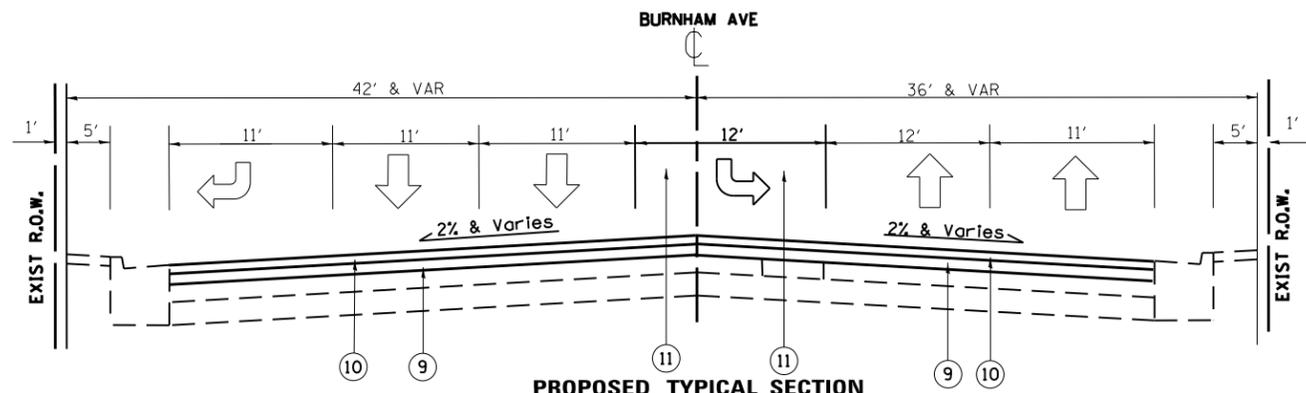
BURNHAM AVE AT RIVER OAKS DR  
SUMMARY OF QUANTITIES

SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	F.A.I.L. RTE. 2943	SECTION 3162A-N-1	COUNTY COOK	TOTAL SHEETS 42	SHEET NO. 6
			CONTRACT NO. 60747				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							

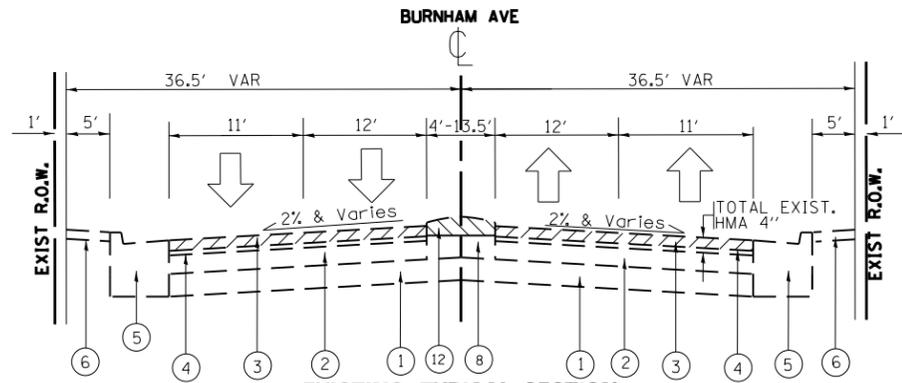




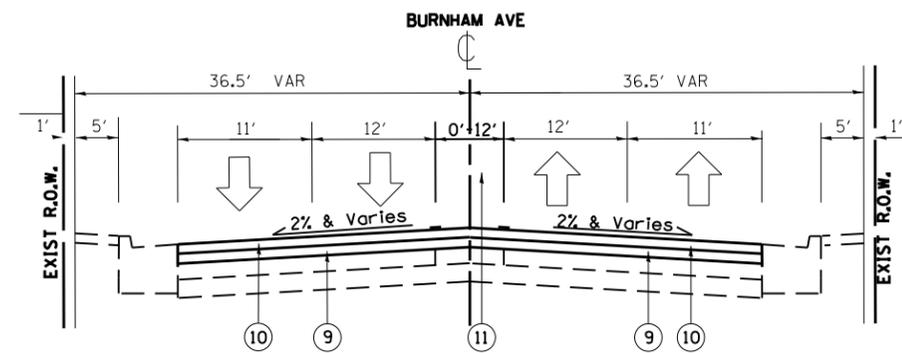
**EXISTING TYPICAL SECTION  
BURNHAM AVE.  
STA. 300+70 TO STA 302+30**



**PROPOSED TYPICAL SECTION  
BURNHAM AVE.  
STA. 300+70 TO STA 302+30**



**EXISTING TYPICAL SECTION  
BURNHAM AVE.  
STA. 302+30 TO STA 305+25**



**PROPOSED TYPICAL SECTION  
BURNHAM AVE.  
STA. 302+30 TO STA 305+25  
NORTH LEG OF BURNHAM AVE**

**LEGEND**

- ① EXISTING AGGREGATE SUBGRADE
- ② EXISTING P.C.C. PAVEMENT 8"
- ③ PROPOSED, HOT-MIX ASPHALT SURFACE REMOVAL 2 1/2"
- ④ EXISTING REMAINING HMA AFTER MILLING (1 1/2" AT THE NORTH LEG OF BURNHAM AVE., 6 1/2" AT THE WEST LEG AND 3 1/2" AT THE EAST LEG OF RIVER OAKS DRIVE)
- ⑤ EXISTING CURB & GUTTER TYPE B-6.24 (MODIFIED)
- ⑥ EXISTING SIDEWALK 5"
- ⑦ EXISTING CONCRETE MEDIAN, TYPE C-4
- ⑧ EXISTING CORRUGATED MEDIAN
- ⑨ PROPOSED POLYMERIZED LEVELING BINDER, (MM) IL-4.75, 3/4"
- ⑩ PROPOSED HMA SURFACE COURSE, MIX D, N70, 1 3/4"
- ⑪ PROPOSED STRIPED MEDIAN
- ⑫ PROPOSED MEDIAN REMOVAL PARTIAL DEPTH

**HMA MIXTURE REQUIREMENTS**

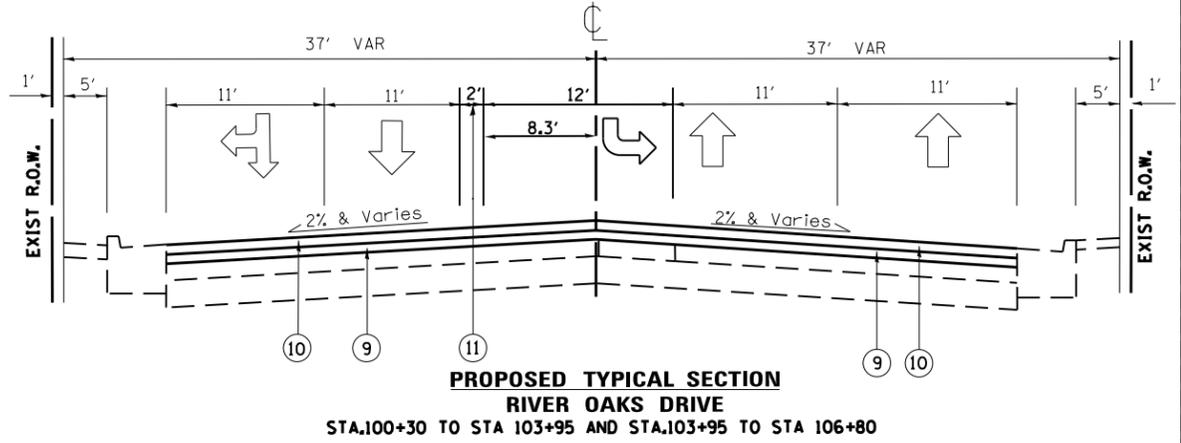
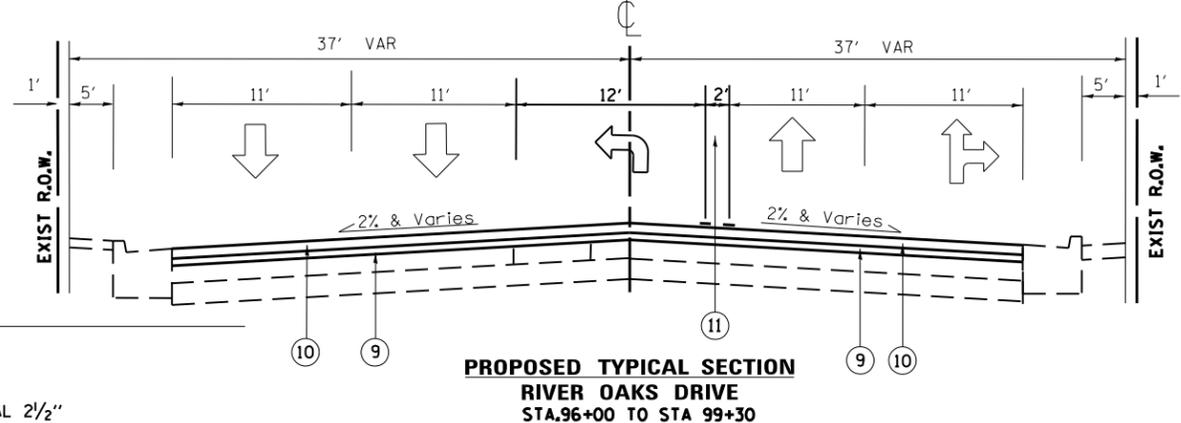
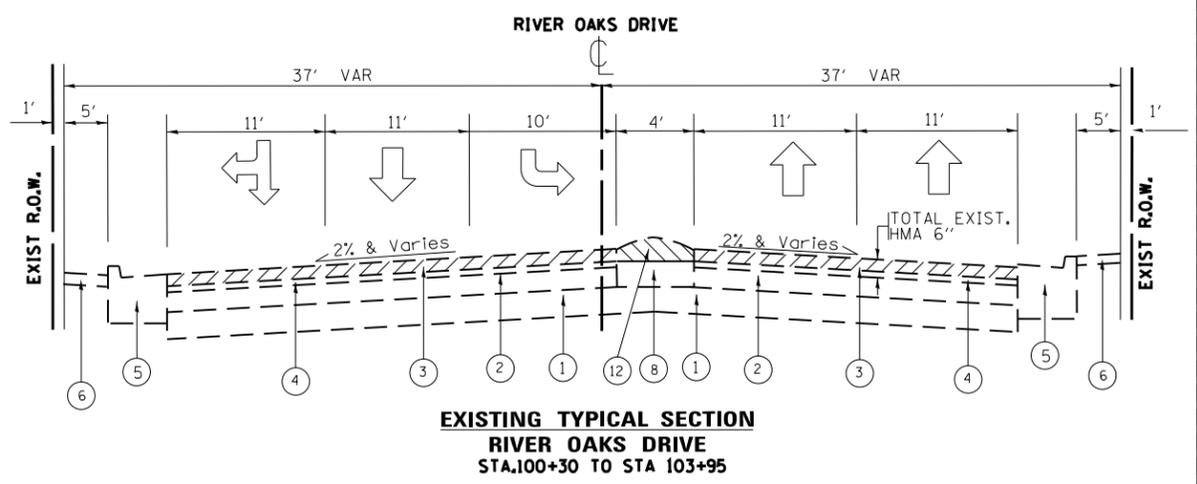
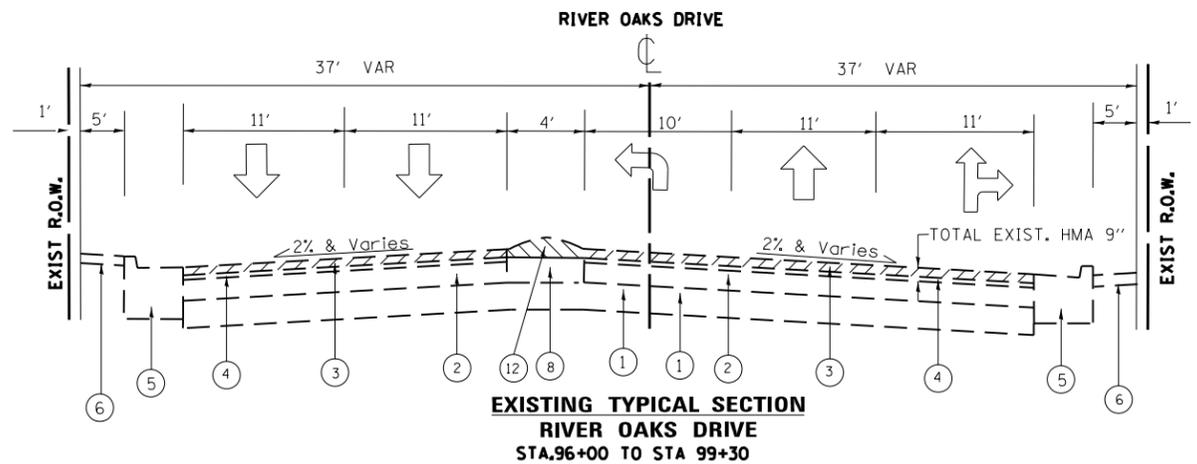
MIXTURE TYPE	AIR VOIDS @ NDES
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 (IL 9.5 mm)	4% @ 70 GYR
POLYMERIZED LEVELING BINDER, (MACHINE METHOD), IL-4.75, N50	3.5% @ 70 GYR
CLASS D PATCHES, (HMA BINDER IL-19 mm)	4% @ 70 GYR
HOT-MIX ASPHALT REPLACEMENT OVER PATCHES (HOT-MIX ASPHALT BINDER IL-19 mm)	4% @ 70 GYR

THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT SURFACE MIXTURE QUANTITIES IS 112 LBS/SOYD/IN.

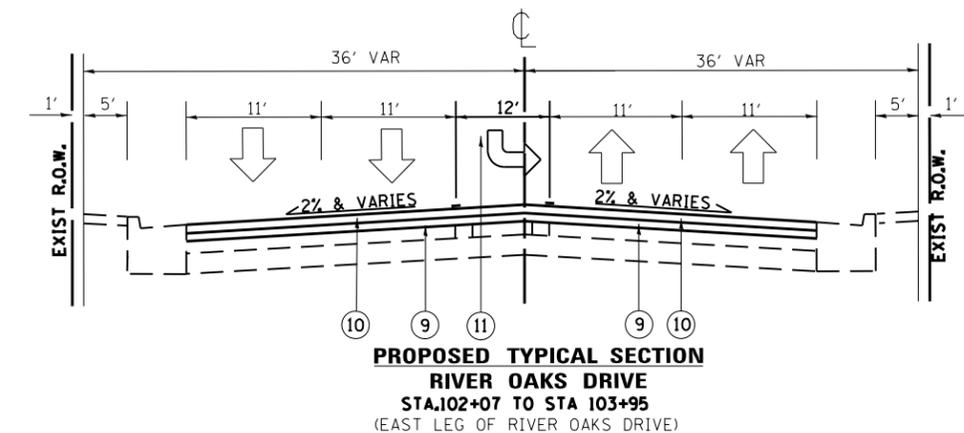
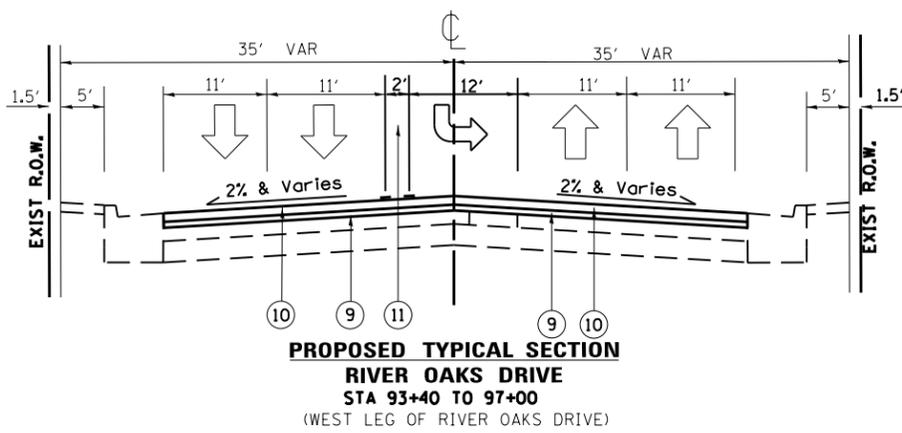
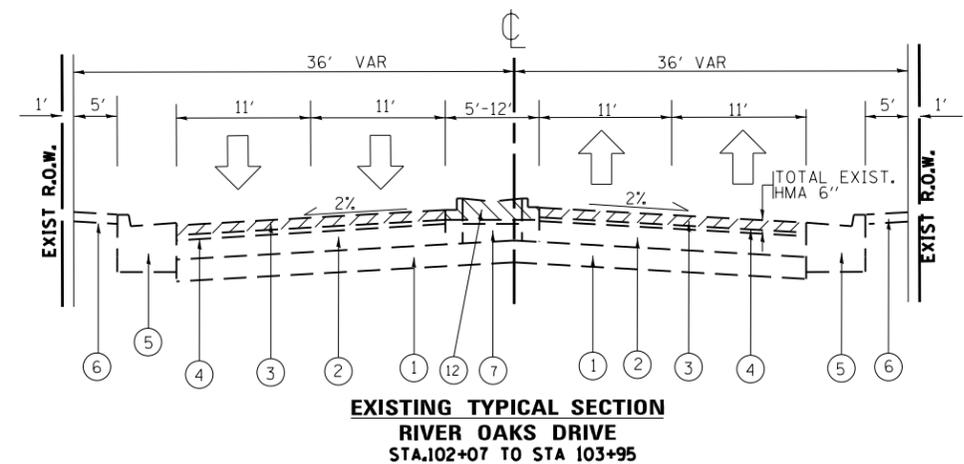
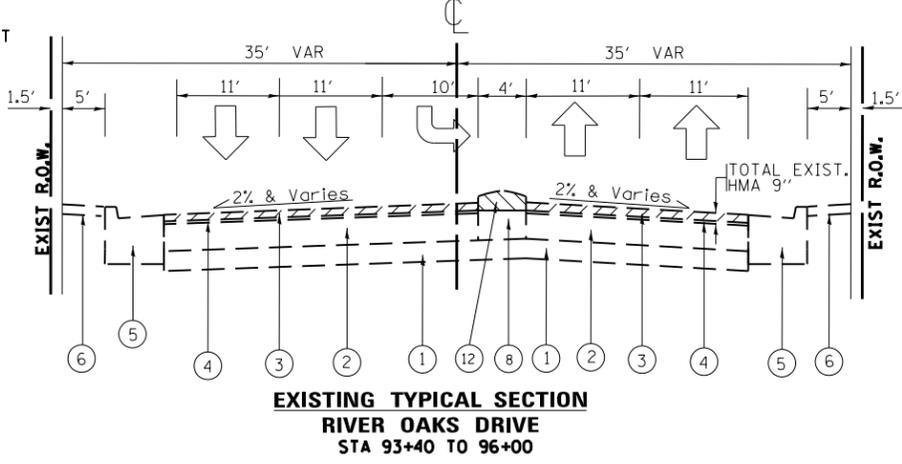
"THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 76 -22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64 -22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS."  
"FOR USE OF RECYCLED MATERIALS SEE DISTRICT ONE SPECIAL PROVISIONS."

**NOTE:**  
CONTRACTOR SHALL PATCH FIRST BEFORE MILLING, ON BURNHAM AVE. AND SHALL MILL BEFORE PATCHING, ON RIVER OAKS DRIVE.

FILE NAME =	USER NAME = hamdanah	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BURNHAM AVE AT RIVER OAKS DRIVE TYPICAL SECTIONS</b>	F.A.U. RTÉ.	SECTION 47-12	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pwwork\pwwork\hamdanah\d0286304\11712-sht-typical.dgn	PLOT SCALE = 120.0000' / 1"	DRAWN -	REVISED -			2943	3162A-N-1	COOK	42	8	
PLOT DATE = 10/23/2012	DATE -	CHECKED -	REVISED -			<b>CONTRACT NO. 60T47</b>					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					



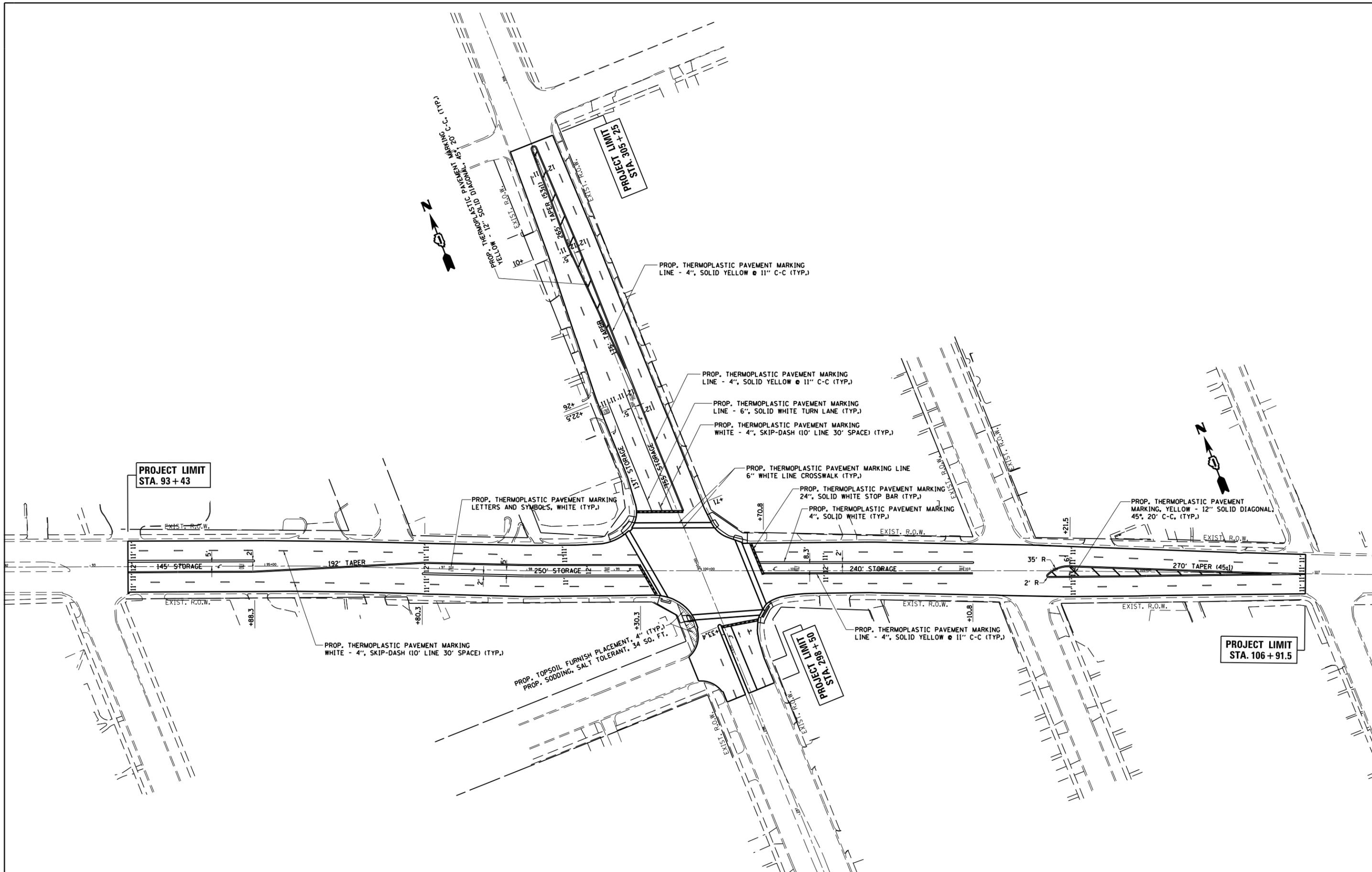
- LEGEND**
- ① EXISTING AGGREGATE SUBGRADE
  - ② EXISTING P.C.C. PAVEMENT 8"
  - ③ PROPOSED, HOT-MIX ASPHALT SURFACE REMOVAL 2 1/2"
  - ④ EXISTING REMAINING HMA AFTER MILLING (1 1/2" AT THE NORTH LEG OF BURNHAM AVE., 6 1/2" AT THE WEST LEG AND 3 1/2" AT THE EAST LEG OF RIVER OAKS DRIVE)
  - ⑤ EXISTING CURB & GUTTER TYPE B-6.24 (MODIFIED)
  - ⑥ EXISTING SIDEWALK 5"
  - ⑦ EXISTING CONCRETE MEDIAN, TYPE C-4
  - ⑧ EXISTING CORRUGATED MEDIAN
  - ⑨ PROPOSED POLYMERIZED LEVELING BINDER, (MM) IL-4.75, 3/4"
  - ⑩ PROPOSED HMA SURFACE COURSE, MIX D, N70, 1 3/4"
  - ⑪ PROPOSED STRIPED MEDIAN
  - ⑫ PROPOSED MEDIAN REMOVAL PARTIAL DEPTH



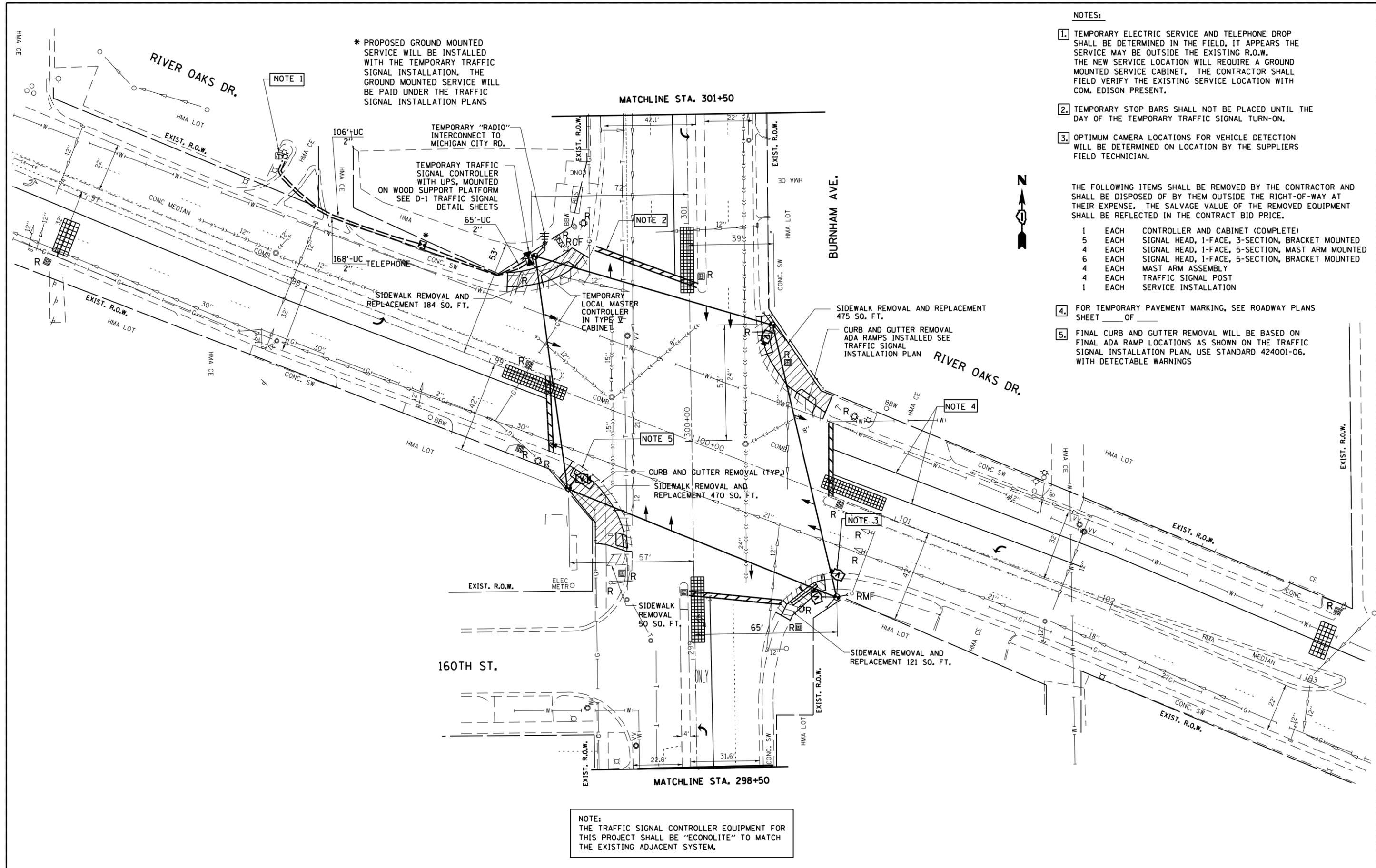
FILE NAME =	USER NAME = hamdanah	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BURNHAM AVE AT RIVER OAKS DRIVE TYPICAL SECTIONS</b>	F.A.U. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
et:\pwwork\pwwork\hamdanah\d0286304\p11712-sht-typical.dgn		DRAWN -	REVISED -			2943	3162A-N-1	COOK	42	9	
PLOT SCALE = 120.0000' / in.		CHECKED -	REVISED -			<b>CONTRACT NO. 60T47</b>					
PLOT DATE = 10/22/2012		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					







FILE NAME =	USER NAME = hamdanah	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BURNHAM AVENUE AT RIVER OAKS DRIVE PROPOSED PAVEMENT MARKING AND LANDSCAPING PLAN</b>	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
et:\pwork\pwork\hamdanah\d0286304\VP11712-sht-typical.dgn	PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -			2943	3162A-N-1	COOK	42	12	
*MODELNAME*	PLOT DATE = 10/22/2012	CHECKED -	REVISED -			<b>CONTRACT NO. 60T47</b>					
		DATE -	REVISED -			SCALE:	SHEET	OF	SHEETS	STA.	TO



\* PROPOSED GROUND MOUNTED SERVICE WILL BE INSTALLED WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION. THE GROUND MOUNTED SERVICE WILL BE PAID UNDER THE TRAFFIC SIGNAL INSTALLATION PLANS

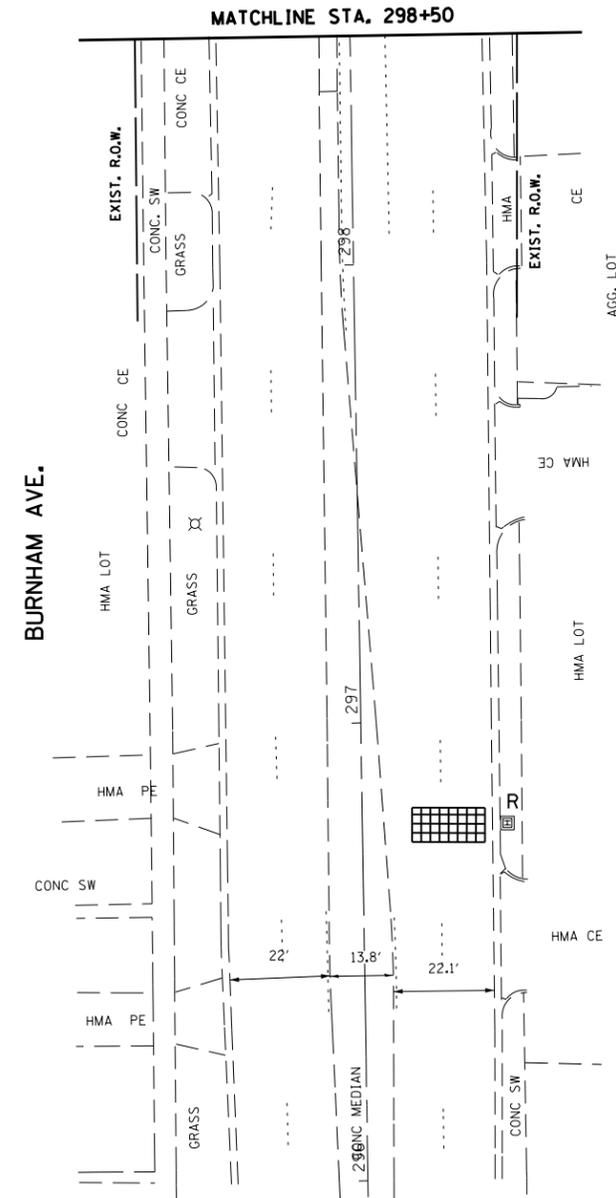
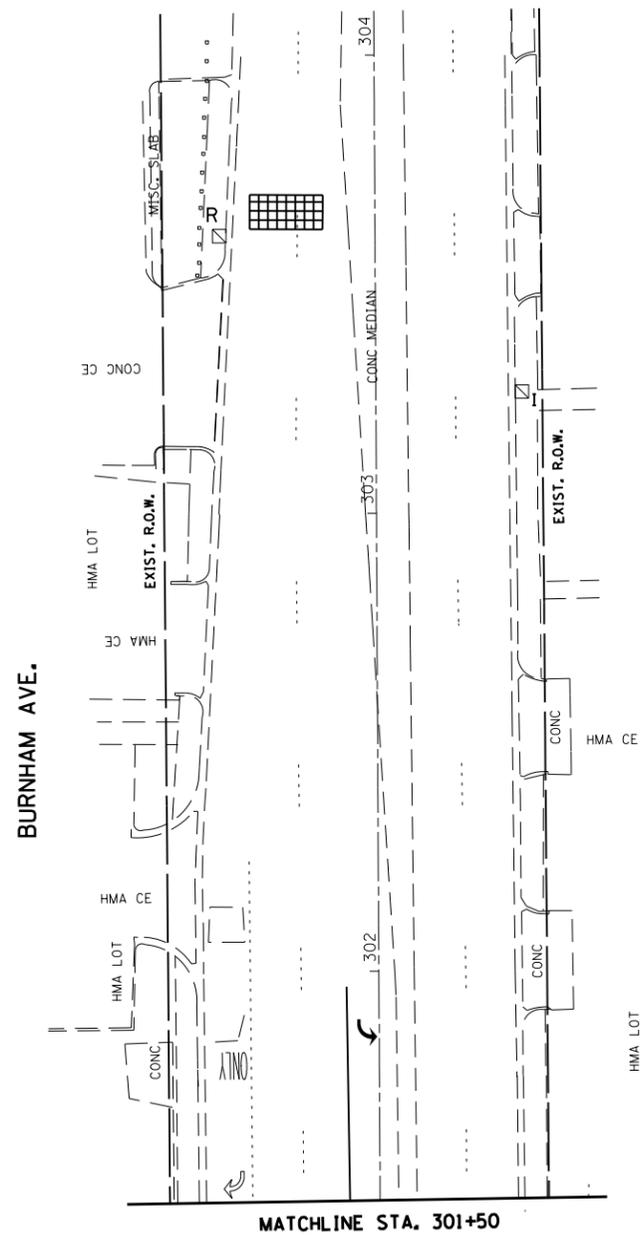
- NOTES:**
- TEMPORARY ELECTRIC SERVICE AND TELEPHONE DROP SHALL BE DETERMINED IN THE FIELD, IT APPEARS THE SERVICE MAY BE OUTSIDE THE EXISTING R.O.W. THE NEW SERVICE LOCATION WILL REQUIRE A GROUND MOUNTED SERVICE CABINET. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING SERVICE LOCATION WITH COM. EDISON PRESENT.
  - TEMPORARY STOP BARS SHALL NOT BE PLACED UNTIL THE DAY OF THE TEMPORARY TRAFFIC SIGNAL TURN-ON.
  - OPTIMUM CAMERA LOCATIONS FOR VEHICLE DETECTION WILL BE DETERMINED ON LOCATION BY THE SUPPLIERS FIELD TECHNICIAN.

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)                |
| 5 | EACH | SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED  |
| 4 | EACH | SIGNAL HEAD, 1-FACE, 5-SECTION, MAST ARM MOUNTED |
| 6 | EACH | SIGNAL HEAD, 1-FACE, 5-SECTION, BRACKET MOUNTED  |
| 4 | EACH | MAST ARM ASSEMBLY                                |
| 4 | EACH | TRAFFIC SIGNAL POST                              |
| 1 | EACH | SERVICE INSTALLATION                             |
- FOR TEMPORARY PAVEMENT MARKING, SEE ROADWAY PLANS SHEET \_\_\_\_\_ OF \_\_\_\_\_
  - FINAL CURB AND GUTTER REMOVAL WILL BE BASED ON FINAL ADA RAMP LOCATIONS AS SHOWN ON THE TRAFFIC SIGNAL INSTALLATION PLAN, USE STANDARD 424001-06, WITH DETECTABLE WARNINGS

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

FILE NAME =	USER NAME = hamdanah	DESIGNED - JHE	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BURNHAM AVENUE AT RIVER OAKS DRIVE TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN</b>	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
et:\pwwork\pwwork\hamdanah\d0286304\p11712-sht-typical.dgn	PLOT SCALE = 40.0000' / in.	DRAWN - CADD	REVISED -			2943	3162A-N-1	COOK	42	13	
*MODELNAME*	PLOT DATE = 10/22/2012	CHECKED - JHE	REVISED -			<b>CONTRACT NO. 60147</b>					
		DATE - OCT. 2012	REVISED -			ILLINOIS FED. AID PROJECT					



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

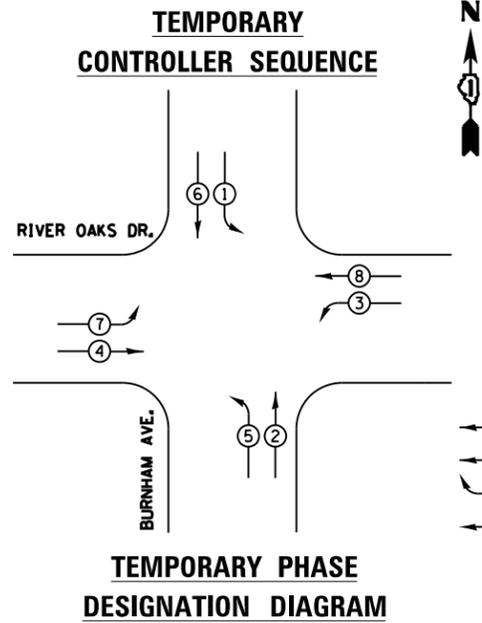
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\$MODELNAME\$	PLOT SCALE = 40.0000' / in.	CHECKED - JHE	REVISED -
	PLOT DATE = 10/22/2012	DATE - OCT. 2012	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

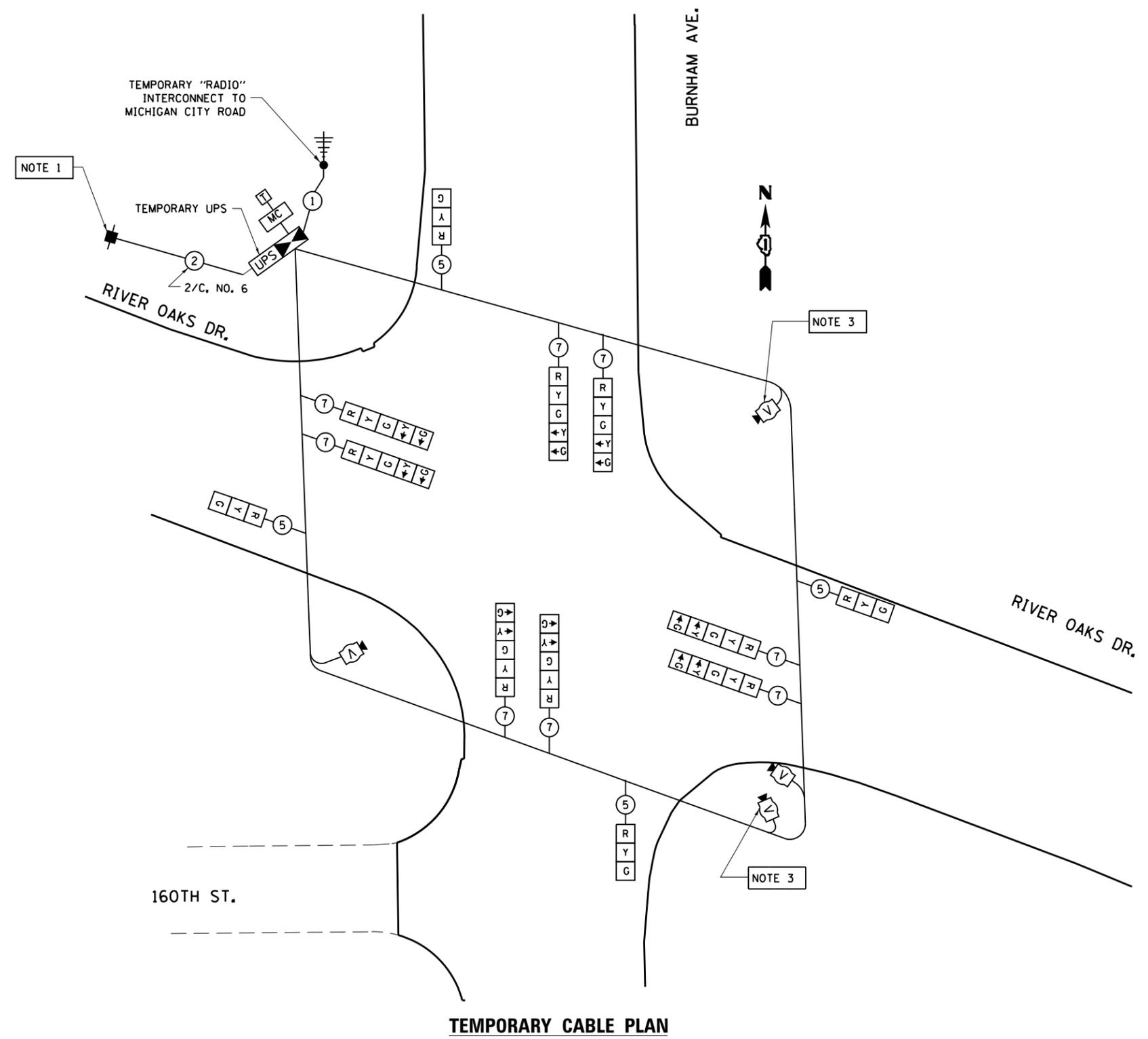
BURNHAM AVENUE AT RIVER OAKS DRIVE  
 TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN

SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.
--------	-------	----	--------	------	----	------

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2943	3162A-N-1	COOK	42	14
CONTRACT NO. 60T47				
ILLINOIS FED. AID PROJECT				



- LEGEND**
- ⊕ DUAL ENTRY PHASE
  - ⊞ SINGLE ENTRY PHASE
  - ⊕ OL OVERLAP
  - ⊞ PEDESTRAIN PHASE
  - \* NUMBER REFERS TO ASSOCIATED PHASE



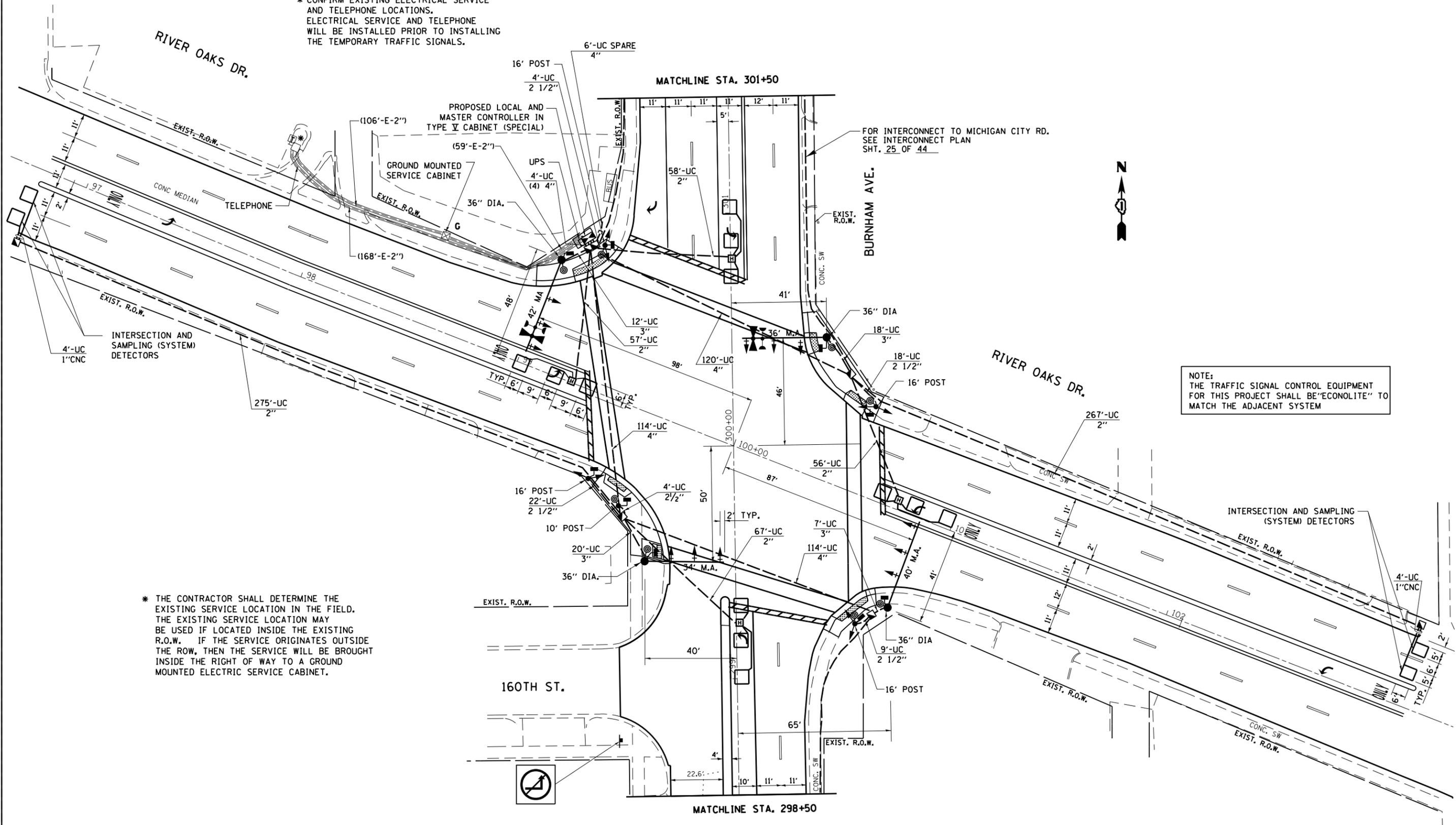
I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS				TOTAL WATTAGE
TYPE	NO. OF LAMPS	WATTAGE INCAND. LED	% OPERATION	
SIGNAL (RED)	12	17	0.50	102.00
(YELLOW)	12	25	0.25	75.00
(GREEN)	12	15	0.25	45.00
ARROW	16	12	0.10	19.20
PED. SIGNAL		25	1.00	
CONTROLLER	1	100	1.00	100.00
ILLUM. SIGN		25	0.05	
VIDEO SYSTEM	1	150	1.00	150.00
FLASHER			0.50	
ENERGY COSTS TO:				TOTAL = 491.20

**ILLINOIS DEPARTMENT OF TRANSPORTATION**  
 DIVISION OF HIGHWAY/DISTRICT 1  
 201 WEST CENTER COURT/SCHAUMBURG, ILLINOIS 60196-1096  
 ENERGY SUPPLY: CONTACT: ILYAS MOHIUDDIN  
 PHONE: (708) 235-2692  
 COMPANY: COMED

**TEMPORARY CABLE PLAN**

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

\* CONFIRM EXISTING ELECTRICAL SERVICE AND TELEPHONE LOCATIONS. ELECTRICAL SERVICE AND TELEPHONE WILL BE INSTALLED PRIOR TO INSTALLING THE TEMPORARY TRAFFIC SIGNALS.



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

\* THE CONTRACTOR SHALL DETERMINE THE EXISTING SERVICE LOCATION IN THE FIELD. THE EXISTING SERVICE LOCATION MAY BE USED IF LOCATED INSIDE THE EXISTING R.O.W. IF THE SERVICE ORIGINATES OUTSIDE THE ROW, THEN THE SERVICE WILL BE BROUGHT INSIDE THE RIGHT OF WAY TO A GROUND MOUNTED ELECTRIC SERVICE CABINET.

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#MODELNAME#

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712-sht-typical.dgn  
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PLOT DATE = 10/22/2012

DESIGNED - JHE  
DRAWN - CADD  
CHECKED - JHE  
DATE - OCT. 2012

REVISED -  
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REVISED -  
REVISED -

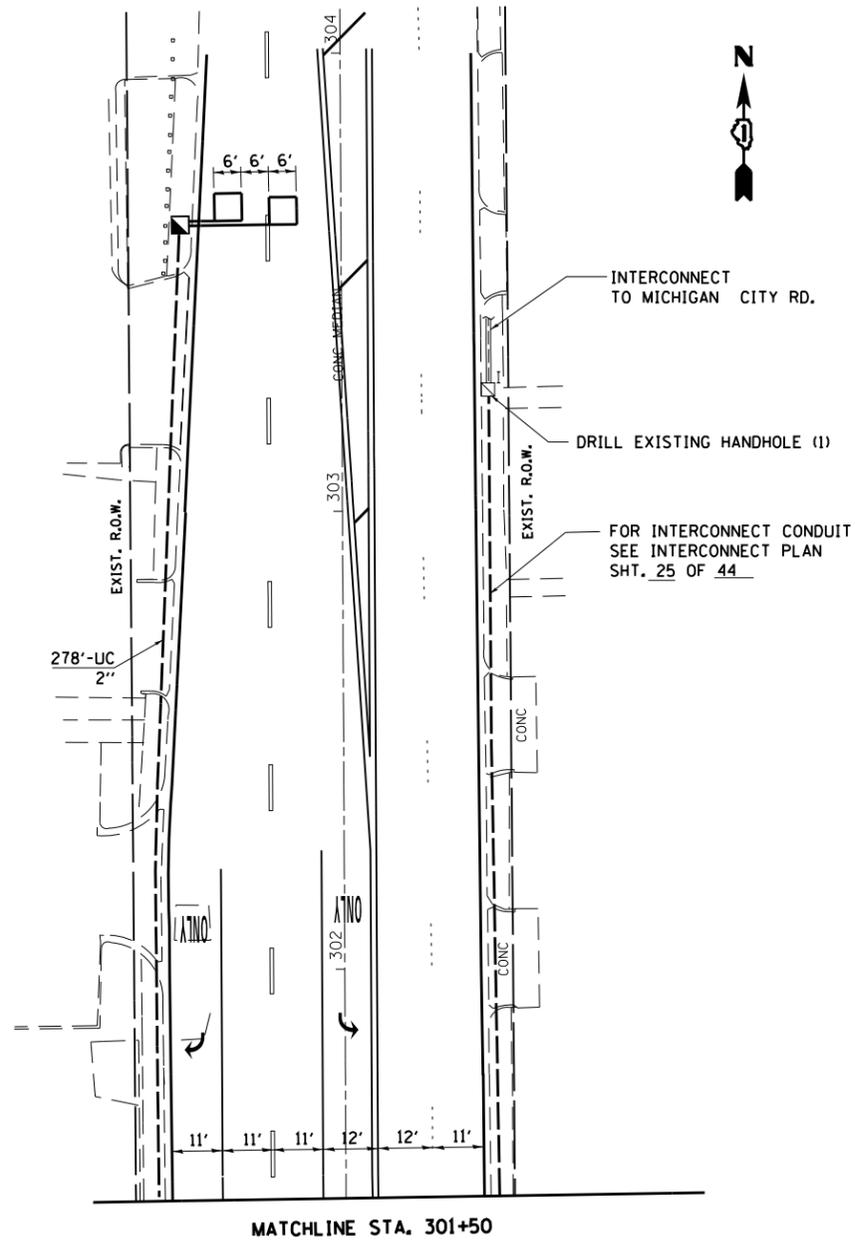
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BURNHAM AVENUE AT RIVER OAKS DRIVE  
TRAFFIC SIGNAL INSTALLATION PLAN

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2943	3162A-N-1	COOK	42	16
CONTRACT NO. 60T47				
ILLINOIS FED. AID PROJECT				

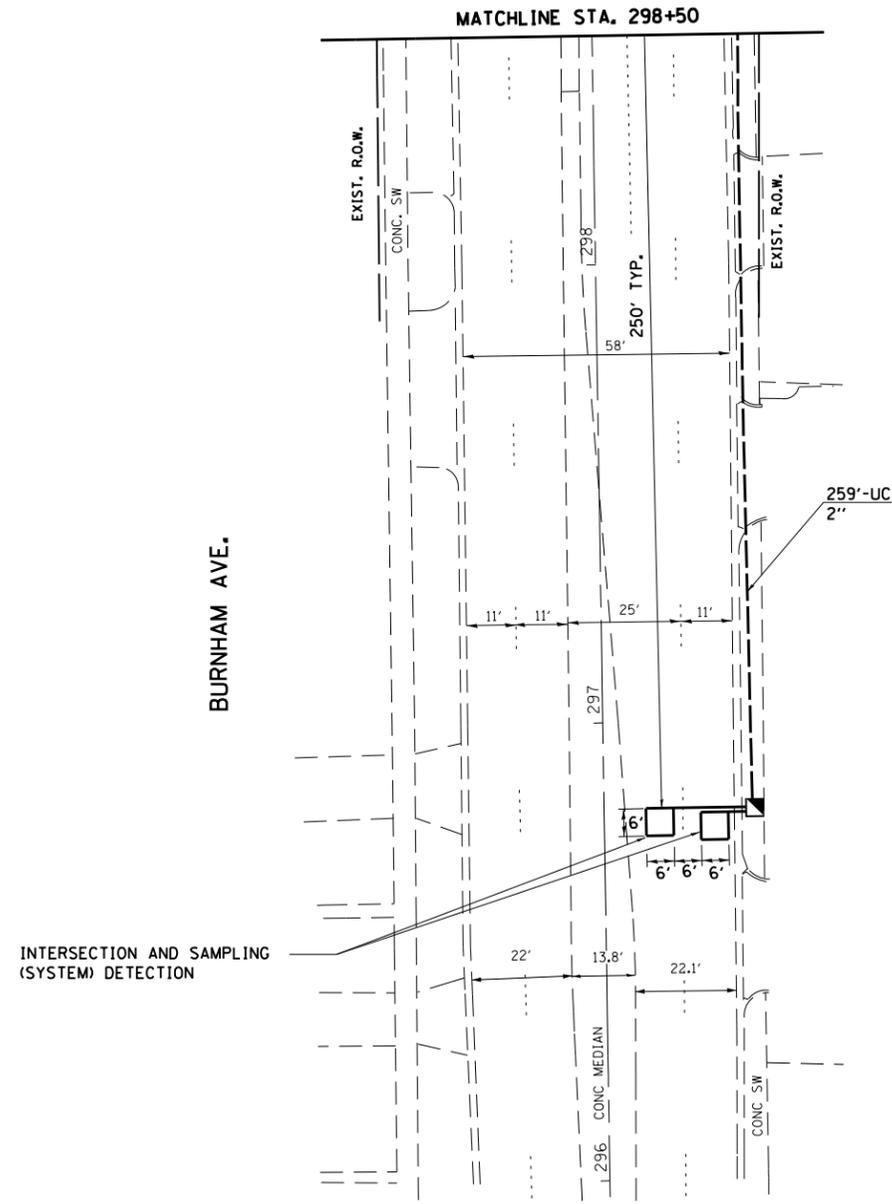
BURNHAM AVE.



MATCHLINE STA. 301+50

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

BURNHAM AVE.



MATCHLINE STA. 298+50

INTERSECTION AND SAMPLING (SYSTEM) DETECTION

FILE NAME =	USER NAME = hamdanah	DESIGNED - JHE	REVISED -
et:\pw\work\p1\dot\hamdanah\d0286304\p11712-sht-typical.dgn		DRAWN - CADD	REVISED -
#MODELNAME#	PLOT SCALE = 40.0000' / in.	CHECKED - JHE	REVISED -
	PLOT DATE = 10/22/2012	DATE - OCT. 2012	REVISED -

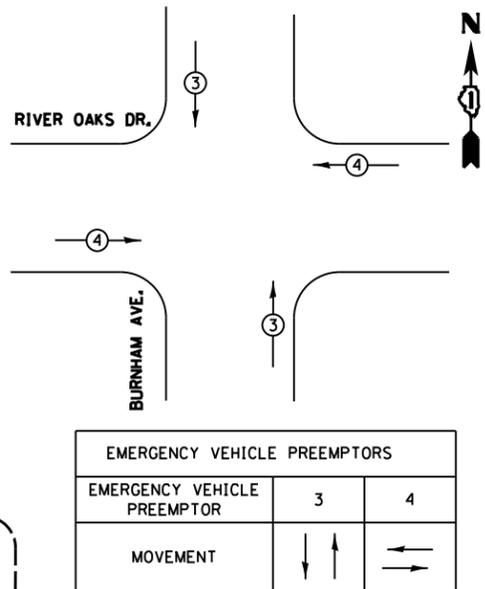
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BURNHAM AVENUE AT RIVER OAKS DRIVE  
TRAFFIC SIGNAL INSTALLATION PLAN

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2943	3162A-N-1	COOK	42	17
CONTRACT NO. 60T47				
ILLINOIS FED. AID PROJECT				

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

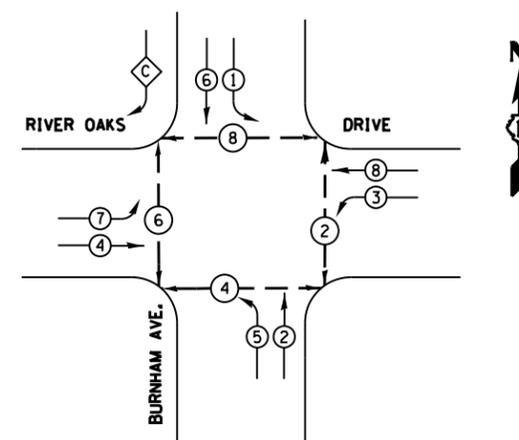


**TRAFFIC SIGNAL SCHEDULE OF QUANTITIES**

ITEM	UNIT	TOTAL
SIGN PANEL - TYPE 1	SO. FT.	37.5
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
TRANSCIVER - FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1340
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1710
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2080
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7 C	FOOT	1820
ELECTRIC CABLE IN CONDUIT, LEAD-IN NO.14 1 PAIR	FOOT	3566
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	190
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	802
TRAFFIC SIGNAL POST, 10 FT.	EACH	1
TRAFFIC SIGNAL POST, 16 FT.	EACH	4
STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	20
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	48
DRILL EXISTING HANDHOLE	EACH	1
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	7
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	5
SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	3
INDUCTIVE LOOP DETECTOR	EACH	11
DETECTOR LOOP, TYPE 1	FOOT	680
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
* LIGHT DETECTOR	EACH	2
* LIGHT DETECTOR AMPLIFIER	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	7
REMOVE EXISTING DOUBLE HANDHOLE	EACH	1
MODIFY EXISTING CONTROLLER CABINET	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	5140
SERVICE INSTALLATION, GROUND MOUNTED	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	9
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIAMETER	FOOT	1650
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2-1/2" DIAMETER	FOOT	57
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIAMETER	FOOT	53
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIAMETER	FOOT	370
HANDHOLE	EACH	7
DOUBLE HANDHOLE	EACH	1
HEAVY-DUTY HANDHOLE	EACH	4
FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL	EACH	1
MASTER CONTROLLER, SPECIAL	EACH	1
UNINTERRUPTABLE POWER SUPPLY	EACH	1
TRAFFIC SIGNAL BACKPLATE, LOUVERED ALUMINUM	EACH	12
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1
* EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE NO. 20	FOOT	315

\* 100% COST TO CALUMET CITY

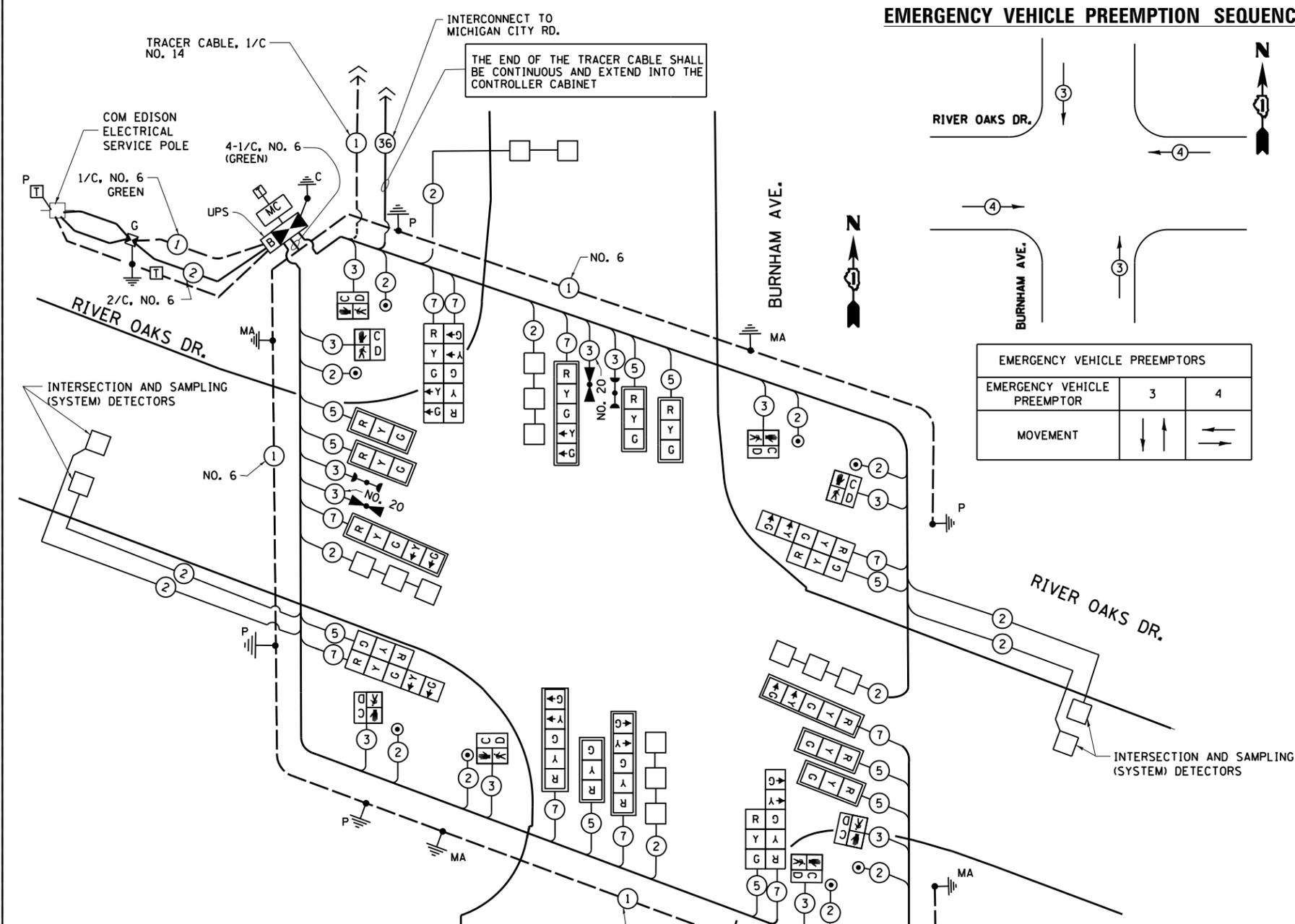
**CONTROLLER SEQUENCE**



**LEGEND**

- ⊙ DUAL ENTRY PHASE
- ⊠ SINGLE ENTRY PHASE
- ⊙ OL OVERLAP
- ⊙ PEDESTRAIN PHASE
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**

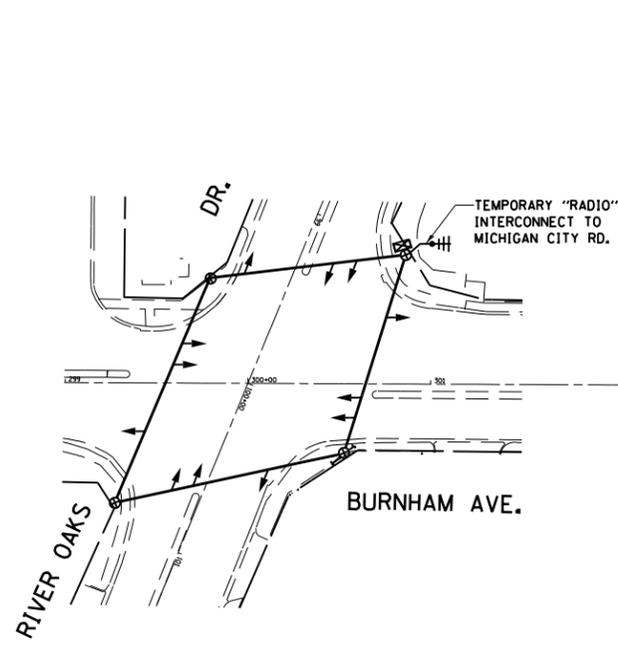


**CABLE PLAN**

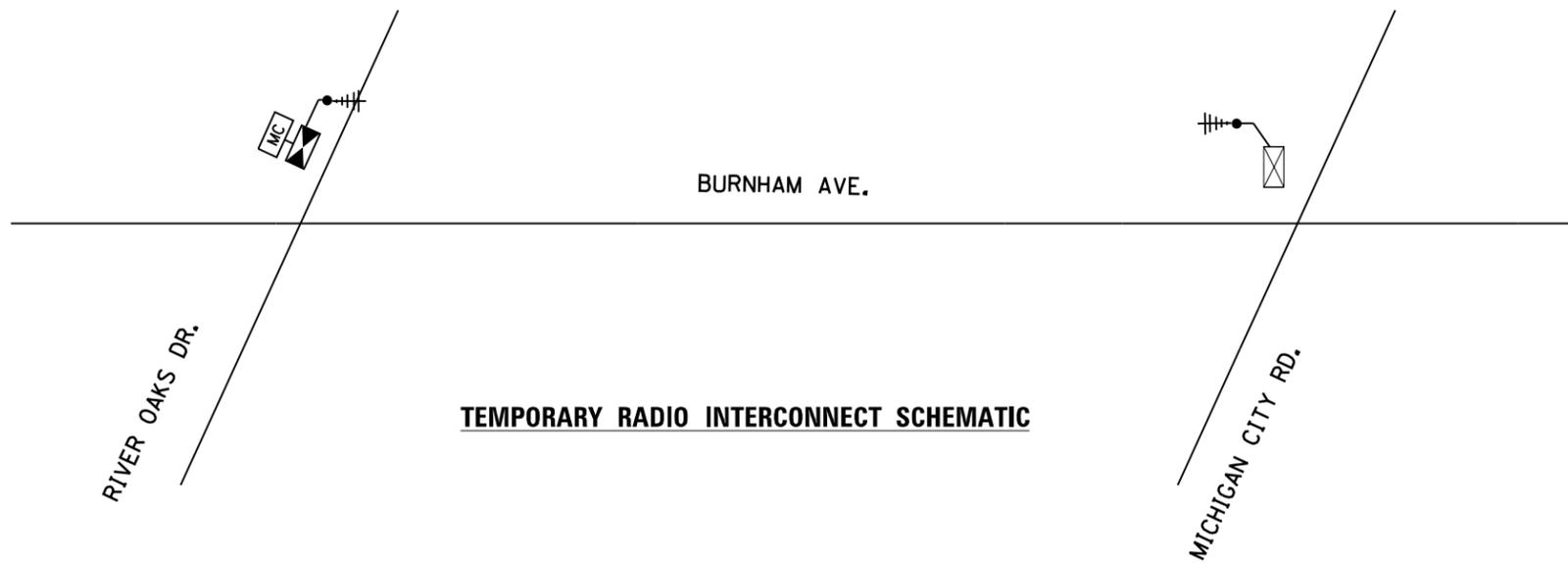
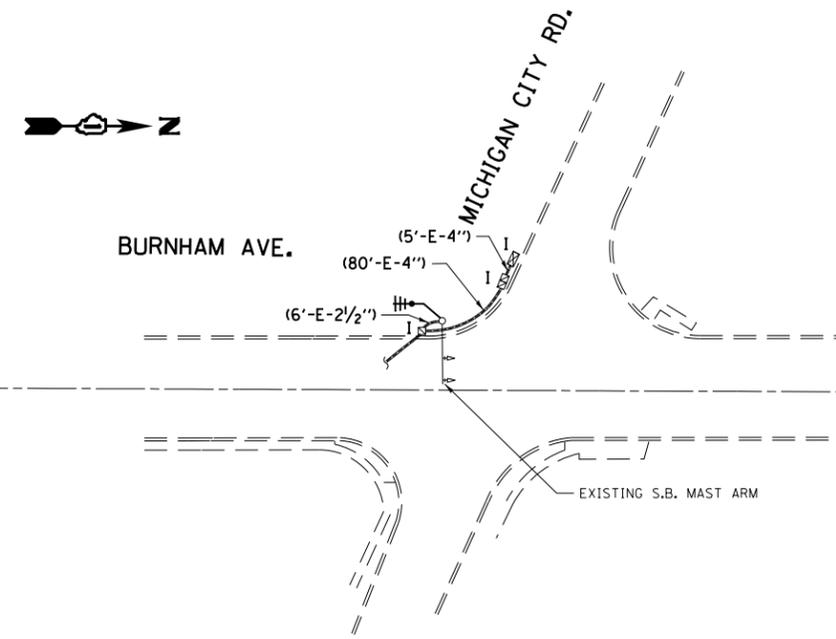
NOTE:  
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. OF LAMPS	WATTAGE INCAND.	LED	% OPERATION	
SIGNAL (RED)	20		17	0.50	170.0
(YELLOW)	20		25	0.25	125.0
(GREEN)	20		15	0.25	75.0
ARROW	20		12	0.10	24.0
PED. SIGNAL	8		25	1.00	200.0
CONTROLLER	1		100	1.00	100.0
ILLUM. SIGN			25	0.05	
VIDEO SYSTEM			150	1.00	
FLASHER				0.50	
ENERGY COSTS TO:				TOTAL =	694.0

**ILLINOIS DEPARTMENT OF TRANSPORTATION**  
 DIVISION OF HIGHWAY/DISTRICT 1  
 201 WEST CENTER COURT/SCHAUMBURG, ILLINOIS 60196-1096  
 ENERGY SUPPLY: CONTACT: ILYAS MOHIUDDIN  
 PHONE: (708) 235-2692  
 COMPANY: COMED



**TEMPORARY RADIO INTERCONNECT PLAN**



**TEMPORARY RADIO INTERCONNECT SCHEMATIC**

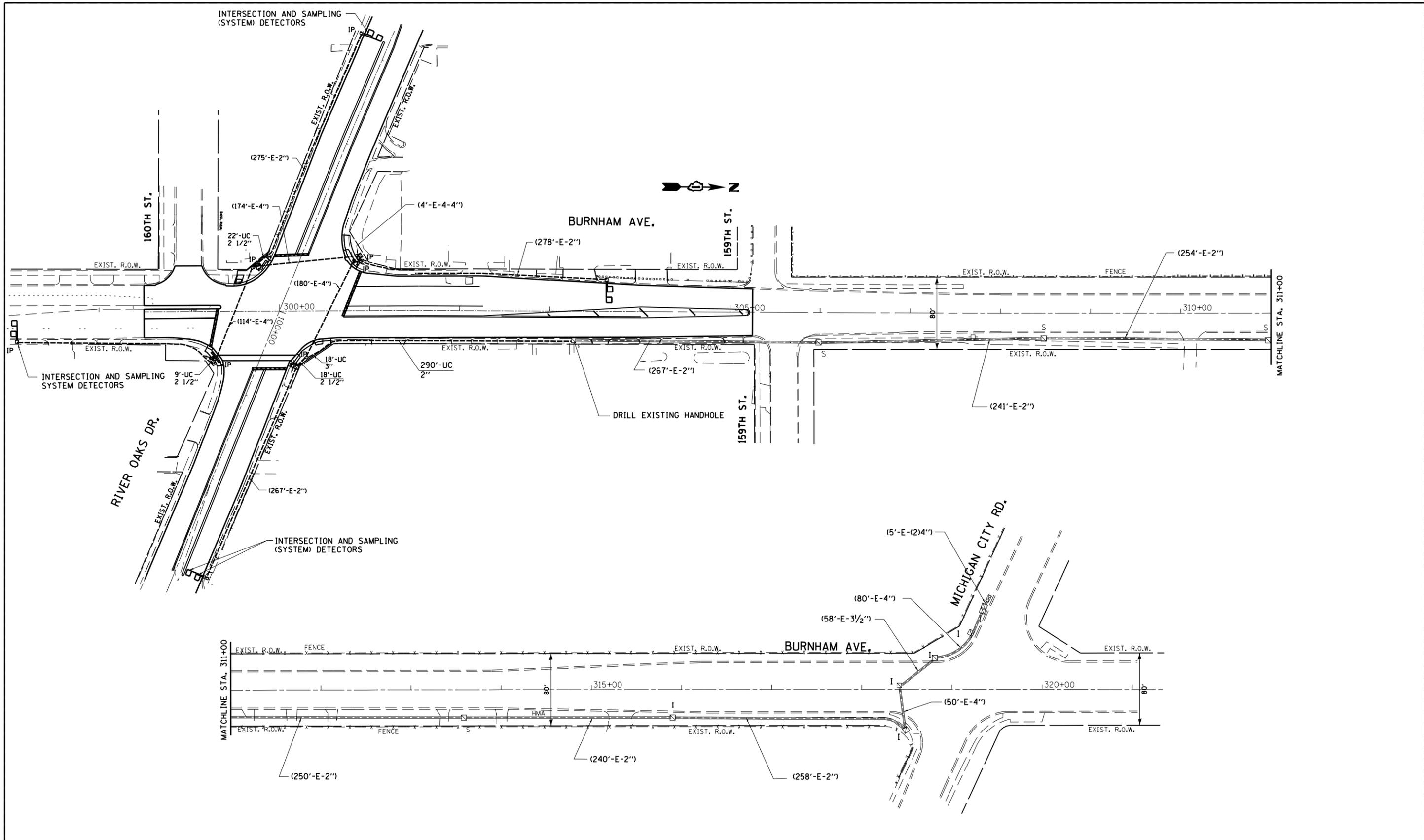
**NOTE:**  
 THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

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c:\pwwork\pwwork\hamdanah\d0286304\p114712-sht-typical.dgn		DRAWN - CADD	REVISED -
\$MODELNAME\$	PLOT SCALE = 100.0000' / 1" =	CHECKED - JHE	REVISED -
	PLOT DATE = 10/22/2012	DATE - OCT. 2012	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

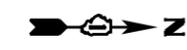
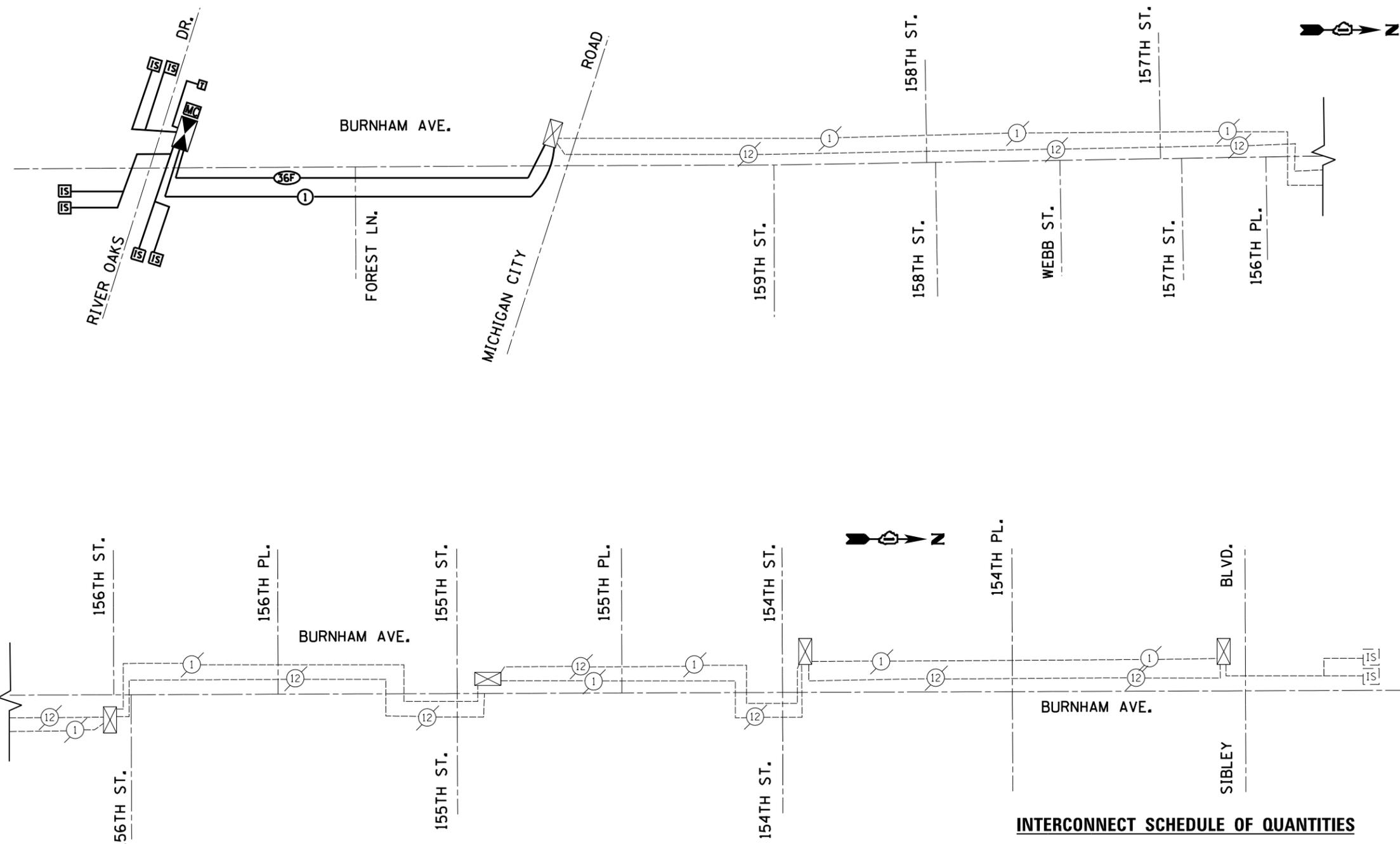
<b>BURNHAM AVENUE AT RIVER OAKS DRIVE        FROM RIVER OAKS DRIVE TO MICHIGAN CITY ROAD        TEMPORARY WIRELESS INTERCONNECT</b>			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2943	3162A-N-1	COOK	42	19
<b>CONTRACT NO. 60T47</b>				
ILLINOIS FED. AID PROJECT				



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

FILE NAME = c:\pwork\pwork\hamdanah\d0286304\p11712-sht-typical.dgn	USER NAME = hamdanah	DESIGNED - JHE	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BURNHAM AVENUE AT RIVER OAKS DRIVE (RIVER OAKS DRIVE - MICHIGAN CITY ROAD) TRAFFIC SIGNAL INTERCONNECT PLAN</b>	F.A.U. RTE. = 2943	SECTION = 3162A-N-1	COUNTY = COOK	TOTAL SHEETS = 42	SHEET NO. = 20	
*MODELNAME*	PLOT SCALE = 100.0000' / 1" =	CHECKED - JHE	REVISED -			<b>CONTRACT NO. 60T47</b>					
	PLOT DATE = 10/22/2012	DATE = OCT. 2012	REVISED -			ILLINOIS FED. AID PROJECT					
						SCALE:	SHEET	OF	SHEETS	STA.	TO

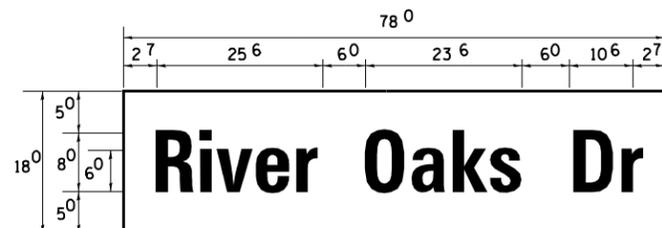
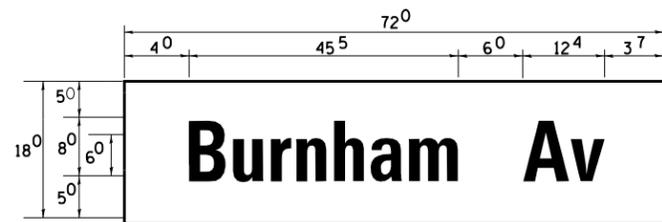


**INTERCONNECT SCHEDULE OF QUANTITIES**

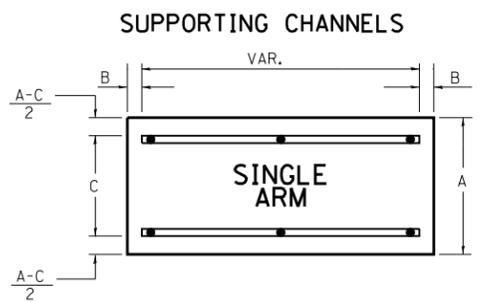
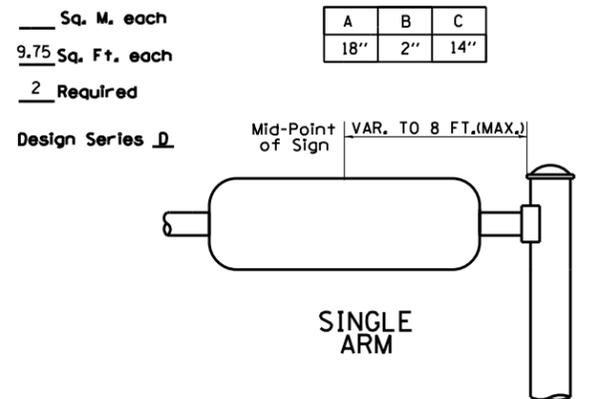
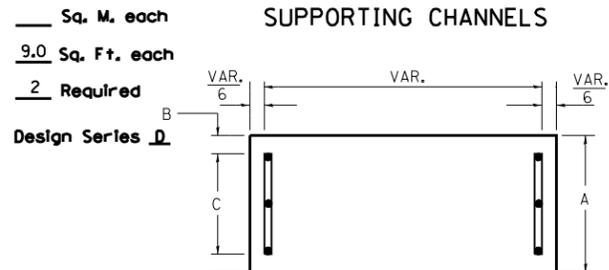
ITEM DESCRIPTION	UNITS	TOTAL QTY.
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	290
FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM24F	FOOT	2,232
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 IC	EACH	2,232
OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	1
DRILL EXISTING HANDHOLE	EACH	1

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

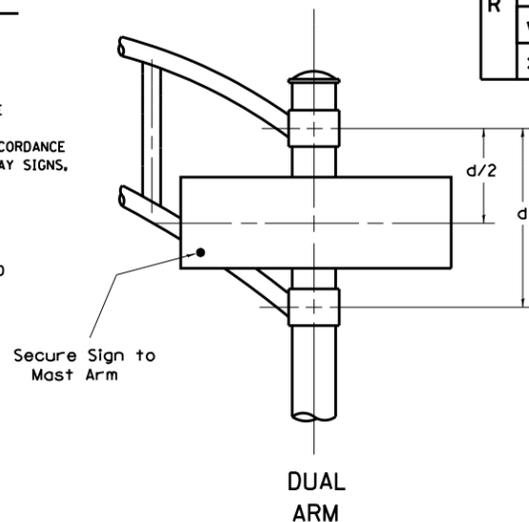
PANEL SIGN DESIGN TYPE 1



NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS



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



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

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

SERIES	SECOND LETTER															
	acde		bhikl		f w		j		s t		v y		x		z	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
A W X	12	14	14	15	12	14	06	10	11	14	06	10	11	12	12	14
B	14	15	20	21	14	15	11	12	14	15	12	14	12	14	16	17
C E G	14	15	20	21	12	14	06	10	12	14	12	14	14	15	14	15
D O O R	14	15	20	21	14	15	06	10	12	14	12	14	14	15	14	15
F	05	06	14	15	06	10	05	06	06	10	06	10	06	10	11	12
H I M N	20	21	22	24	20	21	14	15	16	17	16	17	20	21	20	21
J U	20	21	20	21	16	17	14	15	16	17	16	17	16	17	20	21
K L	11	12	16	17	11	12	05	06	11	12	11	12	11	12	12	14
P	12	14	14	15	12	14	05	06	11	12	11	12	12	14	12	14
S	12	14	16	17	12	14	06	10	12	14	12	14	12	14	12	14
T	11	12	16	17	06	10	06	10	11	12	11	12	11	12	12	14
V	06	10	14	15	11	12	06	10	12	14	12	14	12	14	12	14
Y	05	06	14	15	06	10	05	06	05	07	05	06	06	10	11	12
Z	16	17	22	24	16	17	12	14	16	17	16	17	16	17	20	21

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

SERIES	SECOND LETTER															
	acde		bhikl		f w		j		s t		v y		x		z	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
adhgi	16	17	22	24	16	17	12	14	14	15	14	15	16	17	16	17
lmnqu																
bfkops	12	14	16	17	11	12	05	06	11	12	11	12	12	14	12	14
ce	12	14	16	17	12	14	06	10	12	14	12	14	12	14	12	14
r	06	10	12	14	06	10	03	03	05	06	05	06	06	10	06	10
t z	12	14	16	17	12	14	06	10	11	12	11	12	12	14	12	14
vy	11	12	14	15	11	12	05	06	06	10	06	10	11	12	11	12
w	11	12	14	15	11	12	05	06	11	12	11	12	11	12	12	14
x	12	14	16	17	11	12	05	06	11	12	11	12	11	12	12	14

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

SERIES	SECOND NUMBER																				
	0		1		2		3		4		5		6		7		8		9		
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	
0 9	16	17	16	17	14	15	12	14	14	15	14	15	16	17	12	14	16	17	16	17	
1	20	21	20	21	20	21	16	17	14	15	20	21	20	21	14	15	20	21	20	21	
2 3 4	14	15	14	15	14	15	12	14	12	14	14	15	14	15	11	12	16	17	14	15	
5	14	15	14	15	14	15	11	12	11	12	14	15	14	15	11	12	14	15	14	15	
6	16	17	14	15	14	15	12	14	14	15	14	15	11	12	14	15	14	15	14	15	
7	12	14	12	14	14	15	12	14	15	05	06	12	14	14	15	11	12	14	15	12	14
8	16	17	16	17	14	15	12	14	14	15	16	17	12	14	16	17	14	15	14	15	

EXAMPLE, 2<sup>3</sup> DENOTES 3/8

UPPER AND LOWER CASE  
LETTER WIDTHS

LETTERS	6 INCH UPPER CASE LETTERS				8 INCH UPPER CASE LETTERS				LETTERS	6 INCH LOWER CASE LETTERS	
	SERIES		SERIES		SERIES		SERIES			C	D
	C	D	C	D	C	D	C	D			
A	36	50	50	65	a	35	42				
B	32	40	43	53	b	35	42				
C	32	40	43	53	c	35	41				
D	32	40	43	53	d	35	42				
E	30	35	40	47	e	35	42				
F	30	35	40	47	f	23	26				
G	32	40	43	53	g	35	42				
H	32	40	43	53	h	35	42				
I	07	07	11	12	i	11	11				
J	30	36	40	50	j	20	22				
K	32	41	43	54	k	35	42				
L	30	35	40	47	l	11	11				
M	37	45	51	61	m	60	70				
N	32	40	43	53	n	35	42				
O	34	42	45	55	o	36	43				
P	32	40	43	53	p	35	42				
Q	34	42	45	55	q	35	42				
R	32	40	43	53	r	26	32				
S	32	40	43	53	s	36	42				
T	30	35	40	47	t	27	32				
U	32	40	43	53	u	35	42				
V	35	44	47	60	v	42	47				
W	44	52	60	70	w	55	64				
X	34	40	45	53	x	44	51				
Y	36	50	50	66	y	46	53				
Z	32	40	43	53	z	36	43				

NUMBER	6 INCH SERIES		8 INCH SERIES	
	C	D	C	D
1	12	14	15	20
2	32	40	43	53
3	32	40	43	53
4	35	43	47	57
5	32	40	43	53
6	32	40	43	53
7	32	40	43	53
8	32	40	43	53
9	32	40	43	53
0	34	42	45	55

GENERAL NOTES

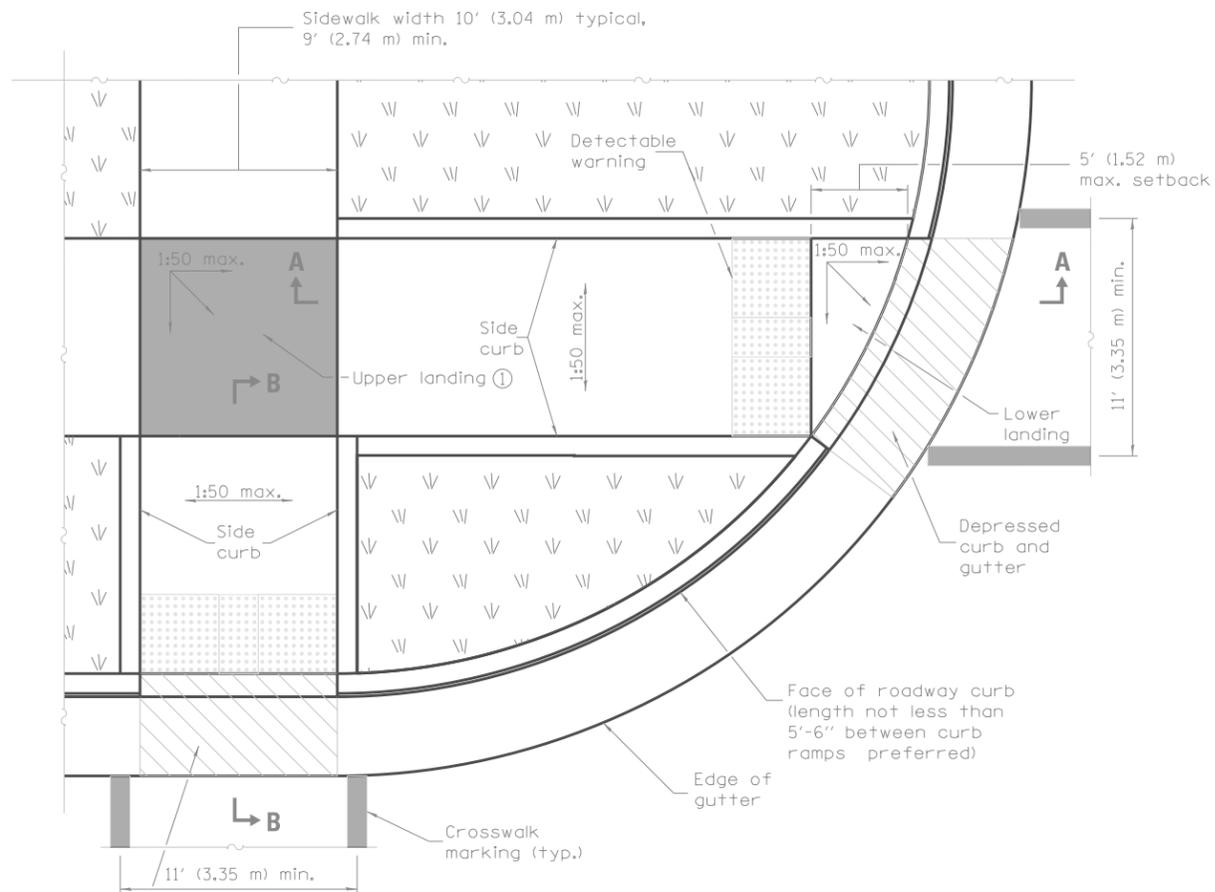
- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 877001, 877002, 877006, 877011 AND 877012, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 8'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE 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 HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
- THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 8'-0".
- ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:
  - \* J.O. HERBERT CO. MIDLOTHIAN, VA.
  - \* WESTERN REMAC INC. WOODRIDGE, IL.

**PARTS LISTING:**  
SIGN CHANNEL PART \*HPN053 (MED. CHANNEL)  
SIGN SCREWS 1/4" x 14 x 1" H.W.H. #3  
SELF TAPPING WITH NEOPRENE WASHER  
BRACKETS PART \*HPN034 (UNIVERSAL)  
CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING  
OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BACKET OF THE ABOVE PRODUCT.

FILE NAME =	USER NAME = hamdanah	DESIGNED -	REVISED -
et:\pwork\pwork\hamdanah\0286304\111712-sht-typical.dgn		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

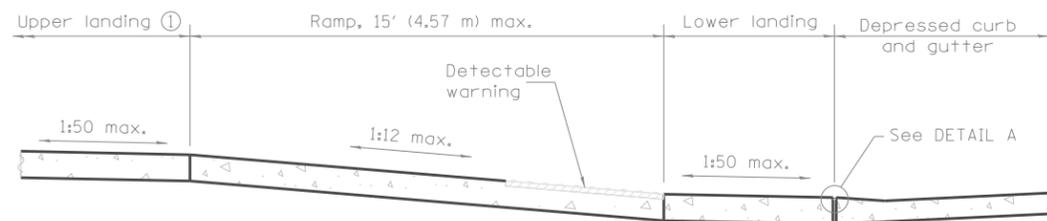
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BURNHAM AVENUE AT RIVER OAKS DRIVE DISTRICT ONE MAST ARM MOUNTED STREET NAME SIGNS				F.A.P. RTE. 2943	SECTION 3162 A-N-1	COUNTY COOK	TOTAL SHEETS 42	SHEET NO. 22
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	CONTRACT NO. 60T47					
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT								



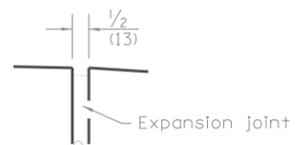
**RAMPS IN LANDSCAPED AREA  
SETBACK  $\le 5'$**

Depressed curb and gutter

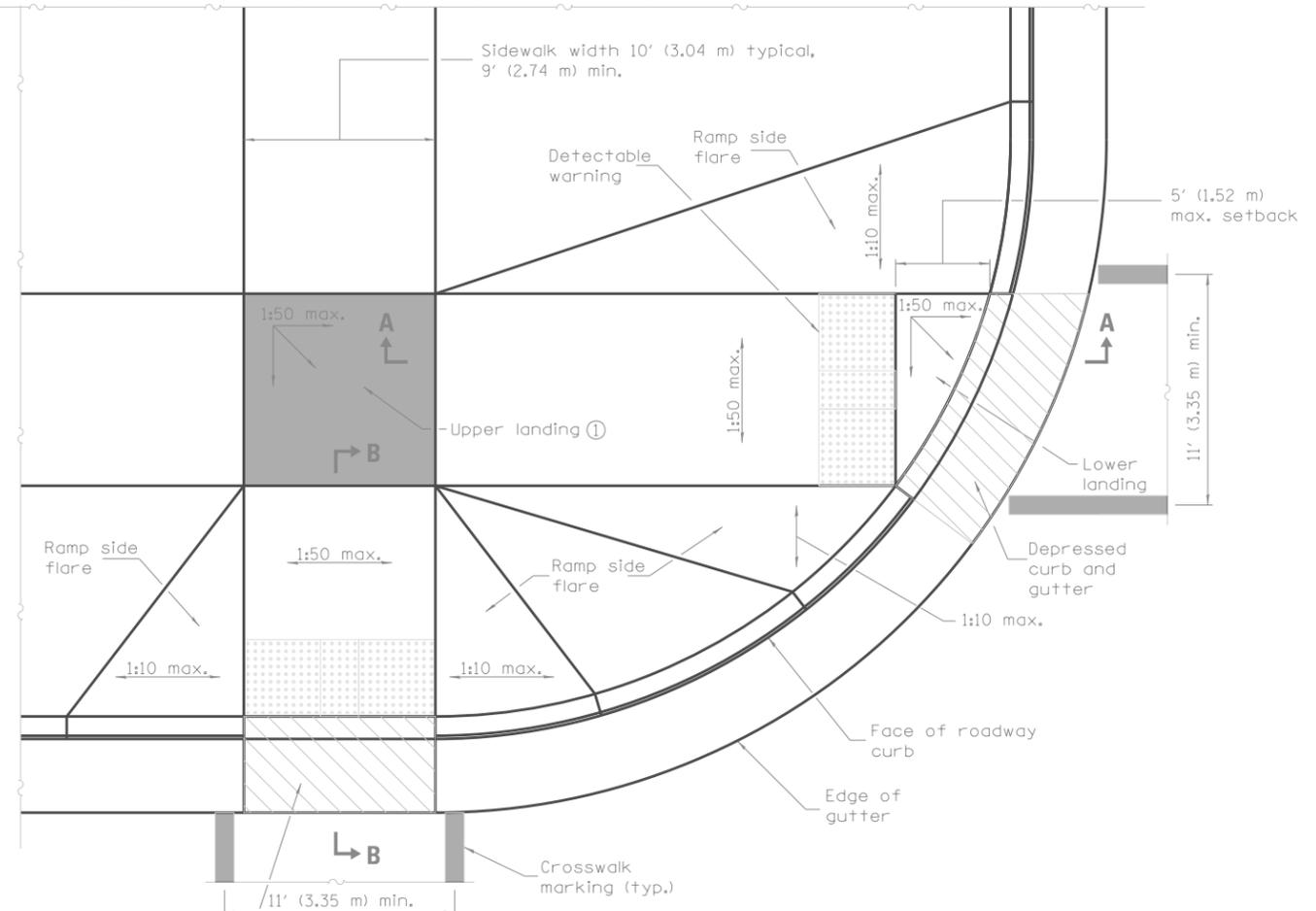


**SECTION A-A**

① Upper landing not required for ramp slopes flatter than 1:20.

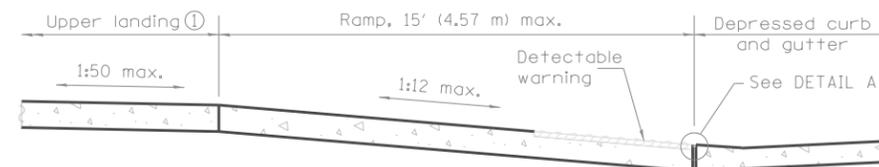


**DETAIL A**



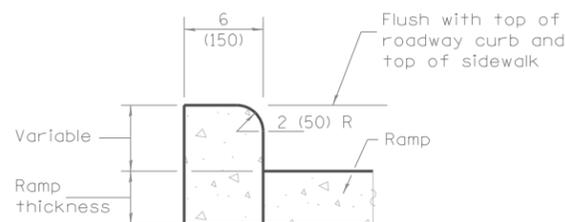
**RAMPS IN PAVED AREA  
SETBACK  $\le 5'$**

Depressed curb and gutter



**SECTION B-B**

① Upper landing not required for ramp slopes flatter than 1:20.



**SIDE CURB DETAIL**

**GENERAL NOTES**

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

See Standard 606001 for details of depressed curb adjacent to curb ramp.

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

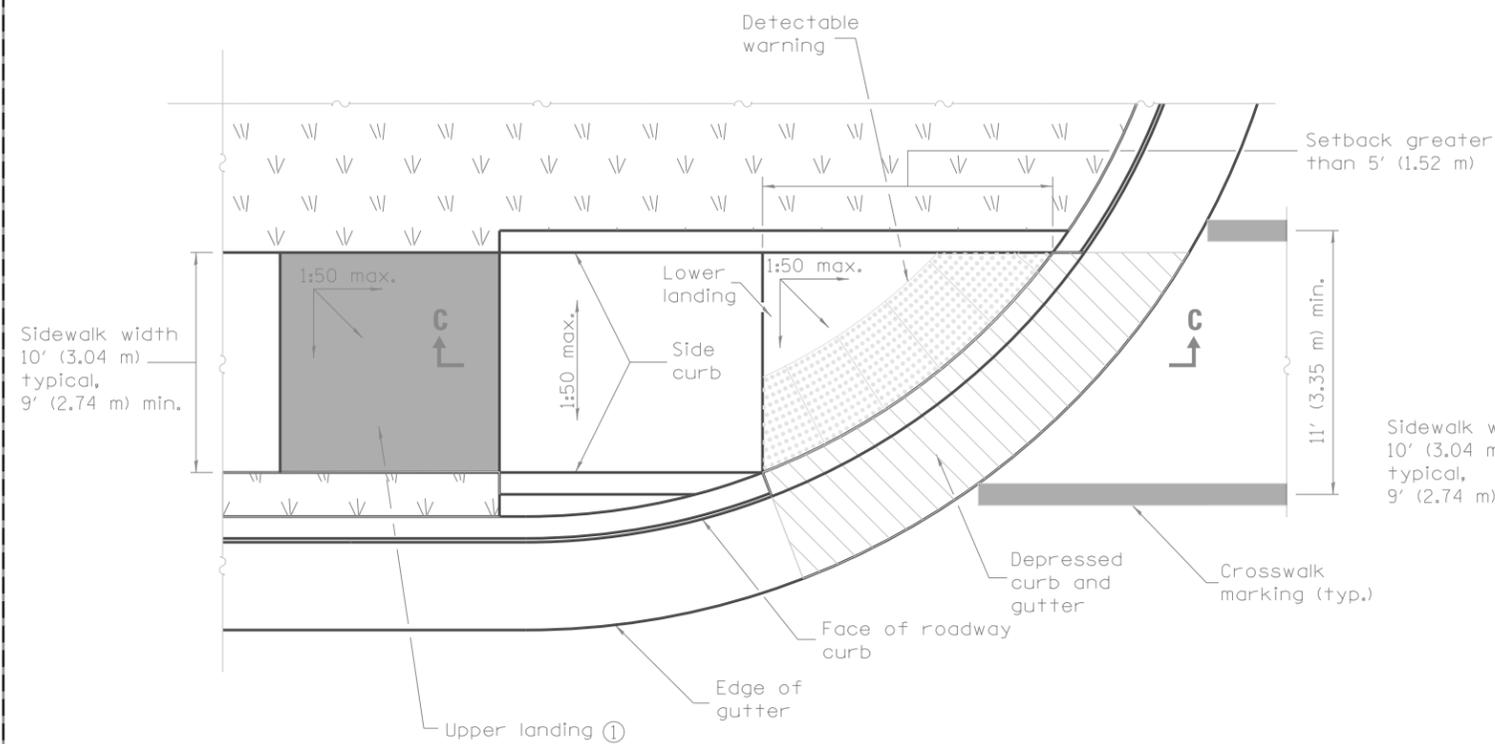
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		CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

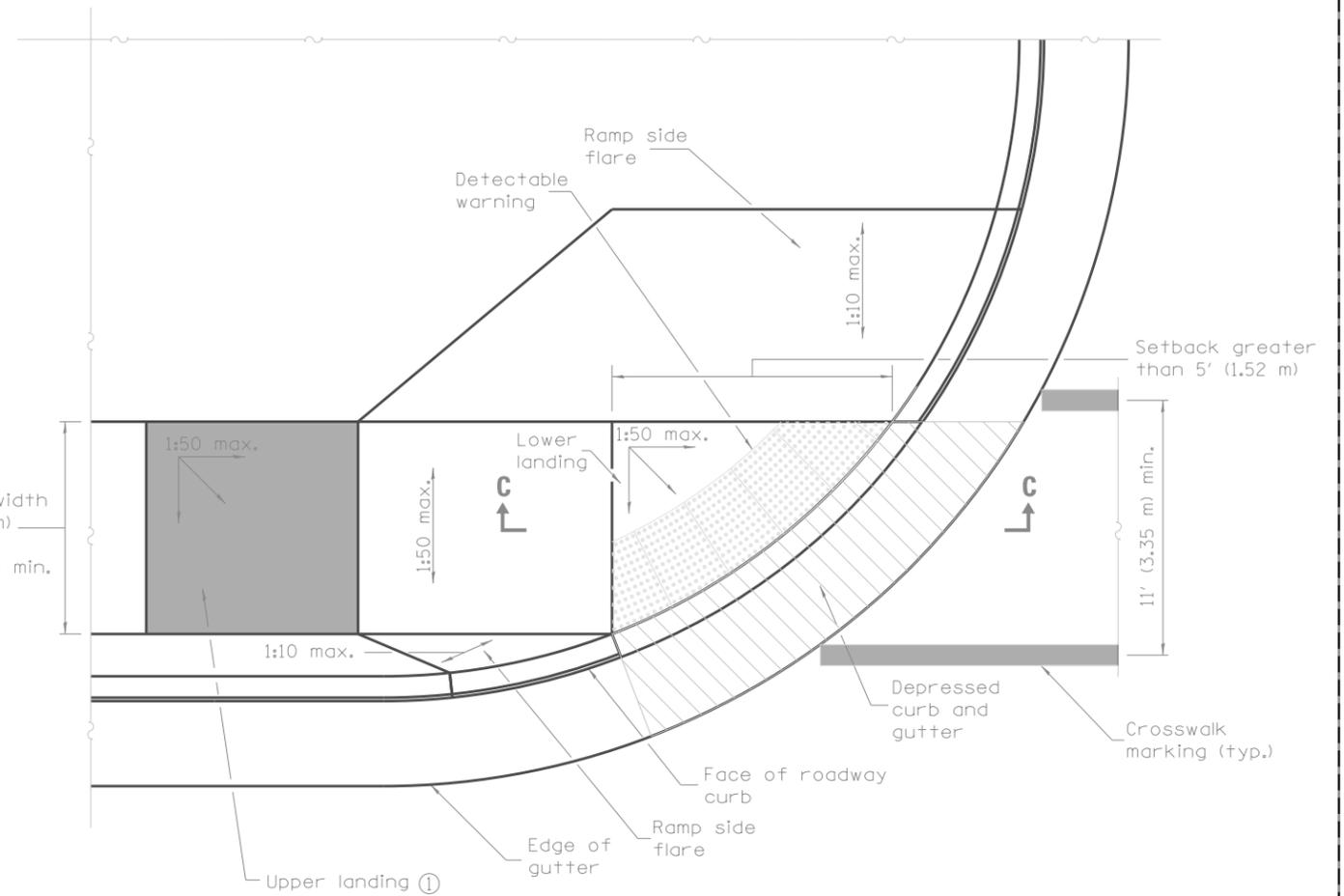
PERPENDICULAR CURB RAMPS  
FOR SHARED PATH

SCALE: SHEET NO. 1 OF 2 SHEETS STA. TO STA.

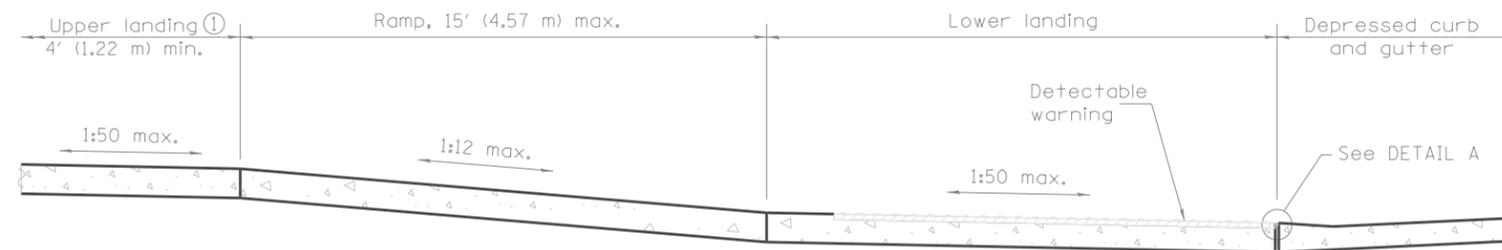
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2943	3162A-N-1	COOK	42	23
CONTRACT NO. 60T47				
ILLINOIS FED. AID PROJECT				



**RAMP IN LANDSCAPED AREA  
SETBACK > 5'**



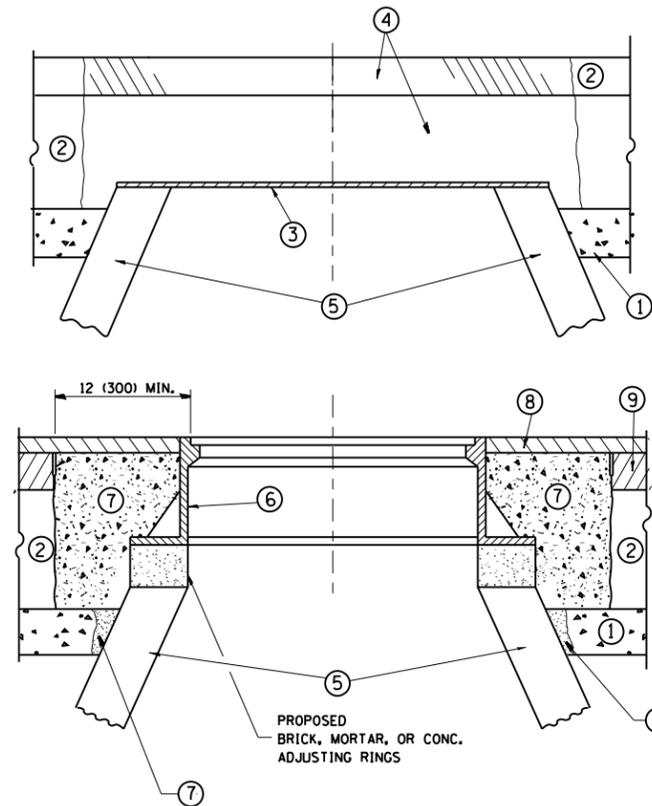
**RAMP IN PAVED AREA  
SETBACK > 5'**



**SECTION C-C**

① Upper landing not required for ramp slopes flatter than 1:20.

FILE NAME =	USER NAME = hamdanah	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PERPENDICULAR CURB RAMPS FOR SHARED PATH</b>	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
et:\pwork\pwork\hamdanah\0286304\111712-sht-typical.dgn		DRAWN -	REVISED -			2943	3162A-N-1	COOK	42	24
PLOT SCALE = 100.0000' / 1"		CHECKED -	REVISED -			<b>CONTRACT NO. 60T47</b>				
PLOT DATE = 10/22/2012		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				
				SCALE:	SHEET NO. 2 OF 2 SHEETS	STA.	TO STA.			



**CONSTRUCTION PROCEDURES**

**STAGE 1 (BEFORE PAVEMENT MILLING)**

- A) REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.
- B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
- C) COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.
- D) BACKFILL WITH CRUSHED STONE AND A MINIMUM 1/2 (40) THICK HMA SURFACE MIX APPROVED BY THE ENGINEER.

**STAGE 2 (AFTER PAVEMENT MILLING)**

- A) REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
- B) INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
- C) THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS PP-1\* CONCRETE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

\* UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS EXCEPT THAT "THE CONTRACTOR SHALL ADJUST THE STRUCTURES TO THE FINISHED PAVEMENT ELEVATION NO MORE THAN 5 CALENDAR DAYS PRIOR TO PLACEMENT OF THE FINAL LIFT OF SURFACE UNLESS APPROVED BY THE ENGINEER."

**LEGEND**

- ① SUB-BASE GRANULAR MATERIAL
- ② EXISTING PAVEMENT
- ③ 36 (900) DIAMETER METAL PLATE
- ④ PROPOSED CRUSHED STONE AND HMA SURFACE MIX
- ⑤ EXISTING STRUCTURE
- ⑥ FRAME AND LID (SEE NOTES)
- ⑦ CLASS PP-1\* CONCRETE
- ⑧ PROPOSED HMA SURFACE COURSE
- ⑨ PROPOSED HMA BINDER COURSE

**LOCATION OF STRUCTURES:**

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

**BASIS OF PAYMENT:**

REMOVING FRAMES AND LIDS ON DRAINAGE AND UTILITY STRUCTURES IN THE PAVEMENT PRIOR TO MILLING, AND ADJUSTING TO FINAL GRADE PRIOR TO PLACING THE SURFACE COURSE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)."

THIS WORK WILL NOT BE PAID FOR WHEN DRAINAGE AND UTILITY STRUCTURES ARE SPECIFIED FOR PAYMENT AS STRUCTURE RECONSTRUCTION.

NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.

**NOTES:**

EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.

IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.

CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.

THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

**DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING**

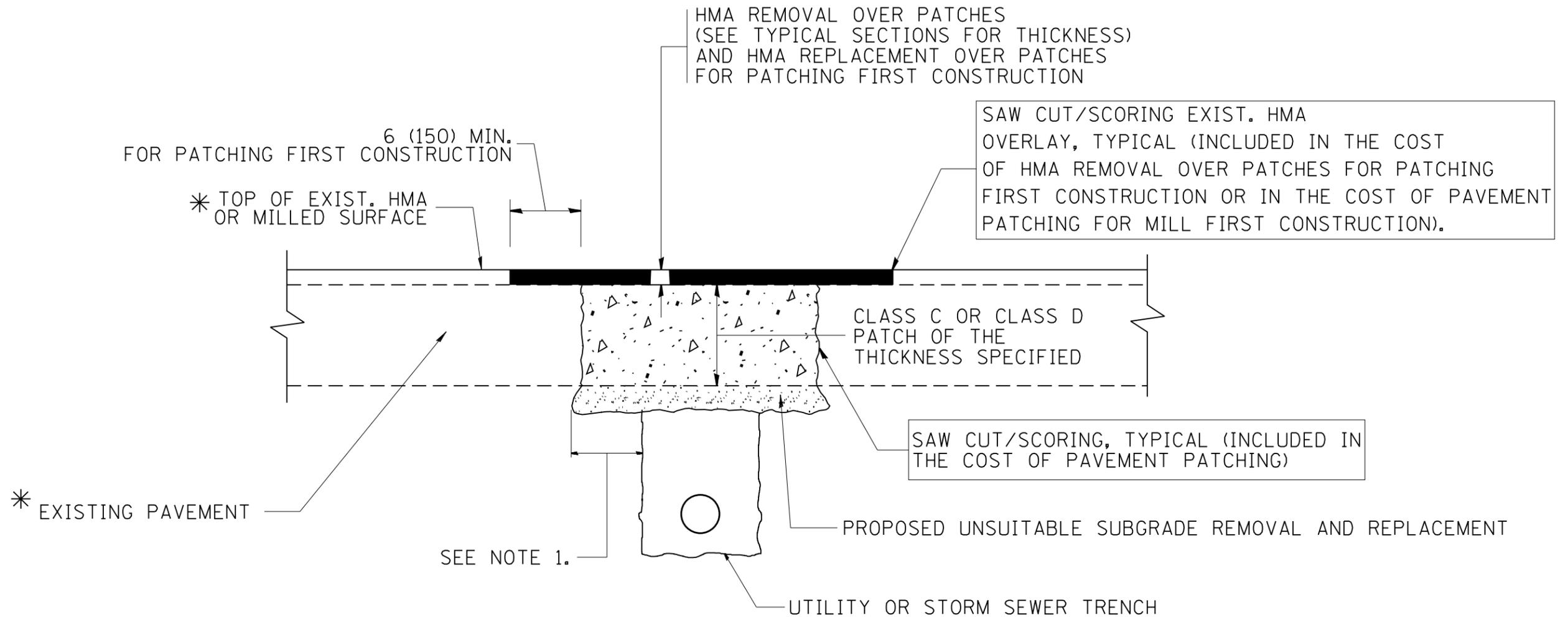
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

FILE NAME =	USER NAME = hamdanah	DESIGNED - R. SHAH	REVISED - R. WIEDEMAN 05-14-04
et:\pw\work\p1dot\hamdanah\d0286304\01st.dgn		DRAWN -	REVISED - R. BORO 01-01-07
	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - R. BORO 03-09-11
	PLOT DATE = 10/22/2012	DATE - 10-25-94	REVISED - R. BORO 12-06-11

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2943	3162A-N-1	COOK	42	25
BD600-03 (BD-8)		CONTRACT NO. 60T47		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



\* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

**NOTES:**

1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 12 (300) WIDER ON EACH SIDE OF THE TRENCH.
2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

SEQUENCE OF CONSTRUCTION (PATCHING FIRST)

1. REMOVE THE EXISTING HMA MATERIAL OVER THE AREA TO BE PATCHED.
2. REMOVE AND REPLACE WITH CLASS C OR D PATCH.
3. REPLACE HMA MATERIAL OVER THE AREA TO BE PATCHED.

SEQUENCE OF CONSTRUCTION (MILLING FIRST)

1. MILL HMA FIRST IF THERE IS AT LEAST 4 1/2 INCHES OR MORE OF HMA MATERIAL ON TOP OF THE EXISTING PAVEMENT OR IF THE PAVEMENT IS FULL DEPTH HMA. A MINIMUM OF 2 INCHES OF HMA MATERIAL SHALL BE IN PLACE AFTER MILLING.
2. REMOVE AND REPLACE WITH FULL DEPTH CLASS D PATCHES TO TOP OF MILLED SURFACE.

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

FILE NAME =	USER NAME = hamdanah	DESIGNED - R. SHAH	REVISED - A. ABBAS 04-27-98	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT</b>			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
et:\pwork\pwork\hamdanah\0286304\01stgStd.dgn		DRAWN -	REVISED - R. BORO 01-01-07		SCALE: NONE	SHEET NO. 1	OF 1 SHEETS	STA.	TO STA.	2943	3162A-N-1	COOK	42	26
	PLOT SCALE = 100.0000' / 1" =	CHECKED -	REVISED - R. BORO 09-04-07								BD400-04 (BD-22)	CONTRACT NO. 60T47		
	PLOT DATE = 10/22/2012	DATE - 10-25-94	REVISED - K. ENG 10-27-08								FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			

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

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

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

SEE STATE STANDARD 606001  
EXISTING OR PROPOSED HMA SURFACE (IF APPLICABLE)

18" (450) MAX.

1/4" (5) \*\*

EXISTING SIDEWALK, DRIVEWAY, MEDIAN SURFACE, SOD OR GROUND.

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

EXISTING CONCRETE PAVEMENT, CONCRETE BASE COURSE OR FLEXIBLE PAVEMENT

3" (75) MIN.

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

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

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

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

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

SODDING, SALT TOLERANT AND TOP SOIL, FURNISH AND PLACE 4" WILL BE PAID FOR SEPARATELY.

② FERTILIZER FOR THE PLACEMENT OF THE SOD IS NOT REQUIRED

③ CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.

④ FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.

⑤ LONGITUDINAL BARS, IF ENCOUNTERED IN THE EXISTING CURB OR CURB AND GUTTER, ARE NOT TO BE REPLACED. CUTTING AND REMOVING LONGITUDINAL BARS SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

⑥ THE COST OF HMA SURFACE REMOVAL IN THE EXISTING GUTTER FLAG SHALL BE INCLUDED IN THE COST OF THE CURB AND GUTTER REMOVAL AND REPLACEMENT.

⑦ THE REMOVAL AND REPLACEMENT OF THE EXISTING CURB OR CURB AND GUTTER SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 440 AND 606 OF THE STANDARD SPECIFICATIONS.

⑧ THE LOCATIONS OF REMOVAL AND REPLACEMENT OF EXISTING CURB OR CURB AND GUTTER SHALL BE DETERMINED BY THE RESIDENT ENGINEER AT THE TIME OF CONSTRUCTION.

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

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

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

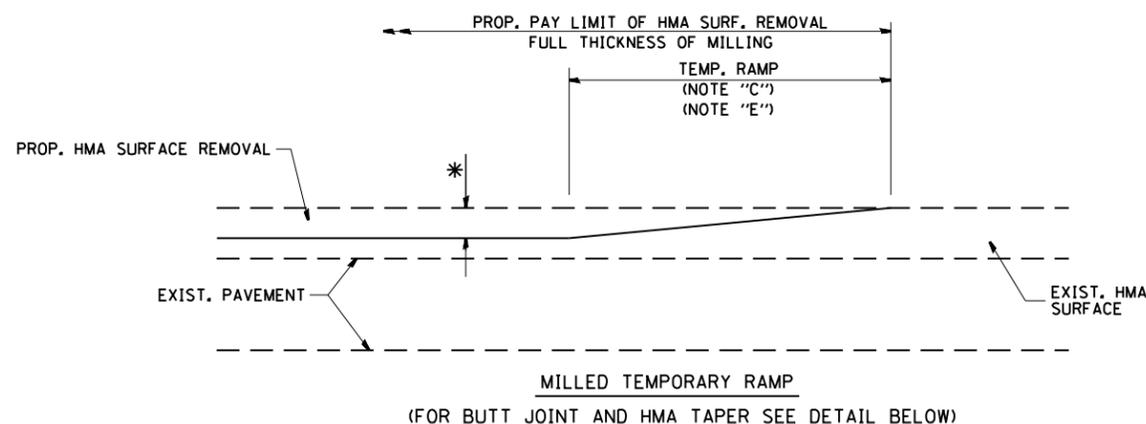
PROPOSED #6 (20) EPOXY COATED TIE BARS 24" (600) LONG AT 24" (600) CENTERS WILL NOT BE PAID FOR SEPARATELY. DELETE EPOXY COATED TIE BARS IF EXISTING TIE BARS ARE USUABLE AS DETERMINED BY THE ENGINEER. (SEE NOTE ③).

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

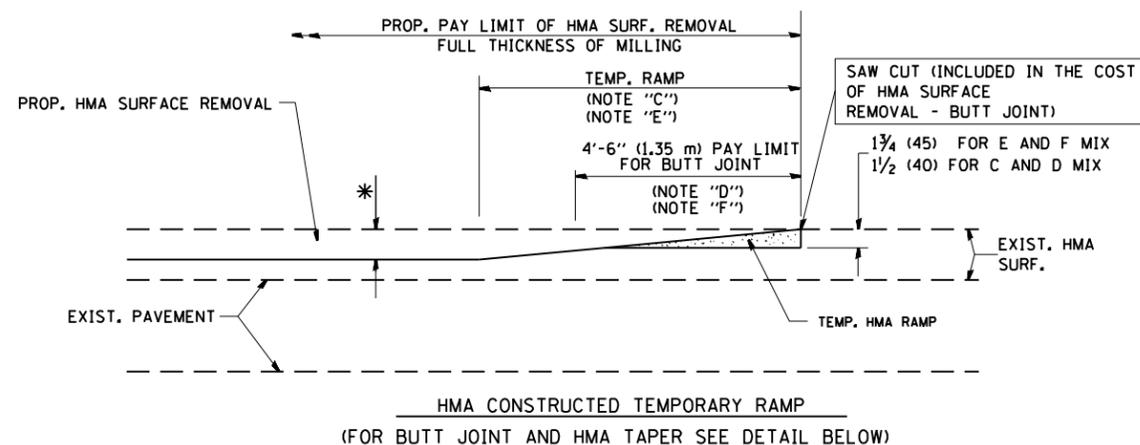
# CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

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

FILE NAME =	USER NAME = hamdanah	DESIGNED - A. HOUSEH	REVISED - R. SHAH 10-03-96	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT</b>			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
es:\pwork\pwork\hamdanah\0286304\0195Std.dgn		DRAWN -	REVISED - A. ABBAS 03-21-97					2943	3162A-N-1	COOK	42	27
PLOT SCALE = 100.0000' / 1in.		CHECKED -	REVISED - M. GOMEZ 01-22-01		BD600-06 (BD-24)			CONTRACT NO. 60T47				
PLOT DATE = 10/22/2012		DATE - 03-11-94	REVISED - R. BORO 12-15-09		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

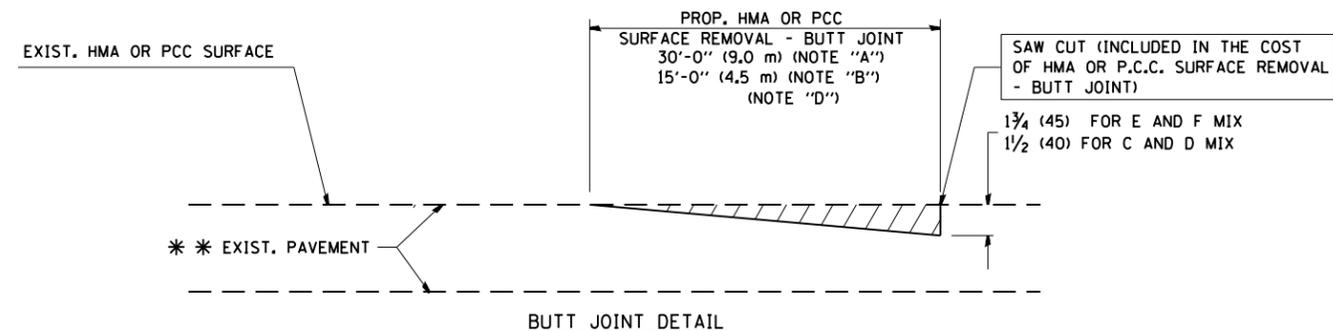


**OPTION 1**

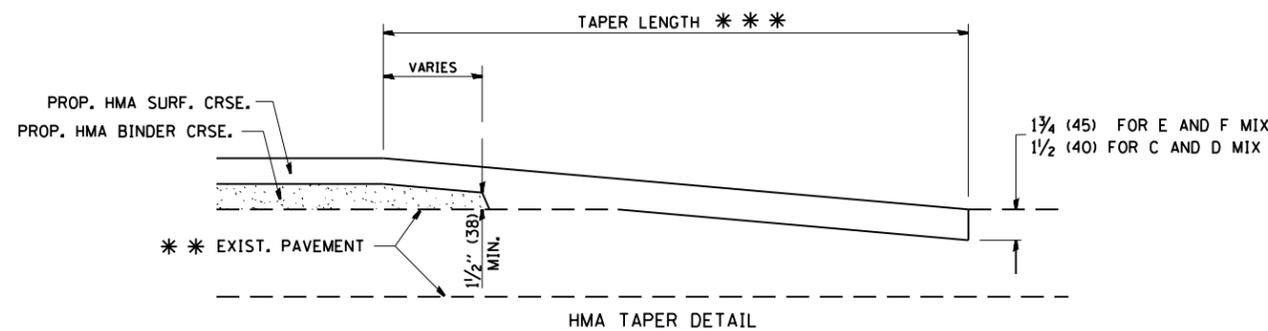


**OPTION 2**

**TYPICAL TEMPORARY RAMP**



**BUTT JOINT DETAIL**



**HMA TAPER DETAIL**

**TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY**

\*\*\* PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

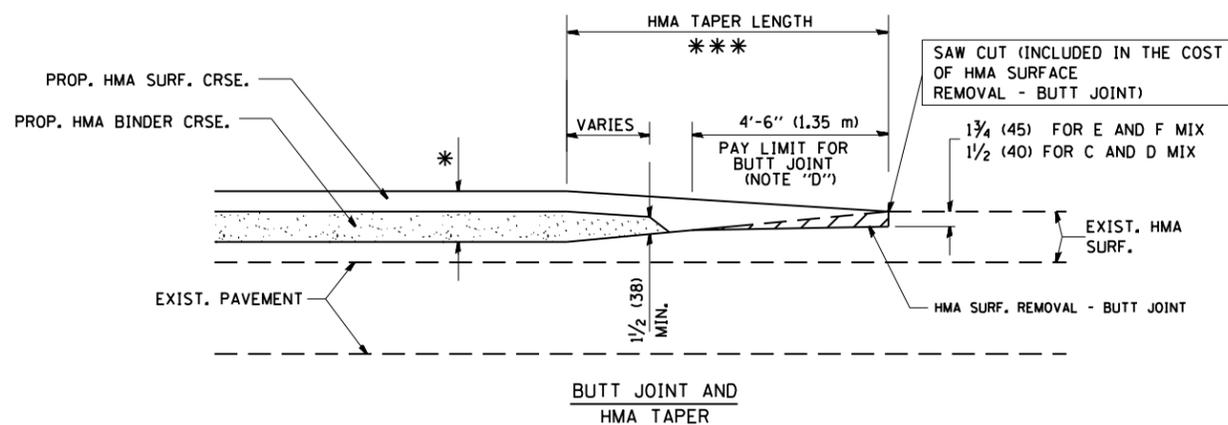
**NOTES**

- A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
  - B: MINOR SIDE ROADS.
  - C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
  - D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
  - E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
  - F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT
  - G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".
- \* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- \*\*\* 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")  
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

**BASIS OF PAYMENT:**

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT".

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



**TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING**

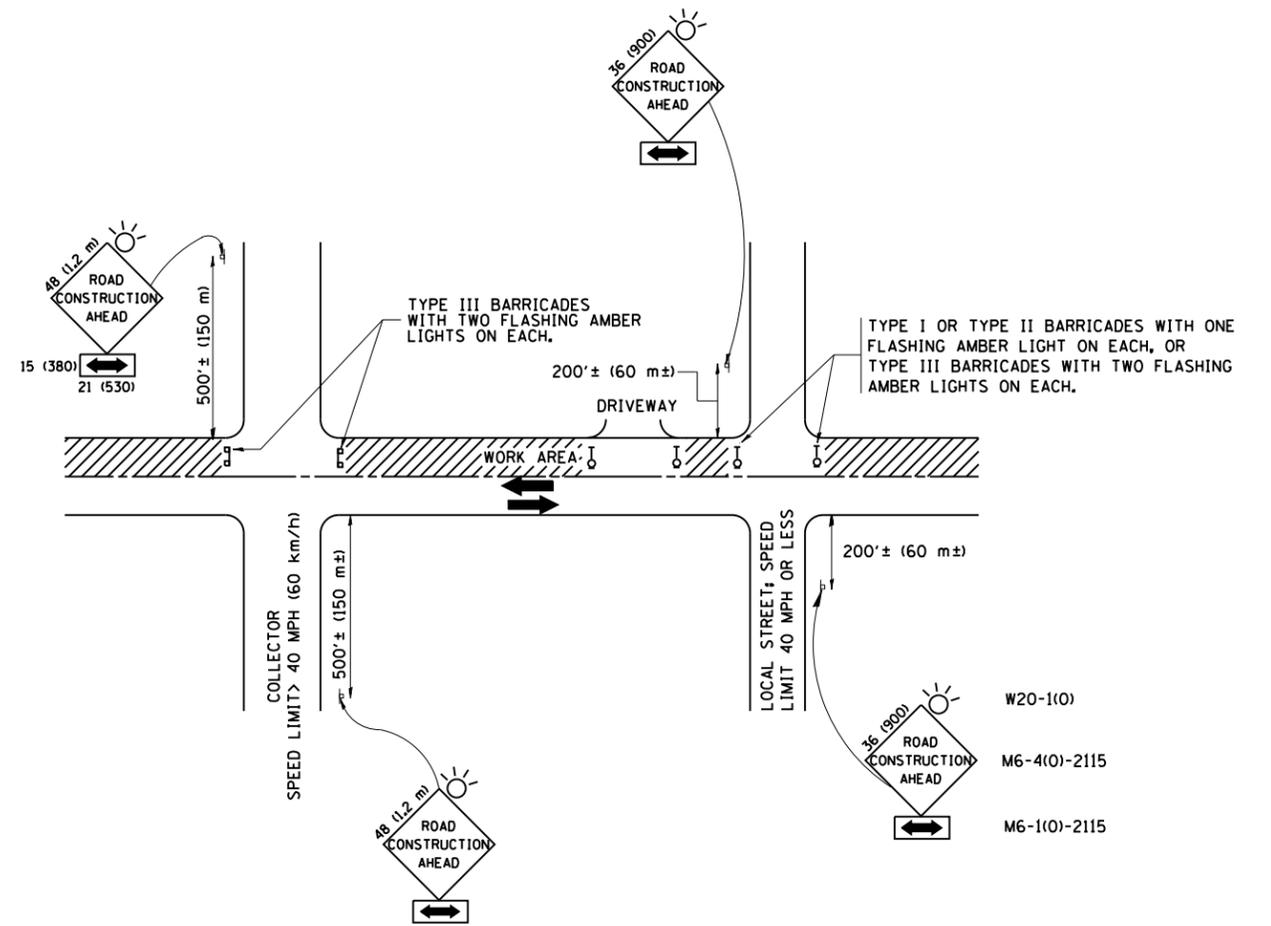
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	PLOT SCALE = 100.0000' / 1"	CHECKED -	REVISED - M. GOMEZ 04-06-01
	PLOT DATE = 10/22/2012	DATE - 06-13-90	REVISED - R. BORO 01-01-07

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BUTT JOINT AND  
HMA TAPER DETAILS**

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

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2943	3162A-N-1	COOK	42	28
BD400-05 BD32		CONTRACT NO. 60T47		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



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

### NOTES:

#### A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

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 AND FLAG 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. 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).

#### B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

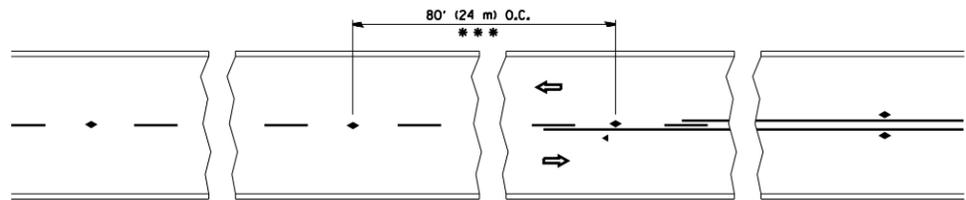
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	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 10/22/2012	DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

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

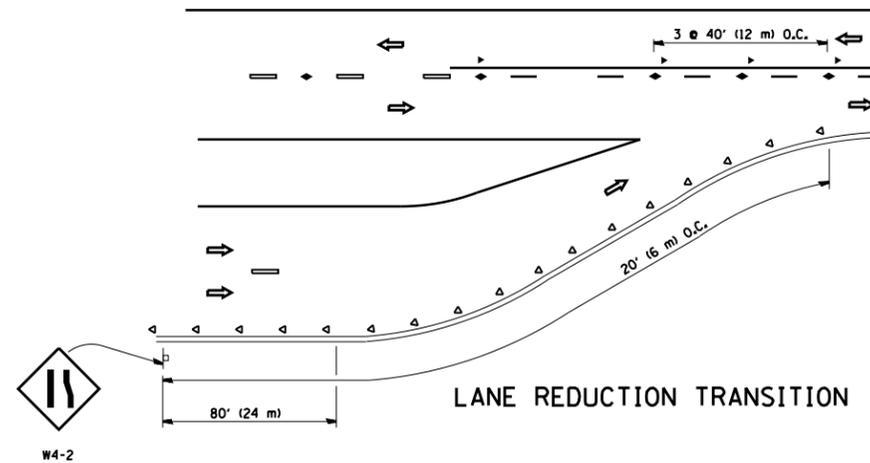
SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-10			CONTRACT NO. 60T47	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

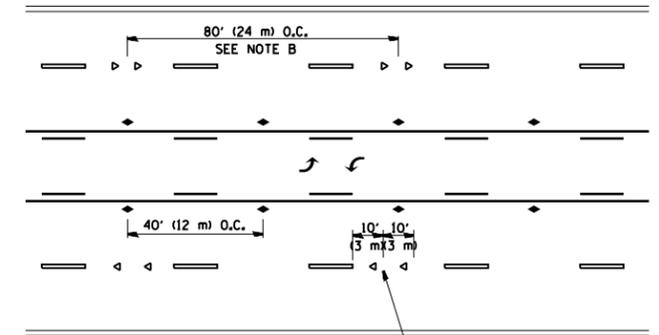


\*\*\* REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

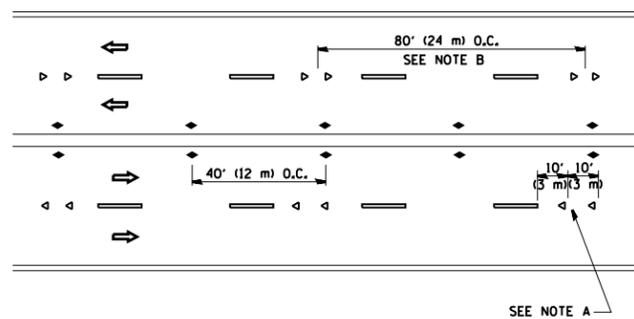
TWO-LANE/TWO-WAY



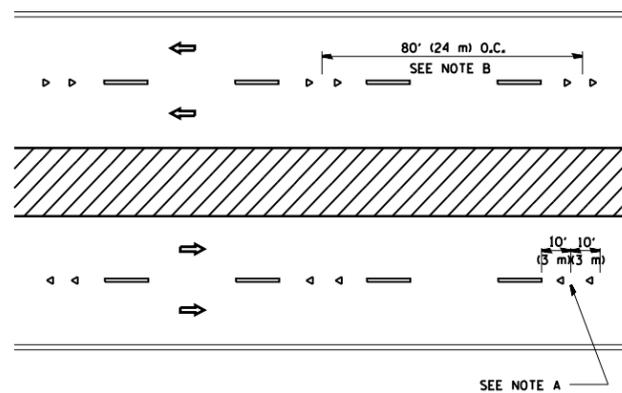
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

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

SYMBOLS

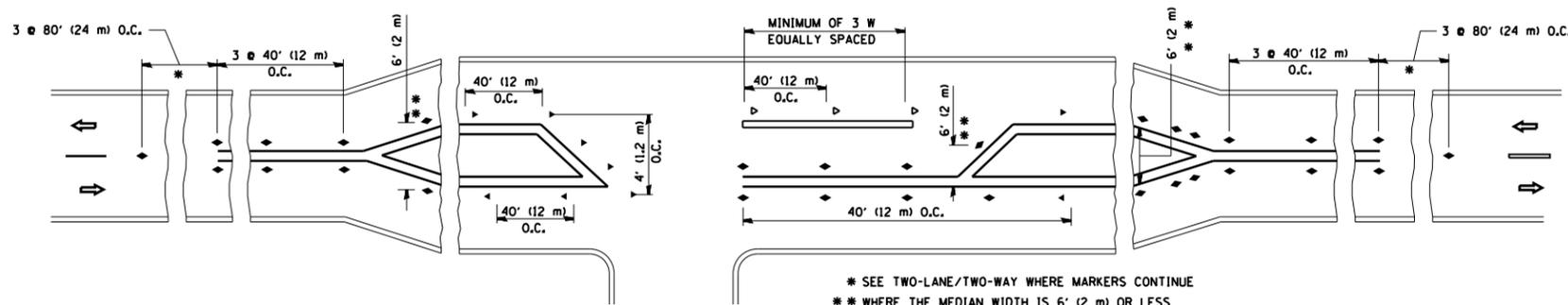
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◀ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

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

DESIGN NOTES

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



LEFT TURN

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

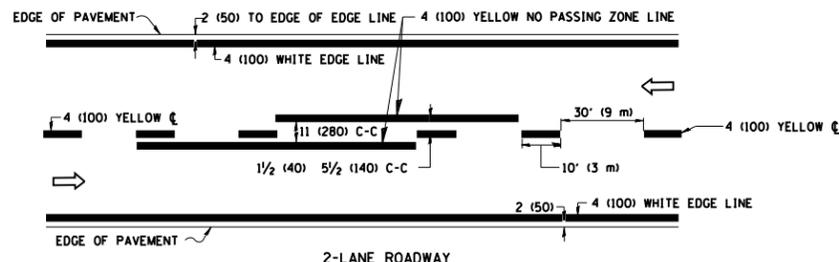
All dimensions are in inches (millimeters) unless otherwise shown.

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	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - T. RAMMACHER 01-06-00
	PLOT DATE = 10/22/2012	DATE -	REVISED - C. JUCIUS 09-09-09

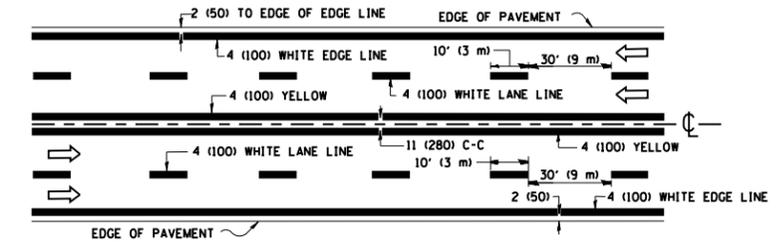
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

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

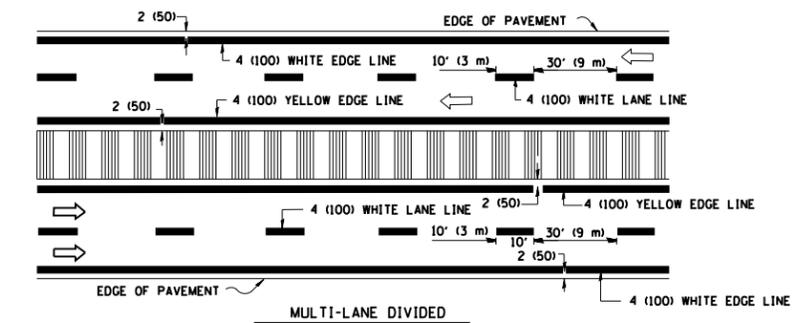
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2943	3162A-N-1	COOK	42	30
TC-11			CONTRACT NO. 60T47	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



2-LANE ROADWAY



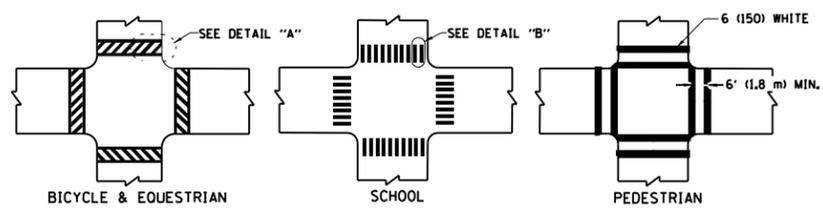
MULTI-LANE UNDIVIDED



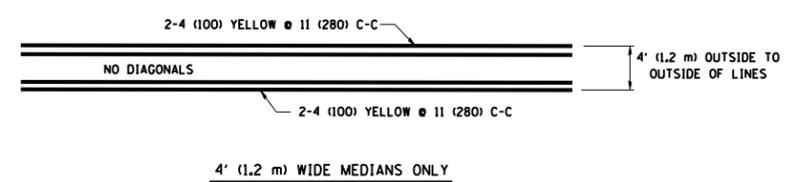
MULTI-LANE DIVIDED WITH MOUNTABLE MEDIAN

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

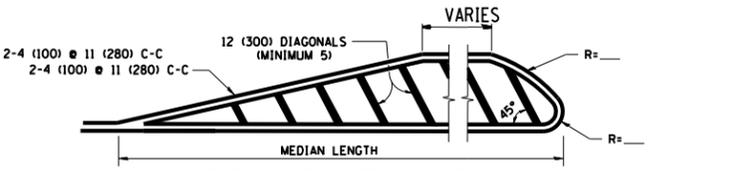
TYPICAL LANE AND EDGE LINE MARKING



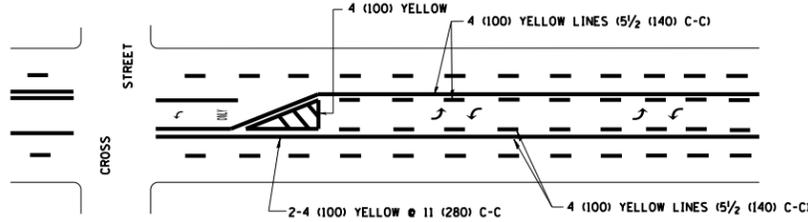
TYPICAL CROSSWALK MARKING



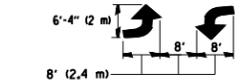
4' (1.2 m) WIDE MEDIANS ONLY



MEDIANS OVER 4' (1.2 m) WIDE

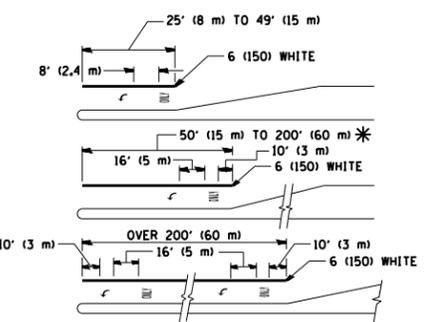


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

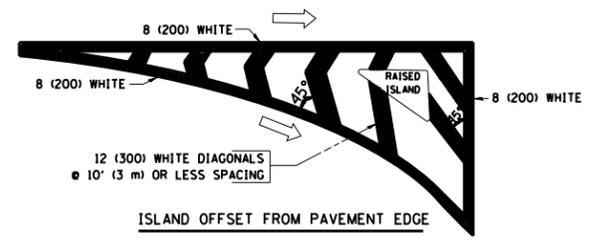


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED. AREA = 15.6 SQ. FT. (1.5 m<sup>2</sup>) ONLY AREA = 20.8 SQ. FT. (1.9 m<sup>2</sup>)

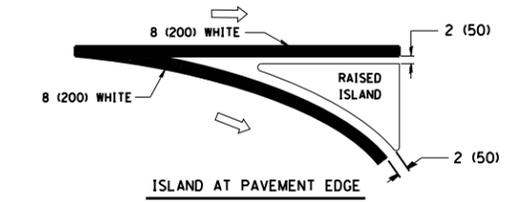
\* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

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

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

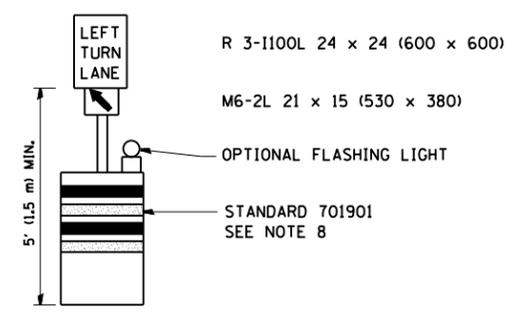
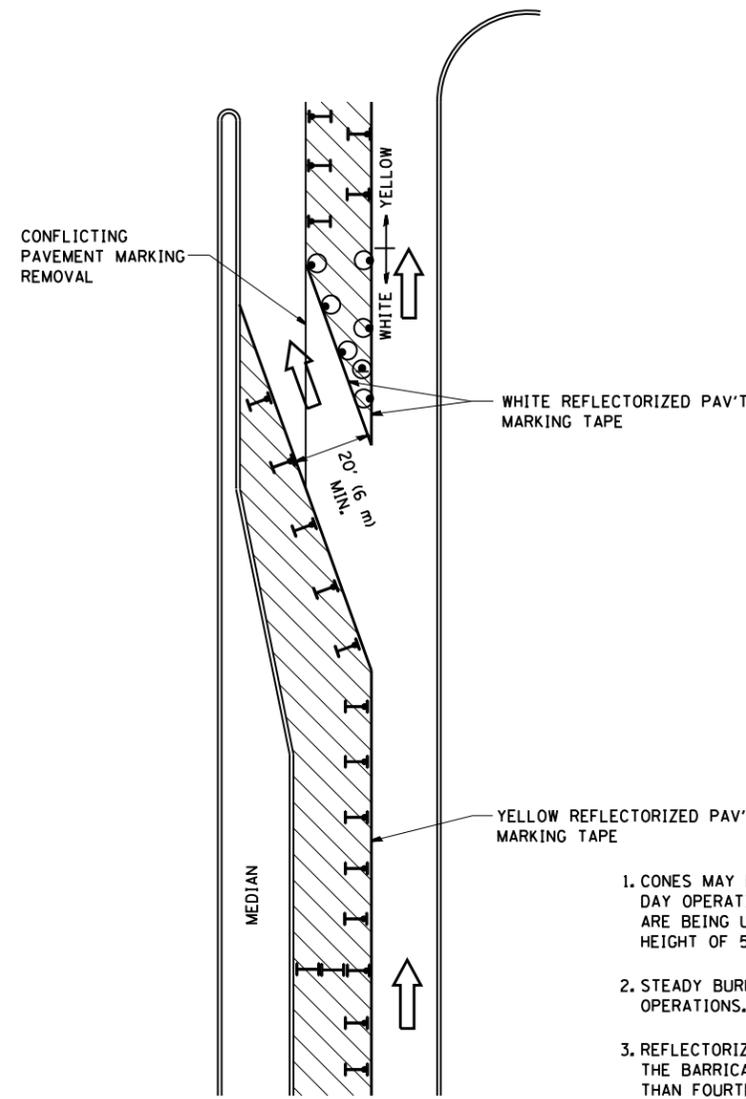
All dimensions are in inches (millimeters) unless otherwise shown.

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	PLOT SCALE = 100.0000' / 1"	CHECKED -	REVISED -
	PLOT DATE = 10/22/2012	DATE - 03-19-90	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE			
TYPICAL PAVEMENT MARKINGS			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2943	3162A-N-1	COOK	42	31
TC-13		CONTRACT NO. 60T47		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



**GENERAL NOTES**

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

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

**LEGEND**

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

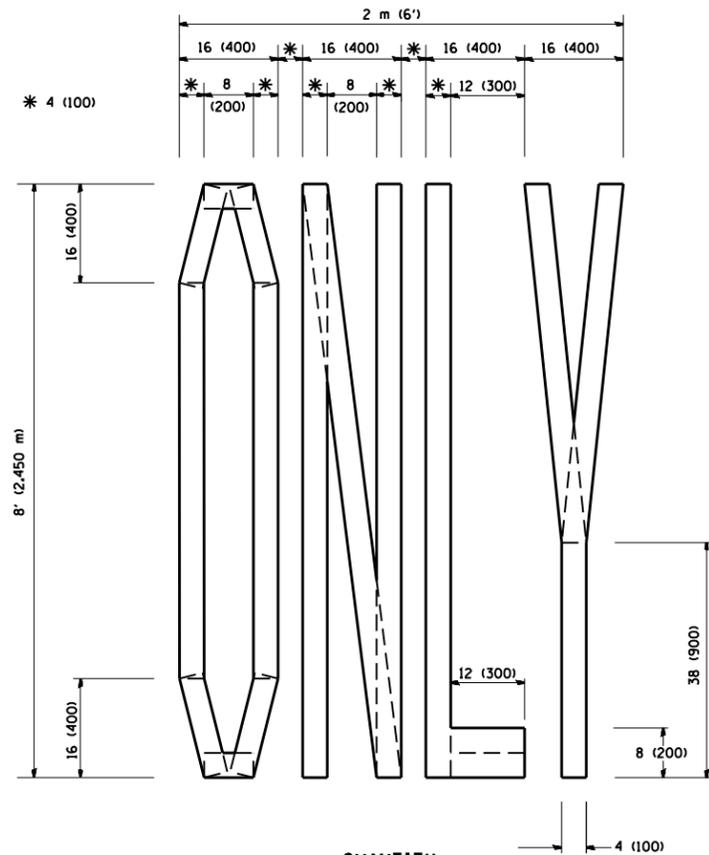
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	PLOT DATE = 10/22/2012	REVISED - T. RAMMACHER 01-06-00	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

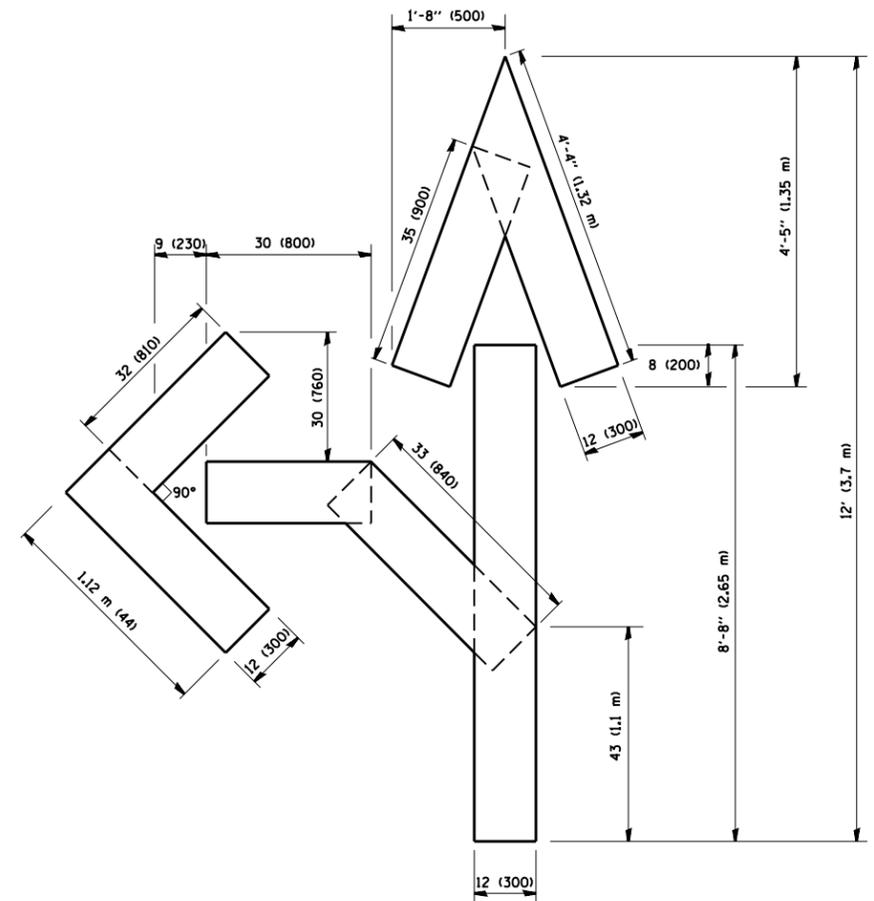
**TRAFFIC CONTROL AND PROTECTION AT TURN BAYS  
(TO REMAIN OPEN TO TRAFFIC)**

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

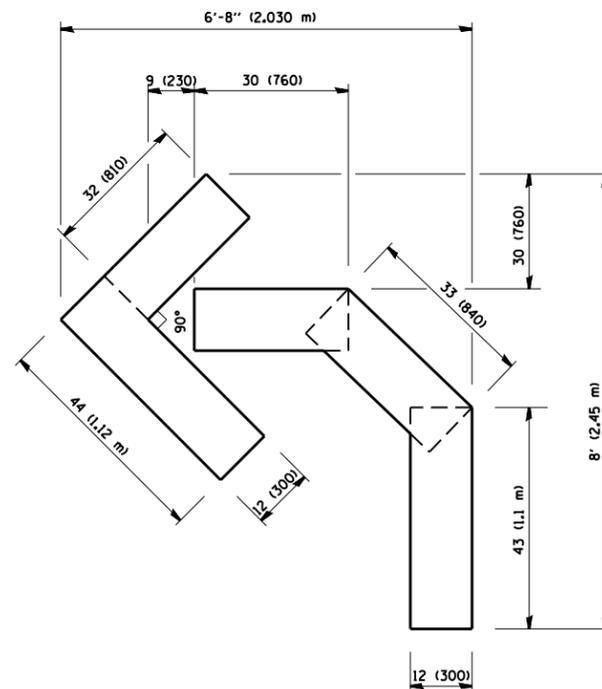
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2943	3162A-N-1	COOK	42	32
TC-14		CONTRACT NO. 60T47		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



QUANTITY  
 4 (100) LINE = 64.1 ft. (19.7 m)  
 21.1 sq. ft. (1.97 sq. m)



QUANTITY  
 4 (100) LINE = 82.5 ft. (25.3 m)  
 27.5 sq. ft. (2.53 sq. m)



QUANTITY  
 4 (100) LINE = 45.5 ft. (13.9 m)  
 15.2 sq. ft. (1.39 sq. m)

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

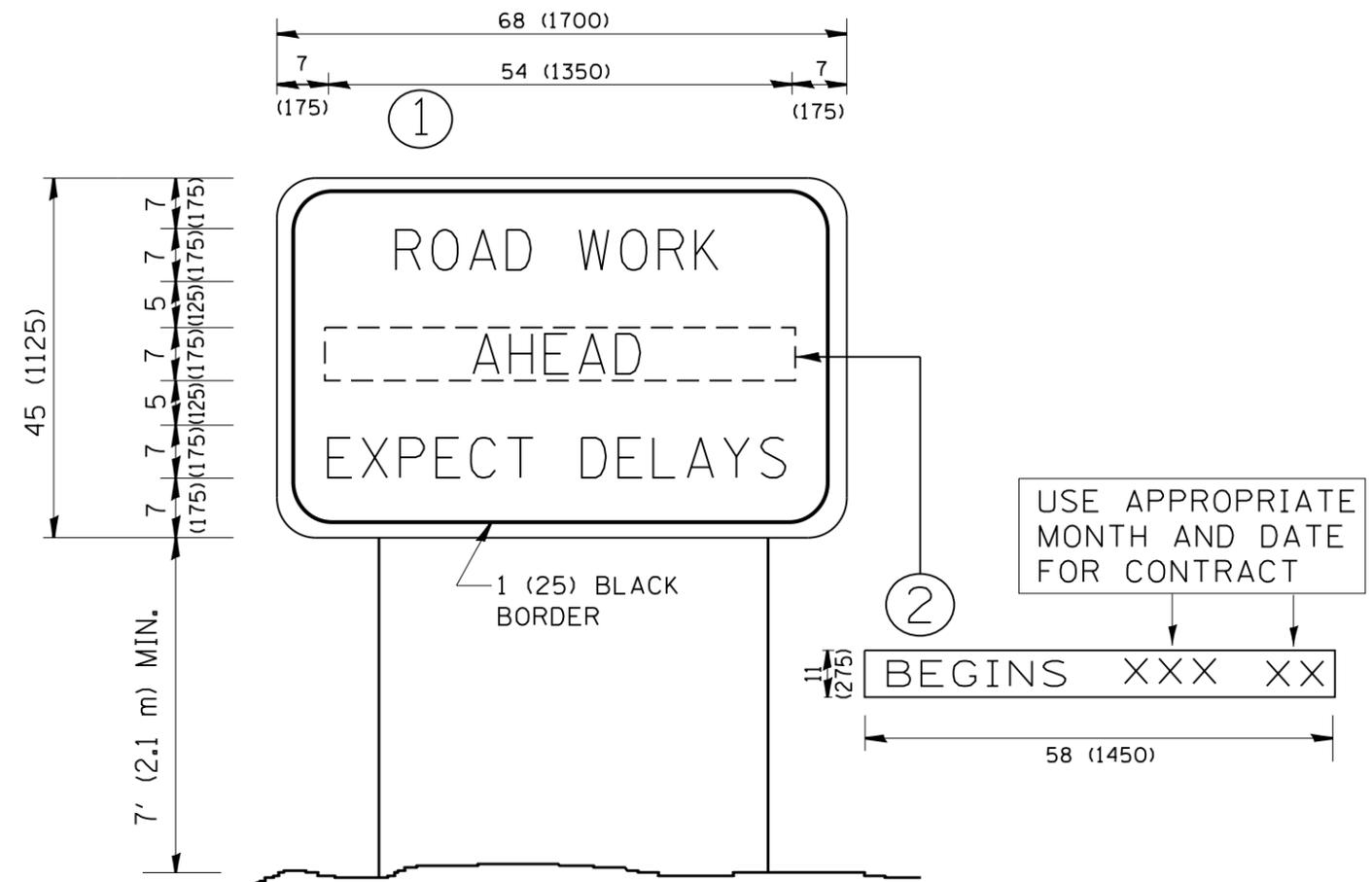
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		CHECKED -	REVISED -T, RAMMACHER 03-02-98
		DATE - 09-18-94	REVISED -E. GOMEZ 08-28-00

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING LETTERS AND SYMBOLS  
 FOR TRAFFIC STAGING

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

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2943	3162A-N-1	COOK	42	33
TC-16			CONTRACT NO. 60T47	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



**NOTES:**

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

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

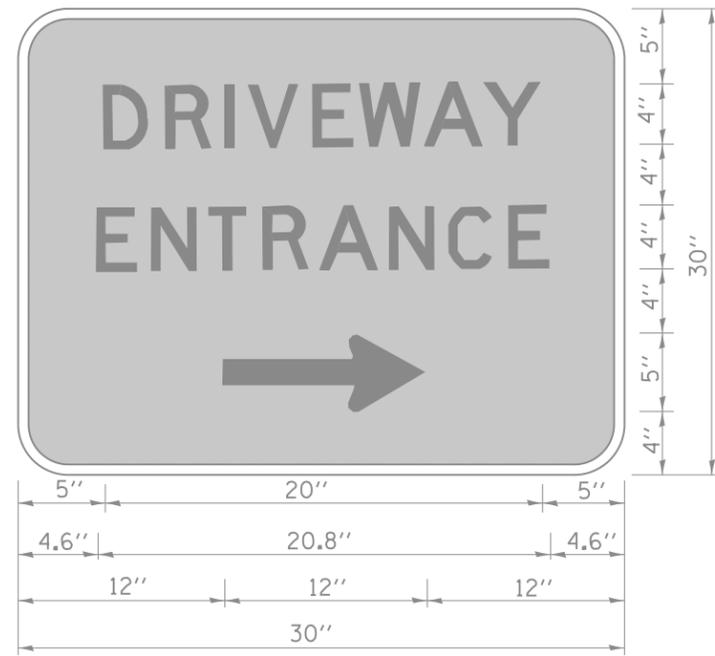
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	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - T. RAMMACHER 02-02-99
	PLOT DATE = 10/22/2012	DATE -	REVISED - C. JUCIUS 01-31-07

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ARTERIAL ROAD  
INFORMATION SIGN

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

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2943	3162A-N-1	COOK	42	34
TC-22		CONTRACT NO. 60T47		
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT				



3.0" RADIUS, 0.5" BORDER, WHITE ON GREEN; REFLECTORIZED  
 "DRIVEWAY" D; "ENTRANCE" D; STANDARD ARROW CUSTOM 12.0" x 5.0"

**NOTES:**

1. HALF OF THE SIGNS WILL REQUIRE A LEFT HAND FACING ARROW.
2. TWO SIGNS SHALL BE USED AT EACH COMMERCIAL ENTRANCE PLACED BACK-TO-BACK; ONE WITH A RIGHT HAND ARROW (SHOWN) SHALL BE PLACED ON THE NEAR RIGHT SIDE THE DRIVEWAY AND ONE WITH A LEFT HAND ARROW SHALL BE PLACED ON THE FAR LEFT SIDE OF THE DRIVEWAY.
3. SIGNS TO BE PAID FOR AS ITEM "TEMPORARY INFORMATION SIGNING".

FILE NAME =	USER NAME = hamdanah	DESIGNED -	REVISED - C. JUCIUS 02-15-07
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		DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

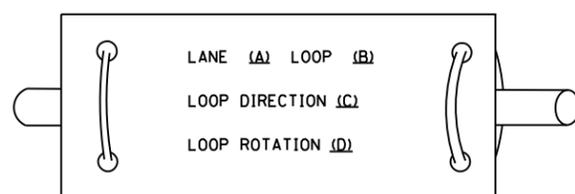
<b>DRIVEWAY ENTRANCE SIGNING</b>			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2943	3162A-N-1	COOK	42	35
TC-26			<b>CONTRACT NO. 60T47</b>	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

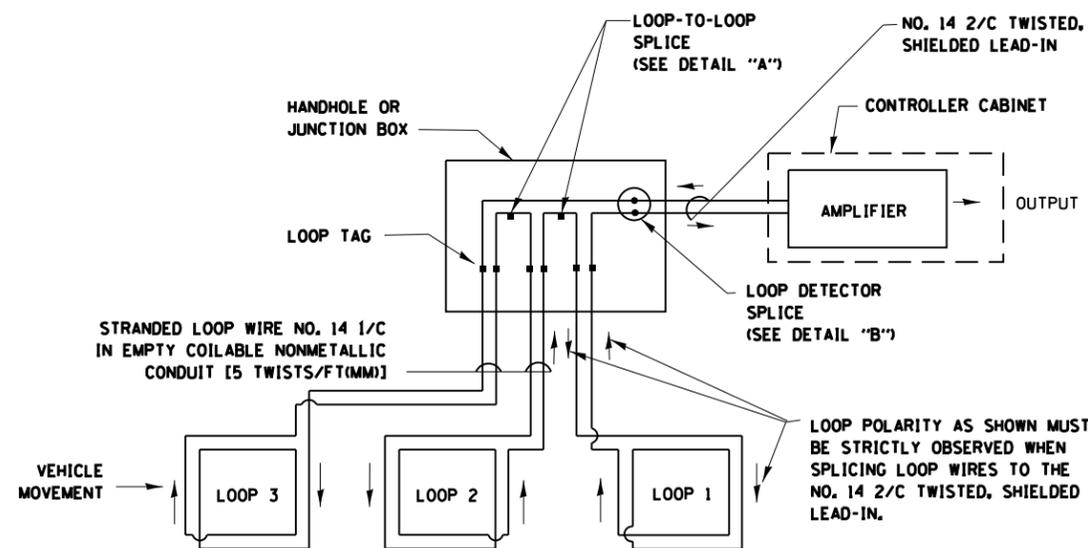
## LOOP DETECTOR NOTES

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

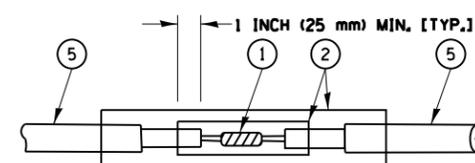


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

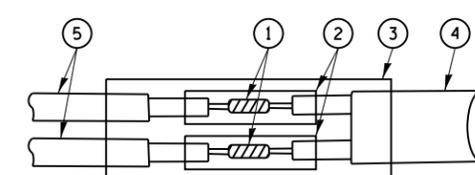


DETECTOR LOOP WIRING SCHEMATIC

- 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.

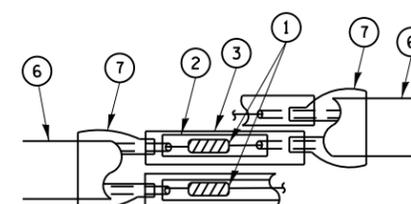


DETAIL "A"  
LOOP-TO-LOOP SPLICE

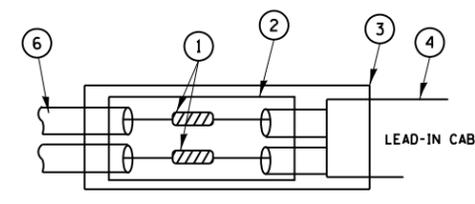


DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

### TYPE I LOOP



DETAIL "A"  
LOOP-TO-LOOP SPLICE



DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

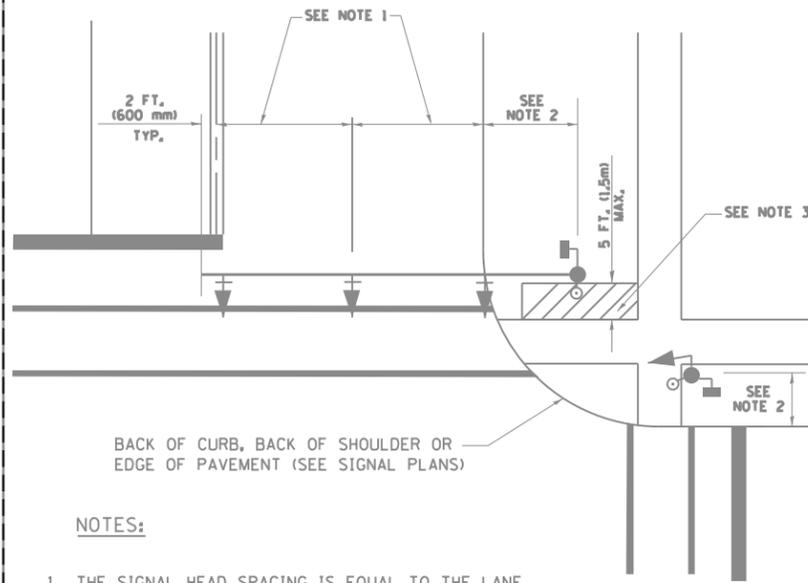
### LOOP DETECTOR SPLICE

- 1 WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- 2 WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- 3 WCS 200/750 HEAT SHRINK TUBE, MINIMUM 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 = hamdanah	DESIGNED - DAD	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE</b>		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
et:\pw\work\p1dot\hamdanah\0286304\0195Std.dgn		DRAWN - BCK	REVISED -		<b>STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>		2943	3162A-N-1	COOK	42	36
		CHECKED - DAD	REVISED -		SCALE: NONE	SHEET NO. 1 OF 6 SHEETS	STA.	TO STA.	<b>TS-05</b>		<b>CONTRACT NO. 60T47</b>
		DATE - 10-28-09	REVISED -		FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT						

**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST**

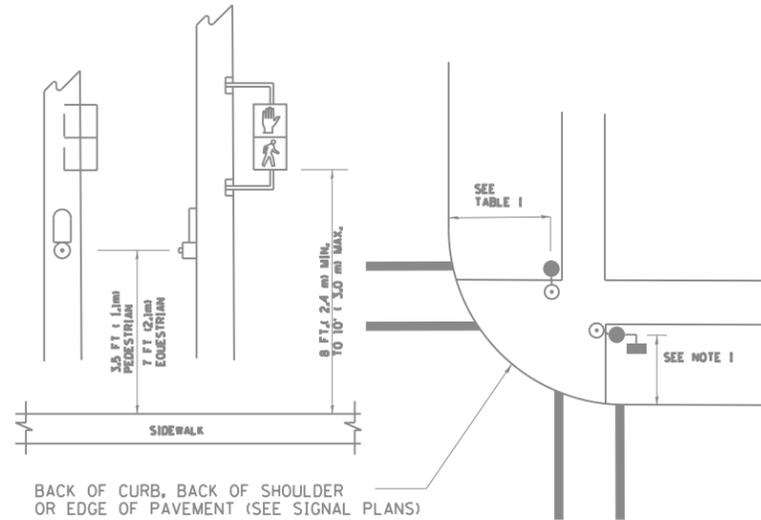
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



**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."

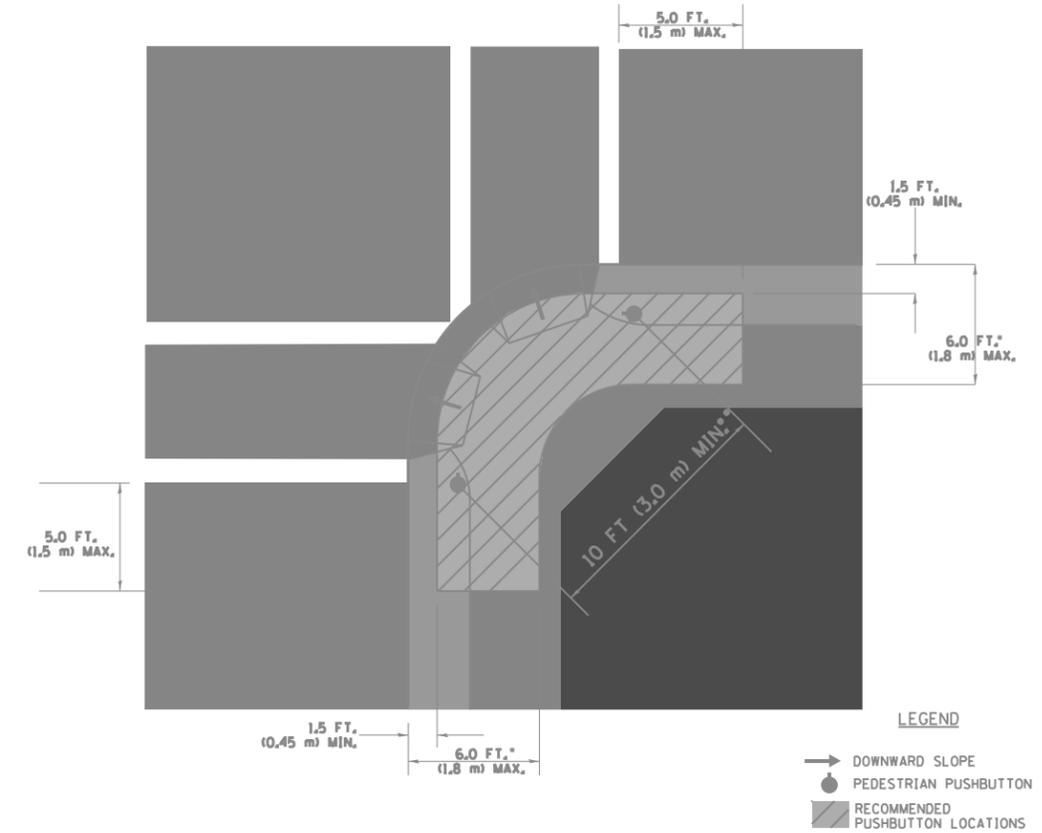
**PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST**



**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:**

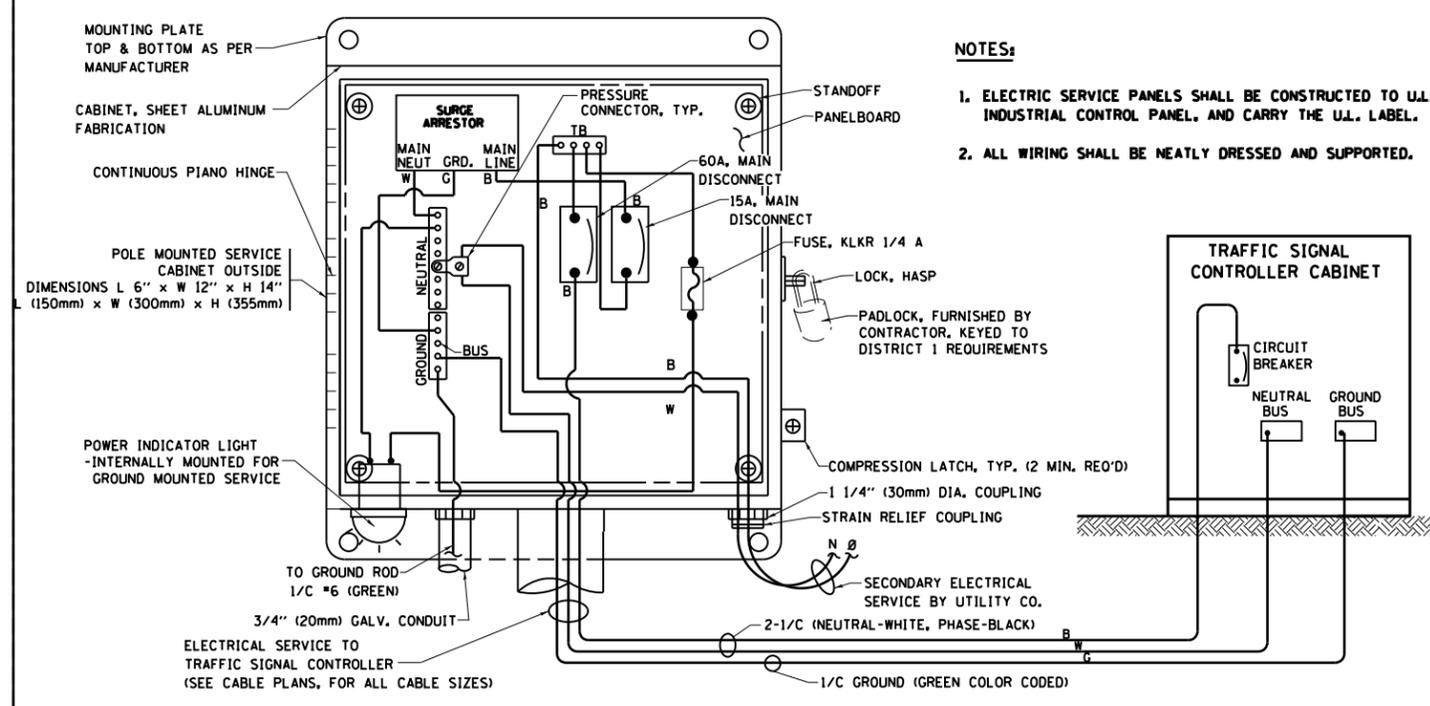
1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM 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**

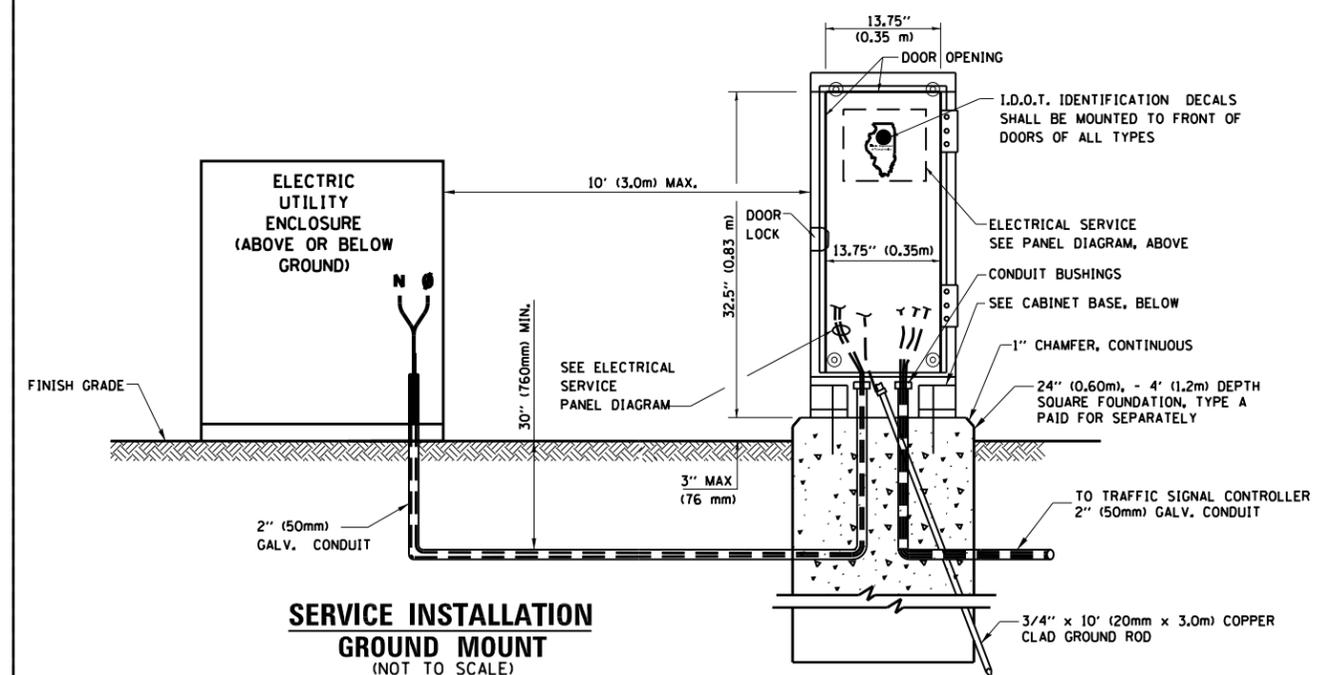
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 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:**

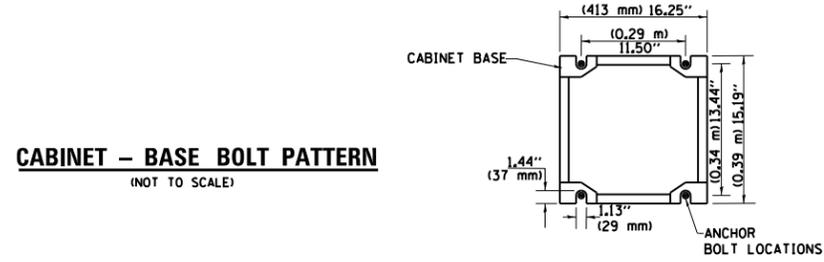
1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM 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)

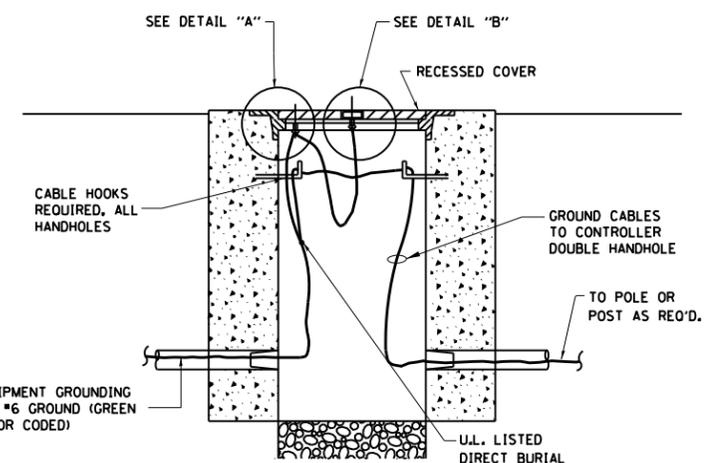
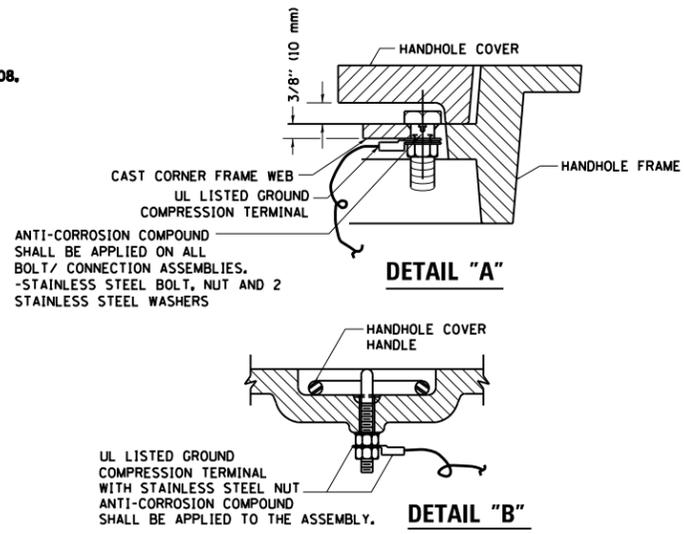


**SERVICE INSTALLATION GROUND MOUNT**  
 (NOT TO SCALE)

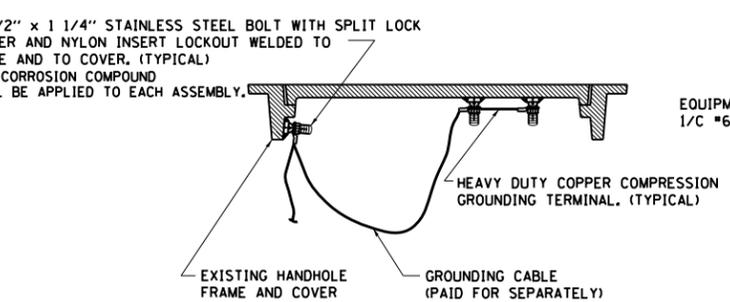


**CABINET - BASE BOLT PATTERN**  
 (NOT TO SCALE)

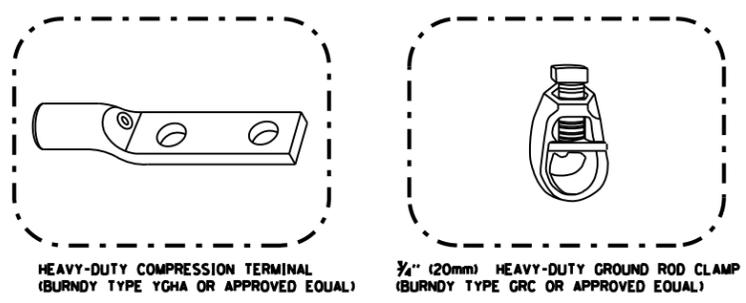
- NOTES:**
1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
  2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.



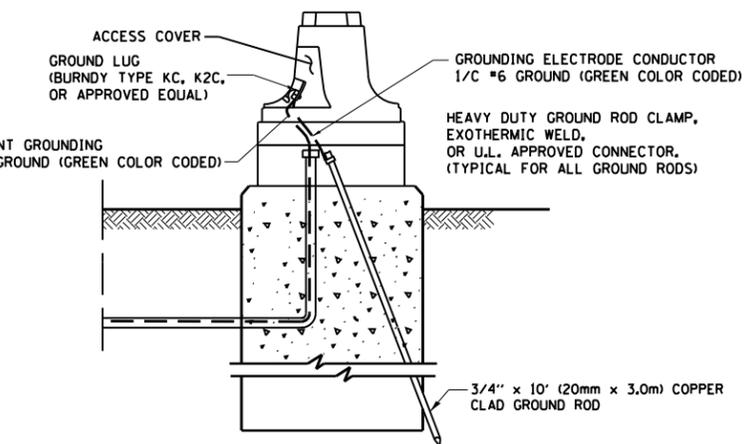
**HANDHOLE COVER & FRAME - GROUNDING DETAIL**  
 (NOT TO SCALE)



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

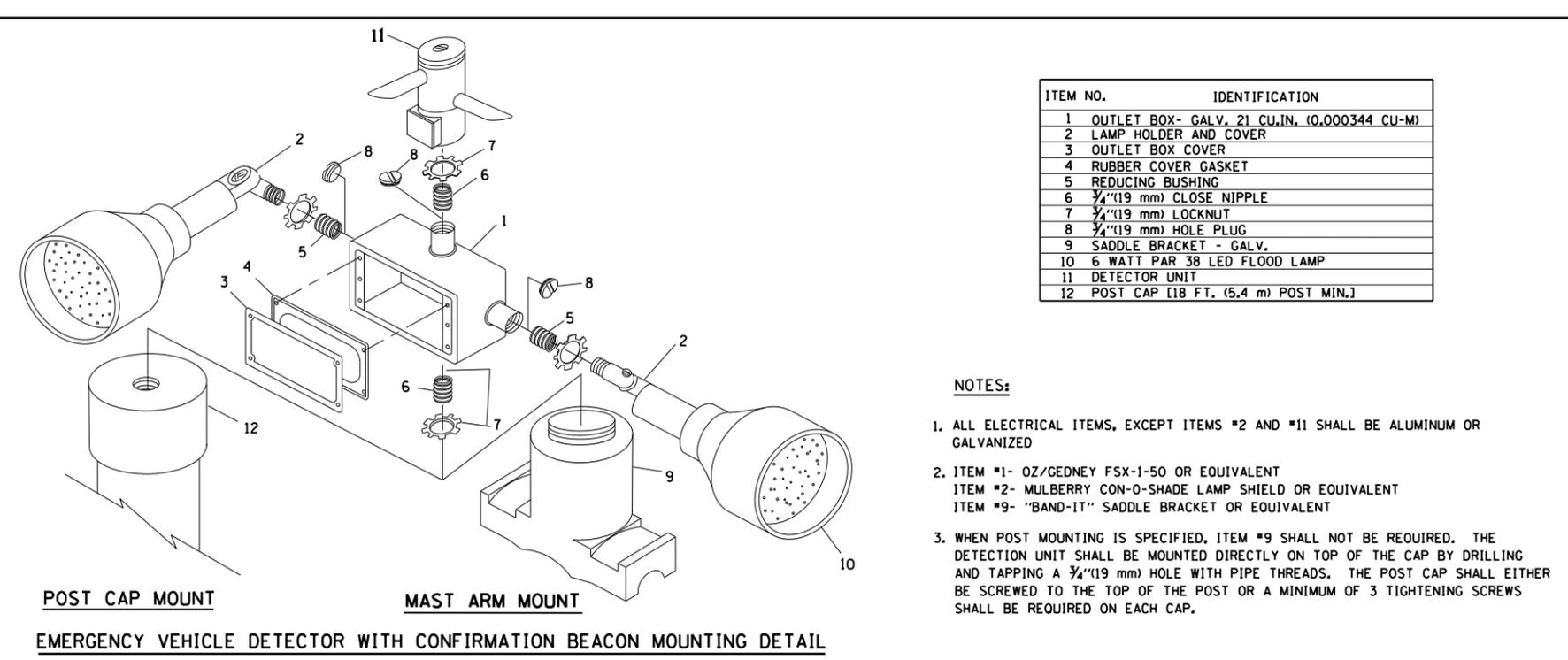
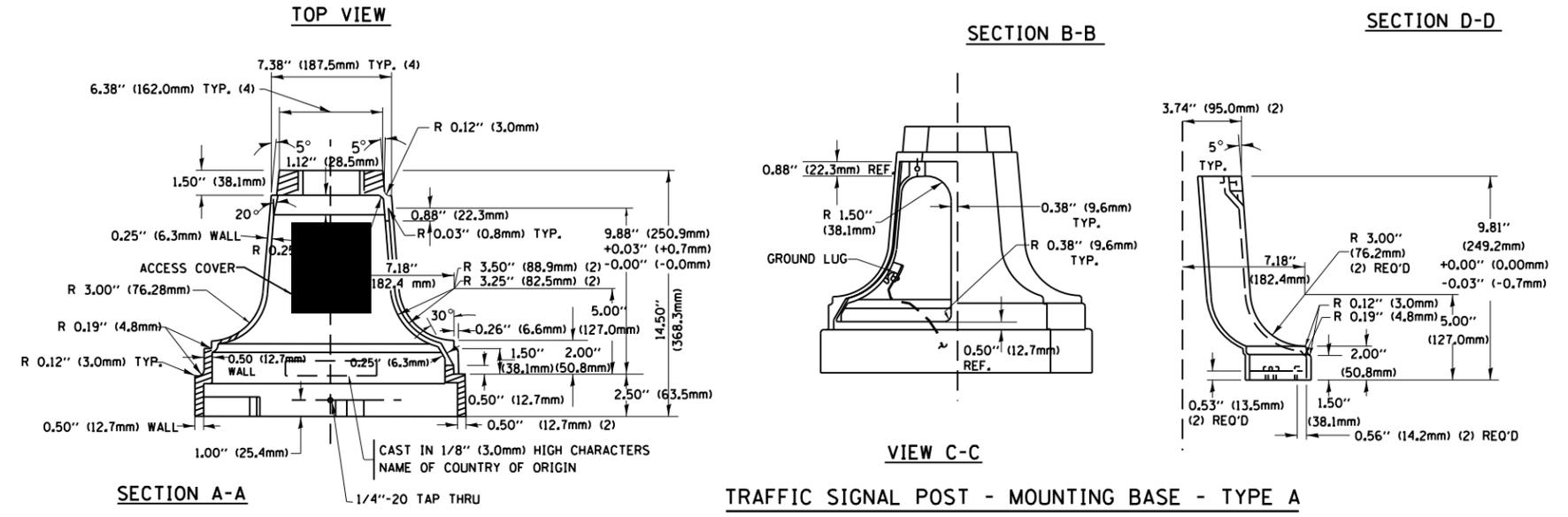
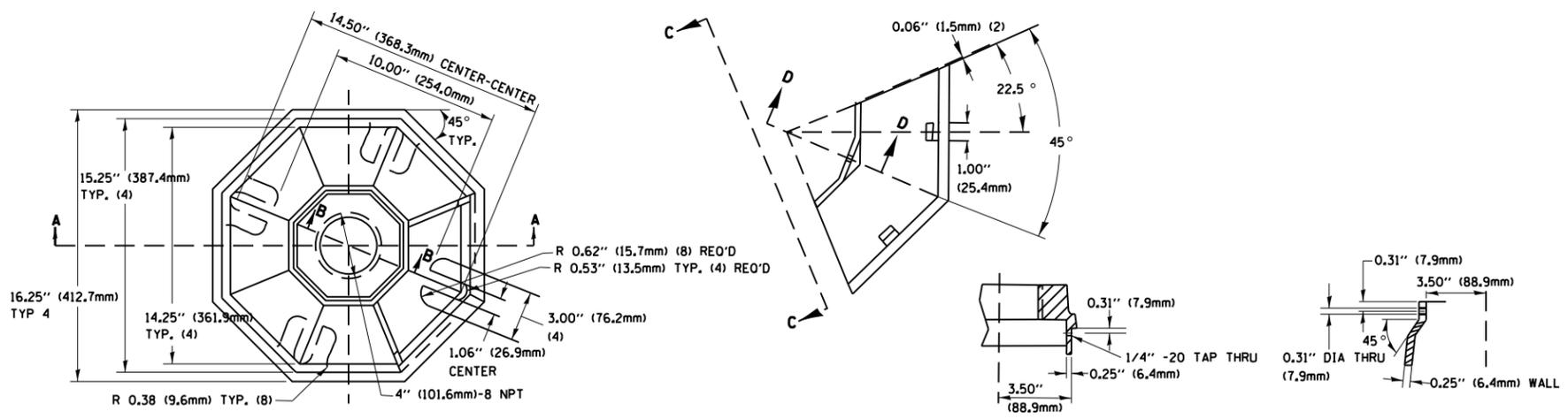


- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
  - GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



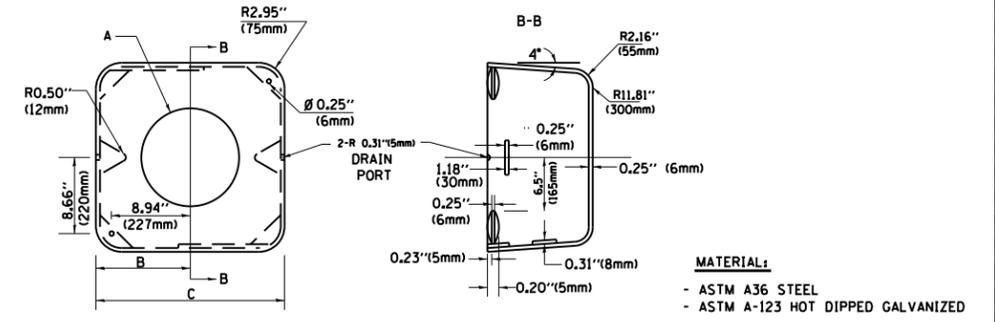
**MAST ARM POLE / POST-GROUNDING DETAIL**  
 (NOT TO SCALE)

FILE NAME =	USER NAME = hamdanah	DESIGNED - DAD	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE</b>			F.A.U. RT#.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
et:\pwwork\pwwork\hamdanah\0286304\0195Std.dgn		DRAWN - BCK	REVISED -		<b>STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>			2943	3162A-N-1	COOK	42	38
		CHECKED - DAD	REVISED -		SCALE: NONE	SHEET NO. 3	OF 6 SHEETS	STA.	TO STA.	<b>CONTRACT NO. 60T47</b>		
		DATE - 10-28-09	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							



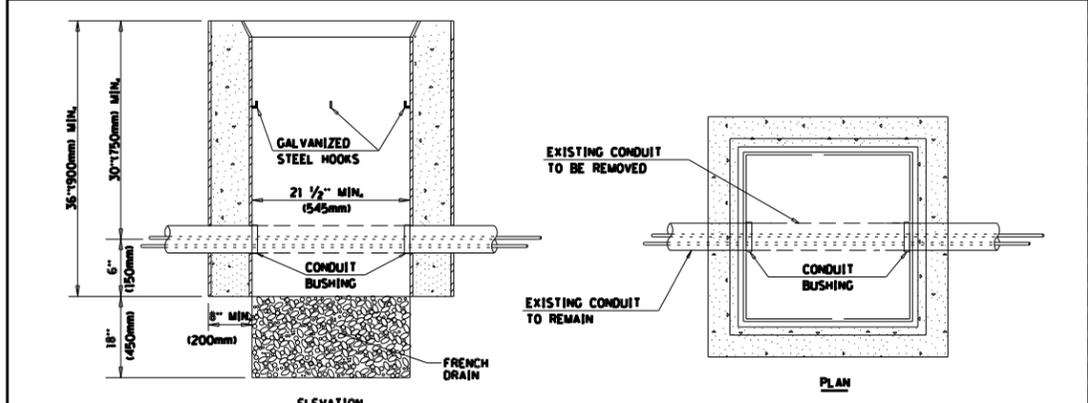
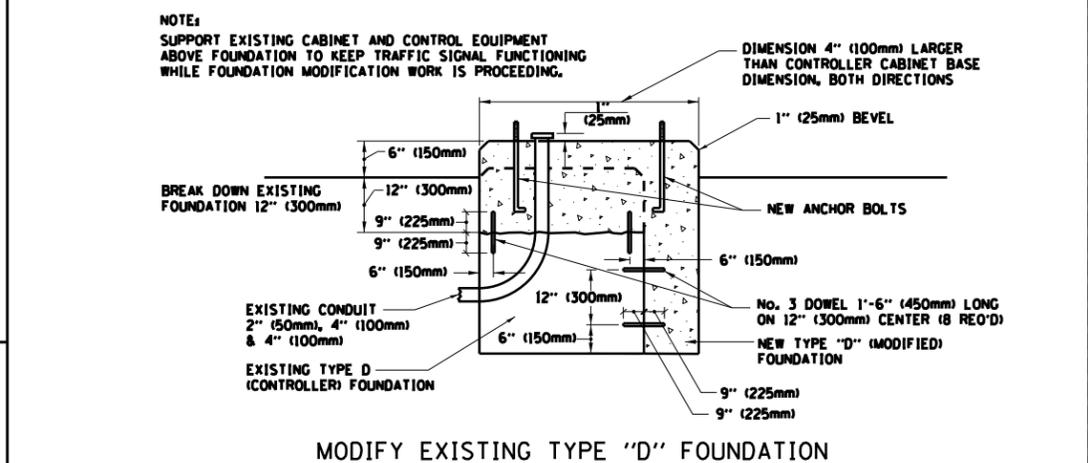
ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\"(19 mm) CLOSE NIPPLE
7	3/4\"(19 mm) LOCKNUT
8	3/4\"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT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

- NOTES:**
- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
  - ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT  
ITEM #2- MULBERRY CON-0-SHADE LAMP SHIELD OR EQUIVALENT  
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
  - WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4\"(19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.

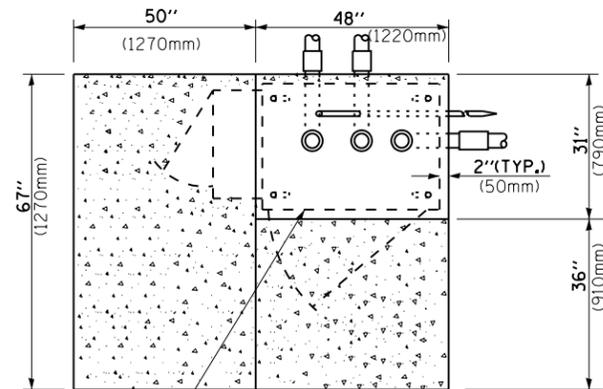


A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5\"(241mm)	19\"(483mm)	7\"(178mm) - 12\"(300mm)	53 lbs (24kg)
VARIABLES	10.75\"(273mm)	21.5\"(546mm)	7\"(178mm) - 12\"(300mm)	68 lbs (31 kg)
VARIABLES	13.0\"(330mm)	26\"(660mm)	7\"(178mm) - 12\"(300mm)	81 lbs (37 kg)
VARIABLES	18.5\"(470mm)	37\"(940mm)	7\"(178mm) - 12\"(300mm)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

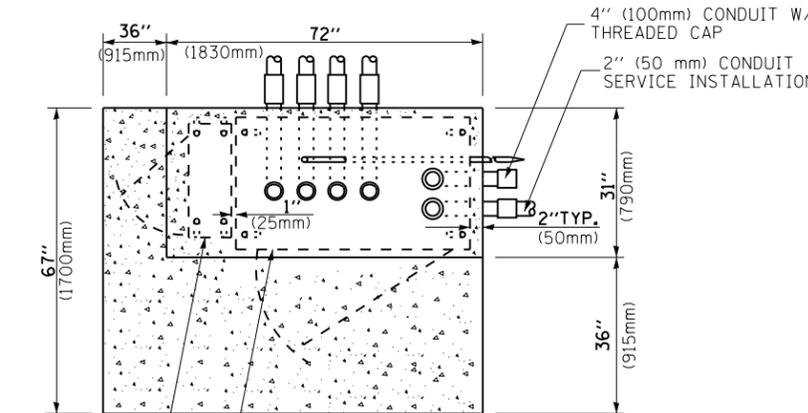
- NOTES:**
- DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
  - THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
  - THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST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



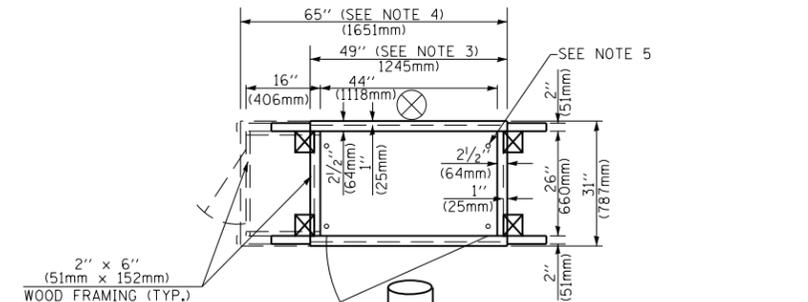
- NOTES:**
- HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
  - REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.



**TOP VIEW**



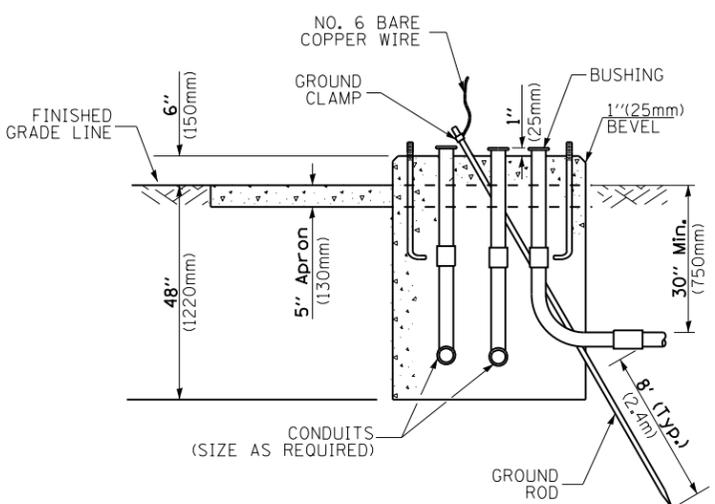
**TOP VIEW**



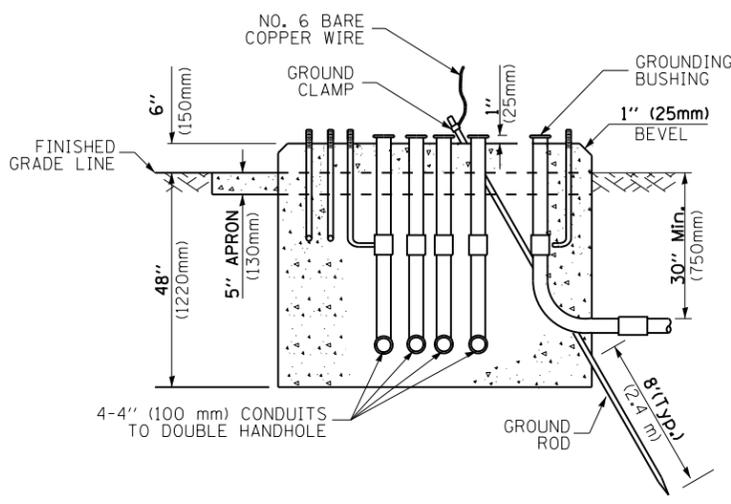
**TEMPORARY SIGNAL CONTROLLER WOOD SUPPORT PLATFORM**

**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.



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



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

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	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)	24" (600mm)	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)
	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**

FILE NAME =	USER NAME = hamdanah	DESIGNED - DAG	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
et:\pw_work\p1dot\hamdanah\ad286384\0195Std.dgn	PLOT SCALE = 100.0000' / 1in.	DRAWN - BCK	REVISED -			2943	3162A-N-1	COOK	42	40	
PLOT DATE = 10/22/2012	DATE - 10-28-09	CHECKED - DAD	REVISED -			<b>TS-05</b>		<b>CONTRACT NO. 60T47</b>			
		DATE - 10-28-09	REVISED -			SCALE: NONE		SHEET NO. 5 OF 6 SHEETS		STA. TO STA.	

# TRAFFIC SIGNAL LEGEND

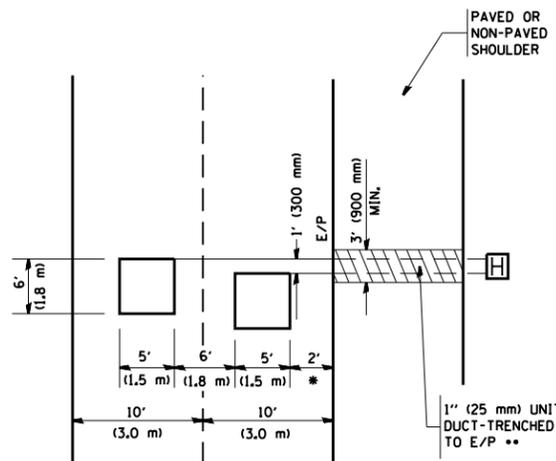
ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE			
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE			
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA			
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED			
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F			
UNINTERRUPTIBLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F			
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P)				FIBER OPTIC CABLE NO. 62.5/125, MM12F			
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F			
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)			
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM		S		CONTROLLER CABINET AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM		I		STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED			
SIGNAL POST				REMOVE ITEM	R			ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED			
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM	RL			STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED			
GUY WIRE				ABANDON ITEM	A			SIGNAL POST AND FOUNDATION TO BE REMOVED			
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				INTERSECTION & SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				EXISTING INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD				EXISTING PREFORMED INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED				PREFORMED SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID							
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER							
ILLUMINATED SIGN "NO LEFT TURN"				RADIO INTERCONNECT							
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO REPEATER							
DETECTOR LOOP, TYPE I				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED							
PREFORMED DETECTOR LOOP				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)							
MICROWAVE VEHICLE SENSOR											
VIDEO DETECTION CAMERA											
VIDEO DETECTION ZONE											
PAN, TILT, ZOOM CAMERA											
WIRELESS DETECTOR SENSOR											
WIRELESS ACCESS POINT											

## RAILROAD SYMBOLS

	EXISTING	PROPOSED
RAILROAD CONTROL CABINET		
RAILROAD CANTILEVER MAST ARM		
FLASHING SIGNAL		
CROSSING GATE		
CROSSBUCK		

**LOOPS NEXT TO SHOULDERS**

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

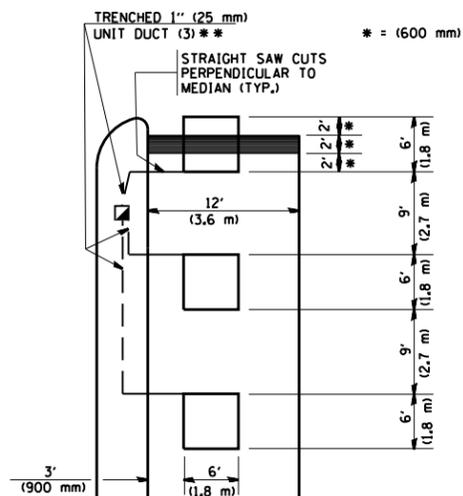


\* = (600 mm)

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

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

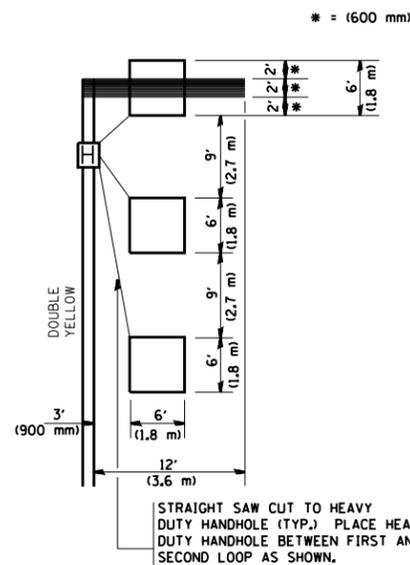
HANDHOLE LOCATION MAY VARY DEPENDING ON GEOMETRICS AND DESIGN OF TRAFFIC SIGNALS. HEAVY-DUTY HANDHOLES TO BE USED WHEN THE MEDIAN IS MOUNTABLE. REFER TO STANDARD 814001 TO ENSURE THAT HANDHOLE FITS IN MEDIAN.



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

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

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



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

**NOTES:**

**VEHICLES LOOP DETECTORS**

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

**PLACEMENT OF DETECTORS**

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

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

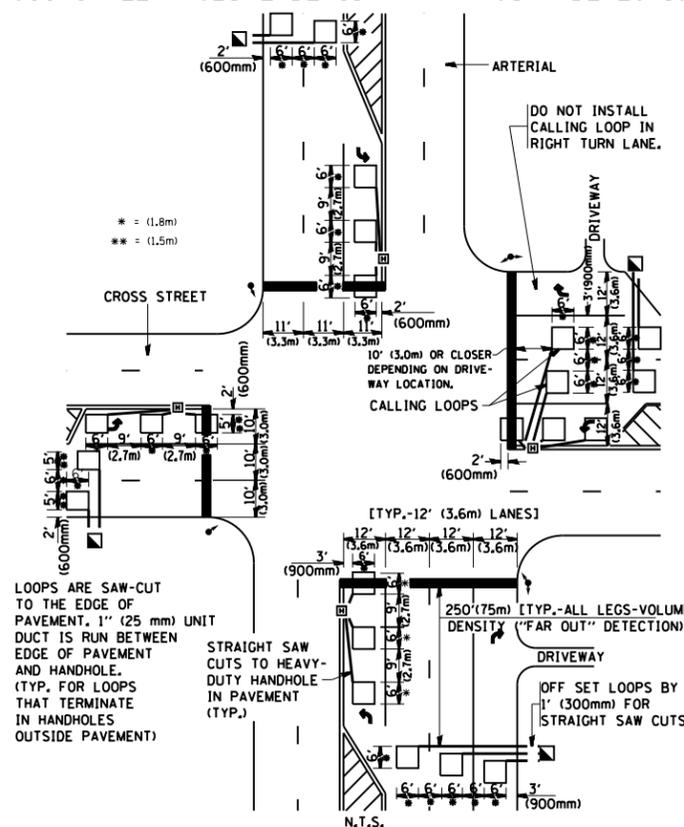
"FAR OUT" DETECTION REFERS TO LOCKING, PRESENCE TYPE DETECTION LOCATED IN THRU LANES, RIGHT TURN LANES, AND RIGHT TURN LANE TAPER AREAS (IF APPLICABLE), USUALLY 250' (75 m) IN ADVANCE OF STOP BARS. "UPTIGHT" DETECTION REFERS TO NON-LOCKING PRESENCE TYPE DETECTION LOCATED IN ALL LANES AND 10'-15' (3.0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

**NOTE:**

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

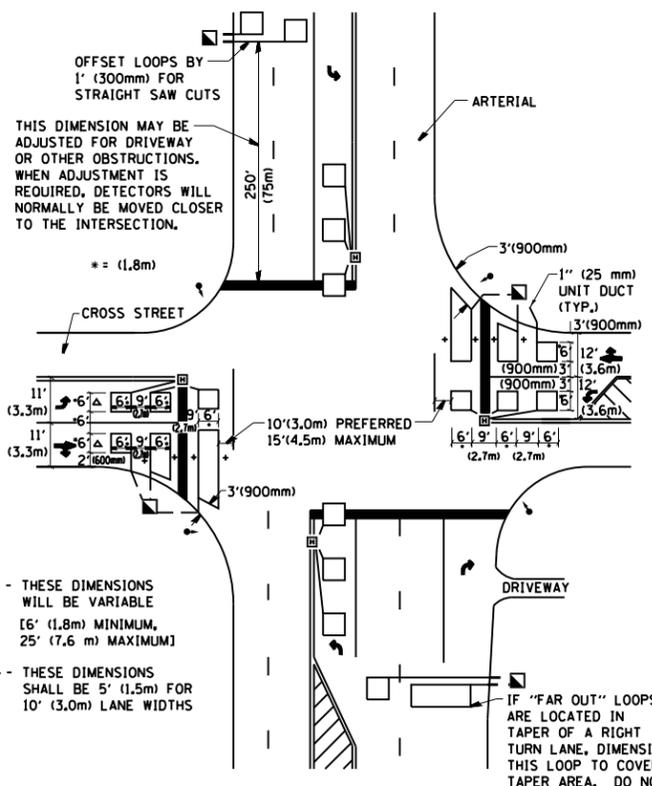
THIS DRAWING HAS BEEN PREPARED TO ASSIST THE RESIDENT ENGINEER FOR ALL ROADWAY RESURFACING OR S.M.A.R.T. PROJECTS WHERE THE DIMENSIONS ARE NOT SHOWN ON THE PLANS AND THE FINAL LOCATIONS FOR CROSSWALKS OR STOP BARS ARE NOT DETERMINED.

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



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

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



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

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		CHECKED - R.K.F.	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT 1 - DETECTOR LOOP INSTALLATION  
DETAILS FOR ROADWAY RESURFACING**

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

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2943	3162A-N-1	COOK	42	42
	TS-07			CONTRACT NO. 60T47
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				