F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00429-00-TL	McHENRY	24	1

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROJECT LOCATED IN IN THE VILLAGE OF HUNTLEY AND UNINCORPORATED McHENRY COUNTY

HIGHWAY CLASSIFICATION:
MAJOR COLLECTOR = MARENGO ROAD
= HEMMER ROAD
MINOR ARTERIAL = HARMONY ROAD
= W. MAIN STREET

TRAFFIC DATA:
2013 ADT = 4,300 (MARENGO ROAD)
= 3,700 (HARMONY ROAD)
= 12,900 (W. MAIN STREET)

PROJECT DESCRIPTION:
TEMPORARY TRAFFIC SIGNAL INSTALLATION AT THE INTERSECTIONS OF HARMONY ROAD /MARENGO ROAD AT W. MAIN STREET AND HEMMER ROAD / HARMONY ROAD AT HARMONY ROAD.

100' 200' 300' — 1"= 100'
0 10' 20' 30' — 1"= 10'
0 50' 100' — 1"= 50'
0 50' 100' — 1"= 40'
0 50' 100' — 1"= 30'
0 50' 100' — 1"= 20'

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.

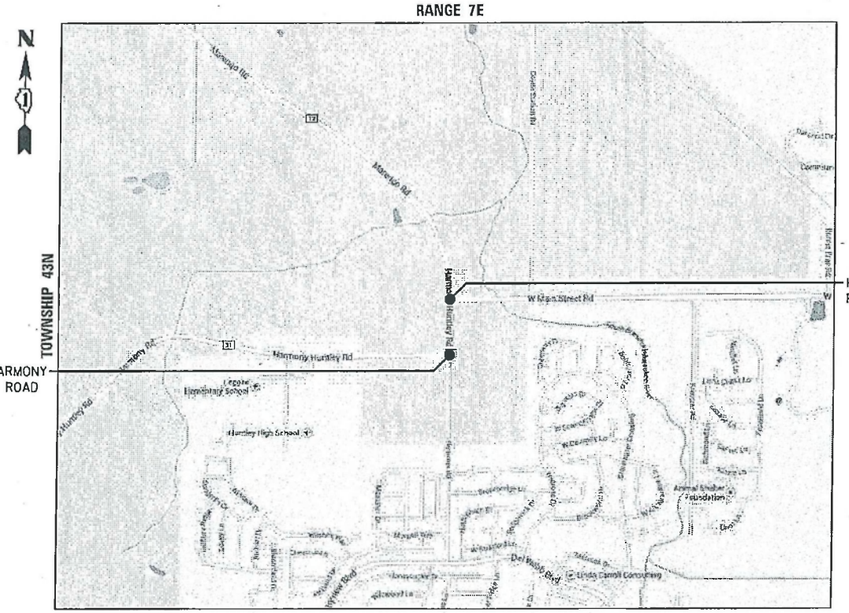
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811
811 Know what's **below.** **Call** before you dig.

STATE OF ILLINOIS
COUNTY OF McHENRY
DIVISION OF TRANSPORTATION

PLANS FOR PROPOSED COUNTY HIGHWAY

MARENGO ROAD (A47) / W. MAIN STREET & HARMONY ROAD (A49) / HEMMER ROAD TEMPORARY TRAFFIC SIGNAL INSTALLATION SECTION: 14-00429-00-TL

RANGE 7E



GRAFTON TOWNSHIP

NOT FOR BID

McHENRY COUNTY

CHEMUNG	ALDEN	HEBRON	RICHMOND	BURTON
DUNHAM	HARTLAND	GREENWOOD	McHENRY	
MARENGO	SENECA	DORR	NUNDA	
RILEY	CORAL	GRAFTON	ALGONQUIN	

LOCATION OF SECTION INDICATED THUS: ▬

FINAL

PLANS PREPARED BY:
GEWALT HAMILTON ASSOCIATES, INC.

SIGNED: _____
DANIEL P. BRINKMAN, EXP. 11/30/2015
DATE: 3/28/2014

DANIEL P. BRINKMAN 062-055291 LICENSED PROFESSIONAL ENGINEER OF ILLINOIS

DIVISION OF TRANSPORTATION

McHENRY COUNTY
DIVISION OF TRANSPORTATION

APPROVED APRIL 2 20 14

Joseph R Korpalski Jr
COUNTY ENGINEER

INDEX OF SHEETS

GENERAL NOTES

1.) ALL TEMPORARY TRAFFIC SIGNAL EQUIPMENT SHALL BE NEW AND THE PROPERTY OF McHENRY COUNTY DIVISION OF TRANSPORTATION (McDOT) AFTER THE TEMPORARY TRAFFIC SIGNAL HAS BEEN "TURNED-ON" AND ACCEPTED BY McDOT.

2.) ALL SPAN WIRE MOUNTED TRAFFIC SIGNAL HEADS SHALL BE LED WITH A GLOSSY YELLOW POLYCARBONATE HOUSING WITH BLACK DOORS, "BASEBALL" CAP VISORS AND WILL NOT INCLUDE BACKPLATES.

3.) THE CONTRACTOR SHALL INSTALL A WIRELESS RADIO INTERCONNECT SYSTEM BETWEEN THE INTERSECTIONS OF HARMONY ROAD / MARENGO ROAD AT W. MAIN STREET AND HEMMER ROAD / HARMONY ROAD AT HARMONY ROAD. THE COST OF THE WIRELESS RADIO INTERCONNECT SYSTEM SHALL BE INCLUDED IN THE COST OF THE PAY ITEM "TEMPORARY TRAFFIC SIGNAL INSTALLATION".

4.) THE MASTER CONTROLLER SHALL BE LOCATED IN A TYPE IV CABINET, 65 INCHES TALL AND SHALL PROVIDE A THIRD SHELF FOR MOUNTING ADDITIONAL EQUIPMENT.

5.) ALL STREET LIGHTING LUMINAIRES SHALL BE LED, 154 WATT INSTALLED ON 15 FOOT MAST ARM, AND APPROVED BY McDOT.

6.) THE MASTER CONTROLLER PHONE SERVICE CONNECTION SHALL BE COORDINATED BY McDOT. THE CONTRACTOR SHALL COORDINATE THE PHONE SERVICE LOCATION AND CONNECTION WITH McDOT.

7.) 2-4" SCHEDULE 40 UNIT DUCT, SHALL BE INTALLED 10 FT UP THE WOOD POLE AND BROUGHT THROUGH THE BOTTOM OF THE TYPE IV CABINET AND SHALL CARRY ALL TRAFFIC SIGNAL ELECTRIC CABLES. THE CONTROLLER CABINETS SHALL HAVE A FULLY ENCLOSED METAL BOTTOM AND INSTALLED ON PRESSURE TREATED WOOD STANDS AS DIRECTED BY THE McDOT ENGINEER.

8.) THE VIDEO VEHICLE DETECTION SYSTEM SHALL BE AUTOSCOPE BY ECONOLITE AND APPROVED BY McDOT.

9.) THE CONTRACTOR SHALL INSTALL EMERGENCY VEHICLE PREEMPTION EQUIPMENT AS REQUESTED BY THE HUNTLEY FIRE PROTECTION DISTRICT (847) 659-8497.

10.) THE SPAN WIRE MOUNTED STREET NAME SIGNS SHALL BE INSTALLED NEAR THE WOOD POLE WITH PELCO SIGN HANGER ASSEMBLIES FOR STREET NAME SIGNS AS DIRECTED BY THE ENGINEER.

11.) REPLACE ALL THERMOPLASTIC PAVEMENT MARKINGS AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.

IDOT STANDARDS

701006-05	OFF-RD OPERATIONS, 2L, 2W, 15 5/32 5/32 (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701011-04	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701101-04	OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701901-03	TRAFFIC CONTROL DEVICES
880001-01	SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
857001-01	STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
862001-01	UNINTERRUPTIBLE POWER SUPPLY (UPS)
701701-09	URBAN LANE CLOSURE MULTILANE INTERSECTION

SUMMARY OF QUANTITIES

CODE NO.	ITEM	LOCATION OF WORK TYPE UNIT	TOTAL	HARMONY ROAD / MARENGO ROAD AT W. MAIN STREET	HEMMER ROAD / HARMONY ROAD AT HARMONY ROAD
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1.00		
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	3.00	1.50	1.50
72000100	SIGN PANEL - TYPE 1	SQ FT	33.00	15.00	18.00
72000200	SIGN PANEL - TYPE 2	SQ FT	37.50	18.75	18.75
78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	145.60		145.60
78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	2,540		2,540
78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	50		50
78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	90		90
78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	90		90
78300100	PAVEMENT MARKING REMOVAL	SQ FT	200		200
80500020	SERVICE INSTALLATION - POLE MOUNTED	EACH	2	1	1
87200400	SPAN WIRE	FOOT	880	430	450
87200500	TETHER WIRE	FOOT	880	430	450
87302225	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL NO. 14 3C	FOOT	630	305	325
87302245	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL NO. 14 5C	FOOT	2,190	835	1,355
87302255	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL NO. 14 7C	FOOT	1,270	1,060	210
88700200	LIGHT DETECTOR	EACH	4	2	2
88700300	LIGHT DETECTOR AMPLIFIER	EACH	2	1	1
X0324085	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	630	305	325
X0325878	TRAFFIC SIGNAL WOOD POLE, 60 FT., CLASS 4	EACH	8	4	4
X8570226	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	2	1	1
X8600105	MASTER CONTROLLER (SPECIAL)	EACH	1	1	
X8620200	UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	2	1	1
X8800025	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, SPAN WIRE MOUNTED	EACH	13	6	7
X8800041	SIGNAL HEAD ,LED, 1-FACE 4-SECTION, SPAN WIRE MOUNTED	EACH	4	4	
X8800046	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, SPAN WIRE MOUNTED	EACH	4	2	2
XX005230	VIDEO DETECTION SYSTEM COMPLETE INTERSECTION	EACH	2	1	1
Z0013798	CONSTRUCTION LAYOUT	L SUM	1		
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	102.80	51.40	51.40
Z0033046	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2	EACH	2	2	
Z0073510	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	2	1	1
	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL NO. 18 3C	FOOT	1,045	590	455
	ELECTRIC CABLE AERIAL SUSPENDED, 600V (XLP-TYPE USE) 3-1/C NO. 2	FOOT	920	390	530
	LUMINAIRE, LED, HORIZONTAL MOUNT, 154 WATT, PHOTOCELL CONTROLLED	EACH	6	3	3
	MAST ARM, ALUMINUM 15 FOOT	EACH	6	3	3

GHA #4188.800

FILE NAME = 02 - SOQ.dgn	USER NAME = ZWallsten	DESIGNED - JRD	REVISED -
		DRAWN - ZCW	REVISED -
	PLOT SCALE = 1:20	CHECKED - DPB	REVISED -
Default	PLOT DATE = 3/28/2014	DATE -	REVISED -

McHENRY COUNTY
DIVISION OF TRANSPORTATION

SUMMARY OF QUANTITIES, INDEX OF SHEETS, IDOT STANDARDS, AND GENERAL NOTES

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	2
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

TRAFFIC SIGNAL LEGEND

ITEM	REMOVAL	EXISTING	PROPOSED
CONTROLLER CABINET	R		
RAILROAD CONTROL CABINET		R	
COMMUNICATIONS CABINET	R CC	ECC	CC
MASTER CONTROLLER		EMC	MC
MASTER MASTER CONTROLLER		EMMC	MMC
UNINTERRUPTABLE POWER SUPPLY	R UPS	EUPS	UPS
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	R	P	P
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT	R T	P T	P T
STEEL MAST ARM ASSEMBLY AND POLE	R		
ALUMINUM MAST ARM ASSEMBLY AND POLE	R		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE	R		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA	R PTZ	PTZ	PTZ
SIGNAL POST	R		
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM	R		
GUY WIRE	R		
SIGNAL HEAD	R		
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)			2
SIGNAL HEAD WITH BACKPLATE	R		
SIGNAL HEAD OPTICALLY PROGRAMMED	R "P"	"P"	"P"
FLASHER INSTALLATION (S DENOTES SOLAR POWER)	R "F"	"F"	"F"
PEDESTRIAN SIGNAL HEAD	R		
PEDESTRIAN PUSHBUTTON DETECTOR	R		
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR	R APS	APS	APS
ILLUMINATED SIGN "NO LEFT TURN"	R		
ILLUMINATED SIGN "NO RIGHT TURN"	R		
DETECTOR LOOP, TYPE I			
PREFORMED DETECTOR LOOP		P	P
MICROWAVE VEHICLE SENSOR	R M	M	M
VIDEO DETECTION CAMERA	R V	V	V
VIDEO DETECTION ZONE			
PAN, TILT, ZOOM CAMERA	R PTZ	PTZ	PTZ
WIRELESS DETECTOR SENSOR	R W	W	W
WIRELESS ACCESS POINT	R		

ITEM	REMOVAL	EXISTING	PROPOSED
EMERGENCY VEHICLE LIGHT DETECTOR	R		
CONFIRMATION BEACON	R		
HANDHOLE	R		
HEAVY DUTY HANDHOLE	R H	H	H
DOUBLE HANDHOLE	R		
JUNCTION BOX	R		
UNDERGROUND CONDUIT, GALVANIZED STEEL (UC)			
TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE	R		
COMMON TRENCH			CT
COILABLE NONMETALLIC CONDUIT (EMPTY)			CNC
SYSTEM ITEM		S	S
INTERSECTION ITEM		I	IP
REMOVE ITEM	R		
RELOCATE ITEM	RL		
ABANDON ITEM	A		
12" (300mm) TRAFFIC SIGNAL SECTION		R	R
12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE		R Y G	
SIGNAL FACE		R Y G ◄Y ◄G	R Y G ◄Y ◄G
SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD. "RB" INDICATES REFLECTIVE BACKPLATE		R Y G ◄Y ◄G "P"	R Y G ◄Y ◄G "P"
12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL		DW W	
12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED		W A	
12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID			
PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER		C D	C D
RADIO INTERCONNECT	R		
RADIO REPEATER	R ERR	ERR	RR
DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED		5	5
GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)		1	1

ITEM	REMOVAL	EXISTING	PROPOSED
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE		I	I
COAXIAL CABLE		C	C
VENDOR CABLE FOR CAMERA		V	V
COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED		6	6
FIBER OPTIC CABLE NO. 62.5/125, MM12F		12F	
FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F		24F	24F
FIBER OPTIC CABLE NO. 62.5/125, MM12F SM24F		36F	36F
GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE		C	C
CONTROLLER CABINET AND FOUNDATION TO BE REMOVED	RCF		
STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED	RMF		
ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED	RMF		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED	RMF		
SIGNAL POST AND FOUNDATION TO BE REMOVED	RPF		
INTERSECTION & SAMPLING (SYSTEM) DETECTOR		IS	IS
SAMPLING (SYSTEM) DETECTOR		S	S
QUEUE DETECTOR		Q	Q
PREFORMED QUEUE DETECTOR		PQ	PQ
PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR		PIS	PIS
PREFORMED SAMPLING (SYSTEM) DETECTOR		PS	PS

RAILROAD SYMBOLS

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

GHA #4188.800

FILE NAME = 03-09 - DI-Detail-TS-05.dgn Default	USER NAME = ZWallsten	DESIGNED - DAG/BCK	REVISED - DAG 1-1-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		DRAWN - BCK	REVISED -	
	PLOT SCALE = 1:20	CHECKED - DAD	REVISED -	
	PLOT DATE = 3/28/2014	DATE - 10-28-09	REVISED -	

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE | SHEET 1 OF 7 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	3
	TS-05	CONTRACT NO.		
	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.

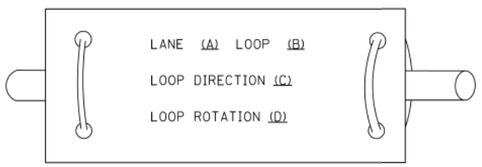
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.

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

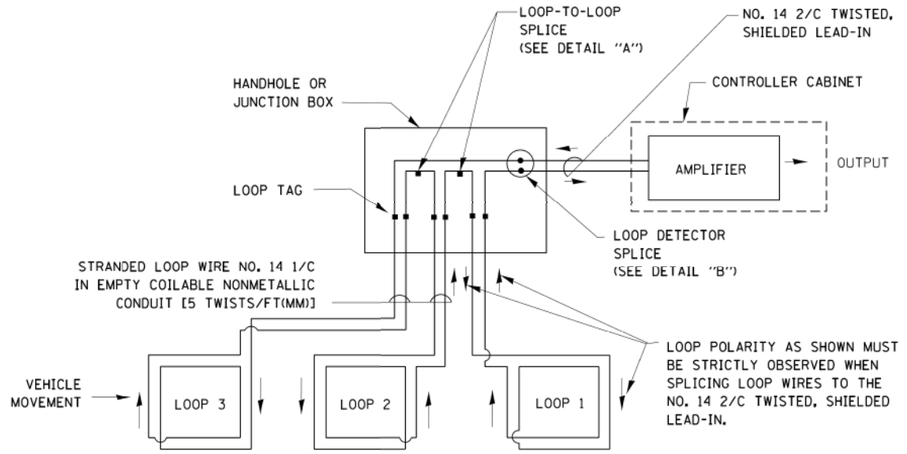


A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY

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

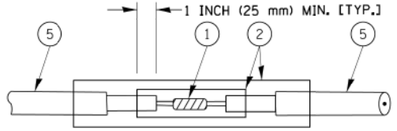
C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".

D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

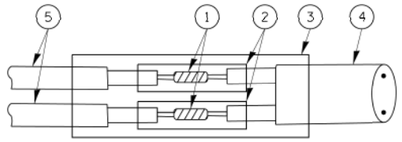


DETECTOR LOOP WIRING SCHEMATIC

- 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.

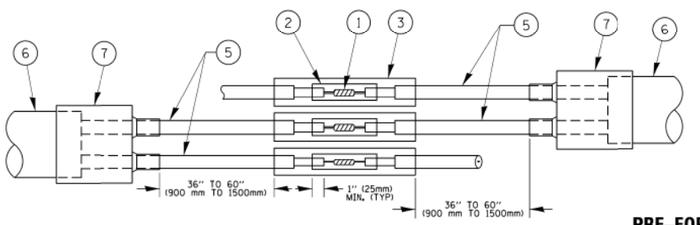


DETAIL "A"
LOOP-TO-LOOP SPLICE



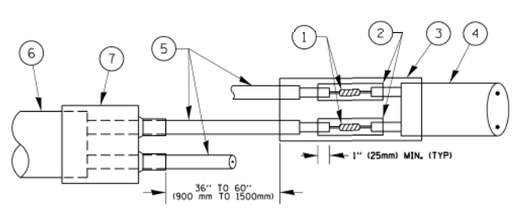
DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP



DETAIL "A"
LOOP-TO-LOOP SPLICE

PRE-FORMED LOOP



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. THE WESTERN UNION SPLICES SHALL BE STAGGERED.

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

(3) WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGHT 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

GHA #4188.000

FILE NAME = 03-09 - DI-Detail-TS-05.dgn Default	USER NAME = ZWellsten	DESIGNED - DAD	REVISED - DAG 1-1-14
		DRAWN - BCK	REVISED -
	PLOT SCALE = 1:20	CHECKED - DAD	REVISED -
	PLOT DATE = 3/28/2014	DATE - 10-28-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

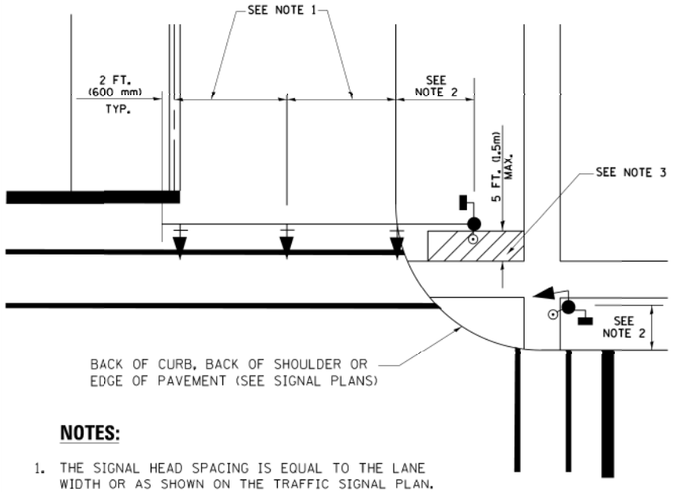
DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	4
	TS-05	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

TRAFFIC SIGNAL MAST ARM AND SIGNAL POST

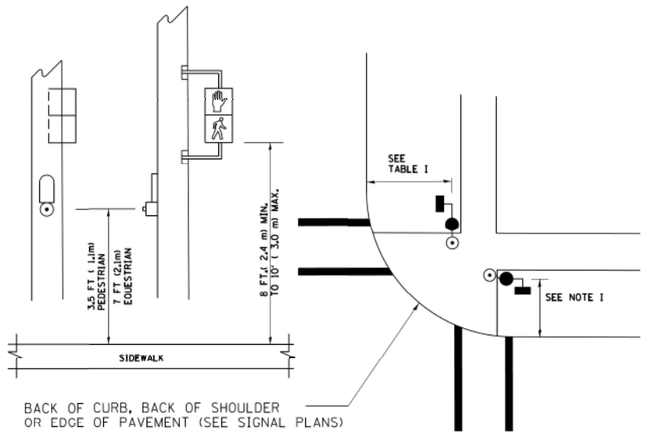
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



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."

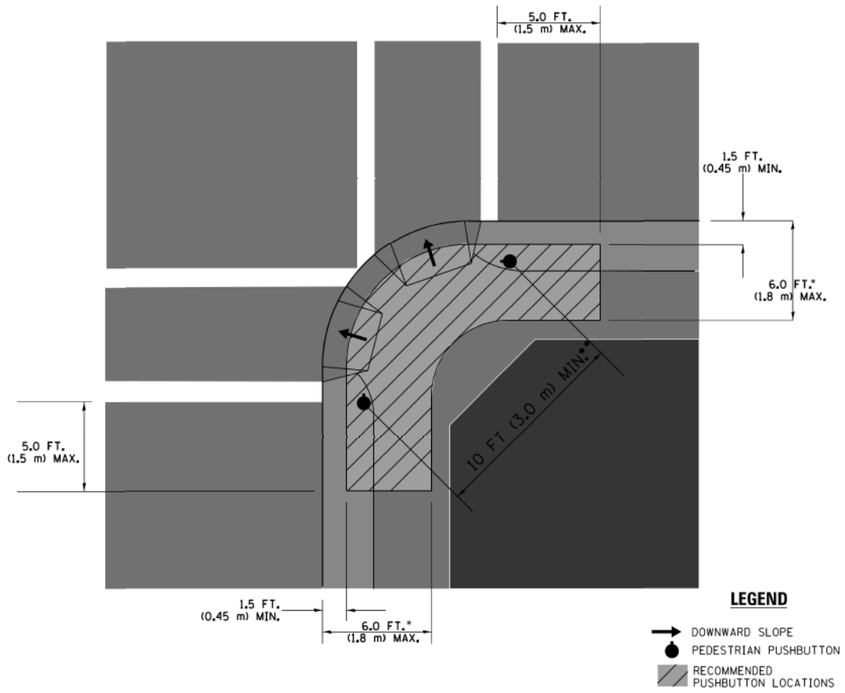
PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST



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 TOTHE 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.

GHA "4188.800

FILE NAME = 03-09 - D1-Detail-TS-05.dgn	USER NAME = ZWallsten	DESIGNED - DAD	REVISED - DAG 1-1-14
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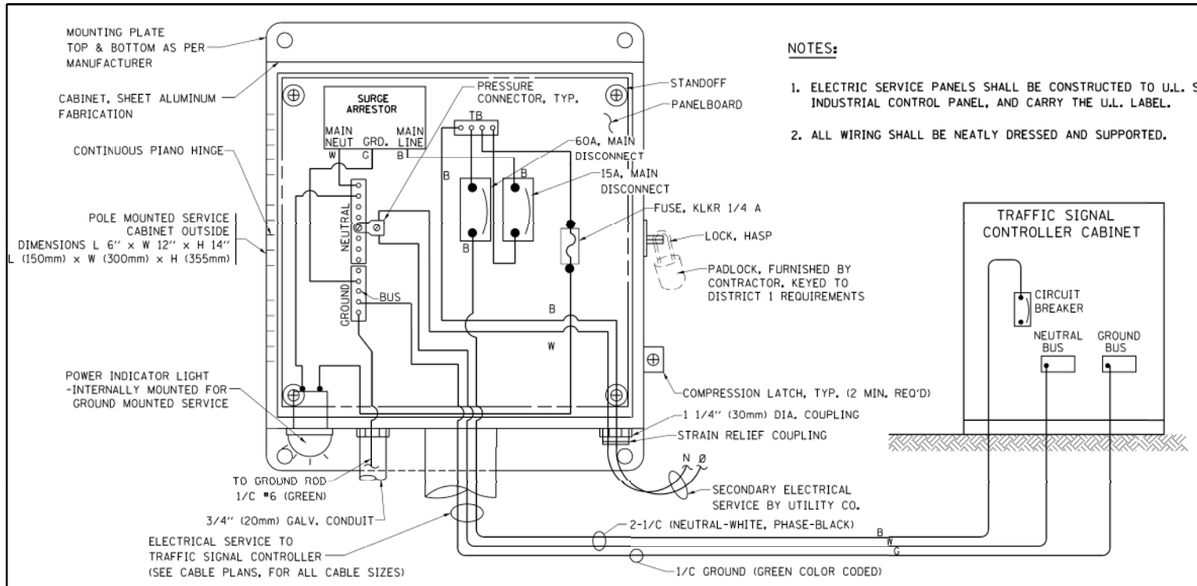
	PLOT DATE = 3/28/2014	DATE - 10-28-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE | SHEET 3 OF 7 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	5
	TS-05	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



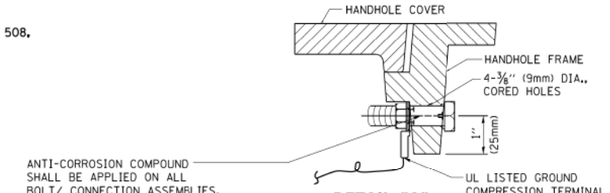
NOTES:

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.

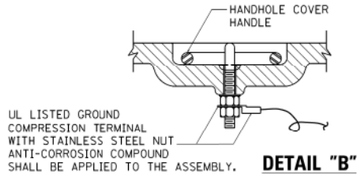
ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)

SERVICE INSTALLATION POLE MOUNT (SHOWN)

(NOT TO SCALE)



DETAIL "A"

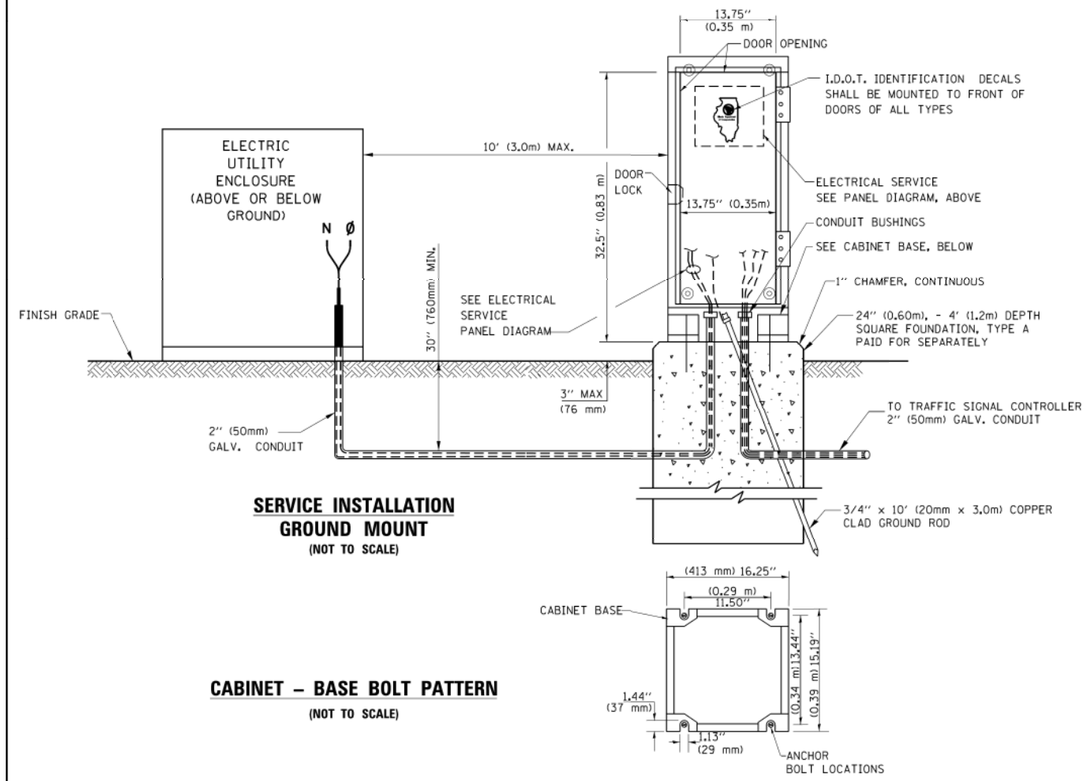


DETAIL "B"

NOTES:

GROUNDING SYSTEM

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

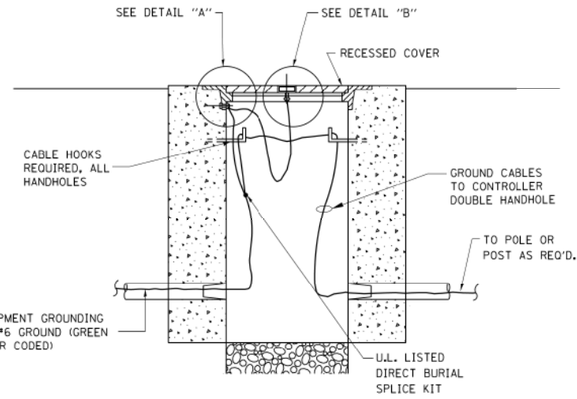


SERVICE INSTALLATION GROUND MOUNT

(NOT TO SCALE)

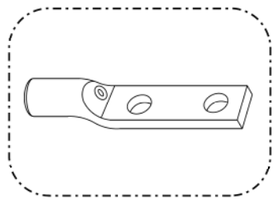
CABINET – BASE BOLT PATTERN

(NOT TO SCALE)



HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)

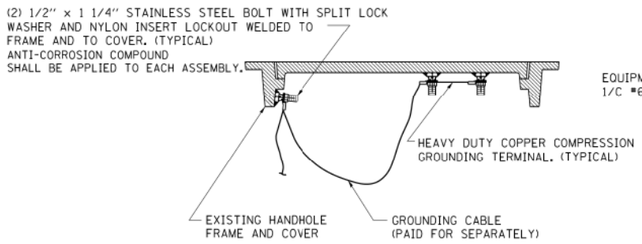


HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YGHA OR APPROVED EQUAL)

¾" (20mm) HEAVY-DUTY GROUND ROD CLAMP (BURNDY TYPE GRC OR APPROVED EQUAL)

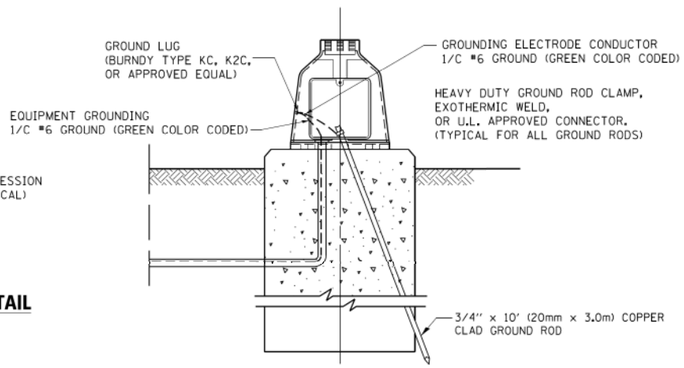
NOTES:

- 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.



EXISTING HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)



MAST ARM POLE / POST–GROUNDING DETAIL

(NOT TO SCALE)

GHA #4188.800

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE | SHEET 4 OF 7 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	6
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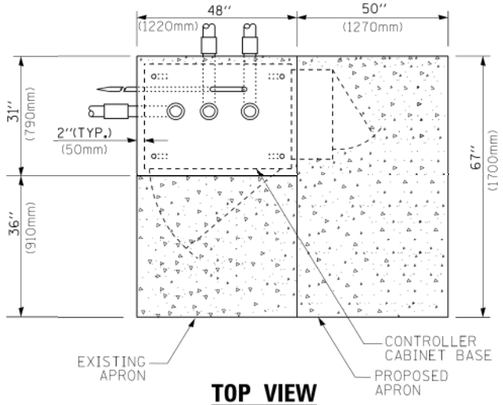
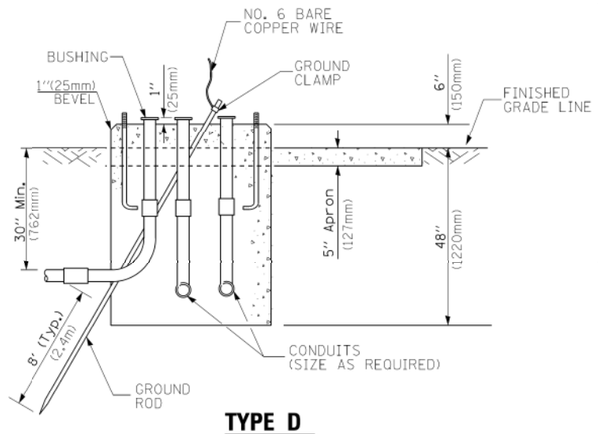
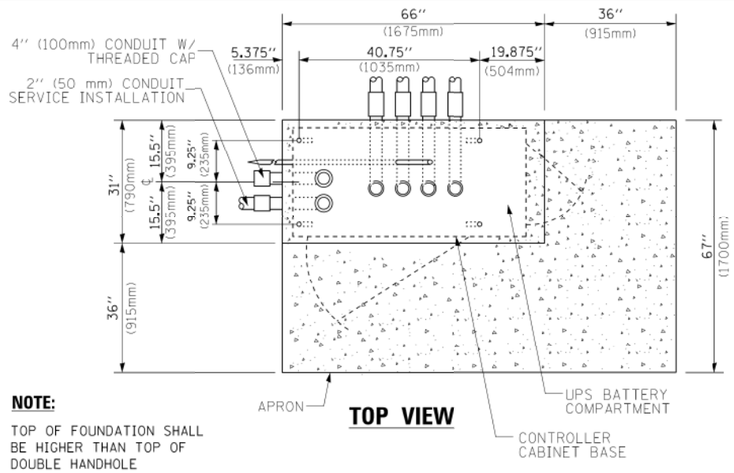


TOP VIEW



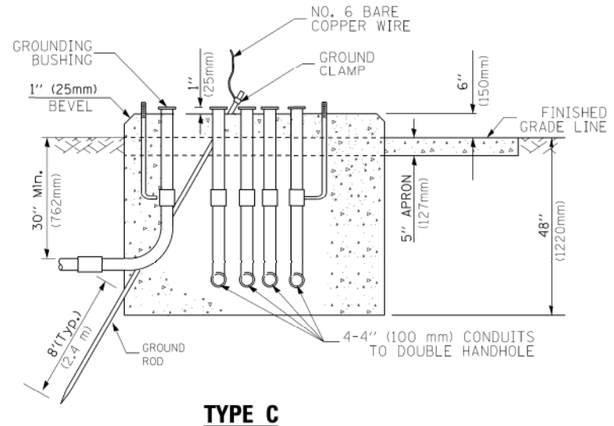
TYPE D
FOR GROUND MOUNTED
CONTROLLER CABINET
AND UPS BATTERY CABINET



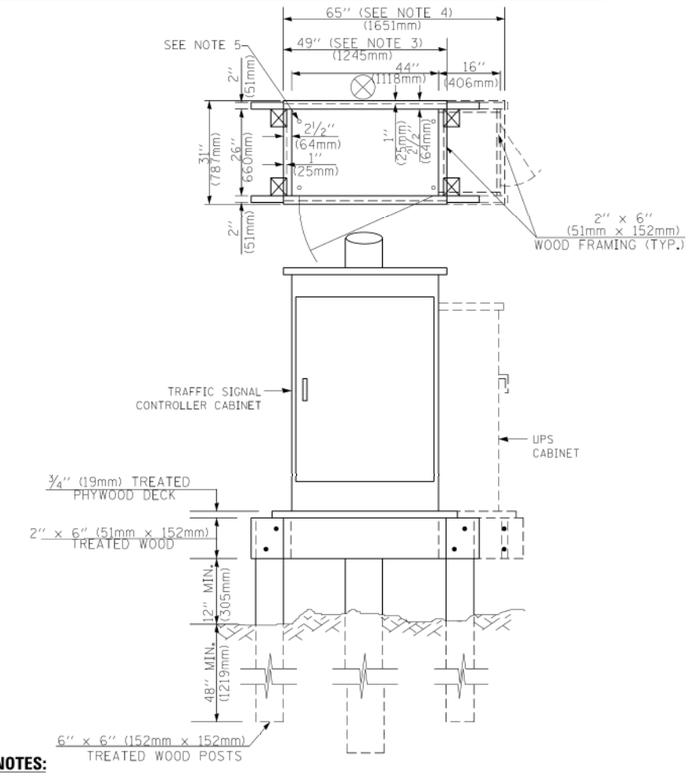
NOTE:

TOP OF FOUNDATION SHALL BE HIGHER THAN TOP OF DOUBLE HANDHOLE

TOP VIEW



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



NOTES:

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

TEMPORARY SIGNAL CONTROLLER
WOOD SUPPORT PLATFORM

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

CABLE SLACK

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

VERTICAL CABLE LENGTH

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

DEPTH OF FOUNDATION

Mast Arm Length	① Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 56' (16.8 m) and less than 65' (19.8 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

NOTES:

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

DEPTH OF MAST ARM FOUNDATIONS, TYPE E

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

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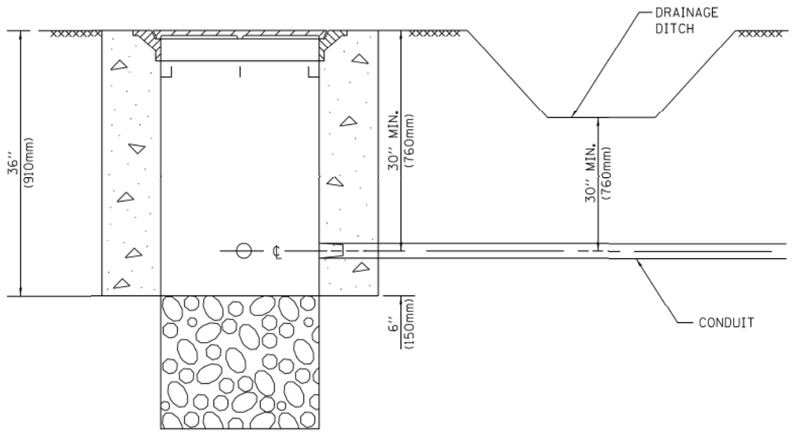
	TS-05	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

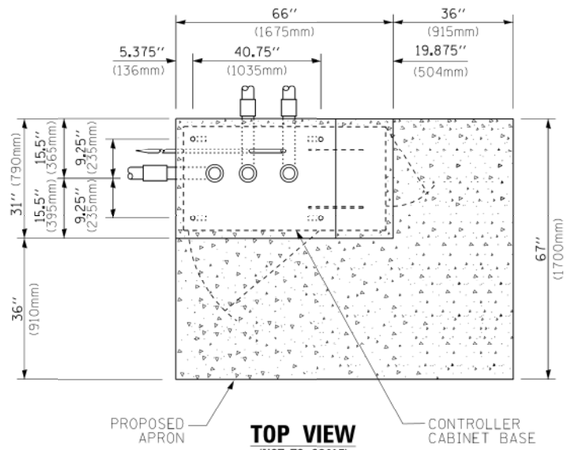


NOTES:

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

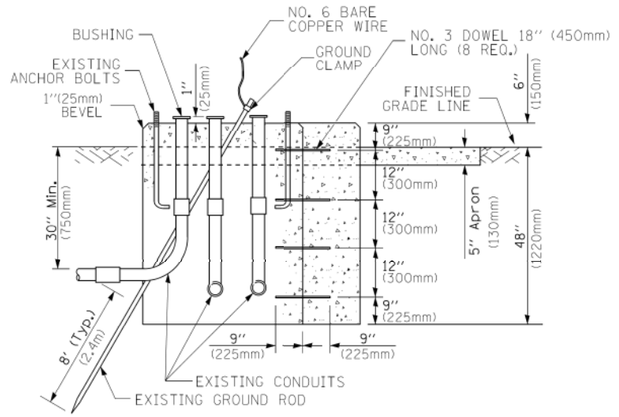
HANDHOLE WITH MINIMUM CONDUIT DEPTH

(NOT TO SCALE)



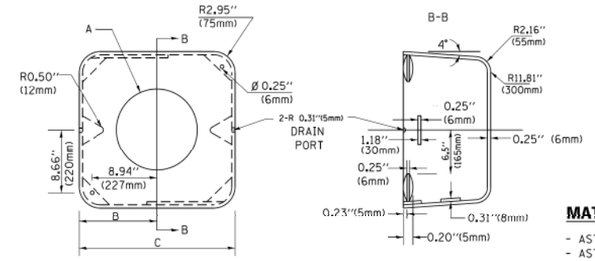
TOP VIEW

(NOT TO SCALE)



MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION

(NOT TO SCALE)



MATERIAL:

- ASTM A36 STEEL
- ASTM A-123 HOT DIPPED GALVANIZED

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

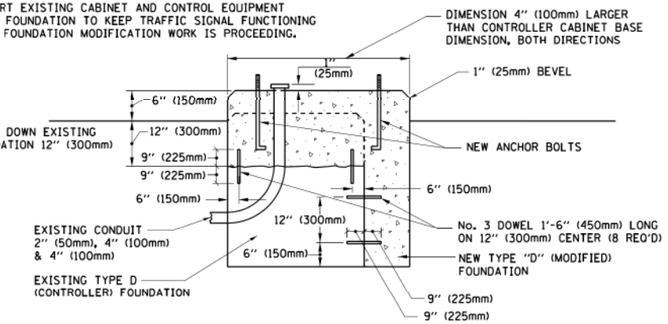
SHROUD

NOTES:

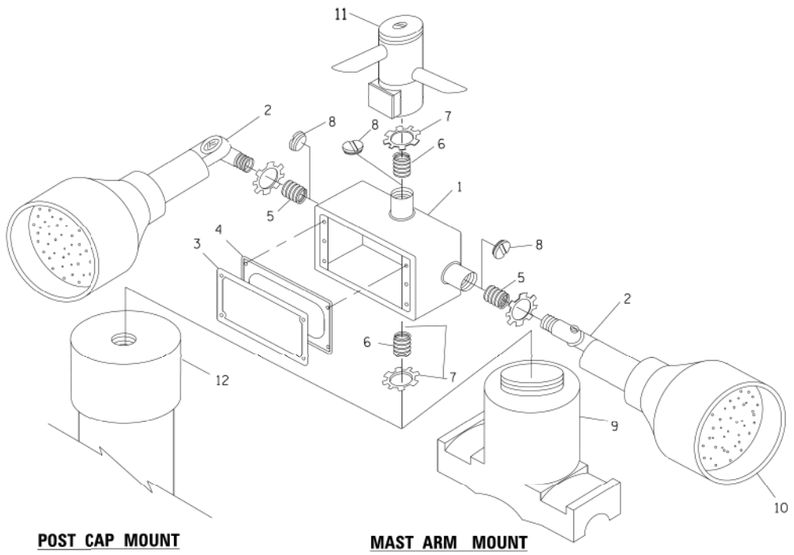
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFIED THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE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

NOTE:

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



MODIFY EXISTING TYPE "D" FOUNDATION



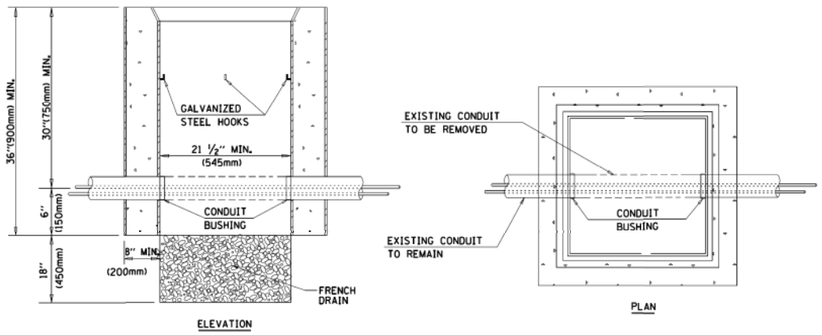
POST CAP MOUNT **MAST ARM MOUNT**

EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

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

NOTES:

1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
   ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT
   ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 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.



NOTES:

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

HANDHOLE TO INTERCEPT EXISTING CONDUIT

GHA #4188.800

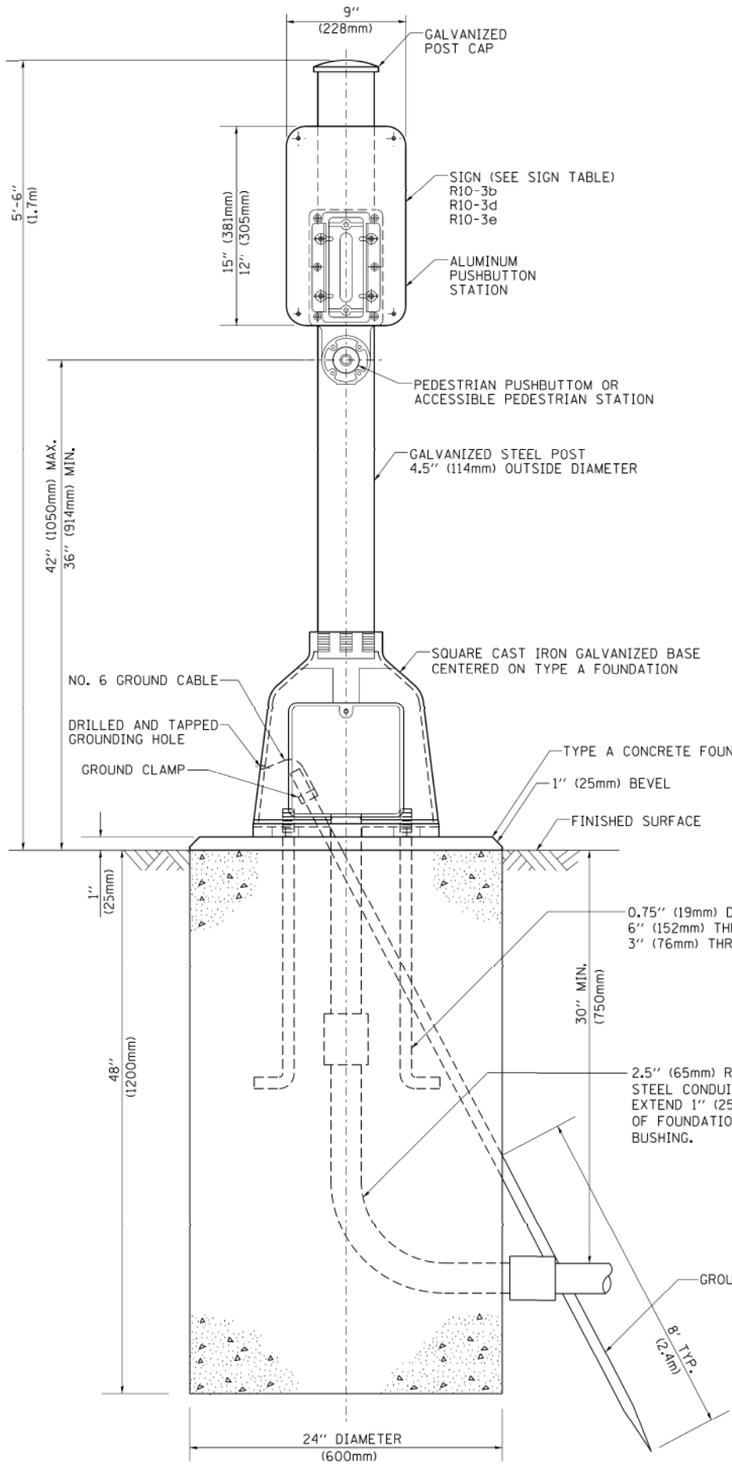
FILE NAME = 03-09 - DI-Detail-TS-05.dgn Default	USER NAME = ZWallsten	DESIGNED - DAD	REVISED - DAG 1-1-14
		DRAWN - BCK	REVISED -
	PLOT SCALE = 1:20	CHECKED - DAD	REVISED -
	PLOT DATE = 3/28/2014	DATE - 10-28-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

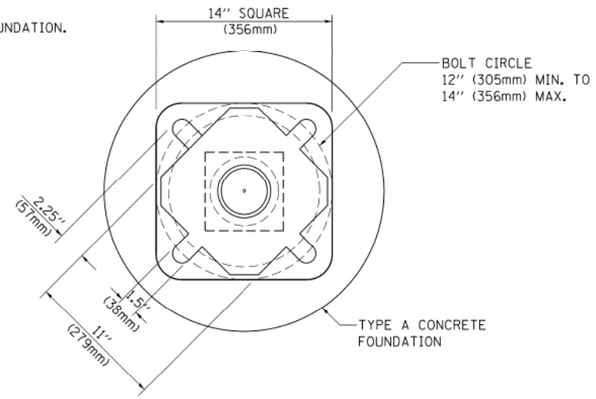
SCALE: NONE | SHEET 6 OF 7 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	8
	TS-05	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



SIGN TABLE

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



BOLT PATTERN

PEDESTRIAN PUSH BUTTON POST, TYPE A

GHA #4188.800

FILE NAME = 03-09 - DI-Detail-TS-05.dgn Default	USER NAME = ZWallsten	DESIGNED - DAG	REVISED - DAG 1-1-14
		DRAWN - GND	REVISED -
	PLOT SCALE = 1:20	CHECKED - DAD	REVISED -
	PLOT DATE = 3/28/2014	DATE - 10/1/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	9
	TS-05	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

NOTES FOR TEMPORARY TRAFFIC SIGNALS:

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 LED AND 12" (300mm) DIAMETER. HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. PEDESTRIAN SIGNALS SHALL INCLUDE SOLID INTERNATIONAL SYMBOLS. PEDESTRIAN SIGNALS WITH COUNTDOWN TIMERS SHALL BE USED WHEN THE EXISTING INSTALLATION UTILIZES COUNTDOWN TYPE OR AS DIRECTED BY THE ENGINEER. COUNTDOWN TYPE PEDESTRIAN SIGNALS ARE NOT TO BE INSTALLED AT A RAILROAD INTERSECTION. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.

4. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE 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 CONTROLLER EQUIPMENT.

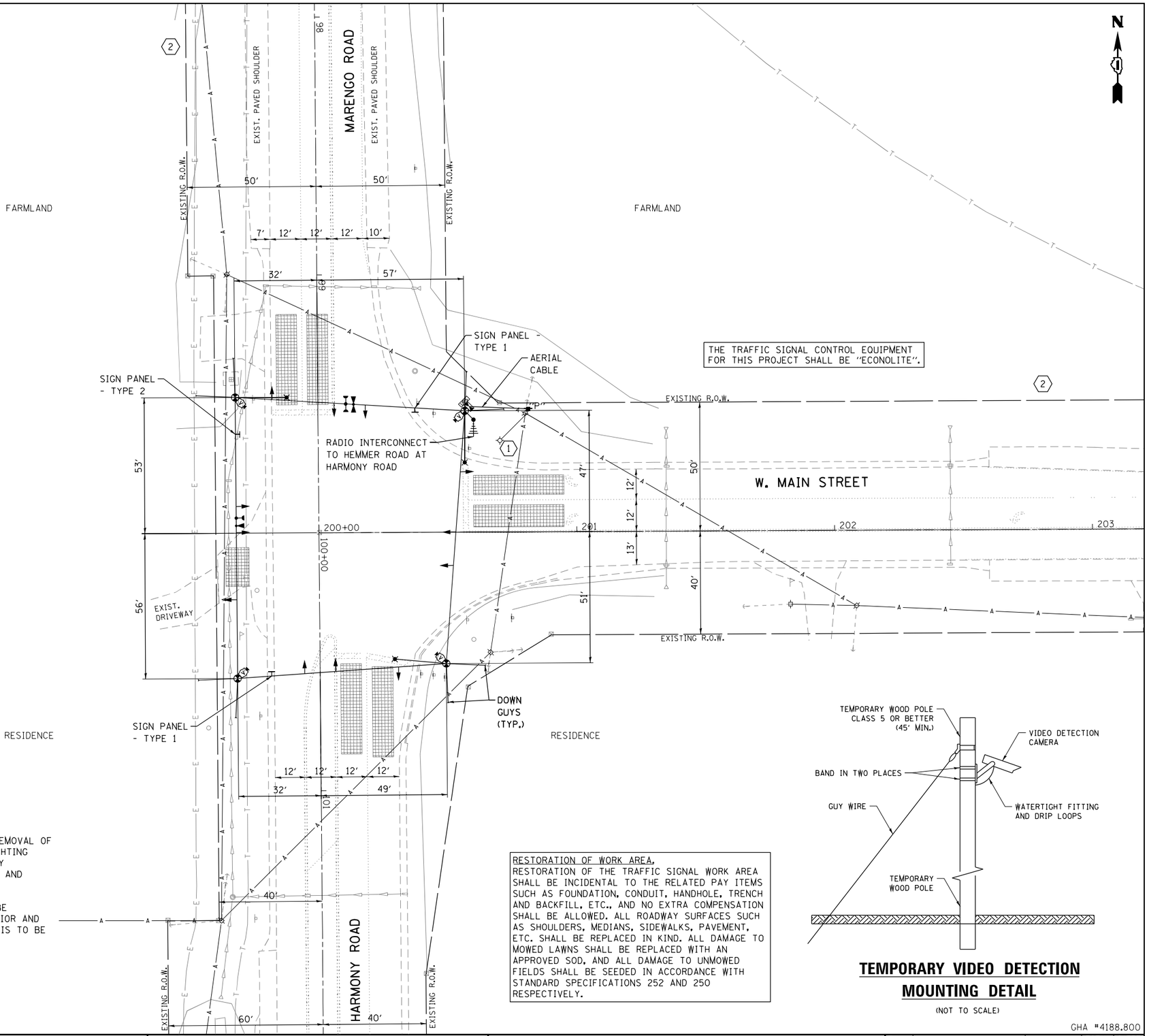
6. THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.

7. UNINTERRUPTIBLE POWER SUPPLY (UPS) SYSTEMS SHALL BE INSTALLED AND MADE OPERATIONAL AT TEMPORARY TRAFFIC SIGNAL INSTALLATIONS WHERE UPS IS INSTALLED AT THE EXISTING TRAFFIC SIGNAL, TEMPORARY TRAFFIC SIGNALS AT RAILROAD INTERSECTIONS, AND TEMPORARY TRAFFIC SIGNALS AT INTERSECTIONS WITH FIRE STATION ACTUATED EMERGENCY VEHICLE PRE-EMPTION, OR WHEN INDICATED ON THE PLANS.

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. THE DETECTION SYSTEM MUST MEET THE SPECIFICATIONS OF THE DISTRICT 1 AND THE CONTRACTOR SHALL PLACE THE DETECTORS INTO OPERATION TO THE SATISFACTION OF THE ENGINEER.

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.



CONSTRUCTION NOTE:

(1) THE ENGINEER SHALL COORDINATE THE REMOVAL OF THE EXISTING INTERSECTION BEACON LIGHTING WITH COM-ED AFTER THE NEW TEMPORARY INTERSECTION LIGHTING IS OPERATIONAL AND ACCEPTED BY McDOT.

(2) TWO CHANGEABLE MESSAGE SIGNS WILL BE REQUIRED TO BE IN PLACE ONE WEEK PRIOR AND TWO WEEKS AFTER THE TRAFFIC SIGNAL IS TO BE TURNED ON.

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

TEMPORARY VIDEO DETECTION MOUNTING DETAIL

(NOT TO SCALE)

GHA #4188.800

FILE NAME = 10 - Harmony-Marengo@W.Main-TS-Temp-Sig.dgn	USER NAME = ZWallsten	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 1:20	CHECKED -	REVISED -
Default	PLOT DATE = 3/28/2014	DATE -	REVISED -

McHENRY COUNTY
DIVISION OF TRANSPORTATION

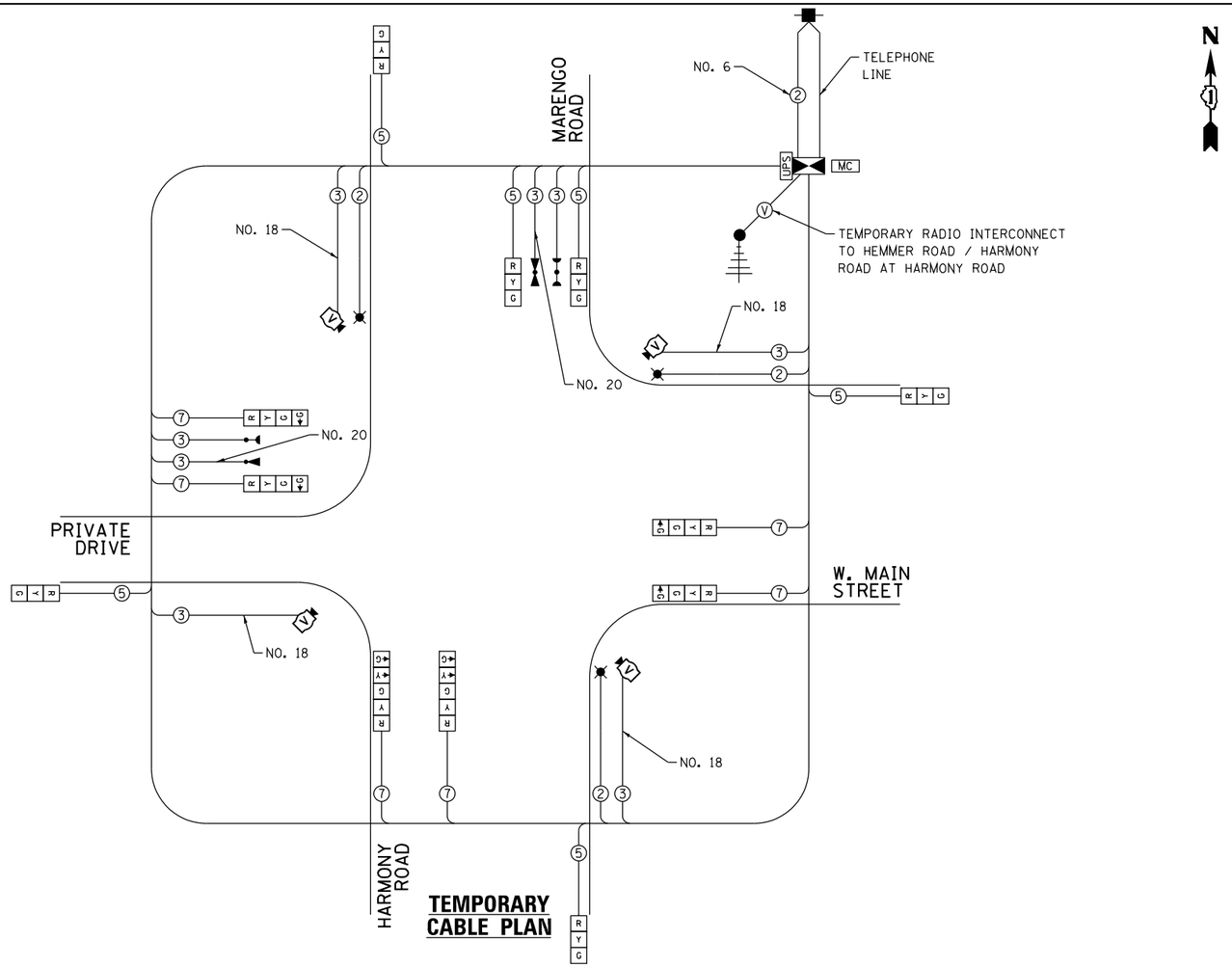
TEMPORARY TRAFFIC SIGNAL INSTALLATION – HARMONY ROAD /MARENGO ROAD AT W. MAIN STREET

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

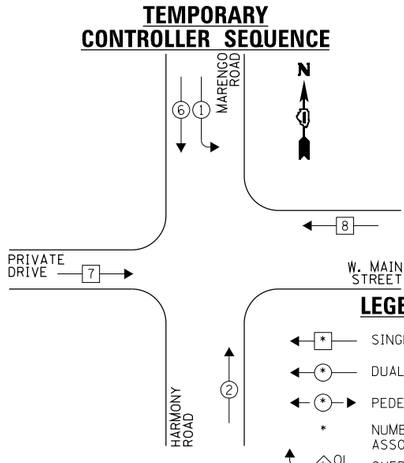
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	10
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

SCHEDULE OF QUANTITIES
HARMONY ROAD / MARENGO ROAD AT W. MAIN STREET

NO.	QUANT.	UNIT	
1.	1.50	CAL MO	CHANGEABLE MESSAGE SIGN
2.	15.00	SQ FT	SIGN PANEL - TYPE 1
3.	18.75	SQ FT	SIGN PANEL - TYPE 2
4.	1	EACH	SERVICE INSTALLATION - POLE MOUNTED
5.	430	FOOT	SPAN WIRE
6.	430	FOOT	TETHER WIRE
7.	305	FOOT	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL NO. 14 3C
8.	835	FOOT	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL NO. 14 5C
9.	1,060	FOOT	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL NO. 14 7C
10.	2	EACH	LIGHT DETECTOR
11.	1	EACH	LIGHT DETECTOR AMPLIFIER
12.	305	FOOT	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C
13.	4	EACH	TRAFFIC SIGNAL WOOD POLE, 60 FT., CLASS 4
14.	1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
15.	1	EACH	MASTER CONTROLLER (SPECIAL)
16.	1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
17.	6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, SPAN WIRE MOUNTED
18.	4	EACH	SIGNAL HEAD ,LED, 1-FACE 4-SECTION, SPAN WIRE MOUNTED
19.	2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, SPAN WIRE MOUNTED
20.	1	EACH	VIDEO DETECTION SYSTEM COMPLETE INTERSECTION
21.	51.40	SQ FT	TEMPORARY INFORMATION SIGNING
22.	2	EACH	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2
23.	1	EACH	TEMPORARY TRAFFIC SIGNAL TIMING
24.	590	FOOT	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL NO. 18 3C
25.	390	FOOT	ELECTRIC CABLE AERIAL SUSPENDED, 600V (XLP-TYPE USE) 3-1/C NO. 2
26.	3	EACH	LUMINAIRE, LED, HORIZONTAL MOUNT, 154 WATT, PHOTOCELL CONTROLLED
27.	3	EACH	MAST ARM, ALUMINUM 15 FOOT

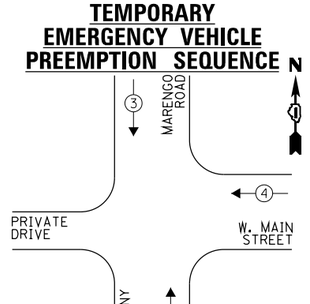


TEMPORARY CABLE PLAN



TEMPORARY CONTROLLER SEQUENCE

TEMPORARY PHASE DESIGNATION DIAGRAM



TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE

TEMPORARY EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	↓↑	←

McHENRY COUNTY DIVISION OF TRANSPORTATION TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
		WATTAGE			
TYPE	NO. LAMPS	INCAND.	L.E.D.	OPERATION	
SIGNAL (RED)	12	135	17	0.50	102.0
SIGNAL (YELLOW)	12	135	25	0.25	75.0
SIGNAL (GREEN)	14	135	15	0.25	52.5
ARROW	4	135	12	0.10	4.8
PED. SIGNAL	-	90	25	1.00	-
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	3	-	250	0.50	375.0
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	1	-	25	1.00	25.0
ILLUMINATED SIGN	-	-	25	0.05	-
				TOTAL =	884.3

ENERGY COSTS - BILLED TO: McDOT
(ADDRESS) 1611 NELSON ROAD
(ADDRESS) WOODSTOCK, IL 60098
ENERGY SUPPLY - CONTACT: NORA FERNANDEZ
PHONE: (815) 490-2335
COMPANY: COMED - ROCKFORD

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

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE".

GHA #4188.800

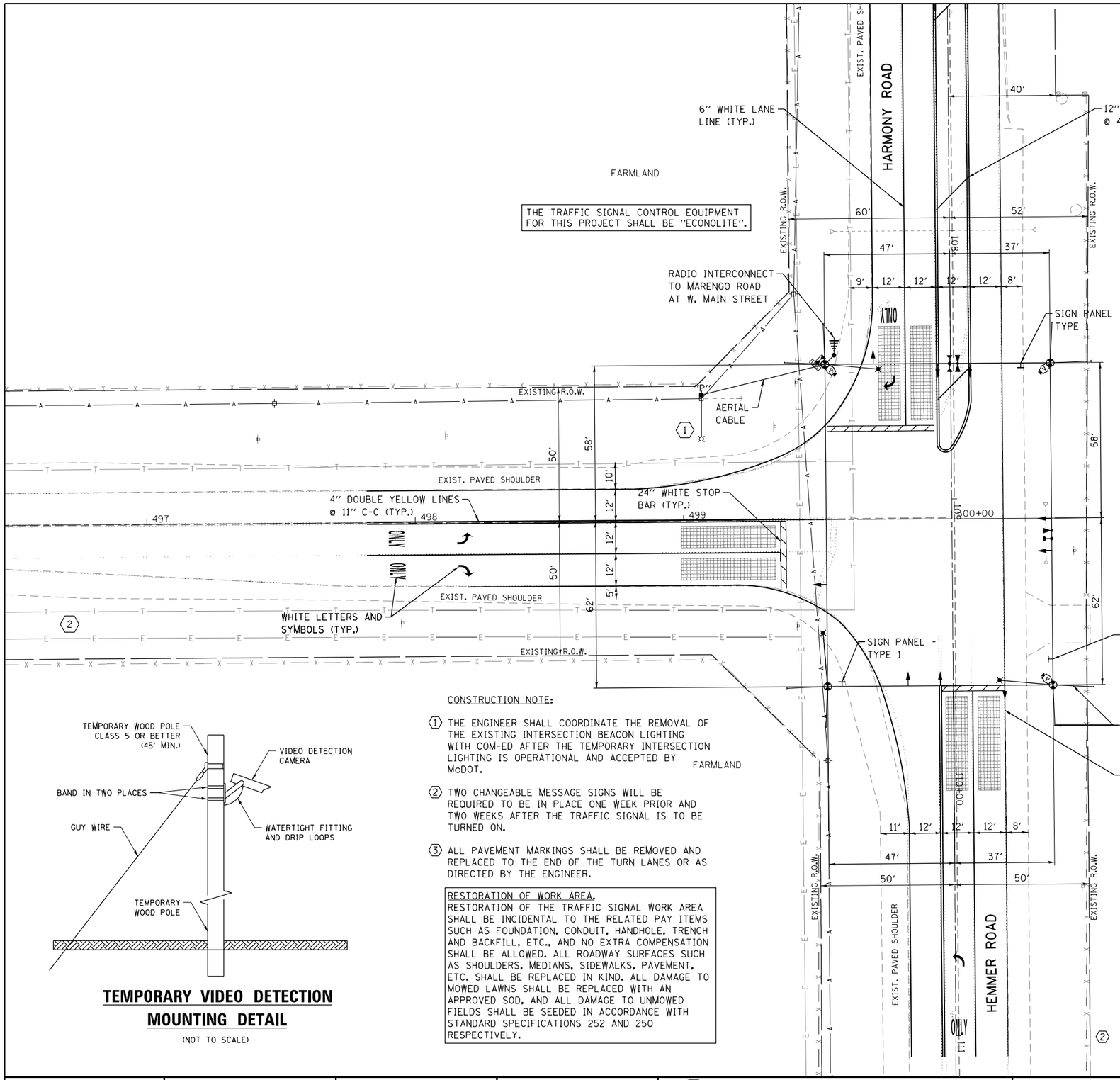
FILE NAME = 11 - Harmony-Marengo@W.Main-TS-Temp-Cable.dgn	USER NAME = ZWallsten	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 1:20	CHECKED -	REVISED -
Default	PLOT DATE = 3/28/2014	DATE -	REVISED -

McHENRY COUNTY
DIVISION OF TRANSPORTATION

SCHEDULE OF QUANTITIES, TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION DIAGRAM, & TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE HARMONY ROAD /MARENGO ROAD AT W. MAIN STREET

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	11
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



TEMPORARY VIDEO DETECTION MOUNTING DETAIL

(NOT TO SCALE)

CONSTRUCTION NOTE;

1. THE ENGINEER SHALL COORDINATE THE REMOVAL OF THE EXISTING INTERSECTION BEACON LIGHTING WITH COM-ED AFTER THE TEMPORARY INTERSECTION LIGHTING IS OPERATIONAL AND ACCEPTED BY McDOT.
2. TWO CHANGEABLE MESSAGE SIGNS WILL BE REQUIRED TO BE IN PLACE ONE WEEK PRIOR AND TWO WEEKS AFTER THE TRAFFIC SIGNAL IS TO BE TURNED ON.
3. ALL PAVEMENT MARKINGS SHALL BE REMOVED AND REPLACED TO THE END OF THE TURN LANES OR AS DIRECTED BY THE ENGINEER.

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

NOTES FOR TEMPORARY TRAFFIC SIGNALS:

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 LED AND 12" (300mm) DIAMETER. HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. PEDESTRIAN SIGNALS SHALL INCLUDE SOLID INTERNATIONAL SYMBOLS. PEDESTRIAN SIGNALS WITH COUNTDOWN TIMERS SHALL BE USED WHEN THE EXISTING INSTALLATION UTILIZES COUNTDOWN TYPE OR AS DIRECTED BY THE ENGINEER. COUNTDOWN TYPE PEDESTRIAN SIGNALS ARE NOT TO BE INSTALLED AT A RAILROAD INTERSECTION. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE 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 CONTROLLER EQUIPMENT.
6. THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.
7. UNINTERRUPTIBLE POWER SUPPLY (UPS) SYSTEMS SHALL BE INSTALLED AND MADE OPERATIONAL AT TEMPORARY TRAFFIC SIGNAL INSTALLATIONS WHERE UPS IS INSTALLED AT THE EXISTING TRAFFIC SIGNAL, TEMPORARY TRAFFIC SIGNALS AT RAILROAD INTERSECTIONS, AND TEMPORARY TRAFFIC SIGNALS AT INTERSECTIONS WITH FIRE STATION ACTUATED EMERGENCY VEHICLE PRE-EMPTION, OR WHEN INDICATED ON THE PLANS.
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. THE DETECTION SYSTEM MUST MEET THE SPECIFICATIONS OF THE DISTRICT 1 AND THE CONTRACTOR SHALL PLACE THE DETECTORS INTO OPERATION TO THE SATISFACTION OF THE ENGINEER.
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.

GHA #4188.800

FILE NAME = 12 - Hemmer-Harmony@Harmony-TS-Temp-Sig.dgn	USER NAME = ZWallsten	DESIGNED -	REVISED -
	PLOT SCALE = 1:20	DRAWN -	REVISED -
Default	PLOT DATE = 3/28/2014	CHECKED -	REVISED -
		DATE -	REVISED -

McHENRY COUNTY
DIVISION OF TRANSPORTATION

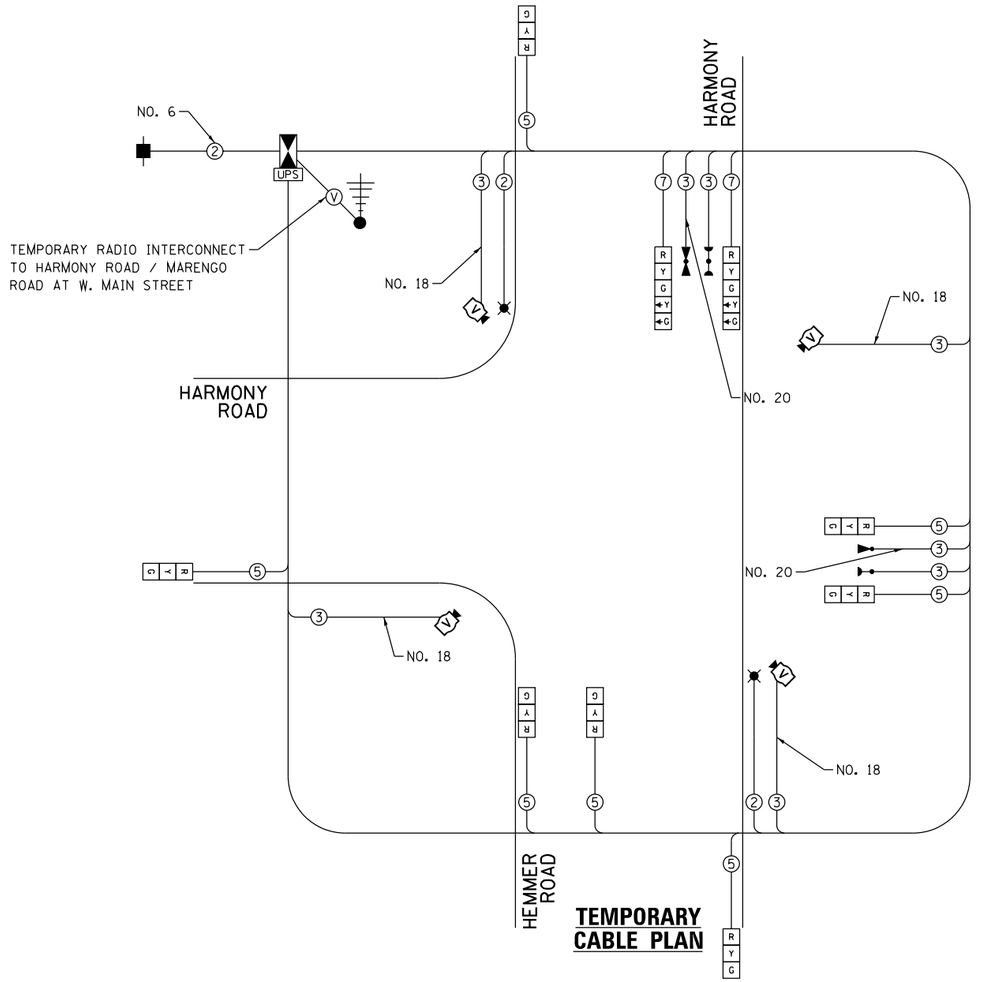
TEMPORARY TRAFFIC SIGNAL INSTALLATION – HEMMER ROAD /HARMONY ROAD AT HARMONY ROAD

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

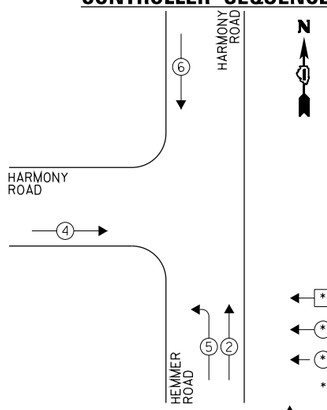
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	12
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

SCHEDULE OF QUANTITIES
HEMMER ROAD / HARMONY ROAD AT HARMONY ROAD

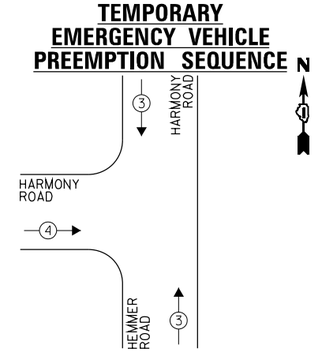
NO.	QUANT.	UNIT	
1.	1.50	CAL MO	CHANGEABLE MESSAGE SIGN
2.	18.00	SQ FT	SIGN PANEL - TYPE 1
3.	18.75	SQ FT	SIGN PANEL - TYPE 2
4.	145.60	SQ FT	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS
5.	2,540	FOOT	THERMOPLASTIC PAVEMENT MARKING - LINE 4"
6.	50	FOOT	THERMOPLASTIC PAVEMENT MARKING - LINE 6"
7.	90	FOOT	THERMOPLASTIC PAVEMENT MARKING - LINE 12"
8.	90	FOOT	THERMOPLASTIC PAVEMENT MARKING - LINE 24"
9.	200	SQ FT	PAVEMENT MARKING REMOVAL
10.	1	EACH	SERVICE INSTALLATION - POLE MOUNTED
11.	450	FOOT	SPAN WIRE
12.	450	FOOT	TETHER WIRE
13.	325	FOOT	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL NO. 14 3C
14.	1,355	FOOT	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL NO. 14 5C
15.	210	FOOT	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL NO. 14 7C
16.	2	EACH	LIGHT DETECTOR
17.	1	EACH	LIGHT DETECTOR AMPLIFIER
18.	325	FOOT	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C
19.	4	EACH	TRAFFIC SIGNAL WOOD POLE, 60 FT., CLASS 4
20.	1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
21.	1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
22.	7	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, SPAN WIRE MOUNTED
23.	2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, SPAN WIRE MOUNTED
24.	1	EACH	VIDEO DETECTION SYSTEM COMPLETE INTERSECTION
25.	51.40	SQ FT	TEMPORARY INFORMATION SIGNING
26.	1	EACH	TEMPORARY TRAFFIC SIGNAL TIMING
27.	455	FOOT	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL NO. 18 3C
28.	530	FOOT	ELECTRIC CABLE AERIAL SUSPENDED, 600V (XLP-TYPE USE) 3-1/C NO. 2
29.	3	EACH	LUMINAIRE, LED, HORIZONTAL MOUNT, 154 WATT, PHOTOCELL CONTROLLED
30.	3	EACH	MAST ARM, ALUMINUM 15 FOOT



TEMPORARY CABLE PLAN



TEMPORARY CONTROLLER SEQUENCE



TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE

LEGEND:

- SINGLE ENTRY PHASE
- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- * NUMBER REFERS TO ASSOCIATED PHASE
- OL OVERLAP

TEMPORARY PHASE DESIGNATION DIAGRAM

TEMPORARY EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	↓↑	→

GHA #4188.800

McHENRY COUNTY DIVISION OF TRANSPORTATION TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE L.E.D.	OPERATION	
SIGNAL (RED)	9	135	17	0.50	76.5
SIGNAL (YELLOW)	9	135	25	0.25	56.25
SIGNAL (GREEN)	9	135	15	0.25	33.75
ARROW	4	135	12	0.10	4.8
PED. SIGNAL	-	90	25	1.00	-
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	3	-	250	0.50	375.0
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	1	-	25	1.00	25.0
ILLUMINATED SIGN	-	-	25	0.05	-
				TOTAL =	821.3

ENERGY COSTS - BILLED TO: McDOT
(ADDRESS) 1611 NELSON ROAD
(ADDRESS) WOODSTOCK, IL 60098
ENERGY SUPPLY - CONTACT: NORA FERNANDEZ
PHONE: (815) 490-2335
COMPANY: COMED - ROCKFORD

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

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE".

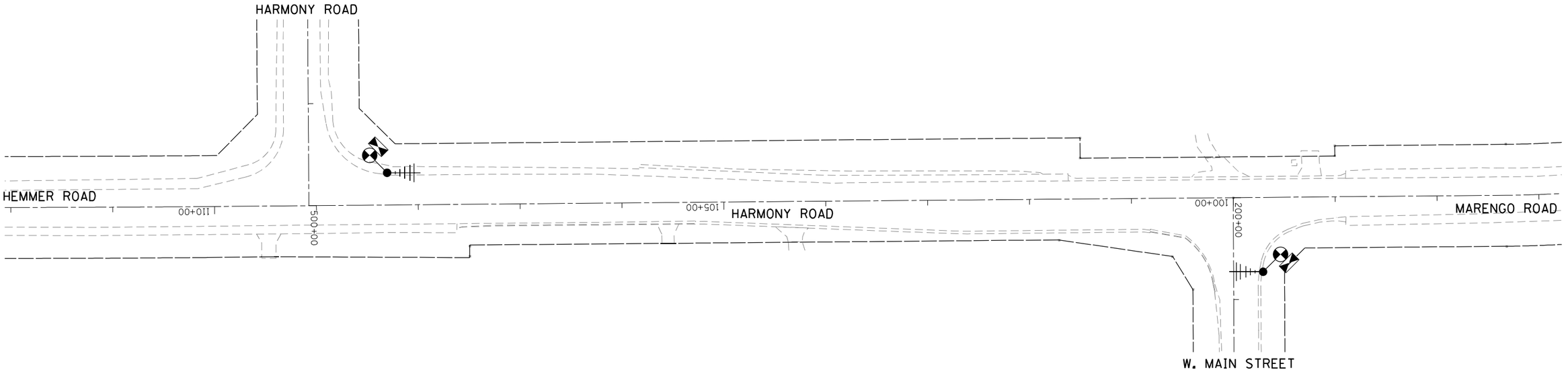
FILE NAME = 13 - Hemmer-Harmony@Harmony-TS-Temp-Cable.dgn	USER NAME = ZWallsten	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 1:20	CHECKED -	REVISED -
Default	PLOT DATE = 3/28/2014	DATE -	REVISED -

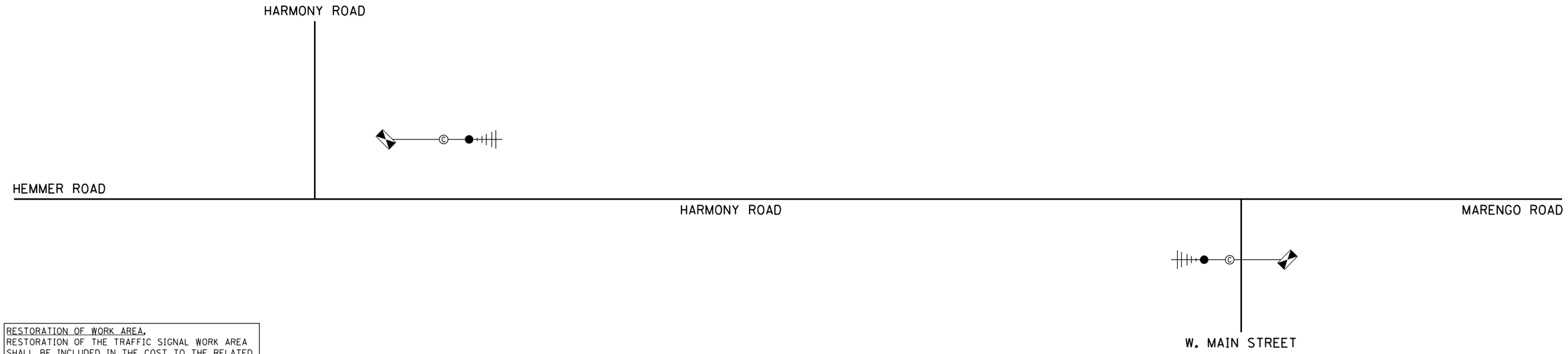
McHENRY COUNTY
DIVISION OF TRANSPORTATION

SCHEDULE OF QUANTITIES, TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION DIAGRAM, & TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE HEMMER ROAD /HARMONY ROAD AT HARMONY ROAD

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	13
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			





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

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE".

GHA #4188.800

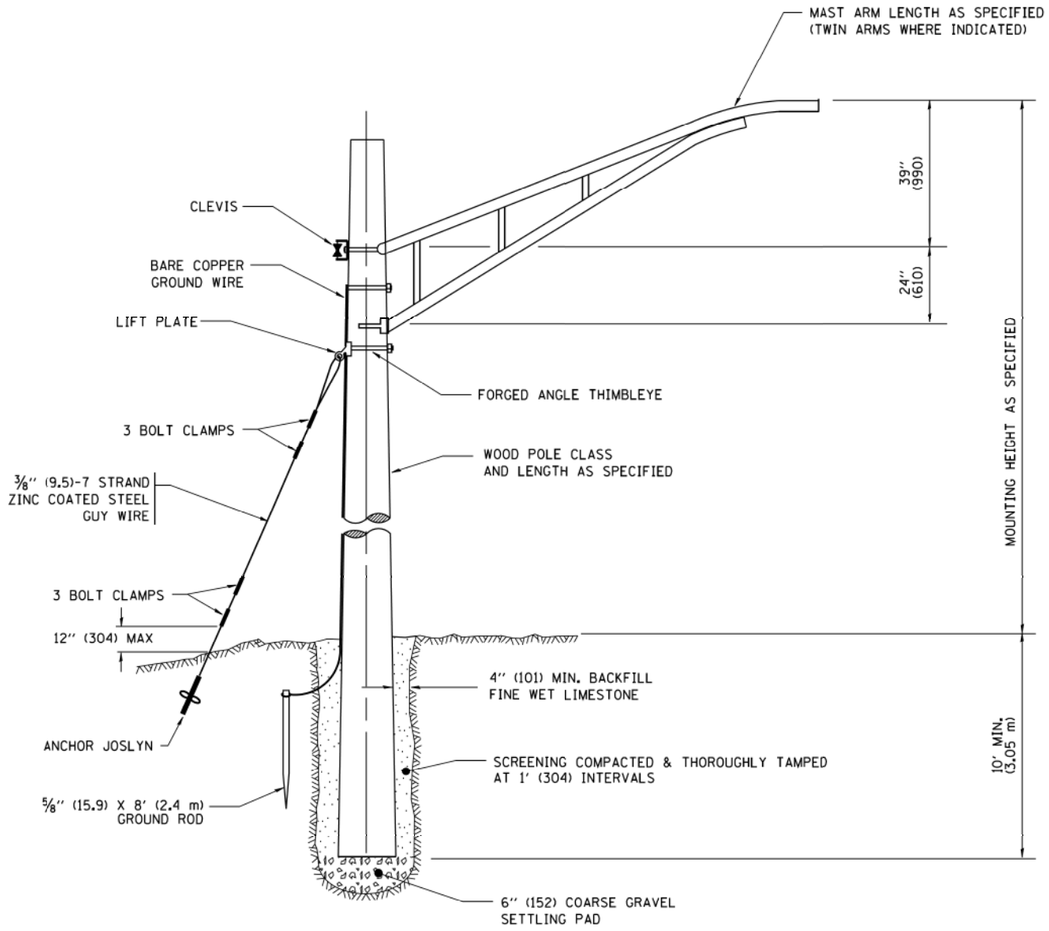
FILE NAME = 14 - Interconnect-Plan.dgn Default	USER NAME = ZWallsten	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 1:50	CHECKED -	REVISED -
	PLOT DATE = 3/28/2014	DATE -	REVISED -

McHENRY COUNTY
DIVISION OF TRANSPORTATION

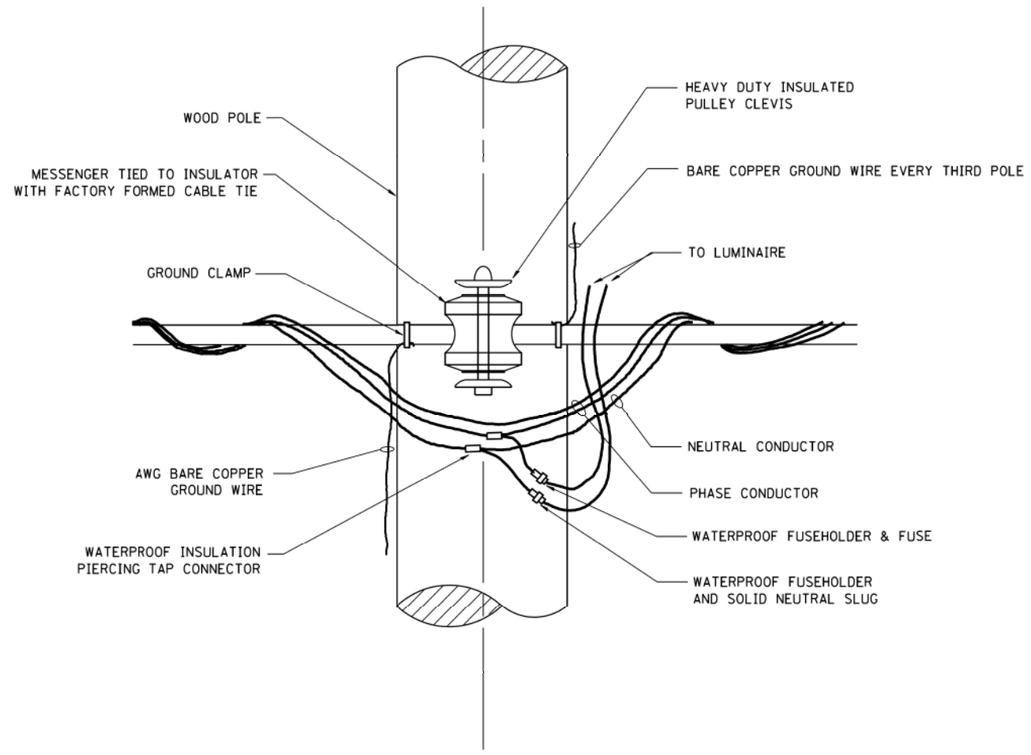
TEMPORARY INTERCONNECT PLAN AND SCHEMATIC PLAN

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	14
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



TEMPORARY LIGHT POLE DETAIL



TEMPORARY LIGHT POLE ATTACHMENT DETAIL

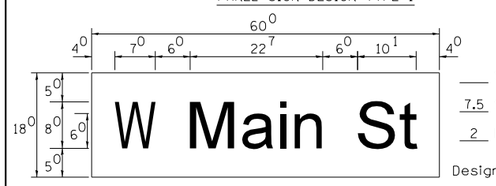
NOTES:

1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED

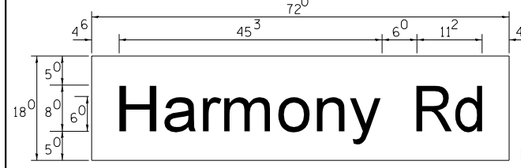
GHA #4188.800

FILE NAME = 15 - DI-Detail-BE-800.dgn	USER NAME = ZWallsten	DESIGNED -	REVISED - 08-08-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY LIGHT POLE DETAILS		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -					14-000429-00-TL	McHENRY	24	15
	PLOT SCALE = 1:20	CHECKED -	REVISED -					BE-800	CONTRACT NO.		
Default	PLOT DATE = 3/28/2014	DATE -	REVISED -		SCALE: NONE	SHEET 1 OF 1 SHEETS STA. TO STA.		ILLINOIS	FED. AID PROJECT		

PANEL SIGN DESIGN TYPE 1



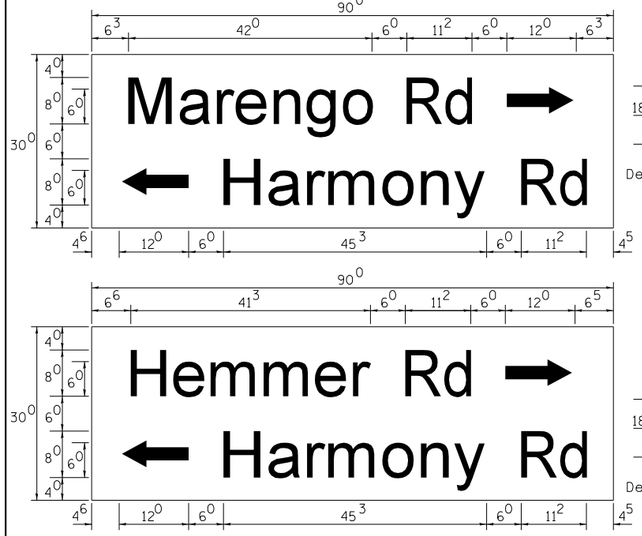
___ Sq. M. each
7.5 Sq. Ft. each
2 Required
Design Series D



___ Sq. M. each
9.0 Sq. Ft. each
2 Required
Design Series D

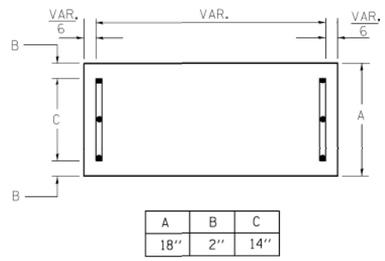
NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS

PANEL SIGN DESIGN TYPE 2

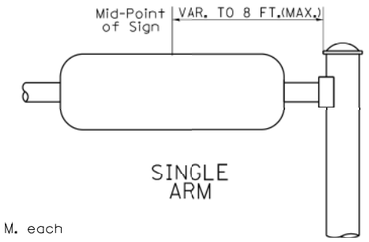


___ Sq. M. each
18.75 Sq. Ft. each
1 Required
Design Series D

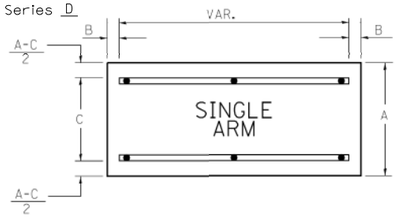
SUPPORTING CHANNELS



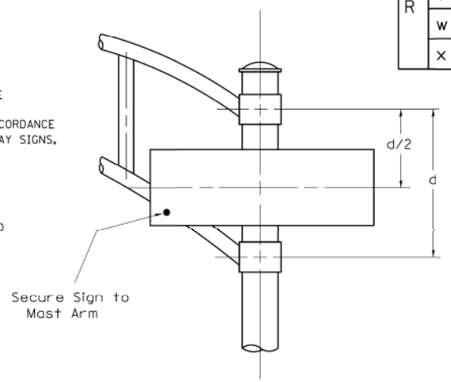
A	B	C
18"	2"	14"
30"	2"	22"



SUPPORTING CHANNELS



___ Sq. M. each
18.75 Sq. Ft. each
1 Required
Design Series D



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

GENERAL NOTES

1. 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.
2. ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE ZZ SHEETING.
3. THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 8'-0".
4. ALL BORDERS SHALL BE ¾" WIDE AND CORNER RADIUS SHALL BE 2-1/4 ".
5. 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	¼" x 14 x 1" H.W.H. #3 SELF TAPPING WITH NEOPRENE WASHER
BRACKETS	PART #HPN034 (UNIVERSAL) CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

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

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

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

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

FIRST LETTER \ SECOND LETTER	a c d e g o q	b h i k l m n p r u	f w	j	s t	v y	x	z
SERIES	C D	C D	C D	C D	C D	C D	C D	C D
a d h g i j l m n q u	1 6 1 7	2 2 2 4	1 6 1 7	1 2 1 4	1 4 1 5	1 4 1 5	1 6 1 7	1 6 1 7
b f k o p s	1 2 1 4	1 6 1 7	1 1 1 2	0 5 0 6	1 1 1 2	1 1 1 2	1 2 1 4	1 2 1 4
c e	1 2 1 4	1 6 1 7	1 2 1 4	0 6 1 0	1 2 1 4	1 2 1 4	1 2 1 4	1 2 1 4
r	0 6 1 0	1 2 1 4	0 6 1 0	0 3 0 3	0 5 0 6	0 5 0 6	0 6 1 0	0 6 1 0
t z	1 2 1 4	1 6 1 7	1 2 1 4	0 6 1 0	1 1 1 2	1 1 1 2	1 2 1 4	1 2 1 4
v y	1 1 1 2	1 4 1 5	1 1 1 2	0 5 0 6	0 6 1 0	0 6 1 0	1 1 1 2	1 1 1 2
w	1 1 1 2	1 4 1 5	1 1 1 2	0 5 0 6	1 1 1 2	1 1 1 2	1 1 1 2	1 2 1 4
x	1 2 1 4	1 6 1 7	1 1 1 2	0 5 0 6	1 1 1 2	1 1 1 2	1 1 1 2	1 2 1 4

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

FIRST NUMBER \ SECOND NUMBER	0	1	2	3	4	5	6	7	8	9
SERIES	C D	C D	C D	C D	C D	C D	C D	C D	C D	C D
0 9	1 6 1 7	1 6 1 7	1 4 1 5	1 2 1 4	1 4 1 5	1 4 1 5	1 6 1 7	1 2 1 4	1 6 1 7	1 6 1 7
1	2 0 2 1	2 0 2 1	2 0 2 1	1 6 1 7	1 4 1 5	2 0 2 1	2 0 2 1	1 4 1 5	2 0 2 1	2 0 2 1
2 3 4	1 4 1 5	1 4 1 5	1 4 1 5	1 2 1 4	1 2 1 4	1 4 1 5	1 4 1 5	1 1 1 2	1 6 1 7	1 4 1 5
5	1 4 1 5	1 4 1 5	1 4 1 5	1 1 1 2	1 1 1 2	1 4 1 5	1 4 1 5	1 1 1 2	1 4 1 5	1 4 1 5
6	1 6 1 7	1 4 1 5	1 4 1 5	1 2 1 5	1 2 1 4	1 4 1 5	1 4 1 5	1 1 1 2	1 4 1 5	1 4 1 5
7	1 2 1 4	1 2 1 4	1 4 1 5	1 2 1 5	0 5 0 6	1 2 1 4	1 4 1 5	1 1 1 2	1 4 1 5	1 2 1 4
8	1 6 1 7	1 6 1 7	1 4 1 5	1 2 1 5	1 2 1 4	1 4 1 5	1 6 1 7	1 2 1 4	1 6 1 7	1 4 1 5

EXAMPLE, 2 (3) DENOTES 3/8"

UPPER AND LOWER CASE LETTER WIDTHS

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

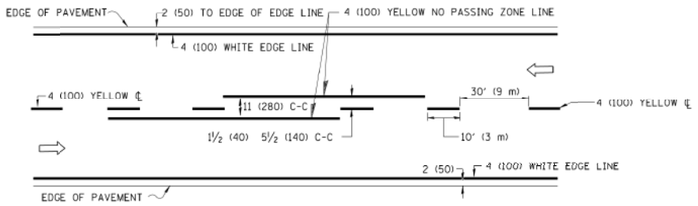
NUMBER	6 INCH SERIES C	6 INCH SERIES D	8 INCH SERIES C	8 INCH SERIES D
1	1 2	1 4	1 5	2 0
2	3 2	4 0	4 3	5 3
3	3 2	4 0	4 3	5 3
4	3 5	4 3	4 7	5 7
5	3 2	4 0	4 3	5 3
6	3 2	4 0	4 3	5 3
7	3 2	4 0	4 3	5 3
8	3 2	4 0	4 3	5 3
9	3 2	4 0	4 3	5 3
0	3 4	4 2	4 5	5 5

GHA #4188.800

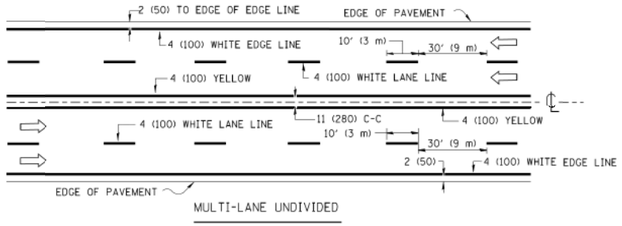
FILE NAME = 16 - DI-Detail-TS-02.dgn	USER NAME = ZWallsten	DESIGNED - DAG/BCK	REVISED - DAG 10/28/09	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		DRAWN - BCK	REVISED - LP 01/01/14	
Default	PLOT SCALE = 1:20	CHECKED - DAG/DAD	REVISED -	
	PLOT DATE = 3/28/2014	DATE - 03-15-09	REVISED -	

DISTRICT ONE
MAST ARM MOUNTED STREET NAME SIGNS
SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

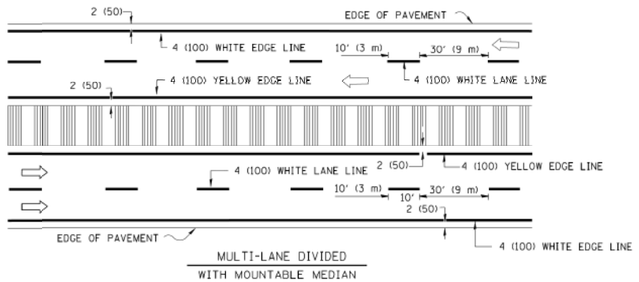
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	16
	TS-02	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



2-LANE ROADWAY



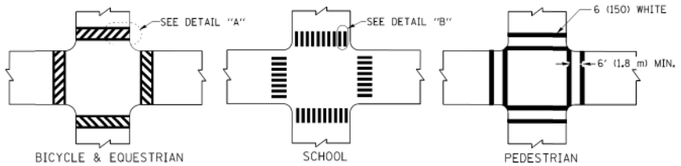
MULTI-LANE UNDIVIDED



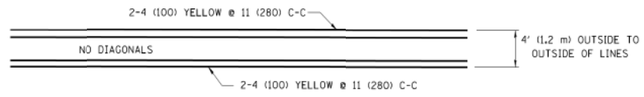
MULTI-LANE DIVIDED
WITH MOUNTABLE MEDIAN

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

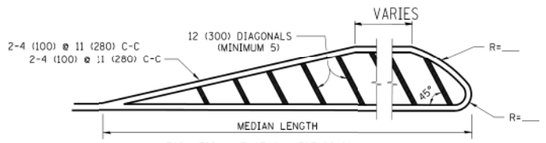
TYPICAL LANE AND EDGE LINE MARKING



TYPICAL CROSSWALK MARKING



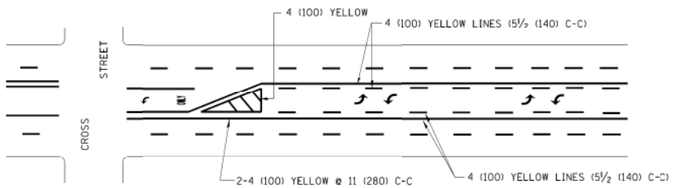
4' (1.2 m) WIDE MEDIANS ONLY



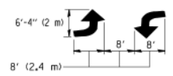
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h))
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1.2 m) WIDE

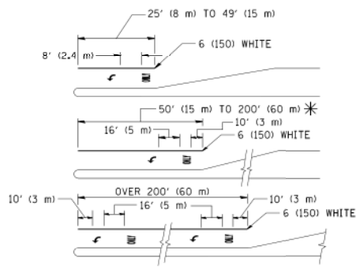


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

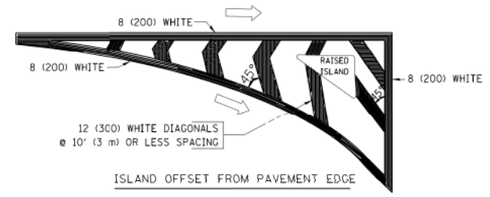


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
↰ AREA = 15.6 SQ. FT. (1.5 m²) ↑ ONLY AREA = 20.8 SQ. FT. (1.9 m²)

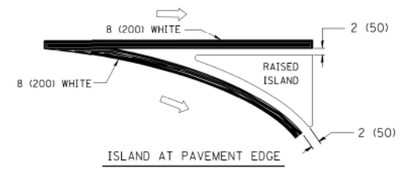
✳ TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

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	5½ (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; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m²) EACH "X"=54.0 SQ. FT. (5.0 m²)
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.

GHA #4188.800

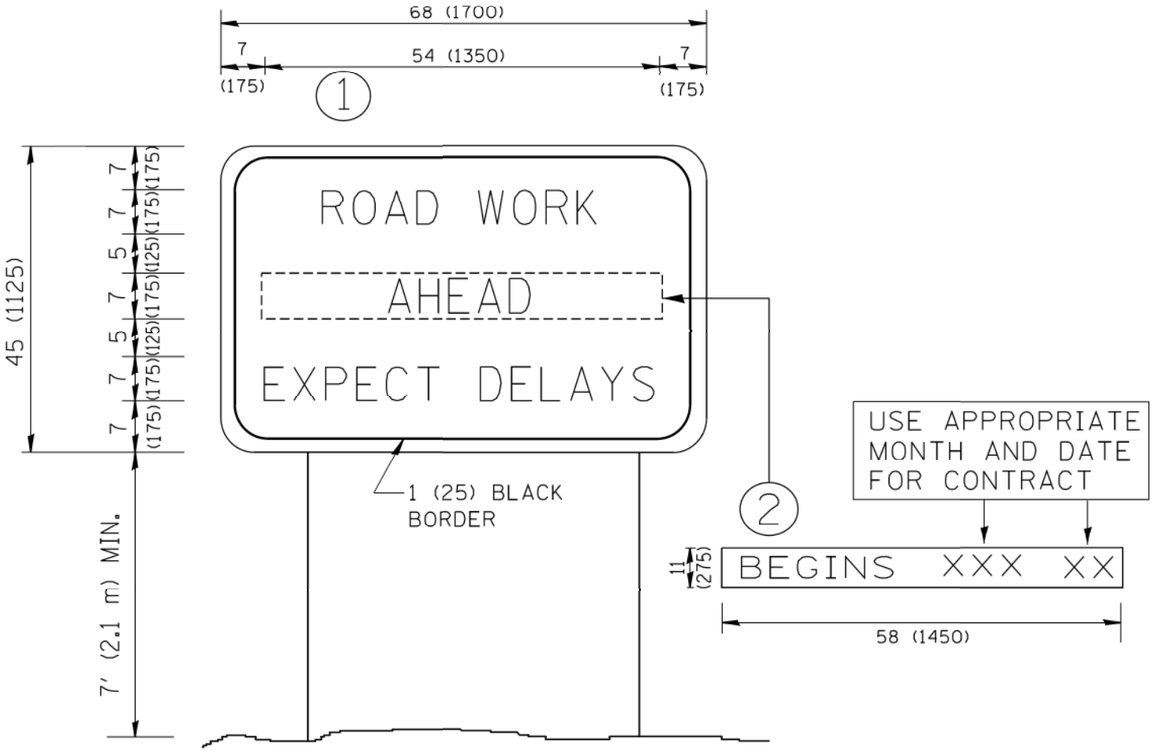
FILE NAME = 17 - DI-Detail-TC-13.dgn	USER NAME = ZWallsten	DESIGNED - EVERS	REVISED - T. RAMMACHER 10-27-94
		DRAWN -	REVISED - C. JUCIUS 09-09-09
Default	PLOT SCALE = 1:20	CHECKED -	REVISED -
	PLOT DATE = 3/28/2014	DATE - 03-19-90	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	17
	TC-13	CONTRACT NO.		
	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.

GHA #4188.800

FILE NAME = 18 - DI-Detail-TC-22.dgn Default	USER NAME = ZWallsten	DESIGNED -	REVISED - R. MIRS 09-15-97
		DRAWN -	REVISED - R. MIRS 12-11-97
	PLOT SCALE = 1:20	CHECKED -	REVISED - T. RAMMACHER 02-02-99
	PLOT DATE = 3/28/2014	DATE -	REVISED - C. JUCIUS 01-31-07

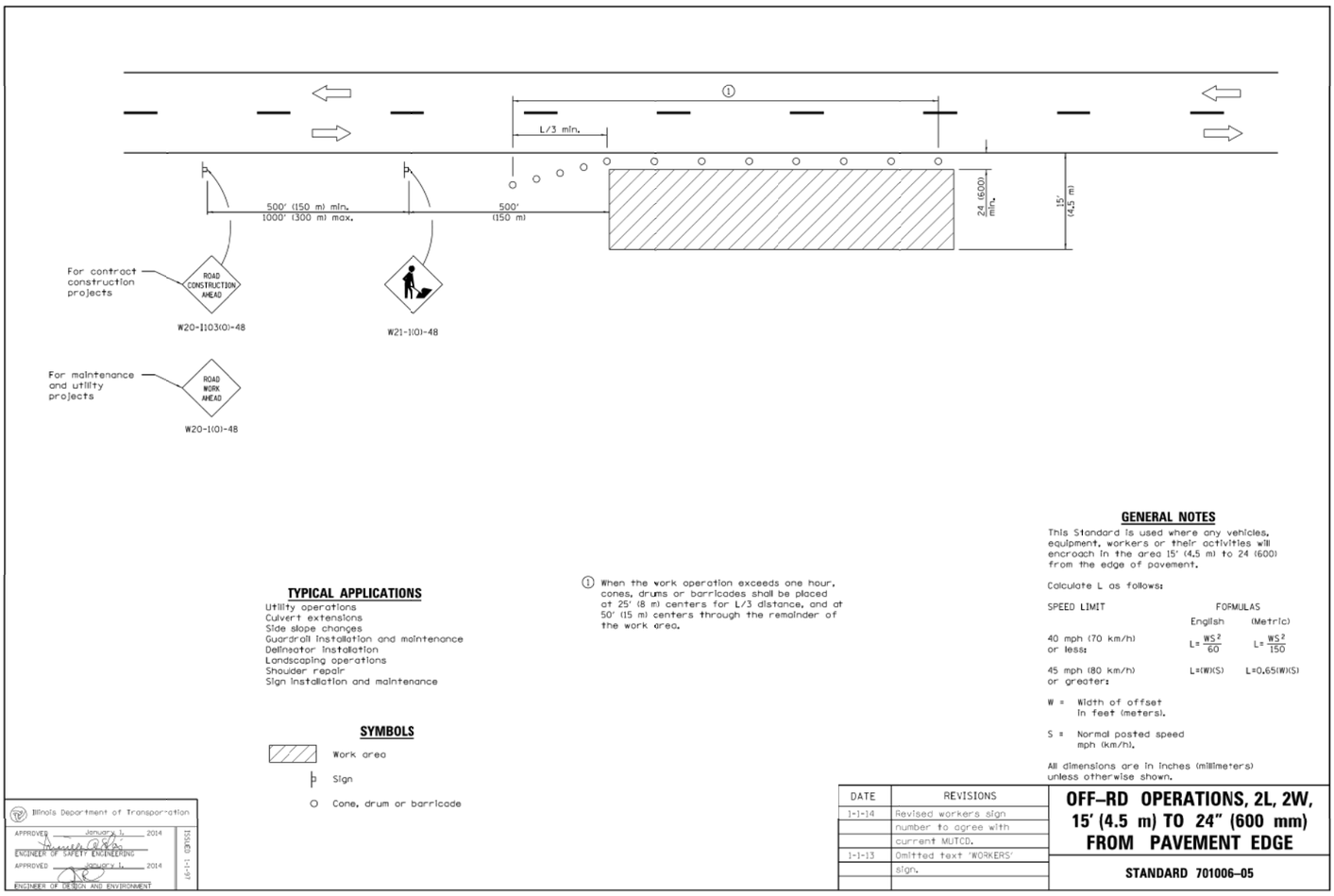
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARTERIAL ROAD INFORMATION SIGN

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-000429-00-TL	McHENRY	24	18
	TC-22	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

FILE NAME = 19-24 - IDOT-Details.dgn
USER NAME = Zwelsen
PLOT SCALE = 1.20
PLOT DATE = 3/28/2014
Default



TYPICAL APPLICATIONS

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

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

SYMBOLS

Work area
Sign
Cone, drum or barricade

GENERAL NOTES

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

Calculate L as follows:

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

W = Width of offset in feet (meters).

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

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

Illinois Department of Transportation
APPROVED January 1, 2014
ENGINEER OF SAFETY ENGINEERING
APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-14

DATE	REVISIONS
1-1-14	Revised workers sign
	number to agree with
	current MUTCD.
1-1-13	Omitted text 'WORKERS'
	sign.

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

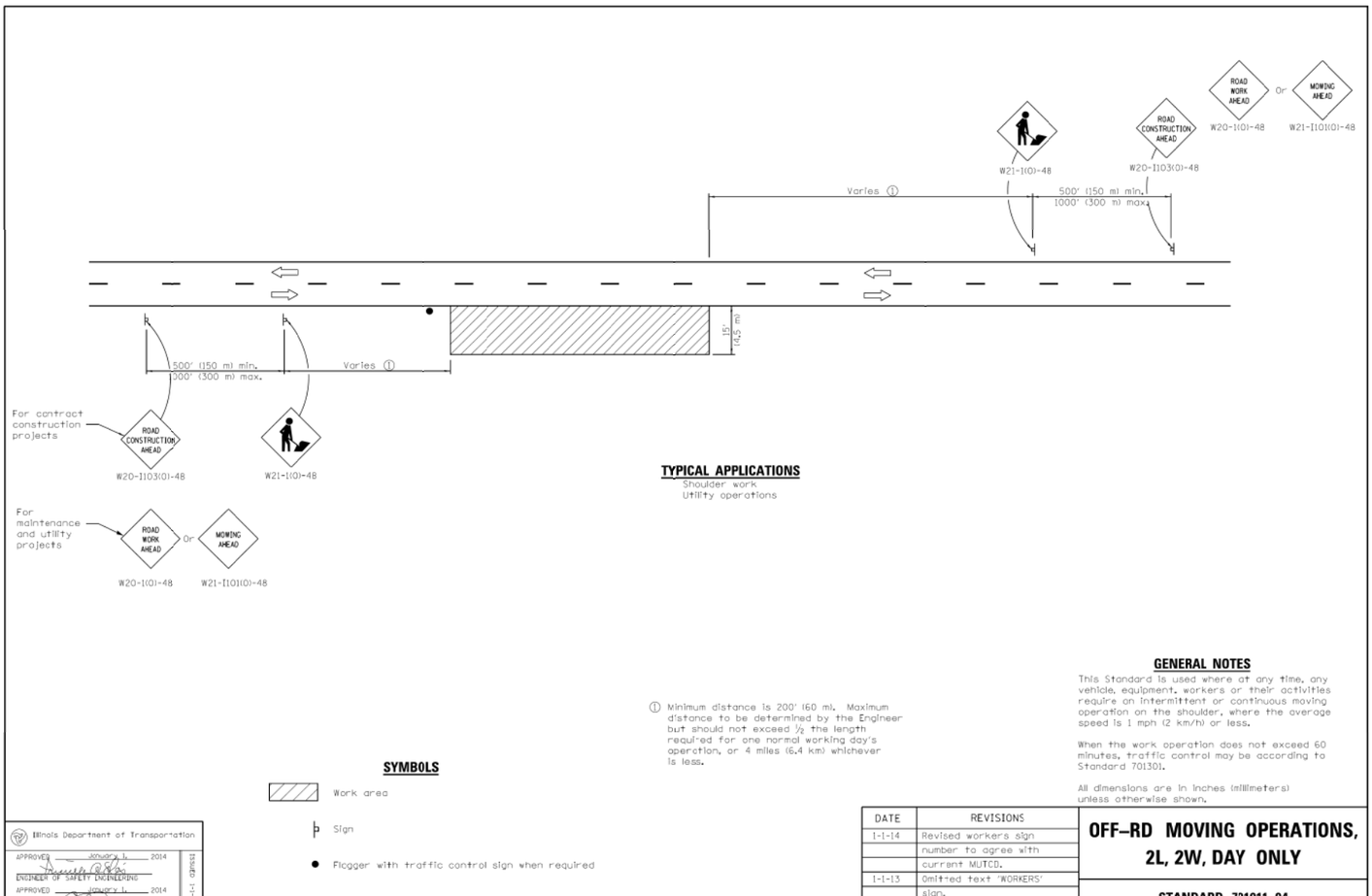
STANDARD 701006–05

DESIGNED - JRD
DRAWN - ZCW
CHECKED - DPB
DATE -
REVISED - -
REVISED - -
REVISED - -

McHENRY COUNTY
DIVISION OF TRANSPORTATION

ILLINOIS DEPARTMENT OF TRANSPORTATION
STANDARD DETAILS

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



TYPICAL APPLICATIONS

Shoulder work
Utility operations

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

SYMBOLS

Work area
Sign
Flagger with traffic control sign when required

GENERAL NOTES

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

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

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

Illinois Department of Transportation
APPROVED January 1, 2014
ENGINEER OF SAFETY ENGINEERING
APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-14

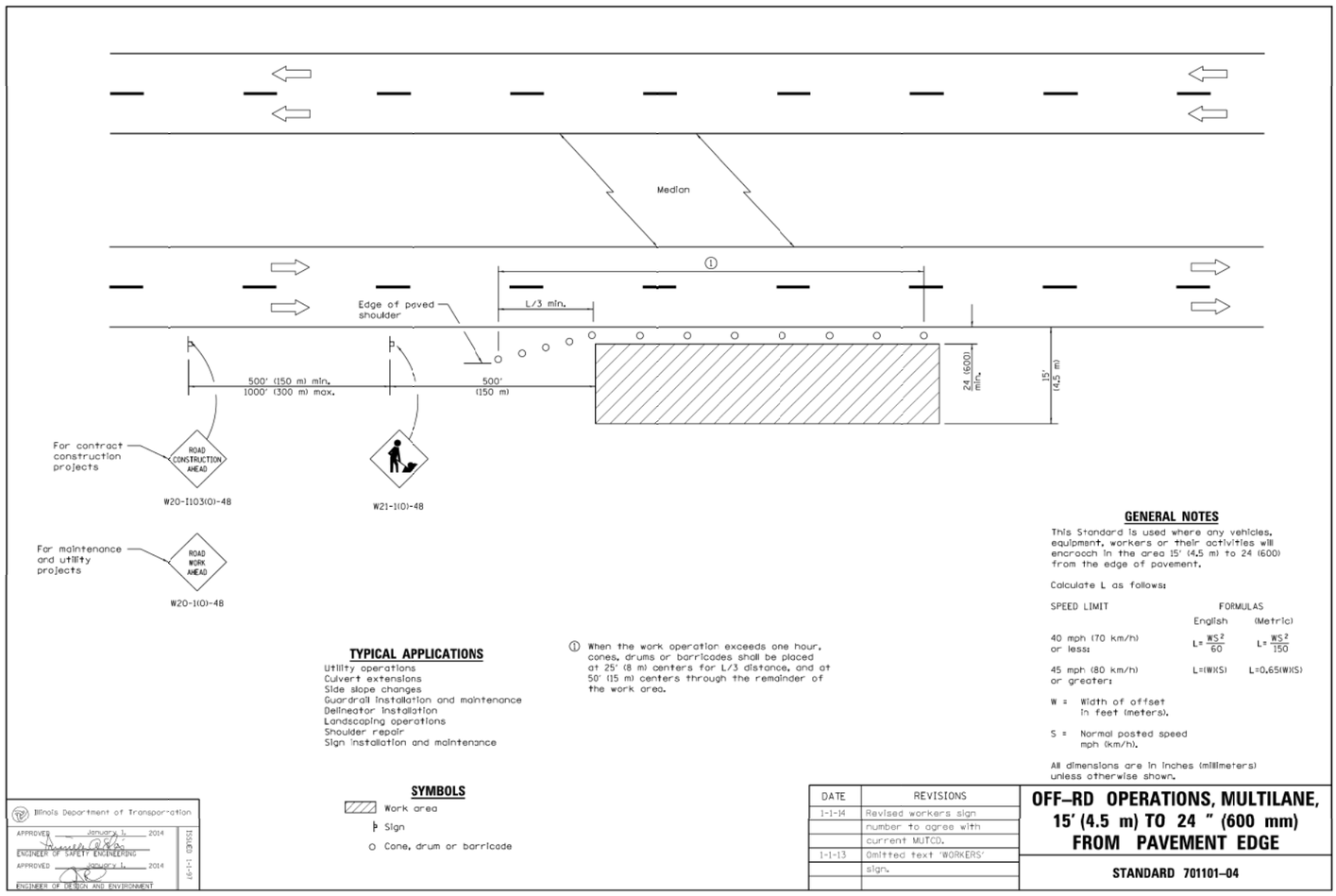
DATE	REVISIONS
1-1-14	Revised workers sign
	number to agree with
	current MUTCD.
1-1-13	Omitted text 'WORKERS'
	sign.

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

STANDARD 701011–04

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00042 9-00-TL	McHENRY	24	19
	ILLINOIS FED. AID PROJECT	CONTRACT NO.		

GHA #4188,800



TYPICAL APPLICATIONS

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

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

SYMBOLS

Work area
Sign
Cone, drum or barricade

GENERAL NOTES

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

Calculate L as follows:

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

W = Width of offset in feet (meters).

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

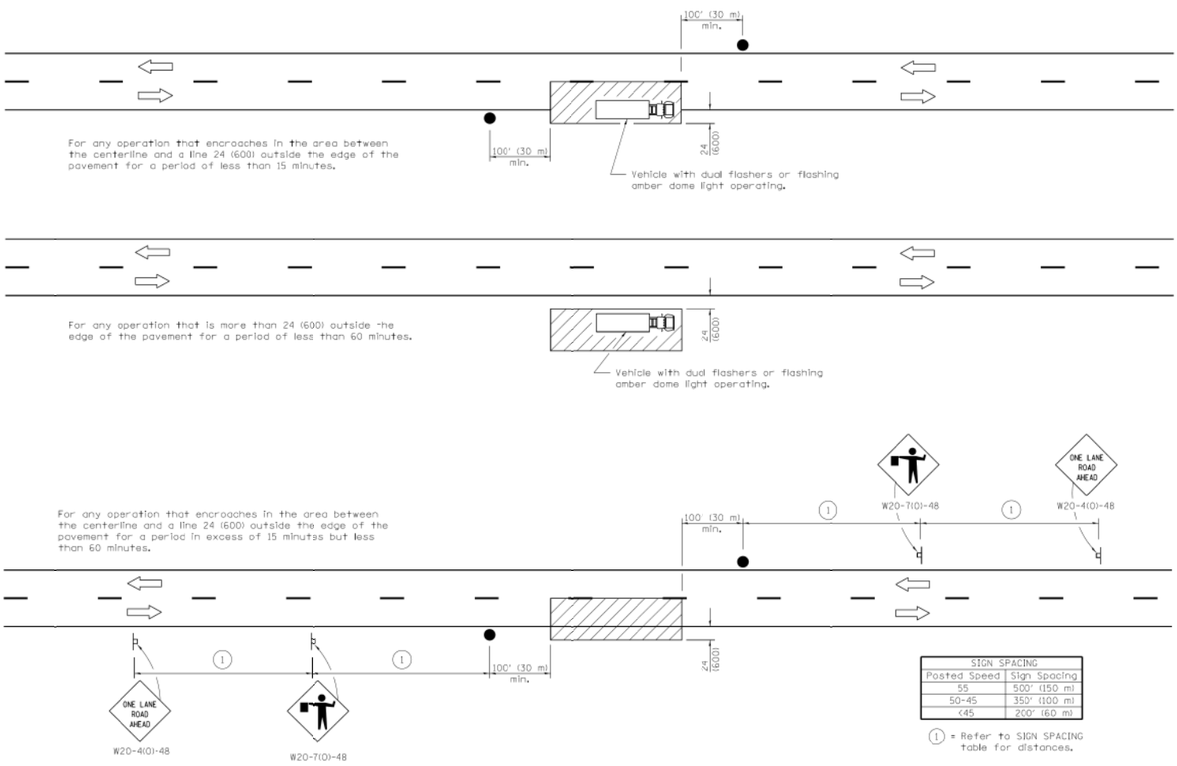
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
APPROVED January 1, 2014
ENGINEER OF SAFETY ENGINEERING
APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-14

DATE	REVISIONS
1-1-14	Revised workers sign number to agree with current MUTCD.
1-1-13	Omitted text 'WORKERS' sign.

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

STANDARD 701101-04



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

1 = Refer to SIGN SPACING table for distances.

TYPICAL APPLICATIONS

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

SYMBOLS

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

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

Illinois Department of Transportation
APPROVED January 1, 2011
ENGINEER OF SAFETY ENGINEERING
APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-11

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).

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

STANDARD 701301-04

McHENRY COUNTY
DIVISION OF TRANSPORTATION

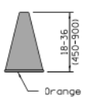
ILLINOIS DEPARTMENT OF TRANSPORTATION
STANDARD DETAILS

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

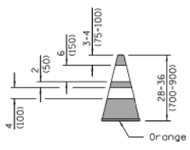
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00042 9-00-TL	McHENRY	24	20
		CONTRACT NO.		

ILLINOIS FED. AID PROJECT

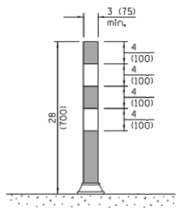
GHA #4188,800



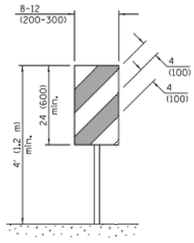
CONE



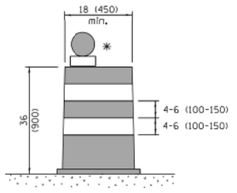
REFLECTORIZED CONE



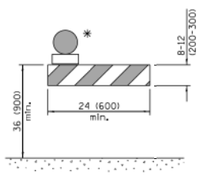
FLEXIBLE DELINEATOR



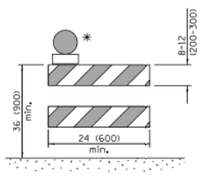
VERTICAL PANEL
POST MOUNTED



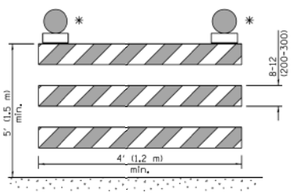
DRUM



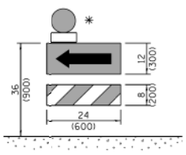
TYPE I BARRICADE



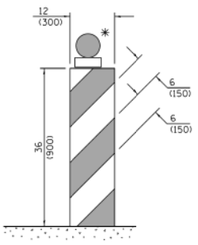
TYPE II BARRICADE



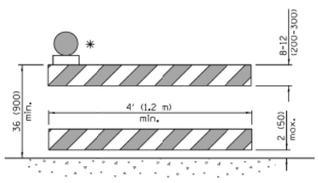
TYPE III BARRICADE



DIRECTION INDICATOR BARRICADE



VERTICAL BARRICADE



DETECTABLE PEDESTRIAN CHANNELIZING BARRICADE

* Warning lights (if required)

GENERAL NOTES

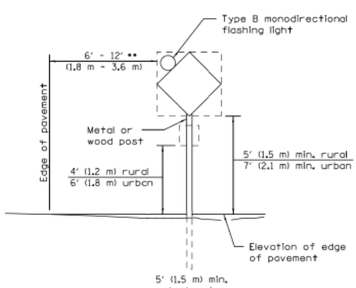
All heights shown shall be measured above the pavement surface.

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

DATE	REVISIONS
1-1-14	Modified flagger sign height.
	Added highway construction
	speed zone signs.
1-1-12	Added DETECTABLE PEDESTRIAN
	CHANNELIZING BARRICADE.

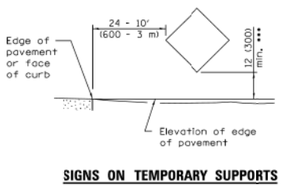
Illinois Department of Transportation
APPROVED January 1, 2014
ENGINEER/OF OPERATIONS
APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-14

TRAFFIC CONTROL DEVICES
(Sheet 1 of 3)
STANDARD 701901-03



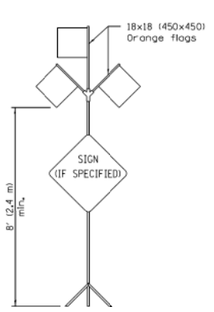
POST MOUNTED SIGNS

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

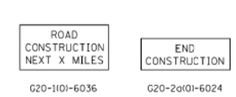


SIGNS ON TEMPORARY SUPPORTS

*** When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



HIGH LEVEL WARNING DEVICE



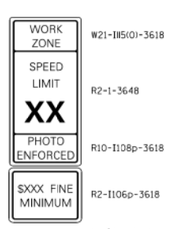
This signing is required for all projects 2 miles (3200 m) or more in length.

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

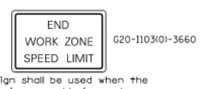
END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).

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

WORK LIMIT SIGNING

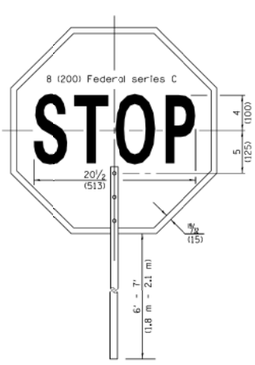


Sign assembly as shown on Standards or as allowed by District Operations.

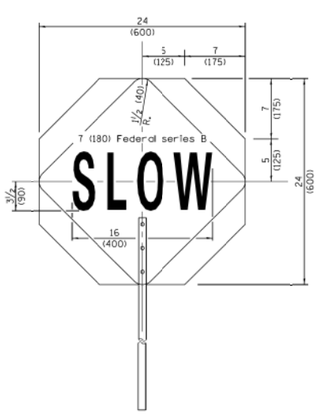


This sign shall be used when the above sign assembly is used.

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS



FRONT SIDE



REVERSE SIDE

FLAGGER TRAFFIC CONTROL SIGN

Illinois Department of Transportation
APPROVED January 1, 2014
ENGINEER/OF OPERATIONS
APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-14

TRAFFIC CONTROL DEVICES
(Sheet 2 of 3)
STANDARD 701901-03

McHENRY COUNTY
DIVISION OF TRANSPORTATION

ILLINOIS DEPARTMENT OF TRANSPORTATION
STANDARD DETAILS

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

F.A. RTE. | SECTION 14-00042g-00-TL | COUNTY McHENRY | TOTAL SHEETS 24 | SHEET NO. 21

CONTRACT NO.

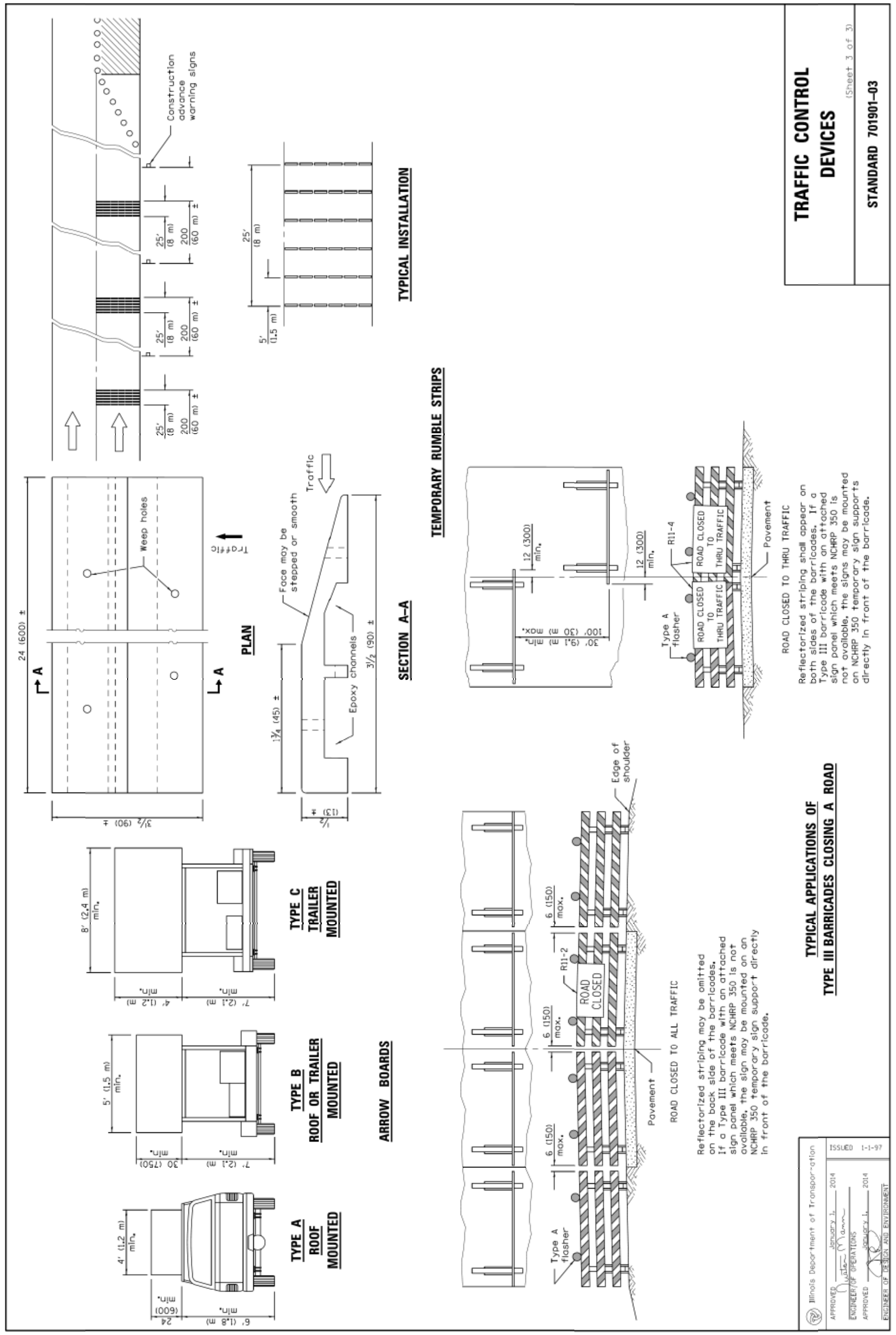
ILLINOIS FED. AID PROJECT

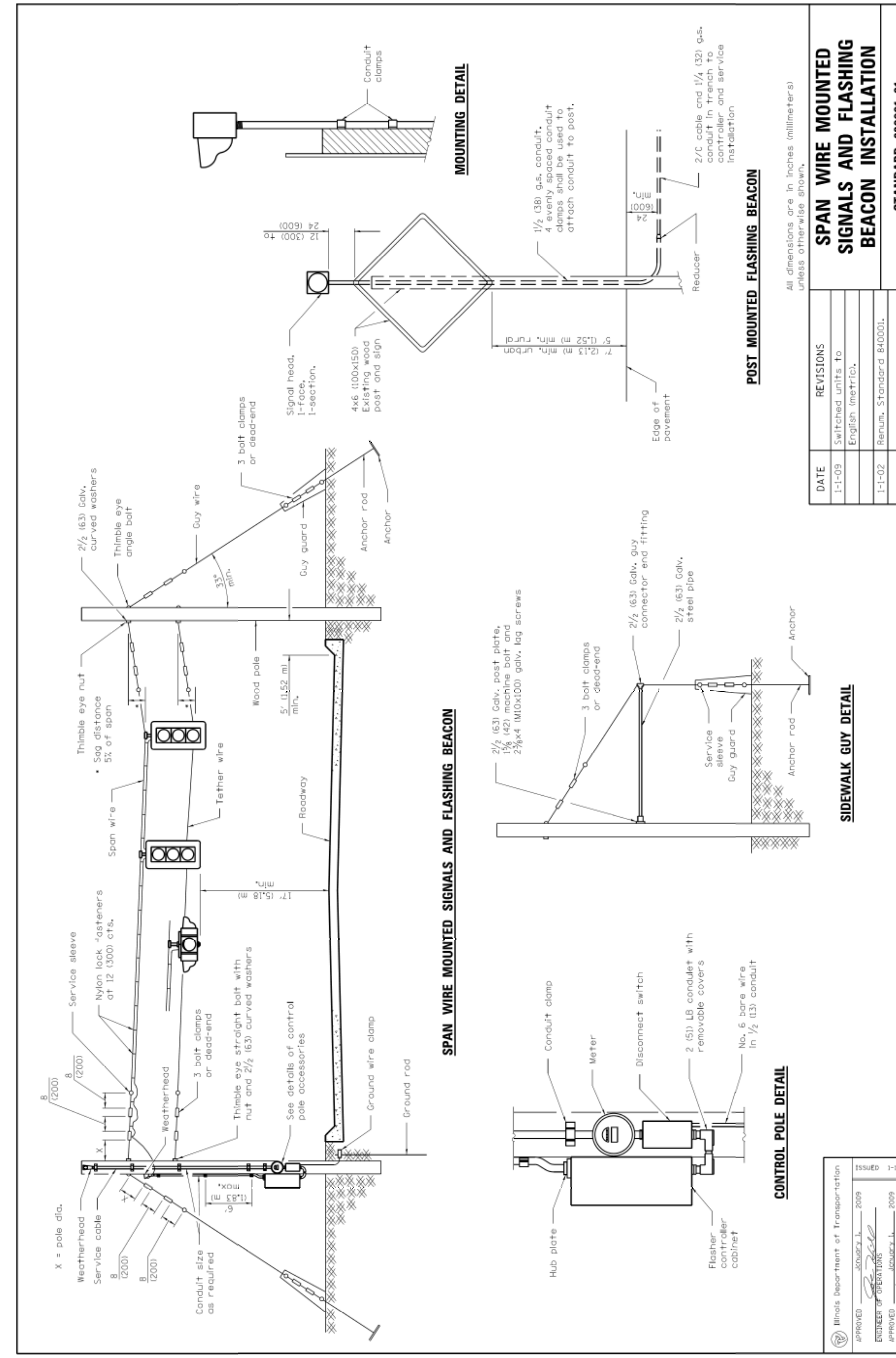
GHA #4188.800

FILE NAME = 19-24 - IDOT-Details.dgn
USER NAME = Zwelsen
PLOT SCALE = 1.20
PLOT DATE = 3/28/2014
Default

	DESIGNED	-	JRD
	DRAWN	-	ZCW
	CHECKED	-	DPB
REVISED -	DATE	-	

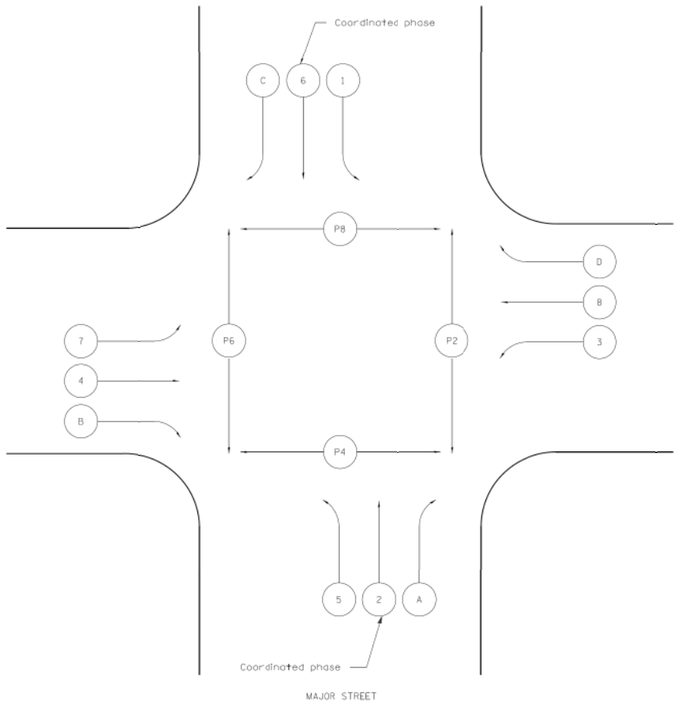
REVISED -
REVISED -
REVISED -



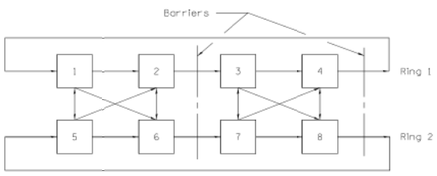


GHA #4188.800

FILE NAME = 19-24 - IDOT-Details.dgn	USER NAME = ZWallsten	DESIGNED - JRD	REVISED -	McHENRY COUNTY DIVISION OF TRANSPORTATION	ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD DETAILS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS / SHEET NO.
		DRAWN - ZCW	REVISED -				14-000429-00-TL	McHENRY	24 / 22
	PLOT SCALE = 1:20	CHECKED - DPB	REVISED -		SCALE: NONE SHEET OF SHEETS STA. TO STA.			CONTRACT NO.	
Default	PLOT DATE = 3/28/2014	DATE -	REVISED -				ILLINOIS FED. AID PROJECT		



STANDARD PHASE DESIGNATION DIAGRAM (NEMA)



NEMA EIGHT PHASE DUAL RING ACTUATED CONFIGURATION

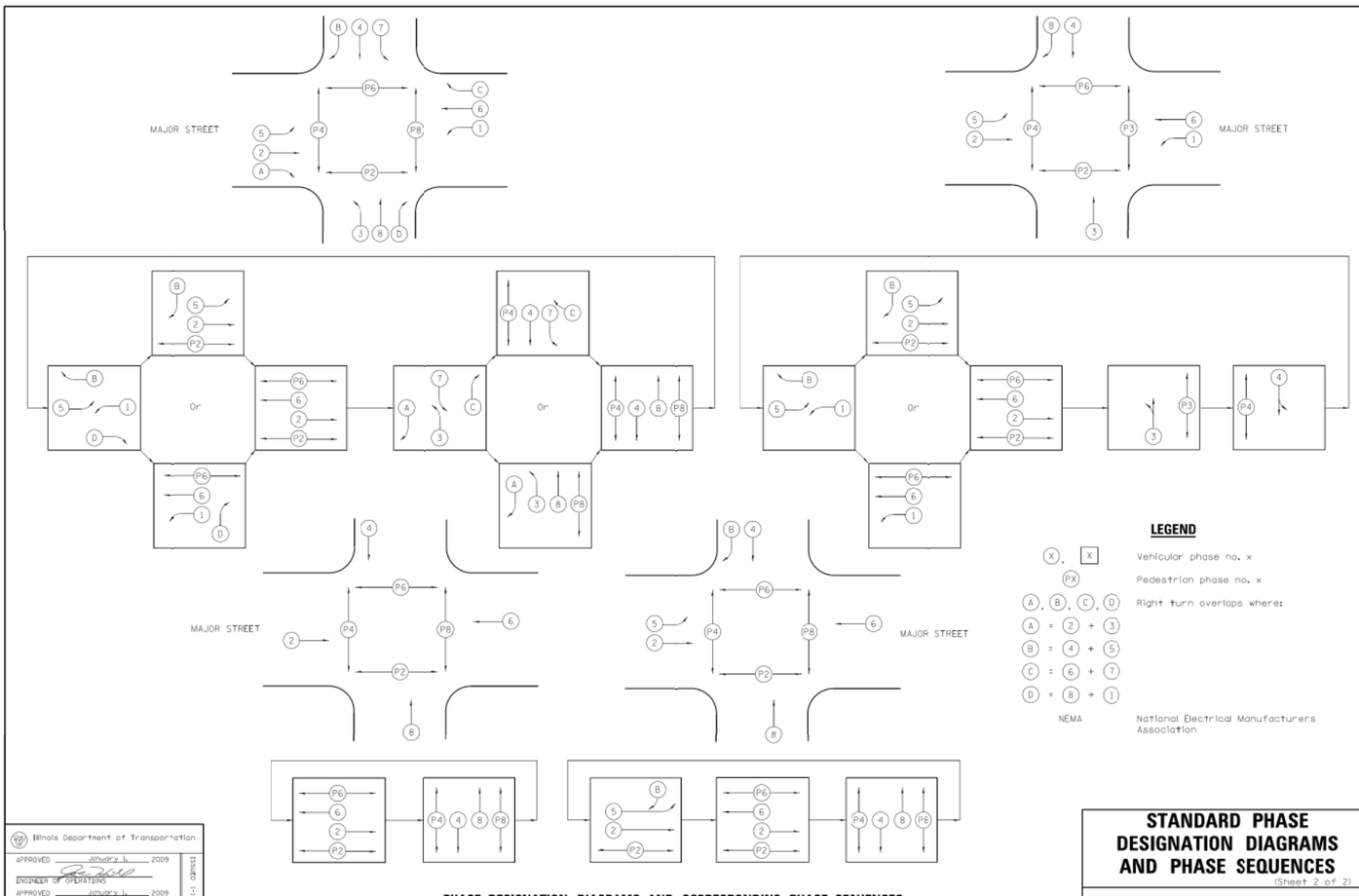
LEGEND

(X), [X]	Vehicular phase no. x
(PX)	Pedestrian phase no. x
(A), (B), (C), (D)	Right turn overlaps where:
(A) = (2) + (3)	
(B) = (4) + (5)	
(C) = (6) + (7)	
(D) = (8) + (1)	
NEMA	National Electrical Manufacturers Association

Illinois Department of Transportation
APPROVED January 1, 2009
ENGINEER OF OPERATIONS
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-09

DATE	REVISIONS
1-1-09	Omitted note regarding units of length.
1-1-97	Renum. Standard 2393-2.

STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
(Sheet 1 of 2)
STANDARD 857001-01



PHASE DESIGNATION DIAGRAMS AND CORRESPONDING PHASE SEQUENCES

LEGEND

(X), [X]	Vehicular phase no. x
(PX)	Pedestrian phase no. x
(A), (B), (C), (D)	Right turn overlaps where:
(A) = (2) + (3)	
(B) = (4) + (5)	
(C) = (6) + (7)	
(D) = (8) + (1)	
NEMA	National Electrical Manufacturers Association

Illinois Department of Transportation
APPROVED January 1, 2009
ENGINEER OF OPERATIONS
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-09

STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
(Sheet 2 of 2)
STANDARD 857001-01

McHENRY COUNTY
DIVISION OF TRANSPORTATION

ILLINOIS DEPARTMENT OF TRANSPORTATION
STANDARD DETAILS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00042 9-00-TL	McHENRY	24	23
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

GHA #4188.800

	DESIGNED	-	JRD
	DRAWN	-	ZCW
	CHECKED	-	DPB
DATE	-		

REVISED	-
REVISED	-
REVISED	-
REVISED	-

FILE NAME = 19-24 - IDOT-Details.dgn
USER NAME = Zwelsen
PLOT SCALE = 1.20
PLOT DATE = 3/28/2014
Default

FILE NAME = 19-24 - IDOT-Details.dgn

USER NAME = Zwelsen

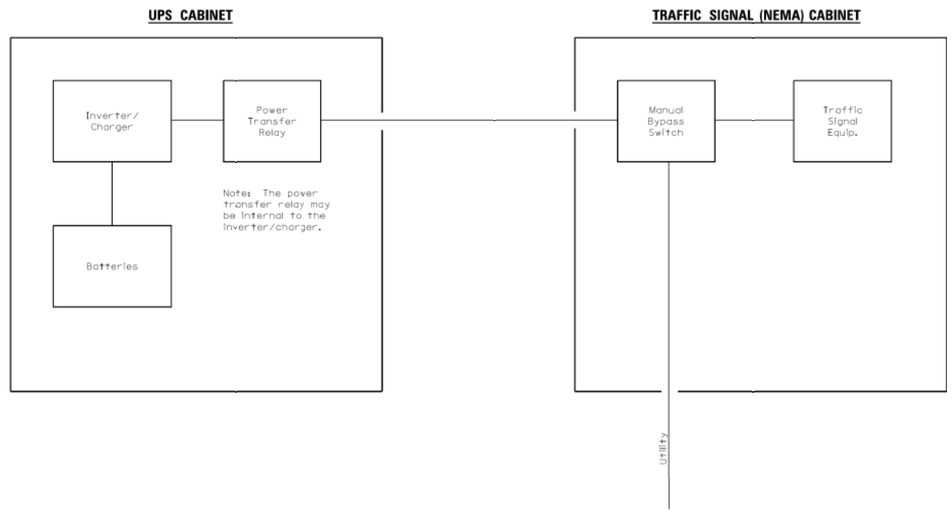
PLOT SCALE = 1.20

PLOT DATE = 3/28/2014

DESIGNED	-	JRD
DRAWN	-	ZCW
CHECKED	-	DPB
DATE	-	

REVISED	-	
REVISED	-	
REVISED	-	

Default



SINGLE LINE BLOCK DIAGRAM

Illinois Department of Transportation

APPROVED January 1, 2009
ENGINEER OF OPERATIONS

APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED - 1-1-09

DATE	REVISIONS
1-1-09	Omitted note regarding units of length.
4-1-06	New Standard

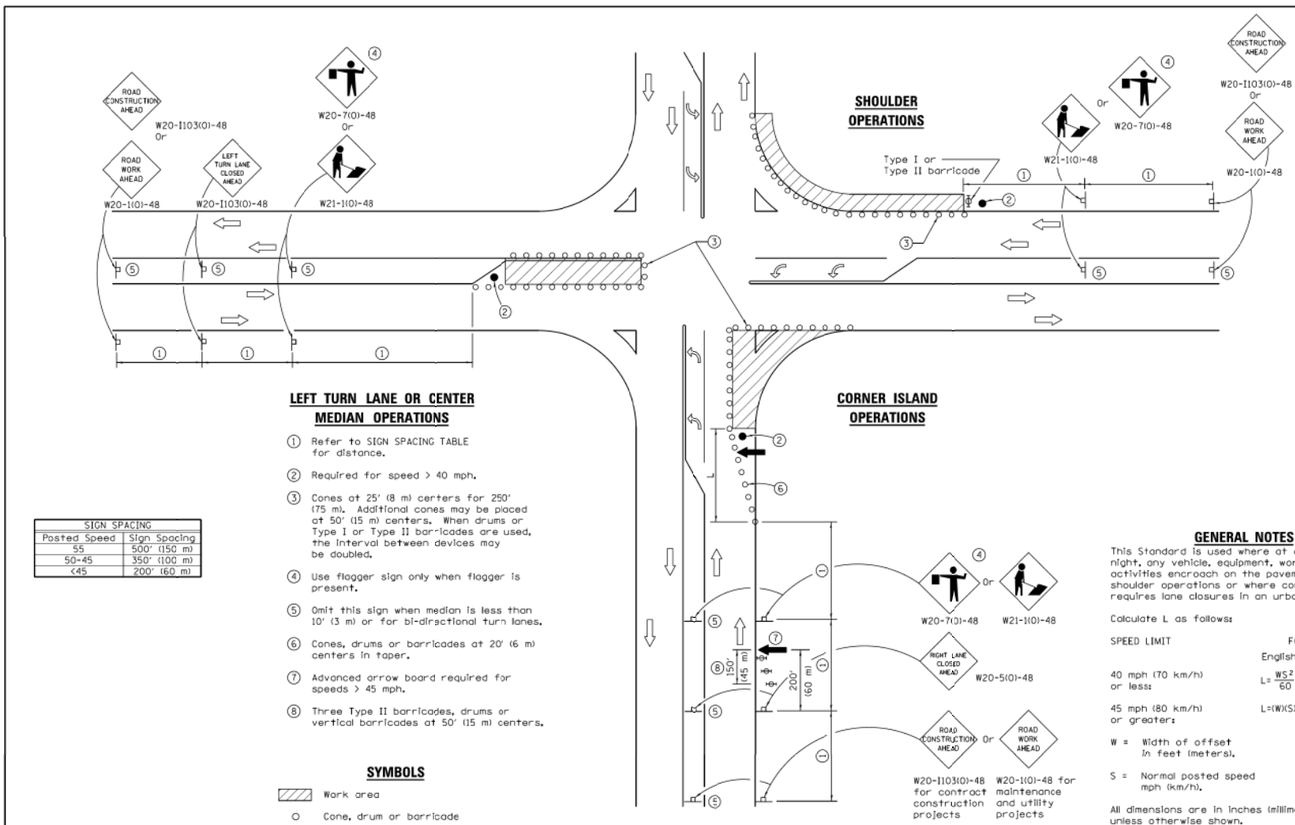
UNINTERRUPTABLE POWER SUPPLY (UPS)

STANDARD 862001-01

McHENRY COUNTY
DIVISION OF TRANSPORTATION

ILLINOIS DEPARTMENT OF TRANSPORTATION
STANDARD DETAILS

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



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

1. Refer to SIGN SPACING TABLE for distance.
2. Required for speed > 40 mph.
3. Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
4. Use flagger sign only when flagger is present.
5. Omit this sign when median is less than 10' (3 m) or for bi-directional turn lanes.
6. Cones, drums or barricades at 20' (6 m) centers in taper.
7. Advanced arrow board required for speeds > 45 mph.
8. Three Type II barricades, drums or vertical barricades at 50' (15 m) centers.

SYMBOLS

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

GENERAL NOTES

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

Calculate L as follows:

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

W = Width of offset in feet (meters).

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

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

Illinois Department of Transportation

APPROVED January 1, 2014
ENGINEER OF SAFETY ENGINEERING

APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED - 1-1-14

DATE	REVISIONS
1-1-14	Added devices at arrow board upstream from taper.
	Rev. workers sign number.
1-1-12	Revised flagger sign.
	Omitted W21-1(1)0 sign.

URBAN LANE CLOSURE, MULTILANE INTERSECTION

STANDARD 701701-09

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00042 9-00-TL	McHENRY	24	24
	CONTRACT NO.	ILLINOIS FED. AID PROJECT		

GHA #4188,800