

F.A.P. RTE.	SECTION	COUNTY	SHEET NO.
379	08-00187-00-BT	COOK	1
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT

**INDEX OF SHEETS**

1. TITLE SHEET
2. TRAFFIC SIGNAL PLAN
3. CABLE PLAN, PHASE DESIGNATION DIAGRAM, E.V.P, SEQUENCE OF OPERATIONS & SCHEDULE OF QUANTITIES
4. BIKE PATH INSTALLATION PLAN
5. DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS
6. DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS
7. DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS
8. DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS
9. DISTRICT ONE STANDARD TRAFFIC CONTROL & PROTECTION
10. DISTRICT ONE STANDARD TYPICAL PAVEMENT MARKINGS

**STATE STANDARDS**

701006-03	701011-02	701101-02	701301-03	701901-01
424001-05	720001-01	814001-02	814006-02	
857001-01	877001-04	877006-03	877011-04	878001-07
880001-01	880006-01	886001-01		
701201-03	701316-04	701321-10	701406-05	701501-05
701502-03	701601-06	701606-06	701701-06	701801-04

NOTE: STANDARD DRAWINGS REQUIRED ARE UNDERLINED

**TRAFFIC DATA**

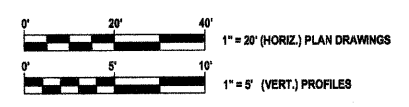
LAKE COOK ROAD	41,600 ADT
WILKE ROAD	11,500 ADT
BIKE PATH	<100 ADT

**POSTED SPEED**

LAKE COOK ROAD	45 MPH
WILKE ROAD	30 MPH
BIKE PATH	NOT POSTED

**CLASSIFICATION**

LAKE COOK ROAD	URBAN STREET
WILKE ROAD	URBAN STREET



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 US THE GRAPHIC SCALES ON DRAWINGS

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

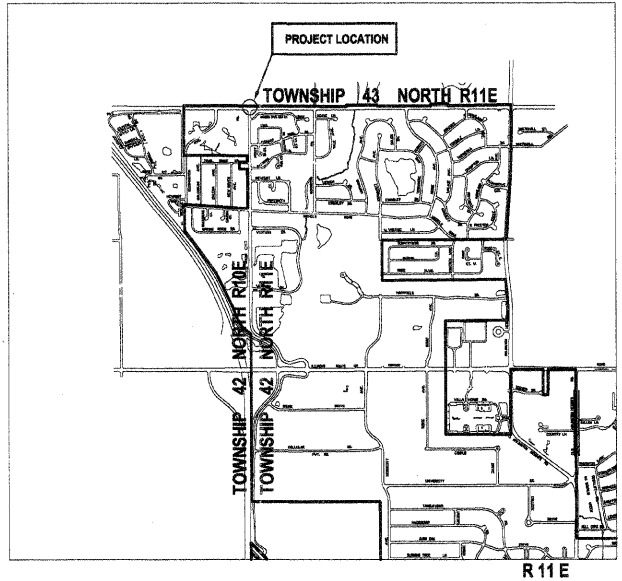
PROJECT ENGINEER: MICHAEL PAGONES P.E.  
PROJECT MANAGER: THOMAS PONSOT  
CONTRACT NO. 63229

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
**PLANS FOR PROPOSED FEDERAL AID HIGHWAY**  
TRAFFIC SIGNAL MODIFICATION & BIKE TRAIL CONNECTION  
AT FAP ROUTE 379 LAKE COOK ROAD AT WILKE ROAD  
SECTION 08-00187-00-BT  
PROJECT CMM-9003-(194)  
VILLAGE OF ARLINGTON HEIGHTS  
WHEELING TOWNSHIP  
COOK COUNTY  
C-91-252-09

**LOCATION MAP**

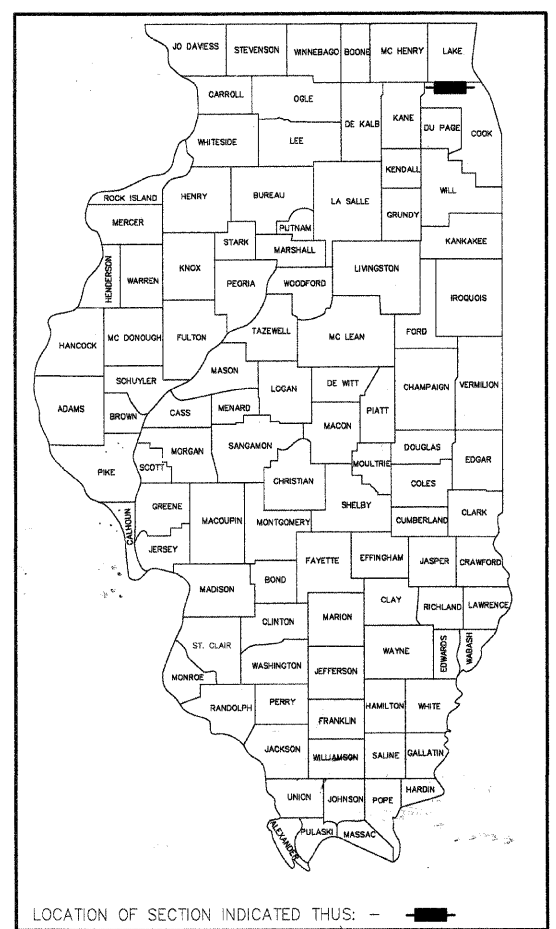
NOT TO SCALE

TOWNSHIP 42 N RANGE 11 E WHEELING TOWNSHIP



**PROJECT LENGTH**

NET LENGTH = 0.1 MILES  
GROSS LENGTH = 0.1 MILES



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

APPROVED July 14, 2009  
*Michael Pagones*  
VILLAGE OF ARLINGTON HEIGHTS, ILLINOIS

PASSED July 16, 2009  
*Christophe Host*  
DISTRICT ONE ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID  
BASED ON LIMITED REVIEW July 16, 2009  
*Diane M. O'Keefe*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ONE ENGINEER

PROFESSIONAL ENGINEER'S SIGN & SEAL  
*James J. Massarelli*  
JAMES J. MASSARELLI, P.E.  
DIRECTOR OF ENGINEERING  
VILLAGE OF ARLINGTON HEIGHTS  
LICENSES EXPIRES 11/30/09

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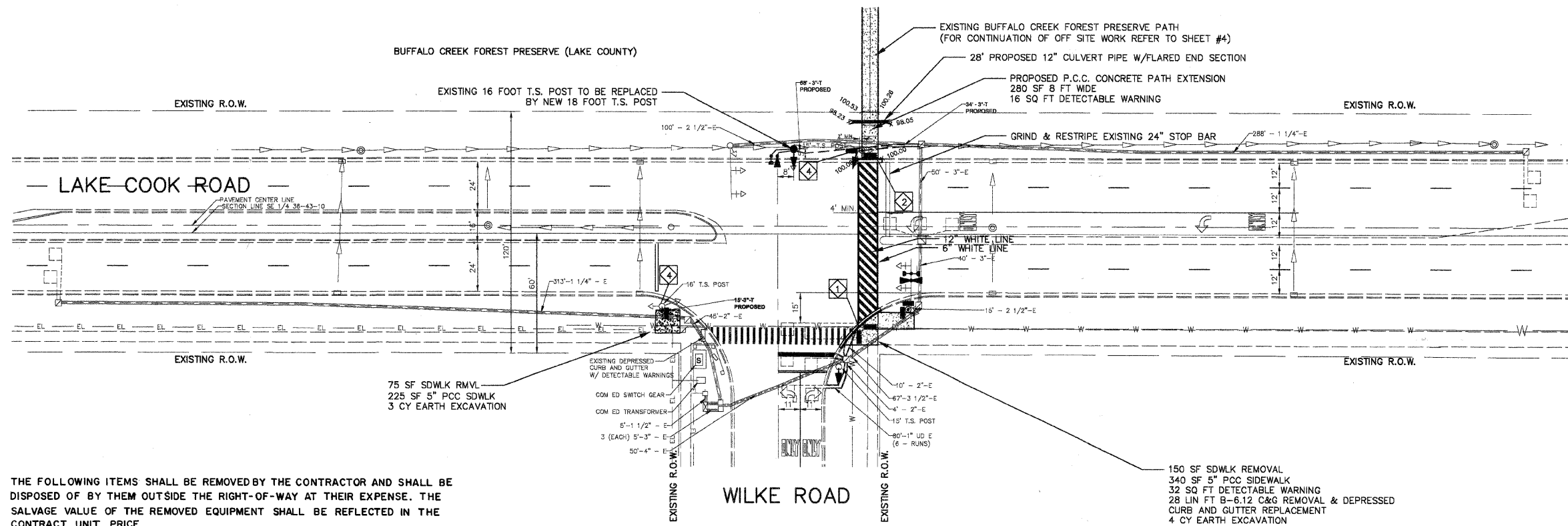
ASSOCIATE FEDERAL AID DESIGN ENGINEER: KEVIN STALLWORTH (847) 705-4169  
DRAWING NAME: \\c:\data\engineering\ENG\_COM\2008\13\dwg\title-sheet-08-00187-00-BT.dwg

F.A.P. RTE.	SECTION	COUNTY	SHEET NO.
379	06-00187-06-BT	COOK	2
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT

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

GENERAL NOTES

- CONTRACTOR'S ATTENTION IS DRAWN TO DETECTOR LOOP DIVE HOLES THAT MAYBE WITHIN OR UNDER CURB TO BE REMOVED & REPLACED (ANY DAMAGE CAUSED TO DETECTOR LOOP LEAD-IN CABLE OR RACEWAYS SHALL BE REPAIRED BY CONTRACTOR AT THEIR EXPENSE. NO ADDITIONAL COMPENSATION WILL BE ALLOWED)
- DETECTABLE WARNING PLATES SHALL BE SUPPLIED AT ALL DEPRESSED CURB CUTS AS REQUIRED BY THE VILLAGE OF ARLINGTON HEIGHTS FROM THE MANUFACTURER IDENTIFIED IN THE SPECIAL PROVISIONS. (TYP)
- ADDED NOTES:
  - THE CONTRACTOR SHALL INFORM THE CHD DESIGN ENGINEER AT (312)603-1730 PRIOR TO THE START OF ANY WORK ON THE CONTRACT. A MINIMUM OF FIVE (5) WORKING DAYS ADVANCE NOTICE IS REQUIRED.
  - THE CONTRACTOR SHALL MARK LOCATIONS OF LOOPS AND CONTACT THE COUNTY DESIGN ENGINEER AT (312)603-1730 FOR LOCATION APPROVAL PRIOR TO CUTTING OF THE LOOPS. A MINIMUM OF FIVE (5) WORKING DAYS ADVANCE NOTICE IS REQUIRED.
  - IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE EXISTING TRAFFIC SIGNAL CABLES AND CONDUITS.
  - ALL ELECTRICAL CABLE SHALL HAVE A POLYVINYL CHLORIDE JACKET.
  - CARE IS TO BE TAKEN AS NOT TO DAMAGE ANY OF THE EXISTING TRAFFIC SIGNAL CONDUIT AND EQUIPMENT. IF ANY OF THE TRAFFIC SIGNAL CONDUIT AND EQUIPMENT IS DAMAGED, THE CONTRACTOR SHALL REPAIR AND/OR REPLACE THE CONDUIT AND/OR EQUIPMENT AT NO COST TO THE COUNTY.
- INSTALL (30"x30") W11-1 WITH SUPPLEMENTARY (24"x12") W16-7p BICYCLE CROSSING WARNING SIGNS
- PRIOR TO CONSTRUCTION A MEETING WILL BE HELD AT THE JOB SITE WITH REPRESENTATIVES OF THE COOK COUNTY HIGHWAY DEPARTMENT, TRAFFIC SIGNAL SECTION TO FIELD VERIFY THE THAT THE EXISTING TRAFFIC SIGNAL CONTROLLER IS COMPATIBLE WITH THE PROPOSED EMERGENCY VEHICLE PREEMPTION EQUIPMENT, AND CONFIRM INSTRUCTIONS FOR REWIRING THE RETROFITTED SIGNAL HEADS.
- THE CONTRACTOR WILL BE RESPONSIBLE TO ACQUIRE ALL NECESSARY PERMITS OR BONDS AND TO SATISFY THE REQUIREMENTS OF THE COOK COUNTY HIGHWAY DEPARTMENT AND LAKE COUNTY FOREST PRESERVE DISTRICT.



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

- 1 EACH TRAFFIC SIGNAL POST

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

REVISIONS	
NAME	DATE

VILLAGE OF ARLINGTON HEIGHTS  
**TRAFFIC SIGNAL PLAN**

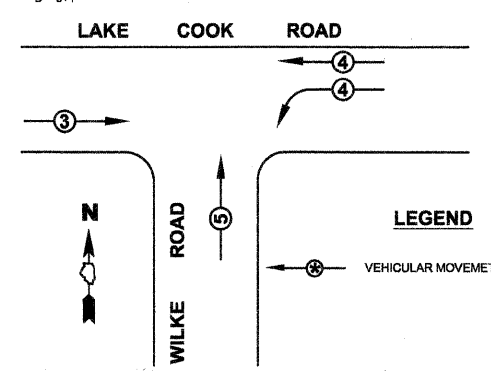
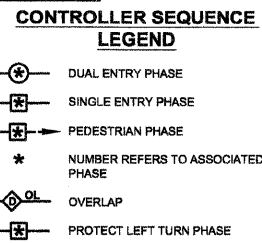
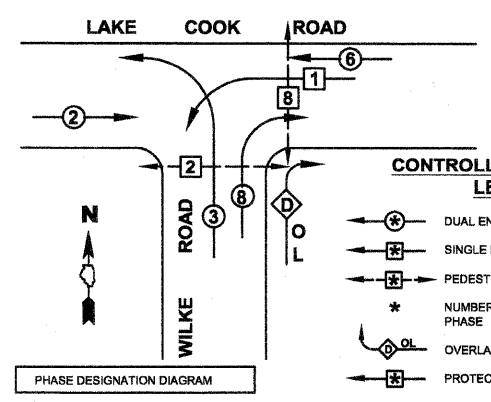
DATE: 05/20/2009  
 DESIGNED BY: T. PONSBOT  
 DRAWN BY: C. HORNUTH  
 CHECKED BY: J. MASSARELLI P.E.

1" = 20' (HORIZ.)  
 1" = 5' (VERT.)

DRAWING NAME: \\c:\a\h\m\g\eng\CON\CA\04\Buffalo Creek\_Plan2009.dwg

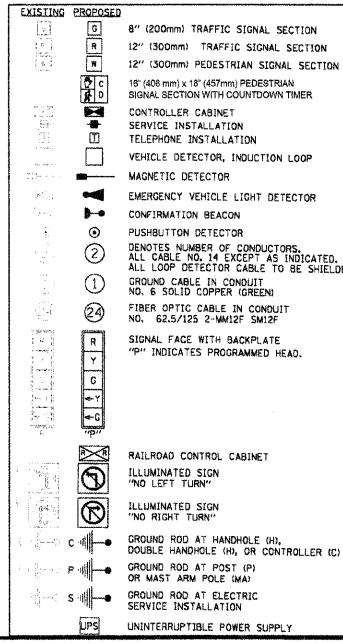
F.A.P. RTE.	SECTION	COUNTY	SHEET NO.
378	08-00187-00-BT	COOK	3
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT

**PROPOSED CONTROLLER SEQUENCE**  
 REFERRING TO STANDARD 2393, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

PROPOSED EMERGENCY VEHICLE PREEMPTORS			
PROPOSED EMERGENCY VEHICLES PREEMPTORS	3	4	5
MOVEMENT	→	↘	↑



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

TYPE	NO. OF LAMPS	x INCAND.	LED	x % OPERATION	TOTAL WATTAGE
SIGNAL (RED)	11		17	0.50	93.50
(YELLOW)	11		25	0.25	68.75
(GREEN)	11		15	0.25	41.25
ARROW	8		12	0.10	9.60
PED. SIGNAL	4		25	1.00	100.00
CONTROLLER	1		100	1.00	100.00
ILLUM. SIGN			25	0.05	-
VIDEO SYSTEM	0		150	1.00	-
FLASHER					0.50
<b>TOTAL</b>					<b>413.10</b>

ENERGY COSTS TO: COOK COUNTY HIGHWAY DEPARTMENT  
 69 W. WASHINGTON  
 CHICAGO, ILLINOIS 60602

ENERGY SUPPLY: CONTACT: JUDITH SCHOMER  
 PHONE: (847)870-2058  
 COMPANY: COMED

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5
C - CONTROLLER W/LPS	4 (1/2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + 1-2' = (6M+L-0.6M) =
D - CONTROLLER	4 (1/2)	SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
E - M. ARM POLE		CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	6 (1.8)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
35" (900 mm)	15 (4.6)	ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
42" (1050 mm)	25 (7.6)	GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)

**NOTE A:** THE EXISTING 5 SECTION SIGNAL HEAD SHALL BE RETROFITTED BY REMOVING THE BOTTOM 2 YELLOW AND GREEN ARROW SIGNAL SECTIONS

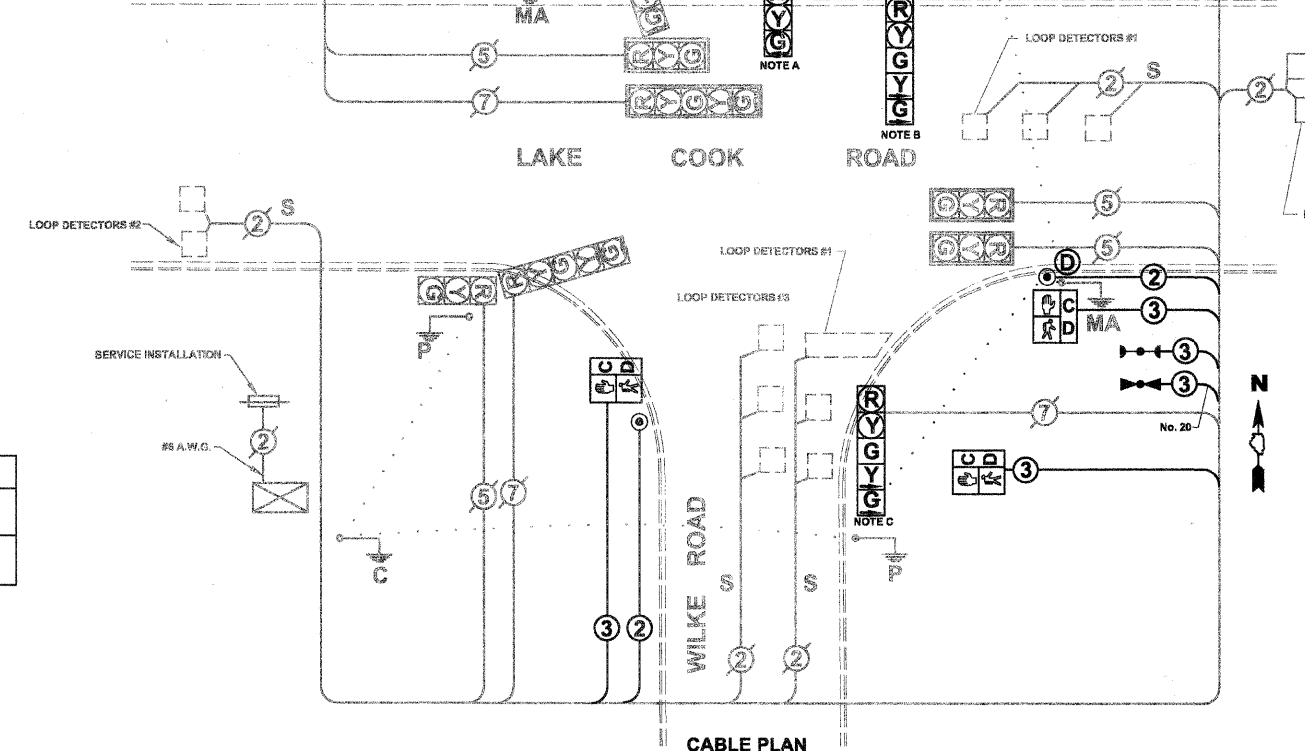
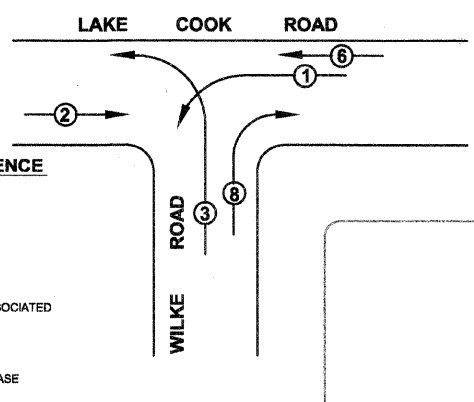
**NOTE B:** THE EXISTING 4 SECTION SIGNAL HEAD SHALL BE RETROFITTED TO ADD AN ADDITIONAL GREEN BALL SECTION BETWEEN THE YELLOW SIGNAL SECTIONS

**NOTE C:** THE EXISTING 4 SECTION SIGNAL HEAD SHALL BE RETROFITTED TO ADD AN ADDITIONAL GREEN BALL SECTION BETWEEN THE YELLOW SIGNAL SECTIONS

**NOTE D:** PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

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

**EXISTING CONTROLLER SEQUENCE**



**CABLE PLAN**

**SCHEDULE OF QUANTITIES**

CODE	QTY	UNIT	ITEM DESCRIPTION
20100110	60	UNIT	TREE REMOVAL (6 to 15 UNITS)
20200100	94	CY	EARTH EXCAVATION
20200410	140	CY	EARTH EXCAVATION (SPECIAL)
21101615	205	SQ YD	TOPSOIL FURNISH & PLACE 4"
25000910	0.1	ACRE	SEEDING, CLASS 1 (MODIFIED)
25200200	5	UNIT	SUPPLEMENTAL WATERING
35101500	150	CY	AGGREGATE BASE COURSE, TYPE B
40200200	65	CY	AGGREGATE SURFACE COURSE, TYPE A
42400200	800	SQ FT	PCC SIDEWALK 5'
42400800	48	SQ FT	DETECTABLE WARNINGS
44000600	225	SQ FT	PCC SIDEWALK REMOVAL
44001700	50	LF	COMBINATION CURB & GUTTER REMOVAL AND REPLACEMENT
54200637	18	FOOT	PIPE CULVERT, TYPE 1 ALUMINUM CULVERT PIPE 12"
54214077	2	EACH	ALUMINUM END SECTIONS - 12'
67100100	1	L SUM	MOBILIZATION
70102635	1	L SUM	TRAFFIC CONTROL AND PROTECTION STANDARD 701701
72000100	16.5	SQ FT	SIGN PANEL, TYPE 1
78000600	88	FOOT	THERMOPLASTIC PAVEMENT MARKING LINE - LINE 12"
78008230	750	FOOT	POLYUREA PAVEMENT MARKING, TYPE 1, 12" - LINE 6"
78300100	120	SQ FT	PAVEMENT MARKING REMOVAL
81000800	100	FOOT	CONDUIT IN TRENCH, 3" DIA GALVANIZED STEEL
81900200	100	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK
85000200	1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
87301215	1187	FOOT	ELECTRIC CABLE IN CONDUIT SIGNAL NO. 14 2C
87301225	708	FOOT	ELECTRIC CABLE IN CONDUIT SIGNAL NO. 14 3C
87502520	1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT
87800100	3	EACH	DRILL EXISTING FOUNDATION
87900200	3	EACH	DRILL EXISTING HANDHOLE
88030080	3	EACH	SIGNAL HEAD, LED, 1 FACE, 4-SECTION BRACKET MOUNTED RETROFIT
88102717	2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1 FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
88102747	1	EACH	PEDESTRIAN SIGNAL HEAD, LED 2 FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
88600100	50	FOOT	DETECTOR LOOP, TYPE 1
88700200	2	EACH	LIGHT DETECTOR
88700300	1	EACH	LIGHT DETECTOR AMPLIFIER
88800100	3	EACH	PEDESTRIAN PUSH BUTTON
89502200	1	EACH	MODIFY EXISTING CONTROLLER
89502375	1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
X8730250	479	FOOT	ELECTRIC CABLE IN CONDUIT NO. 20 3/C TWISTED SHIELDED

\* SPECIALTY ITEMS

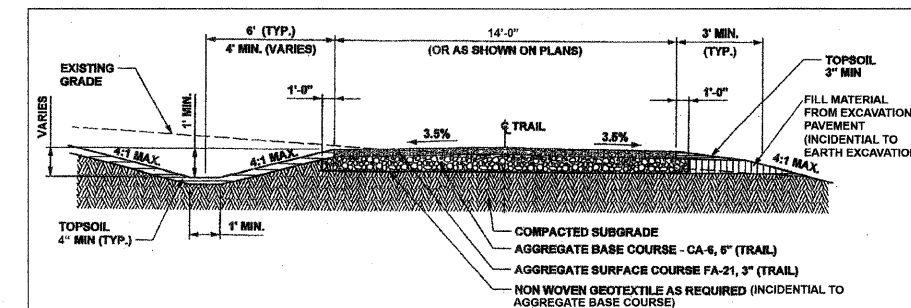
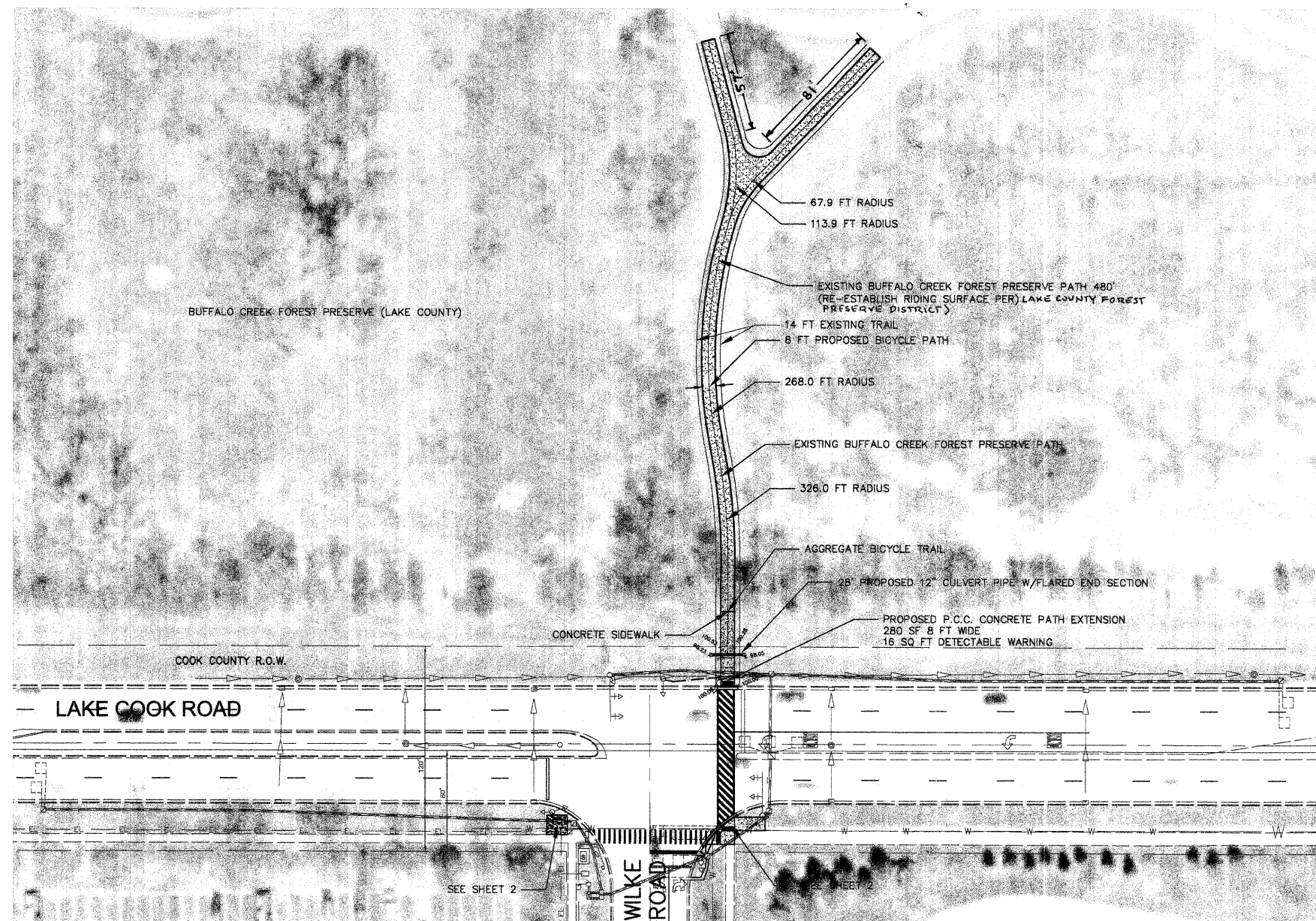
**REVISIONS**

NAME	DATE

VILLAGE OF ARLINGTON HEIGHTS  
**CABLE PLAN, PHASE DESIGNATION DIAGRAM, E.V.P. SEQUENCE OF OPERATIONS & SCHEDULE OF QUANTITIES**

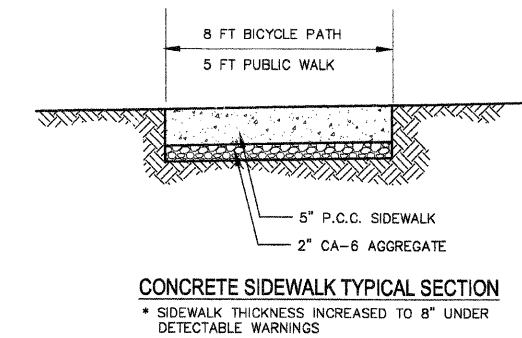
DATE: 05/20/2009  
 DESIGNED BY: T. PONSOT  
 DRAWN BY: C. HOMUTH  
 CHECKED BY: J. MASSARELLI P.E.

F.A.P. RTE.	SECTION	COUNTY	SHEET NO.
379	08-00187-00-BT	COOK	4
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT



**PROPOSED TYPICAL SECTION - BIKE PATH**

- NOTES:**
1. ALL PORTIONS OF THE PROPOSED TRAIL SHALL BE INSTALLED AT OR BELOW EXISTING GRADE, EXCEPT WHERE PROPOSED GRADES ARE SHOWN ON PLANS.
  2. ALL DITCHES SHALL BE PLANTED WITH NATIVE VEGETATION AND COVERED WITH A BIODEGRADABLE EROSION CONTROL BLANKET (DS-75 STRAW BLANKET, NORTH AMERICAN GREEN WHICH PRICE SHALL BE INCIDENTAL TO SEEDING, CLASS 1 MODIFIED.)
  3. PROFILE OF THE EXISTING BICYCLE TRAIL SHALL BE ESTABLISHED IN THE FIELD TO THE SATISFACTION OF THE LAKE COUNTY FOREST PRESERVE DEPARTMENT OF PLANNING CONSERVATION AND DEVELOPMENT



DRAWING NAME: \\Chisler\engineering\ENG\_COM\CMQAQ\Bike\_Creek\_Plan\Plan008.dwg

REVISIONS	
NAME	DATE

VILLAGE OF ARLINGTON HEIGHTS

**BIKE PATH INSTALLATION PLAN**

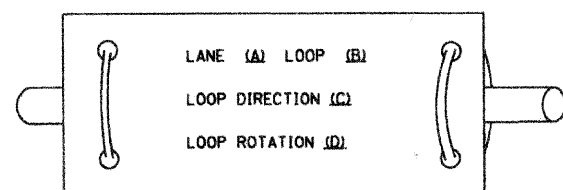
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0' 20' 40'  
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 1" = 5' (VERT.)

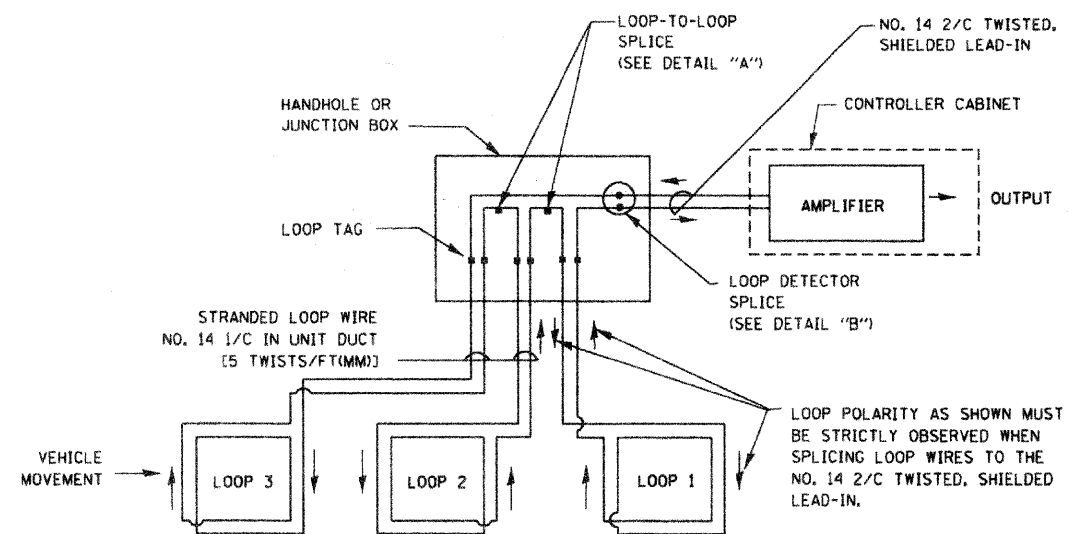
**LOOP DETECTOR NOTES**

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

**LOOP LEAD-IN CABLE TAG**

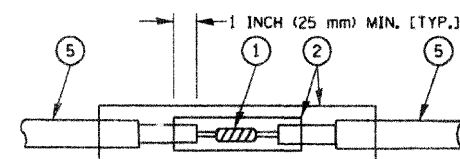


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

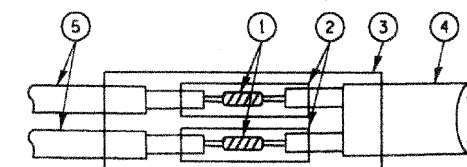


**DETECTOR LOOP WIRING SCHEMATIC**

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



**DETAIL "A"  
LOOP-TO-LOOP SPLICE**



**DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE**

**LOOP DETECTOR SPLICE**

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

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		DRAWN - R.W.P.	REVISED - BUR. TRAFFIC 01-01-02
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	PLOT DATE = 1/4/2008	DATE - 05-30-00	REVISED -

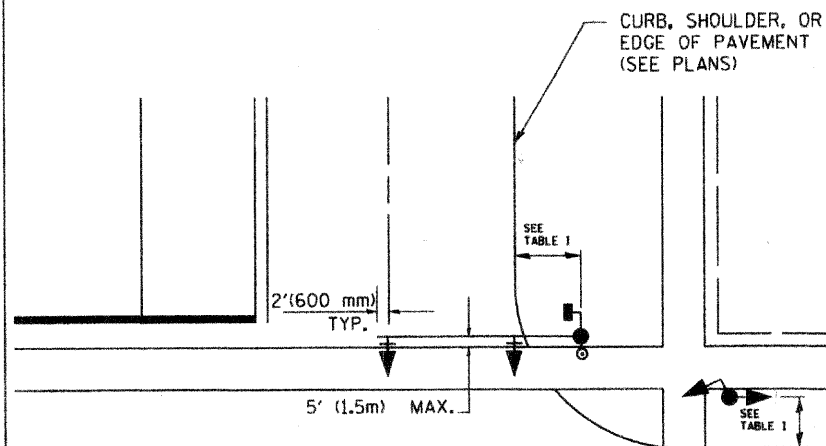
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>			
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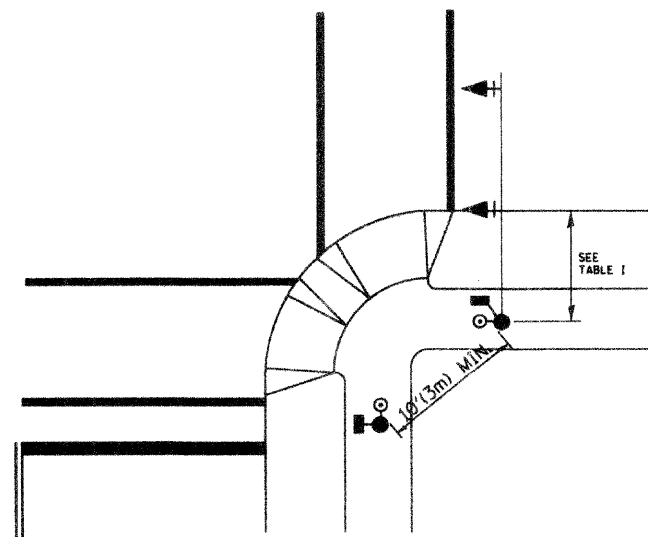
F.A. RTE. 379	SECTION 08-00187-00-BT	COUNTY COOK	TOTAL SHEETS 10	SHEET NO. 5
<b>TS-05</b>		CONTRACT NO. 63229		
FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT				

**TRAFFIC SIGNAL MAST ARM AND POST**

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



**PEDESTRIAN SIGNAL PUSHBUTTON**



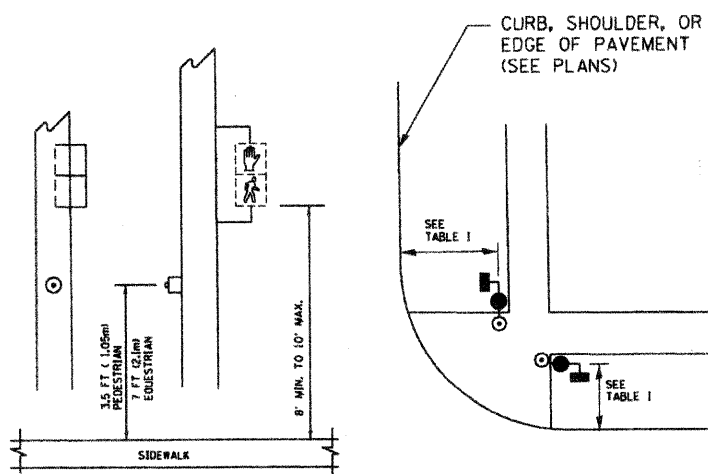
RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

**NOTES:**

- AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS WITH PEDESTRIAN ACTUATION, EACH PUSHBUTTON SHALL ACTIVATE BOTH THE WALK INTERVAL AND THE ACCESSIBLE PEDESTRIAN SIGNALS.  
 AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS, PUSHBUTTONS SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSHBUTTON. PUSHBUTTONS AND TACTILE ARROWS SHOULD HAVE HIGH VISUAL CONTRAST (SEE THE DEPARTMENT OF JUSTICE'S AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN, 1991). TACTILE ARROWS SHOULD POINT IN THE SAME DIRECTION AS THE ASSOCIATED CROSSWALK. AT CORNERS OF SIGNALIZED LOCATIONS WITH ACCESSIBLE PEDESTRIAN SIGNALS WHERE PEDESTRIAN PUSHBUTTONS ARE PROVIDED, THE PUSHBUTTONS SHOULD BE SEPARATED BY THE DISTANCE OF AT LEAST 10 FT (3m). THIS ENABLES PEDESTRIANS WHO HAVE VISUAL DISABILITIES TO DISTINGUISH AND LOCATE THE APPROPRIATE PUSHBUTTON.  
 PUSHBUTTONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHOULD BE LOCATED AS FOLLOWS:  
 A: ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS AN ALL WEATHER SURFACE, WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.  
 B: WITHIN 5 FT (1.5m) OF THE CROSSWALK EXTENDED.  
 C: WITHIN 10 FT (3m) OF THE EDGE OF CURB, SHOULDER, OR PAVEMENT.  
 D: PARALLEL TO THE CROSSWALK TO BE USED (SEE MUTCD FIGURE 4E-2).  
 E: NORMAL PEDESTRIAN PUSHBUTTON MOUNTING HEIGHT SHOULD BE 3.5 FT (1.05m) ABOVE ADJACENT SIDEWALK
- PEDESTRIAN SIGNAL FACES SHALL BE MOUNTED WITH THE BOTTOM OF THE HOUSING NOT LESS THAN 8 FT (2.4m) NOR MORE THAN 10 FT (3.0m) ABOVE THE SIDEWALK LEVEL AND SO THERE IS A PEDESTRIAN INDICATION IN THE LINE OF PEDESTRIANS' VISION WHICH PERTAINS TO THE CROSSWALK BEING USED.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, NOT MOUNTED OVER A ROADWAY, SHALL BE AT LEAST 10 FT (3.0m) BUT NOT MORE THAN 15 FT (4.5m) ABOVE THE SIDEWALK OR, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALKS EXIST.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, MOUNTED OVER A ROADWAY, SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001 AND 877006. (16 FT (5m) MIN., 18 FT (5.5m) MAX., FROM HIGHEST POINT OF PAVEMENT)

**PEDESTRIAN SIGNAL POST**

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION



**TABLE I**

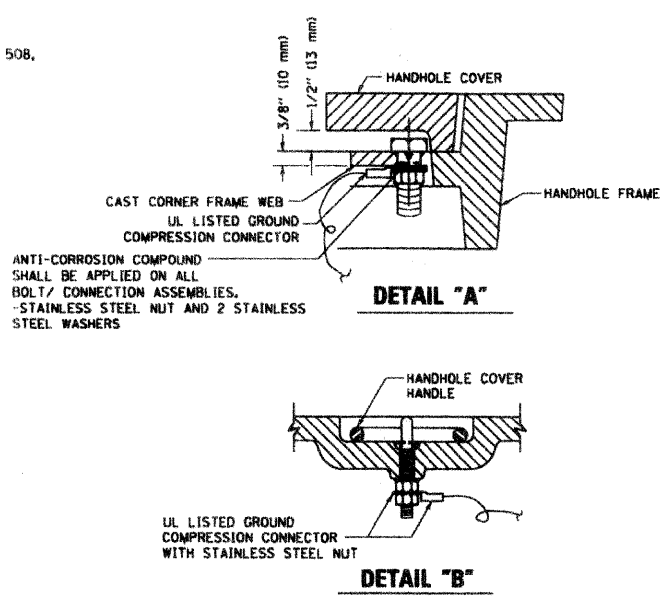
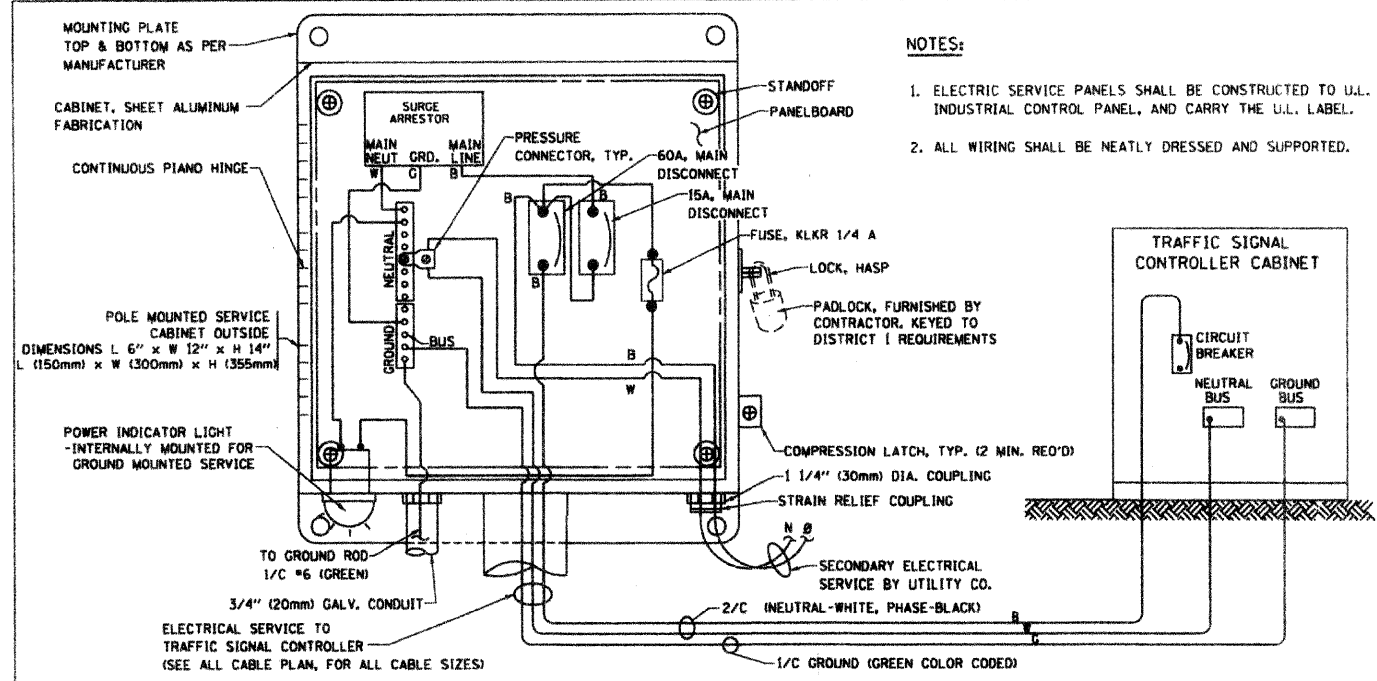
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM BACK OF CURB)	SHOULDER/NON-CURBED AREA (MIN. DIST. FROM EDGE OF PAVEMENT)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m),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

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		DRAWN - R.W.P.	REVISED -
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	PLOT DATE = 1/4/2008	DATE -	REVISED -

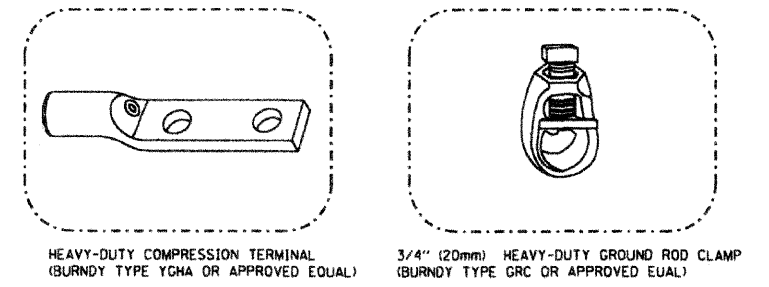
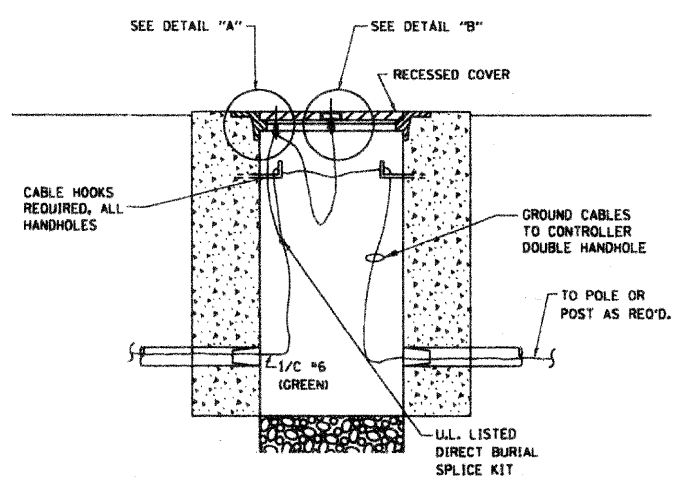
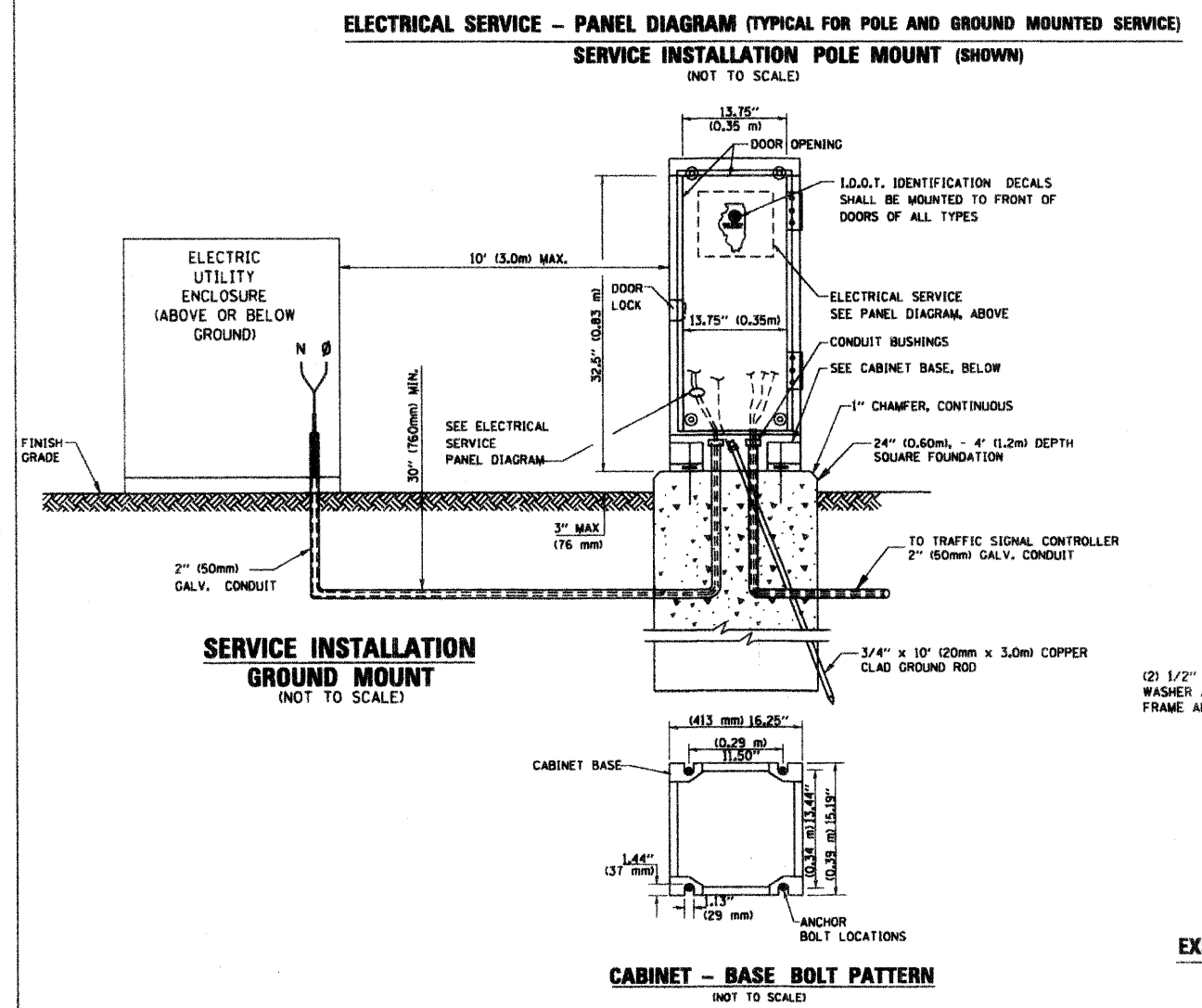
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**  
SCALE: NONE SHEET NO. 2 OF 4 SHEETS STA. TO STA.

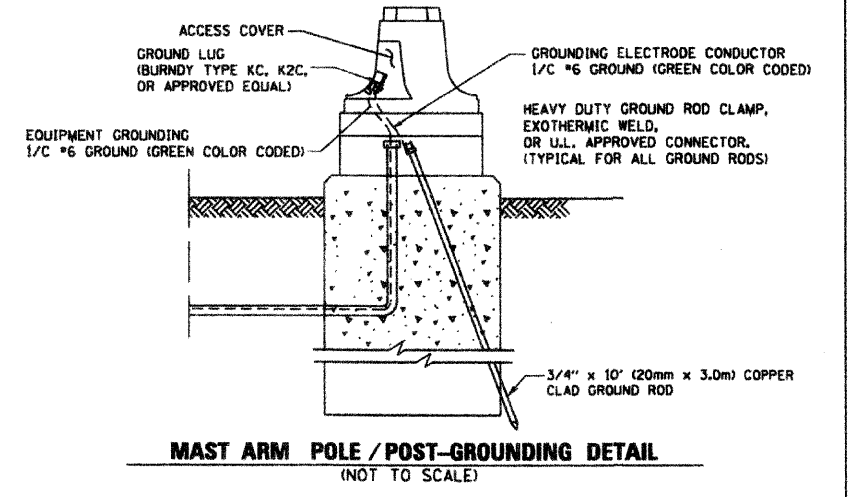
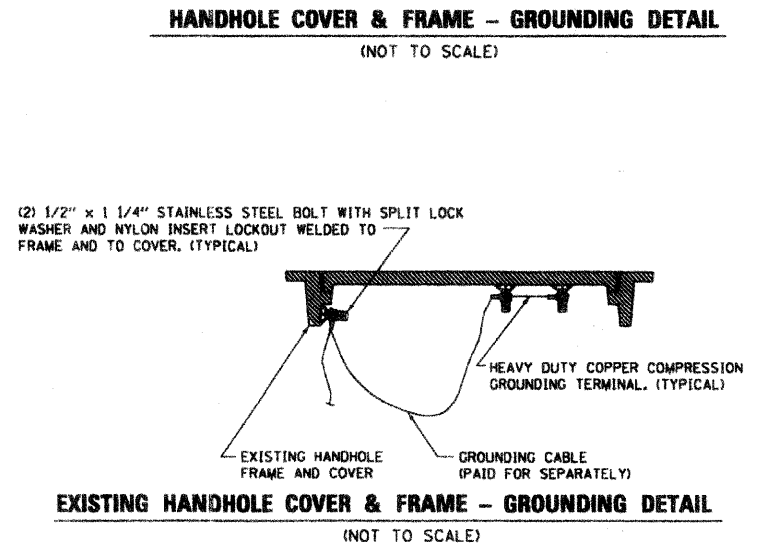
F.A. RTE. 379	SECTION 08-00187-00-BT	COUNTY COOK	TOTAL SHEETS 10	SHEET NO. 6
TS-05		CONTRACT NO. 63229		
FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT				



- NOTES:**
- GROUNDING SYSTEM**
- THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN 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.
  - THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
  - ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
  - THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, U.L. 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.



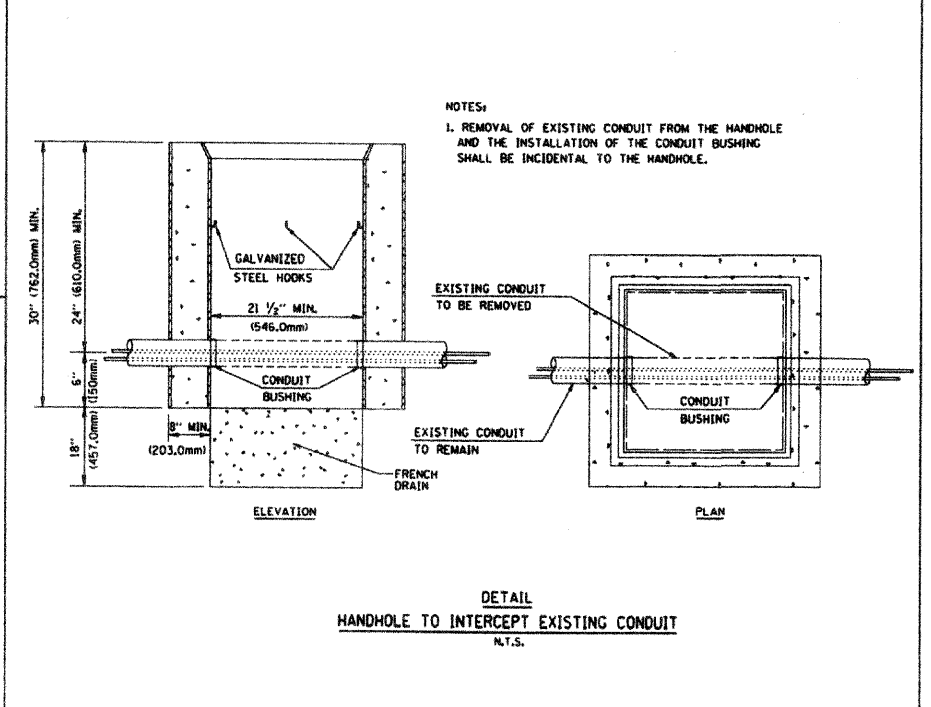
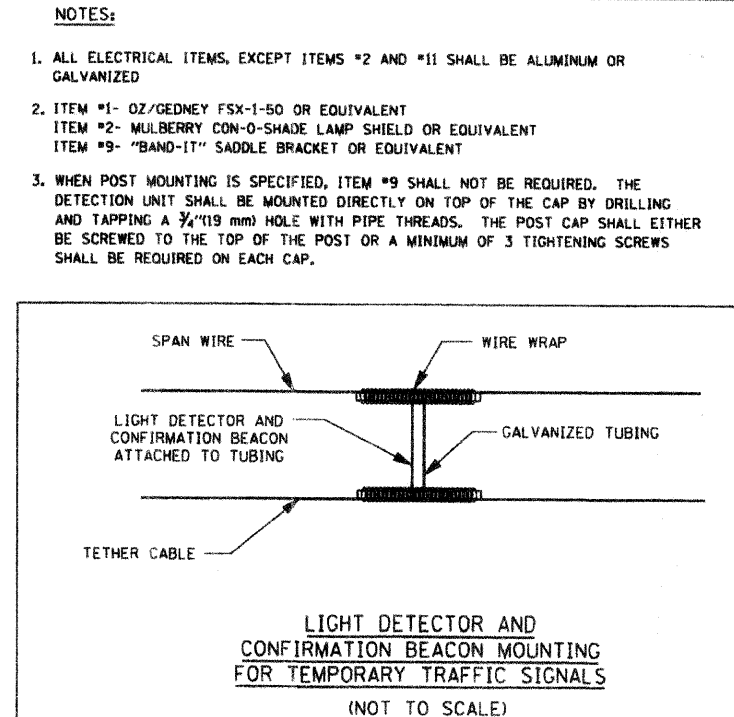
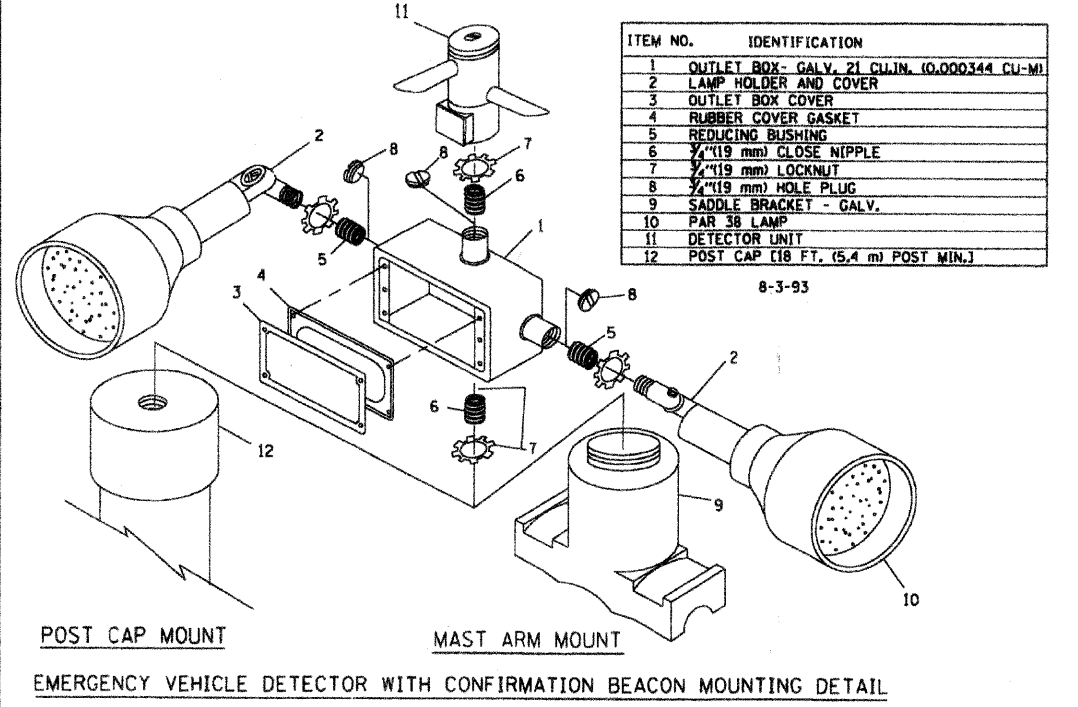
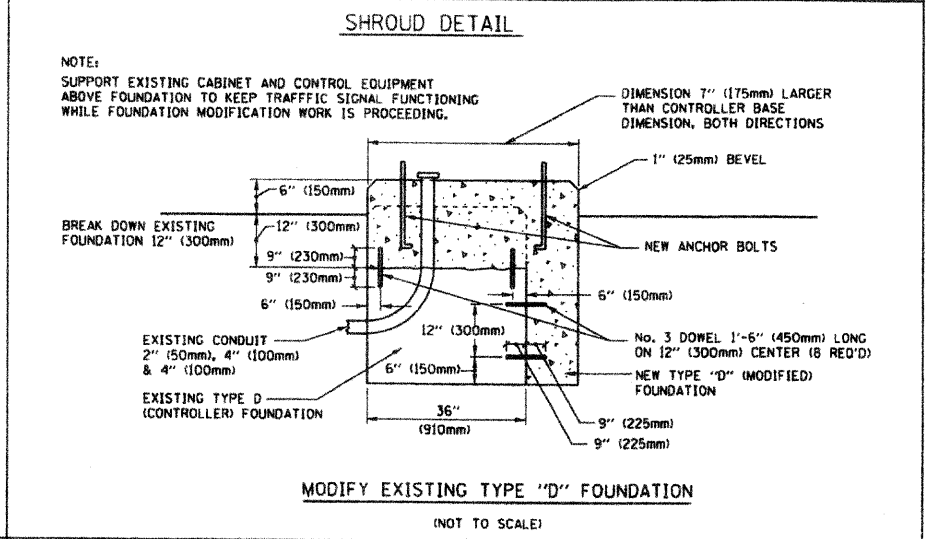
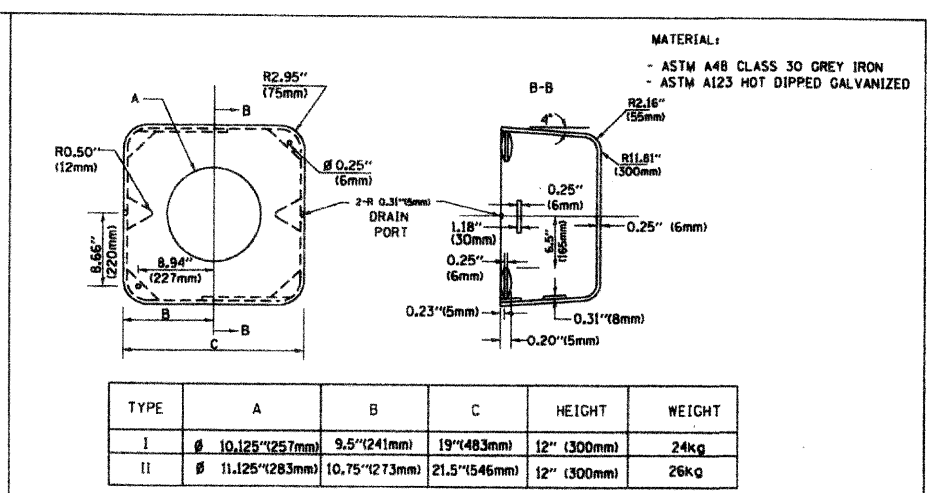
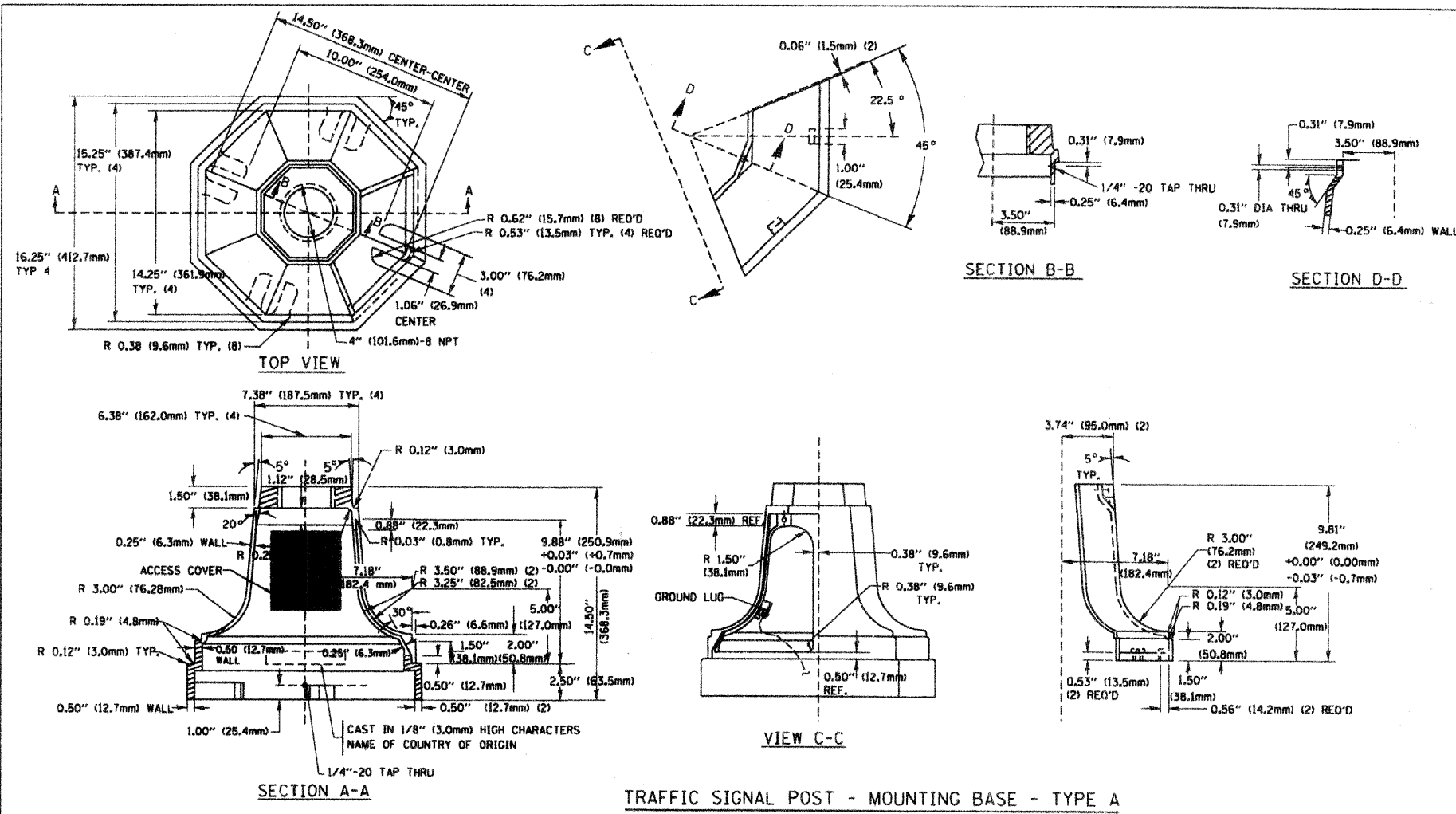
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		CHECKED - D.A.Z.	REVISED -
		DATE - 05-30-00	REVISED -

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

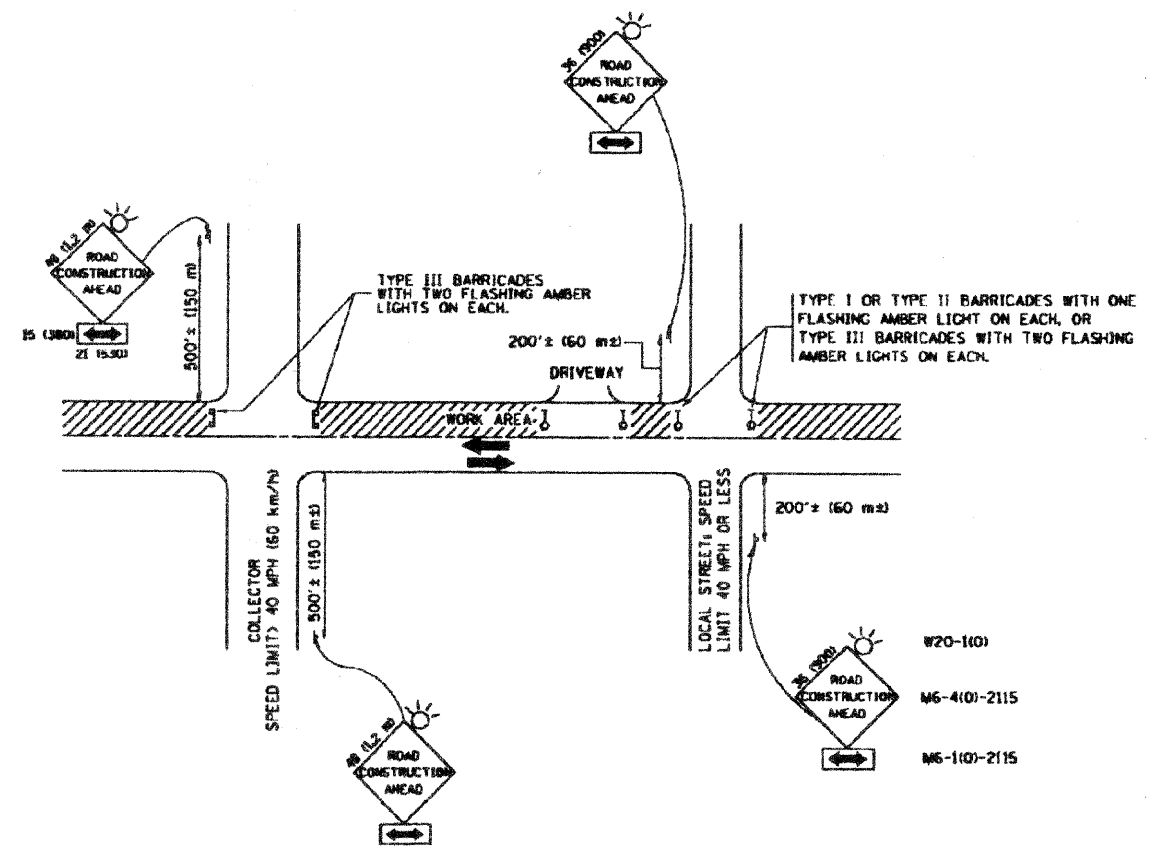
**DISTRICT ONE**  
**STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
379	08-00187-00-BT	COOK	10	7
TS-05			CONTRACT NO. 63229	
FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT				







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

NOTES:

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

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE II BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

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

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 70150L STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

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

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

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

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION	
NAME	DATE	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS	
L.H.A.	6/78	SCALE: NONE	DRAWN BY
T. RAMBACHER	09/08/94		CHECKED BY
J. OBERLE	10/18/95		TC-10
A. HOUSEH	03/06/96		
A. HOUSEH	10/15/96		
T. RAMBACHER	01/06/00		

(NOT TO SCALE)

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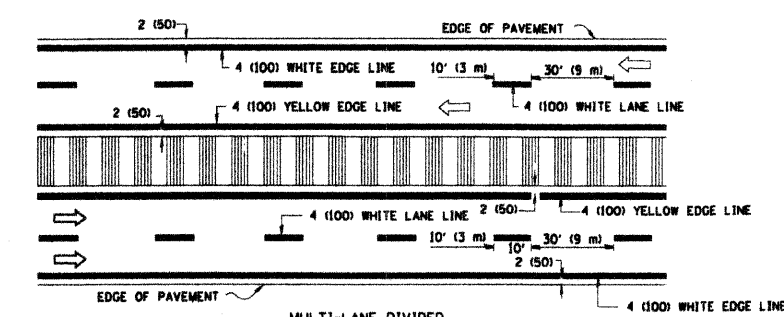
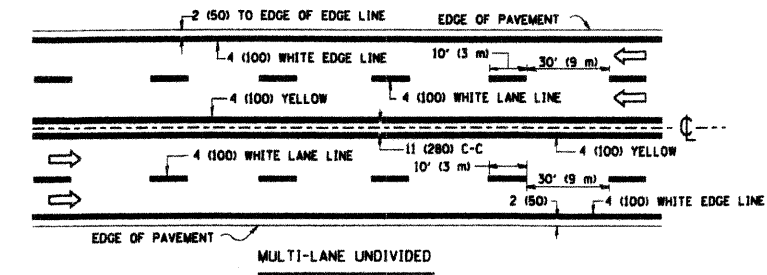
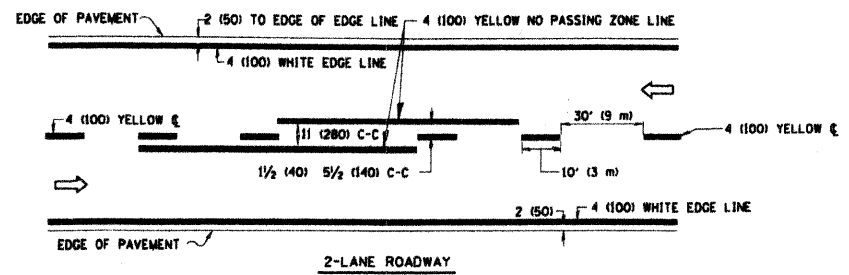
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE STANDARD DETAILS  
TC-10

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
379	08-00187-00-BT	COOK	10	9
CONTRACT NO. 63229				

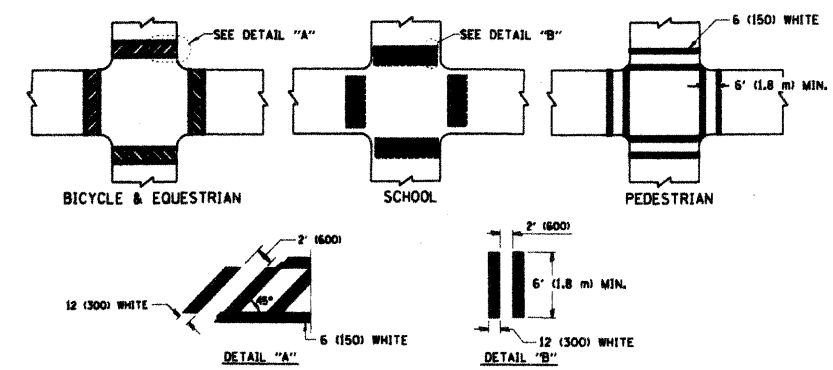
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT

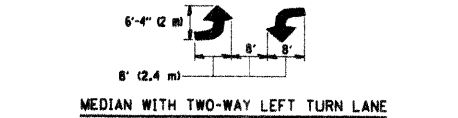
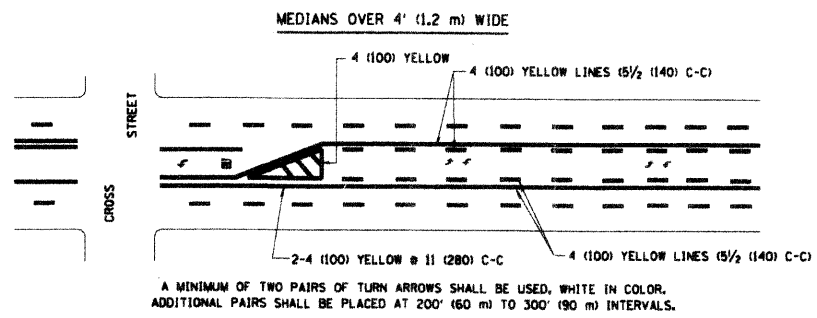
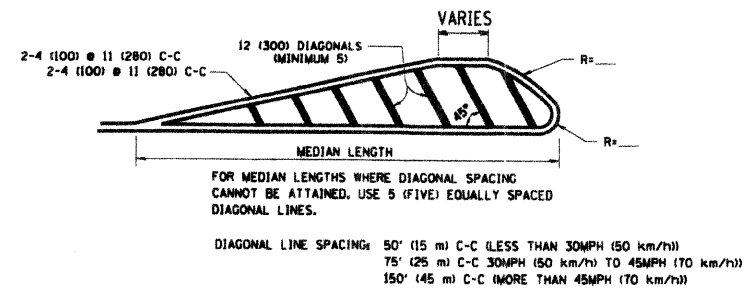
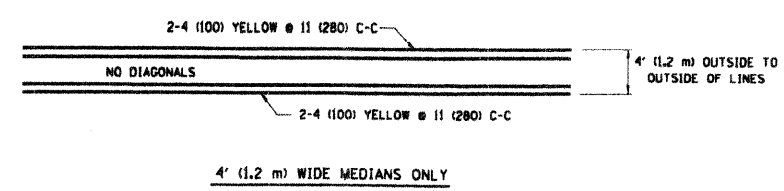


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

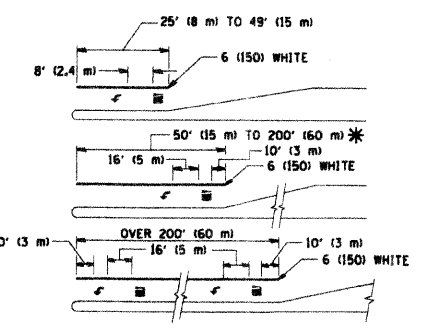
TYPICAL LANE AND EDGE LINE MARKING



TYPICAL CROSSWALK MARKING



TYPICAL PAINTED MEDIAN MARKING

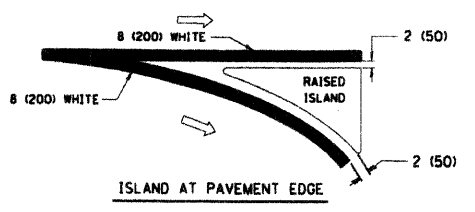
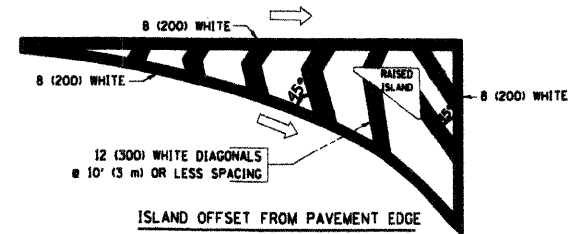


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.  
AREA = 15.6 SQ. FT. (1.5 m<sup>2</sup>) AREA = 20.8 SQ. FT. (1.9 m<sup>2</sup>)

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

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



TYPICAL ISLAND MARKING

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

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

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