

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED
FEDERAL AID HIGHWAY**

F. A. U. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1607	13-00098-00-RS	COOK	21	1
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT M-4003 (195)	

CONTRACT #63856

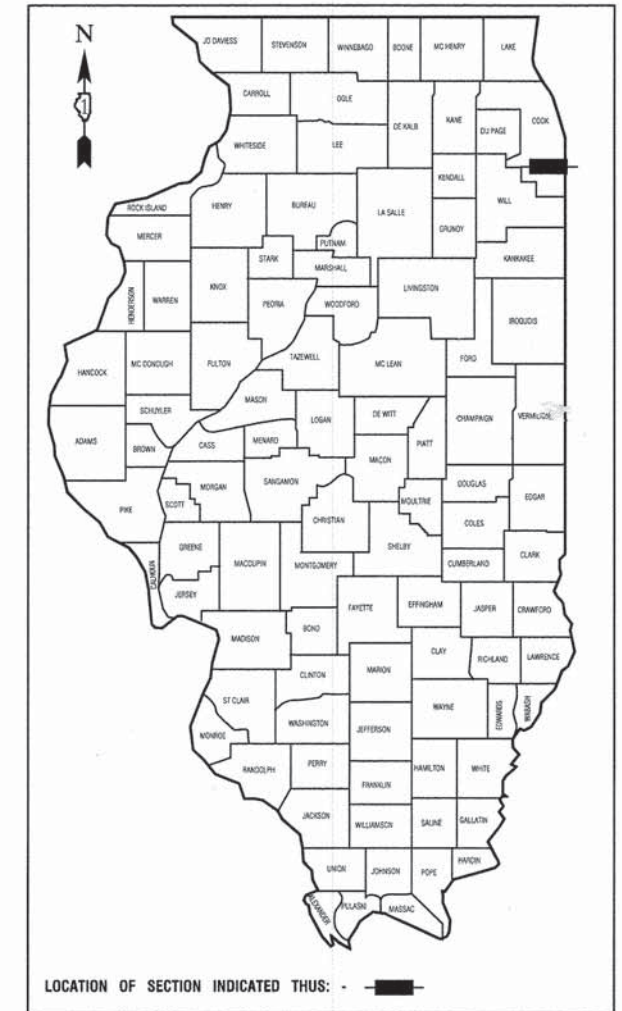
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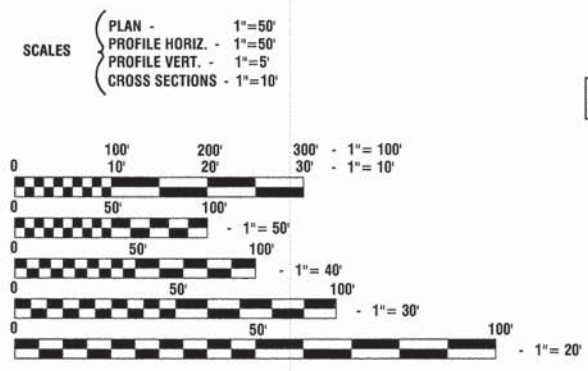
HIGHWAY STANDARDS

- | | |
|-----------|---|
| 000001-06 | STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS |
| 424001-07 | PERPENDICULAR CURB RAMPS |
| 442201-03 | CLASS C AND D PATCHES |
| 606001-05 | CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER |
| 701006-04 | OFF ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE |
| 701301-04 | LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS |
| 701311-03 | LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY |
| 701501-06 | URBAN LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY |
| 701801-05 | SIDEWALK, CORNER OR CROSSWALK CLOSURE |
| 701901-02 | TRAFFIC CONTROL DEVICES |
| 857001-01 | STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES |
| 876001-02 | PEDESTRIAN PUSH BUTTON POST |
| 878001-09 | CONCRETE FOUNDATION DETAILS |
| 880006-01 | TRAFFIC SIGNAL MOUNTING DETAILS |
| 886001-01 | DETECTOR LOOP INSTALLATION |

**FAU 1606 (154TH STREET)
9TH AVENUE TO FAU 2906 (STATE STREET)
ROADWAY RESURFACING
PROJECT NO.: M-4003 (195)
SECTION NO.: 13-00098-00-RS
VILLAGE of SOUTH HOLLAND,
COOK COUNTY
JOB NO.: C-91-331-13**

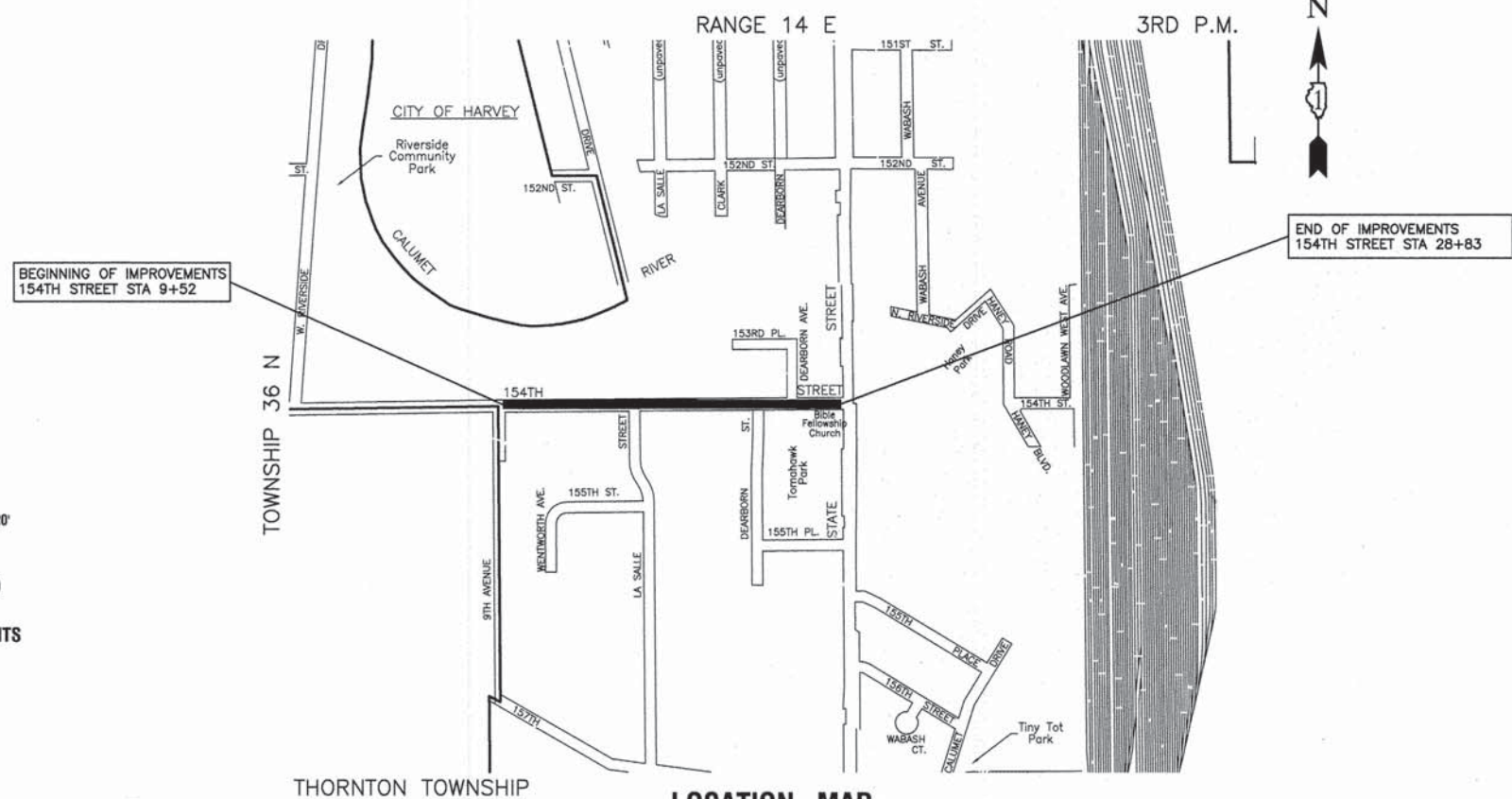


154TH STREET	
2010 ADT -	2,800
2040 ADT -	3,300
POSTED SPEED LIMIT -	25 mph
DESIGN PERIOD -	20 YEARS
DESIGN SPEED LIMIT -	30 mph
STREET CLASSIFICATION -	MINOR COLLECTOR



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



STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Approved: 06-26-2013
Don A. DeGruff
President, Village of SOUTH HOLLAND

Passed: July 22, 2013
C. Hill *C. Hart*
District 1 Engineer of Local Roads & Streets

Released for Bid Based on Limited Review: July 29, 2013
John F. ...
Deputy Director of Highways, Region 1 Engineer

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:
John K. ...
6/26/2013

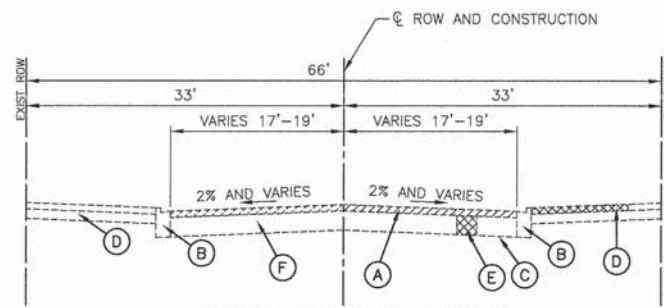
PROGRAM AND OFFICE ENGINEER: CHARLES F. RIDDLE, P.E. 847-705-4406 SCHAUMBURG, IL.
CONSULTANTS: ROBINSON ENGINEERING, LTD. 708-331-6700

CONTRACT NO. 63856

SUMMARY OF QUANTITIES					CONSTRUCTION TYPE CODE	CONSTRUCTION TYPE CODE
S.I.	CODE NO.	PAY ITEM	UNIT	TOTAL QUANTITY	0005	0021
	21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	207	207	
	40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	812	812	
	40600300	AGGREGATE (PRIME COAT)	TON	21	21	
	40600400	MIXTURE FOR CRACKS, JOINTS AND FLANGEWAYS	TON	10	10	
	40600827	POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50	TON	338	338	
	40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	114	114	
	40603335	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	848	848	
	42300200	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 6 INCH	SQ YD	132	132	
	42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	335	335	
	42400800	DETECTABLE WARNINGS	SQ FT	48	48	
	44000159	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"	SQ YD	5376	5376	
	44000200	DRIVEWAY PAVEMENT REMOVAL	SQ YD	516	516	
	44000600	SIDEWALK REMOVAL	SQ FT	234	234	
	44201729	CLASS D PATCHES, TYPE II, 7 INCH	SQ YD	26	26	
	44201733	CLASS D PATCHES, TYPE III, 7 INCH	SQ YD	33	33	
	44201735	CLASS D PATCHES, TYPE IV, 7 INCH	SQ YD	136	136	
	60266600	VALVE BOXES TO BE ADJUSTED	EACH	1	1	
	67100100	MOBILIZATION	L SUM	1	1	
	70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1	1	
	70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	1	
	70300100	SHORT TERM PAVEMENT MARKING	FOOT	700	700	
	70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	600	600	
*	78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	76	76	

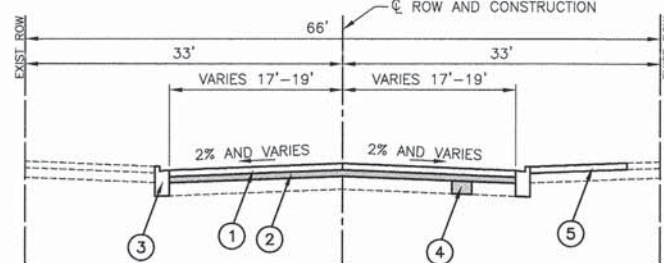
* - INDICATES SPECIALTY ITEMS

SUMMARY OF QUANTITIES					CONSTRUCTION TYPE CODE	CONSTRUCTION TYPE CODE
S.I.	CODE NO.	PAY ITEM	UNIT	TOTAL QUANTITY	0005	0021
*	78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	700	700	
*	78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	220	220	
*	78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	68	68	
*	85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1		1
*	85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1		1
*	87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	160		160
*	87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	160		160
*	87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	1		1
*	87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	1		1
*	89502220	MODIFY EXISTING Concrete FOUNDATION	EACH	1		1
*	88102717	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2		2
*	88600600	DETECTOR LOOP REPLACEMENT	FOOT	136	136	
*	88800100	PEDESTRIAN PUSH-BUTTON	EACH	2		2
*	89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1		1
	Z0004514	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 4"	SQ YD	384	384	
	Z0004562	COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	1300	1300	
	Z0018400	DRAINAGE STRUCTURES TO BE ADJUSTED	EACH	14	14	
	X4400196	HOT-MIX ASPHALT SURFACE REMOVAL, SPECIAL	SQ YD	469	469	
	X6030310	FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)	EACH	8	8	
	XX006343	SEEDING (COMPLETE)	SQ YD	207	207	
*	88030310	SIGNAL HEAD, LED, 3-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1		1
*	88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1		1



EXISTING TYPICAL SECTION

154TH STREET
STA. 9+52 TO STA 22+49



PROPOSED TYPICAL SECTION

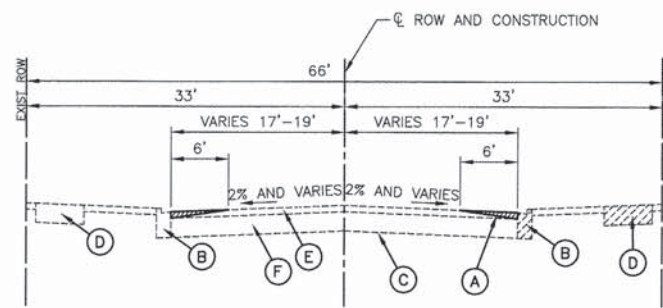
154TH STREET
STA. 9+52 TO STA 22+49

EXISTING LEGEND

- (A) HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"
- (B) EXISTING CURB & GUTTER (TO BE REMOVED AT LOCATIONS SHOWN ON PLANS OR DIRECTED BY ENGINEER)
- (C) EXISTING HOT-MIX ASPHALT PAVEMENT
- (D) EXISTING PAVEMENT OR DRIVEWAY (TO BE REMOVED AT LOCATIONS SHOWN ON PLANS OR DIRECTED BY ENGINEER)
- (E) PAVEMENT REMOVAL FOR CLASS D PATCHING
- (F) EXISTING AGGREGATE BASE, 7"

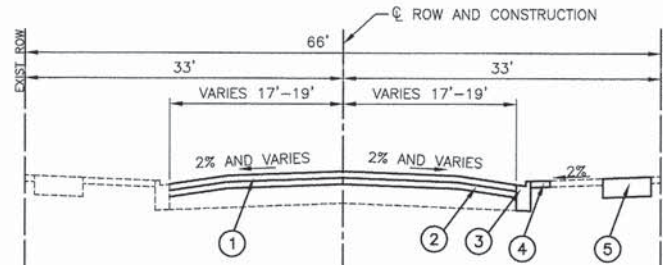
PROPOSED LEGEND

- (1) HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50 (IL-9.5MM) 2"
- (2) POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4"
- (3) PROPOSED COMBINATION CONCRETE CURB AND GUTTER
- (4) CLASS D PATCH 7", (LOCATIONS TO BE DETERMINED BY RESIDENT ENGINEER)
- (5) DRIVEWAY REPLACEMENT (SEE PLANS FOR TYPE & LOCATIONS)



EXISTING TYPICAL SECTION

154TH STREET
STA. 22+49 TO STA 28+90



PROPOSED TYPICAL SECTION

154TH STREET
STA. 22+49 TO STA 28+90

EXISTING LEGEND

- (A) HOT-MIX ASPHALT SURFACE REMOVAL (SPECIAL) - EDGE GRIND (0-2")
- (B) EXISTING CURB & GUTTER (TO BE REMOVED AT LOCATIONS SHOWN ON PLANS OR DIRECTED BY ENGINEER)
- (C) EXISTING HOT-MIX ASPHALT PAVEMENT
- (D) EXISTING P.C.C. SIDEWALK (SEE PLANS FOR LOCATIONS)
- (E) EXISTING HOT-MIX ASPHALT SURFACE COURSE, 2"
- (F) EXISTING AGGREGATE BASE, 7"

PROPOSED LEGEND

- (1) HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50 (IL-9.5MM) 1 1/2"
- (2) POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4"
- (3) PROPOSED COMBINATION CONCRETE CURB AND GUTTER
- (4) 2' MAX TURF RESTORATION
- (5) PCC SIDEWALK, 5"

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

(CONTRACTOR SHALL MILL BEFORE PATCHING)

MIXTURE TYPE	AIR VOIDS
RESURFACING	
HOT MIX ASPHALT SURFACE COURSE, MIX "D", N50 (IL-9.5mm); 1 1/2" OR 2"	4% @ 50 Gyr.
POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4"	3.5% @ 50 Gyr.
DRIVEWAYS	
HOT MIX ASPHALT SURFACE COURSE, MIX "D", N50(IL-9.5mm); 1 3/4"	4% @ 50 Gyr.
HOT MIX ASPHALT BINDER COURSE, IL-19.0, N50; 2 1/4"	4% @ 50 Gyr.
PATCHING	
CLASS D PATCHES, TYPE II, III, IV, (HMA BINDER IL-19.0mm); 7" (2 LIFTS)	4% @ 70 Gyr.
CURB HMA PATCHING	
HOT MIX ASPHALT BINDER COURSE, IL-19.0, N70; 8 1/4" (2 LIFTS)	4% @ 70 Gyr.

NOTES:

- THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS/SQ YD/IN. FOR "AC TYPE" AND "PERCENT RAP" SEE DISTRICT ONE SPECIAL PROVISIONS.
- THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 76-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS. FOR "PERCENT OF RAP" SEE DISTRICT ONE SPECIAL PROVISIONS.

GENERAL NOTES

- BEFORE STARTING ANY EXCAVATION THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 OR 811 AND (312) 744-7000 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. (48 HOUR NOTIFICATION REQUIRED)
- UTILITIES INDICATED ON THE PLANS ARE PROVIDED FOR THE CONTRACTOR'S USE AND ARE BASED UPON INFORMATION AVAILABLE AT THE TIME OF THE ADVERTISEMENT FOR BIDS. THE OWNER AND ENGINEER DO NOT GUARANTEE THE ACCURACY OF UTILITY INFORMATION.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.
- THE THICKNESS OF HMA MIXTURE STATED IN THE SPECIFICATIONS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HMA SURFACE IS PLACED.
- ACCESS TO DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES BY LIMITING CURB AND GUTTER REPAIR TO ONE-HALF THE DRIVEWAY WIDTH AT ONE TIME AS WELL AS TEMPORARY AGGREGATE. ANY TEMPORARY AGGREGATE REQUIRED SHALL BE CONSIDERED INCLUDED IN THE COST OF THE RELATED REMOVAL PAY ITEM IT IS NEEDED FOR WHEN DIRECTED BY THE ENGINEER.
- THE REMOVAL AND/OR REPLACEMENT OF ANY DRIVEWAYS, PAVEMENT, CURB, SIDEWALK, ETC. SHALL BE ACCOMPLISHED BY MEANS OF A SAW CUT JOINT, AT THE DIRECTION OF THE ENGINEER. SAW CUTTING WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE UNIT PRICE FOR THE VARIOUS REMOVAL ITEMS.
- ANY LOOSE MATERIAL DEPOSITED IN THE FLOW LINE OF DITCHES, GUTTERS OR OTHER DRAINAGE STRUCTURES SHALL BE REMOVED BY THE END OF EACH DAY BY THE CONTRACTOR AT THEIR EXPENSE.
- THE CONTRACTOR SHALL LEAVE ANY CLEAN EXCESS ORGANIC FILL EXCAVATED DURING THE CURB AND GUTTER AND SIDEWALK REMOVAL AND REPLACEMENT OPERATIONS ON SITE. ANY EXCESS MATERIAL SHALL BE SPREAD OR PLACED AT LOCATIONS DETERMINED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE UNIT PRICE FOR THE VARIOUS REMOVAL AND REPLACEMENT ITEMS. RESTORATION OF AREAS WHERE EXCESS MATERIALS IS PLACED SHALL BE PAID FOR AS SEEDING (COMPLETE).
- CONTRACTOR SHALL COORDINATE WITH COMED TO RELOCATE GUY WIRE FOR INSTALLATION OF NEW SIDEWALK AT THE INTERSECTION OF 154TH STREET AND STATE STREET.
- PROPOSED SIDEWALK SHALL BE CONSTRUCTED IN ACCORDANCE WITH AMERICAN DISABILITY ACT (ADA) REQUIREMENTS. CURB CUTS FOR SIDEWALK INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO THE COST OF CURB AND GUTTER.

NOTE:
CLASS D PATCHES, TYPE II, III & IV AT APPROXIMATE STATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

FILE NAME = 13275-TYPX-01 - IDOT P01

USER NAME =	DESIGNED -- AAN	REVISED --
	CHECKED -- PB	REVISED --
PLOT SCALE =	DRAWN -- ACAD	REVISED --
PLOT DATE = 06-25-13	CHECKED -- ACAD	REVISED --

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

154TH STREET
ROADWAY RESURFACING
TYPICAL SECTIONS & GENERAL NOTES

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1607	13-00098-00-RS	COOK	21	3
CONTRACT NO. 63856				

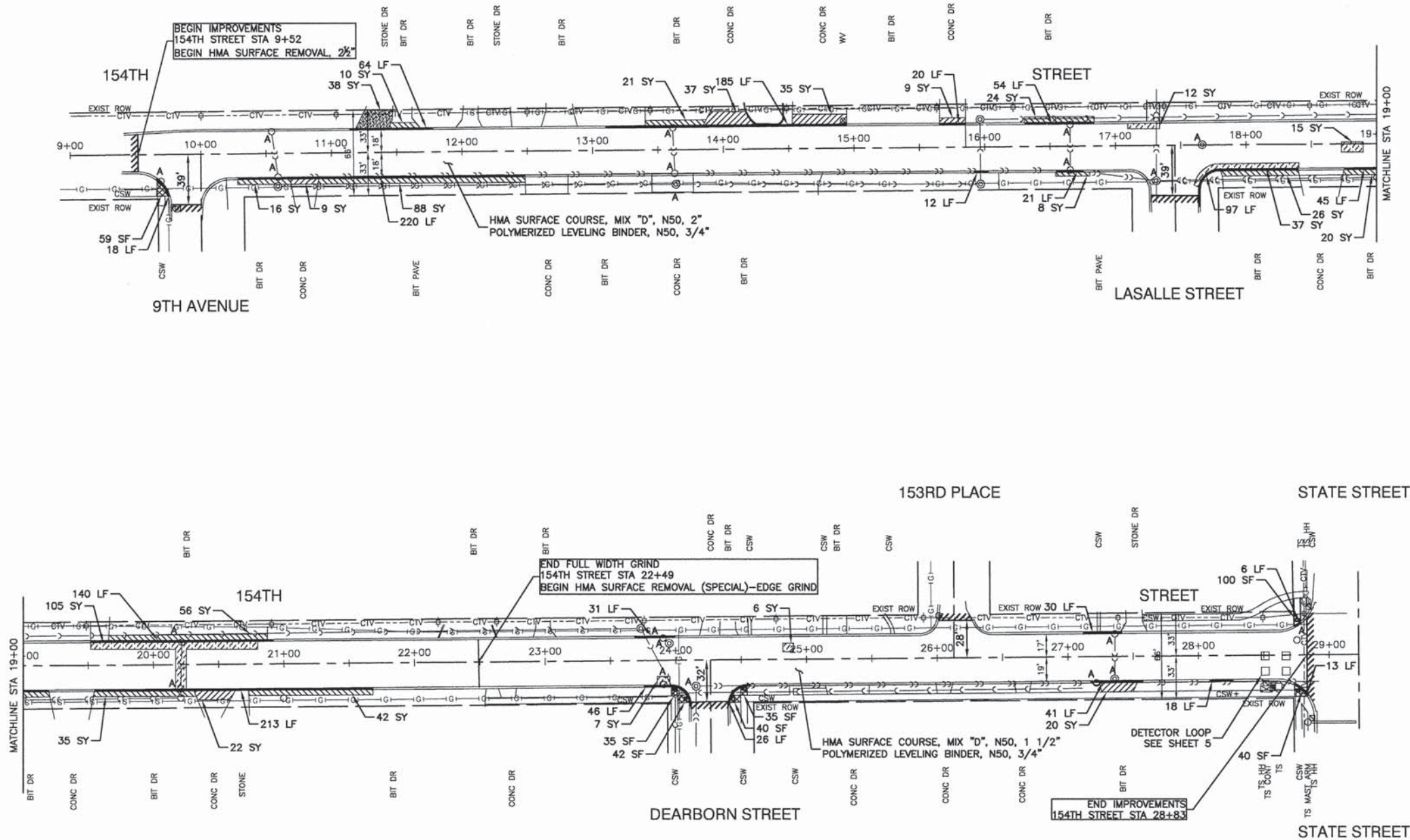
SCALE: SHEET NO. 3 OF 21 SHEETS STA. TO STA.

FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-4003 (195)



LEGEND

- CLASS "D" PATCH
- HMA DRIVEWAY REMOVAL AND REPLACEMENT
- STONE DRIVEWAY REMOVAL (TO BE REPLACED WITH HMA TO ROW)
- CONCRETE DRIVEWAY REMOVAL AND REPLACEMENT
- CONCRETE SIDEWALK REMOVAL AND REPLACEMENT
- BUTT JOINTS (4'-6' TYP.)
- CURB AND GUTTER REMOVAL & RESTORATION
- "A" STRUCTURE TO BE ADJUSTED
- DETECTOR LOOP TO BE REPLACED
- DETECTABLE WARNING



FILE NAME = 13275-PLAN-01 - IDOT P01
 PLOT SCALE =
 PLOT DATE = 07-26-13

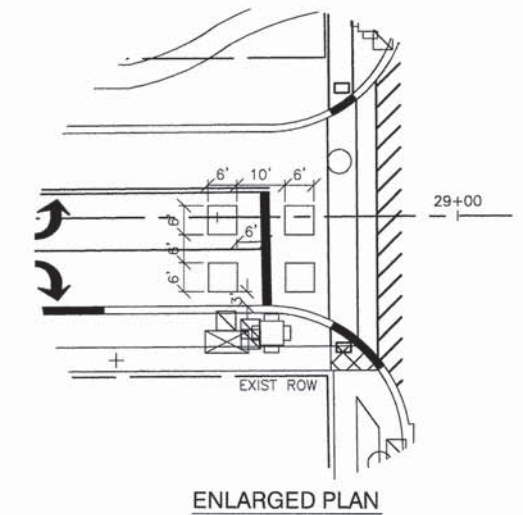
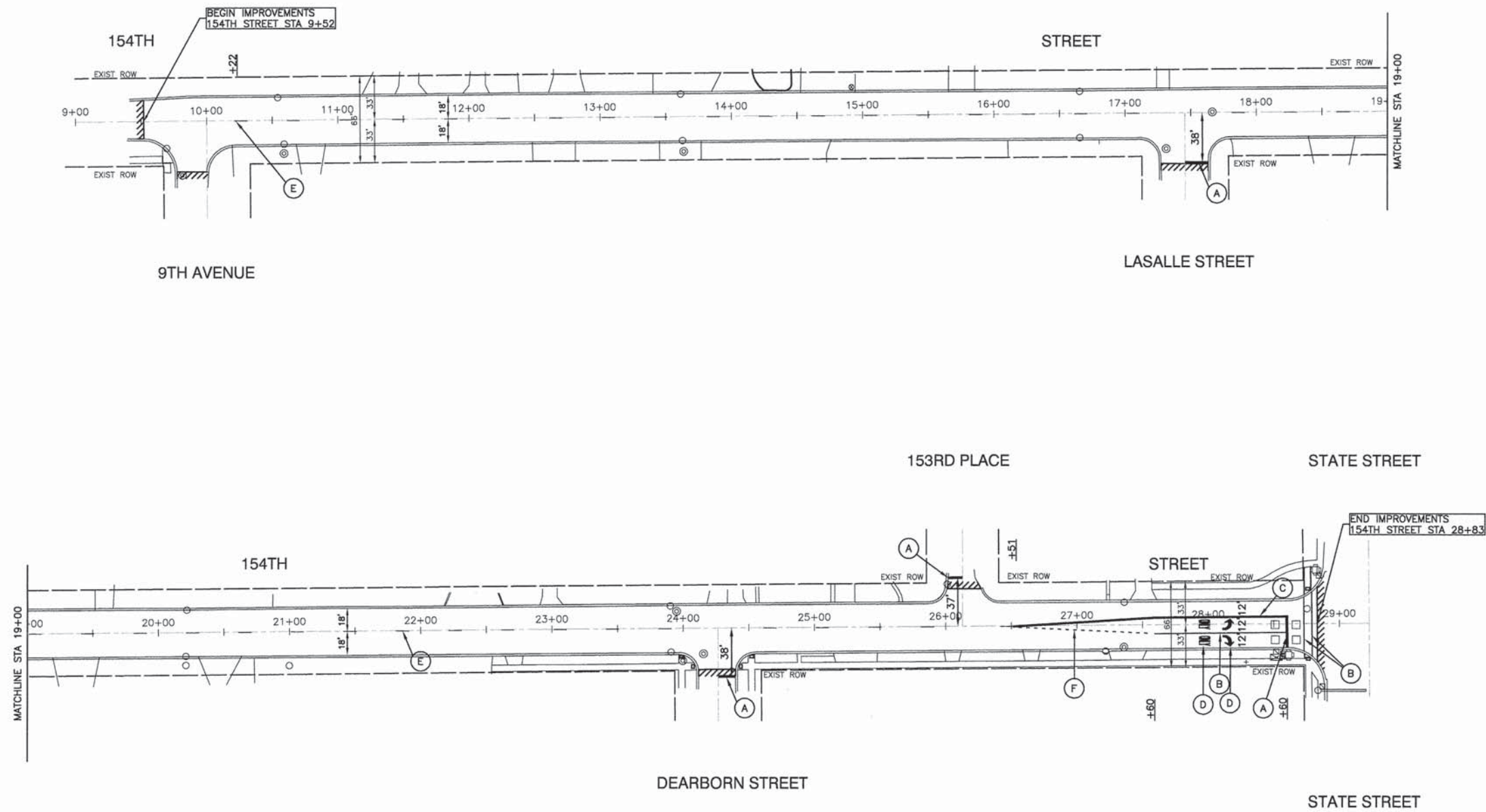
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CHECKED -- PB	REVISED --	
DRAWN -- MED	REVISED --	
CHECKED -- AG	REVISED --	

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**ROADWAY RESURFACING
 154TH STREET
 PAVEMENT PLAN**

SCALE: 1"=50' SHEET NO. 4 OF 21 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1607	13-00098-00-RS	COOK	21	4
CONTRACT NO. 63856				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-4003 (195)				



LEGEND

- (A) THERMOPLASTIC PAVEMENT MARKING WHITE, 24"
- (B) THERMOPLASTIC PAVEMENT MARKING WHITE, 6"
- (C) THERMOPLASTIC PAVEMENT MARKING DOUBLE YELLOW, LINE, 4"
- (D) THERMOPLASTIC PAVEMENT MARKING WHITE LETTERS AND SYMBOLS
- (E) THERMOPLASTIC PAVEMENT MARKING YELLOW, SKIP DASH, LINE, 4" (10' LINE-30' SPACE)
- (F) THERMOPLASTIC PAVEMENT MARKING WHITE, SKIP DASH, LINE, 4" (2' LINE-6' SPACE)

FILE NAME = 13275-PLAN-01 - IDOT P02

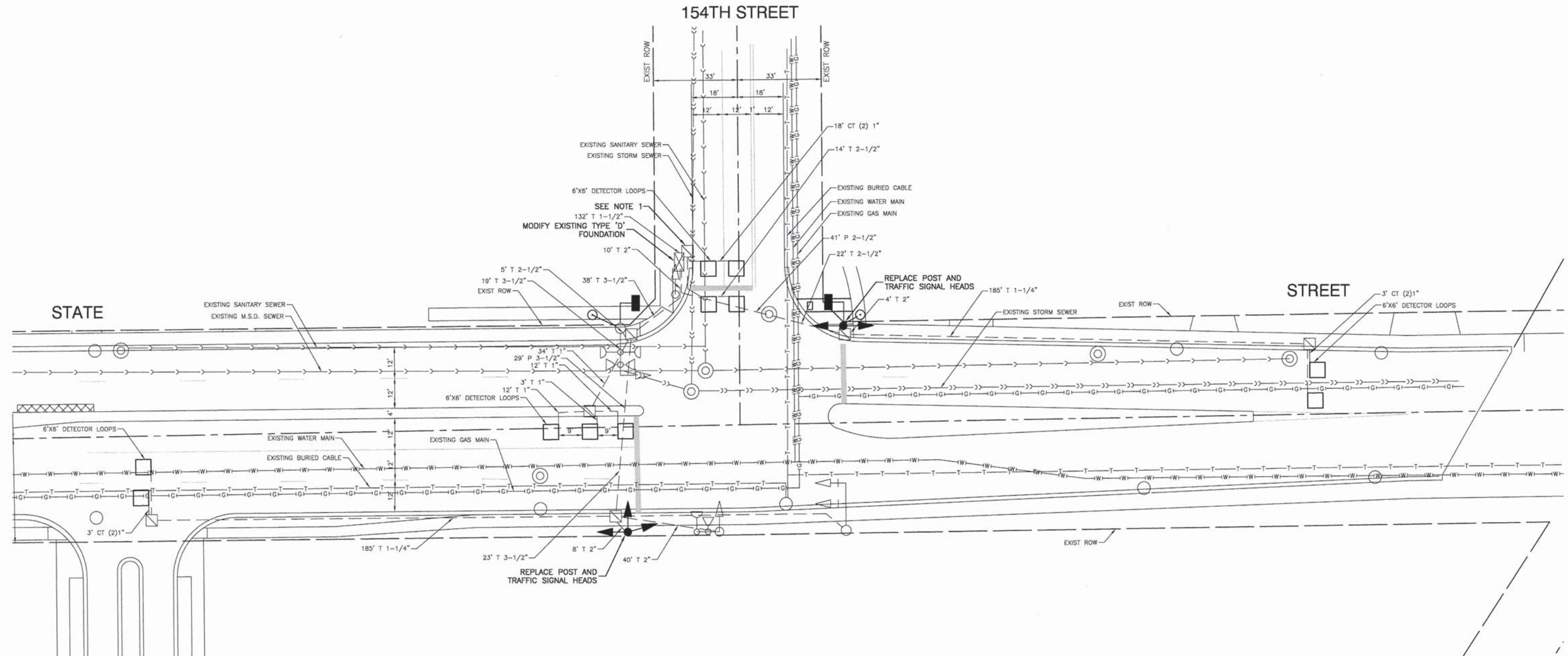
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	CHECKED -- PB	REVISED --
PLOT SCALE =	DRAWN -- MED	REVISED --
PLOT DATE = 06-25-13	CHECKED -- AG	REVISED --

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROADWAY RESURFACING
154TH STREET
PAVEMENT MARKING

SCALE: 1"=50' SHEET NO. 5 OF 21 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1607	13-00098-00-RS	COOK	21	5
FED. ROAD DIST. NO. 1 ILLINOIS			FED. AID PROJECT M-4003 (195)	
CONTRACT NO. 63856				



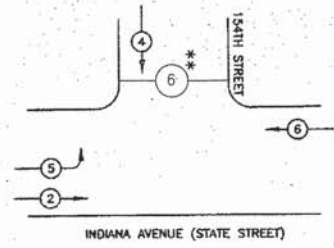
NOTES:

1. THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE VILLAGE, AND SHALL BE STORED AS STATED IN THE SPECIAL PROVISION FOR PICK UP BY VILLAGE FORCES.
CONTROLLER AND CABINET, COMPLETE

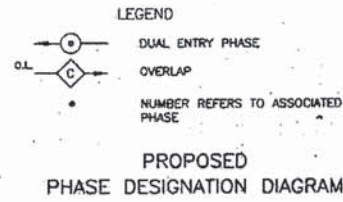
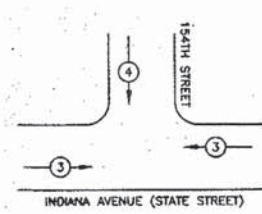
FILE NAME = 13275-SGNL-01 - SGNL P01	USER NAME =	DESIGNED -- AAN	REVISED -- 5/1/13 ADD PED SIGNAL	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	154TH STREET ROADWAY RESURFACING TRAFFIC SIGNAL MODIFICATION PLAN			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	CHECKED -- PB	REVISED --		1607	13-00098-00-RS	COOK	21	6			
	PLOT DATE = 07-26-13	DRAWN -- MED	REVISED --		CONTRACT NO. 63856							
		CHECKED -- AG	REVISED --		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-4003 (195)							
					SCALE: 1"=20'	SHEET NO. 6 OF 21 SHEETS	STA. TO STA.					



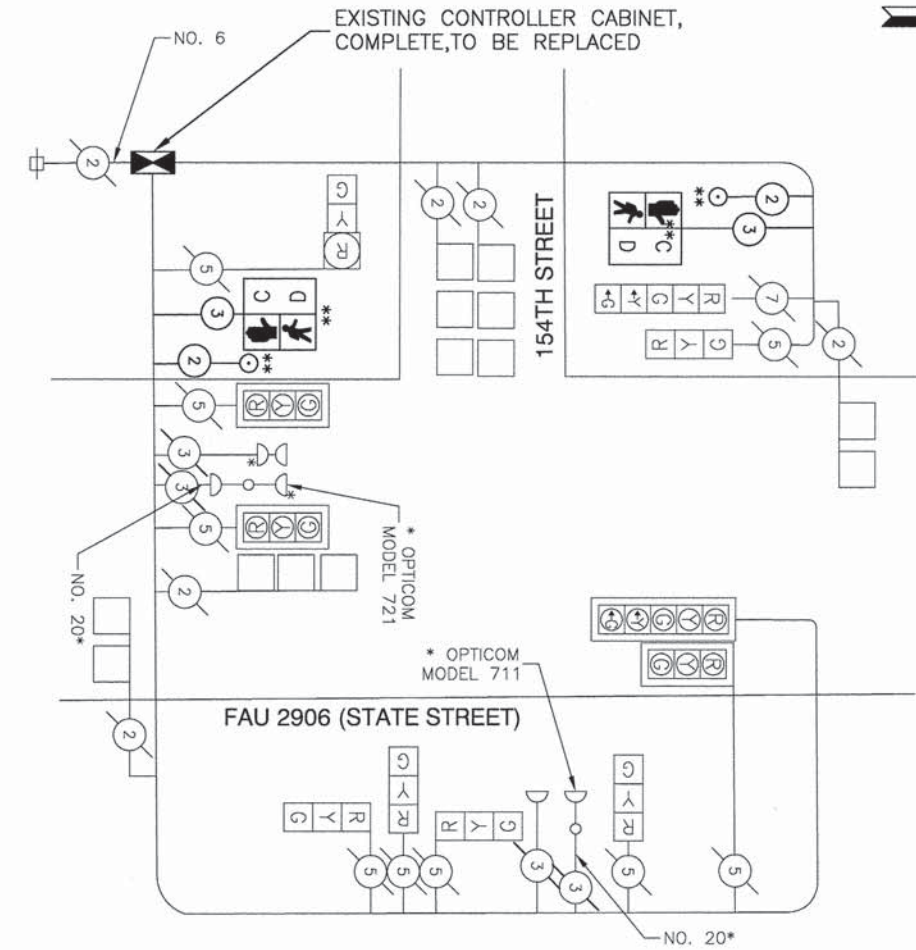
CONTROLLER SEQUENCE



EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		



SCHEDULE OF QUANTITIES

PAY ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C	FOOT	160
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C	FOOT	160
MODIFY EXISTING TYPE "D" FOUNDATION	EACH	1
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2
PEDESTRIAN PUSH BUTTON	EACH	2
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
TRAFFIC SIGNAL POST GALVANIZED STEEL 14 FT	EACH	1
TRAFFIC SIGNAL POST GALVANIZED STEEL 16 FT	EACH	1
SIGNAL HEAD, LED, 3 FACE, 3-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1

NOTES

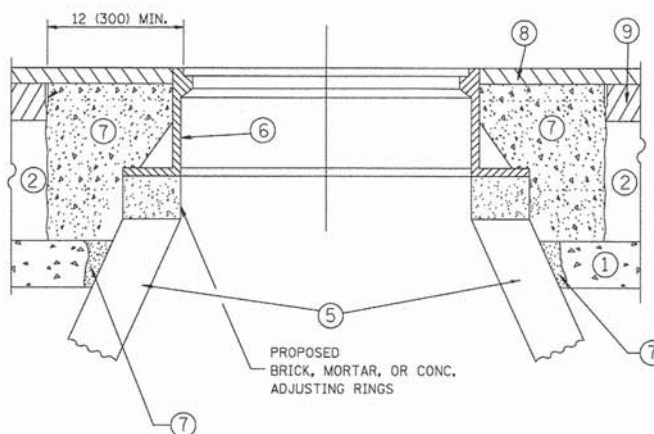
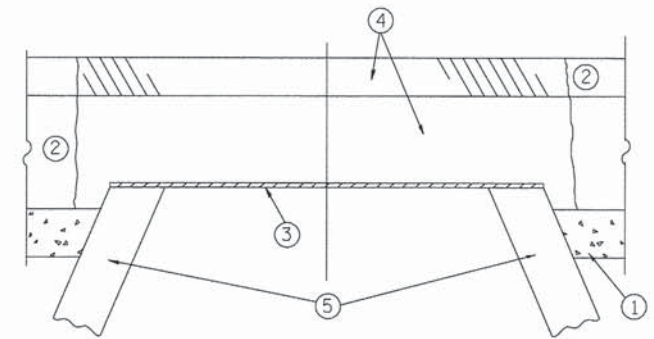
- * THESE ITEMS INCLUDED IN CONTRACT FOR INSTALLATION OF EMERGENCY VEHICLE PREEMPTION EQUIPMENT.
- ** PLANS MODIFIED BY ROBINSON ENGINEERING, LTD.

FILE NAME = 13275-SGNL-01 - IDOT P01	USER NAME =	DESIGNED -- AAN	REVISED -- 5/1/13 ADD PED SIGNAL
	PLOT SCALE =	CHECKED -- PB	REVISED --
	PLOT DATE = 07-26-13	DRAWN -- MED	REVISED --
		CHECKED -- AG	REVISED --

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

154TH STREET ROADWAY RESURFACING CABLE PLAN, PHASE DESIGNATION DIAGRAM & SCHEDULE OF QUANTITIES	
SCALE:	SHEET NO. 7 OF 21 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1607	13-00098-00-RS	COOK	21	7
FED. ROAD DIST. NO. 1 ILLINOIS			FED. AID PROJECT M-4003 (195)	



CONSTRUCTION PROCEDURES

STAGE 1 (BEFORE PAVEMENT MILLING)

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

STAGE 2 (AFTER PAVEMENT MILLING)

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

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

LEGEND

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

LOCATION OF STRUCTURES:

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

BASIS OF PAYMENT:

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

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

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

NOTES:

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

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

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

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

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

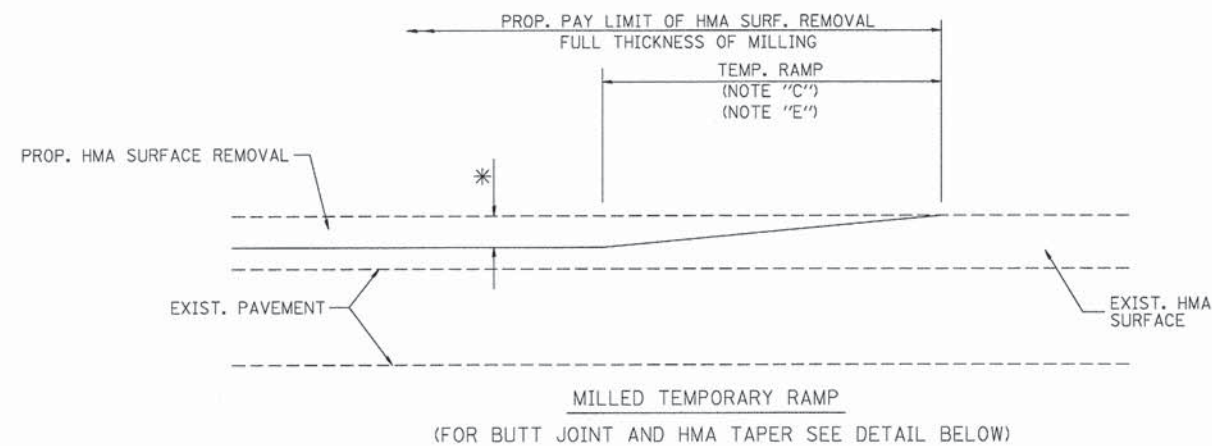
DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

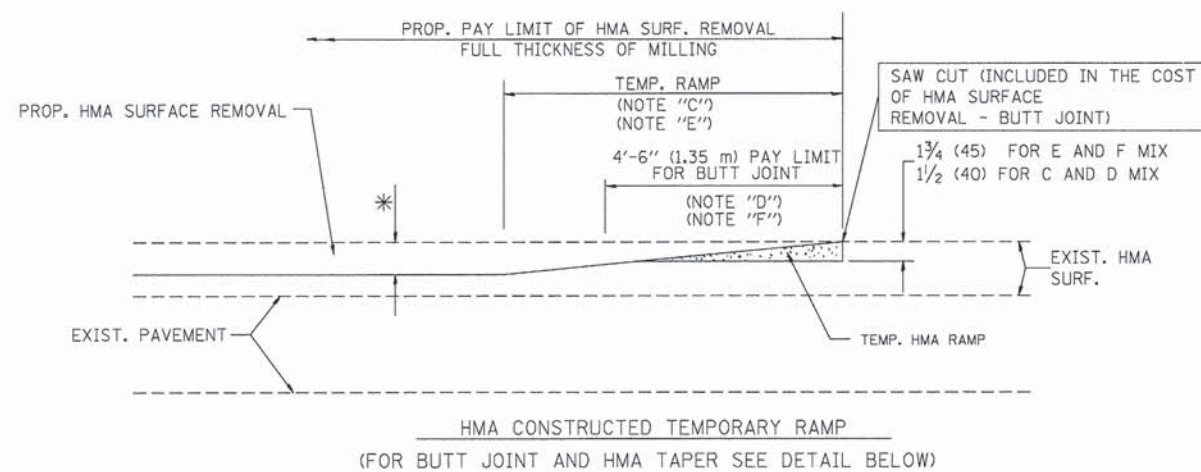
REVISIONS	
NAME	DATE
R. SHAH	10/25/94
R. SHAH	01/30/95
R. SHAH	03/10/95
A. ABBAS	03/21/97
R. WIEDEMAN	05/14/04
R. BORO	01/01/07
R. BORO	03/09/11
R. BORO	12/06/11

ILLINOIS DEPARTMENT OF TRANSPORTATION
DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

SCALE: VERT. NONE
HORIZ. NONE
DRAWN BY
CHECKED BY

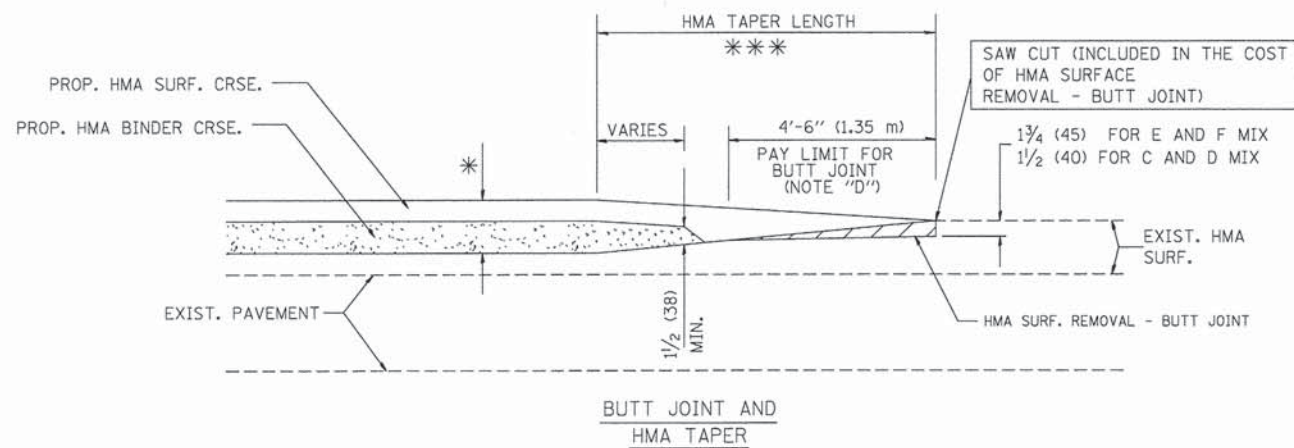


OPTION 1

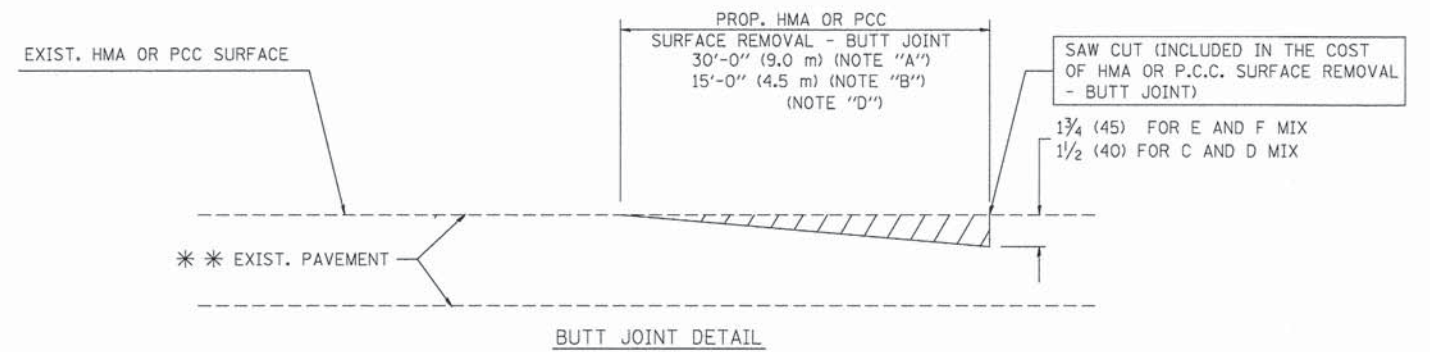


OPTION 2

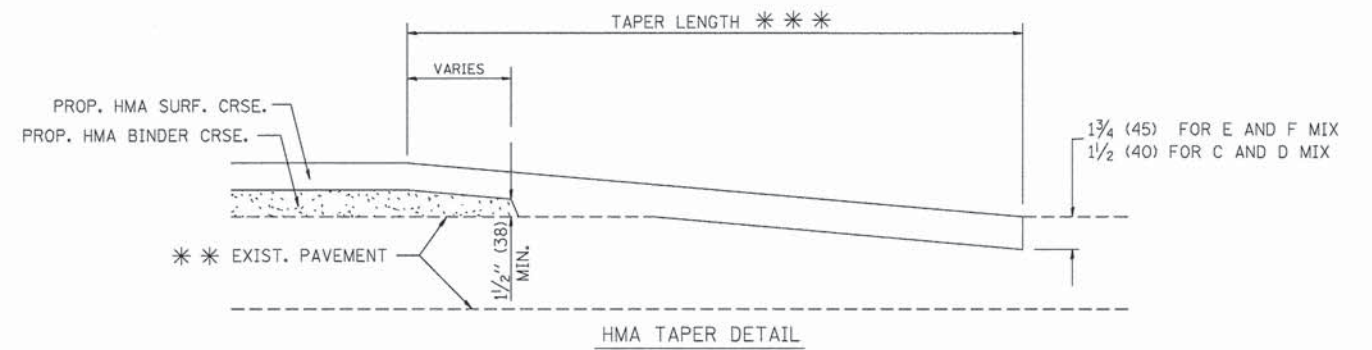
TYPICAL TEMPORARY RAMP



TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING



BUTT JOINT DETAIL



HMA TAPER DETAIL

TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

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

NOTES

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

* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.

*** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

BASIS OF PAYMENT:

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

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

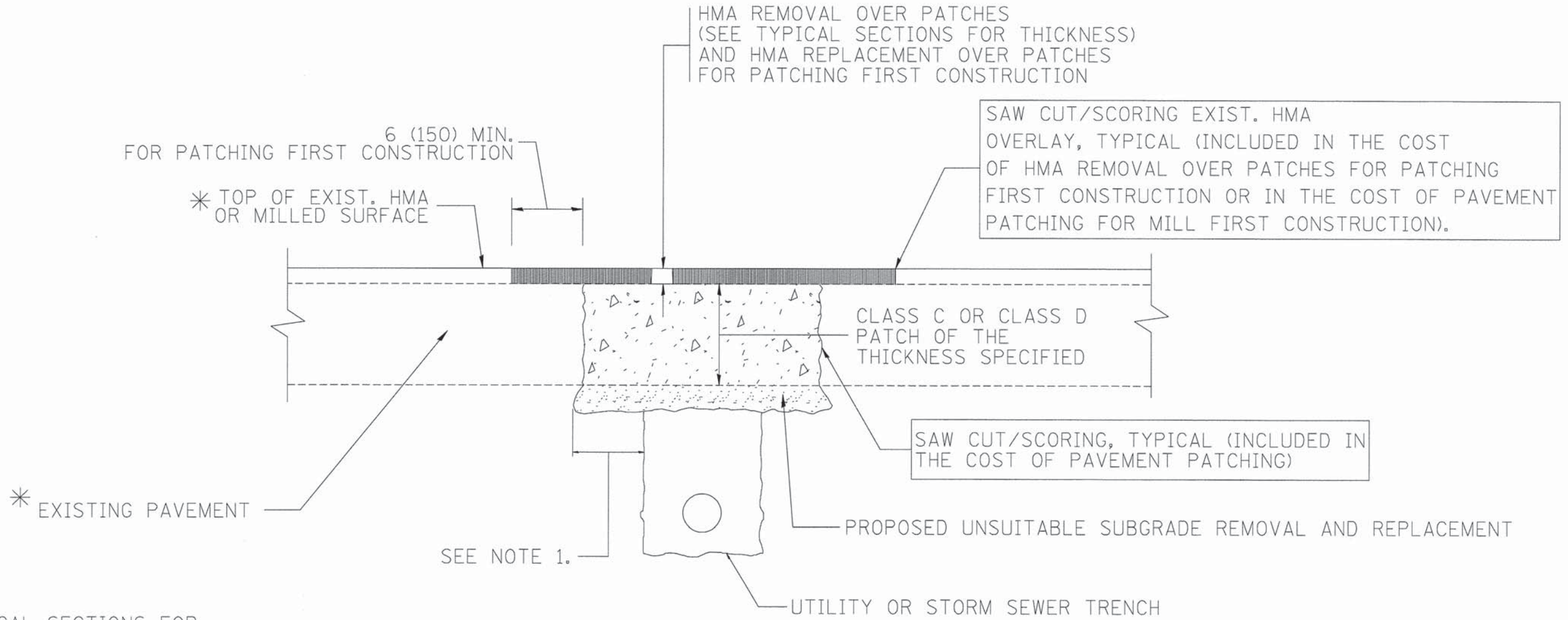
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		DRAWN -	REVISED - A. ABBAS 03-21-97
	PLOT SCALE = 50,0000' / IN.	CHECKED -	REVISED - M. GOMEZ 04-06-01
	PLOT DATE = 1/4/2008	DATE - 06-13-90	REVISED - R. BORO 01-01-07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
BUTT JOINT AND HMA TAPER
DETAILS

SCALE: NONE SHEET NO. 9 OF 22 SHEETS STA. TO STA.

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1607	13-00098-00-RS	COOK	22	9
BD400-05 BD32		CONTRACT NO. 63856		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-4003 (195)				



* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

NOTES:

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

SEQUENCE OF CONSTRUCTION (PATCHING FIRST)

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

SEQUENCE OF CONSTRUCTION (MILLING FIRST)

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

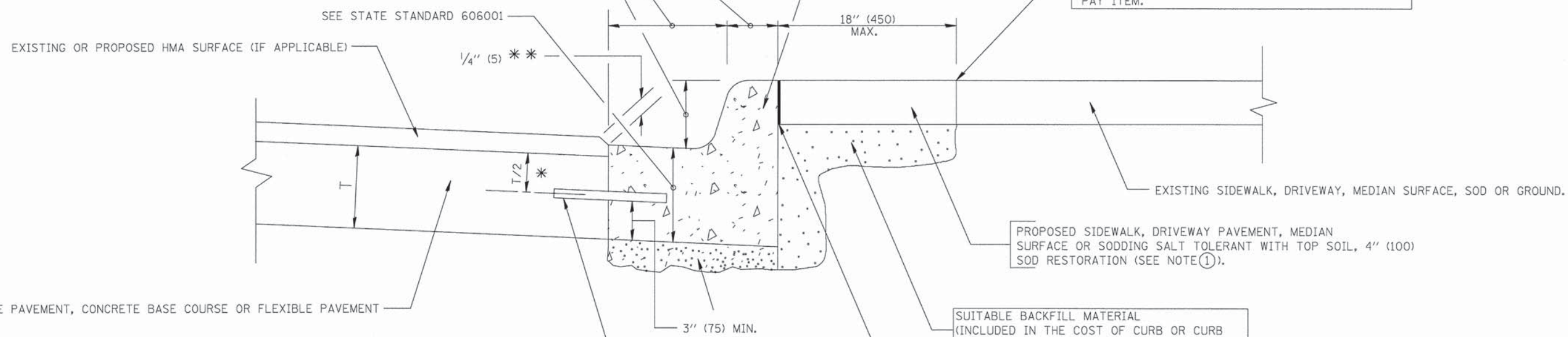
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = c:\projects\dststd22x34\bd22.dgn	USER NAME = bauerdl	DESIGNED - R. SHAH	REVISED - A. ABBAS 04-27-98	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - R. BORO 01-01-07		1607	13-00098-00-RS	COOK	22	10			
		PLDT SCALE = 50.000' / IN.	REVISED - R. BORO 09-04-07		BD400-04 (BD-22)		CONTRACT NO. 63856					
		PLDT DATE = 10/27/2008	REVISED - K. ENG 10-27-08		SCALE: NONE	SHEET NO. 10 OF 22 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	M-4003 (195)

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

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

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



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

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

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

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

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

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

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

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

- * 3" (75) MINIMUM FROM TOP AND BOTTOM OF THE CONCRETE PAVEMENT OR BASE COURSE.
- ** IF THE FINAL SURFACE OF THE PAVEMENT IS CONCRETE, THE GUTTER IS TO BE FLUSH WITH THE PAVEMENT.

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

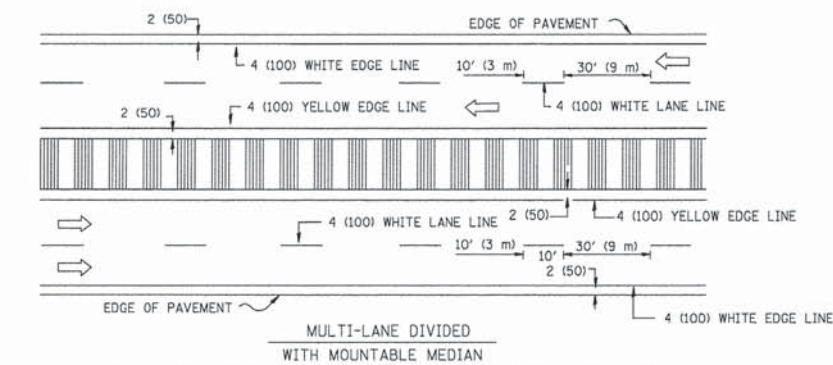
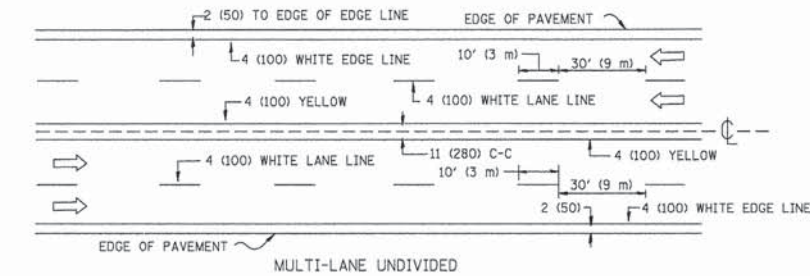
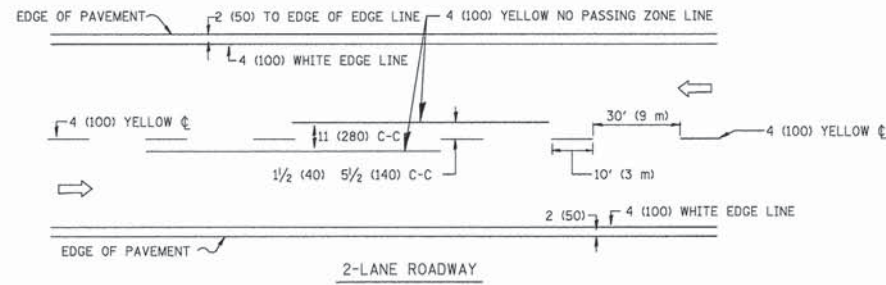
SODDING, SALT TOLERANT AND TOP SOIL, FURNISH AND PLACE 4" WILL BE PAID FOR SEPARATELY,

- ② FERTILIZER FOR THE PLACEMENT OF THE SOD IS NOT REQUIRED
- ③ CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.
- ④ FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.
- ⑤ LONGITUDINAL BARS, IF ENCOUNTERED IN THE EXISTING CURB OR CURB AND GUTTER, ARE NOT TO BE REPLACED. CUTTING AND REMOVING LONGITUDINAL BARS SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.
- ⑥ THE COST OF HMA SURFACE REMOVAL IN THE EXISTING GUTTER FLAG SHALL BE INCLUDED IN THE COST OF THE CURB AND GUTTER REMOVAL AND REPLACEMENT.
- ⑦ THE REMOVAL AND REPLACEMENT OF THE EXISTING CURB OR CURB AND GUTTER SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 440 AND 606 OF THE STANDARD SPECIFICATIONS.
- ⑧ THE LOCATIONS OF REMOVAL AND REPLACEMENT OF EXISTING CURB OR CURB AND GUTTER SHALL BE DETERMINED BY THE RESIDENT ENGINEER AT THE TIME OF CONSTRUCTION.

CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

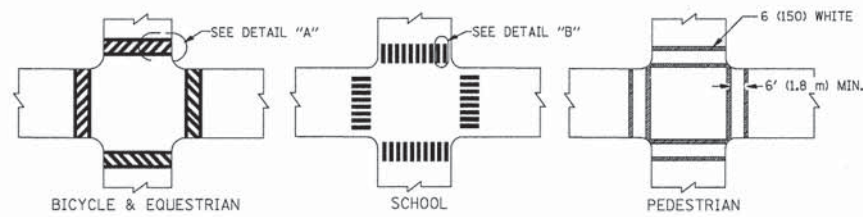
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = drvakosgn	DESIGNED - A. HOUSEH	REVISED - R. SHAH 10-03-96	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
os\pw\work\p\sidot\drvakosgn\d0106315\bd24.dgn	DRAWN -	REVISED - A. ABBAS 03-21-97	1607			13-00098-00-RS	COOK	22	11	
PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED - M. GOMEZ 01-22-01	BD600-06 (BD-24)			CONTRACT NO. 63856				
PLOT DATE = 12/15/2009	DATE - 03-11-94	REVISED - R. BORO 12-15-09	SCALE: NONE			SHEET NO. 11 OF 22 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-4003 (195)		

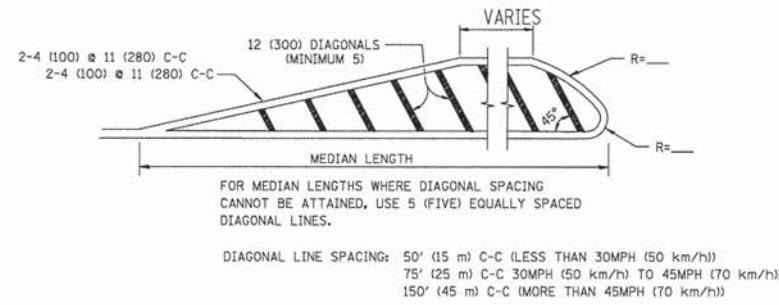
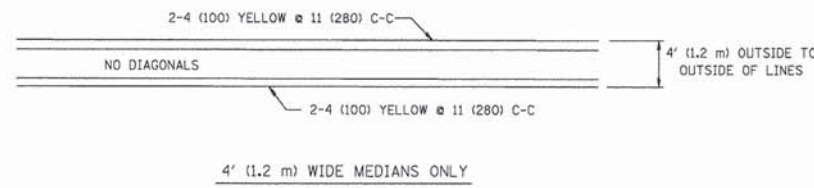


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

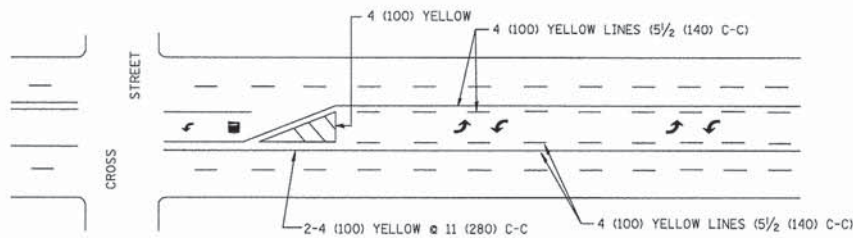
TYPICAL LANE AND EDGE LINE MARKING



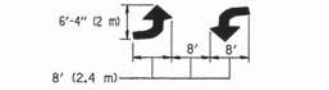
TYPICAL CROSSWALK MARKING



MEDIANS OVER 4' (1.2 m) WIDE

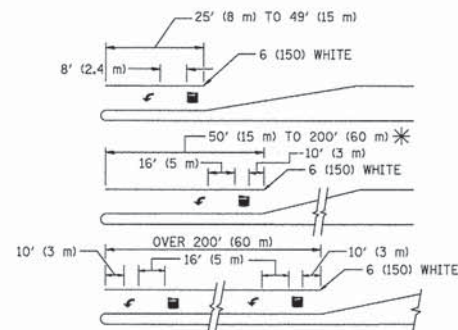


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

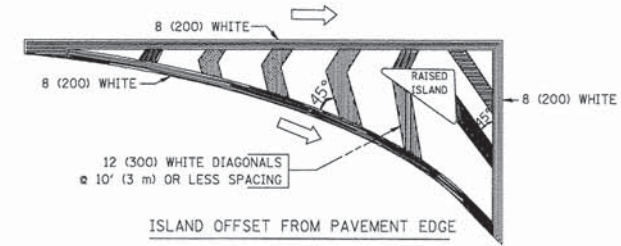


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED. AREA = 15.6 SQ. FT. (1.5 m²) ONLY AREA = 20.8 SQ. FT. (1.9 m²)

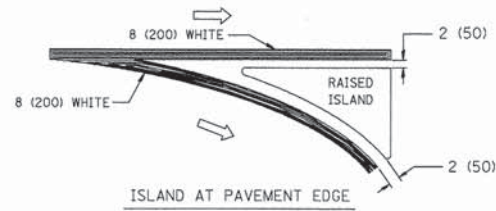
* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

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	4 (100)	SOLID	YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE
NO PASSING ZONE LINES: FOR BOTH DIRECTIONS	2 @ 4 (100)	SOLID	YELLOW	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	SKIP-DASH AND SOLID	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE
	8' (2.4m) LEFT ARROW	IN PAIRS	WHITE	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°	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
	NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS			
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m ²) EACH "X"=54.0 SQ. FT. (5.0 m ²)
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

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

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

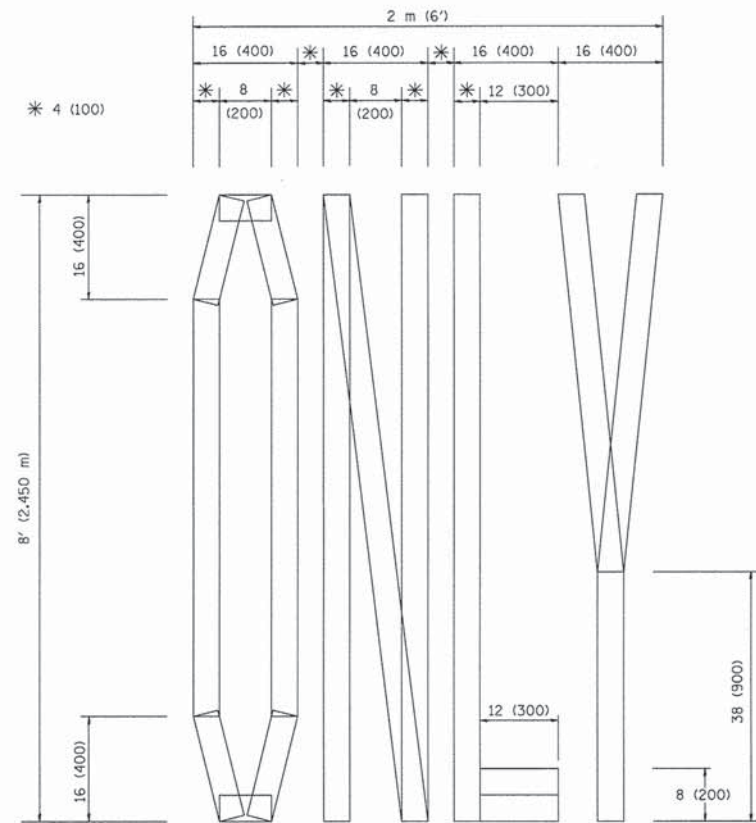
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		CHECKED -	REVISED -
PLOT SCALE = 5/8" = 1' IN.		DATE - 03-19-90	REVISED -
PLOT DATE = 9/9/2009			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

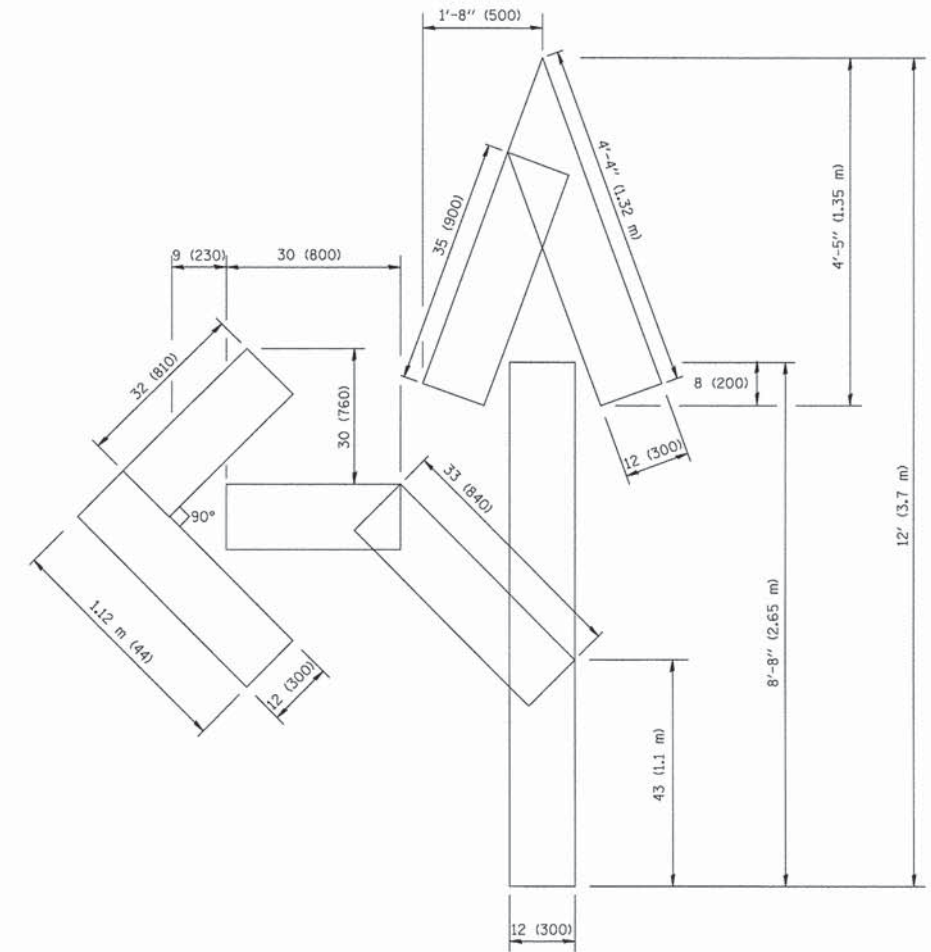
DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

SCALE: NONE SHEET NO. 12 OF 22 SHEETS STA. TO STA.

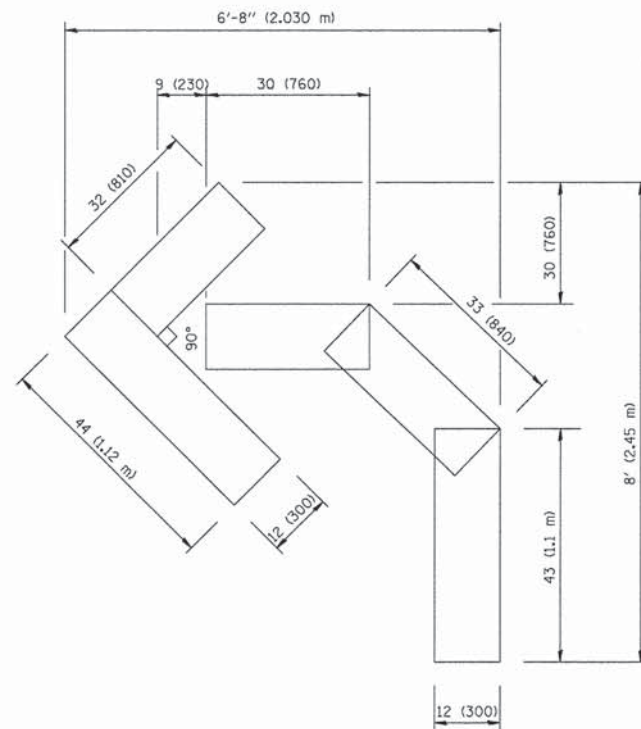
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1607	13-00098-00-RS	COOK	22	12
TC-13			CONTRACT NO. 63856	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT M-4003 (195)		



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



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



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

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

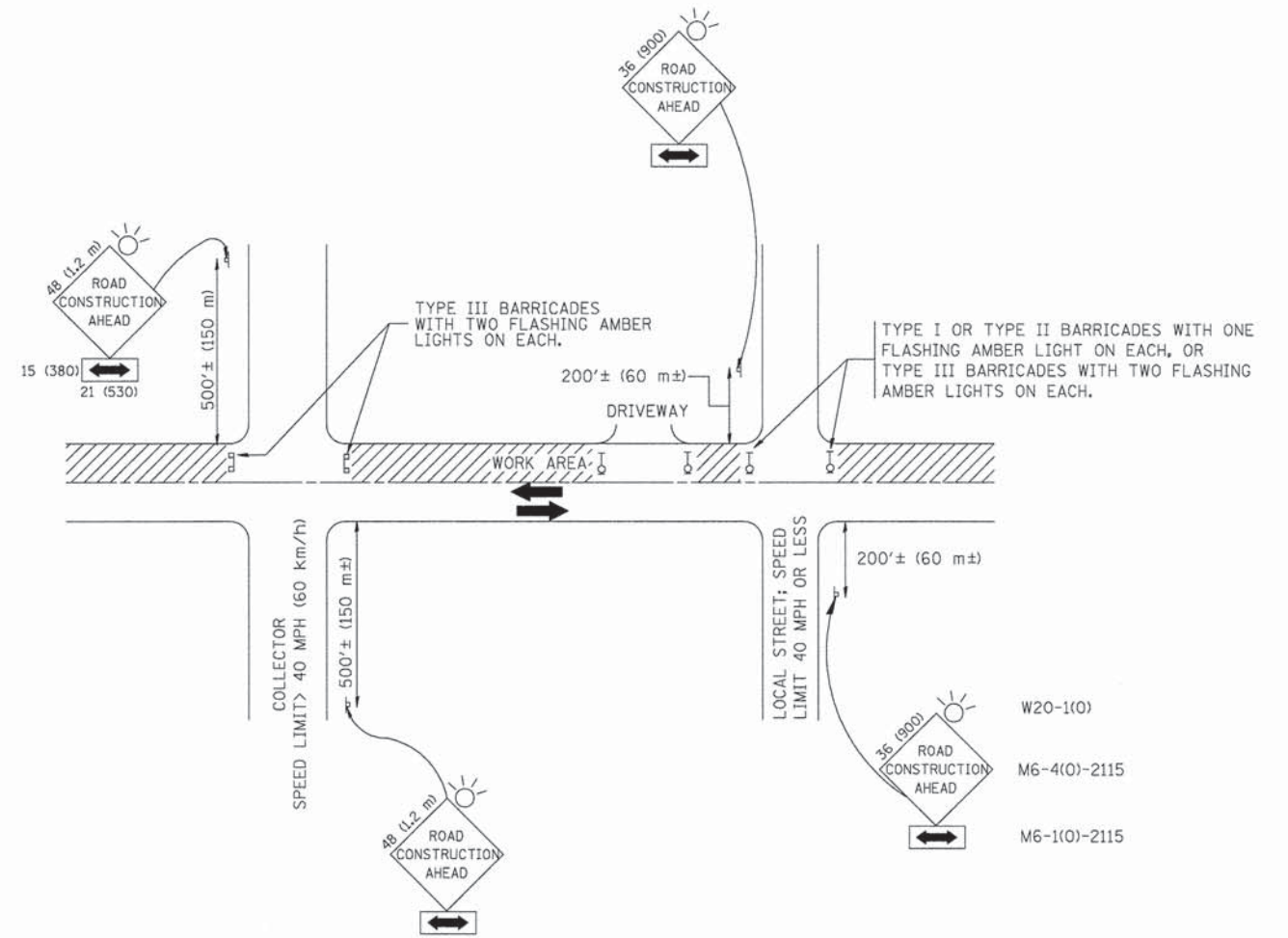
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		DRAWN -	REVISED -T. RAMMACHER 11-04-97
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	PLOT DATE = 1/4/2008	DATE = 09-18-94	REVISED -E. GOMEZ 08-28-00

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

DISTRICT ONE - PAVEMENT MARKING LETTERS AND
 SYMBOLS FOR TRAFFIC STAGING

SCALE: NONE SHEET NO. 13 OF 22 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1607	13-00098-00-RS	COOK	22	13
TC-16			CONTRACT NO. 63856	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-4003 (195)				



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

NOTES:

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

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

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

- USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
- C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
- D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

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	DRAWN -		REVISED - A. HOUSEH 03-06-96
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 1/4/2008	DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

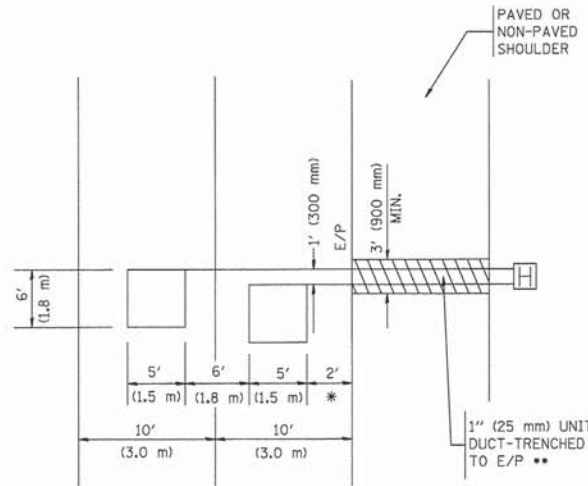
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE			
TRAFFIC CONTROL AND PROTECTION FOR			
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS			
SCALE: NONE	SHEET NO. 14 OF 22 SHEETS	STA.	TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1607	13-00098-00-RS	COOK	22	14
TC-10			CONTRACT NO. 63856	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	M-4003 (195)	

LOOPS NEXT TO SHOULDERS

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

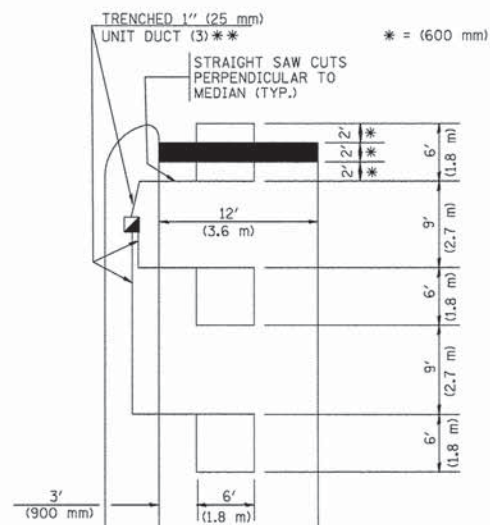


* = (600 mm)

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

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

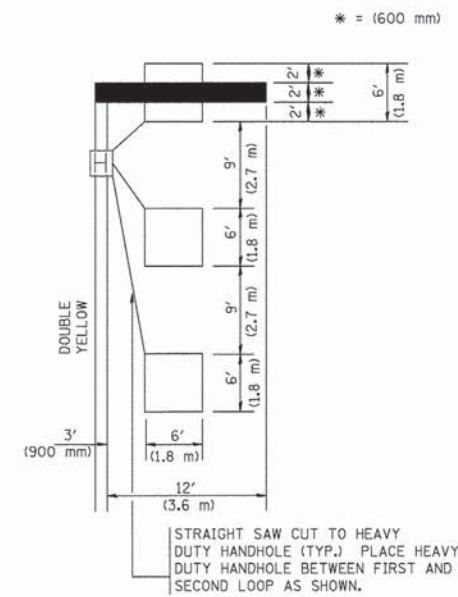
HANDHOLE LOCATION MAY VARY DEPENDING ON GEOMETRICS AND DESIGN OF TRAFFIC SIGNALS. HEAVY-DUTY HANDHOLES TO BE USED WHEN THE MEDIAN IS MOUNTABLE. REFER TO STANDARD 814001 TO ENSURE THAT HANDHOLE FITS IN MEDIAN.



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

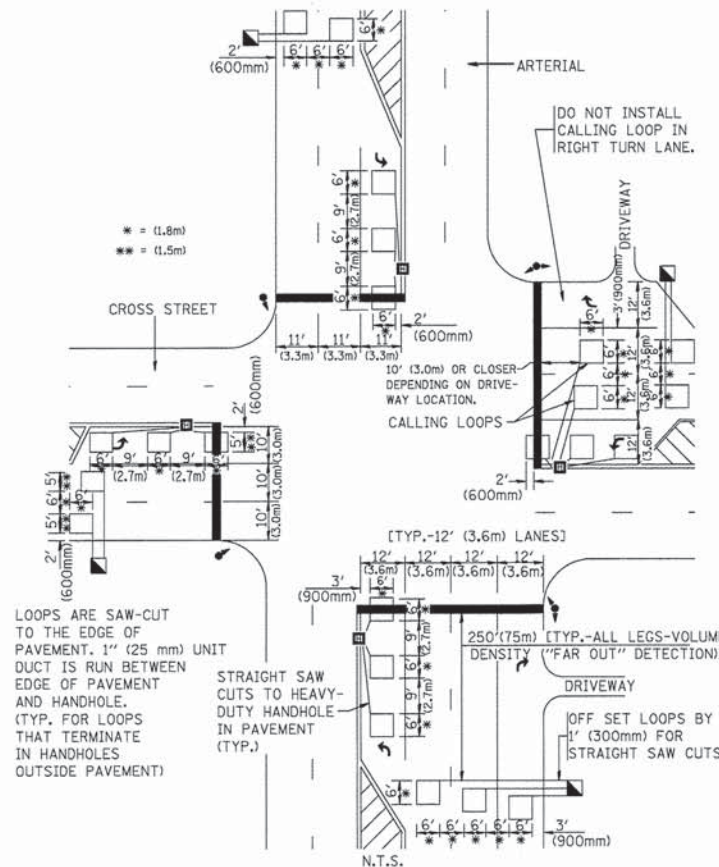
NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

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



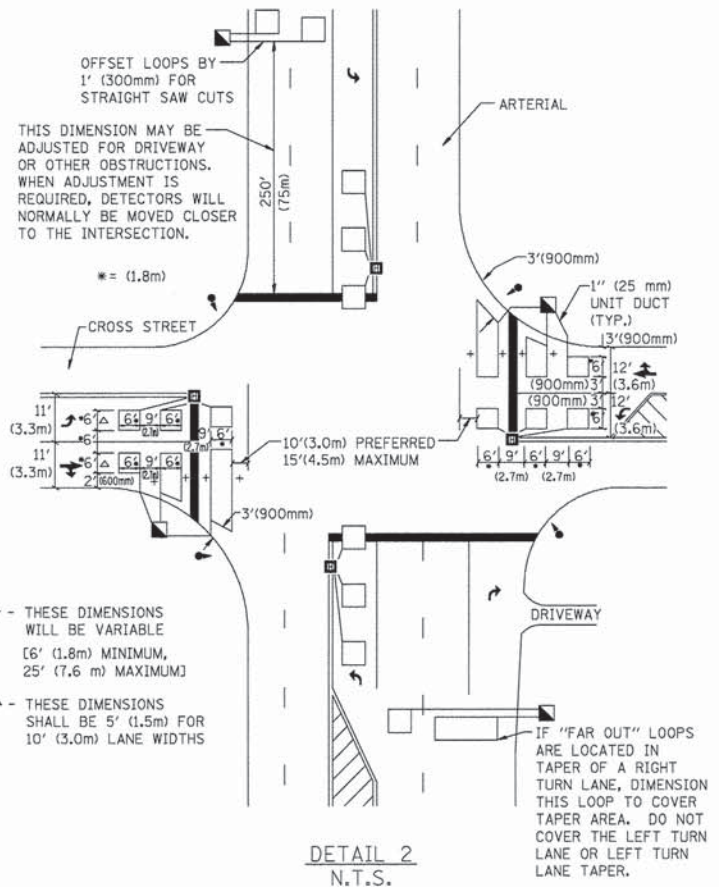
NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

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



DETAIL 1
N.T.S.

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



DETAIL 2
N.T.S.

NOTES:

VEHICLES LOOP DETECTORS

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

PLACEMENT OF DETECTORS

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

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

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

NOTE:

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

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

FILE NAME =
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DESIGNED -
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PLOT SCALE = 58.0000 / / IN.
PLOT DATE = 1/4/2008

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CHECKED - R.K.F.
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE - DETECTOR LOOP INSTALLATION
DETAILS FOR ROADWAY RESURFACING

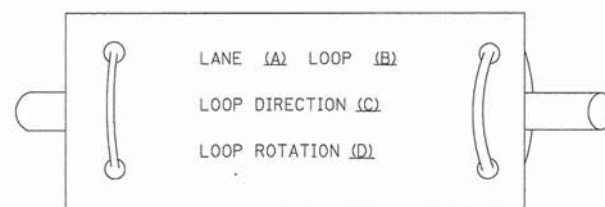
SCALE: NONE SHEET NO. 15 OF 22 SHEETS STA. TO STA.

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1607	13-00098-00-RS	COOK	22	15
TS-07		CONTRACT NO. 63856		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	M-4003 (195)	

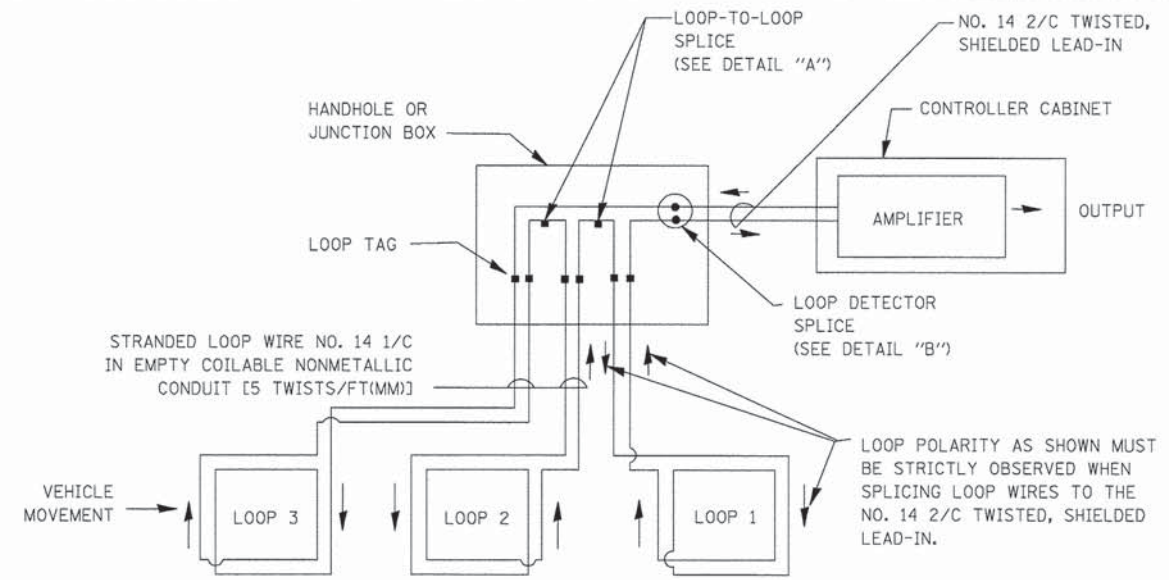
LOOP DETECTOR NOTES

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

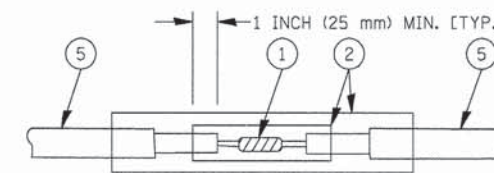


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

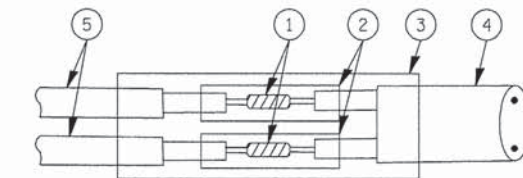


DETECTOR LOOP WIRING SCHEMATIC

- 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.

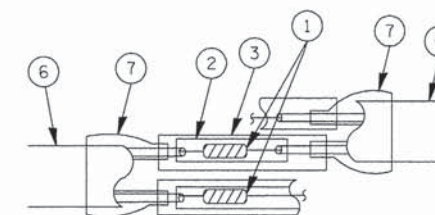


DETAIL "A" LOOP-TO-LOOP SPLICE



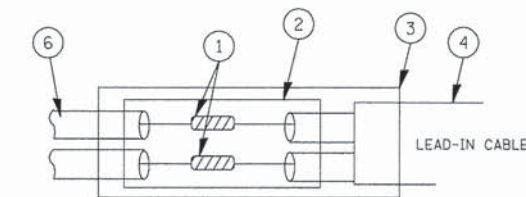
DETAIL "B" LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP



DETAIL "A" LOOP-TO-LOOP SPLICE

PREFORMED 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.
- 2 WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- 3 WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- 4 NO. 14 2/C TWISTED, SHIELDED CABLE.
- 5 LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- 6 PREFORMED LOOP
- 7 XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL

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USER NAME ==	DESIGNED -- DAD	REVISION --
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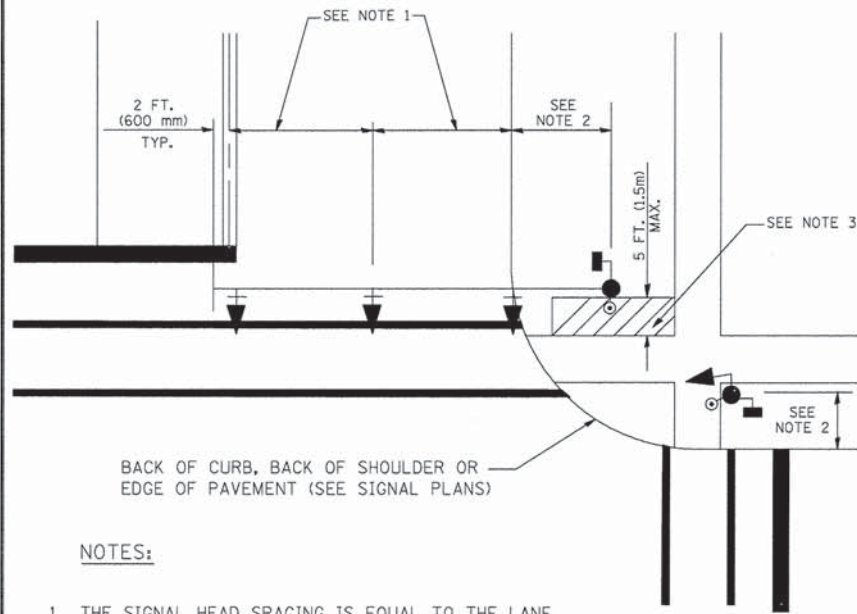
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

DISTRICT ONE		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
STANDARD TRAFFIC SIGNAL DESIGN DETAILS		1607	13-00098-00-RS	COOK	21	16
SCALE:		SHEET NO. 16 OF 21 SHEETS		STA.	TO STA.	

TS-05		FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT M-4003 (195)
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TRAFFIC SIGNAL MAST ARM AND SIGNAL POST

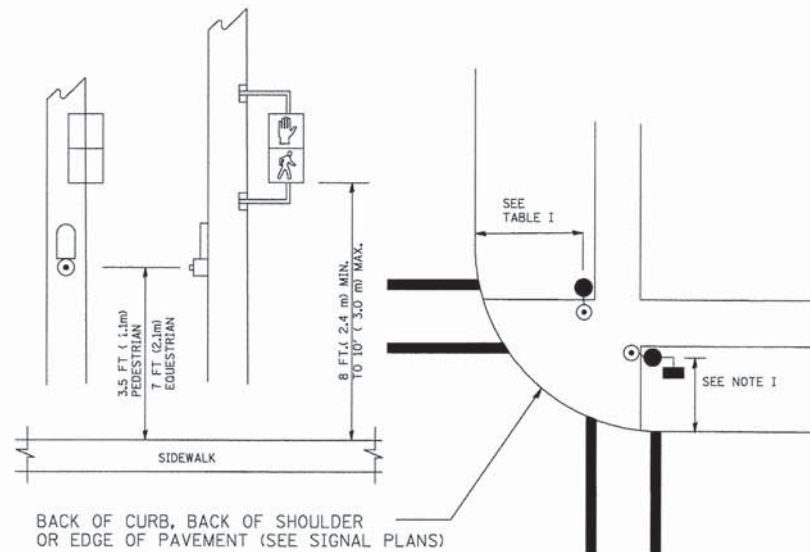
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



NOTES:

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

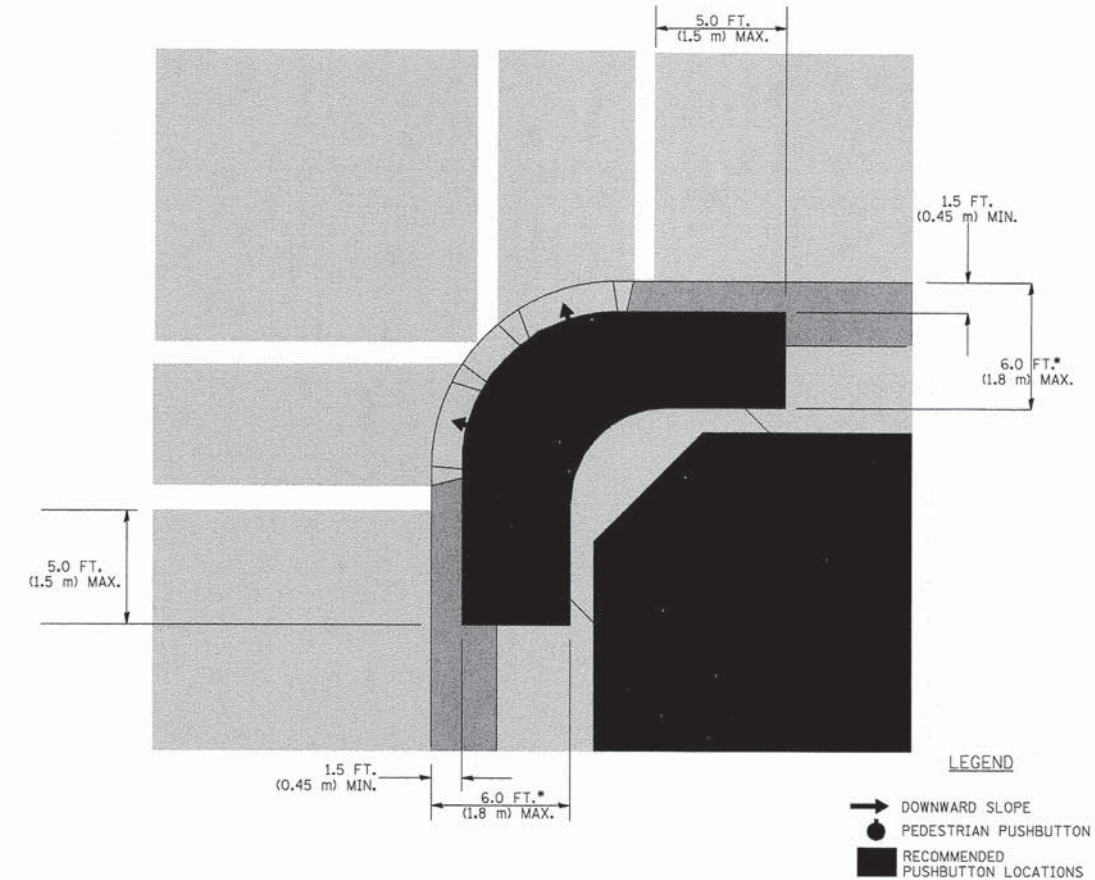
PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST



NOTES:

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

RECOMMENDED PUSHBUTTON LOCATIONS



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

NOTES:

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

TRAFFIC SIGNAL EQUIPMENT OFFSET

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

NOTES:

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

FILE NUMBER 18275-DTIS-02 - IDOT P01 (2)
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 DRAWN -- DAD
 PLOT DATE = 08-25-13
 CHECKED -- 10-28-09

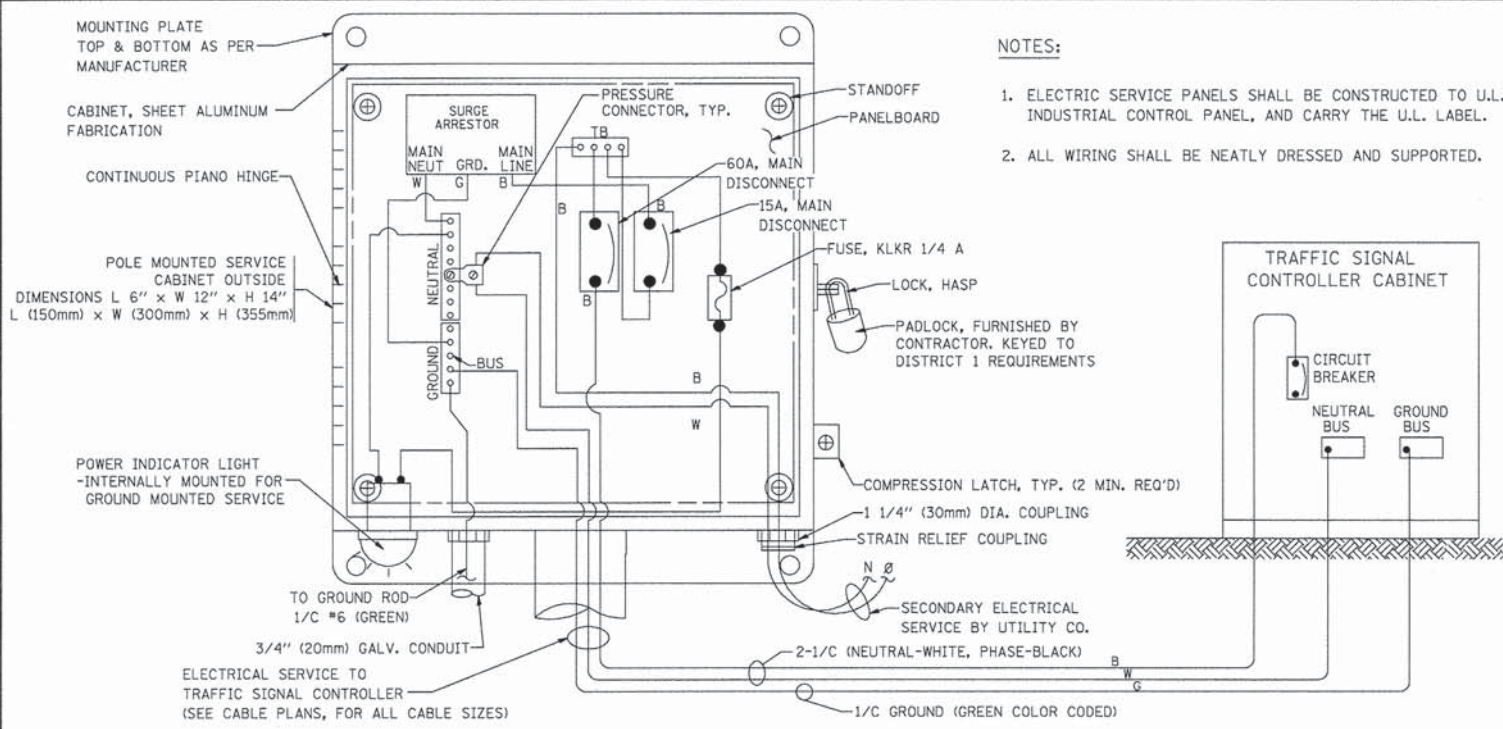
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

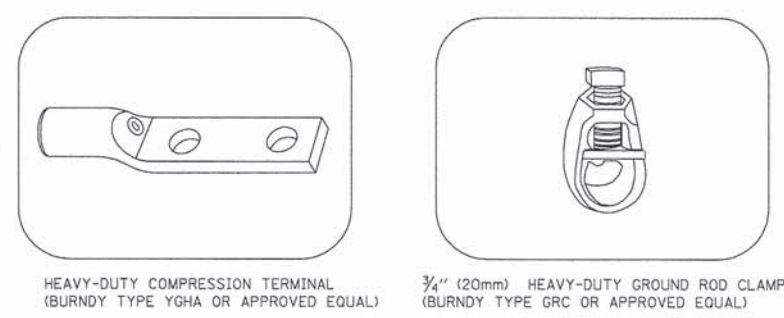
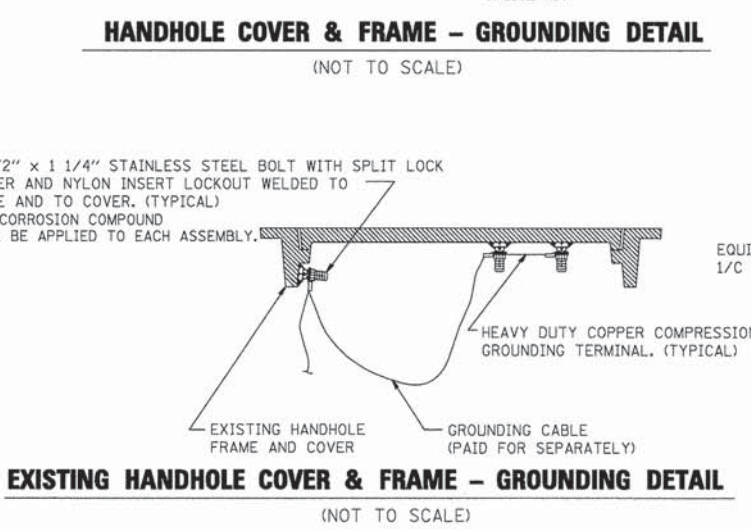
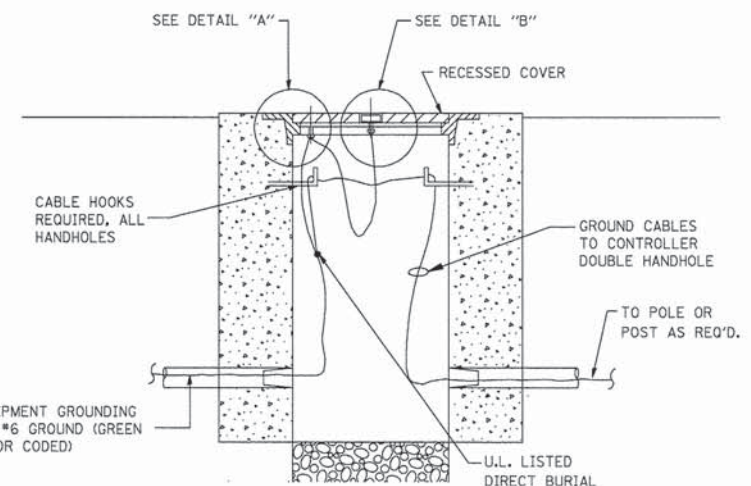
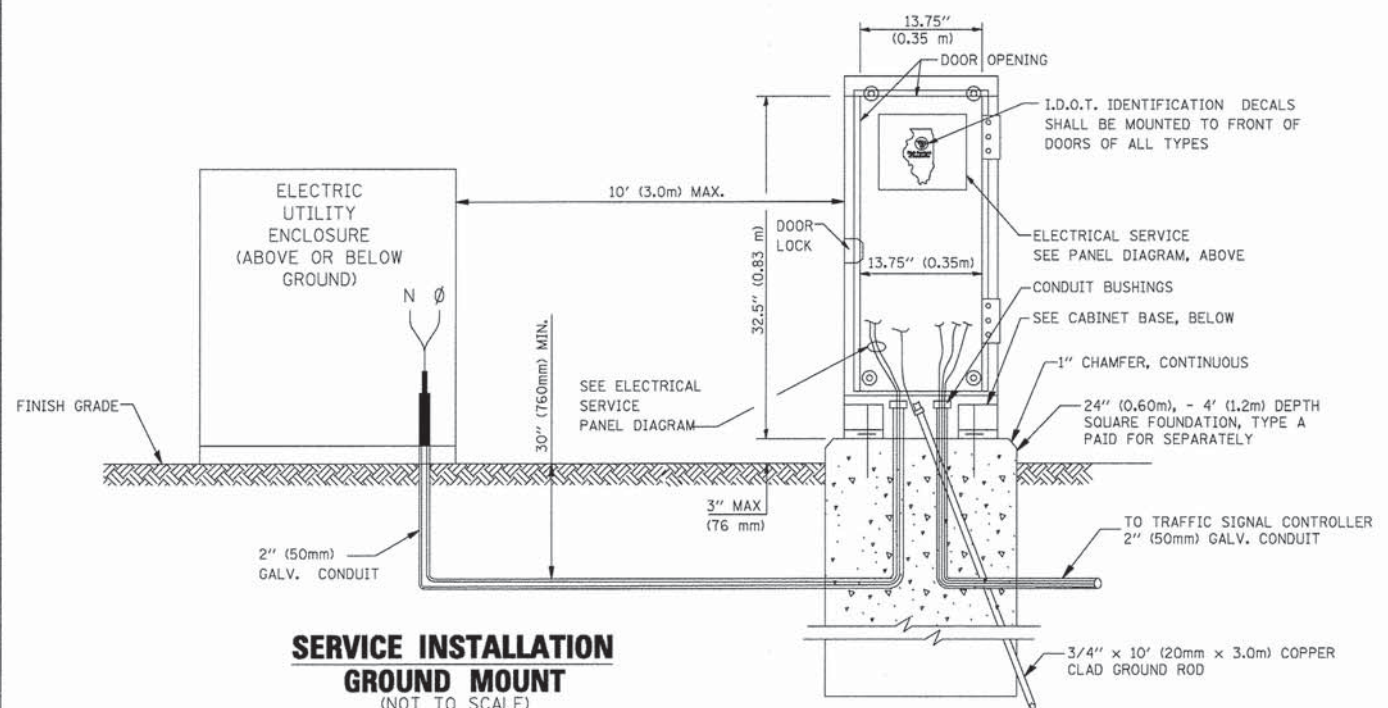
DISTRICT ONE
 STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: SHEET NO. 17 OF 21 SHEETS STA. TO STA.

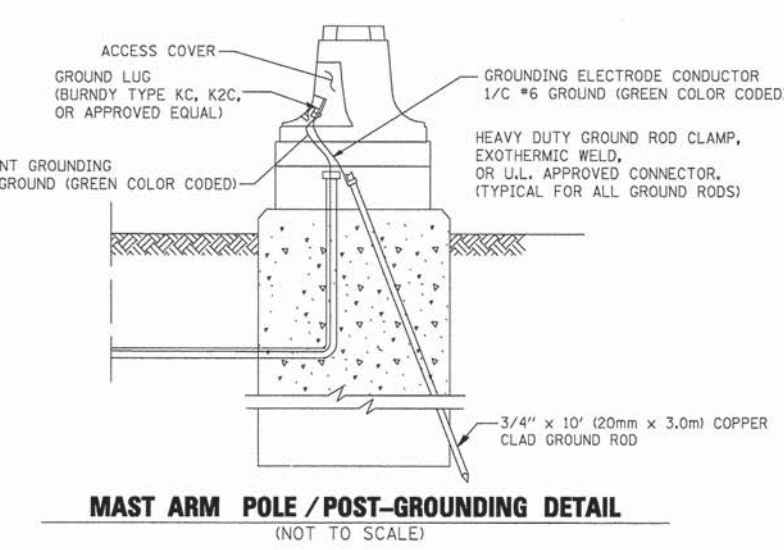
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1607	13-00098-00-RS	COOK	21	17
TS-05				
CONTRACT NO. 63856				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-4003 (195)				



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



- 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.



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.

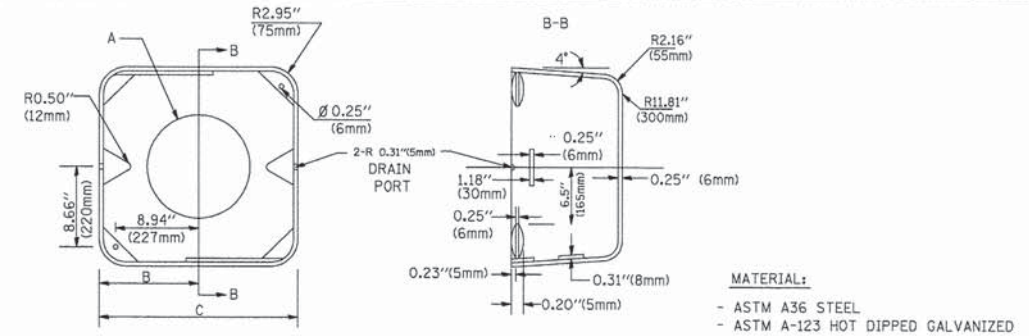
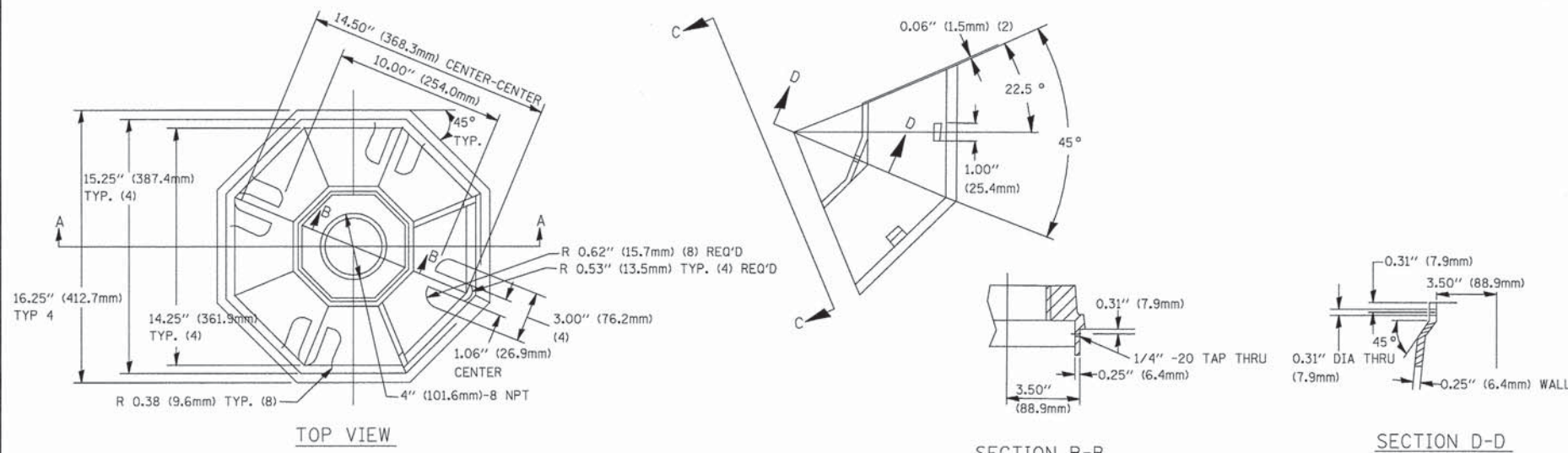
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	PLOT SCALE =	DRAWN - DAD	REVISED -
	PLOT DATE = 06-25-13	CHECKED - 10-28-09	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
 STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: SHEET NO. 18 OF 21 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1607	13-00098-00-RS	COOK	21	18
FED. ROAD DIST. NO. 1 ILLINOIS			CONTRACT NO. 63856	
FED. AID PROJECT M-4003 (195)				

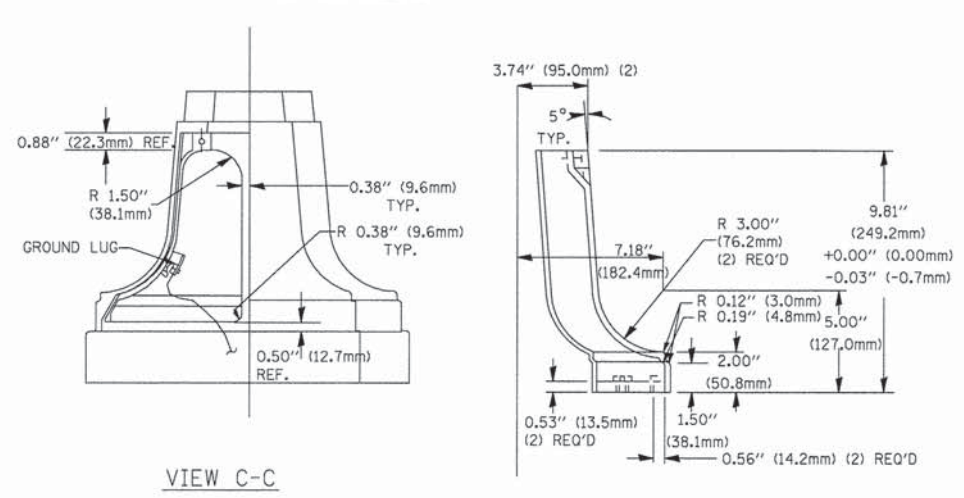
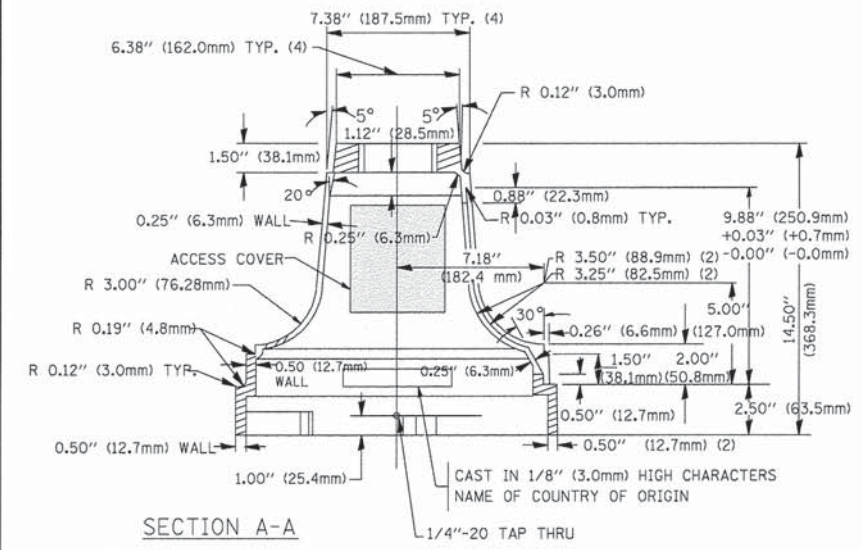


A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5\"(241mm)	19\"(483mm)	7\"(178mm) - 12\"(300mm)	53 lbs (24kg)
VARIABLES	10.75\"(273mm)	21.5\"(546mm)	7\"(178mm) - 12\"(300mm)	68 lbs (31 kg)
VARIABLES	13.0\"(330mm)	26\"(660mm)	7\"(178mm) - 12\"(300mm)	81 lbs (37 kg)
VARIABLES	18.5\"(470mm)	37\"(940mm)	7\"(178mm) - 12\"(300mm)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

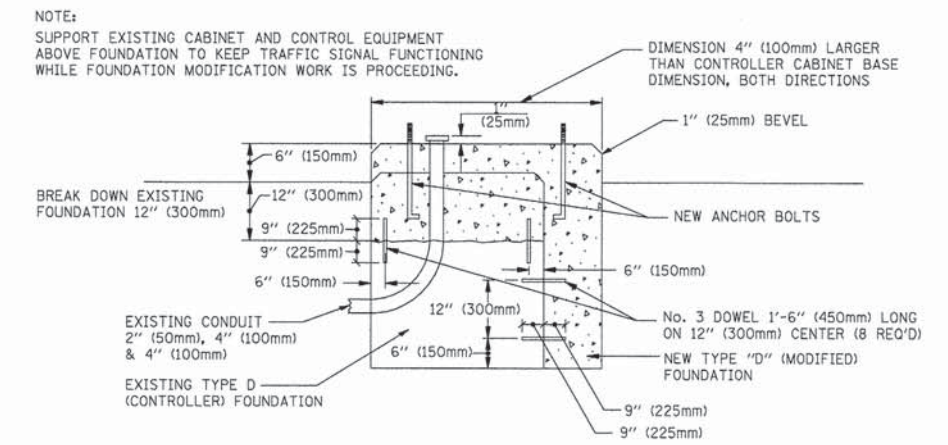
SHROUD

NOTES:

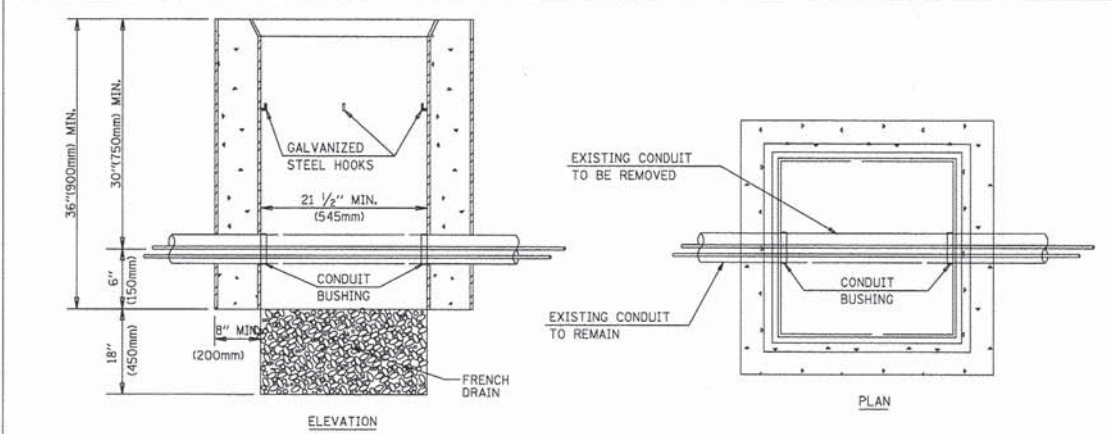
- DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
- THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
- THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.



TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A



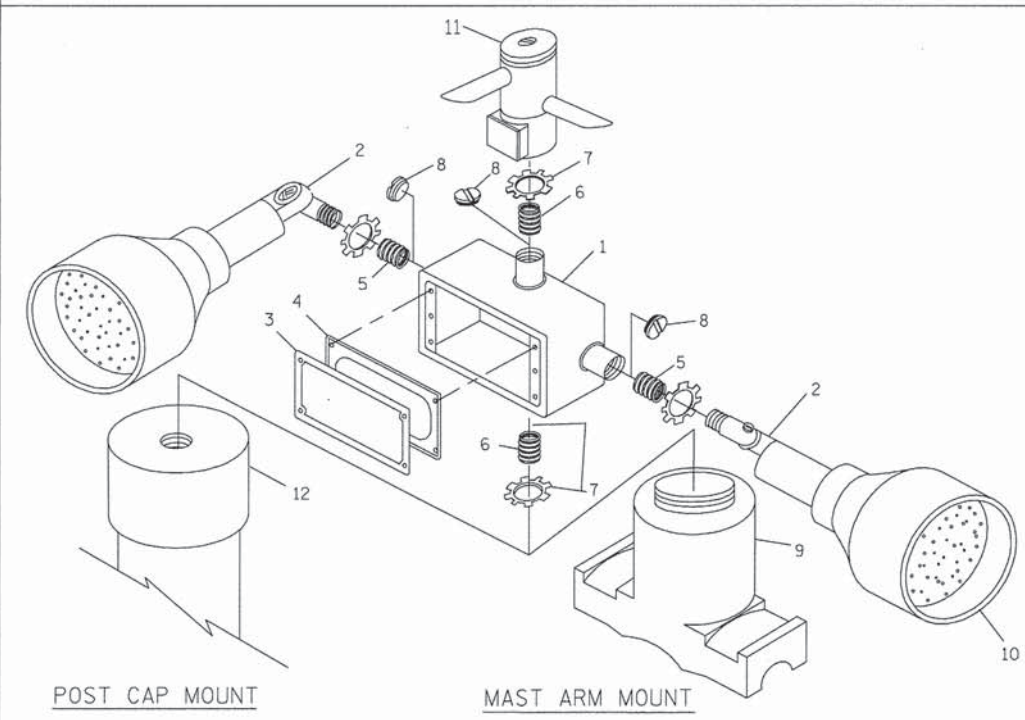
MODIFY EXISTING TYPE "D" FOUNDATION



NOTES:

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

HANDHOLE TO INTERCEPT EXISTING CONDUIT

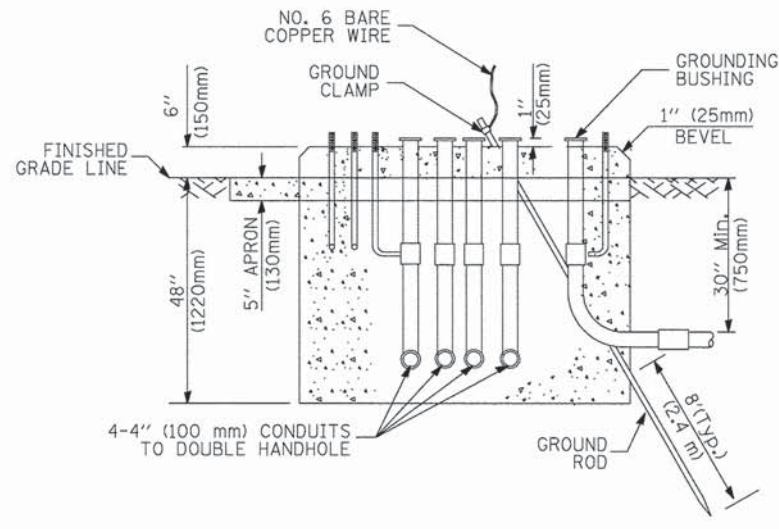
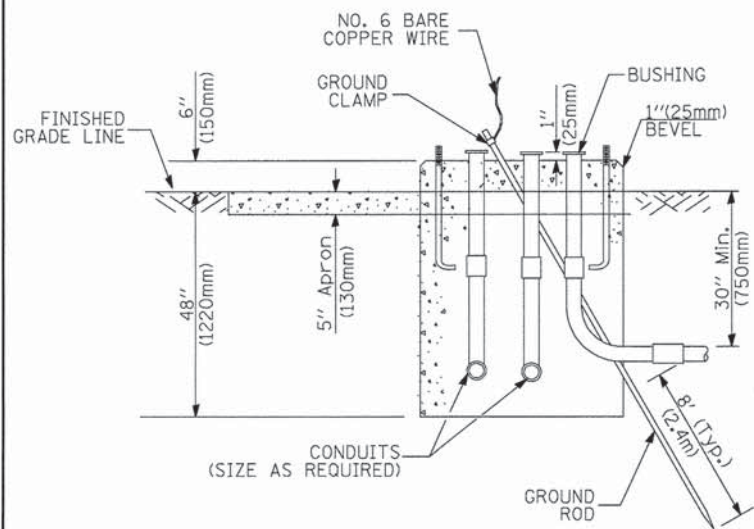
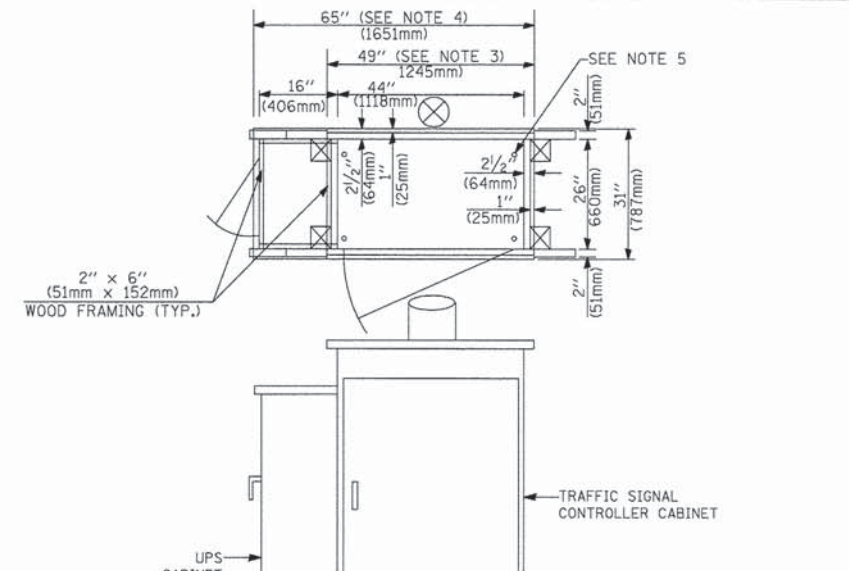
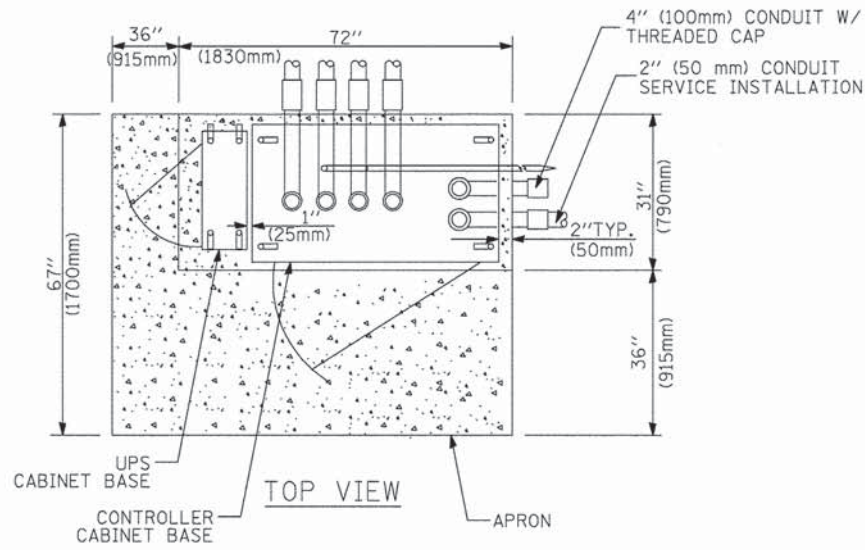
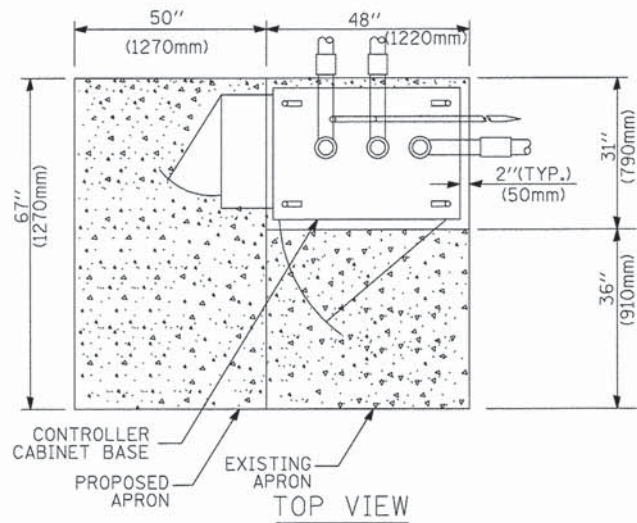


ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\"(19 mm) CLOSE NIPPLE
7	3/4\"(19 mm) LOCKNUT
8	3/4\"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT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

NOTES:

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

EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL



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

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

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**

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)
	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

NOTES:

1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (Q_u) > 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

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

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1607	13-00098-00-RS	COOK	21	20

SCALE: SHEET NO. 20 OF 21 SHEETS STA. TO STA.

TS-05
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-4003 (195)

FILENAME: 18275-DTL5-02 - IDOT P01 (5)
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USER NAME	DESIGNED	REVISION
=	— DAG	—
	CHECKED — BCK	REVISION —
	DRAWN — DAD	REVISION —
PLOT DATE = 06-25-13	CHECKED — 10-28-09	REVISION —

TRAFFIC SIGNAL LEGEND

ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE			
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE			
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA			
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED			
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F			
UNINTERRUPTIBLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F			
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P)				FIBER OPTIC CABLE NO. 62.5/125, MM12F 5M12F			
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)			
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE			
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM		S	S	STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM		I	IP	ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED			
SIGNAL POST				REMOVE ITEM	R			STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED			
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM	RL			SIGNAL POST AND FOUNDATION TO BE REMOVED			
GUY WIRE				ABANDON ITEM	A			INTERSECTION & SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				EXISTING INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				EXISTING PREFORMED INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				PREFORMED SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED				RAILROAD SYMBOLS			
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID				RAILROAD CONTROL CABINET			
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER				RAILROAD CANTILEVER MAST ARM			
ILLUMINATED SIGN "NO LEFT TURN"				RADIO INTERCONNECT				FLASHING SIGNAL			
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO REPEATER				CROSSING GATE			
DETECTOR LOOP, TYPE I				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED				CROSSBUCK			
PREFORMED DETECTOR LOOP				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)							
MICROWAVE VEHICLE SENSOR											
VIDEO DETECTION CAMERA											
VIDEO DETECTION ZONE											
PAN, TILT, ZOOM CAMERA											
WIRELESS DETECTOR SENSOR											
WIRELESS ACCESS POINT											