

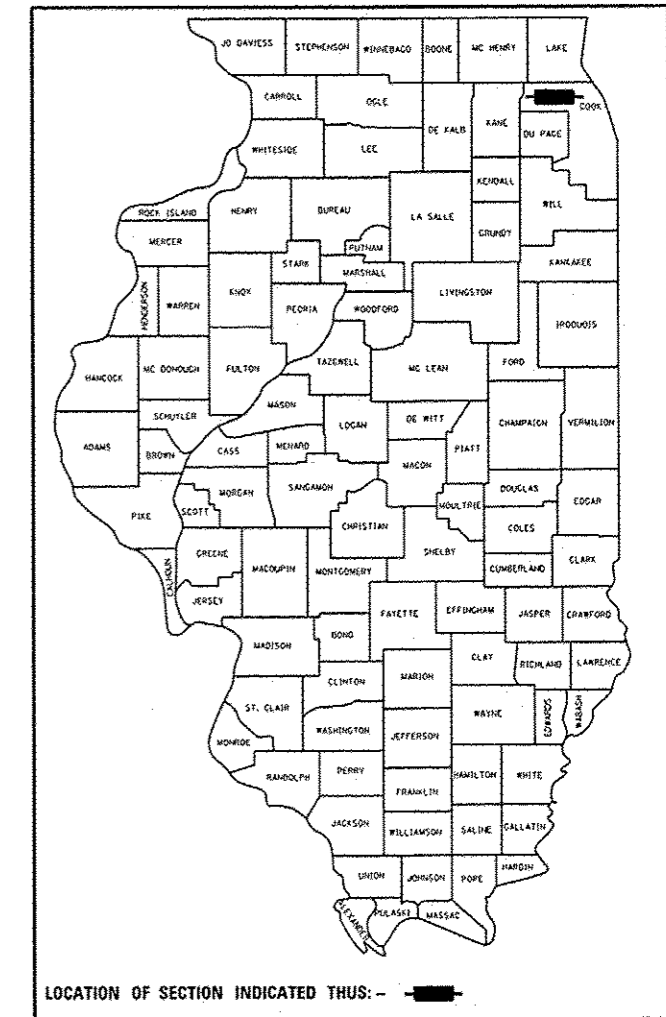
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FOR INDEX OF SHEETS, SEE SHEET NO. 2

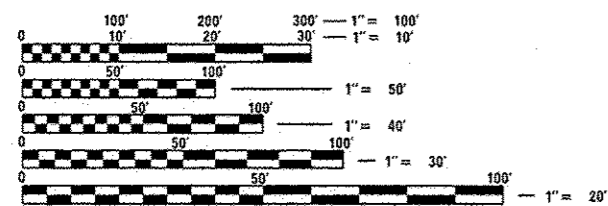
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	1
		ILLINOIS	CONTRACT NO. 62A11	

D-91-067-15



THIS PROJECT IS LOCATED IN:  
THE VILLAGE OF HOFFMAN ESTATES  
THE VILLAGE OF INVERNESS  
THE VILLAGE OF SOUTH BARRINGTON

**F.A.P. ROUTE 339: WESTBOUND IL ROUTE 62 (ALGONQUIN ROAD)  
SECTION: 116(R&R-3)PCC-PP-1  
PENNY ROAD TO WEST OF ROSELLE ROAD  
PAVEMENT PATCHING AND DIAMOND GRINDING  
COOK COUNTY  
C-91-067-15**

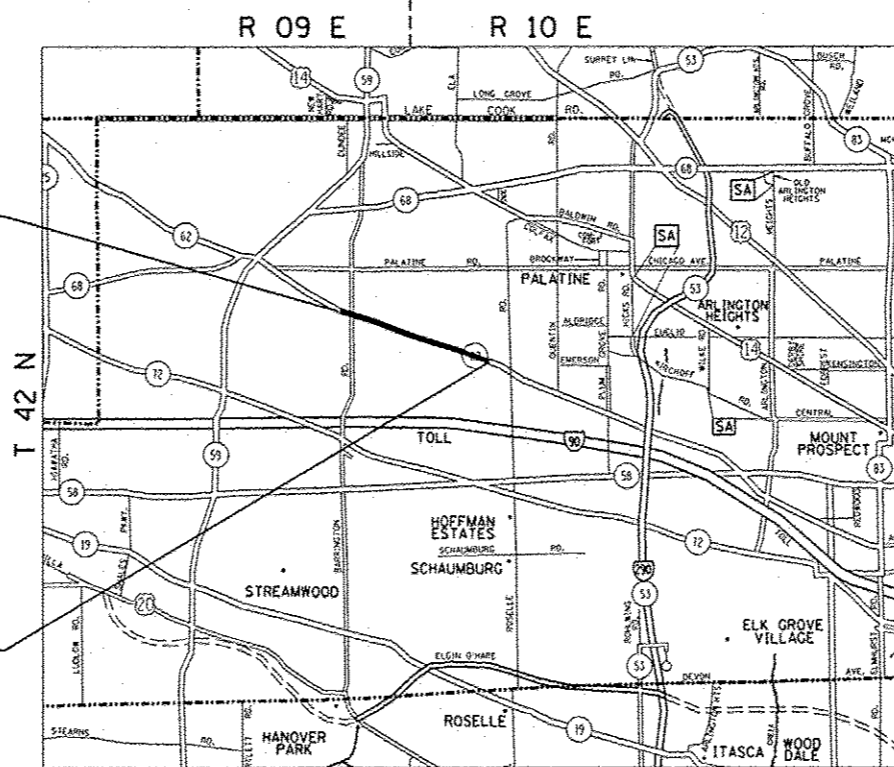


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

PROJECT BEGINS  
STA 18+35

PROJECT ENDS  
STA 205+00



LOCATION MAP (NOT TO SCALE)

TRAFFIC DATA:  
2013 ADT = 29,100  
SPEED LIMIT = 45 MPH

BARRINGTON TOWNSHIP | PALATINE TOWNSHIP  
GROSS AND NET LENGTH = 18,665 FT. = 3.54 MILES

PROJECT ENGINEER: DAN WILGREEN / (847) 705-4240  
PROJECT MANAGER: KEN ENG

CONTRACT NO. 62A11

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED *April 7, 2015*  
*John Felton*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

*May 8, 2015*  
*John D. Baranzoni* P.E.  
ENGINEER OF DESIGN AND ENVIRONMENT

*May 8, 2015*  
*Chris Osman* P.E.  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

STATE STANDARDS

GENERAL NOTES

<u>SHEET NO.</u>	<u>DESCRIPTION</u>	<u>STANDARD NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET	000001-06	TYPICAL SYMBOLS, ABBREVIATIONS AND PATTERNS
2	INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES	420001-08	PAVEMENT JOINTS
3-4	SUMMARY OF QUANTITIES	420701-02	PAVEMENT FABRIC
5	EXISTING AND PROPOSED TYPICAL SECTIONS	442101-07	CLASS B PATCHES
6-12	ROADWAY AND PAVEMENT MARKING PLANS	604091-03	FRAME AND GRATE TYPE 24
13-17	DETECTOR LOOP REPLACEMENT PLANS	606001-06	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
18	CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT (BD-24)	701101-04	OFF-RD OPERATIONS, MULTILANE, 15'(4.5 m) TO 24'(600mm) FROM PAVEMENT EDGE
19-37	PRECAST CONCRETE PAVEMENT SLABS (BD-57)	701421-07	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS $\geq$ 45 MPH TO 55 MPH
38	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS AND DRIVEWAYS (TC-10)	701426-07	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPERATIONS
39	TYPICAL APPLICATIONS: RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT) (TC-11)	701701-09	URBAN LANE CLOSURE, MULTILANE INTERSECTION
40	DISTRICT ONE TYPICAL PAVEMENT MARKINGS (TC-13)	701901-04	TRAFFIC CONTROL DEVICES
41	TRAFFIC CONTROL AND PROTECTION OF TURN BAYS (TO REMAIN OPEN TO TRAFFIC) (TC-14)	780001-05	TYPICAL PAVEMENT MARKINGS
42	PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING (TC-16)	886001-01	DETECTOR LOOP INSTALLATIONS
43	ARTERIAL ROAD INFORMATION SIGN (TC-22)	886006-01	TYPICAL LAYOUT FOR DETECTION LOOPS
44	STANDARD TRAFFIC SIGNAL DESIGN DETAILS (TS-05, SHEET 2 OF 7)		
45	DETECTOR LOOP INSTALLATION DETAIL FOR ROADWAY RESURFACING (TS-07)		

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

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND THE VILLAGES OF HOFFMAN ESTATES, IVERNESS, AND SOUTH BARRINGTON.

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

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

ALL FINAL PAVEMENT PATCHING LOCATIONS AND SIZES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

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

THE RESIDENT ENGINEER SHALL CONTACT MR. JOE ECKERT, AREA TRAFFIC FIELD ENGINEER AT (847) 705-4412 MINIMUM OF TWO (2) WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS.

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

ANY DETECTOR LOOPS DAMAGED BY PCC PATCHING SHALL BE REPLACED IN KIND. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO QUANTIFY LOOP REPLACEMENTS NEEDED AND PROVIDE THE RESIDENT ENGINEER THIS INFORMATION PRIOR TO REMOVAL.

PAVEMENT MARKING TAPE, TYPE III SHALL BE USED FOR SHORT TERM PAVEMENT MARKINGS ON ALL FINAL SURFACES. THE COST OF THE PAVEMENT MARKING TAPE TYPE III SHALL BE INCLUDED IN THE COST OF SHORT TERM PAVEMENT MARKING.

CLASS PP-3 CONCRETE IS TO BE USED FOR ALL CLASS B PATCHES.

FILE NAME: c:\pwork\avidot\pncepl\2010940\0108\15-shit-plan.dgn	USER NAME: PncePL	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>WB IL 62 (ALGONQUIN ROAD)-PENNY ROAD TO WEST OF ROSELLE ROAD INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -			339	116R&R-3PCC-PP-1	COOK	45	2	
		CHECKED -	REVISED -			CONTRACT NO. 62A11					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
Default		PLOT SCALE: 100.0000' / 1" / 1"		SCALE:	SHEET OF SHEETS	STA. TO STA.					

URBAN

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT		100% STATE					
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	78	78					
25200110	SODDING, SALT TOLERANT	SQ YD	78	78					
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	10	10					
42001300	PROTECTIVE COAT	SQ YD	400	400					
44003100	MEDIAN REMOVAL	SQ FT	442	442					
44200966	CLASS B PATCHES, TYPE I, 10 INCH	SQ YD	20	20					
44200970	CLASS B PATCHES, TYPE II, 10 INCH	SQ YD	50	50					
44201299	DOWEL BARS 1 1/2"	EACH	96	96					
44213200	SAW CUTS	FOOT	5275	5275					
60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	17	17					
60300305	FRAMES AND LIDS TO BE ADJUSTED	EACH	5	5					
60404950	FRAMES AND GRATES, TYPE 24	EACH	4	4					
60622000	CONCRETE MEDIAN, TYPE SM-2.12	SQ FT	77	77					
60626300	STABILIZED MEDIAN SURFACE	SQ YD	41	41					
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6					
* SPECIALTY ITEMS									

URBAN

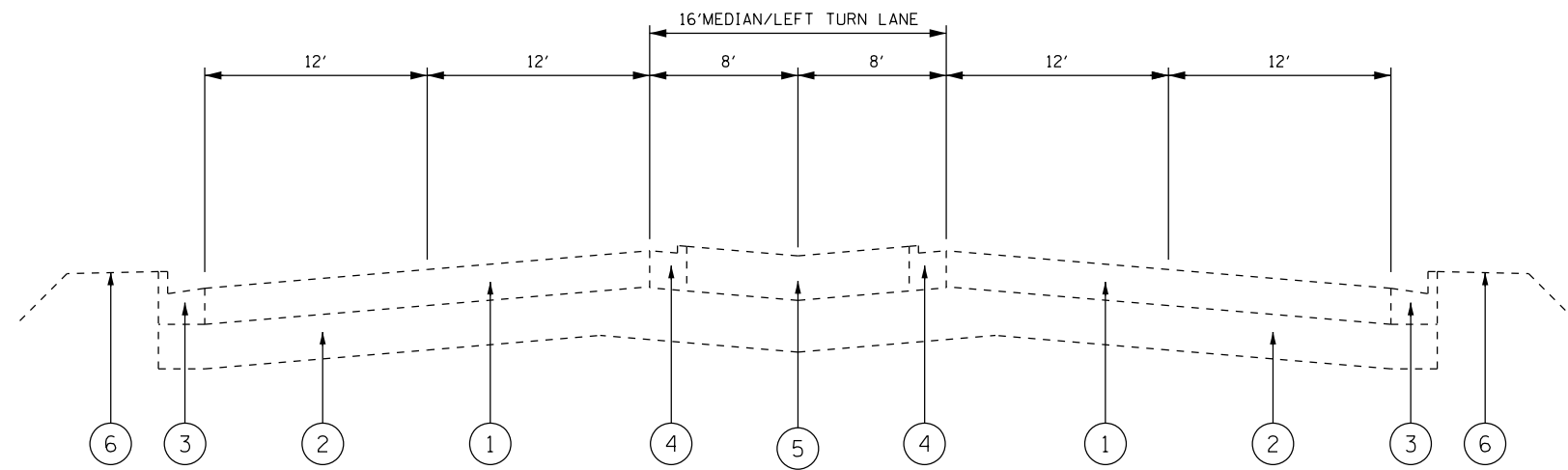
SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT		100% STATE					
67100100	MOBILIZATION	L SUM	1	1					
70100310	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	L SUM	1	1					
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	1					
70300100	SHORT TERM PAVEMENT MARKING	FOOT	2406	2406					
70300210	TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS	SQ FT	474	474					
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	22009	22009					
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	2420	2420					
70300260	TEMPORARY PAVEMENT MARKING - LINE 12"	FOOT	934	934					
70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	228	228					
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	11205	11205					
* 78008200	POLYUREA PAVEMENT MARKING TYPE I - LETTERS AND SYMBOLS	SQ FT	474	474					
* 78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	22009	22009					
* 78008230	POLYUREA PAVEMENT MARKING TYPE I - LINE 6"	FOOT	2420	2420					
13									

SUMMARY OF QUANTITIES					CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	100% STATE						
* 78008250	POLYUREA PAVEMENT MARKING TYPE I - LINE 12"	FOOT	934	934						
* 78008270	POLYUREA PAVEMENT MARKING TYPE I - LINE 24"	FOOT	228	228						
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	512	512						
78300100	PAVEMENT MARKING REMOVAL	SQ FT	148	148						
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	461	461						
* 88600600	DETECTOR LOOP REPLACEMENT	FOOT	365	365						
X0326767	PROFILE DIAMOND GRINDING CONCRETE PAVEMENT	SQ YD	52772	52772						
X0327695	PRECAST CONCRETE PAVEMENT SLABS 9 3/4"	SQ FT	9075	9075						
X4423015	DOWEL BARS 1 1/2" RETROFIT	EACH	1513	1513						
X5537800	STORM SEWERS TO BE CLEANED 12"	FOOT	600	600						
Z0004562	COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	757	757						
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	51.4	51.4						
					* SPECIALTY ITEMS					

SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT	TOTAL QUANTITIES						

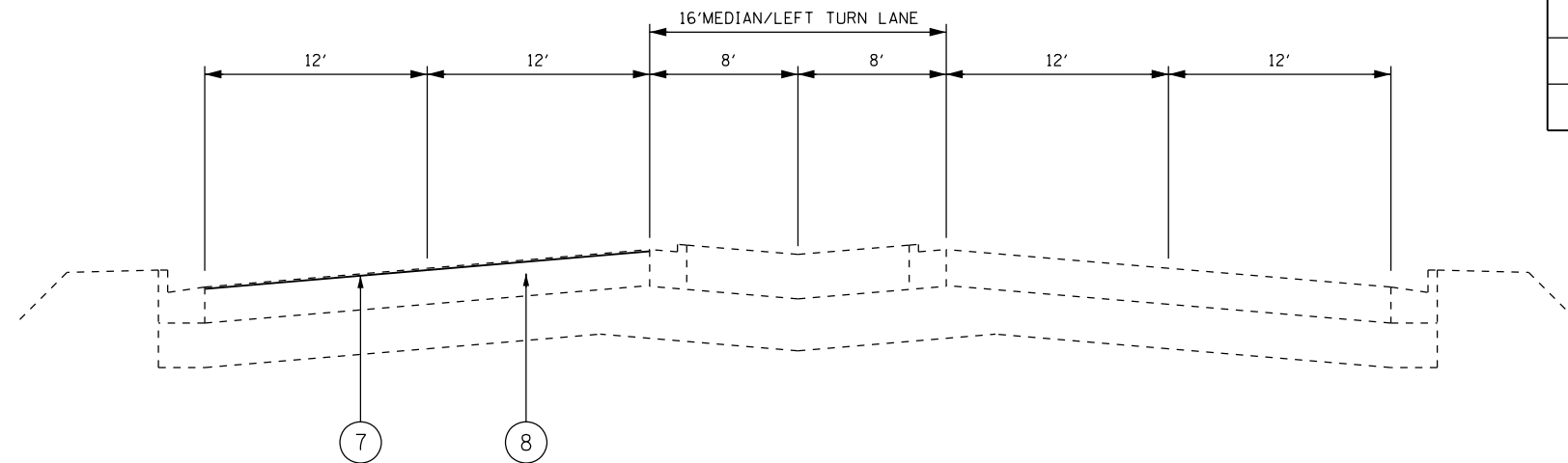
12



EXISTING TYPICAL ROADWAY SECTION  
 STA. 18+35 TO STA. 135+38  
 STA. 140+48 TO STA. 205+00

**LEGEND:**

- ① EXISTING P.C.C. PAVEMENT, 9<sup>3</sup>/<sub>4</sub>" HINGE JOINT
- ② EXISTING AGGREGATE SUBGRADE, 12"
- ③ EXISTING COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24
- ④ EXISTING COMBINATION CONCRETE CURB AND GUTTER, TYPE M-2.18 OR TYPE M-2.12
- ⑤ EXISTING STABILIZED MEDIAN SURFACE, 12"
- ⑥ EXISTING TOPSOIL AND GRASS
- ⑦ PROPOSED DIAMOND GRINDING AND GROOVING (ROADWAY SECTION), 3<sup>1</sup>/<sub>6</sub>" TO 1<sup>1</sup>/<sub>4</sub>"
- ⑧ PROPOSED PRECAST OR CLASS B PATCHING

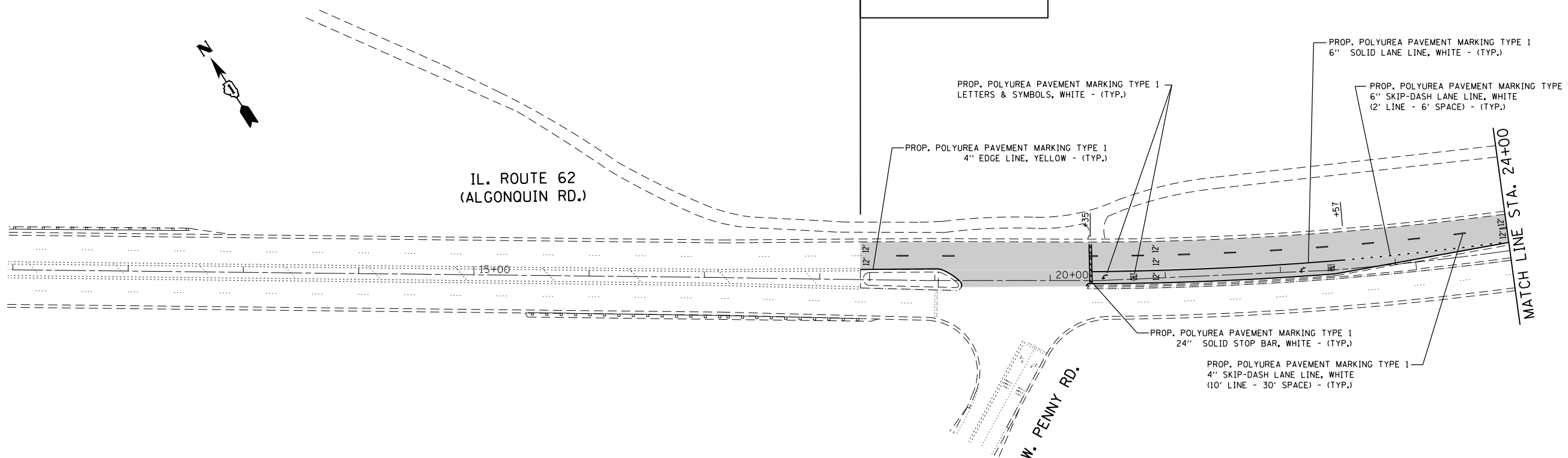


PROPOSED TYPICAL ROADWAY SECTION  
 STA. 18+35 TO STA. 135+38  
 STA. 140+48 TO STA. 205+00

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		QUALITY MANAGEMENT PROGRAM (QMP)
MIXTURE TYPE	AIR VOIDS (%) @ N <sub>DES</sub>	
STABILIZED MEDIAN SURFACE		
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 2"	4% @ 50 GYR	QC/QA
HOT-MIX ASPHALT BASE COURSE, (HMA Binder IL-19mm), 10"	4% @ 50 GYR	QC/QA
QMP DESIGNATION: QUALITY CONTROL/QUALITY ASSURANCE (QC/QA), QUALITY CONTROL FOR PERFORMANCE (QCP)		

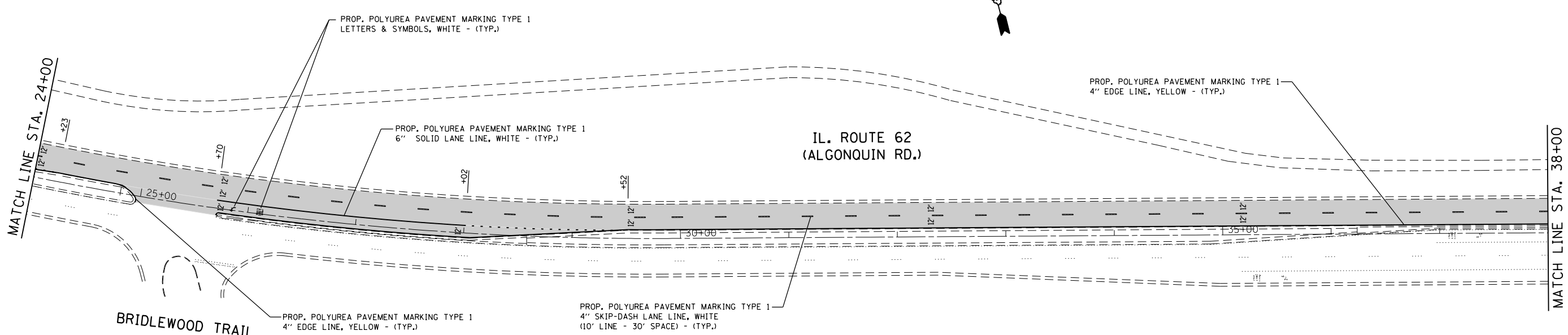
- NOTE 1: THE UNIT WEIGHT USED TO CALCULATE ALL HMA MIXTURES IS 112 LBS/SQ YD/IN.
- NOTE 2: FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64 -22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS.
- FOR USE OF RECYCLED MATERIALS SEE DISTRICT ONE SPECIAL PROVISIONS.
- QUALITY MANAGEMENT PROGRAM (QCP) IDENTIFIES THE PARTICULAR QUALITY CONTROL SPECIFICATION THAT APPLIES TO THE HMA MIXTURE.

**PROJECT BEGINS  
STA. 18+35**



**LEGEND**

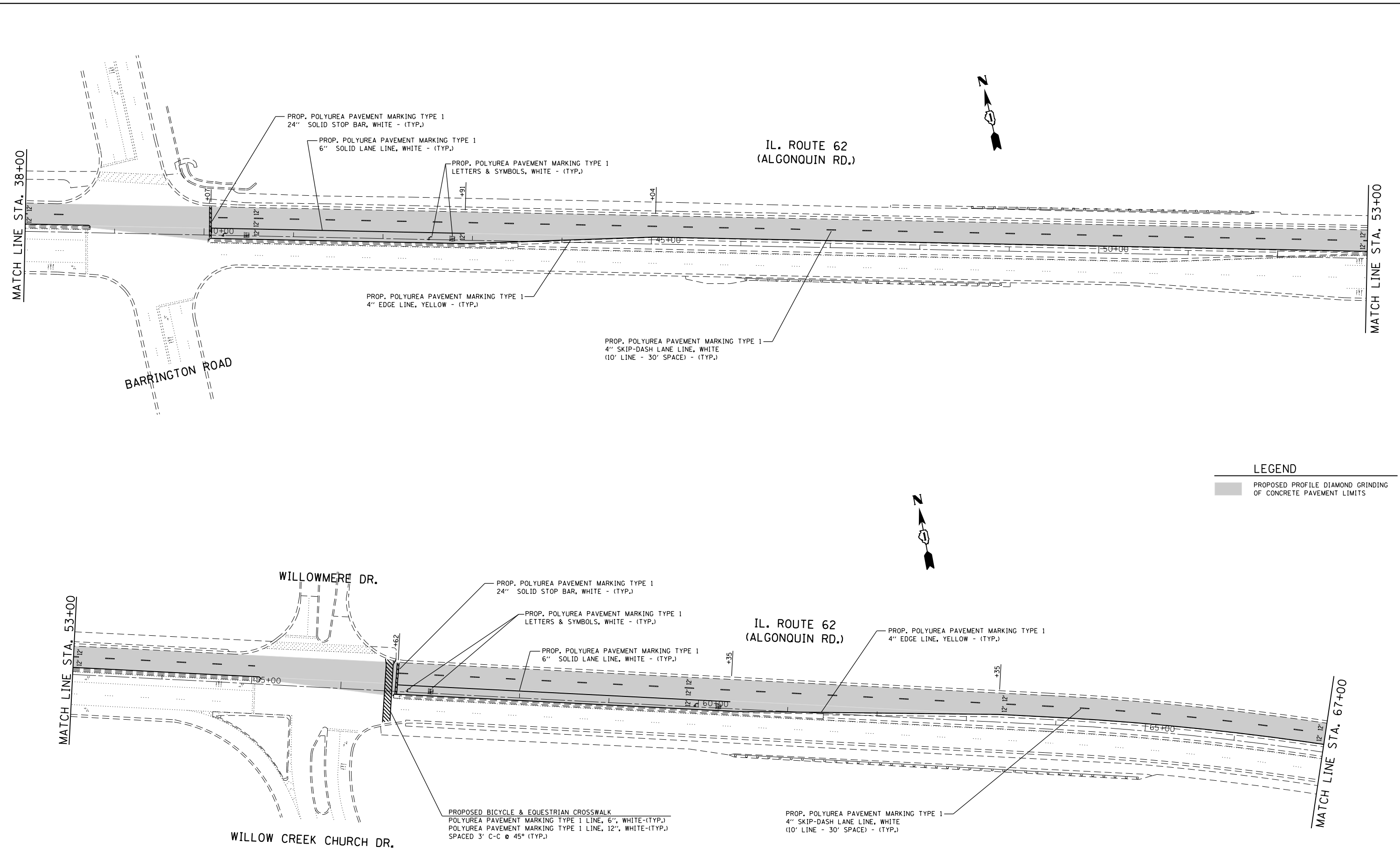
PROPOSED PROFILE DIAMOND GRINDING OF CONCRETE PAVEMENT LIMITS



NOTE:  
PATCH LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

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Default	PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -			339	116(R&R-3)PCC-PP-1	COOK	45	6	
	PLOT DATE = 4/7/2015	CHECKED -	REVISED -			CONTRACT NO. 62A11					
		DATE -	REVISED -			SCALE:	SHEET	OF	SHEETS	STA.	TO

ILLINOIS FED. AID PROJECT



**LEGEND**

	PROPOSED PROFILE DIAMOND GRINDING OF CONCRETE PAVEMENT LIMITS
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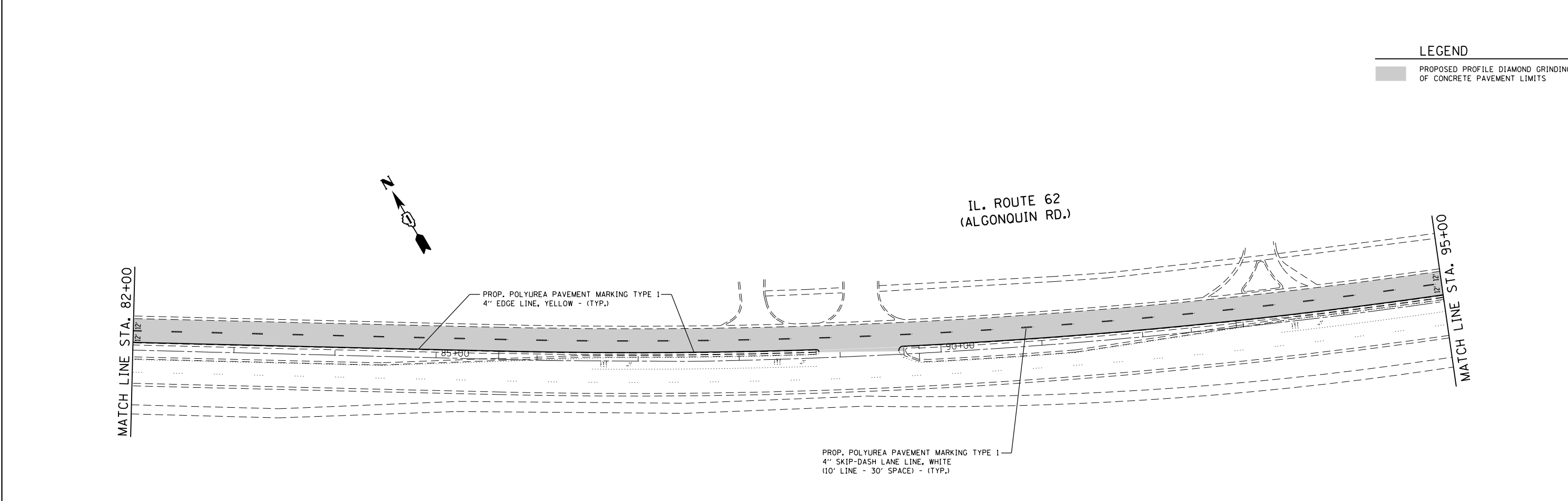
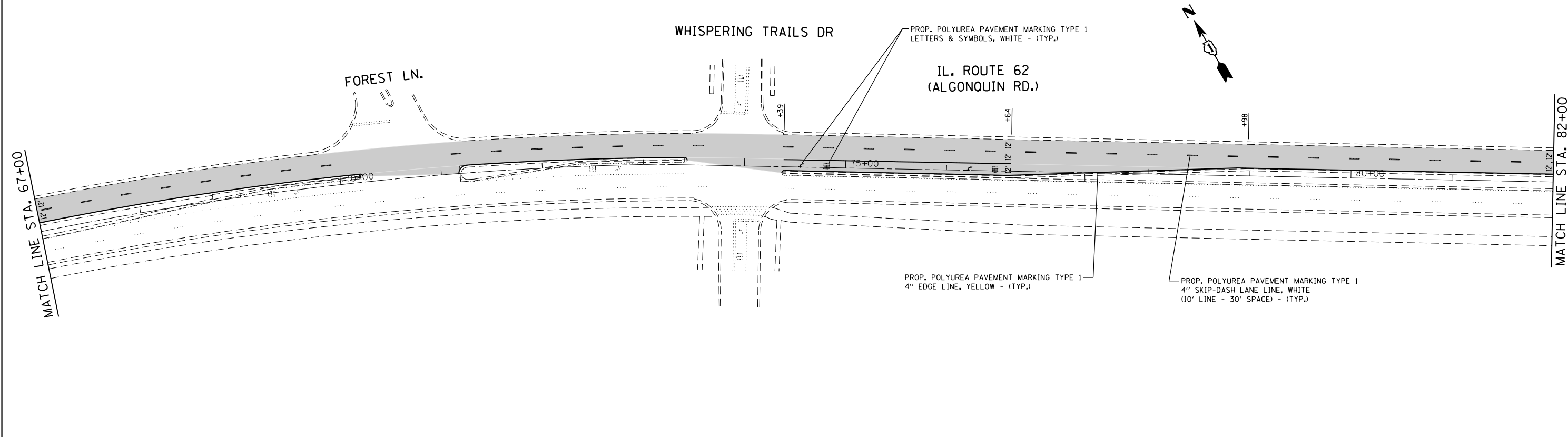
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**WB IL 62 (ALGONQUIN ROAD)-PENNY ROAD TO WEST OF ROSELLE ROAD  
ROADWAY AND PAVEMENT MARKING PLANS**

SCALE:      SHEET      OF      SHEETS      STA.      TO      STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	7
CONTRACT NO. 62A11				
ILLINOIS FED. AID PROJECT				



**LEGEND**

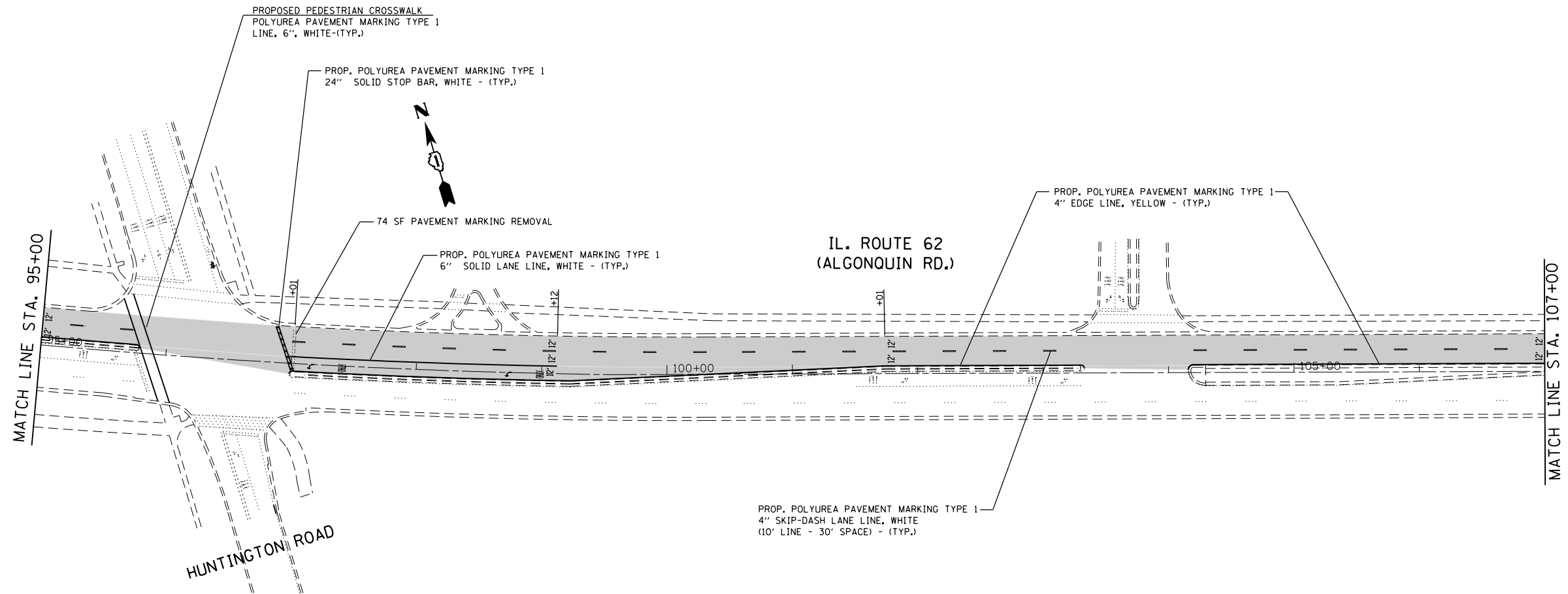
	PROPOSED PROFILE DIAMOND GRINDING OF CONCRETE PAVEMENT LIMITS
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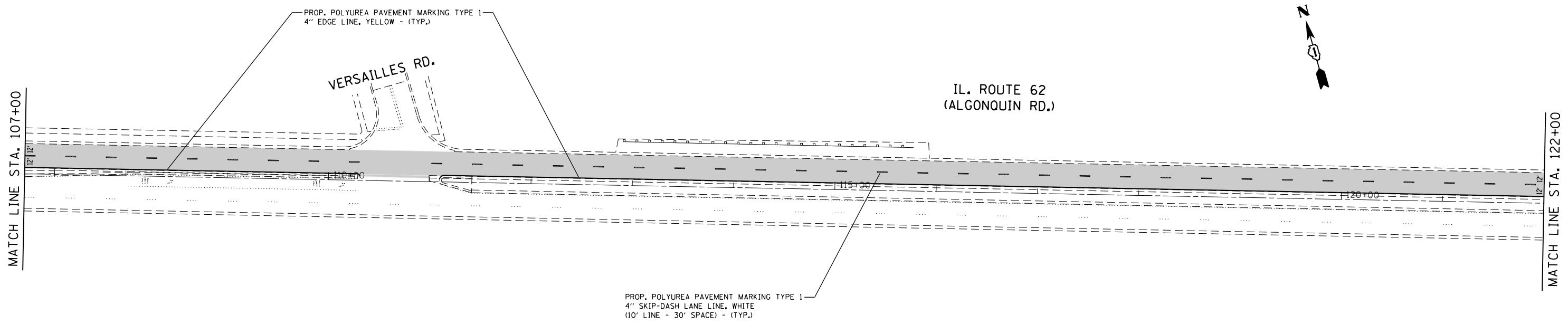
ILLINOIS FED. AID PROJECT





**LEGEND**

	PROPOSED PROFILE DIAMOND GRINDING OF CONCRETE PAVEMENT LIMITS
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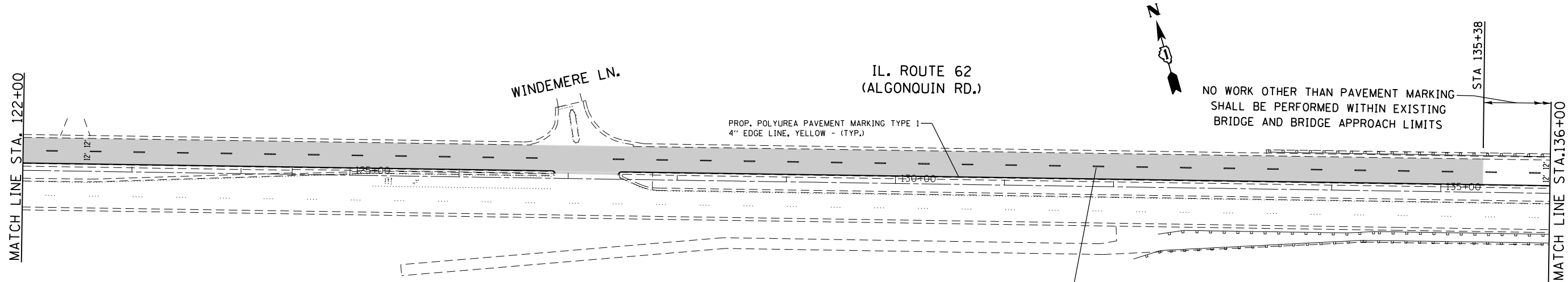
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**WB IL 62 (ALGONQUIN ROAD)-PENNY ROAD TO WEST OF ROSELLE ROAD  
ROADWAY AND PAVEMENT MARKING PLANS**

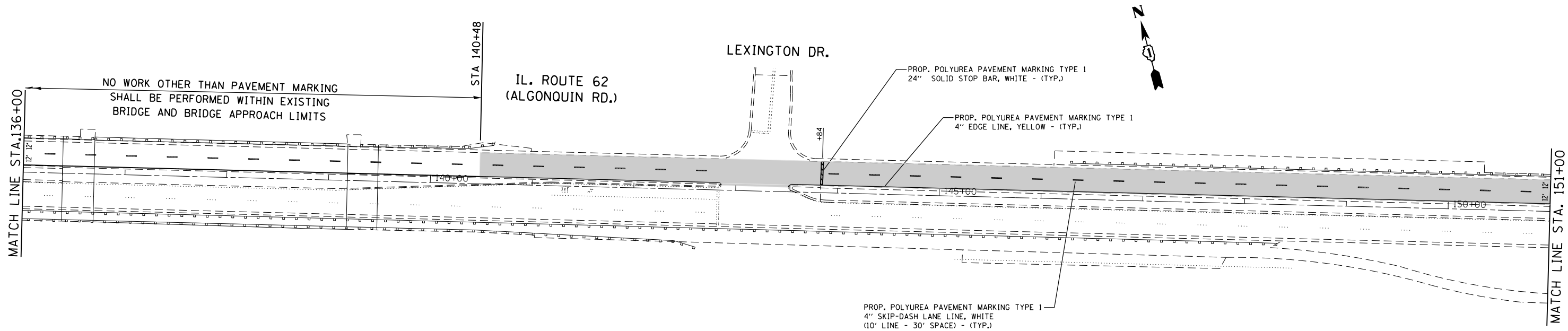
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	9
CONTRACT NO. 62A11				
ILLINOIS FED. AID PROJECT				



**LEGEND**

	PROPOSED PROFILE DIAMOND GRINDING OF CONCRETE PAVEMENT LIMITS
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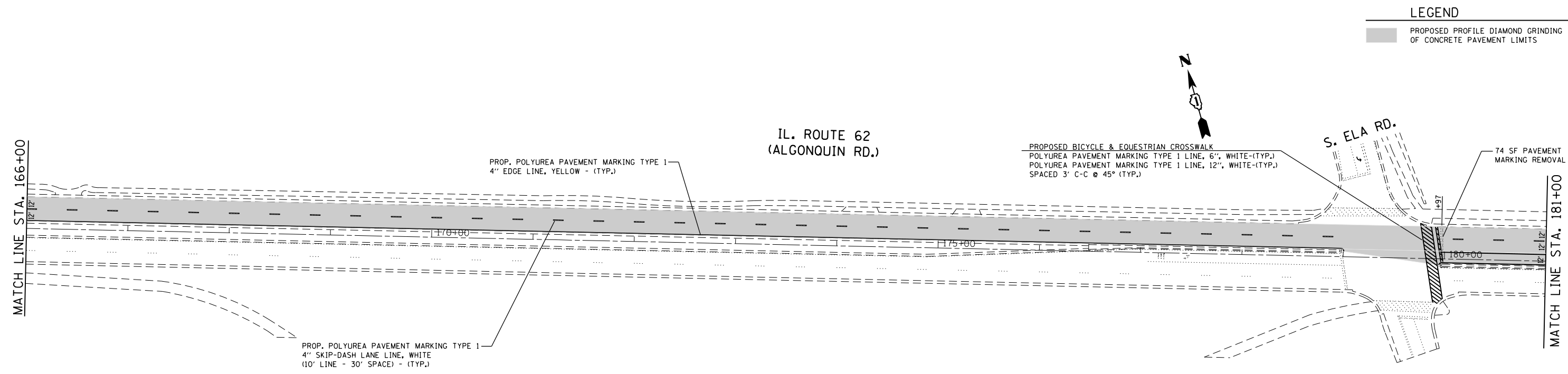
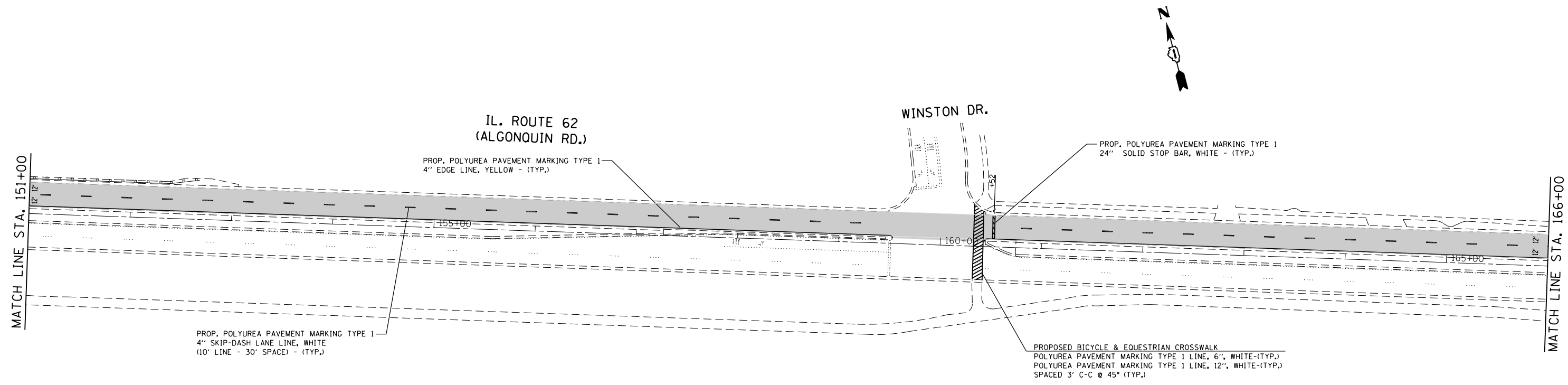
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**WB IL 62 (ALGONQUIN ROAD)-PENNY ROAD TO WEST OF ROSELLE ROAD  
ROADWAY AND PAVEMENT MARKING PLANS**

SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.
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339	116(R&R-3)PCC-PP-1	COOK	45	10
CONTRACT NO. 62A11			ILLINOIS FED. AID PROJECT	



**LEGEND**

	PROPOSED PROFILE DIAMOND GRINDING OF CONCRETE PAVEMENT LIMITS
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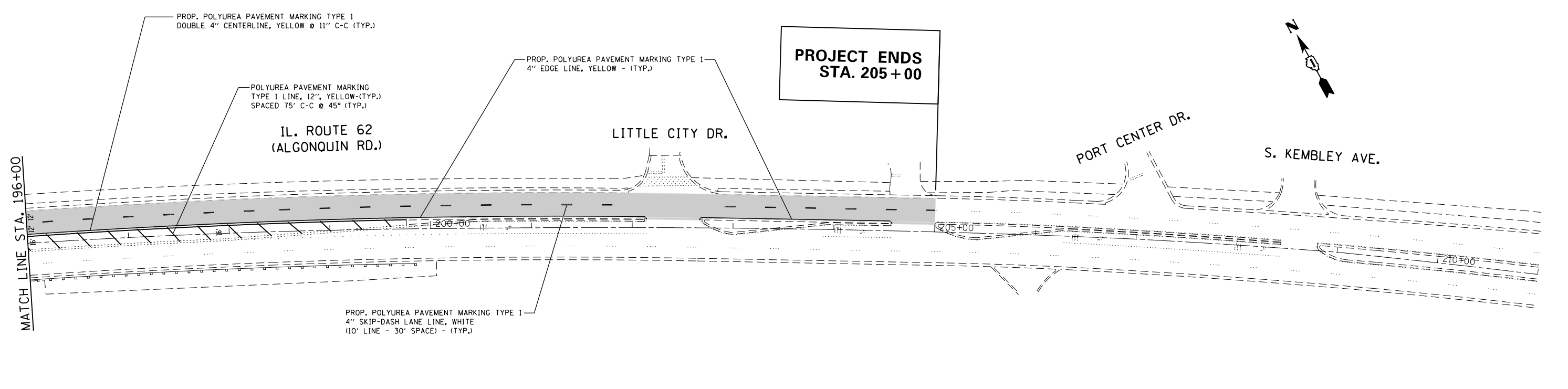
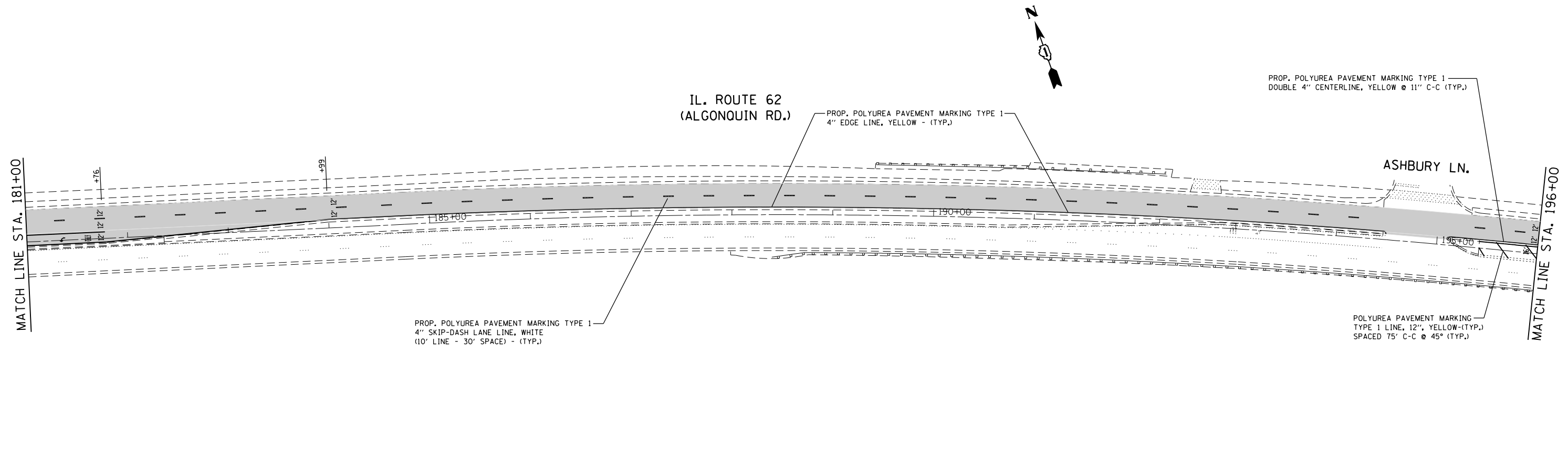
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Default	Default	DRAWN -	REVISED -
		CHECKED -	REVISED -
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**WB IL 62 (ALGONQUIN ROAD)-PENNY ROAD TO WEST OF ROSELLE ROAD  
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	11
CONTRACT NO. 62A11				
ILLINOIS FED. AID PROJECT				



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	PLOT DATE = 4/7/2015	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

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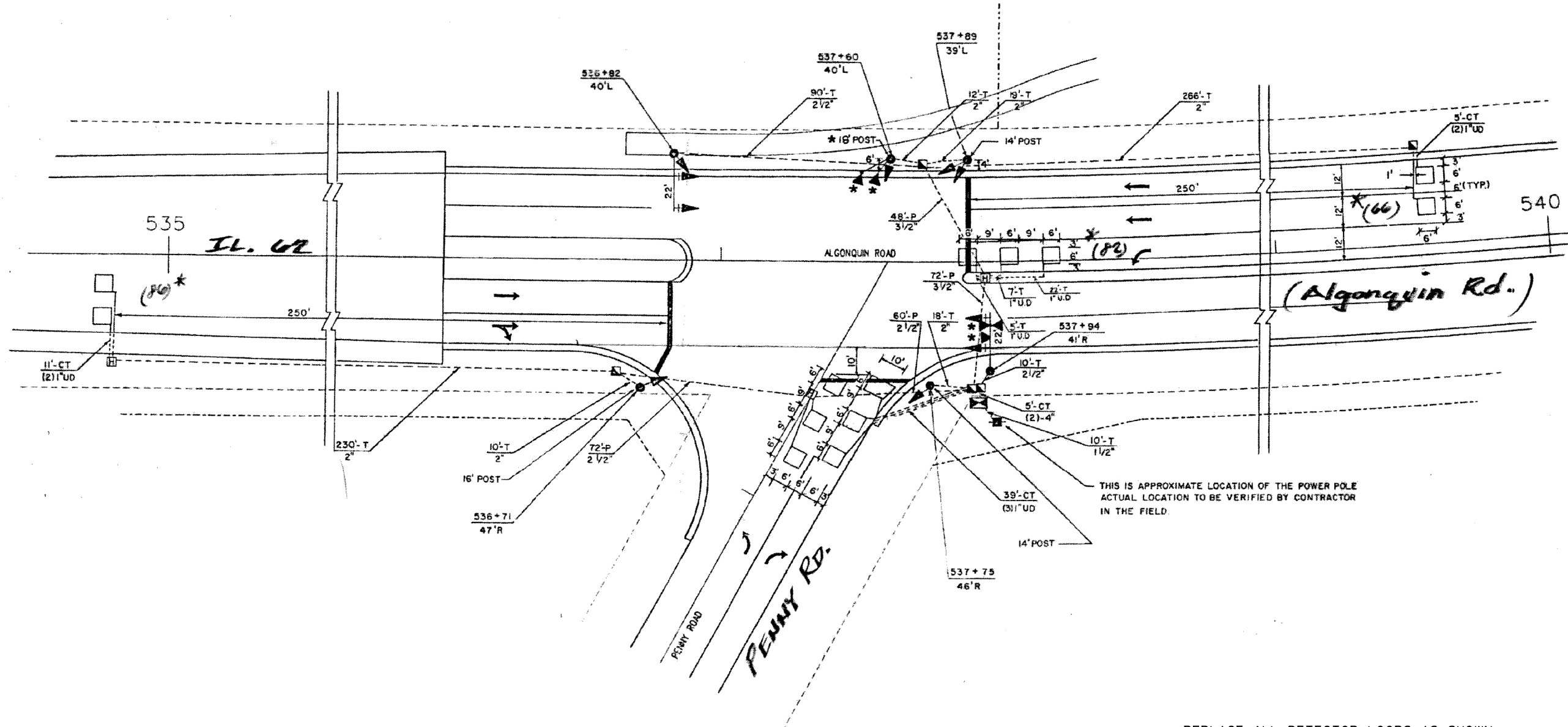
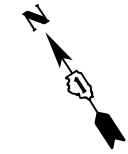
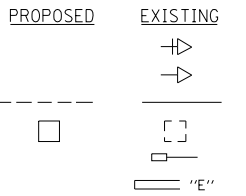
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	12
CONTRACT NO. 62A11			ILLINOIS FED. AID PROJECT	

WORK SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISION, "TRAFFIC SIGNAL SPECIFICATIONS FOR DETECTOR LOOP REPLACEMENT AND/OR INSTALLATION ON ROADWAY GRINDING, RESURFACING AND PATCHING OPERATIONS". SPECIAL ATTENTION MUST BE MADE TO THE SECTIONS "INSPECTION OF CONSTRUCTION" AND "DETECTOR LOOP REPLACEMENT" FOR INSTALLATION AND INSPECTION REQUIREMENTS. LOOP REPLACEMENT WORK THAT DOES NOT MEET THE CONTRACT REQUIREMENTS SHALL NOT BE PAID. WORK NECESSARY TO COMPLETE THE LOOP REPLACEMENT WORK MAY BE ASSIGNED BY THE ENGINEER TO IDOT'S ELECTRICAL MAINTENANCE CONTRACTOR (EMC); ALL RELATED COSTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

# FOR INFORMATION ONLY

## TRAFFIC SIGNAL LEGEND

SIGNAL HEAD WITH BACKPLATE  
 SIGNAL HEAD  
 GALVANIZED STEEL CONDUIT IN TRENCH OR PUSHED  
 DETECTOR LOOP  
 VEHICULAR DETECTOR, NON COMPENSATED MAGNETIC TYPE  
 RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II



THIS PLAN IS FOR THE SOLE PURPOSE OF DETECTOR LOOP REPLACEMENT ONLY

REPLACE ALL DETECTOR LOOPS AS SHOWN (WITHIN THE RESURFACING LIMITS)

CODE	QUANTITY	UNIT	ITEM
88600600	*	FOOT	DETECTOR LOOP, REPLACEMENT

\* LOOPS IMPACTED BY PATCHING SHALL BE REPLACED IN KIND

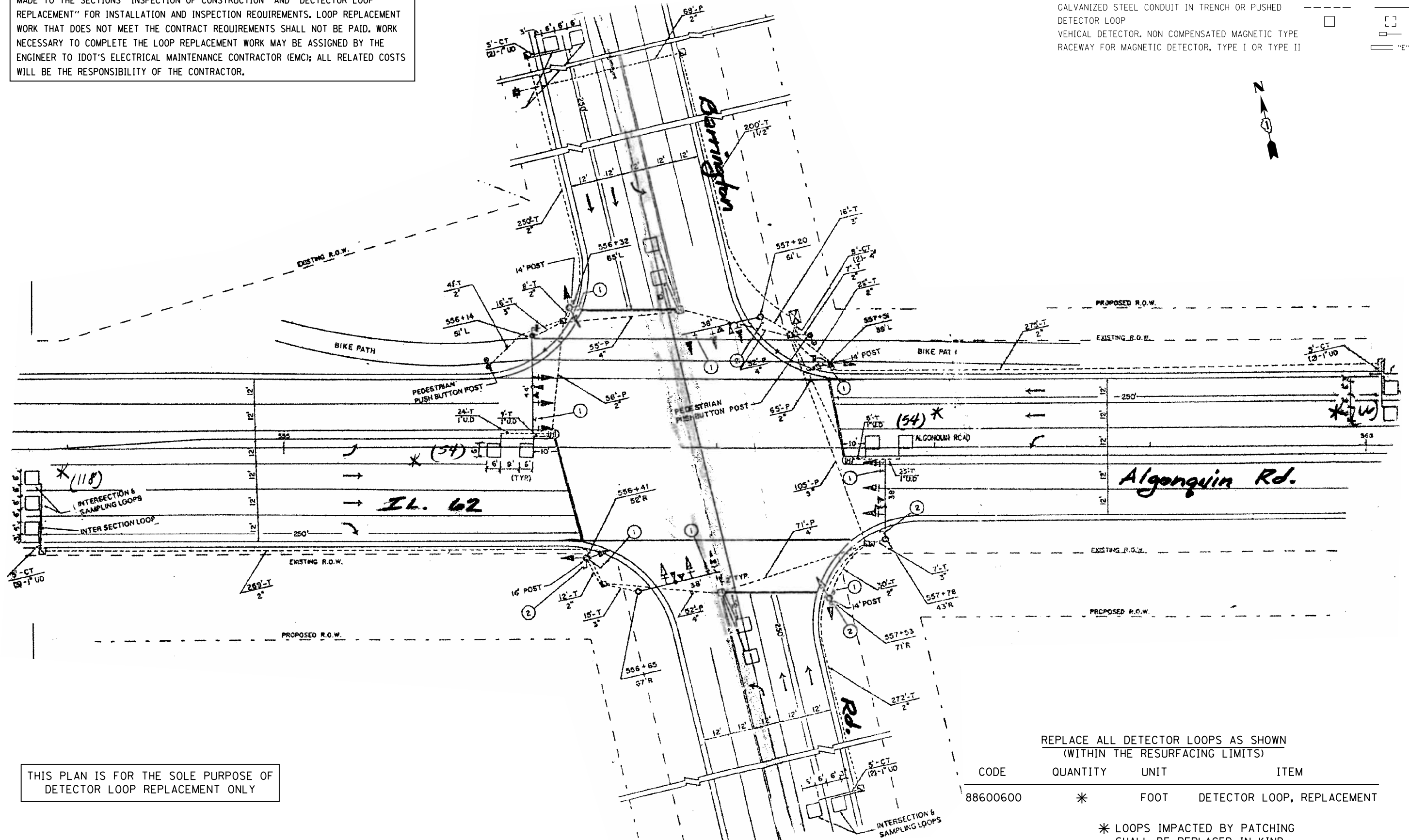
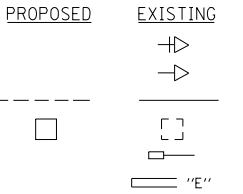
FILE NAME =	USER NAME = PencePL	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>WB IL 62 (ALGONQUIN ROAD)-PENNY ROAD TO WEST OF ROSELLE ROAD DETECTOR LOOP REPLACEMENT PLANS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	15-sh-t-plan.dgn	DRAWN -	REVISED -			339	116(R&R-3)PCC-PP-1	COOK	45	13	
	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -			CONTRACT NO. 62A11					
	PLOT DATE = 4/7/2015	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

# FOR INFORMATION ONLY

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## TRAFFIC SIGNAL LEGEND

SIGNAL HEAD WITH BACKPLATE  
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Default	PLOT SCALE = 100.0000' / 1"	CHECKED -	REVISED -
	PLOT DATE = 4/7/2015	DATE -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

WB IL 62 (ALGONQUIN ROAD)-PENNY ROAD TO WEST OF ROSELLE ROAD  
 DETECTOR LOOP REPLACEMENT PLANS

SCALE: SHEET OF SHEETS STA. TO STA.

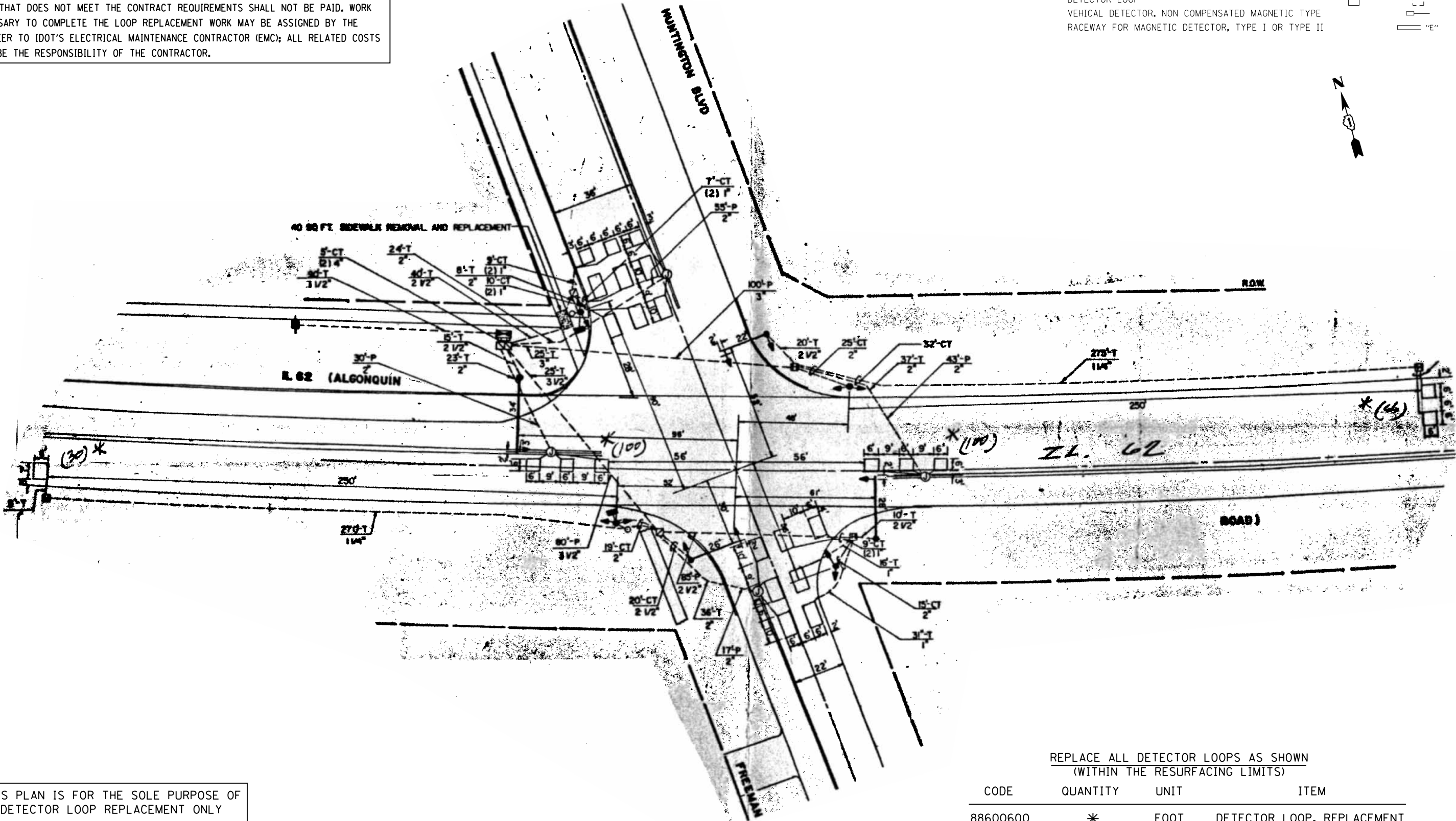
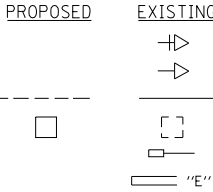
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339	116(R&R-3)PCC-PP-1	COOK	45	14
CONTRACT NO. 62A11			ILLINOIS FED. AID PROJECT	

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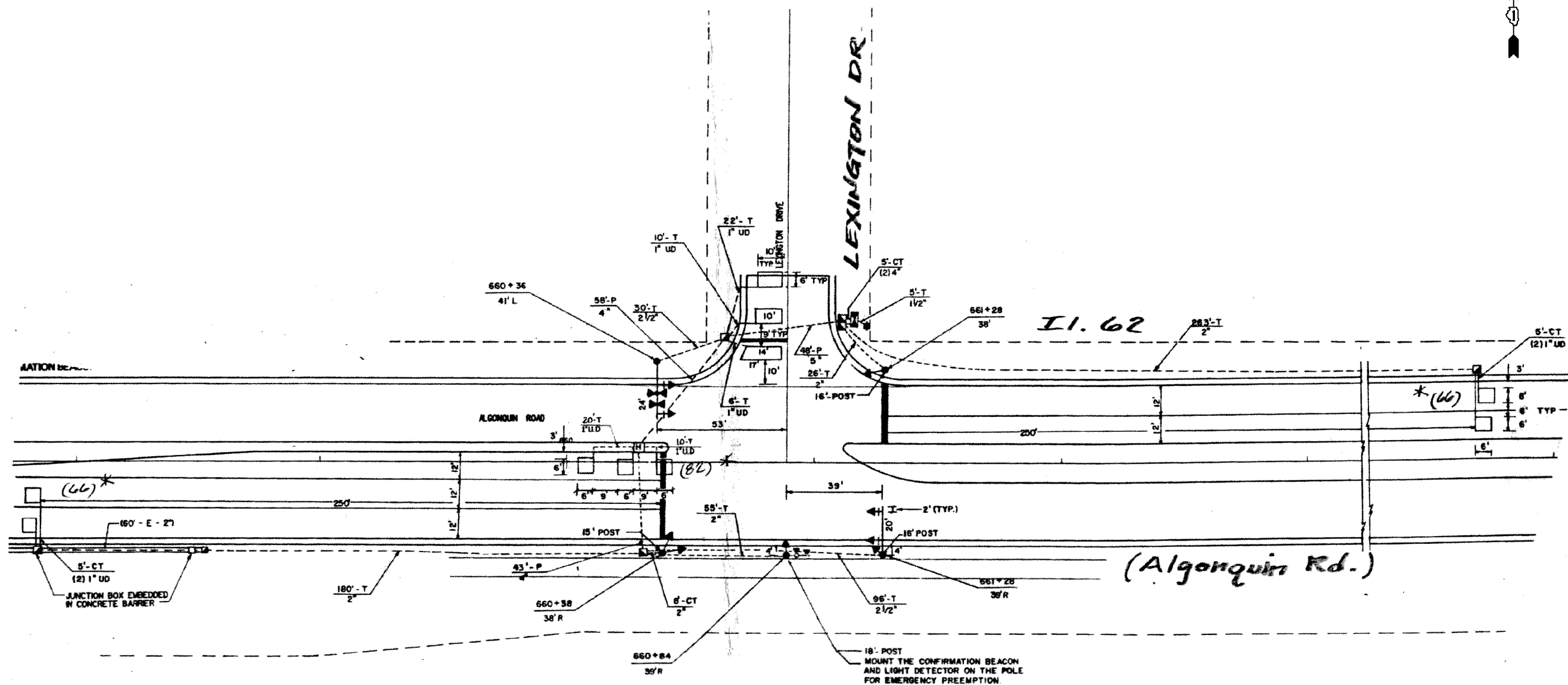
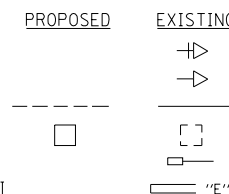
FILE NAME =	USER NAME = PencePL	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>WB IL 62 (ALGONQUIN ROAD)-PENNY ROAD TO WEST OF ROSELLE ROAD DETECTOR LOOP REPLACEMENT PLANS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	Plot Scale = 100.0000' / 1"	DRAWN -	REVISED -			339	116(R&R-3)PCC-PP-1	COOK	45	15	
	PLOT DATE = 4/7/2015	CHECKED -	REVISED -			CONTRACT NO. 62A11					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

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FILE NAME =	USER NAME = PencePL	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>WB IL 62 (ALGONQUIN ROAD)-PENNY ROAD TO WEST OF ROSELLE ROAD DETECTOR LOOP REPLACEMENT PLANS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT SCALE = 100.0000' / in.		CHECKED -	REVISED -			CONTRACT NO. 62A11				
Default		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				

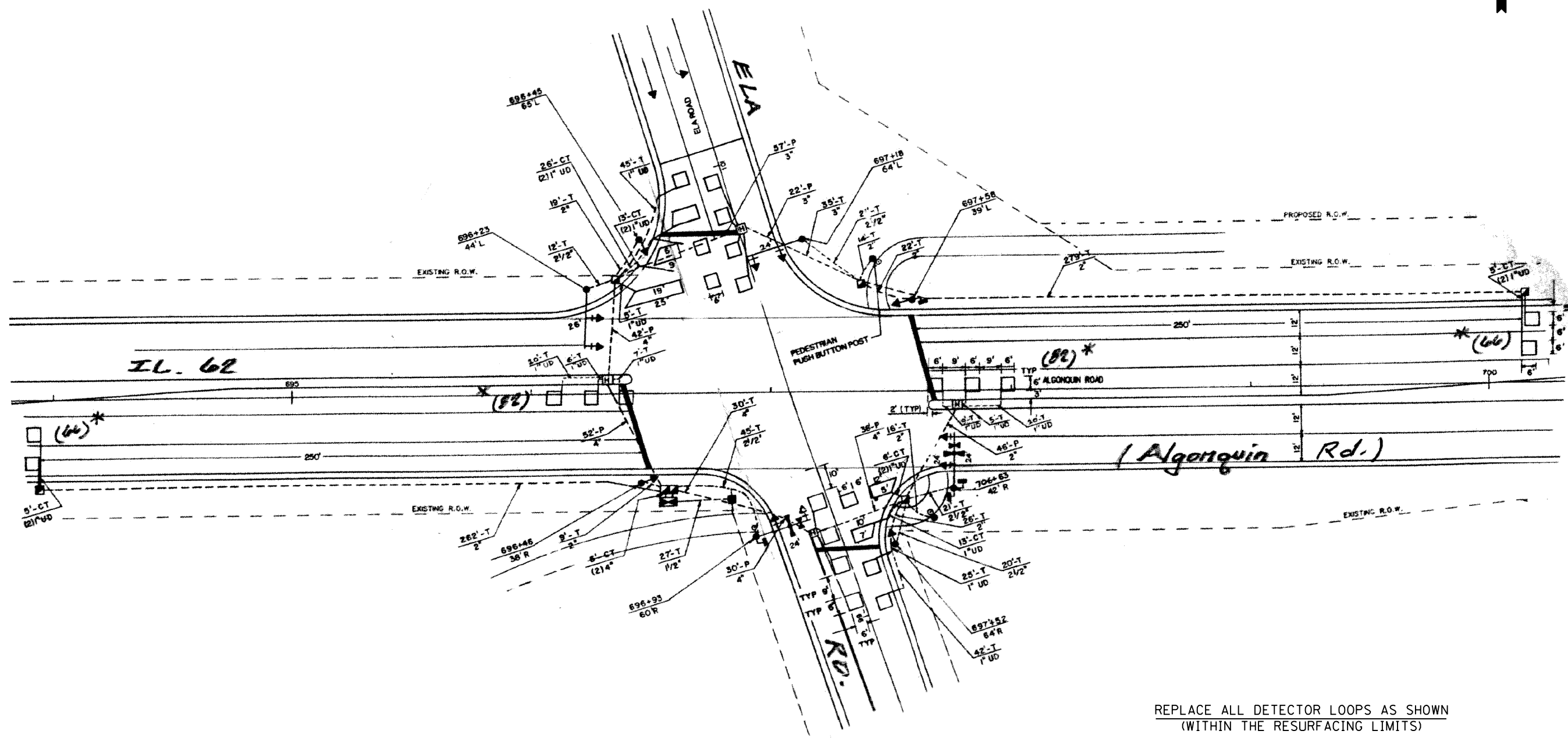


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# FOR INFORMATION ONLY

## TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
SIGNAL HEAD WITH BACKPLATE	+	+
SIGNAL HEAD	△	△
GALVANIZED STEEL CONDUIT IN TRENCH OR PUSHED	---	---
DETECTOR LOOP	□	□
VEHICAL DETECTOR, NON COMPENSATED MAGNETIC TYPE		□
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		— "E"



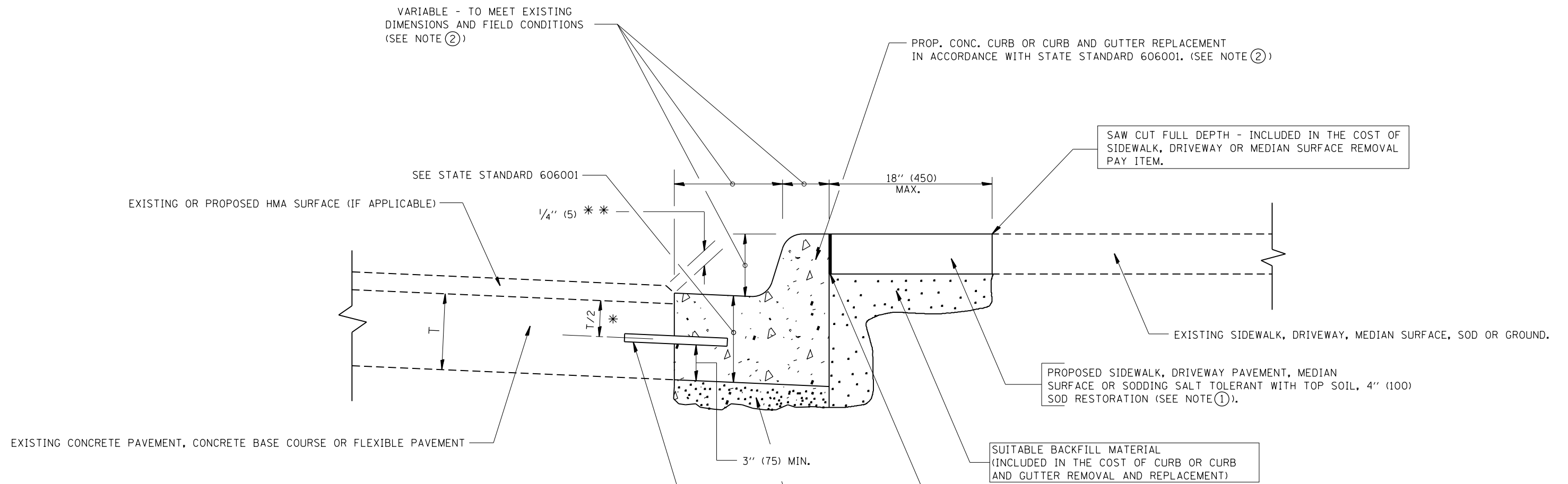
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FILE NAME =	USER NAME = PencePL	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>WB IL 62 (ALGONQUIN ROAD)-PENNY ROAD TO WEST OF ROSELLE ROAD DETECTOR LOOP REPLACEMENT PLANS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
et:\pw\work\p\idot\pencepl\d0410948\0106715-sh-t-plan.dgn		DRAWN -	REVISED -			339	116(R&R-3)PCC-PP-1	COOK	45	17	
Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -			CONTRACT NO. 62A11					
	PLOT DATE = 4/7/2015	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					



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

NOTE: ① SIDEWALK, DRIVEWAY PAVEMENT OR MEDIAN SURFACE SHALL BE SIMILAR TO THE MATERIAL BEING REMOVED AND WILL BE PAID FOR SEPARATELY.  
 SODDING, SALT TOLERANT AND TOP SOIL, FURNISH AND PLACE 4" WILL BE PAID FOR SEPARATELY.

- ② FERTILIZER FOR THE PLACEMENT OF THE SOD IS NOT REQUIRED
- ③ CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.
- ④ FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.

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

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

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

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

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

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

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

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

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

# CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

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

FILE NAME =	USER NAME = PencePL	DESIGNED - A. HOUSEH	REVISED - R. SHAH 10-03-96	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED - A. ABBAS 03-21-97			339	116(R&R-3)PCC-PP-1	COOK	45	18	
	PLOT SCALE = 100.0000' / 1".	CHECKED -	REVISED - M. GOMEZ 01-22-01			<b>BD600-06 (BD-24)</b>		CONTRACT NO. 62A11			
	PLOT DATE = 4/7/2015	DATE - 03-11-94	REVISED - R. BORO 12-15-09			SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.		
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT											

# FABRICATION GENERAL NOTES

**MATERIALS:**

1. EPOXY COATED DOWEL BARS USED SHALL COMPLY WITH ASTM A 615 GRADE 60.
2. ALL EMBEDDED LIFTING HARDWARE USED SHALL BE GALVANIZED.
  - A. FOR LIFTING INSERTS, INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION INCLUDING MINIMUM EDGE DISTANCE AND SPACING REQUIREMENTS. UNLESS THE CONTRACTOR AND FABRICATOR WILL BE USING A LIFTING BEAM OR ROLLING SHEAVE TO ENSURE THAT EACH OF THE FOUR INSERTS WILL SHARE THE LOAD EQUALLY, TWO OF THE FOUR INSERTS MUST BE CAPABLE OF CARRYING THE TOTAL LOAD WITH A 4:1 SAFETY FACTOR WHILE ADJUSTING FOR THE ANGLE OF THE CABLES AND THE STRENGTH OF THE CONCRETE OVER TIME. THE INSERT SHOULD BE RECESSED A MINIMUM OF 1/2" UNLESS THE SLAB IS TO BE OVERLAID IMMEDIATELY AFTER PLACEMENT. THE INSERT SHALL LEAVE A MAXIMUM 1/4" DIAMETER THREADED HOLE TO BE GROUTED AFTER SLAB INSTALLATION. IF THE INSERT IS INSTALLED WITH A FULL SLAB PENETRATION, THE LIFTING INSERT CAN BE USED AS A BEDDING GROUT PORT AT THE CONTRACTOR'S DISCRETION.
  - B. FOR LIFTING PLATES, INSTALLATION MUST BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND HAVE A STANDARD 5:1 SAFETY FACTOR FOR LIFTING HARDWARE. UNLESS A LIFTING BEAM IS USED TO SPACE THE FOUR PICK POINTS DIRECTLY ABOVE THE INSERTS, THE LIFTING HARDWARE MUST BE RATED FOR USE WITH CABLES AT AN ANGLE AND TWO OF THE FOUR DEVICES MUST BE CAPABLE OF LIFTING THE FULL LOAD AS WITH THE INSERTS REFERENCED IN THE PREVIOUS NOTE.
3. REINFORCEMENT USED SHALL BE EPOXY COATED, IN ACCORDANCE WITH ASTM A706 GRADE 60 AND IN COMPLIANCE WITH ARTICLE 1006.10 OF THE STANDARD SPECIFICATIONS.
4. CONCRETE COVER OVER REINFORCEMENT TO BE MAINTAINED USING WIRE OR THERMOPLASTIC CHAIRS OR SPACERS OR AN APPROVED EQUIVALENT.
5. CONCRETE USED SHALL MEET THE FOLLOWING REQUIREMENTS:
  - A. CONCRETE USED SHALL BE CLASS PC (F'C = 4,500 PSI @ 28 DAYS) IN ACCORDANCE WITH SECTION 1020 OF THE STANDARD SPECIFICATIONS.
  - B. MINIMUM STRIPPING STRENGTH OF CONCRETE SHALL BE 3,000 PSI.
  - C. CONCRETE MIX DESIGN TO BE SUBMITTED AND APPROVED PRIOR TO FABRICATION.
  - D. CURING OF CONCRETE SLABS TO BE IN ACCORDANCE WITH THE SPECIFIED METHODS OF SECTION 1020 OF THE STANDARD SPECIFICATIONS. THE CURING PROCEDURE TO BE USED SHALL BE SUBMITTED AND APPROVED PRIOR TO FABRICATION.

**SLAB DESIGN:**

6. FOR STANDARD SLABS:
  - A. USE SLAB DIMENSIONS SHOWN ON THE DISTRICT STANDARD DRAWINGS FOR DESIGN SLAB THICKNESS, WIDTH, AND LENGTH. ACTUAL WIDTH TO BE MODIFIED WITH ON-SITE SAW CUTS TO FIT THE OPENING.
  - B. SIZE ANY PREFORMED SLOTS THAT ARE DESIGNED FOR CONSECUTIVE STANDARD SLABS CONSISTENT WITH THE THICKNESS OF THE SLAB SUCH THAT THE BOTTOM OF THE OPENING IS AT LEAST 2 1/2" (±1/4") WIDE AND AT LEAST 1/2" OF GROUT COVER IS PROVIDED UNDER THE DOWEL.

- C. FOR STANDARD SLABS WITH WIDE OPEN SLOTS AND/OR EMBEDDED DOWEL BARS, IT SHALL BE THE CONTRACTOR'S OPTION TO EITHER PRE-INSTALL/EMBED THE DOWEL BARS INTO THE SLABS AT THE PRECAST PLANT AND PARTIALLY RETROFIT THE EMBEDDED DOWELS INTO ADJACENT PAVEMENT SLABS IN THE FIELD, OR TO FULLY RETROFIT THE DOWEL BARS INTO BOTH THE INSTALLED PRECAST SLAB AND ANY ADJACENT SLAB IN THE FIELD DURING PLACEMENT IN ACCORDANCE WITH CONTRACT SPECIFICATIONS AND THE GENERAL NOTES FOR INSTALLATION. THE LOCATIONS AND SPACING OF THE DOWEL BARS IN THE STANDARD SLABS SHALL BE SHOWN ON THE DISTRICT STANDARD DRAWINGS AND WITHIN THE SPECIFIED TOLERANCES FOR ALIGNMENT. FOR DOWEL BAR RETROFITTING WITH STANDARD SLAB INSTALLATION, A STANDARD TEMPLATE SHALL BE USED TO LOCATE THE CUTS AND POSITION THE DOWEL SLOTS CONSISTENTLY.
- D. FOR STANDARD ISOLATED SLABS WITH NARROW ELONGATED PREFORMED DOWEL SLOTS, THE CENTERPOINT BETWEEN THE WHEEL PATH SLOTS SHALL BE MARKED.

7. FOR CUSTOM SLABS:

- A. USE SLAB DIMENSIONS SHOWN ON THE DISTRICT STANDARD DRAWINGS FOR DESIGN SLAB THICKNESS, LENGTHS AND WIDTHS OF EACH CUSTOM SLAB SHALL BE ACCURATE DIMENSIONS BASED ON FIELD SURVEY DATA COLLECTED BY THE CONTRACTOR TO DEVELOP WORKING DRAWINGS FOR THE SLAB. MINIMUM AND MAXIMUM DIMENSIONS FOR LENGTHS AND WIDTHS ARE NOTED ON THE STANDARD DRAWINGS.
- B. FOR ANY CUSTOM SLAB FABRICATED TO REPLACE EXISTING WARPED PAVEMENT AT AN ISOLATED LOCATION, THE CUSTOM SLAB SHALL BE FABRICATED ON A SINGLE PLANE. THE SLAB THICKNESS OR BEDDING MATERIAL SHALL BE ADJUSTED TO ALLOW FOR THE ELEVATION OF ALL FOUR (4) CORNERS OF THE CUSTOM SLAB TO BE FLUSH OR HIGHER THAN THE EXISTING OR ADJOINING PAVEMENT WHEN INSTALLED. THE SURFACE OF ALL CUSTOM SLABS REPLACING WARPED PAVEMENT SHALL RECEIVE A COMPLETE PROFILE DIAMOND GRIND AFTER INSTALLATION AND GROUTING TO PROVIDE A SMOOTH SURFACE AND LEAVE ALL EDGES FLUSH WITH THE ADJOINING PAVEMENTS. THE PROFILE GRINDING OPERATION FOR CUSTOM SLABS REPLACING ANY WARPED PAVEMENTS, ON CURVED RAMPS OR SUPERELEVATED MAINLINE SECTIONS, SHALL BE IN ACCORDANCE WITH CONTRACT SPECIAL PROVISIONS FOR PROFILE DIAMOND GRINDING PRECAST CONCRETE PAVEMENT SLABS AND PAID FOR SEPARATELY. FOR CONSECUTIVELY PLACED CUSTOM SLABS FABRICATED TO REPLACE EXISTING WARPED PAVEMENT, FULL SURVEYS FOR X, Y, AND Z DIMENSIONS SHALL BE TAKEN BY THE CONTRACTOR BEFORE FABRICATION IN ORDER TO MATCH EXISTING GRADES AT ALL CORNERS DURING INSTALLATION.
- C. FOR ALL CUSTOM SLABS WITH WIDE OPEN SLOTS, THE DOWEL BARS SHALL BE FULLY RETROFITTED INTO ADJACENT PAVEMENT SLABS DURING FIELD INSTALLATION OF THE PRECAST SLAB IN ACCORDANCE WITH CONTRACT SPECIFICATIONS AND GENERAL NOTES FOR INSTALLATION.
- D. FOR ALL CUSTOM SLABS WITH NARROW ELONGATED PREFORMED DOWEL SLOTS, THE DOWEL BARS SHALL BE SLID INTO PREDRILLED HOLES IN THE ADJACENT PAVEMENT SLABS DURING FIELD INSTALLATION OF THE PRECAST SLAB IN ACCORDANCE WITH CONTRACT SPECIFICATIONS AND GENERAL NOTES FOR INSTALLATION.

8. ALL FABRICATED SLABS:

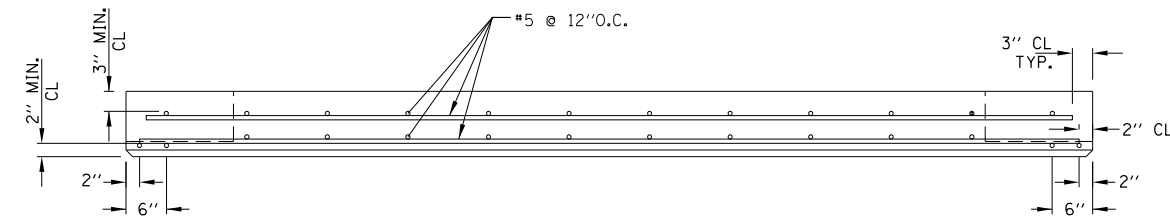
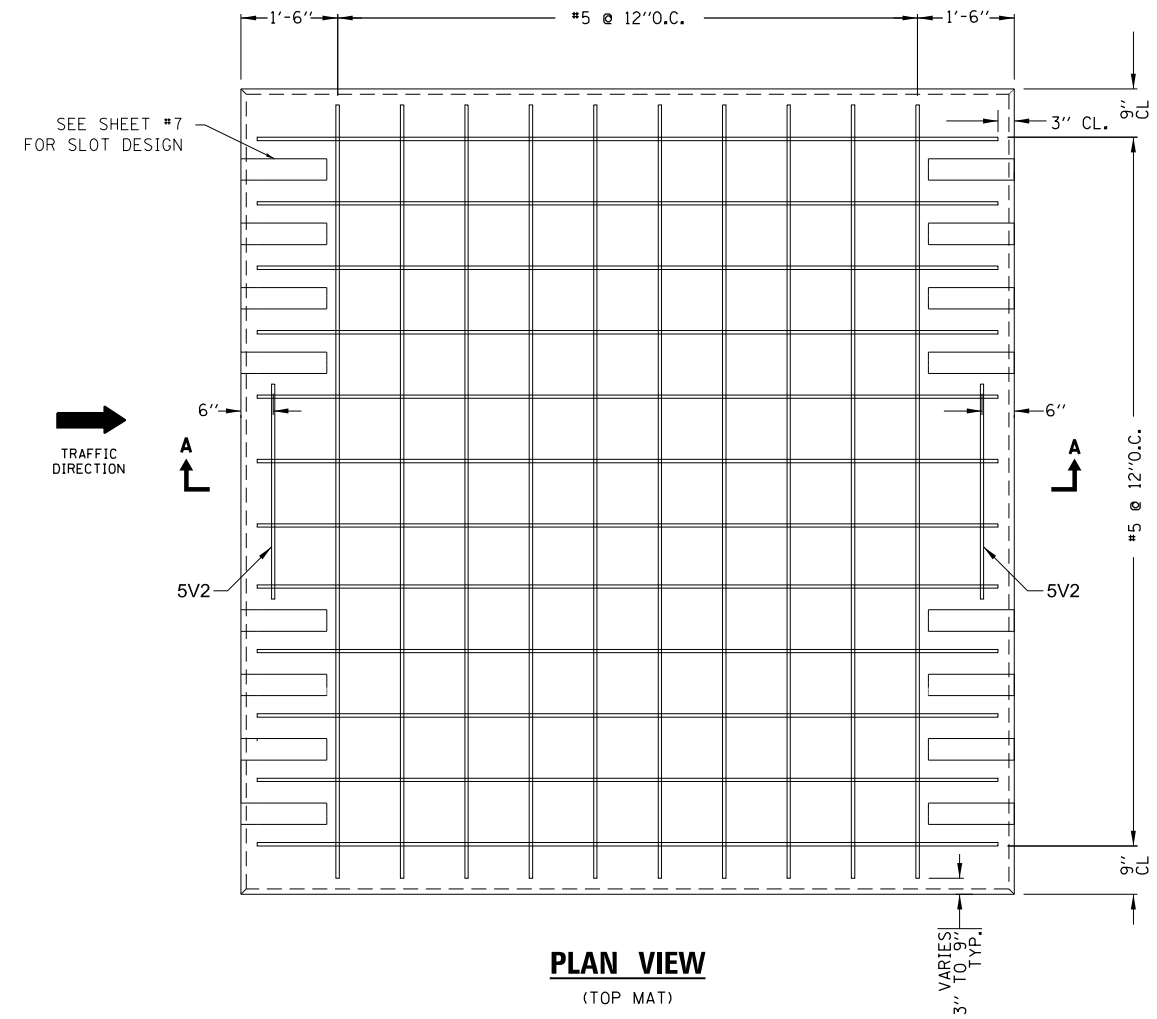
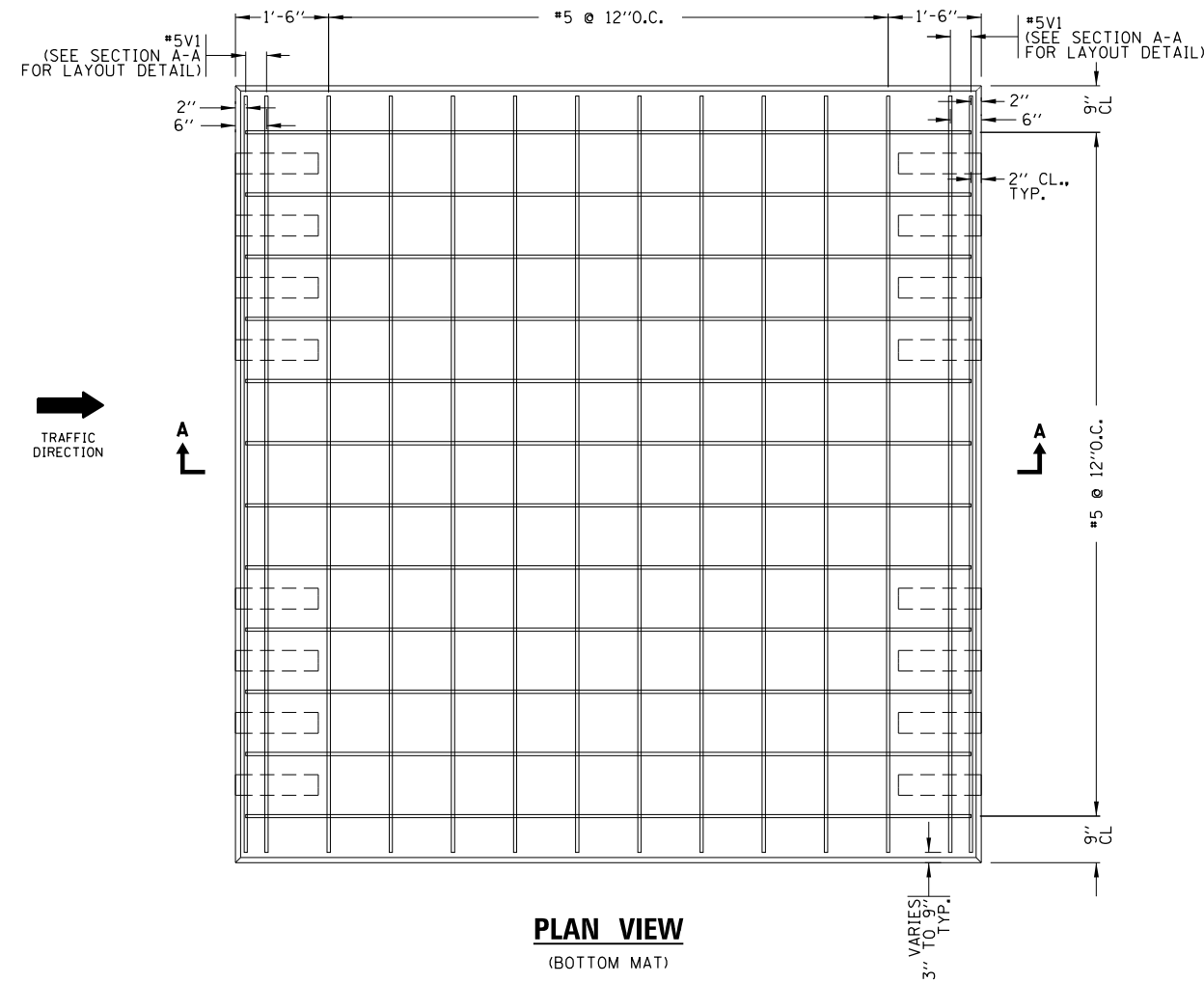
- A. THE MAXIMUM ALLOWABLE JOINT WIDTH CAN NOT BE LESS THAN THE TOTAL OF THE ALLOWABLE SLAB FABRICATION TOLERANCES.
- B. BEDDING GROUT PORT HOLES SHALL BE LOCATED ON TRANSVERSE LINES ACROSS THE SLAB THAT ARE PARALLEL WITH EXISTING TRANSVERSE JOINTS. EACH PORT HOLE SHALL BE EVENLY DISTRIBUTED ON EACH LINE. THE DISTANCE BETWEEN BEDDING GROUT PORT HOLES SHALL NOT EXCEED 4'-0", WITH THE PORT HOLES AT THE END OF THE TRANSVERSE LINES TO BE NO LESS THAN 1'-8" AND NO MORE THAN 3'-0" OFF A LONGITUDINAL JOINT. THE TRANSVERSE LINES FOR PORT HOLES SHALL BE NO MORE THAN 4'-0" APART, AND NO LESS THAN 1'-8" AND NO MORE THAN 2'-6" OFF OF A TRANSVERSE JOINT.
- C. RECESS LIFTING DEVICES 1" MINIMUM BELOW THE SURFACE OF THE SLAB TO ALLOW FOR A MINIMUM GROUT COVER OF 1" ON SLABS THAT WILL NOT BE OVERLAID.

**FABRICATION:**

9. PREPARE WORKING DRAWINGS THAT SHALL INCLUDE THE FOLLOWING INFORMATION:
  - A. SLAB LAYOUT DRAWING FOR TYPICAL STANDARD SLABS AND FOR EACH CUSTOM SLAB TO BE FABRICATED, WITH ACCURATE DIMENSIONS CITED.
  - B. REINFORCEMENT SIZES, SPACING, NUMBER OF MATS, AND METHOD OF MAINTAINING CONCRETE COVER.
  - C. SIZES AND LOCATIONS FOR EMBEDDED DOWELS, OF DOWEL BARS TO BE RETROFITTED AFTER PLACEMENT OF THE SLAB, AND OF PREFORMED SLOTS AT THE FEMALE END OF STANDARD SLABS FOR CONSECUTIVE PLACEMENT.
  - D. SIZE AND LOCATION OF GROUT PORTS, LIFTING ANCHORS, AND GROUT SEAL GASKETS.
  - E. COMPRESSIVE STRENGTH AND AIR CONTENT OF CONCRETE.
  - F. CONCRETE CURING METHOD TO BE USED.
  - G. MARKING LEGEND FOR EACH SLAB TO INDICATE PRECAST MANUFACTURER, AND DATE OF PRODUCTION; AND FOR EACH CUSTOM SLAB TO INCLUDE CONTRACT NUMBER AND MARK NUMBER OF THE SLAB.
  - H. WEIGHT OF EACH SLAB.
10. PERFORM A PRE-POUR INSPECTION OF THE FORMS TO CONFIRM THAT THEY ARE ASSEMBLED IN ACCORDANCE WITH THE FOLLOWING TOLERANCES:
 

LENGTH AND WIDTH	± 1*8"
DIAGONALS	± 3*16"
DOWEL VARIANCE FROM LEVEL, SQUARENESS TO EDGE OF SLAB, AND LOCATION.	± 1*8"
EDGE SQUARENESS - 1*8" IN 10" (IN RELATION TO TOP AND BOTTOM SURFACES).	
11. INCLUDE A 1 INCH CHAMFER ALONG ALL BOTTOM EDGES OF SLABS, AND A STONED EDGE TO ALL TOP EDGES OF THE SLAB.
12. THE EXPOSED SURFACES OF ALL PREFORMED SLOTS FOR DOWEL BARS SHALL BE SANDBLASTED.
13. ACCURATELY SCREED TOP OF SLAB TO MEET SURFACE AND THICKNESS TOLERANCES.
14. APPLY EITHER AN ARTIFICIAL TURF DRAG FINISH TO TOP OF SLAB IN ACCORDANCE WITH ARTICLE 420.09(e)(2) OF THE STANDARD SPECIFICATIONS, OR A TINED FINISH IN ACCORDANCE WITH ARTICLE 420.09(e)(1) OF THE STANDARD SPECIFICATIONS AS INDICATED IN THE SLAB DESIGN SCHEDULE ON CONTRACT DRAWINGS.
15. AFTER REMOVAL OF FORMS AND ANY BLOCKOUTS, NO SPALLS OF THE FINISHED SURFACE WILL BE ALLOWED.

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED - D.G. 6-14	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRECAST CONCRETE PAVEMENT SLABS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default	et:\pw\work\p\dot\pencepl\d0410948\DistStd.dgn	DRAWN -	REVISED -					339	116(R&R-3)PCC-PP-1	COOK	45	19
	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -		<b>BD 57</b>		<b>CONTRACT NO. 62A11</b>					
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -		SCALE: NONE	SHEET 1	OF 19 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT		

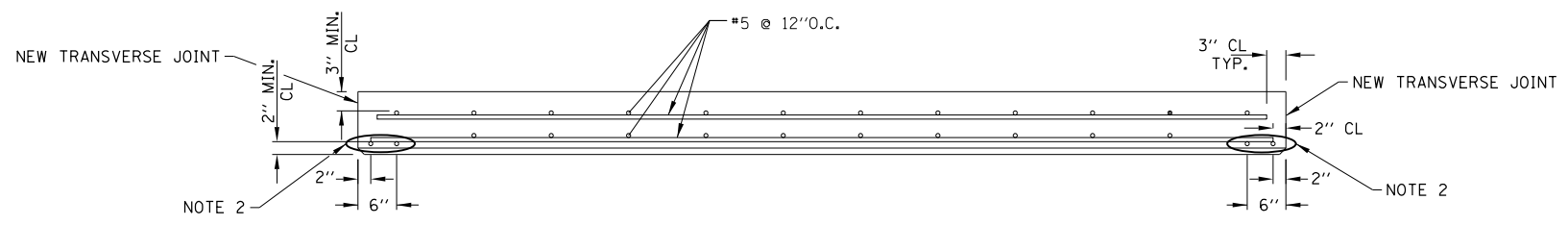
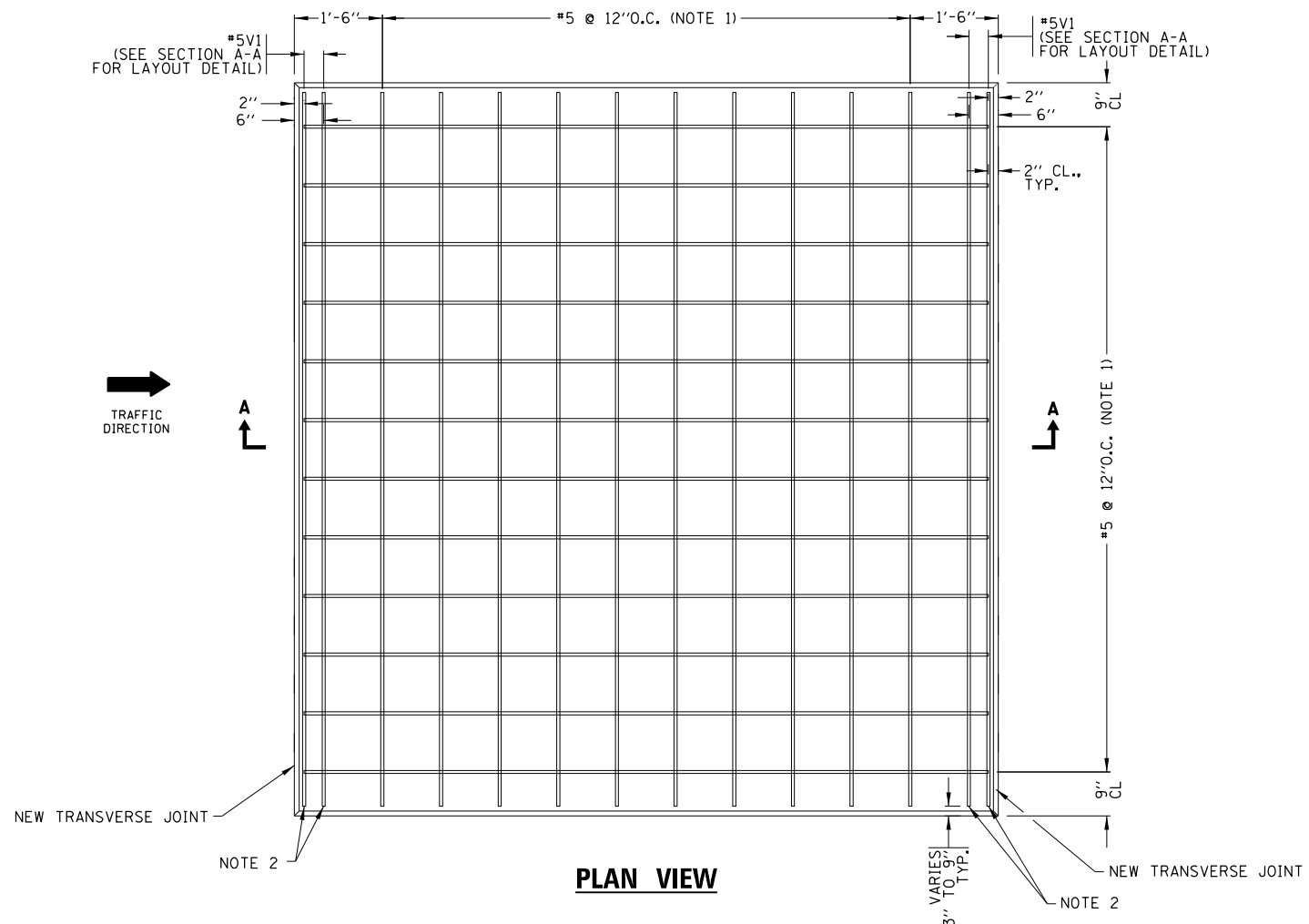


**REINFORCEMENT SECTION A-A**

ALL BARS ARE TRIM TO FIT #5 BAR  
SAW CUTS OFF LONGITUDINAL EDGES SHALL BE NO MORE THAN 6" OFF THE EDGES

**STANDARD SLAB TYPICAL REINFORCEMENT DETAIL**

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED - D.G. 6-14	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRECAST CONCRETE PAVEMENT SLABS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default		DRAWN -	REVISED -					339	116(R&R-3)PCC-PP-1	COOK	45	20
	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED -					<b>BD 57</b>		<b>CONTRACT NO. 62A11</b>		
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -	SCALE: NONE SHEET 2 OF 19 SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT					

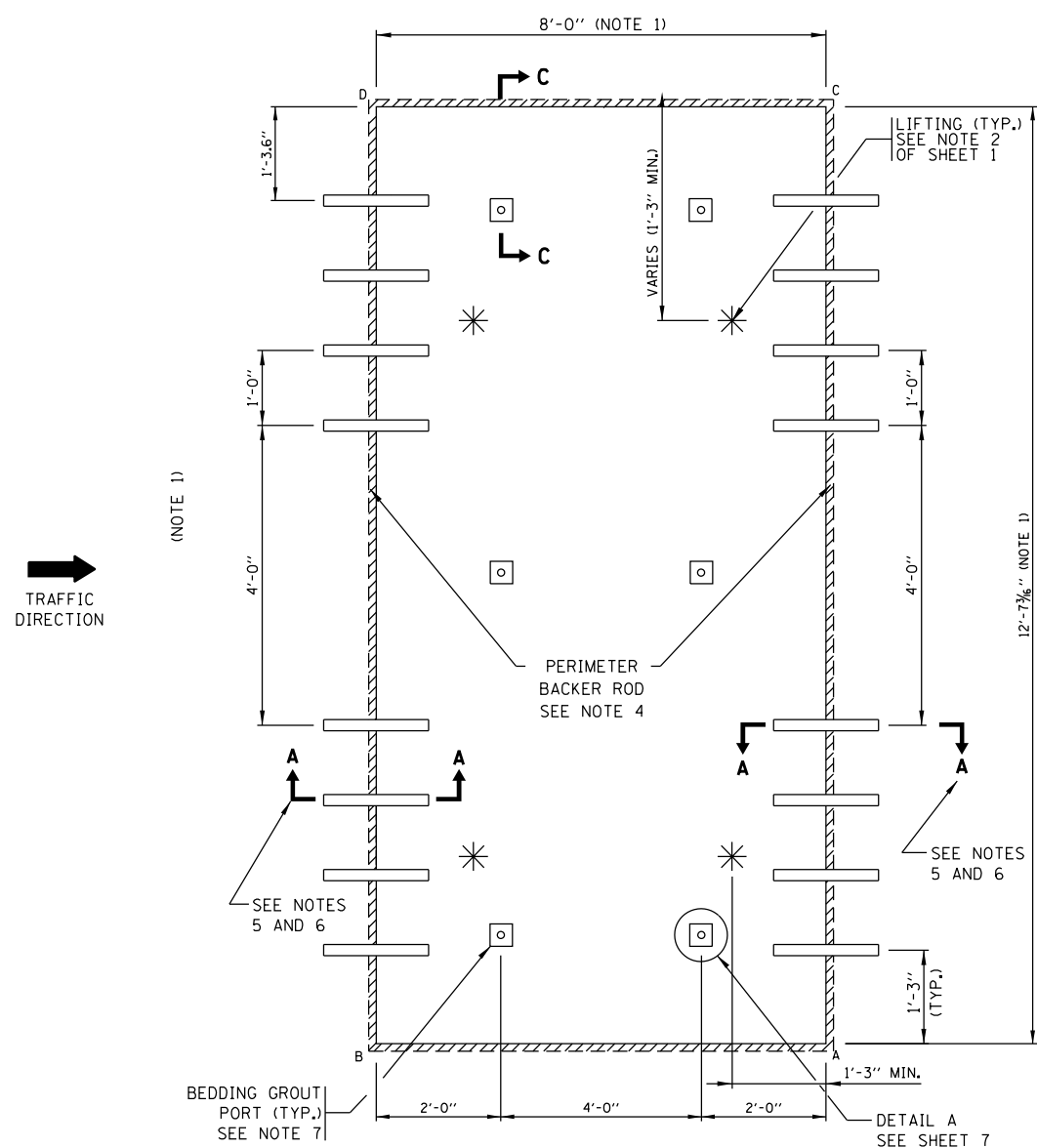


ALL BARS ARE TRIM TO FIT #5 BAR  
 SAW CUTS OFF LONGITUDINAL EDGES SHALL BE NO MORE THAN 6" OFF THE EDGES

- NOTES:**
1. FOR ALL CUSTOM SLABS OF TRAPEZOID SHAPES, THIS REINFORCEMENT SHALL BE LAID OUT IN A PERPENDICULAR GRID PATTERN, NOT SKEWED.
  2. THIS REINFORCEMENT SHALL BE PARALLEL TO THE NEW TRANSVERSE JOINT.

## CUSTOM SLAB TYPICAL REINFORCEMENT DETAIL

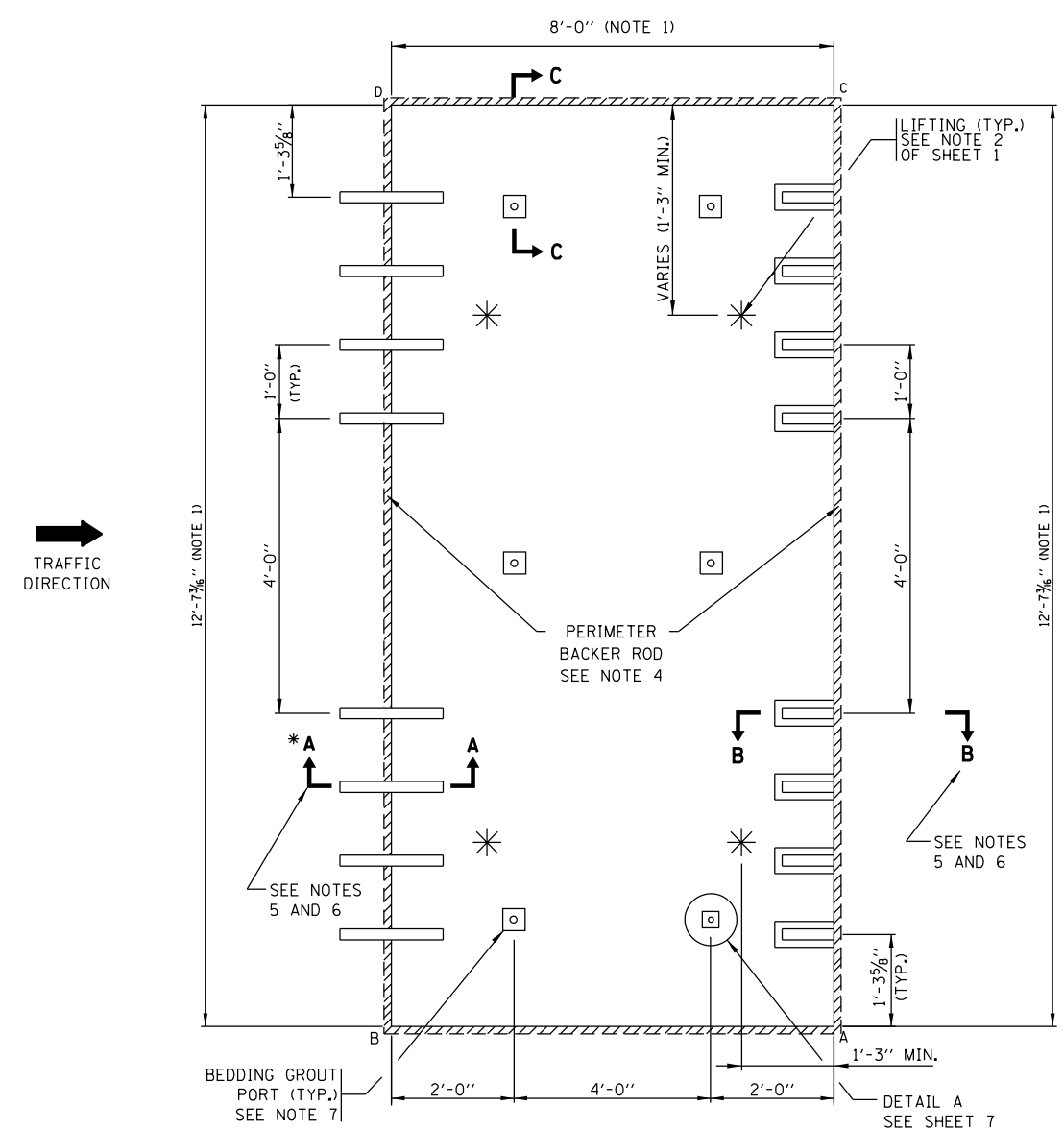
FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED - D.G. 6-14	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRECAST CONCRETE PAVEMENT SLABS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default	et:\pwork\pwork\pencepl\d0410948\Dist\td.dgn	DRAWN -	REVISED -					339	116(R&R-3)PCC-PP-1	COOK	45	21
	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -		<b>BD 57</b>			<b>CONTRACT NO. 62A11</b>				
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -		SCALE: NONE	SHEET 3 OF 19 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT			



**STANDARD 12'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT  
WITH EMBEDDED DOWELS FOR PRECAST WIDE MOUTH  
SLOTS IN ADJACENT PAVEMENT**

**NOTES:**

1. THE WIDTH AND LENGTH OF PRODUCED SLABS SHALL BE THE INDICATED DIMENSIONS  $\pm 1/8"$ .
2. FOR MIDDLE LANE SLAB OPENINGS/PATCHES LESS THAN 12'-6" IN WIDTH AND GREATER THAN 11'-6" IN WIDTH, THE STANDARD PERCAST SLAB CAN BE SAW CUT ON-SITE TO FIT THE OPENING AND TO MAINTAIN ALIGNMENT WITH EXISTING LONGITUDINAL JOINTS. OTHERWISE, THE SLAB PATCH LOCATION MUST BE PRESURVEYED BY THE CONTRACTOR AND THE SLAB FABRICATED AS A CUSTOM SLAB.
3. SLAB THICKNESS SHALL BE AS INDICATED IN THE PLANS.
4. A FOAM BACKER ROD SHALL BE PLACED AROUND THE OUTSIDE PERIMETER OF THE SLAB AT THE BOTTOM OF THE JOINTS BEFORE THE SLAB HAS BEEN SET AND BEFORE BEDDING GROUT OR POLYURETHANE LEVELING FILL IS APPLIED. THE BACKER ROD SHALL NOT BE REQUIRED WHEN ANY SLAB IS LEVELLED WITH FLOWABLE FILL.
5. SEE SHEET 7 FOR SECTION DETAILS.
6. IT SHALL BE THE CONTRACTOR'S OPTION TO REPLACE ANY EMBEDDED DOWEL BARS OR PREFORMED SLOTS AS SHOWN ON THESE DRAWINGS WITH FULLY RETROFITTED DOWEL BARS FIELD INSTALLED IN ACCORDANCE WITH "DETAIL C" OF SHEET 13. THE CONTRACTOR SHALL USE AN APPROVED TEMPLATE TO LOCATE THE SAW CUTS REQUIRED FOR PROPER SPACING AND RETROFITTING OF THE DOWEL BARS IN ACCORDANCE WITH THESE DRAWINGS. DIAMOND BLADED GANG SAWS SHALL BE USED TO MAKE SAW CUTS PERPENDICULAR TO THE TRANSVERSE (NON-SKEWED) JOINT LINE TO ALLOW FOR DOWEL BAR PLACEMENTS WITHIN THE SPECIFIED TOLERANCES.
7. SEE NOTE 8 ON SHEET 1 FOR LOCATING UNDERSEALING GROUT PORTS.



**STANDARD 12'-6" WIDE PANEL LAYOUT FOR CONSECUTIVE PLACEMENT**

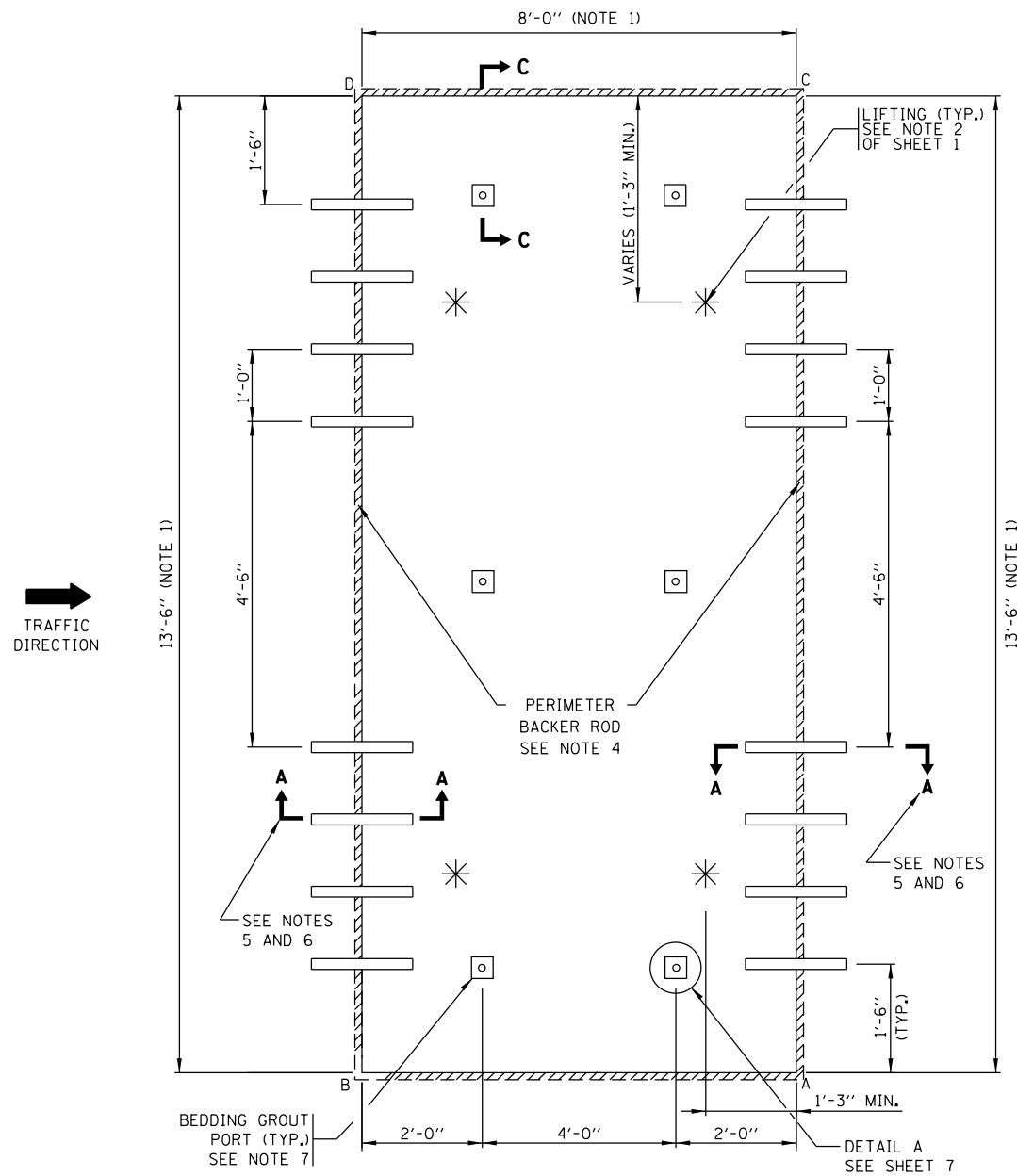
\* FOR INTERNAL CONSECUTIVE SLABS, PREFORMED SLOTS IN ACCORDANCE WITH SECTION B-B OF SHEET 4 MAY BE USED IN-PLACE OF EMBEDDED DOWELS OR OF FIELD RETROFITTED DOWEL BARS WITH SAWCUT SLOTS. ALL PREFORMED SLOTS MUST BE FILLED BEFORE BEING OPENED TO TRAFFIC.

FILE NAME =	USER NAME = PencePL	DESIGNED - 0. PATEL	REVISED - D.G. 6-14
Default	PLOT DATE = 4/7/2015	CHECKED -	REVISIED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>PRECAST CONCRETE PAVEMENT SLABS</b>			
SCALE: NONE	SHEET 4 OF 19 SHEETS	STA.	TO STA.

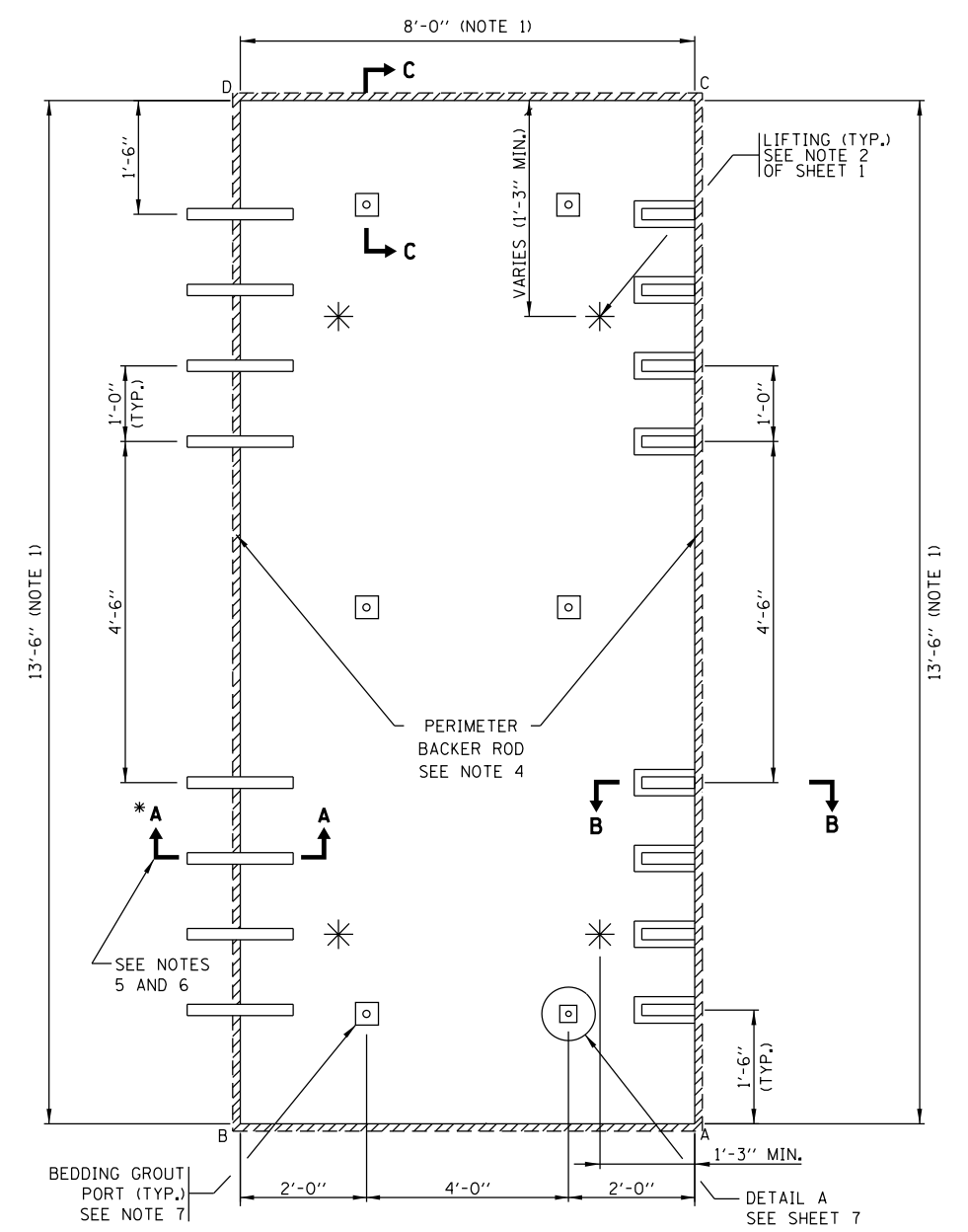
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	22
<b>BD 57</b>		<b>CONTRACT NO. 62A11</b>		
ILLINOIS FED. AID PROJECT				



**STANDARD 13'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT WITH EMBEDDED DOWELS FOR PRECUT WIDE MOUTH SLOTS IN ADJACENT PAVEMENT.**

**NOTES:**

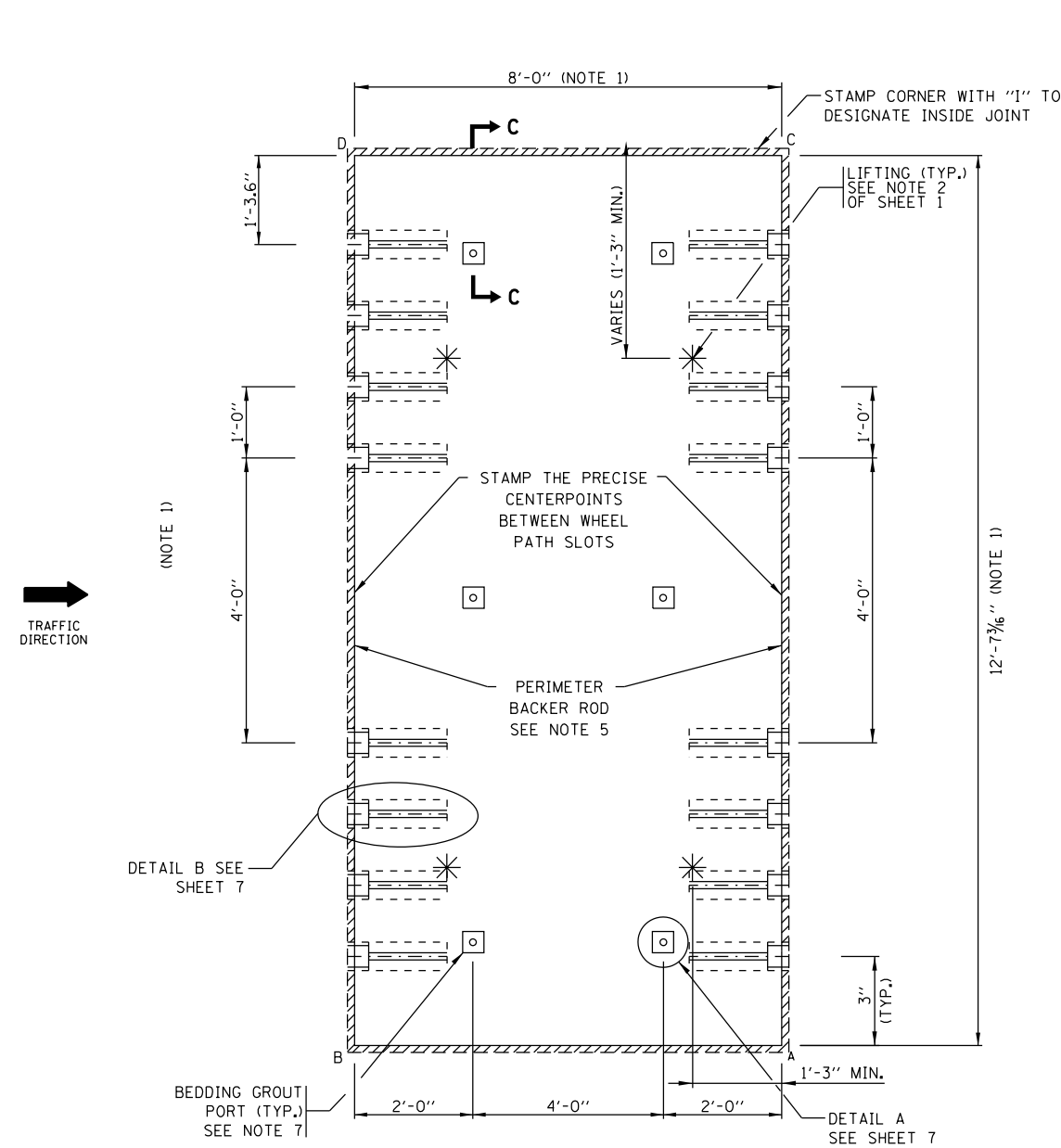
1. THE WIDTH AND LENGTH OF PRODUCED SLABS SHALL BE THE INDICATED DIMENSIONS  $\pm 1/8"$ .
2. FOR MIDDLE LANE SLAB OPENINGS/PATCHES LESS THAN 13'-6" IN WIDTH AND GREATER THAN 12'-6" IN WIDTH, THE STANDARD PERCAST SLAB CAN BE SAW CUT ON-SITE TO FIT THE OPENING AND TO MAINTAIN ALIGNMENT WITH EXISTING LONGITUDINAL JOINTS. OTHERWISE, THE SLAB PATCH LOCATION MUST BE PRESURVEYED BY THE CONTRACTOR AND THE SLAB FABRICATED AS A CUSTOM SLAB.
3. SLAB THICKNESS SHALL BE AS INDICATED IN THE PLANS.
4. A FOAM BACKER ROD SHALL BE PLACED AROUND THE OUTSIDE PERIMETER OF THE SLAB AT THE BOTTOM OF THE JOINTS BEFORE THE SLAB HAS BEEN SET AND BEFORE BEDDING GROUT OR POLYURETHANE LEVELING FILL IS APPLIED. THE BACKER ROD SHALL NOT BE REQUIRED WHEN ANY SLAB IS LEVELLED WITH FLOWABLE FILL.
5. SEE SHEET 7 FOR SECTION DETAILS.
6. IT SHALL BE THE CONTRACTOR'S OPTION TO REPLACE ANY EMBEDDED DOWEL BARS OR PREFORMED SLOTS AS SHOWN ON THESE DRAWINGS WITH FULLY RETROFITTED DOWEL BARS FIELD INSTALLED IN ACCORDANCE WITH "DETAIL C" OF SHEET 13. THE CONTRACTOR SHALL USE AN APPROVED TEMPLATE TO LOCATE THE SAW CUTS REQUIRED FOR PROPER SPACING AND RETROFITTING OF THE DOWEL BARS IN ACCORDANCE WITH THESE DRAWINGS. DIAMOND BLADED GANG SAWS SHALL BE USED TO MAKE SAW CUTS PERPENDICULAR TO THE TRANSVERSE (NONSKewed) JOINT LINE TO ALLOW FOR DOWEL BAR PLACEMENTS WITHIN THE SPECIFIED TOLERANCES.
7. SEE NOTE 8 ON SHEET 1 FOR LOCATING UNDERSEALING GROUT PORTS.



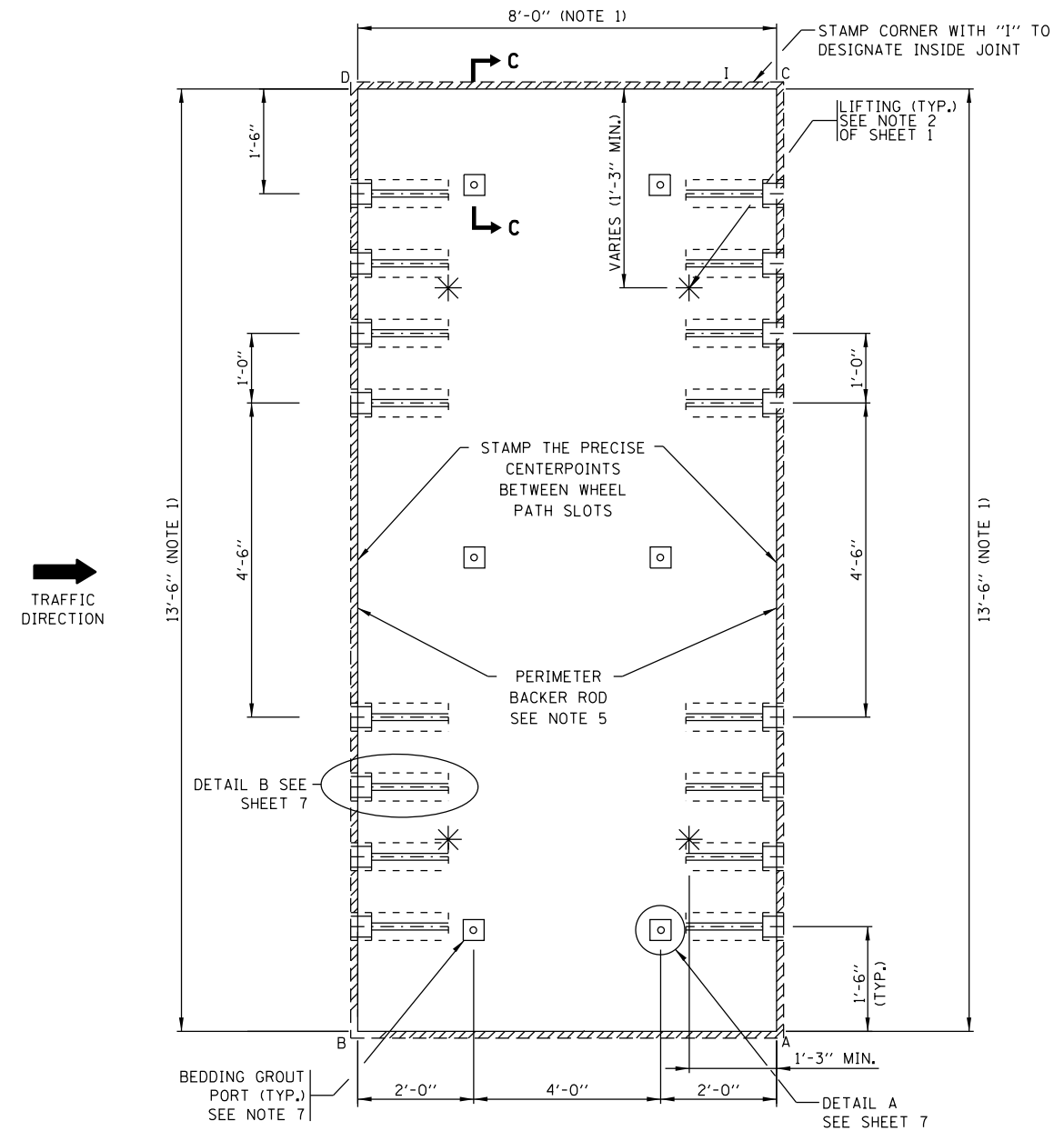
**STANDARD 13'-6" WIDE PANEL LAYOUT FOR CONSECUTIVE PLACEMENT**

\* FOR INTERNAL CONSECUTIVE SLABS, PREFORMED SLOTS IN ACCORDANCE WITH SECTION B-B OF SHEET 4 MAY BE USED IN-PLACE OF EMBEDDED DOWELS OR OF FIELD RETROFITTED DOWEL BARS WITH SAWCUT SLOTS. ALL PREFORMED SLOTS MUST BE FILLED BEFORE BEING OPENED TO TRAFFIC.

FILE NAME =	USER NAME = PencePL	DESIGNED - 0. PATEL	REVISED - D.G. 6-14	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRECAST CONCRETE PAVEMENT SLABS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	Plot Scale = 100.0000' / 1in.	CHECKED -	REVISED -		SCALE: NONE	SHEET 5 OF 19 SHEETS	STA.	TO STA.	339	116(R&R-3)PCC-PP-1	COOK	45	23
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -						<b>BD 57</b>		<b>CONTRACT NO. 62A11</b>		
									ILLINOIS FED. AID PROJECT				



**STANDARD 12'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT WITH NARROW MOUTH PREFORMED DOWEL SLOTS TO ALIGN WITH PREDRILLED HOLES IN ADJACENT PAVEMENT.**



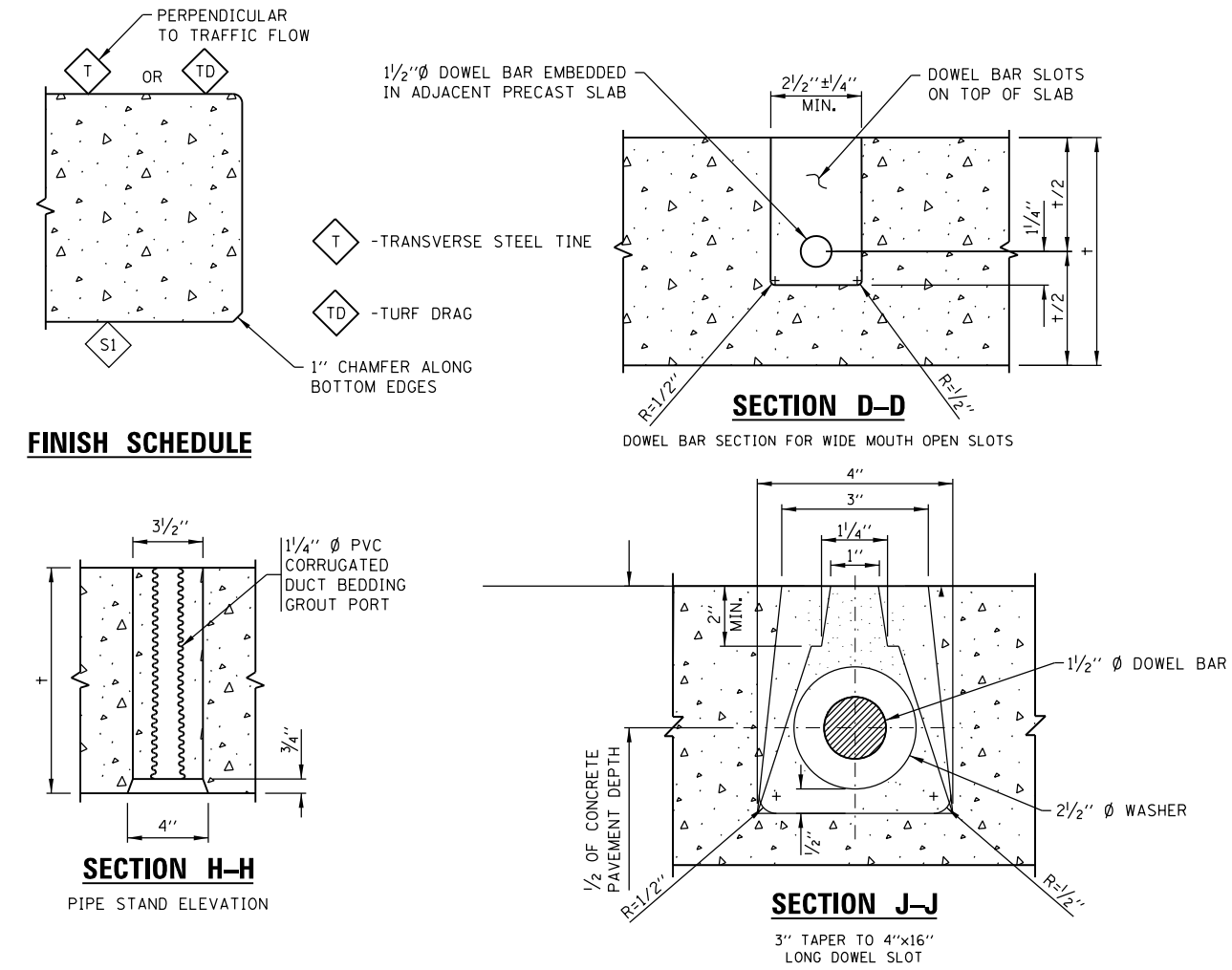
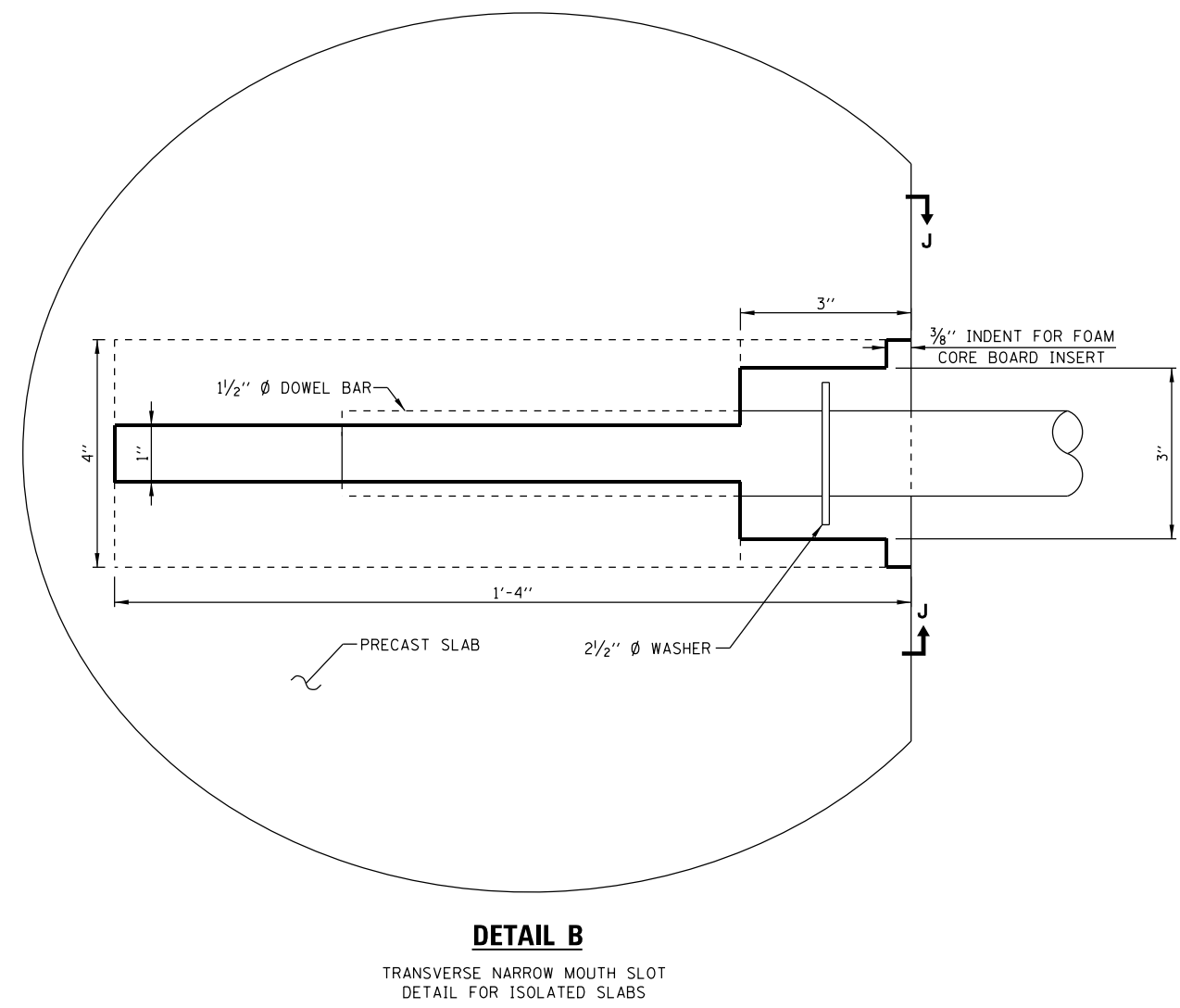
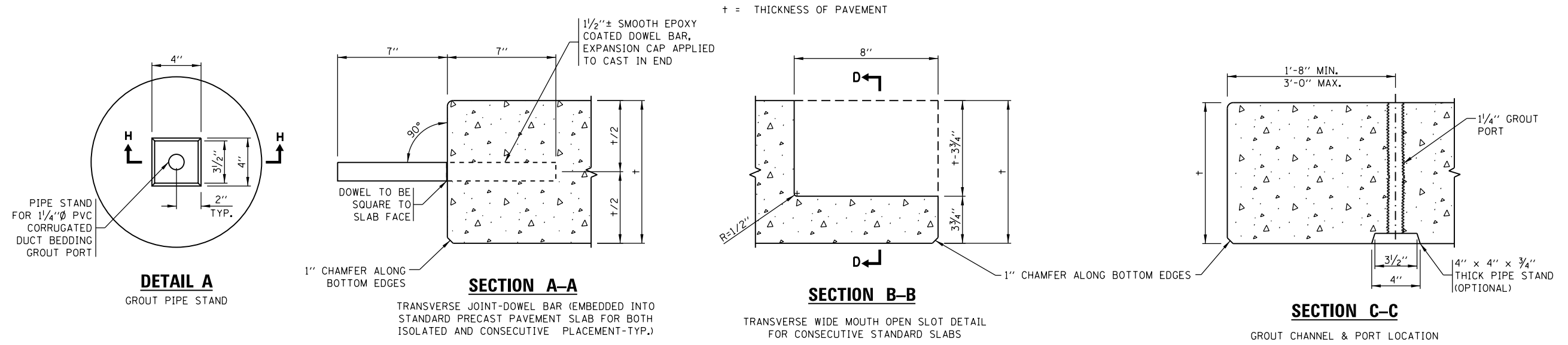
**STANDARD 13'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT WITH NARROW MOUTH PREFORMED DOWEL SLOTS TO ALIGN WITH PREDRILLED HOLES IN ADJACENT PAVEMENT.**

**NOTES:**

1. THE WIDTH AND LENGTH OF PRODUCED SLABS SHALL BE THE INDICATED DIMENSIONS  $\pm 1/8"$ .
2. FOR MIDDLE LANE SLAB OPENINGS/PATCHES LESS THAN 12'-6" IN WIDTH AND GREATER THAN 11'-6" IN WIDTH, THE 12'-6" WIDE STANDARD PERCAST SLAB CAN BE SAW CUT ON-SITE TO FIT THE OPENING AND TO MAINTAIN ALIGNMENT WITH EXISTING LONGITUDINAL JOINTS. OTHERWISE, THE SLAB PATCH LOCATION MUST BE PRESURVEYED BY THE CONTRACTOR AND THE SLAB FABRICATED AS A CUSTOM SLAB.
3. FOR MIDDLE LANE SLAB OPENINGS/PATCHES LESS THAN 13'-6" IN WIDTH AND GREATER THAN 12'-6" IN WIDTH, THE 13'-6" WIDE STANDARD PERCAST SLAB CAN BE SAW CUT ON-SITE TO FIT THE OPENING AND TO MAINTAIN ALIGNMENT WITH EXISTING LONGITUDINAL JOINTS. OTHERWISE, THE SLAB PATCH LOCATION MUST BE PRESURVEYED BY THE CONTRACTOR AND THE SLAB FABRICATED AS A CUSTOM SLAB.
4. SLAB THICKNESS SHALL BE AS INDICATED IN THE PLANS.
5. A FOAM BACKER ROD SHALL BE PLACED AROUND THE OUTSIDE PERIMETER OF THE SLAB AT THE BOTTOM OF THE JOINTS BEFORE THE SLAB HAS BEEN SET AND BEFORE BEDDING GROUT OR POLYURETHANE LEVELING FILL IS APPLIED. THE BACKER ROD SHALL NOT BE REQUIRED WHEN ANY SLAB IS LEVELLED WITH FLOWABLE FILL.
6. SEE SHEET 7 FOR SECTION DETAILS.
7. SEE NOTE 8 ON SHEET 1 FOR LOCATING UNDERSEALING GROUT PORTS.

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED - D.G. 6-14	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRECAST CONCRETE PAVEMENT SLABS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default	et:\pw\work\p\dot\pencepl\d0410948\01st\d.dgn	DRAWN -	REVISED -					339	116(R&R-3)PCC-PP-1	COOK	45	24
	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED -					<b>BD 57</b>		<b>CONTRACT NO. 62A11</b>		
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -					SCALE: NONE	SHEET 6 OF 19 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT





# FABRICATION DETAILS

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED - D.G. 6-14	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRECAST CONCRETE PAVEMENT SLABS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
Default	Plot Scale = 100.0000' / 1in.	CHECKED -	REVISED -					339	116(R&R-3)PCC-PP-1	COOK	45	25			
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -					SCALE: NONE		SHEET 7 OF 19 SHEETS	STA.	TO STA.	CONTRACT NO. 62A11		
								ILLINOIS FED. AID PROJECT							

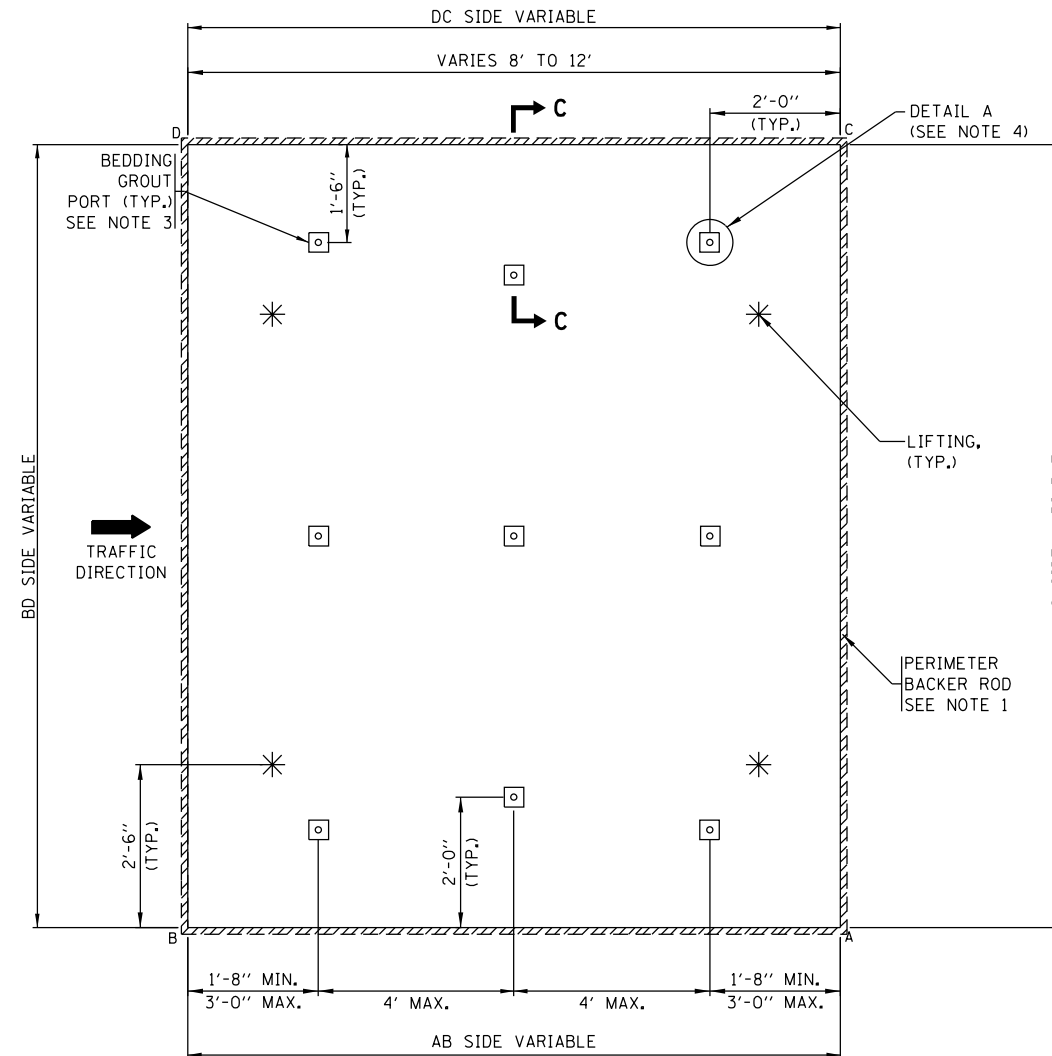
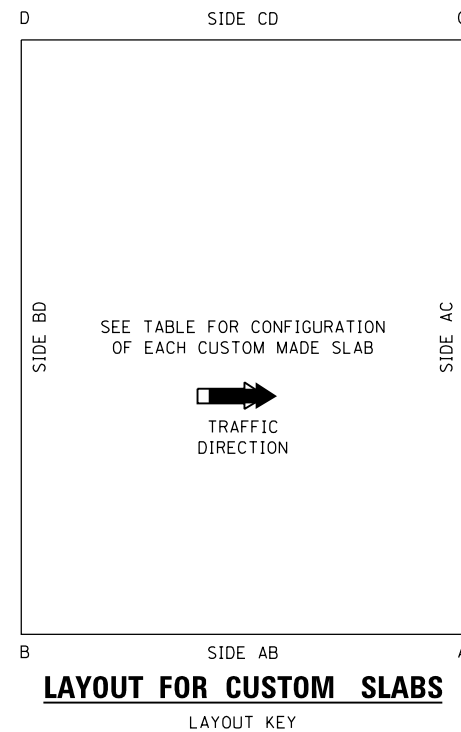
FOR NON STANDARD SLABS, UPON COMPLETION BY THE CONTRACTOR A SLAB LAYOUT WILL BE ADDED WITH SLAB DIMENSIONS TO INCLUDE BUT NOT BE LIMITED TO THE TABLE SHOWN BELOW.

EXAMPLE	ROUTE	STATION NUMBER	MAINLINE LANE NO.	RAMP ID.	RAMP LANE NO.	MARK NO.	LANE TYPE	VARIABLES (FT.)				AB* SIDE	BD* SIDE	CD* SIDE	AC* SIDE	AREA (SQ.FT.)	VOLUME (CU. FT.)	WEIGHT (TONS)	DIAGONALS (FT.)	
								AB (FT.)	AC (FT.)	BD (FT.)	CD (FT.)								AD	BC

MAINLINE LANE NO.: LANE NO. 1 IS ADJACENT TO MEDIAN SHOULDER.  
 RAMP LANE NO.: LANE NO. 1 IS ADJACENT TO THE BUILDING  
 MARK NO.: EACH PANEL SHALL BE INDIVIDUALLY MARKED FOR CORRECT PLACEMENT.  
 LANE TYPE: "OUT" IN THIS COLUMN INDICATES OUTSIDE LANE.  
 "MID" IN THIS COLUMN INDICATES MIDDLE LANE.  
 "IN" IN THIS COLUMN INDICATES INSIDE LANE

**\*LEGEND**

DB= DOWEL BAR EMBEDDED  
 DS= DOWEL SLOT  
 ST= SLOT OR HOLE FOR STITCHED TIE BAR  
 RD= FIELD RETROFITTED DOWEL BARS



**LAYOUT DETAIL FOR CUSTOM SLABS 8'-12' IN LENGTH (VARIED WIDTH)\*\***

\*\*FOR TRAPEZOID SLABS MINIMUM WIDTH IS 2 FT. WITH MAXIMUM WIDTH OF 16 FT.

**NOTES:**

1. A FOAM BACKER ROD SHALL BE PLACED AROUND THE OUTSIDE PERIMETER OF THE SLAB AT THE BOTTOM OF THE JOINTS BEFORE THE SLAB HAS BEEN SET AND BEFORE BEDDING GROUT OR POLYURETHANE LEVELING FILL IS APPLIED. THE BACKER ROD SHALL NOT BE REQUIRED WHEN ANY SLAB IS LEVELED WITH A FLOWABLE FILL.
2. EITHER SINGLE DIAMOND BLADED SAWS OR DIAMOND BLADED GANG SAWS SHALL BE USED TO MAKE THE SAW CUTS PERPENDICULAR TO THE TRANSVERSE (NONSKewed) JOINT LINE TO ALLOW FOR DOWEL BAR PLACEMENTS WITHIN THE SPECIFIED TOLERANCES.
3. SEE NOTE 8 ON SHEET 1 FOR LOCATING BEDDING GROUT PORTS.
4. SEE SHEET 7 FOR SECTION DETAILS.

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED - D.G. 6-14
et:\pw\work\p\dot\pencepl\d0410948\01st\d.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PRECAST CONCRETE PAVEMENT SLABS**

SCALE: NONE SHEET 8 OF 19 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	26
<b>BD 57</b>		<b>CONTRACT NO. 62A11</b>		
ILLINOIS FED. AID PROJECT				

# INSTALLATION GENERAL NOTES

## ALIGNMENT:

- WHEN THE TRANSVERSE JOINTS OF ANY PRECAST SLAB CAN NOT BE ALIGNED WITH TRANSVERSE JOINTS IN ADJACENT LANES, A MINIMUM 2'-0" OFFSET BETWEEN JOINTS SHALL BE PROVIDED.
- THE LONGITUDINAL JOINT OF ANY ISOLATED OR CONSECUTIVE STANDARD PRECAST SLAB MUST BE ALIGNED TO BE PARALLEL WITH EXISTING LONGITUDINAL JOINTS. NO LONGITUDINAL OFFSETS SHALL BE ALLOWED. THE WIDTH OF ANY OF THE STANDARD PRECAST SLABS SHALL BE SAW CUT ON-SITE TO BE ALIGNED WITH THE EXISTING LONGITUDINAL JOINTS IN ADJACENT LANES OF EXISTING CONCRETE PAVEMENTS. THE WIDTH OF THE PRECAST SLAB SHALL BE NO MORE THAN 1/2 INCH LESS THAN THE WIDTH OF THE EXISTING SLAB BEING REPLACED. IF A STANDARD SLAB DOES NOT COMPLY WITH TOLERANCES FOR MAXIMUM AND MINIMUM WIDTHS FOR A DESIGNATED LOCATION, THEN A CUSTOM SLAB SHALL BE REQUIRED TO BE PRODUCED AND PLACED.
- THE TRANSVERSE JOINT OF ANY PRECAST SLAB SHALL BE NO LESS THAN 4'-0" DISTANCE FROM AN EXISTING TRANSVERSE JOINT THAT REMAINS, OR NO LESS THAN 2'-0" DISTANCE PAST ANY EXISTING TRANSVERSE JOINT THAT IS REMOVED AND REPLACED WITH A PRECAST SLAB.
- PRIOR TO THE PLACEMENT OF AN ISOLATED STANDARD PRECAST SLAB IN A MIDDLE LANE, THE WIDTH BETWEEN EXISTING LONGITUDINAL CONCRETE PAVEMENT JOINTS SHALL BE MEASURED BY THE CONTRACTOR UNDER MAINTENANCE OF TRAFFIC PROVIDED BY THE CONTRACTOR. ONLY APPROXIMATE WIDTHS SHALL BE MEASURED BY AND PROVIDED BY THE DESIGNER FOR BIDDING PURPOSES. THE CONTRACTOR'S WIDTH MEASUREMENTS SHALL BE USED TO DETERMINE THE NEED FOR ANY ON-SITE SAWCUTS OF THE LONGITUDINAL EDGES TO FIT THE OPENING AND TO ALIGN THE SAW CUT EDGE(S) WITH ANY EXISTING LONGITUDINAL JOINTS. THE LONGITUDINAL EDGES OF ANY STANDARD SLAB SHALL NOT BE SAW CUT MORE THAN 6 INCHES OFF THE ORIGINAL EDGE. NO NEW LONGITUDINAL JOINT SHALL BE ALLOWED INSIDE THE EXISTING JOINT BY MORE THAN 3/8 INCH. IF THESE TOLERANCES CAN NOT BE MET, THEN A CUSTOM SLAB SHALL BE REQUIRED. FOR ISOLATED STANDARDS SLABS PLACED IN THE OUTSIDE OR INSIDE LANES, THE NEW CONCRETE LONGITUDINAL JOINT SHALL MATCH THE EXISTING JOINT. THE STANDARD PRECAST SLAB MAY EXTEND INTO THE EXISTING HMA SHOULDERS NO MORE THAN 6 INCHES TO ALLOW FOR PROPER ALIGNMENT OF THE CONCRETE JOINTS. THE ONLY ALTERNATIVE TO ON-SITE SAW CUTTING OF ISOLATED STANDARD SIZES PRE-FABRICATED SLABS IS TO DESIGN AND FABRICATE EACH SLAB, TAKING WIDTH MEASUREMENTS AT THE BEGINNING OF A PROJECT AND THEN FABRICATING THE SLAB TO FIT THE SPECIFIC OPENING DIMENSIONS.
- FOR STANDARD SLAB PLACEMENTS, A TEMPLATE SUPPLIED BY THE PRECAST FABRICATOR SHALL BE USED TO LOCATE THE PERIMETER SAW CUTS FOR THE SLAB. THE TEMPLATE MAY BE USED TO MARK LONGITUDINAL EDGE SAW CUT LOCATIONS ON A PRECAST SLAB TO FIT THE SAME PATCH OPENING THAT THE TEMPLATE WAS USED FOR TO LOCATE A PERIMETER SAW CUT. IF THE SLAB DOWEL BAR IS RETROFITTED OR FABRICATED FOR INSERTED DOWELS, THE TEMPLATE MAY ALSO BE USED FOR THE EMBEDDED /SLOTTED DOWEL BAR LOCATIONS TO BE RETROFITTED OR INSERTED INTO EXISTING PAVEMENT.

## LOAD TRANSFER:

- ACROSS STANDARD SLABS
  - THE EMBEDDED DOWEL BARS OF ISOLATED STANDARD PRECAST SLABS SHALL BE RETROFITTED INTO EXISTING CONCRETE PAVEMENT IN ACCORDANCE WITH DETAIL D (SEE SHEET 14).
  - THE EMBEDDED DOWEL BARS OF CONSECUTIVE STANDARD SLABS SHALL BE:
    - RETROFITTED INTO THE EXISTING CONCRETE PAVEMENT AT THE LOCATION OF THE FIRST SLAB PLACEMENT IN ACCORDANCE WITH DETAIL D (SEE SHEET 14).
    - RETROFITTED INTO THE PREFORMED SLOTS OF ADJACENT PRECAST SLABS IN ACCORDANCE WITH DETAIL E (SEE SHEET 15).
    - EITHER FULLY RETROFITTED INTO THE PREFORMED SLOT OF THE LAST INSTALLED CONSECUTIVE PRECAST SLAB AND THE ADJACENT CONCRETE PAVEMENT IN ACCORDANCE WITH DETAIL F (SEE SHEET 16), OR PARTIALLY RETROFIT AN EMBEDDED DOWEL BAR OF A STANDARD ISOLATED SLAB INTO ADJACENT PAVEMENT AS THE LAST INSTALLED CONSECUTIVE PRECAST SLAB IN ACCORDANCE WITH DETAIL D (SEE SHEET 14).
  - FOR PRECAST STANDARD SLABS WITH NO EMBEDDED DOWEL BARS AND WITH NO NARROW MOUTH PREFORMED SLOTS FOR DOWEL INSERTIONS, THE DOWEL BARS SHALL BE FULLY RETROFITTED ACROSS ALL TRANSVERSE JOINTS IN THE FIELD IN ACCORDANCE WITH DETAIL C (SEE SHEET 13). THE LOCATIONS AND SPACING OF ALL FIELD RETROFITTED DOWEL BARS SHALL COMPLY WITH THE SPECIFIED TOLERANCES AS SHOWN ON SHEETS 4 AND 5.
  - FOR PRECAST STANDARD SLABS WITH LONG AND NARROW MOUTH PREFORMED SLOTS AS SHOWN ON SHEET 6, THE LOCATIONS FOR PREDRILLED HOLES FOR DOWEL BAR INSERTIONS SHALL BE ALIGNED WITH THE PREFORMED SLOTS IN THE SPECIFIC PANEL BEING PLACED. ONLY GANG DRILLS WILL BE USED TO DRILL THE HOLES. THE HOLES SHALL BE PARALLEL TO THE GRADE AND CENTERLINE OF THE PAVEMENT WITH A TOLERANCE OF 1/8 INCH IN 12 INCHES. THE DRILLING OPERATION SHALL NOT CRACK OR SPALL THE PAVEMENT. BEFORE SLAB PLACEMENT, THE DOWEL BARS SHALL BE PLACED WITHIN THE ELONGATED SLOTS AND THE PREDRILLED HOLES THOROUGHLY CLEANED OF DRILLING DEBRIS. AFTER SLAB PLACEMENT, THE DOWEL BARS WILL BE SLID INTO THE PREDRILLED HOLES AND EPOXIED IN ACCORDANCE WITH ARTICLE 442.06(g)(2) OF THE STANDARD SPECIFICATIONS WITH RETENTION DISKS OR WASHERS PLACED AGAINST THE FACE OF THE SLAB. SEE DETAIL G OF SHEET 17. IMMEDIATELY PRIOR TO FILLING THE PREFORMED SLOT WITH BACKFILL GROUT, THE EXPOSED ENDS OF THE DOWEL BARS SHALL BE CLEANED AND LIGHTLY OILED IN SUCH A MANNER AS TO NOT CONTAMINATE THE SURFACE OF ANY CLEANED SLOT AND THE FOAM CORE BOARD SHALL BE INSERTED AT THE FACE OF THE ADJACENT SLAB.

- ACROSS CUSTOM MADE SLABS
  - THE DOWEL BARS OF CUSTOM DESIGNED PRECAST SLABS PLACED CONSECUTIVELY, PLACED ON WARPED GRADES, OR PLACED ON RAMPS SHALL BE FULLY RETROFITTED ACROSS THE JOINT IN THE FIELD IN ACCORDANCE WITH DETAIL C (SEE SHEET 13). FOR ALL SUCH CUSTOM SLABS, THE DOWELS BETWEEN ANY EXISTING CONCRETE PAVEMENT AND ANY ADJACENT PRECAST SLABS, AND BETWEEN CONSECUTIVELY PLACED CUSTOM PRECAST SLABS SHALL BE 1'-0" ON CENTER ACROSS THE ENTIRE JOINT.
  - THE DOWEL BARS OF CUSTOM DESIGNED ISOLATED PRECAST SLABS PLACED ON TANGENT MAINLINE PAVEMENT FOR MID SLAB CRACK REPAIR OR FOR JOINT REPLACEMENT CAN BE EITHER RETROFITTED ACROSS THE JOINT IN ACCORDANCE WITH DETAIL C (SEE SHEET 13), OR FULLY INSERTED INTO THE ADJACENT PAVEMENT IN ACCORDANCE WITH DETAIL G (SEE SHEET 17). THE LOCATIONS AND SPACING OF ALL FIELD RETROFITTED OR FIELD INSERTED DOWEL BARS SHALL COMPLY WITH THE SPECIFIED TOLERANCES AS SHOWN ON SHEETS 4 AND 5. FIELD INSERTION OF DOWEL BARS SHALL BE IN ACCORDANCE WITH NOTE 6(D) ABOVE.
  - NO END DOWEL BARS SHALL BE RETROFITTED OR INSERTED WITHIN 8" OR NO MORE THAN 1'-7" FROM THE CORNER OF THE PRECAST SLAB OR ADJOINING CONCRETE PAVEMENT SLAB THAT EXISTS.

## LONGITUDINAL TIE BAR STITCHING:

- THE LOCATIONS OF LONGITUDINAL TIE BARS SHALL BE DETERMINED BASED ON THE CRITERIA THAT LONGITUDINAL TIES SHALL BE REQUIRED FOR ANY CLASS B FULL DEPTH REPAIR AND PRECAST REPAIR GREATER THAN 20 FT. IN LENGTH OR WITH ANY PRECAST REPAIR THAT REQUIRES MORE THAN 3 CONSECUTIVE PRECAST SLABS.
- THE SPACING BETWEEN TIE BARS SHALL BE NO LESS THAN 24 INCHES. TIE BAR INSERTIONS SHALL BE NO LESS THAN 24 INCHES FROM ANY EXISTING TRANSVERSE JOINT OR FROM THE LOAD TRANSFER JOINTS OF ANY PLACED PRECAST SLAB OR CAST-IN-PLACE CONCRETE PATCH IN EITHER LANE ADJACENT TO THE LONGITUDINAL JOINT. THE PROCEDURE AND LOCATIONS FOR TIE BAR STITCHING SHALL BE IN ACCORDANCE WITH DETAIL H (SEE SHEET 19).

## MATERIALS:

- FOR GRADE SUPPORTED PRECAST SLABS, THE BEDDING AND UNDERSEALING MATERIAL FOR LEVELING AND SUPPORT SHALL CONSIST OF:
  - LEVELING SAND SHALL BE 100% CRUSHED FINE AGGREGATE OF AN FA-6, FA-20, OR FA-21 GRADATION AS SPECIFIED IN SECTION 1003 OF THE STANDARD SPECIFICATIONS. THE FINE AGGREGATE SHALL BE REASONABLY FREE FROM AN EXCESS OF SOFT AND UNSOUND PARTICLES AND OTHER OBJECTIONABLE MATTER. THE TYPICAL THICKNESS OF THE LEVELING SAND LAYER SHALL BE APPROXIMATELY 1/4 INCH WITH A MAXIMUM THICKNESS OF 1 INCH.
  - FOR GRADE SUPPORTED SLABS, UNDERSEALING GROUT SHALL BE USED AFTER SLAB INSTALLATION TO FILL ALL VOIDS BENEATH THE PRECAST PANELS. THE MIXTURE USED FOR UNDERSEALING GROUT SHALL CONSIST OF PORTLAND CEMENT, FLY ASH, GROUND GRANULATED BLAST FURNACE SLAG (OPTIONAL), A SUPERPLASTICIZER, AND WATER ALL IN ACCORDANCE WITH DIVISION 1000 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT THE PROPOSED MIX DESIGN FOR UNDERSEALING GROUT TO THE ENGINEER FOR DEPARTMENT APPROVAL PRIOR TO PLACEMENT. THE UNDERSEALING GROUT PRODUCED SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
    - THE UNDERSEALING GROUT SHALL REMAIN FLUID AND NOT EXHIBIT A RESISTANCE TO FLOW FOR A MINIMUM OF ONE HOUR. THE GROUT MIXTURE SHALL HAVE A FLOW RATE OF 15 TO 25 SECONDS AS MEASURED BY ASTM C 939 TO ENSURE FLUIDITY.
    - THE UNDERSEALING GROUT SHALL ACHIEVE AN INITIAL SET IN LESS THAN 4 HOURS AND A COMPRESSIVE STRENGTH AS MEASURED BY ASTM C 942 OF 300 PSI BEFORE OPENING THE SLAB TO TRAFFIC AND A COMPRESSIVE STRENGTH OF 500 PSI IN 12 HOURS.
- FOR PRECAST SLABS SUPPORTED AND LEVELED BY FLOWABLE FILL PLACED BEFORE SLAB INSTALLATION, THE FLOWABLE FILL SHALL CONSIST OF PORTLAND CEMENT, FLY ASH, COARSE AND/OR FINE AGGREGATES, WATER, AND AIR ENTRAINING ADMIXTURE (OPTIONAL). THE CONTRACTOR SHALL SUBMIT THE PROPOSED MIX DESIGN FOR FLOWABLE FILL TO THE ENGINEER FOR DEPARTMENT APPROVAL PRIOR TO PLACEMENT. THE FLOWABLE FILL PRODUCED SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
  - PORTLAND CEMENT SHALL BE TYPE 1 CEMENT IN ACCORDANCE WITH SECTION 1001 OF THE STANDARD SPECIFICATIONS.
  - FLY ASH SHALL BE IN ACCORDANCE WITH SECTION 1010 OF THE STANDARD SPECIFICATIONS.
  - FINE AGGREGATE SHALL BE IN ACCORDANCE WITH SECTION 1003 OF THE STANDARD SPECIFICATIONS.
  - COARSE AGGREGATE, IF USED, SHALL BE IN ACCORDANCE WITH SECTION 1004 OF THE STANDARD SPECIFICATIONS WITH A MAXIMUM AGGREGATE SIZE OF 12.5 MM.
  - IF AN AIR ENTRAINMENT ADMIXTURE IS USED, THE AIR CONTENT OF THE FLOWABLE FILL SHALL NOT EXCEED 35% OF THE FLOWABLE FILL VOLUME.
  - THE COMPRESSIVE STRENGTH OF THE FLOWABLE FILL MIXTURE SHALL NOT BE LESS THAN 50 PSI AT 3 DAYS, NOR LESS THAN 75 PSI OR GREATER THAN 150 PSI AT 28 DAYS.
  - THE FINAL SET TIME SHALL BE DETERMINED IN ACCORDANCE WITH ASTM C403 ON A TRIAL BATCH SPECIMEN.
  - THE MAXIMUM THICKNESS OF THE LEVELING FILL SHALL BE 1 INCH.

- FOR PRECAST SLABS SUPPORTED AND LEVELED BY HIGH-DENSITY FOAM PLACED AFTER SLAB INSTALLATION, THE HIGH-DENSITY FOAM SHALL BE EXPANDING POLYURETHANE FOAM HAVING A WATER INSOLUBLE DILUENT AND SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
 

	6.0 MIN.
i) DENSITY (LBS./CU. FT.)-AIR RISE	100 MIN.
TENSILE STRENGTH (PSI) ASTM D 1623	5.1
ELONGATION (%)	100 MIN.
COMPRESSIVE STRENGTH (PSI) ASTM D 1621 (AT YIELD)	0
VOLUME CHANGE (% OF ORIGINAL)	

THE MANUFACTURER SHALL PROVIDE DOCUMENTATION THAT THE LOT(S) OF FOAM MEETS THE SPECIFIED PROPERTIES. MANUFACTURER'S CERTIFICATION SHALL LIST LOT NUMBER(S) AND DOCUMENTATION OF COMPLIANCE WITH THE SPECIFICATION.

  - THE MAXIMUM THICKNESS OF THE HIGH DENSITY FOAM SHALL BE 1 INCH.
- HARDWARE GROUT/ADHESIVES
  - FOR DOWEL BAR RETROFITS OR INSERTIONS, FOR THE FILLING OF ANY GROUT PORT HOLES USED FOR HIGH DENSITY FOAM INJECTIONS, FOR THE FILLING OF DOWEL SLOTS AND FOR THE FILLING OF RECESSED LIFTING DEVICES, THE BACKFILL MATERIAL SHALL BE:
    - FIVE STAR HIGHWAY PATCH AS MANUFACTURED BY FIVE STAR PRODUCTS INC. FAIRFIELD, CONNECTICUT.
    - HIGHWAY DB RETROFIT MORTAR AS MANUFACTURED BY DAYTON SUPERIOR, MIAMISBURG, OHIO.
    - A DEPARTMENT APPROVED EQUIVALENT THAT HAS BEEN TESTED AS A RAPID SET CONCRETE PATCHING MATERIAL PER THE AASHTO NATIONAL TRANSPORTATION PRODUCT EVALUATION PROGRAM (NTP), WHICH CONFORMS TO ASTM C 928. THE GROUT MATERIAL IS REQUIRED TO PROVIDE A COMPRESSIVE STRENGTH OF 4,000 PSI IN 24 HOURS (OPENING TO TRAFFIC AFTER 3,000 PSI) PER ASTM C 39. EXHIBITS EXPANSION OF LESS THAN 0.10 PERCENT PER ASTM C 531, AND HAS A CALCULATED DURABILITY FACTOR OF 90.0 PERCENT MINIMUM AT THE END OF 300 FREEZE-THAW CYCLES PER ASTM C 666. THE PROPOSED MATERIAL SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO ANY PLACEMENT.
  - FOR TIE BAR STITCHING AN APPROVED CHEMICAL ADHESIVE IN ACCORDANCE WITH ARTICLE 1027.01 OF THE STANDARD SPECIFICATIONS SHALL BE USED AS THE ANCHORING MATERIAL FOR STITCHED TIE BARS.
  - FOR DOWEL BAR INSERTIONS, AN APPROVED CHEMICAL ADHESIVE OR EPOXY IN ACCORDANCE WITH ARTICLE 1027.01 OF THE STANDARD SPECIFICATIONS SHALL BE USED WITH PLACEMENT IN ACCORDANCE WITH ARTICLE 442.06 (g)(2) OF THE STANDARD SPECIFICATIONS WITH RETENTION DISCS OR WASHERS PLACED AGAINST THE FACE OF THE SLAB.

- EPOXY COATED DOWEL BARS SHALL COMPLY WITH THE REQUIREMENTS OF ARTICLE 1006.06 (b) OF THE STANDARD SPECIFICATIONS. ANY ADDITIONAL MATERIAL REQUIRED FOR DOWEL BAR RETROFITTING SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISION FOR "DOWEL BAR RETROFIT".
- EPOXY COATED TIE BARS FOR STITCHING SHALL COMPLY WITH THE REQUIREMENTS OF ARTICLE 1006.10 OF THE STANDARD SPECIFICATIONS.
- A CLOSED CELL PLASTIC FOAM BACKER ROD OF 3/8" DIAMETER SHALL BE PINNED OR NAILED TO THE FINISHED BASE AROUND THE PERIMETER OF EACH OPENING BEFORE THE PANELS ARE SET.

## EQUIPMENT:

- FOR BASE PREPARATION, A MECHANICALLY-CONTROLLED SCREEDING DEVICE OR STRAIGHTEDGE DEVICE CAPABLE OF GRADING FULLY COMPACTED FINE AGGREGATE USED AS THE LEVELING SAND TO A TOLERANCE OF 1/8 INCH PER 6 FT. LENGTHS OF PLACEMENT.
- CHIPPING HAMMERS SHALL BE HAND HELD AND HAVE A MAXIMUM WEIGHT OF 30 LBS. PRIOR TO ANY HANDLE MODIFICATION WHERE APPLICABLE.
- WITH ANY FIELD RETROFITTING OF DOWEL BARS, A TEMPLATE SHALL BE ROUTINELY USED FOR ALL STANDARD SLABS IN ORDER TO LOCATE AND ALIGN THE SAWCUTS CONSISTENTLY. EITHER SINGLE DIAMOND BLADED SAWS OR DIAMOND BLADED GANG SAWS SHALL BE USED TO MAKE SAW CUTS PERPENDICULAR TO THE TRANSVERSE (NONSKewed) JOINT LINE TO ALLOW FOR DOWEL BAR PLACEMENTS WITHIN THE FOLLOWING TOLERANCES:
  - ± 1/2 INCH OF THE MIDDLE OF THE CONCRETE SLAB DEPTH.
  - ± 1/2 INCH OF BEING CENTERED OVER THE TRANSVERSE JOINT
  - ± 1/4" FROM PARALLEL TO THE CENTERLINE OVER 12 INCHES OF THE BAR
  - ± 1/4" FROM PARALLEL TO THE ROADWAY SURFACE OVER 12 INCHES OF THE BAR

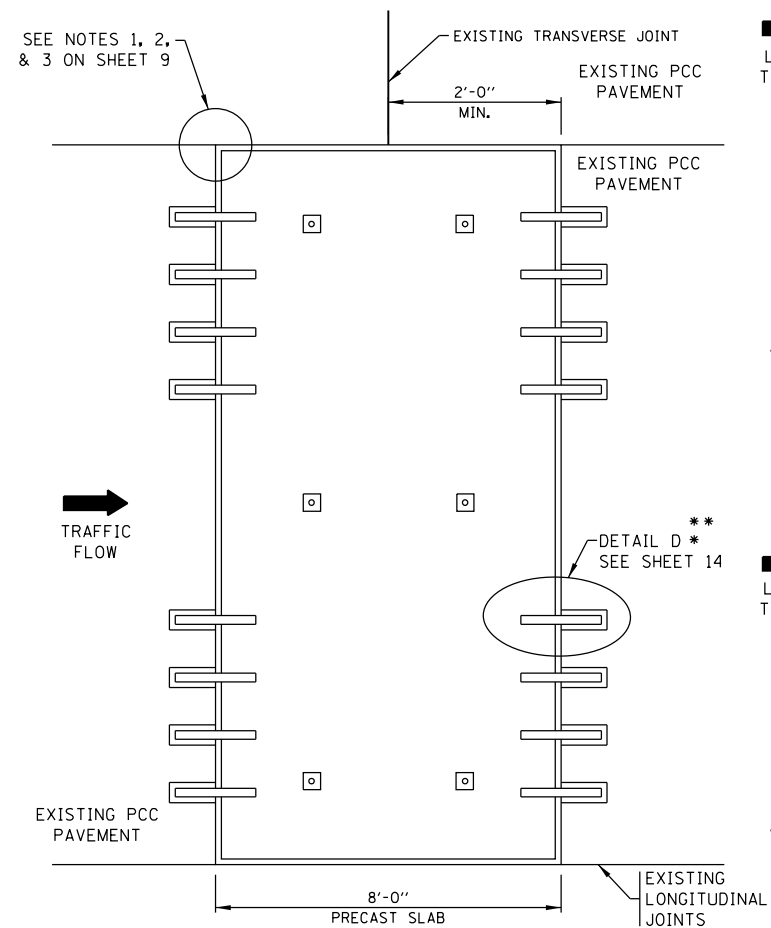
SAWCUTS SAWED ACROSS SKEWED JOINTS SHOULD ALLOW EQUAL LENGTH OF THE DOWEL BAR TO BE PLACED ACROSS THE TRANSVERSE JOINT. THE ALIGNMENT OF SAWCUTS MUST BE PARALLEL TO THE ROADWAY CENTERLINE, REGARDLESS OF TRANSVERSE JOINT SKEW.

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED - D.G. 6-14	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRECAST CONCRETE PAVEMENT SLABS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
es:\pw_work\p\dot\pencepl\40410948\Dist\std.dgn	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -					339	116(R&R-3)PCC-PP-1	COOK	45	27
Default	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -		<b>BD 57</b>			<b>CONTRACT NO. 62A11</b>				
					SCALE: NONE	SHEET 9	OF 19 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		

# INSTALLATION GENERAL NOTES

20. WITH ANY FIELD INSERTIONS OF DOWEL BARS INTO PREDRILLED HOLES, THE DRILLING MACHINE SHALL BE IN ACCORDANCE WITH ARTICLE 442.03(g) OF THE STANDARD SPECIFICATIONS. HAND HELD DRILLING TOOLS WILL NOT BE ALLOWED.
  21. THE COMPRESSOR FOR AIR BLASTING SHALL HAVE A MINIMUM CAPACITY OF 120 CFM. THE COMPRESSED AIR SHALL BE FREE FROM OIL AND OTHER CONTAMINANTS.
  22. CONSOLIDATION EQUIPMENT USED TO CONSOLIDATE THE CONCRETE REPAIR MATERIAL IN THE RETROFITTED DOWEL BAR SLOTS SHALL BE INTERNAL VIBRATORS WITH A MAXIMUM DIAMETER OF 1 INCH AND SHALL HAVE A RESILIENT COVERING THAT WILL NOT DAMAGE THE EPOXY COATED REINFORCEMENT DURING USE. ANY VIBRATORS OR RODS USED FOR CONSOLIDATION OF THE REPAIR MATERIAL FOR NARROW MOUTH SLOTS SHALL HAVE A DIAMETER OF LESS THAN 1 INCH.
  23. BATCHING EQUIPMENT FOR FLOWABLE FILL SHALL HAVE DEVICES DESIGNED TO MEASURE THE SPECIFIED QUANTITIES OF EACH COMPONENT MATERIAL, AND MIXING SHALL BE OF SUFFICIENT DURATION TO INSURE UNIFORM CONSISTENCY OF THE MIXTURE. NO WATER WILL BE ADDED TO THE FLOWABLE FILL MIXTURE AFTER BATCHING. WATER CONTENT SHALL BE MAINTAINED SUCH THAT COMPRESSIVE STRENGTHS ARE ACHIEVED AND A UNIFORM, FLOWABLE MIXTURE IS DEVELOPED THAT IS ESSENTIALLY SELF-LEVELLING WHEN PLACED.
  24. EQUIPMENT FOR HIGH-DENSITY FOAM INJECTION SHALL INCLUDE A TRUCK MOUNTED PUMPING UNIT CAPABLE OF INJECTING THE POLYURETHANE BETWEEN THE CONCRETE AND THE SLAB SUBBASE. THE PUMP SHALL BE CAPABLE OF CONTROLLING THE RATE OF RISE OF THE PAVEMENT SLAB. A LEVELING UNIT SHALL BE PROVIDED TO ENSURE THE SLABS ARE RAISED TO AN EVEN PLANE, WITH VERTICAL ELEVATION DIFFERENCE ACROSS ANY CORNER NOT TO EXCEED 1/4 INCH.
  25. EQUIPMENT FOR MIXING AND PUMPING ANY GROUT/ADHESIVE MATERIALS FOR BEDDING THE SLABS, RETROFITTING DOWEL BARS, OR CROSS STITCHING TIE BARS SHALL BE IN ACCORDANCE WITH THE MATERIAL MANUFACTURER'S INSTRUCTIONS AND THE SPECIFICATIONS.
- REMOVAL /INSTALLATION:**
26. PERIMETER SAWCUTTING OF THE REMOVAL AREA AND SAWCUTTING OF THE DOWEL BAR SLOTS SHALL NOT BE CARRIED OUT MORE THAN (1) WEEK IN ADVANCE OF THE EXPECTED DATE OF REPAIR. THE CONTRACTOR SHALL USE A TEMPLATE TO PRECISELY DELINEATE THE LIMITS OF THE AREAS TO BE REPAIRED AS DEFINED ON THE CONTRACT DOCUMENTS AND APPROVED SHOP DRAWINGS. WITHIN A TOLERANCE OF 1/2 INCH, REPAIRS SHALL BE NO LESS THAN THE FULL WIDTH OF A LANE AND THE FULL DEPTH OF CONCRETE.
  27. REMOVAL OF EXISTING PAVEMENT SHALL BE IN ACCORDANCE WITH SECTION 440 OF THE STANDARD SPECIFICATIONS EXCEPT AS FOLLOWS:
    - A. THE OUTER LIMITS OF THE REPAIR AREA WILL BE SAWCUT FULL DEPTH AND SHALL NOT EXTEND (OVERCUT) BY MORE THAN 10 INCHES INTO THE ADJACENT CONCRETE THAT IS TO REMAIN IN PLACE. OVERCUTS SHALL BE FILLED WITH A PRODUCT ACCEPTABLE TO THE DEPARTMENT. THE OUTER LIMITS FOR REPAIR SHALL BE MARKED OUT BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO ANY SAWCUTTING.
    - B. REMOVAL OF CONCRETE WITHIN THE PERIMETER SAWCUTS SHALL BE BY THE LIFT-OUT METHOD, AND CONCRETE BETWEEN SAWCUTS FOR DOWEL BAR RETROFITS SHALL BE REMOVED USING JACKHAMMER AND HAND TOOLS. THE CONTRACTOR SHALL ENSURE THAT REMOVALS ARE CARRIED OUT WITHOUT DAMAGING THE ADJACENT CONCRETE PAVEMENT OR ASPHALT SHOULDER OR DISTURBING THE UNDERLYING BASE. HEAVY BREAKING EQUIPMENT SUCH AS HOE RAMS SHALL NOT BE USED IN THE REMOVAL OPERATION. THE CONCRETE PAVEMENT SHALL NOT BE BROKEN IN PLACE.
    - C. IF DURING THE REMOVAL PROCESS THE ADJACENT CONCRETE IN THE SAME LANE OR IN AN ADJACENT LANE THAT CAN ONLY BE REPAIRED DURING NIGHT TIME LANE CLOSURES, IS DAMAGED OR CRACKED DUE TO THE CONTRACTOR'S REMOVAL PROCEDURE, THE DAMAGED AREA SHALL BE CUT BACK FULL DEPTH TO SOUND CONCRETE AND REPLACED WITH PRECAST SLABS AT THE CONTRACTOR'S EXPENSE. IF CONCRETE IN THE ADJOINING LANE IS DAMAGED DURING THE REMOVAL PROCESS AND WEEKEND REPAIRS ARE POSSIBLE, THE DAMAGED CONCRETE SHALL BE REPAIRED IN ACCORDANCE SECTION 442 OF THE STANDARD SPECIFICATIONS AT THE CONTRACTOR'S EXPENSE. ASPHALT SHOULDER DAMAGED DURING THE REMOVAL PROCESS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PROVIDE A PROPOSAL FOR REPAIRS TO THE ENGINEER FOR DEPARTMENT APPROVAL.
    - D. DISPOSAL OF EXCAVATED MATERIALS FROM THE REMOVAL OF CONCRETE SHALL BE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AT THE CONTRACTOR'S EXPENSE.
    - E. ALL SLURRY FROM SAW CUTTING OPERATIONS SHALL BE THOROUGHLY SCRAPPED AND REMOVED FROM THE PAVEMENT SURFACE BEFORE THE PAVEMENT IS OPENED TO TRAFFIC. DISPOSAL OF SLURRY SHALL BE IN ACCORDANCE WITH ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AT THE CONTRACTORS EXPENSE.
  28. ANY AREAS OF SUBBASE WHICH ARE BELOW THE REQUIRED ELEVATION OF THE FINISHED SUBBASE, SHALL BE BUILT UP TO GRADE WITH SATISFACTORY COMPACTED GRANULAR MATERIAL.
  29. LEVELING MATERIAL PLACED BEFORE SLAB INSTALLATION SHALL BE EITHER A FLOWABLE FILL OR A FINE AGGREGATE MEETING THE REQUIREMENTS OF THIS CONTRACT DOCUMENT. FLOWABLE FILL SHALL BE USED AS A LEVELING MATERIAL ONLY ON TANGENT PAVEMENT SECTIONS. GRADE CONTROL SHALL BE ESTABLISHED FOR ALL LEVELING MATERIAL USING STRINGLINES, LASER GUIDANCE, OR OTHER APPROVED METHODS. THE TEMPERATURE OF THE FLOWABLE FILL MIXTURE AS MANUFACTURED AND DELIVERED SHALL BE AT LEAST 50<sup>3</sup>/<sub>4</sub> F. NO FLOWABLE FILL WILL BE ALLOWED IF THE ANTICIPATED AIR TEMPERATURE WILL BE 36<sup>3</sup>/<sub>4</sub> F OR LESS WITHIN 24 HOURS OF SLAB PLACEMENT. THE FLOWABLE FILL MUST OBTAIN FINAL SET BEFORE THE PAVEMENT MAY BE OPENED TO TRAFFIC.
  30. WHEN FLOWABLE FILL IS USED AS THE LEVELING MATERIAL WITH SLAB INSTALLATION, A PERIMETER BACKER ROD WILL NOT BE REQUIRED AROUND THE PERIMETER OF THE SLAB.
  31. LEVELING MATERIAL PLACED IMMEDIATELY AFTER SLAB INSTALLATION SHALL ONLY BE A HIGH-DENSITY POLYURETHANE FOAM MEETING THE REQUIREMENTS OF THIS CONTRACT DOCUMENT. PLACEMENT OF POLYURETHANE FOAM SHALL FILL ALL VOIDS BENEATH THE PRECAST PANELS THAT MAY BE PRESENT AFTER PLACING THE PANELS OVER THE PREPARED SUBBASE AND LEVELING AGGREGATE. PLACEMENT OF THE POLYURETHANE SHALL UTILIZE THE UNDERSLAB GROUT PORT HOLES AS SHOWN ON THE PLANS. THE PORT HOLES ARE TO BE FILLED WITH THE DOWEL BAR BACKFILLING MATERIAL.
  32. FOLLOWING PROPER REMOVAL OF EXISTING PAVEMENTS AND ACCEPTABLE BASE PREPARATION/LEVELING, THE CONTRACTOR SHALL HAVE ALL EQUIPMENT REQUIRED FOR PANEL INSTALLATION ON-SITE PRIOR TO BEGINNING PANEL INSTALLATION. LIFTING AND TRANSPORTING EQUIPMENT SHALL NOT DAMAGE THE PREPARED SUBBASE/LEVELING MATERIALS PRIOR TO OR DURING PANEL INSTALLATION. PRIOR TO SLAB INSTALLATION, ALL VERTICAL SURFACES OF SURROUNDING PAVEMENT SHALL BE COATED WITH A BOND BREAKER SUCH AS FORM OIL OR A CURING COMPOUND.
  33. PANELS SHALL BE INSTALLED ONE AT A TIME, AND SHALL BE INSTALLED IN SUCH A MANNER THAT THE SUBBASE/LEVELING MATERIAL OR ANY REMAINING PAVEMENT IS NOT DAMAGED DURING INSTALLATION. DURING PLACEMENT OF THE SLABS, USE TIE OFF ROPES TO AVOID CHIPPING OR SPALLING EDGES OF THE PRECAST UNITS. USE WOOD SHIMS OR WEDGES TO GUIDE THE SLAB INTO THE CORRECT POSITION. THE USE OF STEEL PRY BARS THAT CHIP EDGES SHOULD BE AVOIDED.
  34. IMMEDIATELY AFTER THE SLAB HAS BEEN SET AND LEVELED, SURVEY THE VERTICAL ELEVATION ACROSS ALL CORNERS TO VERIFY THAT THE VERTICAL DIFFERENCE BETWEEN ADJACENT SLABS ACROSS ANY CORNER DOES NOT EXCEED 1/4 INCH. IF THE DIFFERENCE EXCEEDS 1/4 INCH, THEN THE SLAB SHALL BE REMOVED AND RESET OR THE SURFACE SHALL RECEIVE A CORRECTIVE DIAMOND GRIND AT THE CONTRACTORS EXPENSE AFTER ANY REQUIRED BEDDING GROUT OR LEVELING MATERIAL HAS BEEN PLACED UNLESS COMPLETE PROFILE DIAMOND GRINDING OF THE ENTIRE PAVEMENT IS INCLUDED IN THE CONTRACT.
  35. IF A SET PRECAST SLAB IS OPENED TO TRAFFIC BEFORE ANY GROUTING OPERATIONS, THE CONTRACTOR SHALL MEET THE FOLLOWING REQUIREMENTS:
    - i) DURING INSTALLATION, INCOMPRESSIBLE SHIMS APPROVED BY THE ENGINEER SHALL BE PLACED IN EACH TRANSVERSE AND LONGITUDINAL JOINT TO CORRECT AND MAINTAIN HORIZONTAL ALIGNMENT OF THE SLAB. THE TOTAL THICKNESS OF SHIMS USED IN ANY JOINT SHALL BE EQUAL TO OR LESS THAN 3/8".
    - ii) ASPHALT SHOULDERS SHALL BE BACKFILLED TO MAINTAIN HORIZONTAL ALIGNMENT.
    - iii) WIDE MOUTH DOWEL SLOTS LEFT OPEN SHALL BE TEMPORARILY FILLED WITH A COMPRESSION SEAL APPROVED BY THE ENGINEER TO WITHIN 1 INCH FLUSH WITH THE PAVEMENT SURFACE.
    - iv) NARROW MOUTH DOWEL SLOTS MAY BE LEFT OPEN.
    - v) ALL GROUTING MEETING THE REQUIREMENTS OF THIS CONTRACT SHALL BE COMPLETED WITHIN 48 HOURS OF EACH SLAB'S PLACEMENT.
  36. PRIOR TO DOWEL BAR PLACEMENT, THE TRANSVERSE JOINT SHALL BE CAULKED WITH A SILICONE SEALANT AT THE BOTTOM AND SIDES OF THE SLOT. THE CAULKING FILLER SHOULD NOT BE PLACED ANY FARTHER THAN 1/2 INCH OUTSIDE EITHER SIDE OF THE JOINT, AND APPLIED SUFFICIENTLY TO PREVENT ANY PATCHING MATERIAL FROM ENTERING THE JOINT AT THE BOTTOM OR SIDES OF THE SLOT. EXCESSIVE SEALANT AROUND THE SLOT DOES NOT ALLOW THE CONCRETE PATCHING MATERIAL TO BOND TO THE SIDES OF THE SLOT. BEFORE PLACEMENT, THE DOWEL BARS SHOULD BE LIGHTLY COATED WITH PARTING COMPOUND AND FULLY RETROFITTED DOWEL BARS PLACED ON A CHAIR THAT WILL PROVIDE A MINIMUM 1/2 INCH CLEARANCE BETWEEN THE BOTTOM OF THE DOWEL AND THE BOTTOM OF THE SLOT. FOR ANY DOWEL BARS INSERTED INTO PREDRILLED EPOXIED HOLES, AN APPURATUS CAPABLE OF MAINTAINING VERTICAL ALIGNMENT OF THE DOWEL AND TO PROVIDE A MINIMUM 1/2 INCH CLEARANCE BETWEEN THE BOTTOM OF THE DOWEL AND THE BOTTOM OF THE SLOT SHALL BE PROVIDED BY THE CONTRACTOR. A 3/8 INCH THICK FOAM INSERT SHOULD BE PLACED AT THE MIDDLE OF THE DOWEL TO MAINTAIN THE TRANSVERSE JOINT. THE FOAM INSERT SHOULD FIT TIGHTLY AROUND THE DOWEL, THE BOTTOM, AND THE EDGES OF THE SLOT, AND BE UP TO THE SURFACE OF THE EXISTING CONCRETE SURFACE. THE FOAM INSERT SHOULD BE CAPABLE OF REMAINING IN A VERTICAL POSITION AND HELD TIGHTLY TO ALL EDGES DURING PLACEMENT OF THE PATCH. IF FOR ANY REASON THE FOAM INSERT SHIFTS DURING PLACEMENT OF THE CONCRETE PATCHING MATERIAL, THE WORK SHALL BE REJECTED AND REDONE AT THE CONTRACTOR'S EXPENSE.
  37. PLACEMENT OF HARDWARE GROUT/ADHESIVES
    - A. DOWEL BARS - THE PLACEMENT OF ANY APPROVED BACKFILL MATERIAL FOR DOWEL BAR RETROFITTING OR FOR DOWEL BAR INSERTIONS SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISION FOR "DOWEL BAR RETROFIT". THE PAVEMENT WILL NOT BE OPENED TO TRAFFIC UNTIL THE BACKFILL MATERIAL AROUND THE PAVEMENT HARDWARE OBTAINS 3,000 PSI COMPRESSIVE STRENGTH. ALL CONCRETE SURFACES WITHIN THE SLOT SHALL BE SOLID, FREE FROM LOOSE OR UNSOUND FRAGMENTS. BEFORE GROUTING, SANDBLAST ALL EXPOSED SURFACES IN THE DOWEL BAR SLOT FOLLOWED BY AIR BLASTING TO REMOVE ANY DUST, RESIDUE OR DEBRIS LEFT IN THE SLOT. UPON COMPLETION OF THE RETROFITTING WORK, THE GROUT OR CONCRETE PATCH MATERIAL SHALL FILL ALL SLOTS TO THE SURFACE OF THE EXISTING PAVEMENTS. ANY SLOTS INSUFFICIENTLY FILLED BELOW EXISTING PAVEMENT SURFACES SHALL BE REDONE AT THE CONTRACTOR'S EXPENSE.
    - B. TIE BARS - A FOAM BOARD GASKET SHALL BE INSERTED INTO THE LONGITUDINAL JOINT AT THE STITCHING LOCATION AND THE TIEBAR HOLE PREDRILLED THROUGH THE GASKET. AFTER PREDRILLED HOLES ARE AIR BLASTED, PRESSURE INJECT THE APPROVED ADHESIVE INTO THE PREDRILLED HOLES, LEAVING SOME VOLUME FOR THE BAR TO OCCUPY THE HOLE. INSERT THE TIEBAR INTO THE HOLE, LEAVING ABOUT 1 INCH FROM THE TOP OF THE TIE BAR TO THE PAVEMENT SURFACE. REMOVE EXCESS ADHESIVE AND FINISH FLUSH WITH THE PAVEMENT SURFACE.
    - C. FILL LIFTING INSERT HOLES AND GROUT PORTS WITH THE APPROVED GROUT USED FOR DOWEL BAR RETROFITTING.
  38. PLACEMENT OF UNDERSEALING GROUT SHALL FILL ALL VOIDS BENEATH THE PRECAST PANELS AND GROUT PORT HOLES THAT MAY BE PRESENT AFTER PLACING THE PANELS OVER THE PREPARED SUBBASE AND LEVELING AGGREGATE. PLACEMENT OF THE UNDERSEALING GROUT SHALL UTILIZE THE UNDERSLAB GROUT PORT HOLES AS SHOWN ON THE PLANS. PLACEMENT OF UNDERSEALING GROUT SHALL NOT OCCUR UNTIL AFTER ALL HARDWARE DEVICES ARE PLACED AND GROUTED. IF UNDERSEALING GROUT FILLS ANY LONGITUDINAL JOINT TO WITHIN 9" OF THE SLAB SURFACE, A 9" SAW CUT OF THE JOINT SHALL BE REQUIRED DURING INSTALLATION. IF UNDERSEALING GROUT FILLS ANY TRANSVERSE JOINT TO WITHIN 9" OF THE SLAB SURFACE, THEN A 9" SAW CUT OF THE JOINT SHALL BE REQUIRED FOLLOWED BY REMOVAL AND FULL RETROFITTING OF ALL SEVERED DOWEL BARS ACROSS THE JOINT.
  39. AFTER INSTALLATION AND GROUTING IS COMPLETED ALL LONGITUDINAL AND TRANSVERSE JOINTS SHALL BE SEALED IN ACCORDANCE WITH ARTICLE 420.12.

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED - D.G. 6-14	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRECAST CONCRETE PAVEMENT SLABS</b>				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -			339	116(R&R-3)PCC-PP-1	COOK	45	28			
		PLOT SCALE = 100.0000' / in.	CHECKED -		REVISED -	<b>BD 57</b>		<b>CONTRACT NO. 62A11</b>					
Default		PLOT DATE = 4/7/2015	DATE - 10-25-2013		REVISED -	SCALE: NONE	SHEET 10 OF 19 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT			



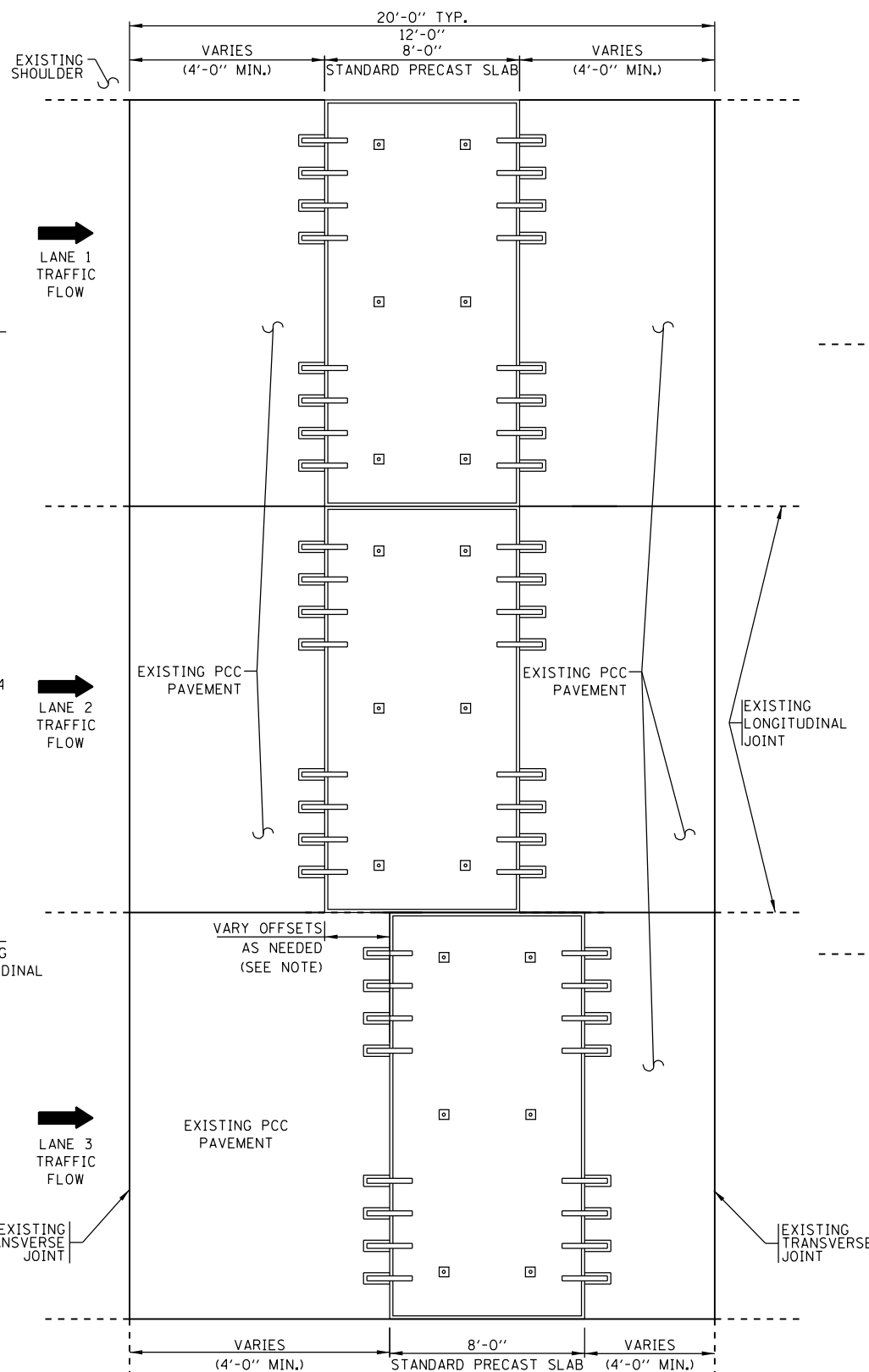
**SINGLE LANE JOINT REPLACEMENT  
DROP IN PANEL FOR STANDARD  
PRECAST SLABS**

**NOTE:**

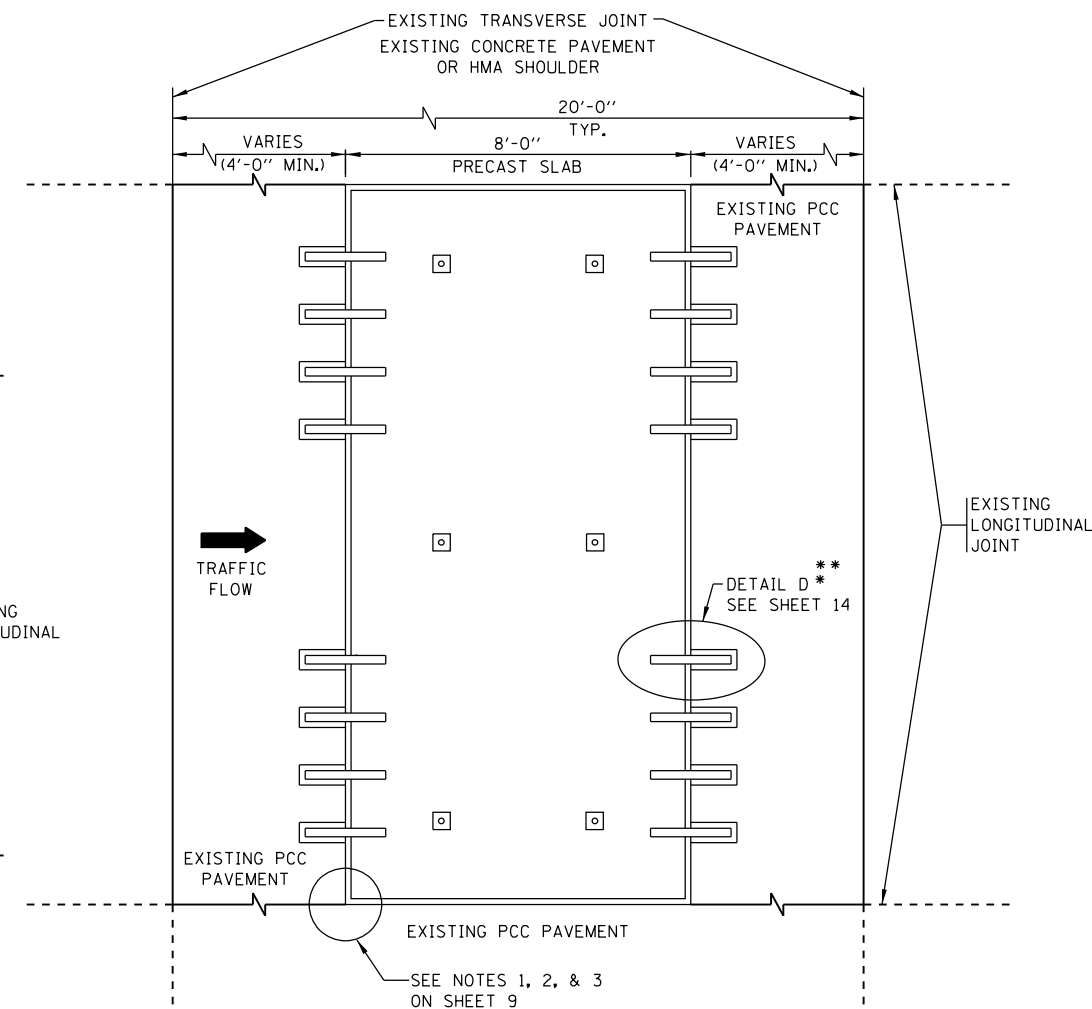
WHEN THE TRANSVERSE JOINTS OF ANY PRECAST SLAB CANNOT BE ALIGNED WITH TRANSVERSE JOINTS IN ADJACENT LANES, A MAXIMUM 2'-0" OFFSET BETWEEN JOINTS SHALL BE PROVIDED.

\* FOR DOWEL BARS FULLY RETROFITTED IN THE FIELD, REFER TO DETAIL C ON SHEET 13.

\*\* FOR DOWEL BARS TO BE SLID INTO PRE-DRILLED HOLES IN THE FIELD, REFER TO DETAIL G ON SHEET 17.



**MULTIPLE LANE MID SLAB DROP IN PANEL  
FOR STANDARD PRECAST PANELS**



**SINGLE LANE MID SLAB DROP  
IN PANEL FOR STANDARD  
PRECAST PANELS**

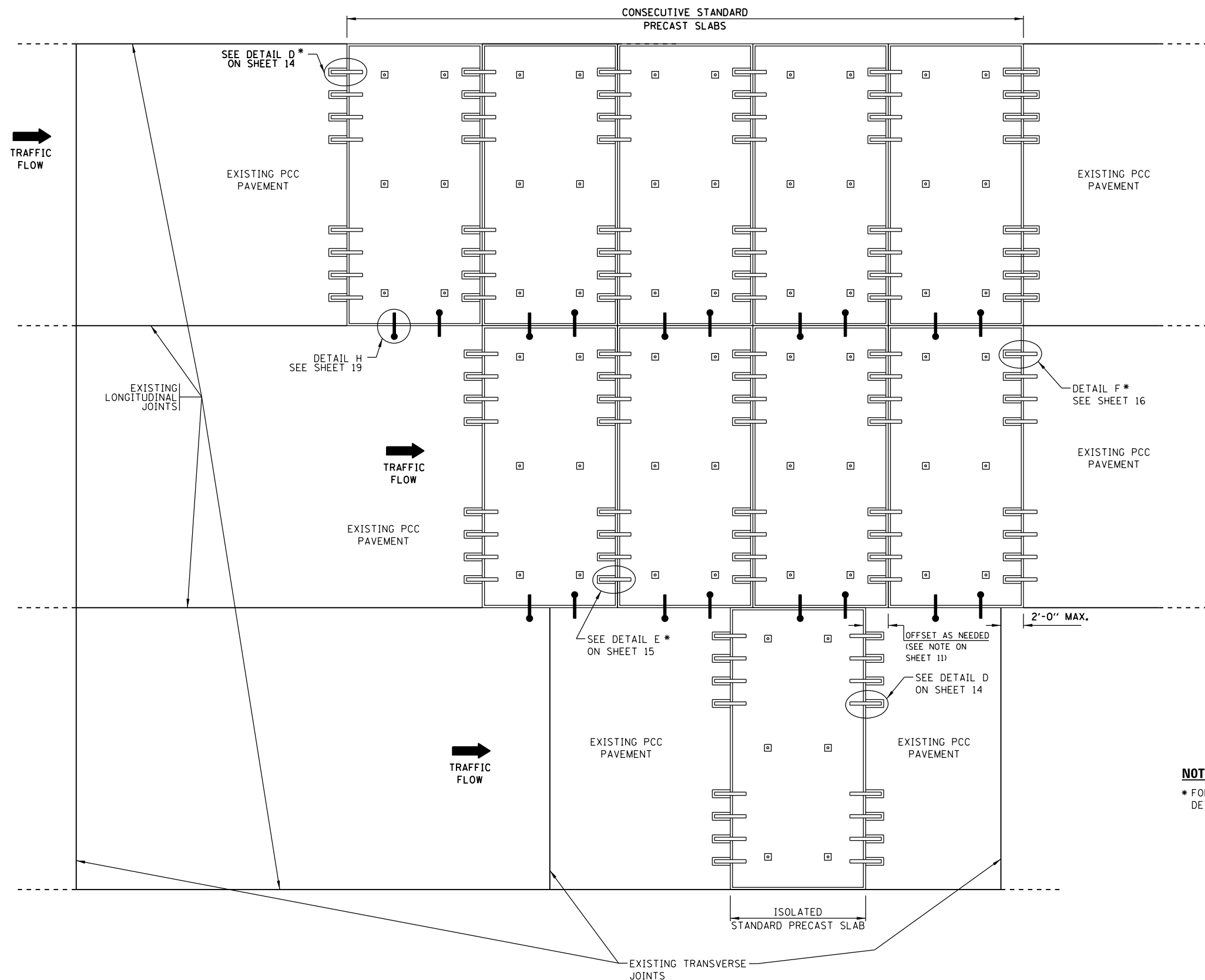
# INSTALLATION OF ISOLATED STANDARD PRECAST SLABS

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED - D.G. 6-14
et:\pw\work\p\midot\pencepl\d0410948\Dist\std.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED -
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE PAVEMENT SLABS			
SCALE: NONE	SHEET 11	OF 19 SHEETS	STA. TO STA.

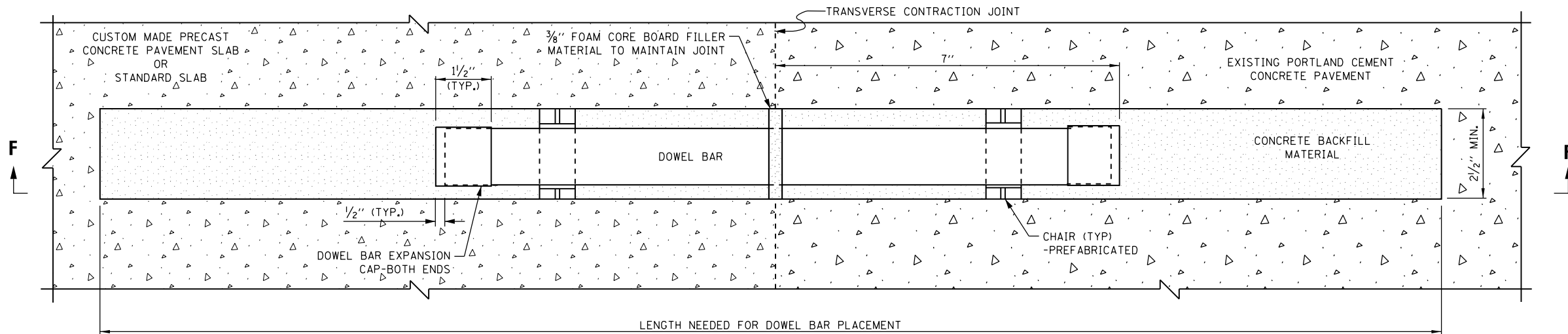
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	29
BD 57		CONTRACT NO. 62A11		
ILLINOIS FED. AID PROJECT				



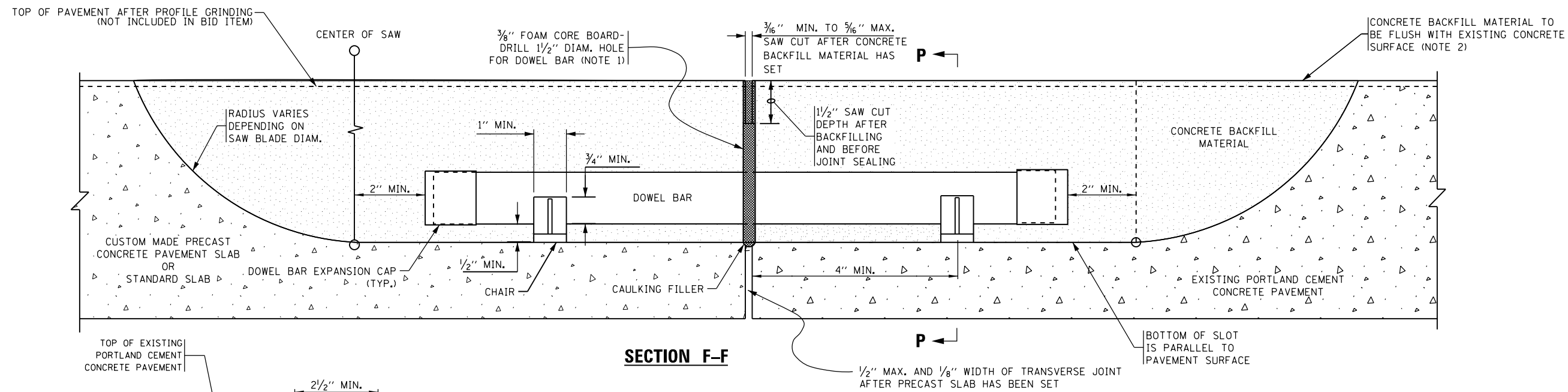
**NOTE:**  
\* FOR DOWEL BARS FULLY RETROFITTED IN THE FIELD, REFER TO  
DETAIL C ON SHEET 13.

## INSTALLATION OF CONSECUTIVE STANDARD PRECAST SLABS

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRECAST CONCRETE PAVEMENT SLABS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
Default	et:\pw\work\p\dot\pencepl\d0410948\Dist\td.dgn	DRAWN -	REVISED -		SCALE: NONE	SHEET 12	OF 19	SHEETS	STA.	TO STA.	339	116(R&R-3)PCC-PP-1	COOK	45	30
	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED -		BD 57			CONTRACT NO. 62A11			ILLINOIS FED. AID PROJECT				
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -												

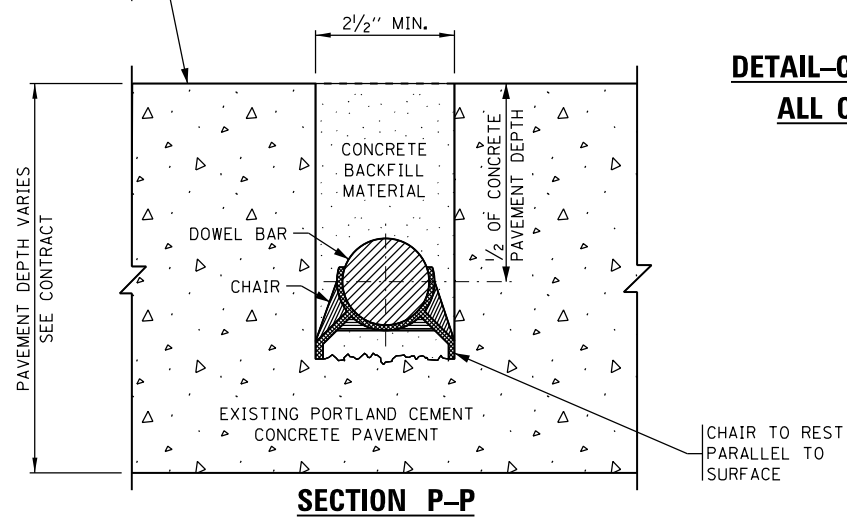


**PLAN VIEW**

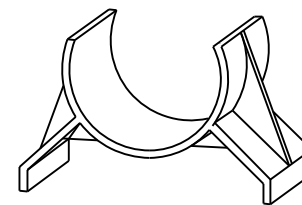


**SECTION F-F**

**DETAIL-C, WIDE MOUTH DOWEL BAR PLACEMENT DETAIL FOR ALL CUSTOM MADE PRECAST PANELS AND OPTIONAL FOR STANDARD SLABS**



**SECTION P-P**



**CHAIR DETAIL**

**NOTES:**

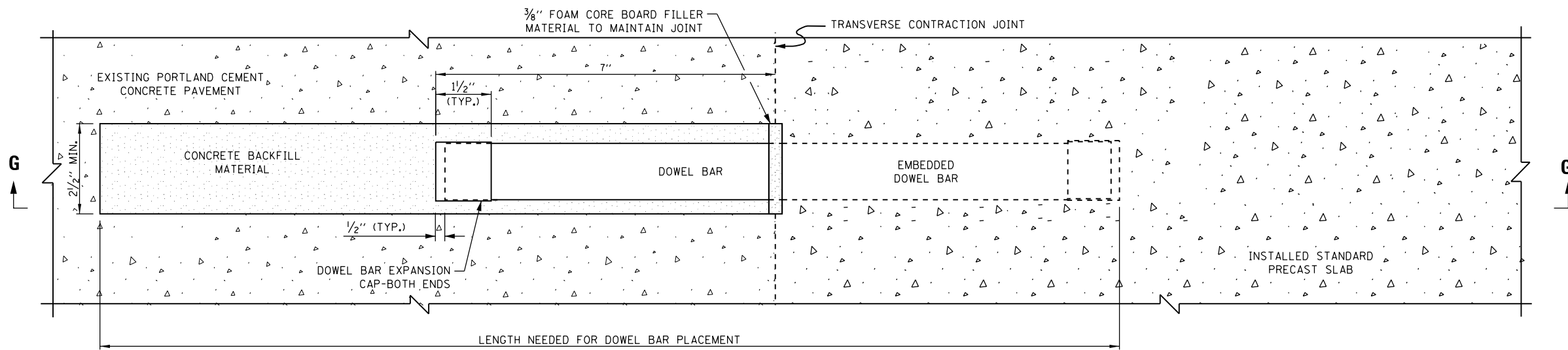
1. PLACE FOAM CORE BOARDS TO THE TOP OF PATCH.
2. UPON COMPLETION, THE FINISHED SURFACE OF THE CONCRETE BACKFILL MATERIAL SHALL NOT BE BELOW EXISTING CONCRETE SURFACE.

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED -
ei:\pw\work\p\dot\pencepl\d0410948\Dist\std.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED -
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -

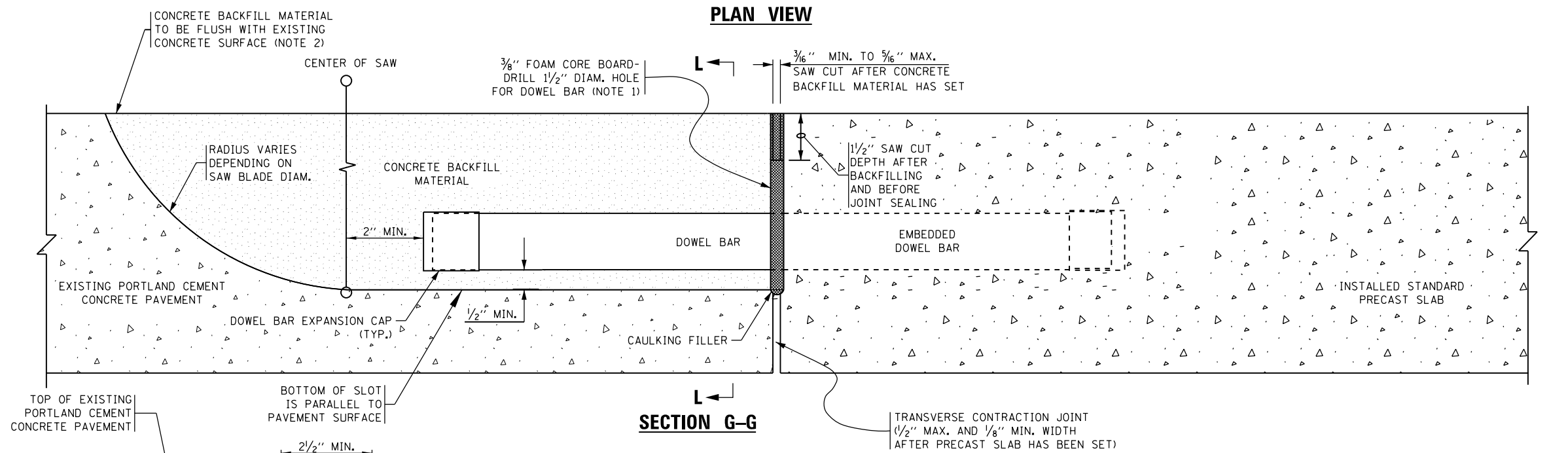
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>PRECAST CONCRETE PAVEMENT SLABS</b>			
SCALE: NONE	SHEET 13 OF 19 SHEETS	STA.	TO STA.

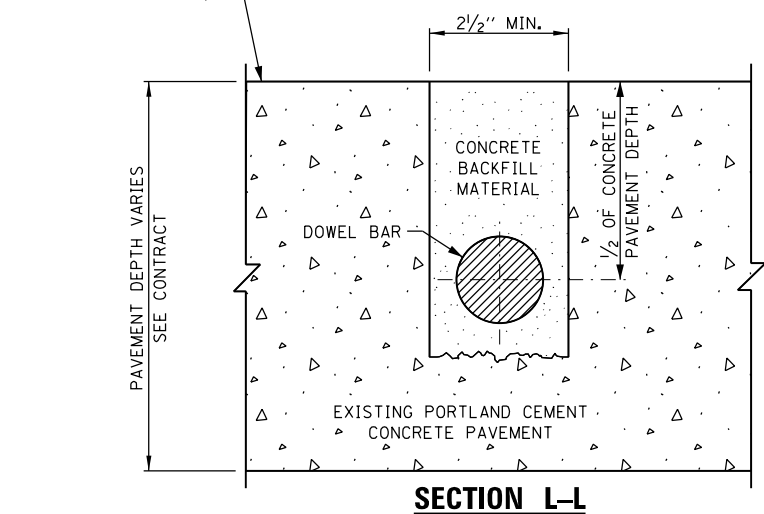
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	31
<b>BD 57</b>		<b>CONTRACT NO. 62A11</b>		
ILLINOIS FED. AID PROJECT				



**PLAN VIEW**



**SECTION G-G**



**SECTION L-L**

**DETAIL D - WIDE MOUTH DOWEL BAR PLACEMENT**

**DETAIL FOR STANDARD PRECAST PANELS**

(FOR APPLICATION WITH ALL ISOLATED STANDARD SLABS AND WITH INITIAL PLACEMENT OF CONSECUTIVE STANDARD SLABS)

**NOTES:**

1. PLACE FOAM CORE BOARDS TO THE TOP OF PATCH.
2. UPON COMPLETION, THE FINISHED SURFACE OF THE CONCRETE BACKFILL MATERIAL SHALL NOT BE BELOW EXISTING CONCRETE SURFACE.

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED -
et:\pw_work\p\dot\pencepl\d0410948\Dist\td.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED -
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -

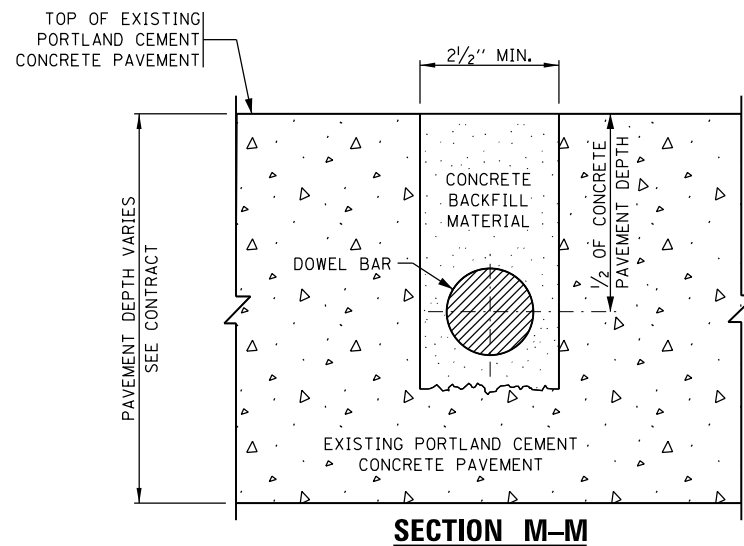
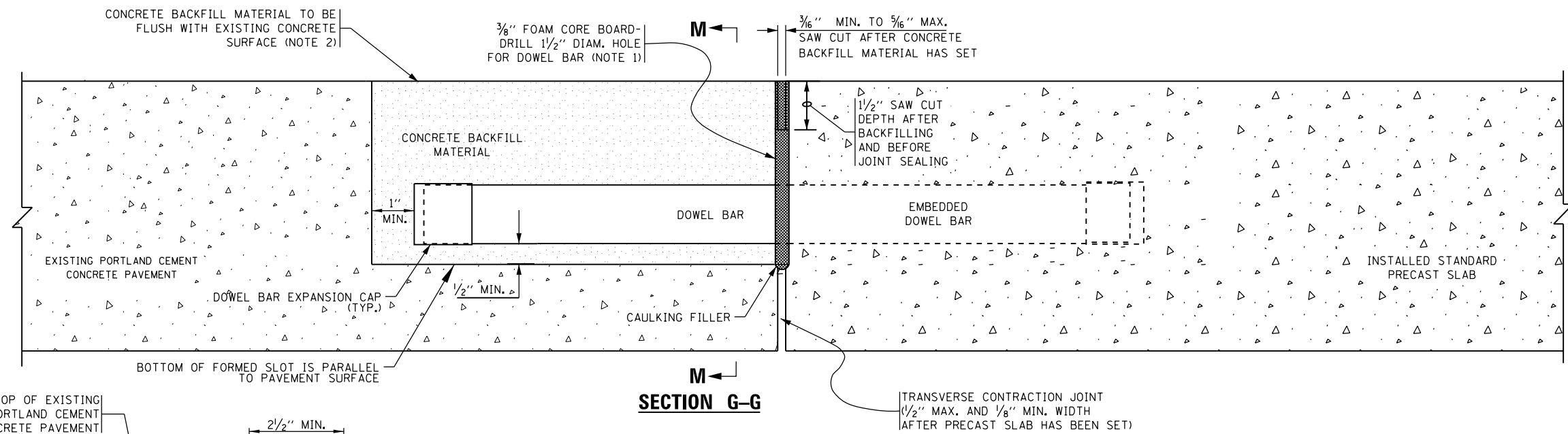
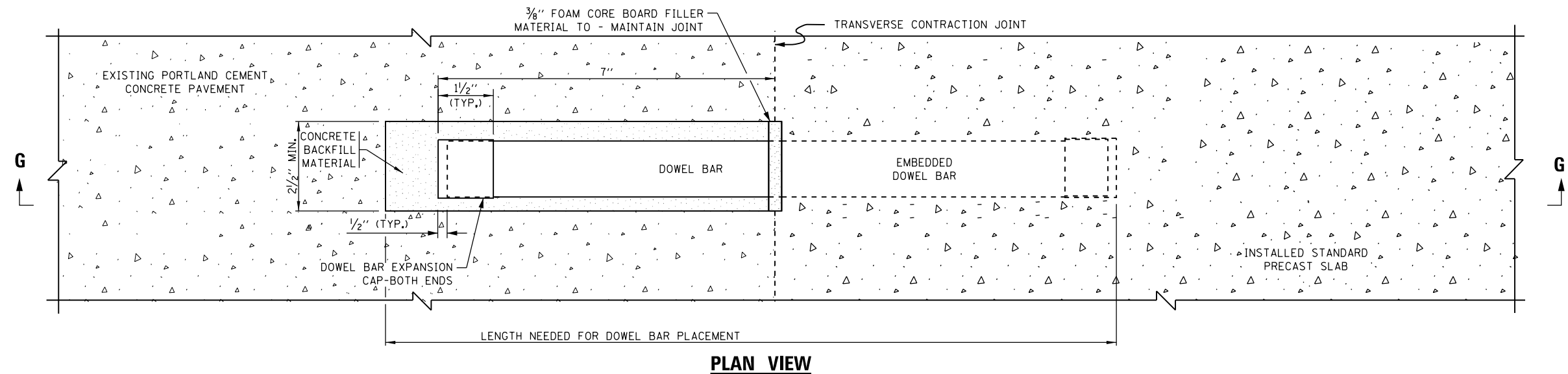
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PRECAST CONCRETE PAVEMENT SLABS**

SCALE: NONE SHEET 14 OF 19 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	32
<b>BD 57</b>			<b>CONTRACT NO. 62A11</b>	
ILLINOIS FED. AID PROJECT				



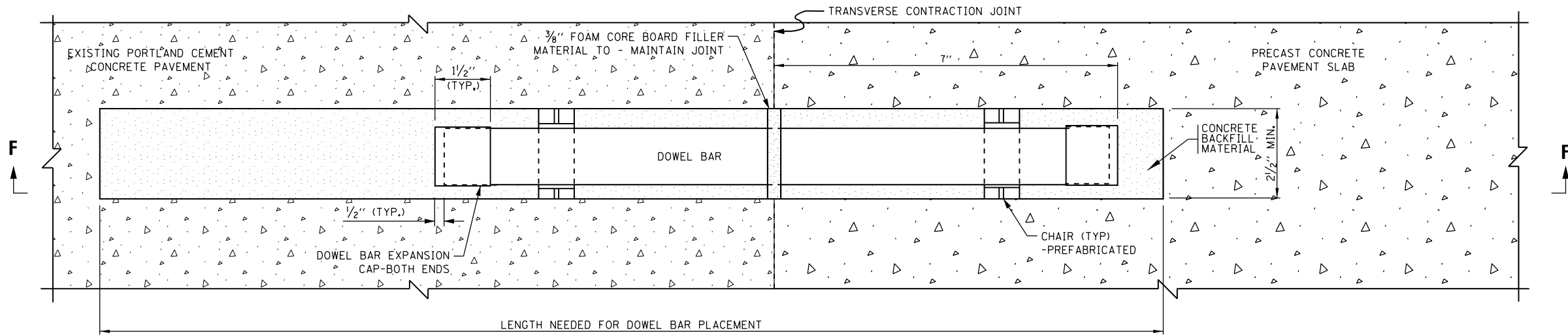


**DETAIL E – WIDE MOUTH DOWEL BAR PLACEMENT DETAIL FOR CONSECUTIVE STANDARD PRECAST PANELS**

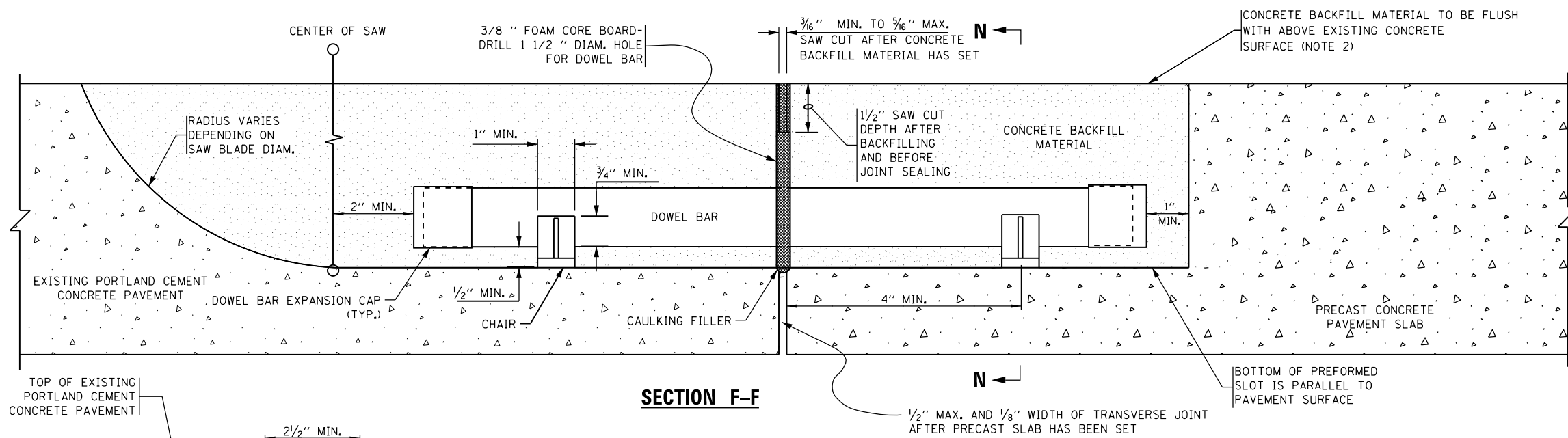
**NOTES:**

1. PLACE FOAM CORE BOARDS TO THE TOP OF PATCH.
2. UPON COMPLETION, THE FINISHED SURFACE OF THE CONCRETE BACKFILL MATERIAL SHALL NOT BE BELOW THE EXISTING CONCRETE SURFACE.

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRECAST CONCRETE PAVEMENT SLABS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED -					339	116(R&R-3)PCC-PP-1	COOK	45	33
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -		SCALE: NONE    SHEET 15 OF 19 SHEETS    STA.    TO STA.			<b>BD 57</b>		CONTRACT NO. 62A11		
					ILLINOIS FED. AID PROJECT							

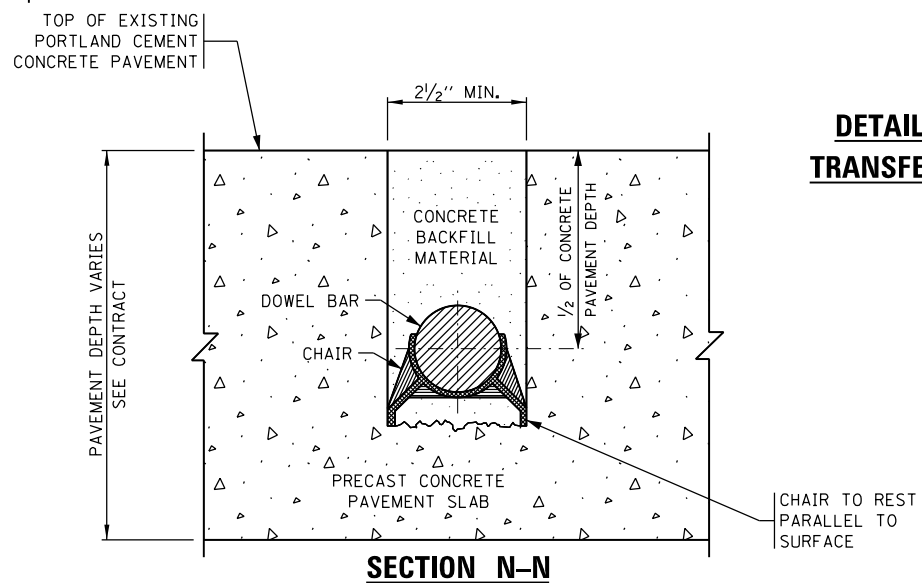


**PLAN VIEW**

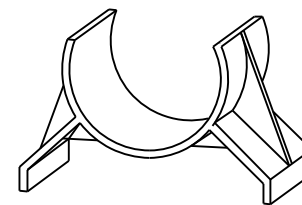


**SECTION F-F**

**DETAIL-F, WIDE MOUTH DOWEL BAR PLACEMENT DETAIL FOR THE LAST TRANSFER JOINT OF CONSECUTIVELY PLACED STANDARD PRECAST PANELS**



**SECTION N-N**



**CHAIR DETAIL**

**NOTES:**

1. PLACE FOAM CORE BOARDS TO THE TOP OF PATCH.
2. UPON COMPLETION, THE FINISHED SURFACE OF THE CONCRETE BACKFILL MATERIAL SHALL NOT BE BELOW THE EXISTING CONCRETE SURFACE.

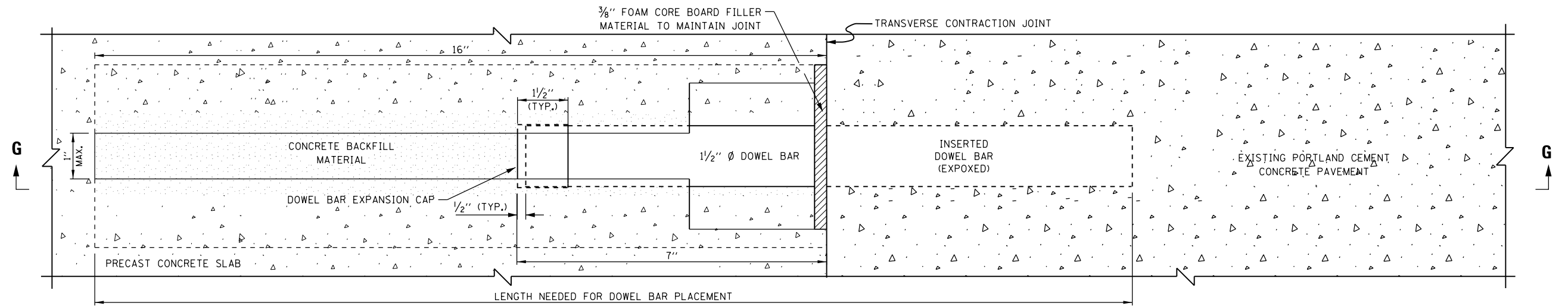
FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED - D.G. 6-14
Default	PLOT DATE = 4/7/2015	CHECKED -	REVISIED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

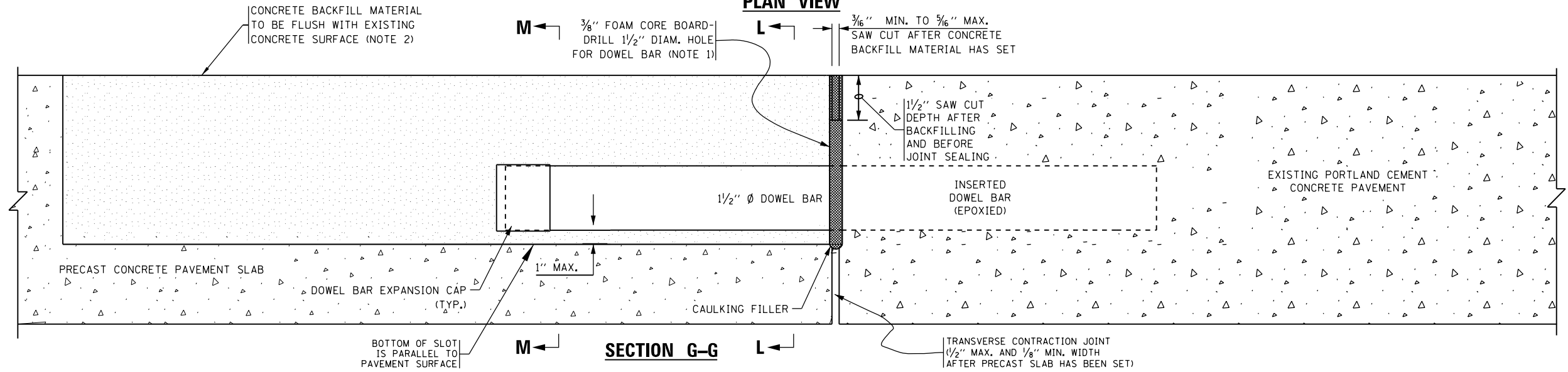
**PRECAST CONCRETE PAVEMENT SLABS**

SCALE: NONE SHEET 16 OF 19 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	34
<b>BD 57</b>			<b>CONTRACT NO. 62A11</b>	
ILLINOIS FED. AID PROJECT				



**PLAN VIEW**

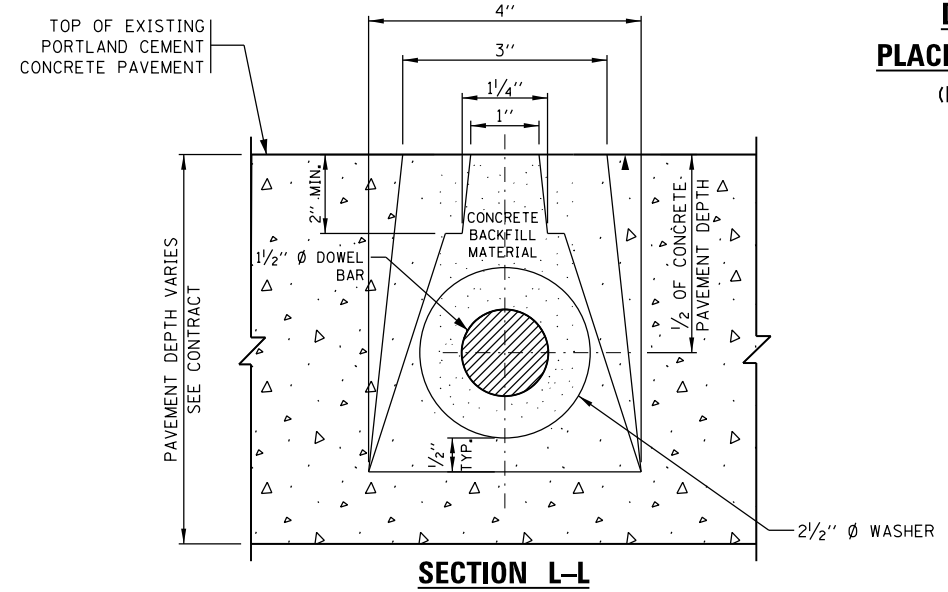


**SECTION G-G**

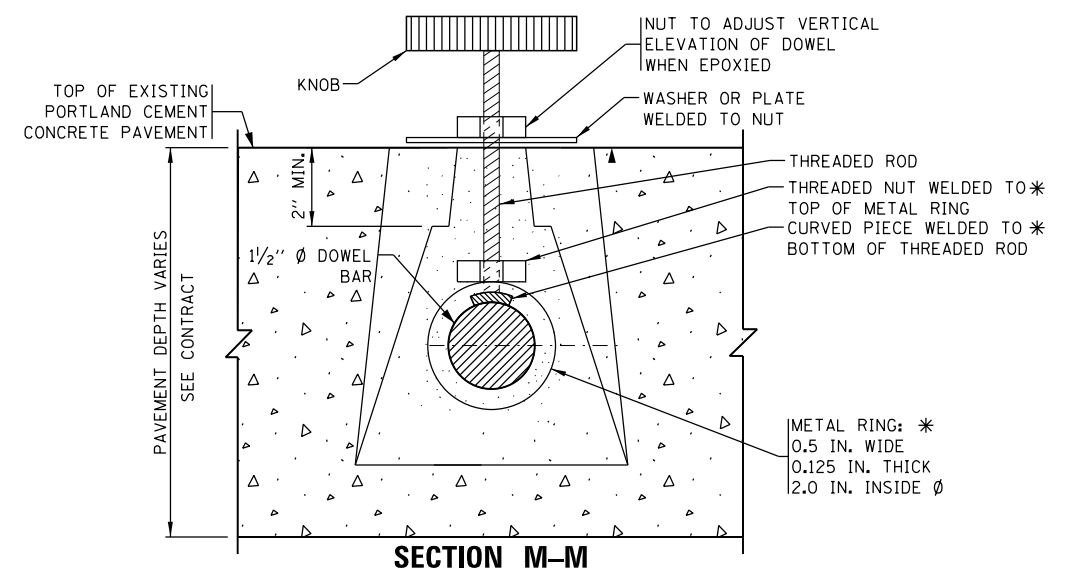
**DETAIL G - NARROW MOUTH DOWEL BAR  
PLACEMENT DETAIL FOR ISOLATED PRECAST PANELS**  
(FOR OPTIONAL APPLICATION WITH ALL ISOLATED  
SLABS IN PLACE OF FULL RETROFITS)

**NOTES:**

1. PLACE FOAM CORE BOARDS TO THE TOP OF PATCH.
2. UPON COMPLETION, THE FINISHED SURFACE OF THE CONCRETE BACKFILL MATERIAL SHALL NOT BE BELOW EXISTING CONCRETE SURFACE.



**SECTION L-L**



**SECTION M-M**

**CLAMP DETAIL FOR SLIDING DOWEL BAR SLOTS**

\* METAL RING MAY BE REPLACED WITH A STRONG MAGNET WELDED TO THE THREADED ROD. AT LEAST ONE CLAMP WILL BE NEEDED FOR EACH INSERTED DOWEL BAR TO MAINTAIN ALIGNMENT.

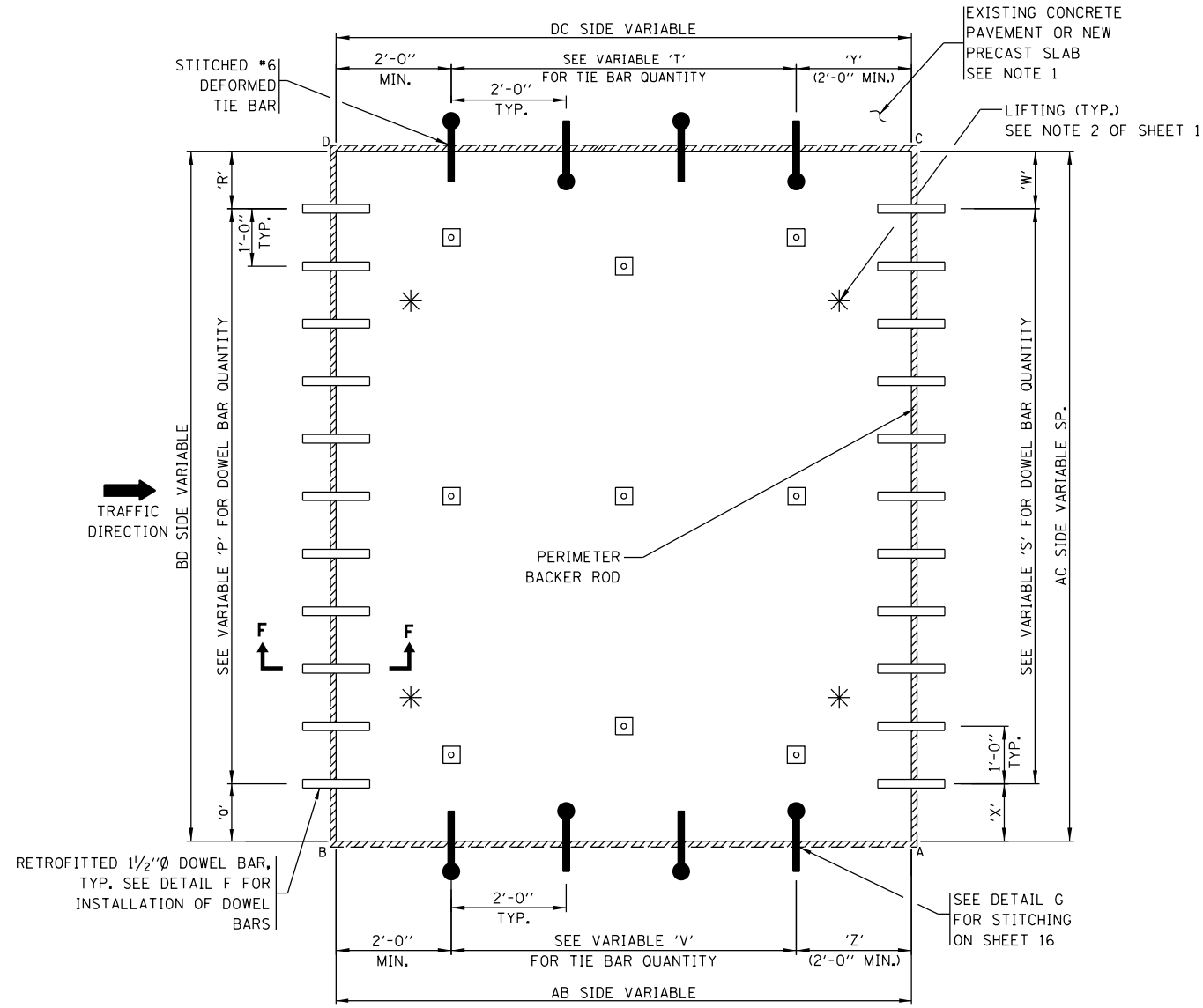
FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED - D.G. 6-14	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRECAST CONCRETE PAVEMENT SLABS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
Default	Plot Scale = 100.0000' / 1in.	CHECKED -	REVISED -		SCALE: NONE	SHEET 17	OF 19 SHEETS	STA.	TO STA.	339	116(R&R-3)PCC-PP-1	COOK	45	35
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -								<b>BD 57</b>			
														CONTRACT NO. 62A11

FOR NON STANDARD SLABS, UPON COMPLETION BY THE CONTRACTOR A SLAB LAYOUT WILL BE ADDED WITH SLAB DIMENSIONS TO INCLUDE BUT NOT BE LIMITED TO THE TABLE SHOWN BELOW.

EXAMPLE	ROUTE	STATION NUMBER	MAINLINE LANE NO.	RAMP ID.	RAMP LANE NO.	MARK NO.	LANE TYPE	VARIABLES															AB* SIDE	BD* SIDE	CD* SIDE	AC* SIDE	AREA (SQ. FT.)	VOLUME (CU. FT.)	WEIGHT (TONS)	DIAGONALS (FT.)						
								AB (FT.)	AC (FT.)	BD (FT.)	CD (FT.)	P (NO.)	Q (FT.)	R (FT.)	S (NO.)	T (NO.)	V (NO.)	W (FT.)	X (FT.)	Y (FT.)	Z (FT.)	AD								BC						

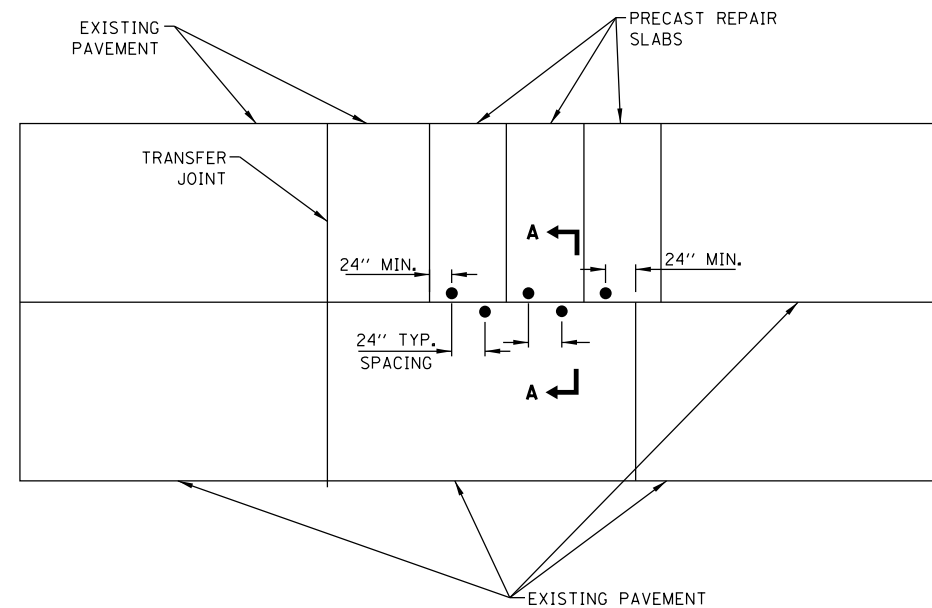
MAINLINE LANE NO.: LANE NO. 1 IS ADJACENT TO MEDIAN SHOULDER.  
 RAMP LANE NO.: LANE NO. 1 IS ADJACENT TO THE BUILDING.  
 MARK NO.: EACH PANEL SHALL BE INDIVIDUALLY MARKED FOR CORRECT PLACEMENT.  
 LANE TYPE: "OUT" IN THIS COLUMN INDICATES OUTSIDE LANE.  
 "MID" IN THIS COLUMN INDICATES MIDDLE LANE.  
 "IN" IN THIS COLUMN INDICATES INSIDE LANE

**\* LEGEND**  
 DB= DOWEL BAR EMBEDDED  
 DS= DOWEL SLOT  
 ST= SLOT OR HOLE FOR STITCHED TIE BAR  
 RD= FIELD RETROFITTED DOWEL BARS

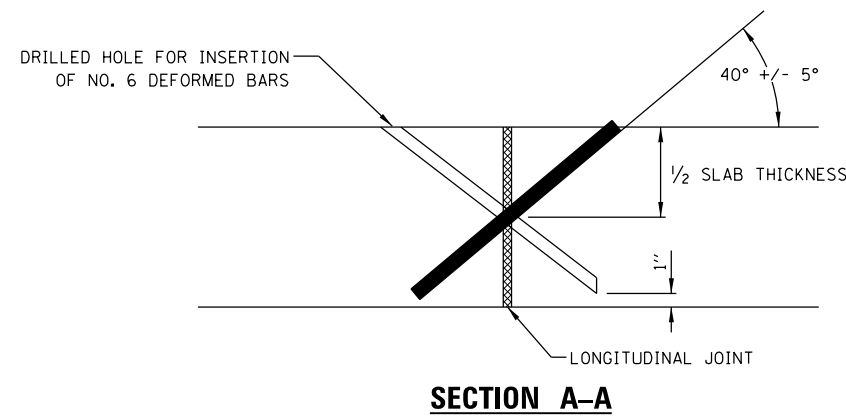


- NOTES:**
- NO STITCHING OF DEFORMED TIE BARS IS REQUIRED WHEN PRECAST SLAB IS PLACED ADJACENT TO HMA SHOULDER.
  - TIE BAR STITCHING SHALL BE REQUIRED WHEN THE REPAIR AREA LENGTH EXCEEDS 20 FT. OR WHEN MORE THAN 3 PRECAST SLAB ARE PLACED IN SEQUENCE.

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PRECAST CONCRETE PAVEMENT SLABS		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ct:\pw\work\p\dot\pencepl\d0410948\01st\d.dgn	DRAWN -	REVISED -	339				116(R&R-3)PCC-PP-1	COOK	45	36		
Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -		SCALE: NONE		SHEET 18 OF 19 SHEETS		STA.	TO STA.		CONTRACT NO. 62A11
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -		ILLINOIS FED. AID PROJECT							



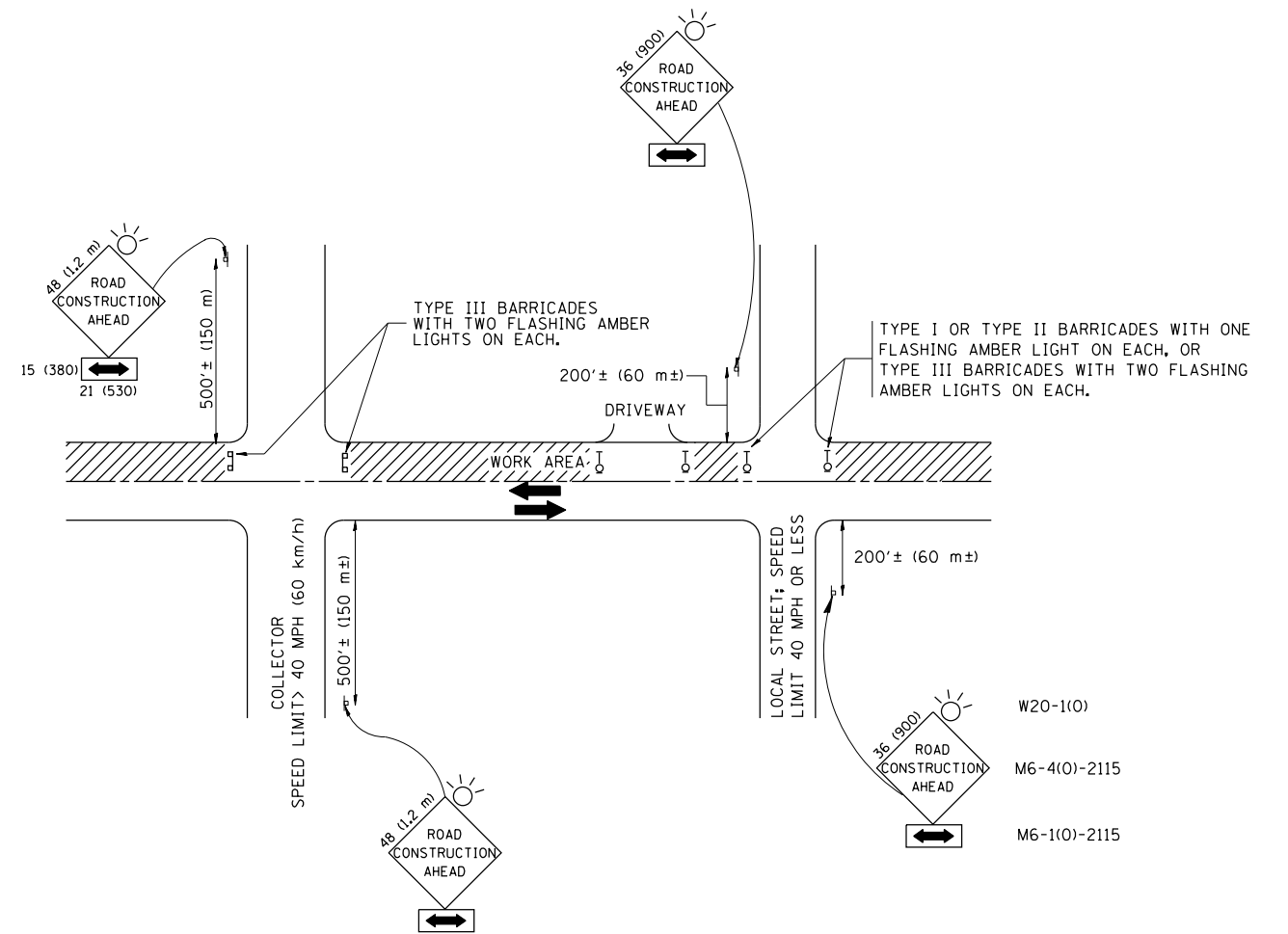
**DETAIL H – LONGITUDINAL TIE BAR  
STITCHING FOR PRECAST PANELS**



**NOTES FOR TIE BAR STITCHING:**

1. DRILL HOLES THAT ARE ORIENTED AT  $40^\circ \pm 5^\circ$  ANGLE TO THE PAVEMENT SURFACE SO THAT THEY INTERSECT THE LONGITUDINAL CRACK OR JOINT AT ABOUT MID-DEPTH. (IT IS IMPORTANT TO START DRILLING THE HOLE AT A CONSISTENT DISTANCE FROM THE JOINT, IN ORDER TO CONSISTENTLY CROSS AT THE MID-DEPTH OF THE SLAB.)
2. HOLE CENTERLINES ARE PERPENDICULAR TO THE JOINT (IN PLAN VIEW) AT EACH LOCATION BEING DRILLED.
3. SELECT A DRILL THAT MINIMIZES DAMAGE TO THE CONCRETE SURFACE, SUCH AS A HYDRAULIC POWERED DRILL. SELECT A DRILL DIAMETER NO MORE THAN 0.375 IN. LARGER THAN THE TIE-BAR DIAMETER. CHOOSE A GANG-MOUNTED DRILL IF A HIGHER PRODUCTIVITY IS NEEDED.
4. DRILL HOLES WITH NO LESS THAN A 24 INCH BAR SPACING. ADJACENT HOLES ARE DRILLED IN OPPOSITE DIRECTIONS ACROSS THE JOINT. THE HOLES AND INSERTED TIE BAR SHALL BE NO LESS THAN 24 INCHES FROM ANY EXISTING TRANSVERSE JOINT OR ANY PRECAST OR REPAIR TRANSFER JOINT.
5. HOLE BOTTOMS ARE NO MORE THAN 1 INCH FROM THE SLAB BOTTOM.
6. AIR BLOW THE HOLES TO REMOVE DUST AND DEBRIS AFTER DRILLING.
7. INJECT ADHESIVE INTO THE HOLE, LEAVING SOME VOLUME FOR THE BAR TO OCCUPY THE HOLE. (POURING THE ADHESIVE IS ACCEPTABLE FOR SMALL QUANTITIES.)
8. INSERT THE NO. 6 EPOXY COATED DEFORMED TIE BAR INTO THE HOLE, LEAVING ABOUT 1 IN. FROM THE TOP OF BAR TO THE PAVEMENT SURFACE. DEFORMED TIE BARS SHALL BE EPOXY COATED.
9. REMOVE EXCESS ADHESIVE AND FINISH FLUSH WITH THE PAVEMENT SURFACE.

FILE NAME =	USER NAME = PencePL	DESIGNED - O. PATEL	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRECAST CONCRETE PAVEMENT SLABS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ct:\pwork\pwork\pencepl\d0410948\01st.dgn		DRAWN -	REVISED -					339	116(R&R-3)PCC-PP-1	COOK	45	37
Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -		<b>BD 57</b>			<b>CONTRACT NO. 62A11</b>				
	PLOT DATE = 4/7/2015	DATE - 10-25-2013	REVISED -		SCALE: NONE	SHEET 19 OF 19 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT			



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

NOTES:

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

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

a) ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.

b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

a) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.

b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

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

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

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

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

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

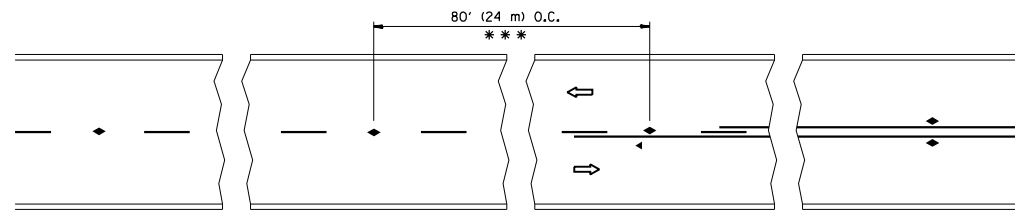
FILE NAME =	USER NAME = PencePL	DESIGNED - LHA	REVISED - J. OBERLE 10-18-95
et:\pwork\pwork\pencepl\d0410948\01st\d.dgn		DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 4/7/2015	DATE - 06-89	REVISED - T. RAMMACH 01-06-00

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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

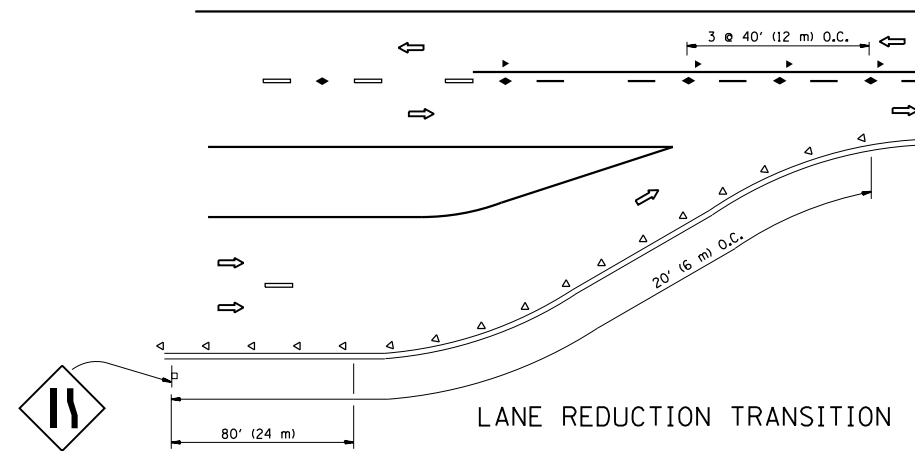
SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	38
TC-10			CONTRACT NO. 62A11	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

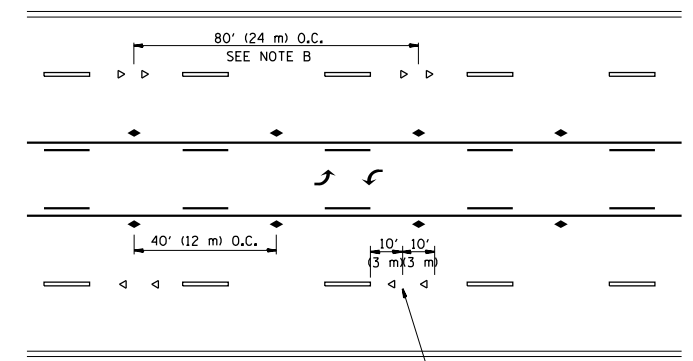


\*\*\* REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

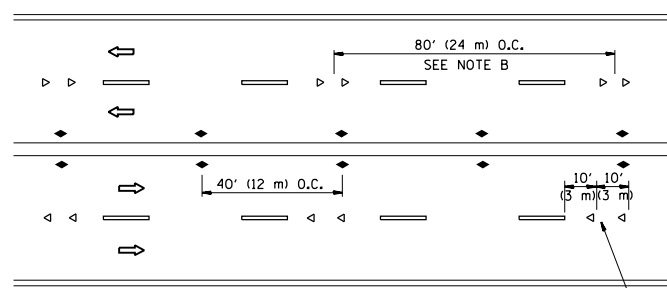
TWO-LANE/TWO-WAY



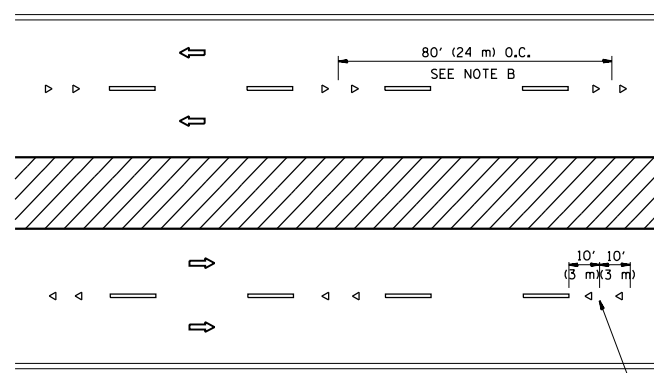
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

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

SYMBOLS

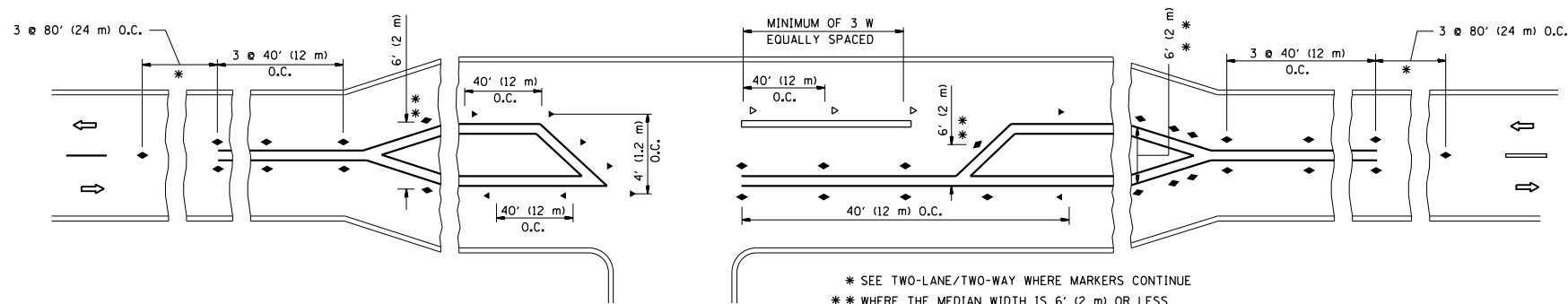
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

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

DESIGN NOTES

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



LEFT TURN

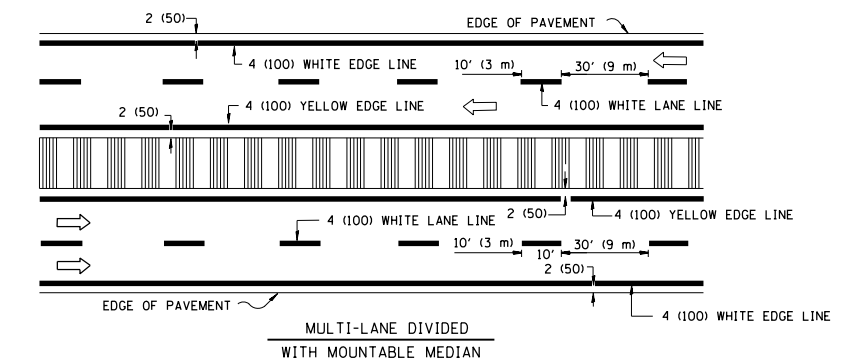
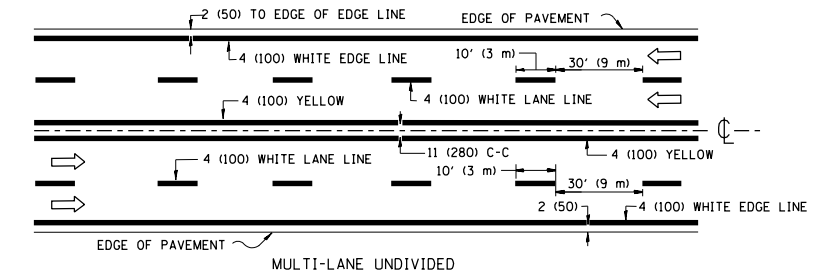
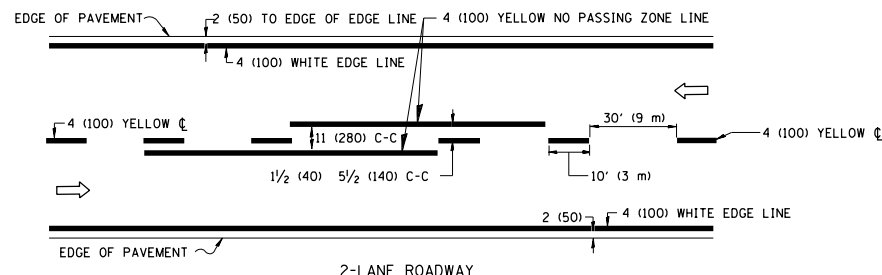
All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = PencePL	DESIGNED -	REVISED - T. RAMMACHER 09-19-94
et:\pw\work\p\dot\pencepl\d0410948\01st\d.dgn		DRAWN -	REVISED - T. RAMMACHER 03-12-99
	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - T. RAMMACHER 01-06-00
	PLOT DATE = 4/7/2015	DATE -	REVISED - C. JUCIUS 09-09-09

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

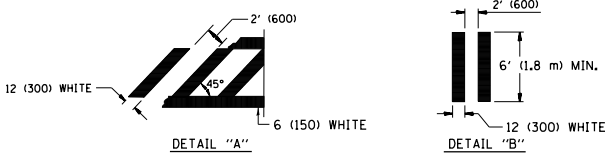
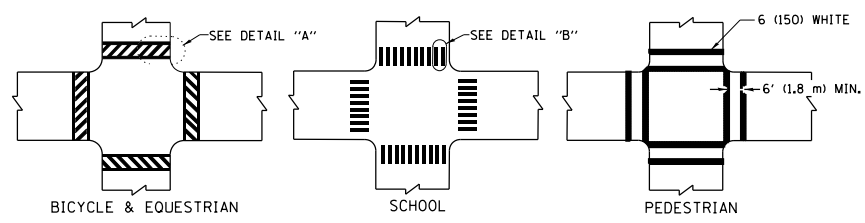
TYPICAL APPLICATIONS			
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	39
TC-11			CONTRACT NO. 62A11	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

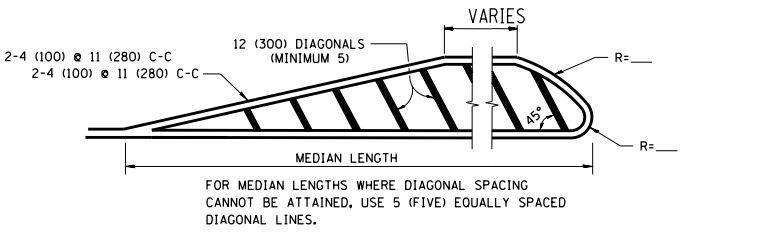
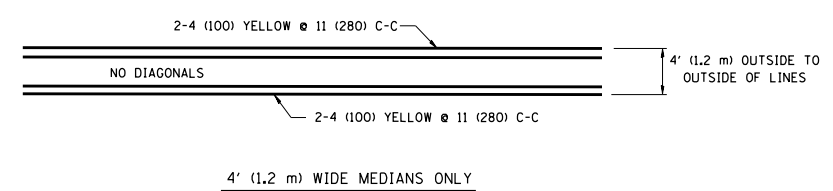


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

**TYPICAL LANE AND EDGE LINE MARKING**

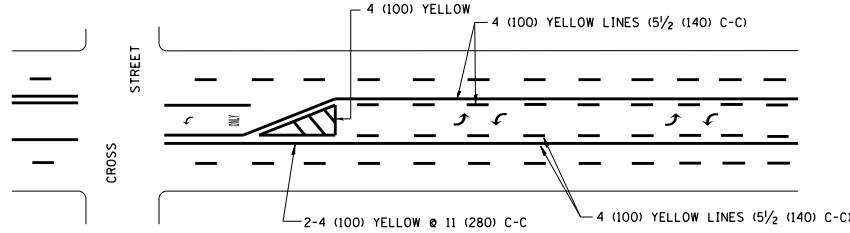


**TYPICAL CROSSWALK MARKING**

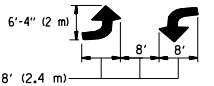


DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))  
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)  
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

**MEDIANS OVER 4' (1.2 m) WIDE**

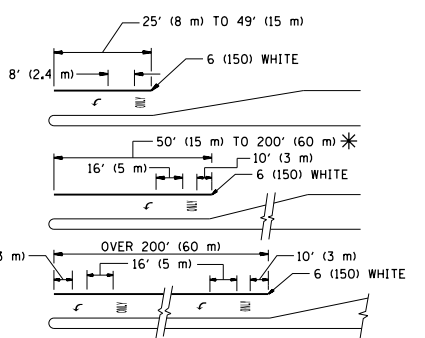


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



**MEDIAN WITH TWO-WAY LEFT TURN LANE**

**TYPICAL PAINTED MEDIAN MARKING**

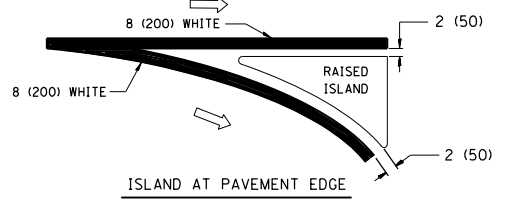
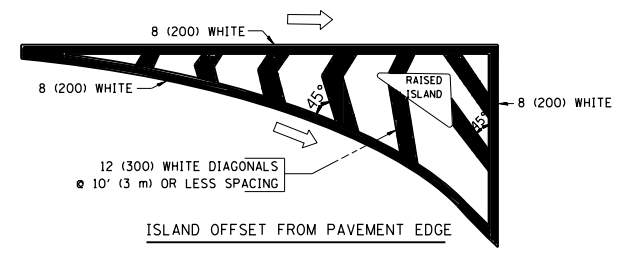


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.  
AREA = 15.6 SQ. FT. (1.5 m<sup>2</sup>) ONLY AREA = 20.8 SQ. FT. (1.9 m<sup>2</sup>)

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

**TYPICAL LEFT (OR RIGHT) TURN LANE**

**TYPICAL TURN LANE MARKING**



**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 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE. SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE. SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" 15 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> ) EACH
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

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

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

FILE NAME =	USER NAME = PencePL	DESIGNED - EVERS	REVISED - T. RAMMACHER 10-27-94
et:\pw\work\p1dot\pencepl\d0410948\Dist\d.dgn		DRAWN -	REVISED - C. JUCIUS 09-09-09
	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 4/7/2015	DATE - 03-19-90	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	40
TC-13		CONTRACT NO. 62A11		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				











**GENERAL NOTES**

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

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

**LEGEND**

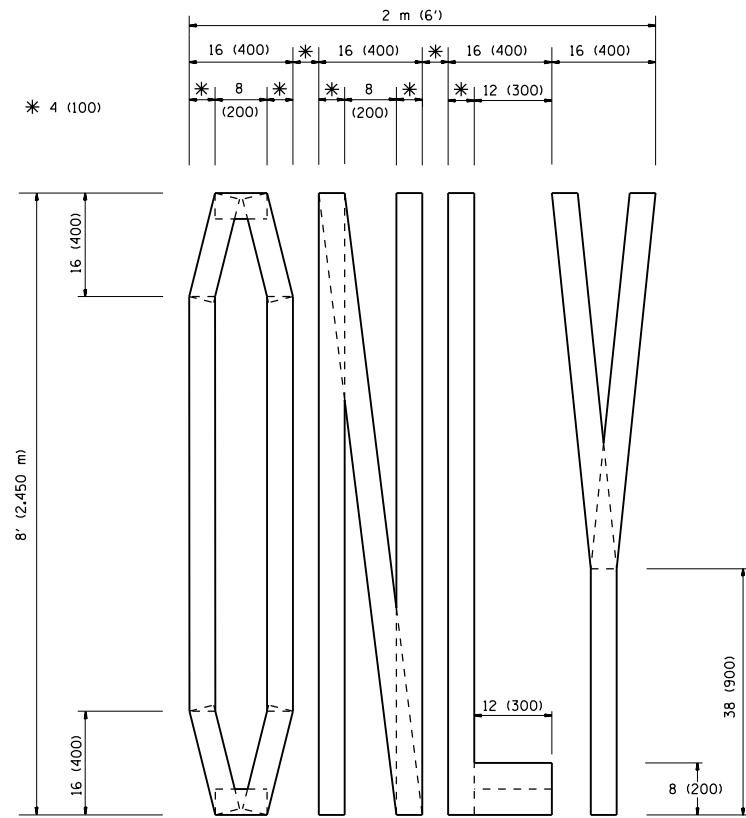
-  WORK AREA
-  LANE OPEN TO TRAFFIC
-  TYPE I OR II BARRICADE WITH STEADY BURN LIGHT
-  DRUM WITH STEADY BURN LIGHT
-  DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL
-  TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

FILE NAME =	USER NAME = PencePL	REVISED -T. RAMMACHER 09-08-94	REVISED - R. BORO 09-14-09
et:\pw\work\p\dot\pencepl\d0410948\Dist\std.dgn		REVISED - A. HOUSEH 11-07-95	REVISED -
	PLOT SCALE = 100.0000' / in.	REVISED - A. HOUSEH 10-12-96	REVISED -
	PLOT DATE = 4/7/2015	REVISED -T. RAMMACHER 01-06-00	REVISED -

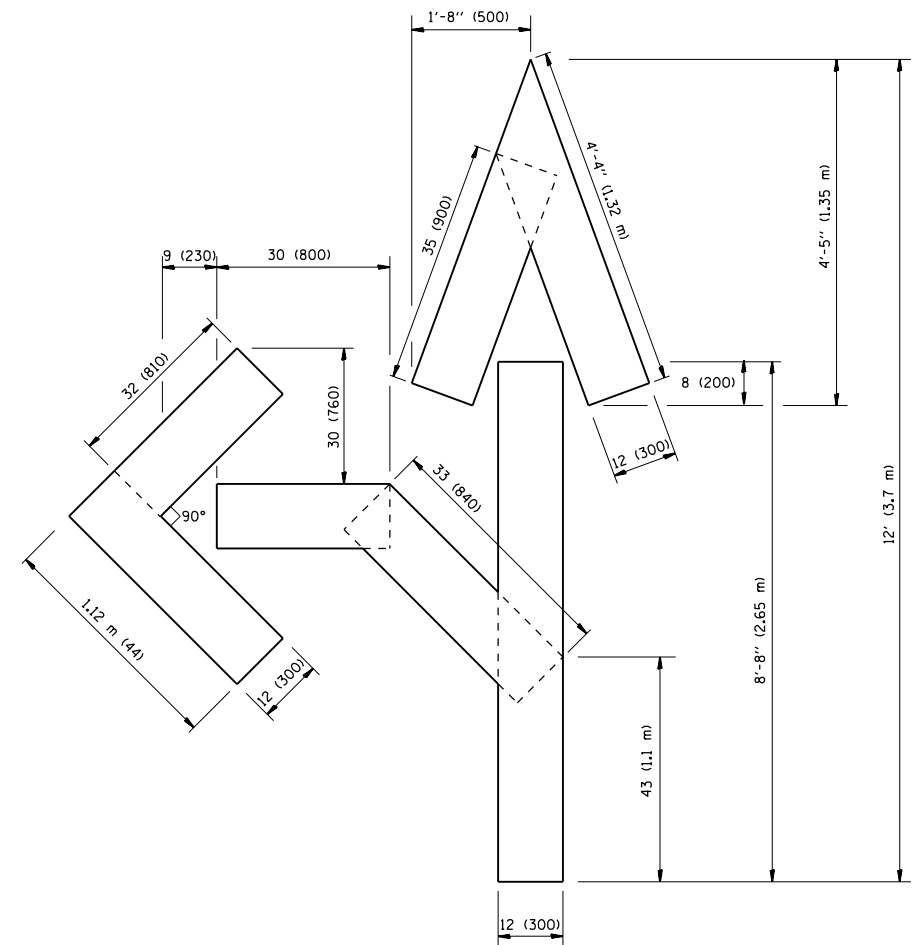
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

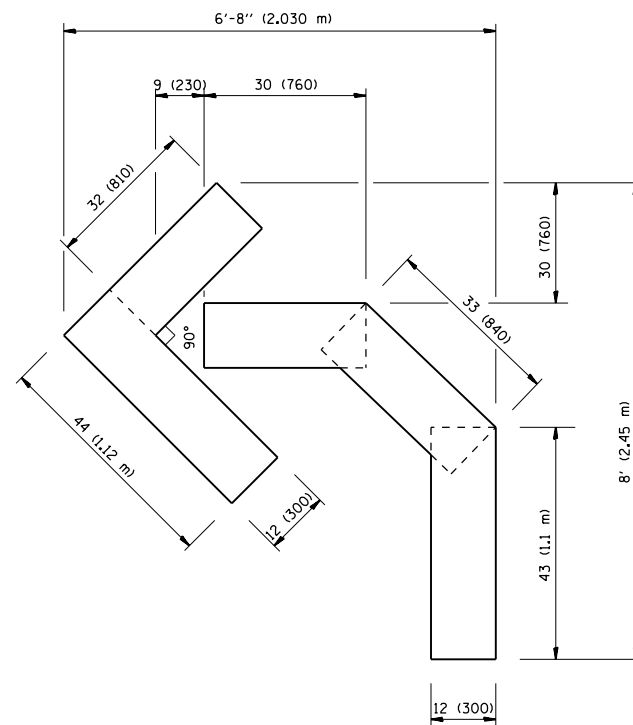
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	41
TC-14			CONTRACT NO. 62A11	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



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



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



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

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

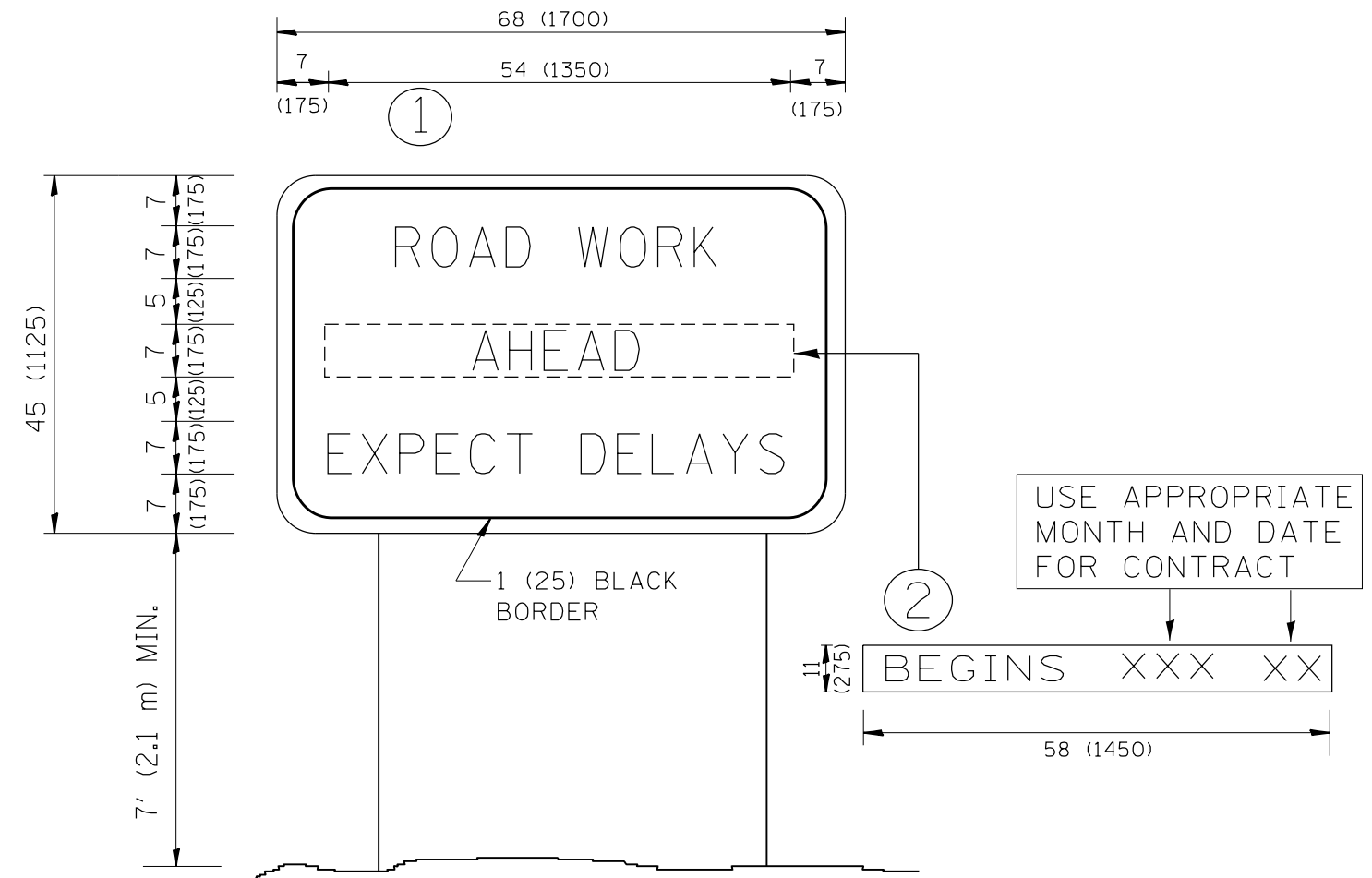
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et:\pw\work\p\dot\pencepl\d0410948\Dist\d.dgn		DRAWN -	REVISED -T. RAMMACHER 11-04-97
	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED -T. RAMMACHER 03-02-98
	PLOT DATE = 4/7/2015	DATE - 09-18-94	REVISED -E. GOMEZ 08-28-00

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING LETTERS AND SYMBOLS  
 FOR TRAFFIC STAGING

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	42
TC-16			CONTRACT NO. 62A11	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



**NOTES:**

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

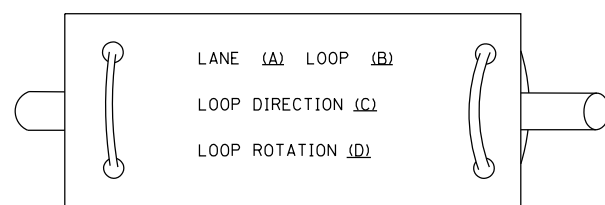
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = PencePL	DESIGNED -	REVISED - R. MIRS 09-15-97	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>ARTERIAL ROAD INFORMATION SIGN</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
et:\pw\work\p\dot\pencepl\d0410948\Dist\td.dgn	DRAWN -	REVISED - R. MIRS 12-11-97	339			116(R&R-3)PCC-PP-1	COOK	45	43		
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED - T. RAMMACHER 02-02-99	<b>TC-22</b>			<b>CONTRACT NO. 62A11</b>					
PLOT DATE = 4/7/2015	DATE -	REVISED - C. JUCIUS 01-31-07	FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT								
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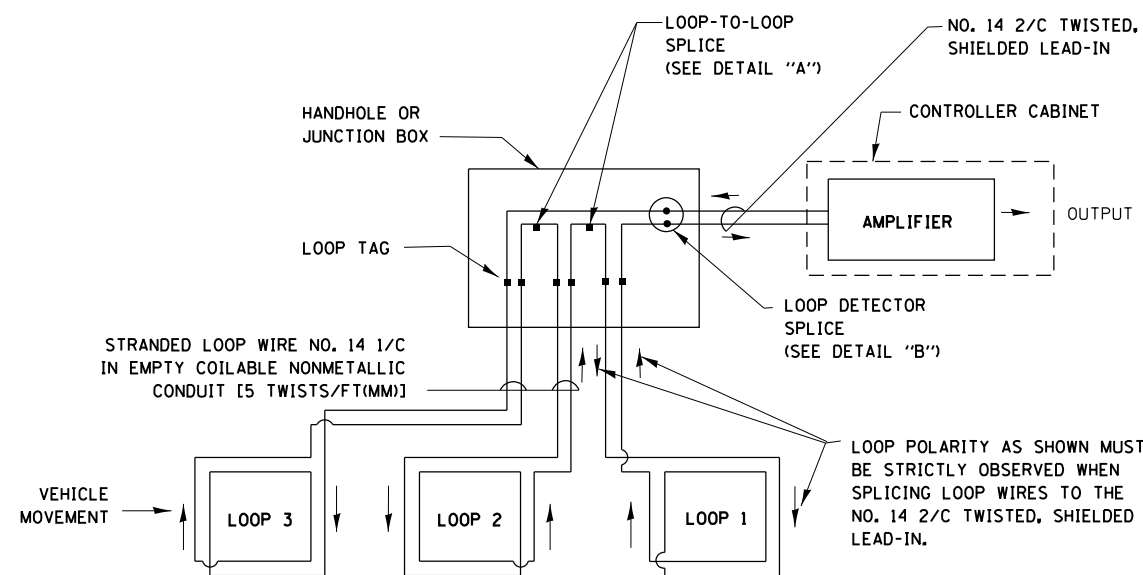
**LOOP DETECTOR NOTES**

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

**LOOP LEAD-IN CABLE TAG**

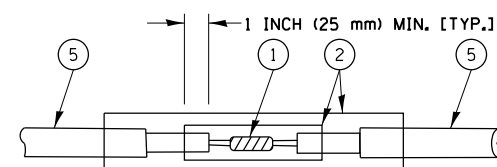


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

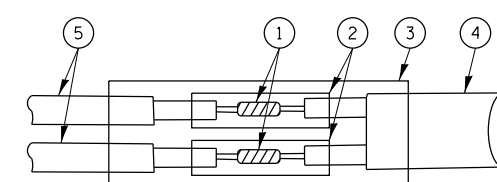


**DETECTOR LOOP WIRING SCHEMATIC**

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

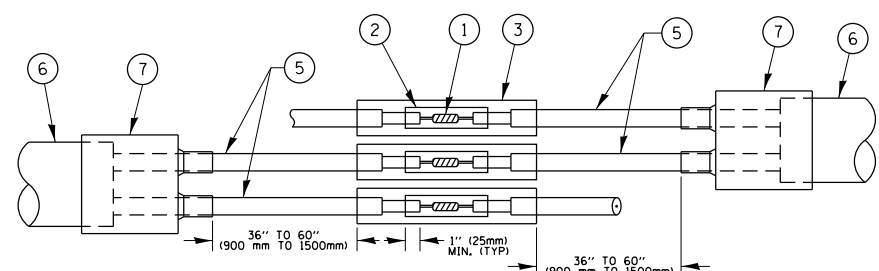


DETAIL "A"  
LOOP-TO-LOOP SPLICE

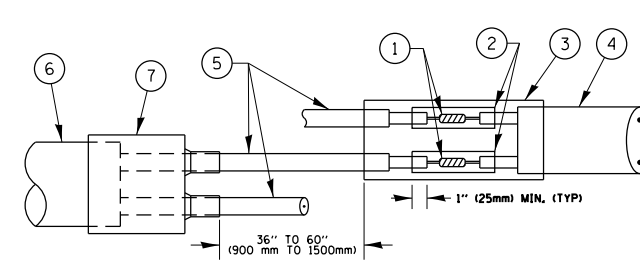


DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

**TYPE I LOOP**



DETAIL "A"  
LOOP-TO-LOOP SPLICE



DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

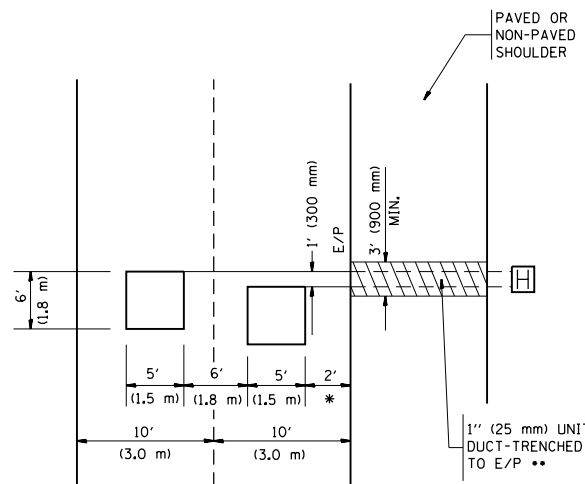
**LOOP DETECTOR SPLICE**

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

FILE NAME =	USER NAME = PencePL	DESIGNED - DAD	REVISED - DAG 1-1-14	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
et:\pw\work\p\dot\pencepl\d0410948\Dist1	DRAWN - BCK	CHECKED - DAD	REVISED -			339	116(R&R-3)PCC-PP-1	COOK	45	44
PLOT SCALE = 100.0000' / in.	DATE - 10-28-09	DATE - 10-28-09	REVISED -			<b>TS-05</b>		<b>CONTRACT NO. 62A11</b>		
PLOT DATE = 4/7/2015	DATE - 10-28-09	REVISED -	SCALE: NONE			SHEET NO. 2 OF 7 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		

**LOOPS NEXT TO SHOULDERS**

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



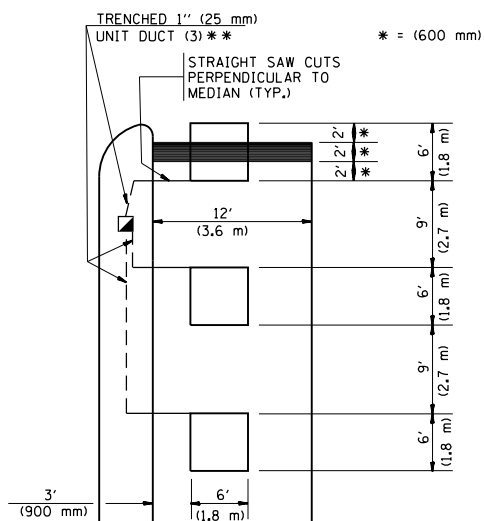
\* = (600 mm)

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

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

(PROTECTED / PERMITTED LEFT TURN PHASING)

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

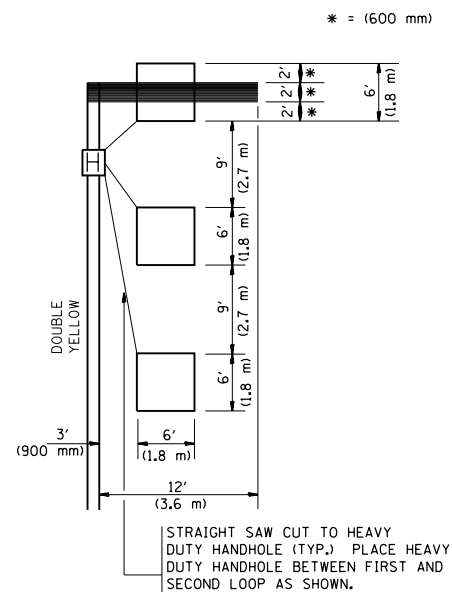


\*\* UNIT DUCT IS TO BE SHOWN ON PLAN SHEETS BUT SHALL NOT BE INCLUDED IN THE PAY ITEMS.

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

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

(PROTECTED / PERMITTED LEFT TURN PHASING)



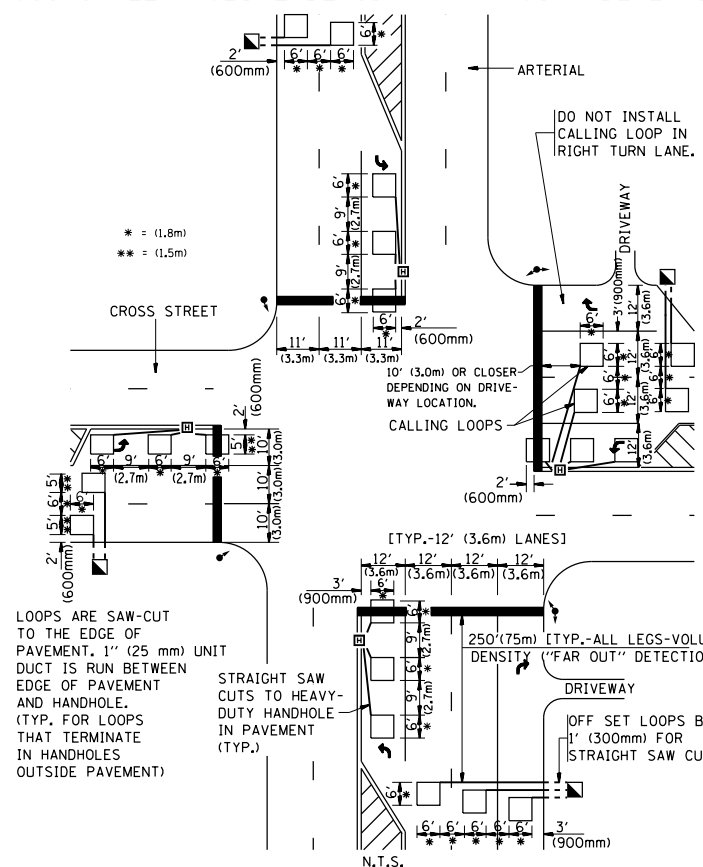
NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

**NOTES:**

**VEHICLES LOOP DETECTORS**

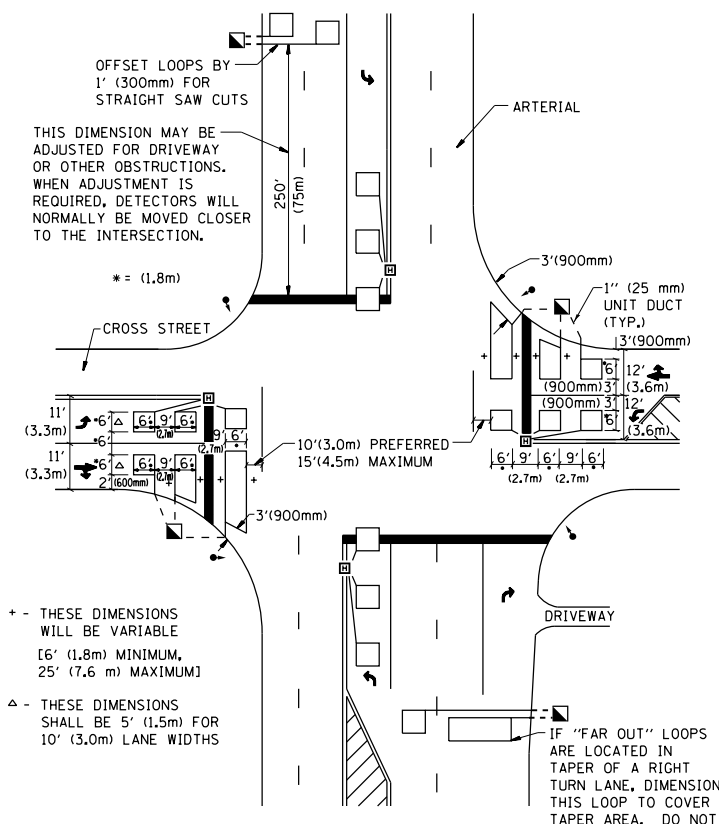
- \* ALL LEAD IN CABLE SHALL BE TWO CONDUCTOR NO. 14 TWISTED, SHIELDED.
- \* EACH DETECTOR LOOP SHALL HAVE ITS OWN SAW CUT FROM THE LOOP TO THE EDGE OF PAVEMENT OR TO A HANDHOLE IN THE PAVEMENT.
- \* EACH DETECTOR LOOP SHALL HAVE ITS OWN ONE INCH (25 mm) UNIT DUCT BETWEEN THE EDGE OF PAVEMENT AND THE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

**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.

**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 =	USER NAME = PencePL	DESIGNED -	REVISED -
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PLOT SCALE = 100.0000' / 1"	CHECKED - R.K.F.	REVISED -	REVISED -
PLOT DATE = 4/7/2015	DATE -	REVISED -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

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

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	116(R&R-3)PCC-PP-1	COOK	45	45
<b>TS-07</b>		<b>CONTRACT NO. 62A11</b>		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				