

FOR REFERENCE ONLY

SCALE:

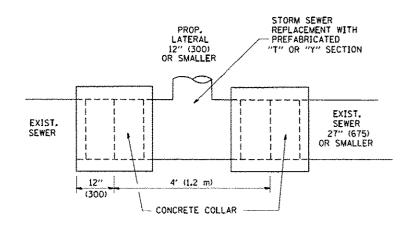
E-8

SINGH SINGH-ASSOCIATES AND CONSULTING ENGINEES

USER NAME = LUSER_	DESIGNED -	REVISED -
FILE NAME = DI60WI3-sht-light-88.dgn	LG - NWARG	REVISED -
PLOT SCALE = 1,00000 '/ In.	CHECKED - RP	REVISED -
PLOT DATE = 12/17/2013	DATE - 12/17/2013	REVISED -

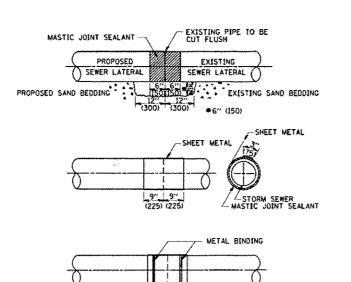
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

	EXIST	NG FIBE	R OPTI	C UTILIT	F.A.P.	SECTION	COUNTY	SHEETS	St	
		/SHEE	T 2 OF	2)	575	14-N	WILL	163		
	,	(DIILL		<u> </u>				CONTRAC	T NO. E	O
N.T.S.	SHEET 8	OF 8	SHEETS	STA.	TO STA.		ILLINOIS FED. A	D PROJECT		



DETAIL "A"

OF 27" (675) OR SMALLER



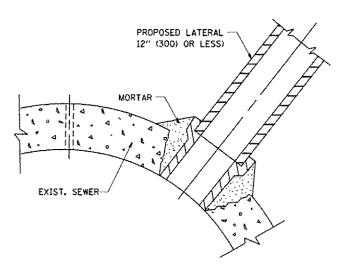
3" | 3" | 3" | 3" | 12" (300) MIN. | 12"

DETAIL "B"

CLASS SI CONCRETE COLLAR

CONSTRUCTION SEQUENCE

- CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT, BRUSH AND CLEAN ALL PIPES.
- 2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" (150) OF EACH PIPE.
- BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 12" x 6" (300 x 150) DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
- 4. CUT A PIECE OF SHEET METAL GAGE NO. 19 1.1 (0.0418) 18" (450) WIDE BY THE OUTSIDE CIRCUMFERANCE OF THE PIPE PLUS 3" (75) LONG.
- 5. WRAP THE SHEET METAL AROUND THE PIPES. 9" (225) ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
- 6. LAP THE SHEET METAL AT LEAST 3" (75) AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
- 7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
- 8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT GOZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
- 9. PLACE CLASS SI CONCRETE AROUND THE JOINT.



DETAIL "C"
PROPOSED LATER

PROPOSED LATERAL
CONNECTION TO EXISTING SEWER
OF 30" (750) OR LARGER

NOTES

MATERIAL

MATERIAL USED FOR THE TEE OR WYE SECTION SHALL BE COMPATIBLE WITH THE EXISTING STORM SEWER OR THE PROPOSED STORM SEWER,

CONSTRUCTION METHODS

DETAIL "A" AND "B".

- 1. THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE SYANDARD SPECIFICATIONS.
- II. CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS:

 A) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER SEE
 - B) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER SEE DETAIL "C".

IF THE EXISTING SEWER PIPE IS CRACKED, BROKEN OR OTHERWISE DAMAGED BY THE CONTRACTOR IN MAKING THE CIRCULAR OPENING, THE CONTRACTOR SHALL REPLACE THAT SECTION OF PIPE WITH PIPE EQUAL AND SIMILAR IN ALL RESPECTS TO THE PIPE IN THE EXISTING SEWER, IN A CAREFUL WORKMANLIKE MANNER, WITHOUT EXTRA COMPENSATION,

GENERAL

CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNDBSTRUCTED UPON COMPLETION OF THE CONTRACT.

CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

BASIS OF PAYMENT

TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS, THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REQUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.

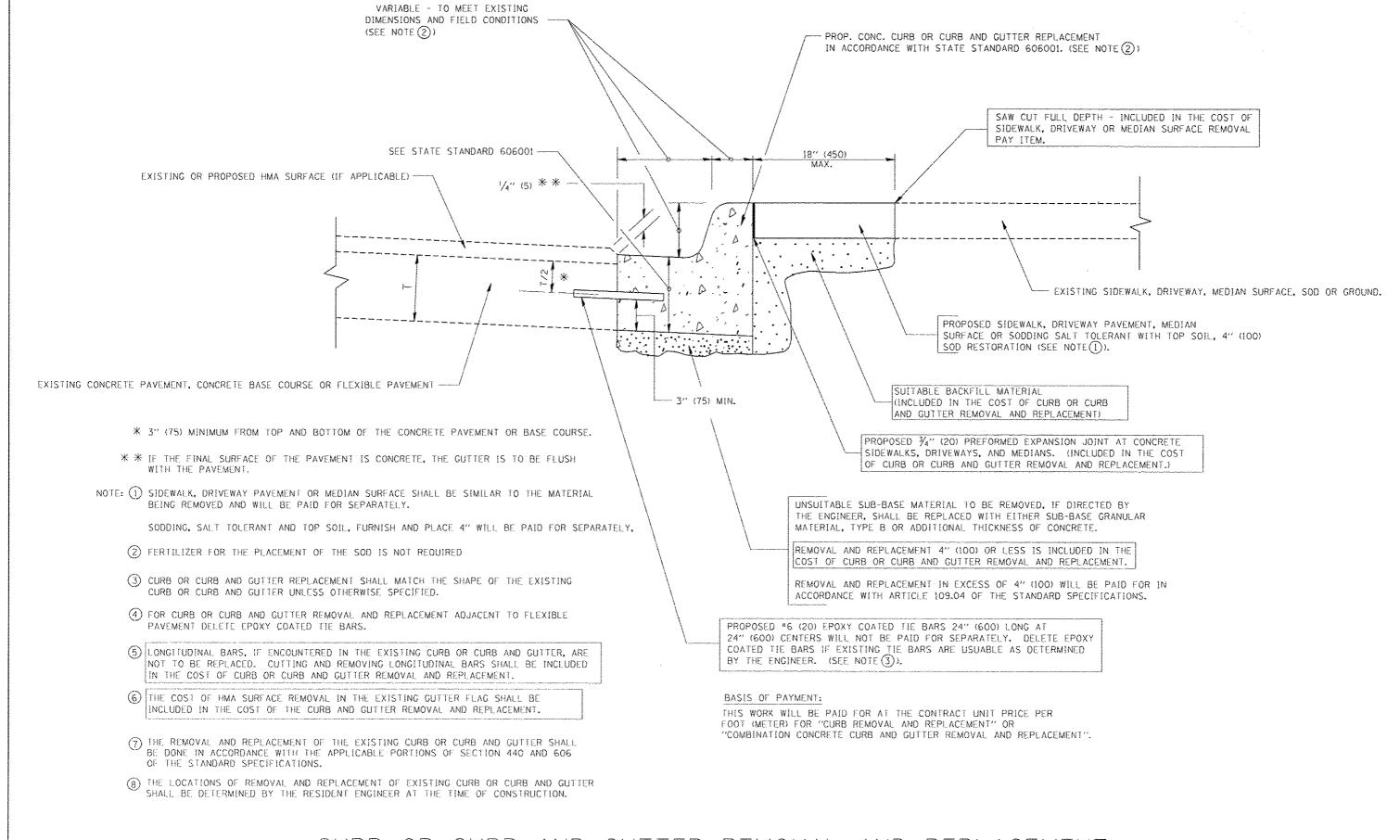
REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.

TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.

CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER WILL NOT BE PAID PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED STORM SEWER.

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

FILE NAME >	USER NAME / geglienobt	OF STORED - W. DE LONG	REVISED W. DE YONG 05-08-92		DETAIL OF STORM SEWER	F.A.P. RTE.	SECTION	COUNTY S	OTAL SHEET HEETS NO.
W:\diststd\22=34\bd07.dgn	PLO1 SCA,E < 50.000 17 No.	DRAWN - CHECKED -	REVISED R. SHAH 09-09-94 REVISED R. SHAH 10-25-94	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CONNECTION TO EXISTING SEWER	575 RD500	14-N)-01 (BD-7)	WILL CONTRACT N	163 102 IO 60#13
	PLOT DATE - 1/4/2000	DATE - 07-25-90	REVISED - R. SHAH 06-12-96		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	CONTRACTOR LINES AND LINES AND CONTRACTOR	NO. 1 ILLINOIS FED. A	A graph of the second s	1) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1



CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

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

	PRE MOSE	USER NAME = driveNosign	DESIGNED ~ A. HOUSEH	REVISED - R. SHAH 10-03-96	STATE OF ILLINOIS	CURB OR CURB AND GUTTER	RIE. SECTION	COUNTY SHEETS NO.
	er ibe, sor e character racoach emiseant des	PLOT SCOLE - SELVER 1 / IN.	CHECKED -	REVISED - M. GOMEZ 01-22-01	DEPARTMENT OF TRANSPORTATION	REMOVAL AND REPLACEMENT	575 14-N	WILL 163 103
		PLDT 941E = 12/15/2889	DATE 03-11-94	REVISED - R. BORO 12-15-09	DEFARIMENT OF TRANSPORTATION	SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. 10 STA.	BD600-06 (BD-24)	CONTRACT NO. 60#13
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FRAME EXTENSION INTO PAVEMENT	INNER HOOP REINFORCEMENT DIAMETER	SEMI CIRCULAR FORM DIAMETER	OUTER HOOP REINFORCEMENT DIAMETER
UP TO 8" (200)	3'-6" ([.[m]	4′-0" (1,2 m)	5'-0" ([.5 m]
> 8" (200) T0 14" (360)	4'-0" (1.2 m)	4'-6" (1.4 m)	5'-0" (L5 m)

DESIGNER NOTE: THIS DETAIL IS TO BE USED WHEN THE GUTTER FLAG IS LESS THAN 24"

LEGEND:

DRAWN

DATE

PLOT SCALE = 60.0000 1/ IN.

PLOT DATE - 1/4/2008

CHECKED

TOM MATOUSEK

A. ABBAS

01-04-99

T. MATOUSEK 10-02-00

T. MATOUSEK 04-25-02

P. LAFLEUR 08-27-02

REVISED

REVISED

CILE NAME

rpb.84bd/4ExSS/atetech/i

NOTES :

- 1. THE ROUNDOUT AND ADDED REINFORCEMENT WILL NOT BE PAID SEPARATELY. BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE PAVEMENT.
- TRANSVERSE JOINTS MAY BE WOVED TO ACCOMMODATE ROUNDOUT, EDGE OF CIRCULAR JOINT SHALL BE MINIMUM 12" (300) FROM TRANSVERSE JOINT. RELOCATED TRANSVERSE JOINT SHALL BE CONTINUOUS FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT.
- 3. SEMI-CIRCULAR FORM SHALL BE REMOVED PRIOR TO DRILL AND GROUT OF THE BARS.
- 4. ALL REINFORCED BARS SHALL BE EPOXY COATED.
- 5. ORILL AND GROUT IS PREFERRED, HOWEVER TIE BARS CAN BE POURED IN PLACE IF CLEARANCE IS PROVIDED TO OUTER EDGE OF FRAME, MINIMUM 2" (50) CLEARANCE.
- 6. WOOD SHIMS SHALL BE USED TO ADJUST ALL FRAMES. AFTER ADJUSTING MORTAR HAS CURED, THE WOOD SHIMS SHALL BE REMOVED AND THE VOIDS UNDER THE FRAMES FILLED WITH NON SHRINK GROUT.

TOTAL SHEETS NO.

163 104

CONTRACT NO. 60W13

WILL

575

TO STA.

14-N

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

BD-48

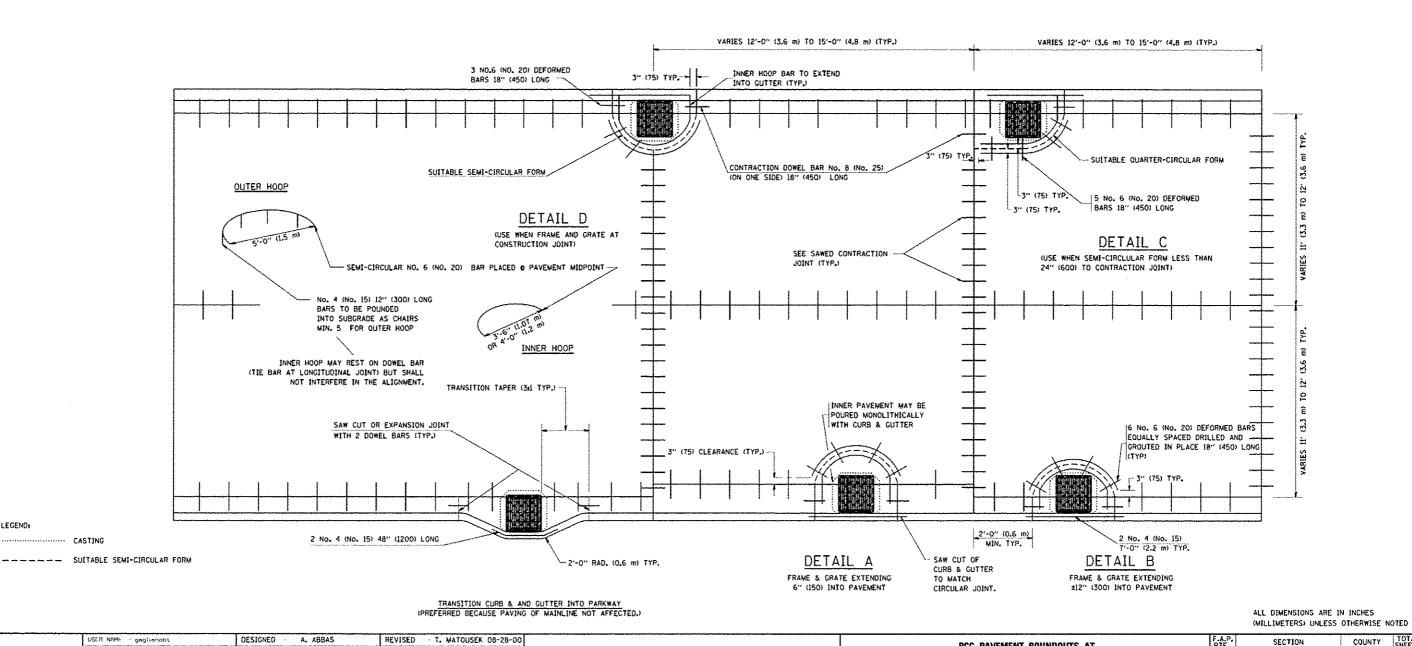
- 7. HOOP REINFORCEMENT SHALL BE ONE PIECE CONSTRUCTION.
- 8. CIRCULAR FRAMES AND GRATES MAY BE SUBSTITUTED.
- 9. CURB DOWELS MUST BE PLACED LEVEL & TRUE TO ALLOW CONTRACTION MOVEMENT.

PCC PAVEMENT ROUNDOUTS AT

CURB AND GUTTER

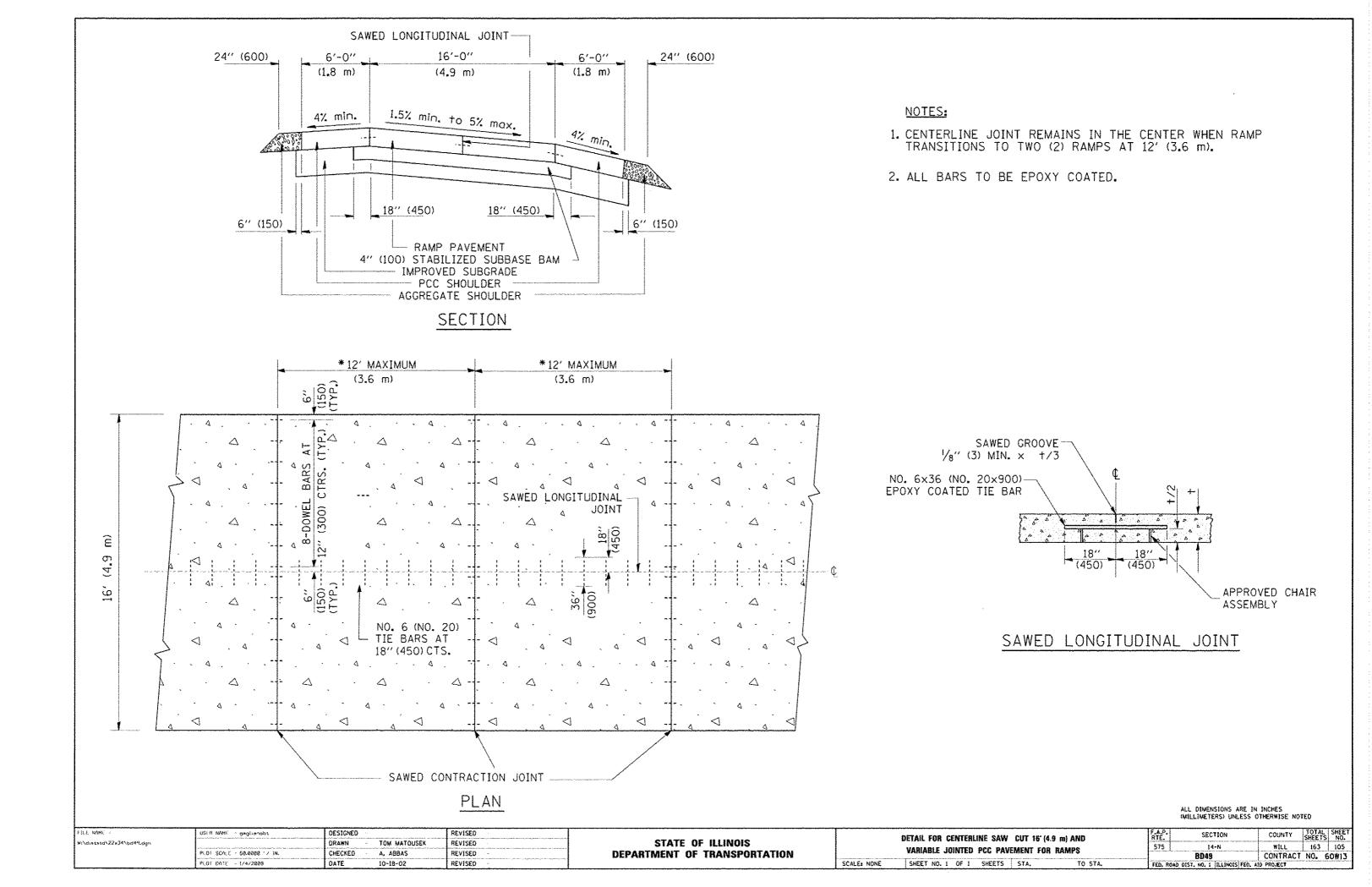
SHEET NO. 1 OF 1 SHEETS STA.

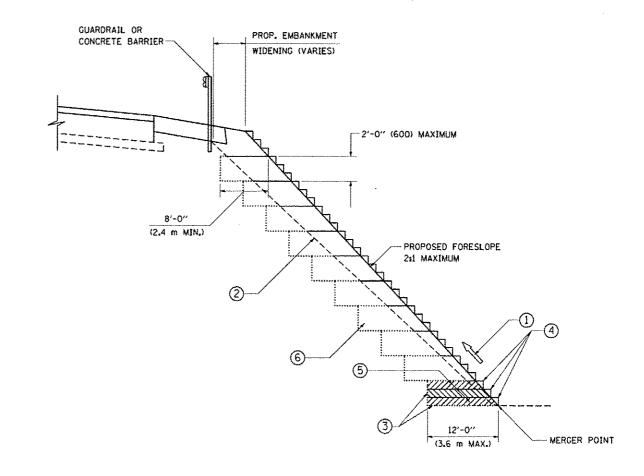
SCALE: NONE



STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION





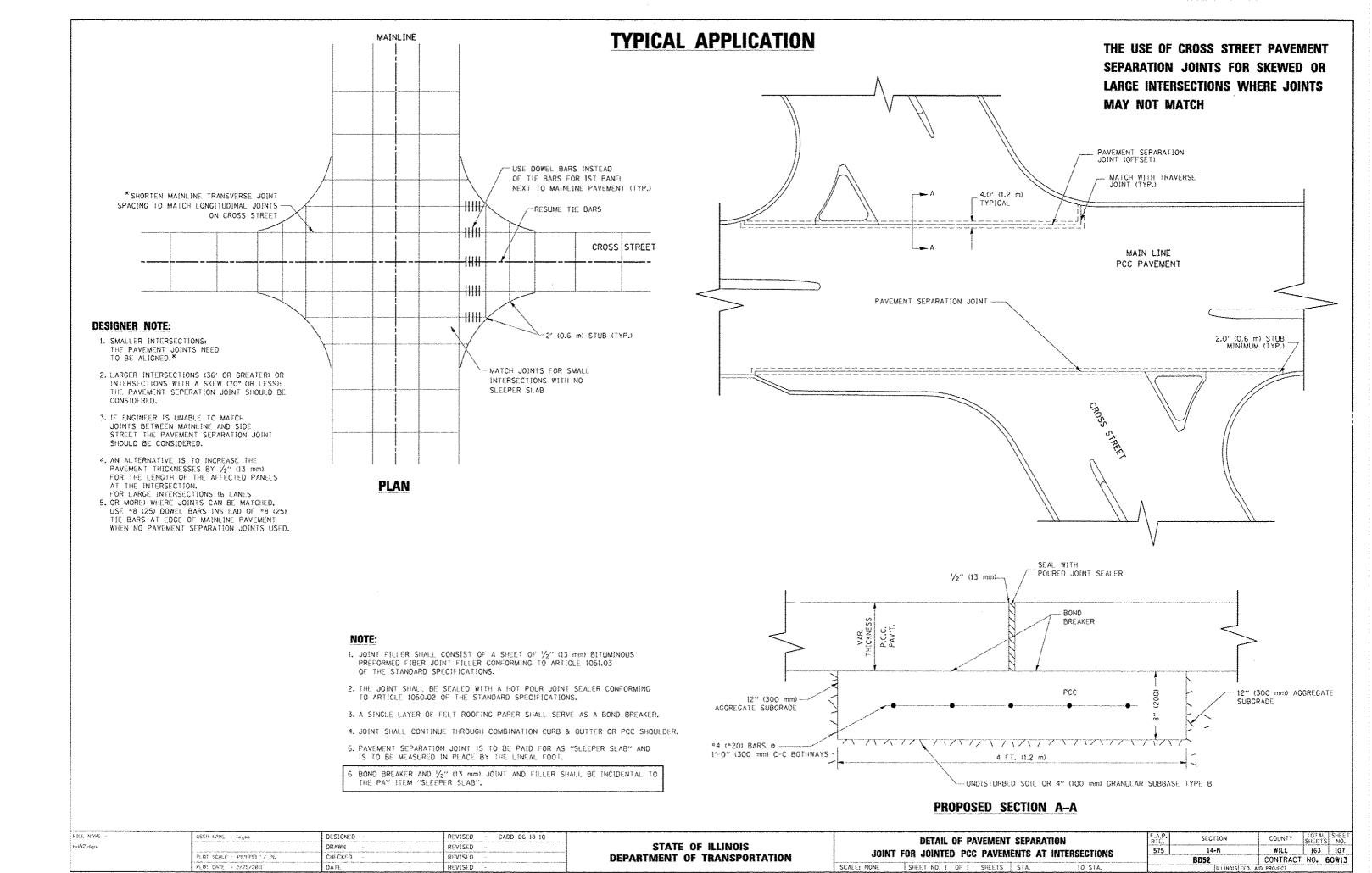
TYPICAL BENCHING DETAIL FOR EMBANKMENT

NOTES:

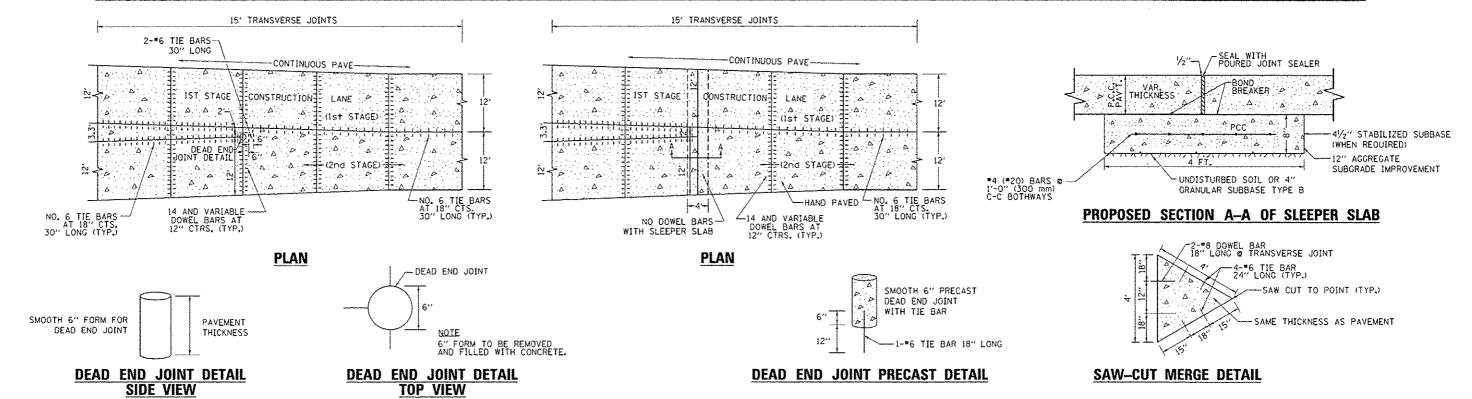
- CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
- EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
- BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
- 4 TRIM TO FINAL SLOPE.
- EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
- EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL, NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

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

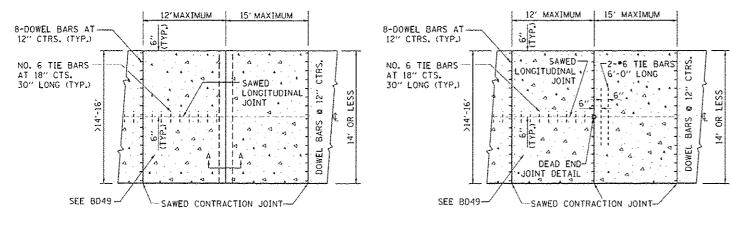
FILE NAME 4	USER NAME / gaglianobit	DESIGNED -		REVISED -		BENCHING DETAIL	F.A.P.	SECTION	N COUNTY	TOTAL	SHEET
WiNdistateN22x34\bd81.dgn		DRAWN -	CADD	REVISED	STATE OF ILLINOIS	1	575	1 4- N		163	106
	PLOT SCALE = 58.0000 1/ IN,	CHECKED	S.E.B.	REVISED	DEPARTMENT OF TRANSPORTATION	FOR EMBANKMENT WIDENING	3.0	BD-51	CONTRAC	CT NO.	60W13
	PLO1 DATE : 1/4/2008	DATE	06-16-04	REVISED -		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. R		INOIS FEO. AID PROJECT		



LANE REDUCTION WITH A CONTINUOUS PAVEMENT FOR 1ST STAGE WITH DEAD END JOINT OR SLEEPER SLAB

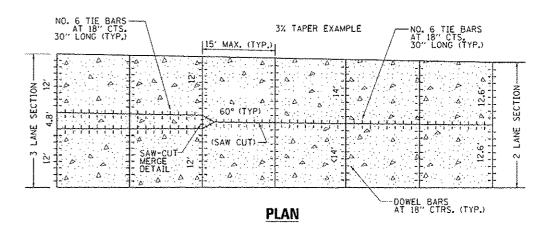


TRANSITION DETAILS FOR CENTERLINE SAW CUT FOR DEAD END JOINT INTERIOR LANE REDUCTION FOR THREE LANE SECTION OR SLEEPER SLAB FOR VARIABLE JOINTED PCC PAVEMENT IN PCC PAVEMENT FOR LANES OVER 14'



PLAN USING SLEEPER SLAB

PLAN USING DEAD END JOINT



- 1. SAW-CUT MERGE DETAIL: THE 4' TRIANGLE SECTION COULD BE PRECAST OR CAST INPLACE AND PROPERLY PLACED WITH TIE BARS AND PROPERLY ALIGNED DOWEL BARS.
- 2. TRANSVERSE JOINT SPACING MAY DECREASE DEPENDING ON PAVEMENT THICKNESS BELOW 9.5". USE FORMULA JOINT SPACING IN (FT) = 2 X PAVEMENT THICKNESS IN (IN)-4.
- 3. USE SAW-CUT MERGE DETAIL IN SITUATIONS WHERE THERE IS NO STAGING.
- 4. DEAD END JOINTS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR DEAD END JOINT, PRECAST DEAD END JOINT SET IN PLACE WITH DRILLED HOLE INTO SUBBASE/SUBGRADE FOR *6 TIE BAR.
- 5. SLEEPER SLAB WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR SLEEPER SLAB.

FILE NAME -	USER NAME = detvakosge	DESIGNED TOM. EAJ	REVISED - CADD 05-02-12		DETAIL OF VARIOUS TYPES OF LANE REDUCTION	FAP. SECTION	COUNTY TOTAL SHEET
bd53.dgn		DRAWN - AM	REVISEO -	STATE OF ILLINOIS	FOR PCC PAVEMENT	575 14-N	WILL 163 108
į.	PLOT SCALE + 58.9028 17 in.	CHECKED - JD	REVISED -	DEPARTMENT OF TRANSPORTATION	FUN PUL PAVEMENT	BD53	CONTRACT NO. 60W13
	PLOT DATE = 5/4/2012	DATE - 03/07/12	REVISED -		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	ILLINOIS FED	D. AID PROJECT

MATERIALS:

- EPOXY COATED DOWEL BARS USED SHALL COMPLY WITH ASTM A 615
- 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 11/2" UNLESS THE SLAB IS TO BE OVERLAID IMMEDIATELY AFTER PLACEMENT. THE INSERT SHALL LEAVE A MAXIMUM 11/4" DIAMETER THREADED HOLE TO BE GROUTEDAFTER SLAB INSTALLATION. IF THE INSERT IS IN-STALLED WITH A FULL SLAB PENETRATION, THE LIFTING INSERT CAN BE USED AS A BEDDING GROUT PORT AT THE CONTRACTOR'S DIS-
 - CRETION.

 B. FOR LIFTING PLATES, INSTALLATION MUST BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND HAVE A STANDARD 51 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.
- REINFORCEMENT USED SHALL BE EPOXY COATED, IN ACCORDANCE WITH ASTM A706 GRADE 60 AND IN COMPLIANCE WITH ARTICLE 1006.10
- CONCRETE COVER OVER REINFORCEMENT TO BE MAINTAINED USING WIRE OR THERMOPLASTIC CHAIRS OR SPACERS OR AN APPROVED
- 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.

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 TOLLWAY STANDARD DRAWINGS FOR DESIGN SLAB THICKNESS, WIDTH, AND LENGTH. ACTUAL WIDTH TO BE MODIFIED WITH ON-SITE SAW CUTS TO
 - B. USE ONE LAYER OF REINFORCEMENT WITH A MINIMUM STEEL
 - 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 21/2" (±1/4") WIDE AND AT LEAST 1/2" OF GROUT COVER IS PROVIDED UNDER THE
 - 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
 - FOR STANDARD ISOLATED SLABS WITH NARROW ELONGATED PREFORMED DOWEL SLOTS, THE CENTERPOINT BETWEEN THE WHEEL PATH SLOTS
- - 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

FABRICATION GENERAL NOTES

DEVELOP WORKING DRAWINGS FOR THE SLAB. MINIMUM AND MAXIMUM DIMENSIONS FOR LENGTHS AND WIDTHS ARE NOTED ON THE STANDARD DRAWINGS.

- B. ANY CUSTOM SLABS > 6 FT. IN LENGTH THAY WILL BE OPENED TO TRAFFIC BEFORE ANY HARDWARE AND UNDERSLAB GROUTING OR FILLING OCCURS SHALL REQUIRE TWO (2) LAYERS OF STEEL REINFORCEMENT AS NOTED ON SHEET 5.
 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 THICK-NESS 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 PAVE-MENT WHEN INSTALLED. THE SURFACE OF ALL CUSTOM SLABS RE-PLACING 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 AD-JOINING PAVEMENTS. THE PROFILE GRINDING OPERATION FOR CUSTOM SLABS REPLACING ANY WARPED PAVEMENTS, ON CURVED RAMPS OR SUPERELEVATED MAINLINE SECTIONS, SHALL BE IN AC-CORDANCE 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.

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 INSTALL -ATION.

FOR ALL CUSTOMS SLABS WITH NARROW ELONGATED PREFORMED DOWEL SLOTS, THE DOWEL BARS SHALL BE SLID INTO PREDRILLED HOLES IN THE ADAJECENT 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.
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'-O" APART, AND NO LESS THAN 1'-8" AND NO MORE THAN 2'-6" OFF OF A TRANSVERSE JOINT.

C. RECESS LIFTING DEVICES I" 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
 - SLAB LAYOUT DRAWING FOR TYPICAL STANDARD SLABS AND FOR EACH CUSTOM SLAB TO BE FABRICATED, WITH
 - 8, ACCURATE DIMENSIONS CITED. REINFORCEMENT SIZES, SPACING, NUMBER OF MATS, AND C. METHOD OF MAINTAINING CONCRETE COVER. 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 D. OF STANDARD SLABS FOR CONSECUTIVE PLACEMENT. SIZE AND LOCATION OF GROUT PORTS, LIFTING ANCHORS. E. AND GROUT SEAL GASKETS.

 - F. COMPRESSIVE STRENOTH AND AIR CONTENT OF CONCRETE,
 G. CONCRETE CURING METHOD TO BE USED.
 MARKING LEGEND FOR EACH SLAB TO INDICATE PRECAST MANUFACTURER, AND DATE OF PRODUCTION; AND FOR EACH CUSTOM SLAB TO INCLUDE CONTRACT NUMBER AND H. MARK NUMBER OF THE SLAB.

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 DIAGONALS DOWEL VARIANCE FROM LEVEL, SOUARENESS TO EDGE OF SLAB, AND LOCATION.

± 1/2"

EDGE SOUARENESS - 1/8" IN 10" (IN RELATION TO TOP AND BOTTOM SURFACES).

- INCLUDE A 1 INCH CHAMFER ALONG ALL BOTTOM EDGES OF SLABS. AND A STONED EDGE TO ALL TOP EDGES OF THE SLAB.
- 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)()) OF THE STANDARD SPECIFICATIONS AS INDICATED IN THE SLAB DESIGN SCHEDILE ON CONTRACT DRAWINGS.
- AFTER REMOVAL OF FORMS AND ANY BLOCKOUTS, NO SPALLS OF THE FINISHED SURFACE WILL BE ALLOWED.

TOTAL SHEE SHEETS NO. FILE NAME * USER NAME = PencePL DESIGNED - 0. PATEL REVISED -SECTION COUNTY PRECAST CONCRETE PAVEMENT SLARS STATE OF ILLINOIS ic 26v93/agreeb/S_bauce/gerocata/a falgoroum rdl diagond grinding\ood gatch ORANNI-precest PCC Patching.dom REVISED WILL 163 109 CONTRACT NO. 60W13 575 14-N PLOT SCALE . 100.0000 '/ m. REVISED DEPARTMENT OF TRANSPORTATION CHECKED . BD 57 PLOT DATE * 12/16/2013 SCALE: NONE SHEET NO. 1 OF 19 SHEETS STA. TO STA. FED. ROAD DIST. NO. 1 | ILLINOIS FED. AND PROJECT DATE - 10-25-2013 REVISED

MATERIALS:

- EPOXY COATED DOWEL BARS USED SHALL COMPLY WITH ASTM A 615
- 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 11/2" UNLESS THE SLAB IS TO BE OVERLAID IMMEDIATELY AFTER PLACEMENT. THE INSERT SHALL LEAVE A MAXIMUM 11/4" DIAMETER THREADED HOLE TO BE GROUTEDAFTER SLAB INSTALLATION. IF THE INSERT IS IN-STALLED WITH A FULL SLAB PENETRATION, THE LIFTING INSERT CAN BE USED AS A BEDDING GROUT PORT AT THE CONTRACTOR'S DIS-
 - B. FOR LIFTING PLATES, INSTALLATION MUST BE IN ACCORD-ANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND HAVE A STANDARD 51 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.
- REINFORCEMENT USED SHALL BE EPOXY COATED, IN ACCORDANCE WITH ASTM A706 GRADE 60 AND IN COMPLIANCE WITH ARTICLE 1006.10
- CONCRETE COVER OVER REINFORCEMENT TO BE MAINTAINED USING WIRE OR THERMOPLASTIC CHAIRS OR SPACERS OR AN APPROVED
- 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.
 - CONCRETE MIX DESIGN TO BE SUBMITTED AND APPROVED PRIOR TO FARRICATION.
 - 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

- FOR STANDARD SLABS:
 - USE SLAB DIMENSIONS SHOWN ON THE TOLLWAY STANDARD DRAWINGS FOR DESIGN SLAB THICKNESS, WIDTH, AND LENGTH. ACTUAL WIDTH TO BE MODIFIED WITH ON-SITE SAW CUTS TO
 - FIT THE OPENING.

 B. USE ONE LAYER OF REINFORCEMENT WITH A MINIMUM STEEL AREA RATIO OF 0.2%.
 - C. 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 21/2" (±1/4") WIDE AND AT LEAST 1/2" OF GROUT COVER IS PROVIDED UNDER THE
 - 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.
 - E. FOR STANDARD ISOLATED SLABS WITH NARROW ELONGATED PREFORMED DOWEL SLOTS, THE CENTERPOINT BETWEEN THE WHEEL PATH SLOTS SHALL BE MARKED.

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FOR CUSTOM SLABS:

USER NAME * PencePt.

PLOT DATE * 12/16/2013

PLOT SCALE . 100.0000 '/ in.

folgonguin rd) diamend grinding/pea as

FILE NAME :

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

DESIGNED - O. PATEL

CHECKED -

DATE

ORAMNi-present PCC Patching.don

- 10-25-2013

FABRICATION GENERAL NOTES

DEVELOP WORKING DRAWINGS FOR THE SLAB. MINIMUM AND MAXIMUM DIMENSIONS FOR LENGTHS AND WIDTHS ARE NOTED ON THE STANDARD DRAWINGS.

- B. ANY CUSTOM SLABS > 6 FT. IN LENGTH THAT WILL BE OPENED TO TRAFFIC BEFORE ANY HARDWARE AND UNDERSLAB GROUTING OR FILLING OCCURS SHALL REQUIRE TWO (2) LAYERS
- OF STEEL REINFORCEMENT AS NOTED ON SHEET 5.

 C. 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 THICK-NESS 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 PAVE-MENT WHEN INSTALLED. THE SURFACE OF ALL CUSTOM SLABS RE-PLACING 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 AD-JOINING PAVEMENTS. THE PROFILE GRINDING OPERATION FOR CUSTOM SLABS REPLACING ANY WARPED PAVEMENTS, ON CURVED RAMPS OR SUPERELEVATED MAINLINE SECTIONS, SHALL BE IN AC-CORDANCE 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
- D. INSTALLATION. 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 INSTALL
- FOR ALL CUSTOMS SLABS WITH NARROW ELONGATED PREFORMED DOWEL SLOTS, THE DOWEL BARS SHALL BE SLID INTO PREDRILLED HOLES IN THE ADAJECENT 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.
 - 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'-O". 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 I" MINIMUM BELOW THE SURFACE OF THE SLAB TO ALLOW FOR A MINIMUM GROUT COVER OF 1" ON SLABS THAT WILL NOT BE OVERLAID.

FABRICATION2

- 9. PREPARE WORKING DRAWINGS THAT SHALL INCLUDE THE FOLLOWING INFORMATION:
 - SLAB LAYOUT DRAWING FOR TYPICAL STANDARD SLABS AND FOR EACH CUSTOM SLAB TO BE FABRICATED, WITH
 - B. ACCURATE DIMENSIONS CITED.
 - REINFORCEMENT SIZES, SPACING, NUMBER OF MATS, AND C. METHOD OF MAINTAINING CONCRETE COVER. 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
 - D. OF STANDARD SLABS FOR CONSECUTIVE PLACEMENT. SIZE AND LOCATION OF GROUT PORTS, LIFTING ANCHORS, E. AND GROUT SEAL GASKETS,

 - F. COMPRESSIVE STRENGTH AND AIR CONTENT OF CONCRETE.
 G. CONCRETE CURING METHOD TO BE USED.
 MARKING LEGEND FOR EACH SLAB TO INDICATE PRECAST MANUFACTURER, AND DATE OF PRODUCTION; AND FOR EACH CUSTOM SLAB TO INCLUDE CONTRACT NUMBER AND H. MARK NUMBER OF THE SLAB.
 - WEIGHT OF EACH SLAB.
- PERFORM A PRE-POUR INSPECTION OF THE FORMS TO CONFIRM THAT THEY ARE ASSEMBLED IN ACCORDANCE WITH THE FOLLOWING TOLERANCES;

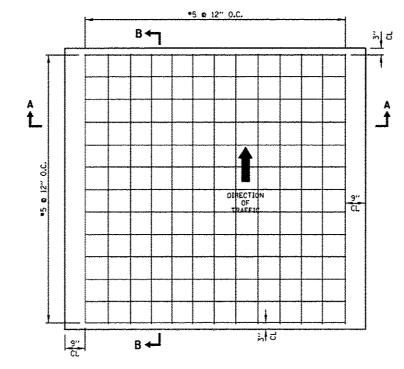
LENGTH AND WIDTH DIAGONALS DOWEL VARIANCE FROM LEVEL, SOUARENESS TO EDGE OF SLAB, AND LOCATION.

± 1/8"

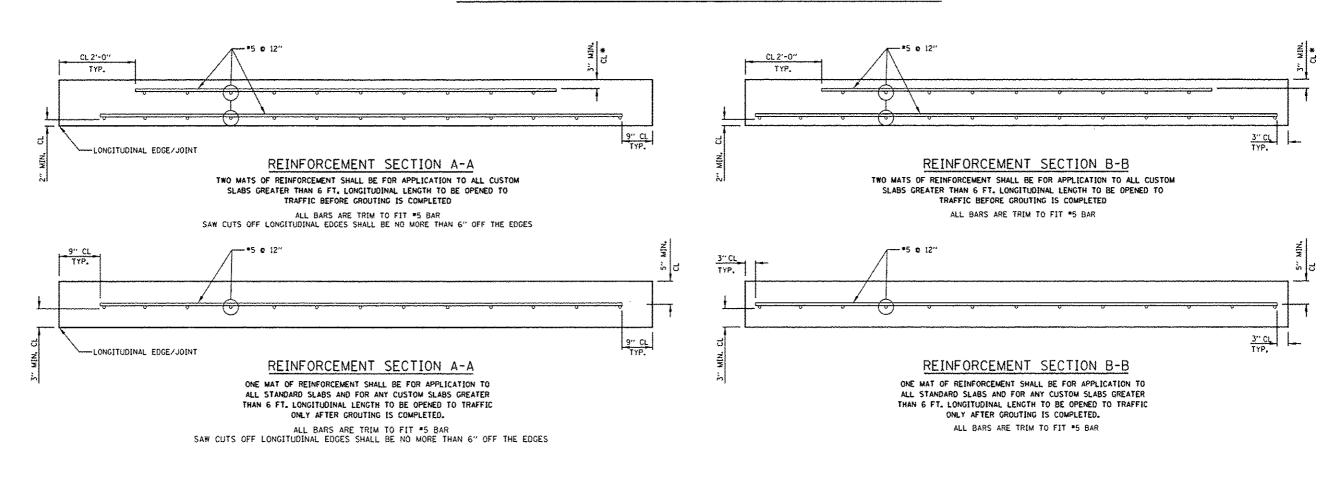
EDGE SQUARENESS - $\slash\!\!/ g^{\prime\prime}$ In 10" (IN RELATION TO TOP AND BOTTOM SURFACES).

- INCLUDE A 1 INCH CHAMFER ALONG ALL BOTTOM EDGES OF SLABS. AND A STONED EDGE TO ALL TOP EDGES OF THE SLAB.
- THE EXPOSED SURFACES OF ALL PREFORMED SLOTS FOR DOWEL BARS SHALL BE SANDBLASTED.
- ACCURATELY SCREED TOP OF SLAB TO MEET SURFACE AND THICKNESS TOLERANCES.
- 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(eXI) OF THE STANDARD SPECIFICATIONS AS INDICATED IN THE SLAB DESIGN SCHEDULE ON CONTRACT DRAWINGS.
- AFTER REMOVAL OF FORMS AND ANY BLOCKOUTS, NO SPALLS OF THE FINISHED SURFACE WILL BE ALLOWED.

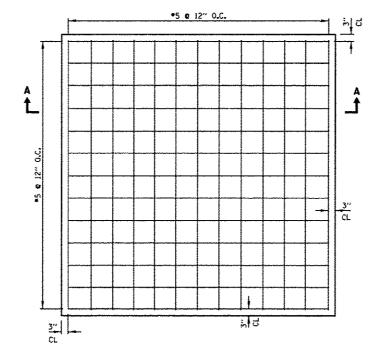
SHEETS NO. SECTION COUNTY PRECAST CONCRETE PAVEMENT SLABS STATE OF ILLINOIS 575 14-N WILL 163 110 DEPARTMENT OF TRANSPORTATION BO 57 CONTRACT NO. 60W13 SCALE: NONE SHEET NO. 1 OF 19 SHEETS STA. TO STA. FED. ROAD DIST. NO. 1 HILLINGIS FED. AID PROJECT



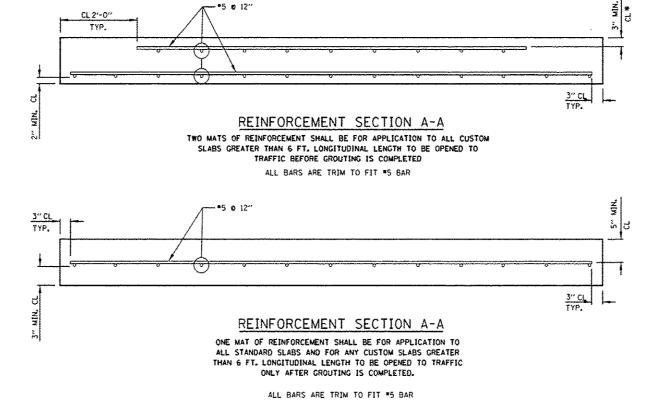
TYPICAL REINFORCEMENT DETAIL FOR STANDARD SLABS



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		PLOT DATE * 12/16/2013	DATE - 10-25-2013	REVISED -		SCALE: NONE	SHEET NO. 2 OF 19 SHEETS	STA.	TO STA.	FED. ROA	D DIST. NO. 1 ILLINOIS FED.	10 PROJECT		



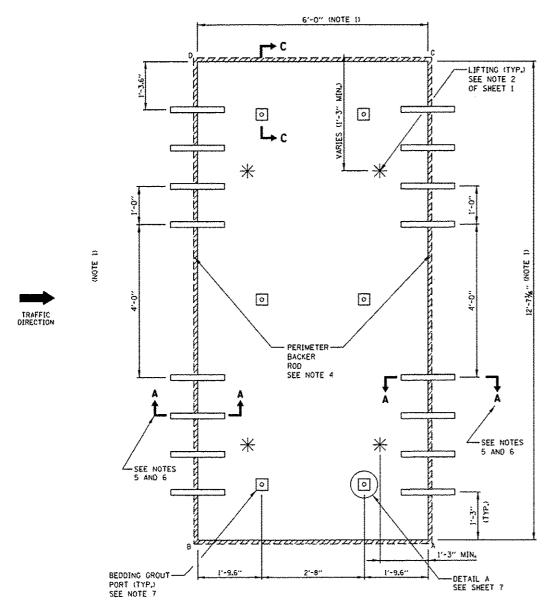
TYPICAL REINFORCEMENT DETAIL FOR CUSTOM SLABS



NOTE:

FOR ALL CUSTOM SLABS OF TRAPEZOID SHAPES, REINFORCEMENT SHALL BE LAID OUT IN A PERPENDICULAR GRID PATTERN, NOT SKEWED.

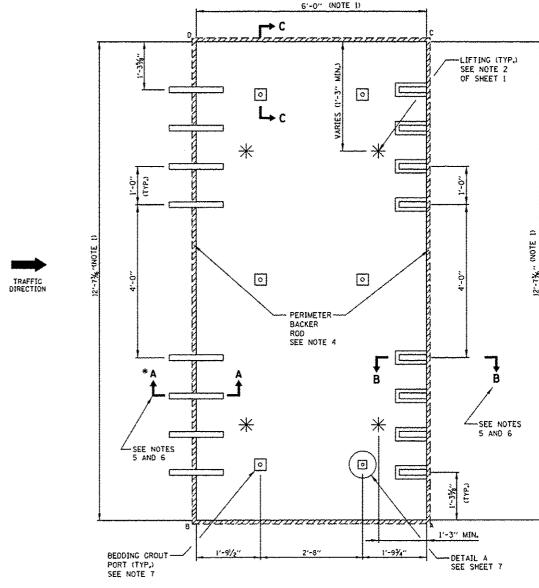
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STANDARD 12'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT WITH EMBEDDED DOWELS FOR PRECUT WIDE MOUTH SLOTS IN ADJACENT PAVEMENT

NOTES:

- 1. THE WIDTH AND LENGTH OF PRODUCED SLABS SHALL BE THE INDICATED DIMENSIONS ± 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 REDUIRED WHEN ANY SLAB IS LEVELED WITH FLOWABLE FILL.
- 5. SEE SHEET 7 FOR SECTION DETAILS.
- 6. IT SHALL BE THE CONTRACTOR'S OPTION TO REPLACE ANY EMBEDED 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 PERFENDICULAR 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 CROUT PORTS.



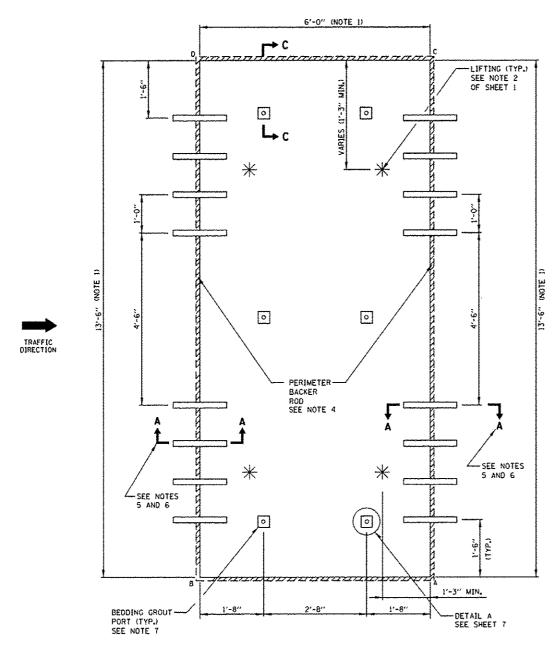
STANDARD 12'-6" WIDE PANEL LAYOUT FOR CONSECUTIVE PLACEMENT

* FOR INTERNAL CONSECUTIVE SLABS, PREFORMED SLOTS IN ACCORDANCE WITH SECTION 8-8 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.

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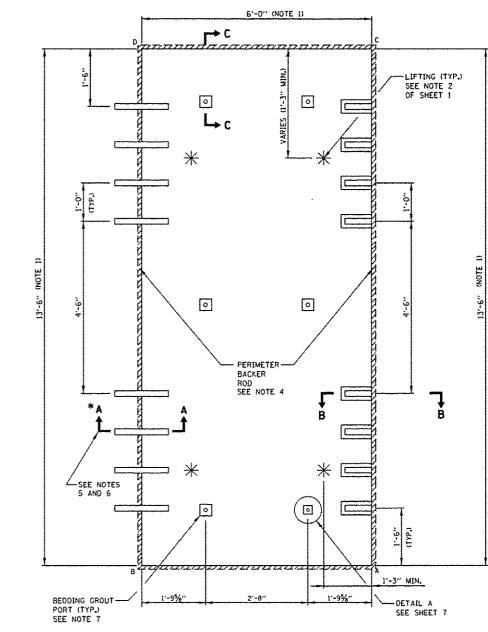
PRECAST CONCRETE PAY	EMENT SLABS		RTE.	SECTION	COUNTY	SHEETS	NO.
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SHEET NO. 4 OF 19 SHEETS	STA.	TO STA.	FEO. R	OAD DIST. NO. 1 ILLINOIS FED. A	ID PROJECT		



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

NOTES:

- 1. THE WIDTH AND LENGTH OF PRODUCED SLABS SHALL BE THE INDICATED DIMENSIONS ± 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 LEVELED WITH FLOWABLE FILL.
- 5. SEE SHEET 7 FOR SECTION DETAILS.
- 6. IT SHALL BE THE CONTRACTOR'S OPTION TO REPLACE ANY EMBEDED 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.



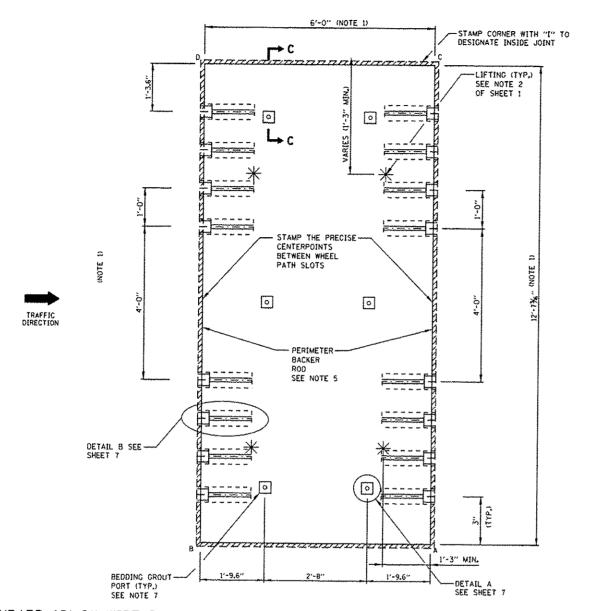
TRAFFIC DIRECTION

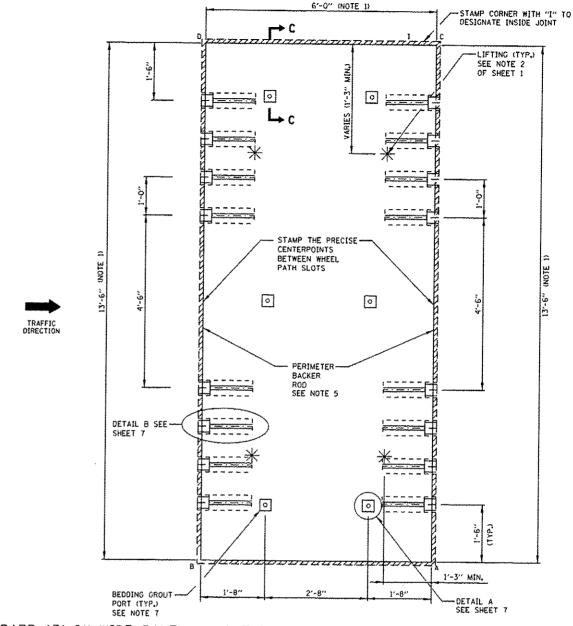
STANDARD 13'-6" WIDE PANEL LAYOUT FOR CONSECUTIVE PLACEMENT

* 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.

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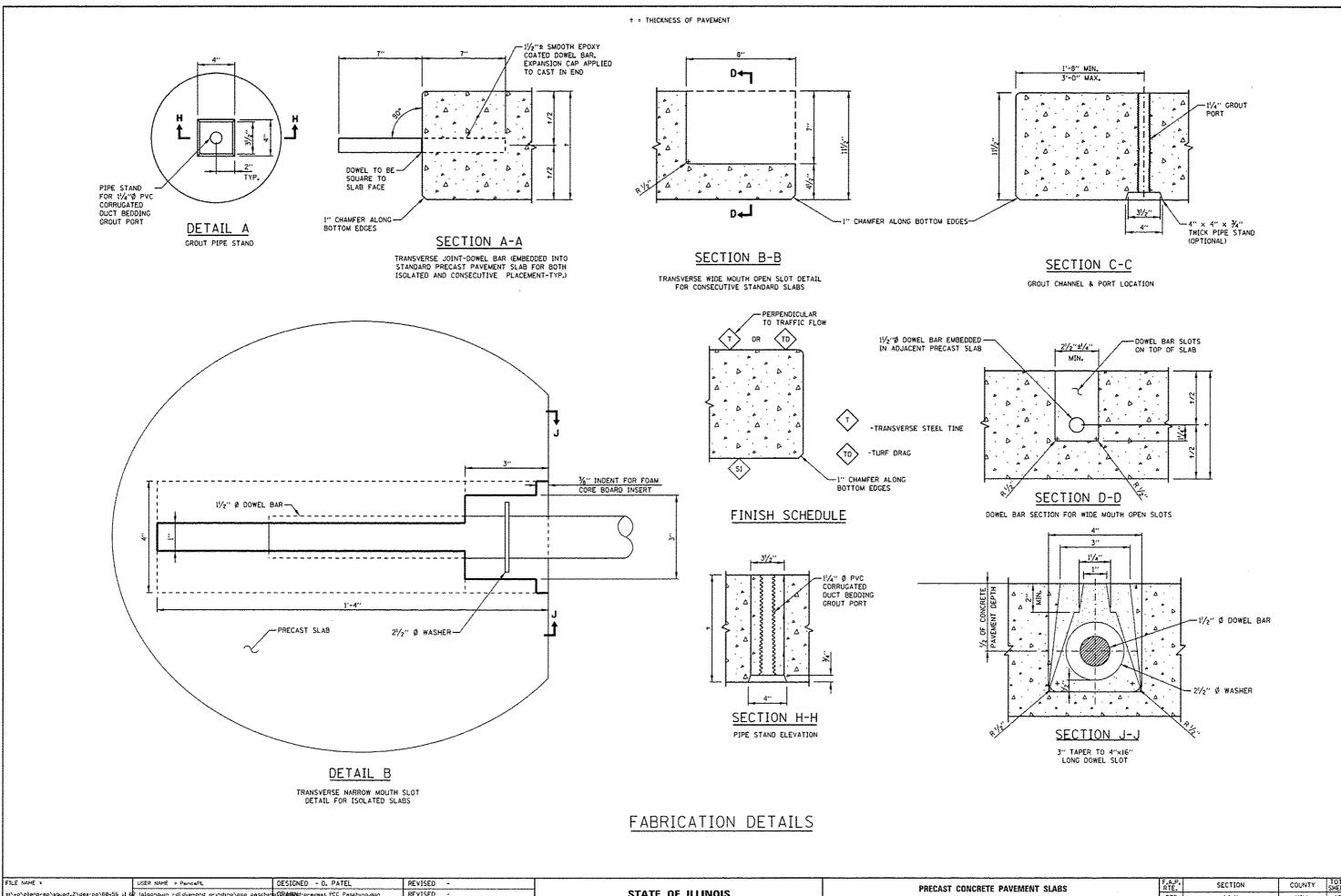
STANDARD 12'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT WITH NARROW MOUTH PREFORMED DOWEL SLOTS TO ALIGN WITH PREDRILLED HOLES IN ADJACENT PAVEMENT.

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

NOTES:

-). THE WIDTH AND LENGTH OF PRODUCED SLABS SHALL BE THE INDICATED DIMENSIONS ± 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 ALICMMENT 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 BEDOING GROUT OR POLYURETHANE LEVELING FILL IS APPLIED. THE BACKER ROD SHALL NOT BE REQUIRED WHEN ANY SLAB IS LEVELED WITH FLOWABLE FILL.
- 6. SEE SHEET 7 FOR SECTION DETAILS.
- 7. SEE NOTE 8 ON SHEET 1 FOR LOCATING UNDERSEALING GROUT PORTS.

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					SCALE; NONE SHEET NO. 6 OF 19 SHEETS STA. TO STA. FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	



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	PLOT DATE = 12/16/2013	DATE - 10-25-2013	REVISED -		SCALE: NONE SHEET NO. 7 OF 19 SHEETS STA. TO STA.	FED. ROAD C		10 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	AB (FT _*)	VARIABL AC (FT.)	ES (FT.) BD (FT.)	CD (FT.)	AB* SIDE	BO* SIDE	CD* SIDE	AC* SIDE	AREA (SO,FT.)	VOLUME (CU. FT.)	WEIGHT	DIAGONA AD	LS (FT.) BC	
																					ı

MAINLINE LANE NO.: LANE NO. I IS ADJACENT TO MEDIAN SHOULDER.

RAMP LANE NO.: LANE NO. I IS ADAJACENT TO THE BUILDING

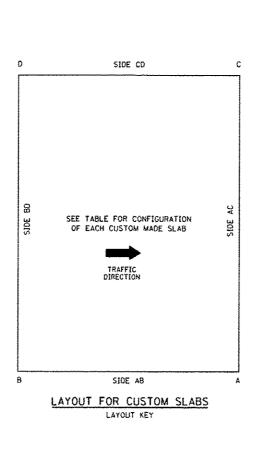
MARK NO.: EACH PANEL SHALL BE INDIVIDUALLY MARKED FOR CORRECT PLACEMENT.

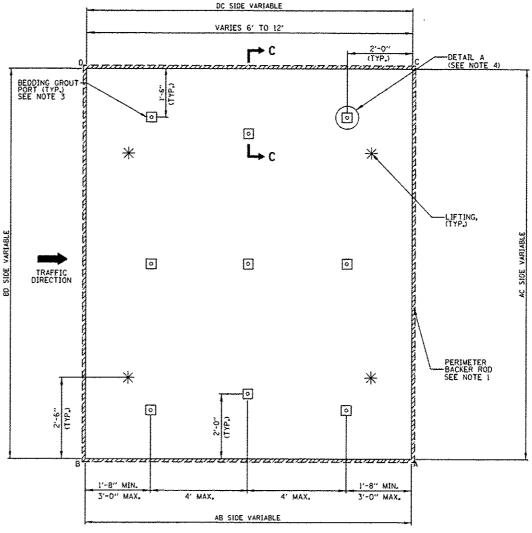
LANE TYPE: "OUT" IN THIS COLUMN INDICATES OUTSIDE LANE. "MID" IN THIS COLUMN INDICATES MIDDLE LANE. "IN" IN THIS COLUMN INDICATES INSIDE LANE

*LEGEND

DB= DOWEL BAR EMBEDDED
DS= DOWEL SLOT
ST= SLOT OR HOLE FOR STITCHED TIE BAR

RD= FIELD RETROFITTED DOWEL BARS





NOTES:

- 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 OROUT OR POLYURETHANE LEVELING FILL IS APPLIED. THE BACKER ROD SHALL NOT BE REQUIRED WHEN ANY SLAB IS LEVELED WITH A FLOWABLE FILL.
- EITHER SINGLE DIAMOND BLADED SAWS OR DIAMOND BLADED CANG 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 I FOR LOCATING BEDDING GROUT PORTS.
- 4. SEE SHEET 7 FOR SECTION DETAILS.

LAYOUT DETAIL FOR CUSTOM SLABS 6'-12' IN LENGTH (VARIED WIDTH**)

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

SCALE: NONE

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l		PLOT SCALE * 180.8080 ' / sr.	CHECKED -	REVISED -
L		PLOT DATE = 12/16/2013	DATE - 10-25-2013	REVISED -

STATI	e OF	LLINOIS
DEPARTMENT	OF	TRANSPORTATION

 PRECAS	T CONC	RETE PAI	EMENT S	SLABS	F.A.P. RTE.	SECTION	COUNTY	TOTAL	SHEE NO.
					575	14-N	WILL	163	117
 						BD 57	CONTRACT	NO.	60W13
SHEET NO. 8	OF 19	SHEETS	STAL	TO STA.	FED. R	DAD DIST. NO. 1 (LLINDIS FED. A	D 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.
- 2. 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
- 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
- PRIOR TO THE PLACEMENT OF AN ISOLATED STANDARD PRECAST SLAB IN A MIDDLE LANE, THE WIDTH BETWEEN EXISTING LONGITUDINAL CONCRETE PAVEMENTJOINTS SHALL BE MEASURED BY THE CONTRACTOR UNDER MAINTENANCE OF TRAFFIC PROVIDED BY 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 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 8 INCH. IF THESE TOLERANCES CAN NOT BE MET, THEN A CUSTOM SLAB SHALL BE DECOMBED FOR ISSUATED STANDARDS SLABS BY ACCOUNT THE OUTSIDE OF INSIDE TABLES 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 BITUMINOUS 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
- 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:

- 6. ACROSS STANDARD SLABS
 - A. THE EMBEDDED DOWEL BARS OF ISOLATED STANDARD PRECAST SLABS SHALL BE RETROFITTED INTO EXISTING CONRETE PAVEMENT IN ACCORDANCE WITH DETAIL D
 - B. THE EMBEDDED DOWEL BARS OF CONSECUTIVE STANDARD SLABS SHALL BE:
 1) RETROFITTED INTO THE EXISTING CONCRETE PAVEMENT AT THE LOCATION OF THE FIRST SLAB PLACEMENT IN ACCORDANCE WITH DETAIL D (SEE SHEET 14).

 11) RETROFITTED INTO THE PREFORMED SLOTS OF ADJACENT PRECAST SLABS IN

- ACCORDANCE WITH DETAIL E (SEE SHEET 15).

 III) 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).
- C. 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.
 D. 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 MINCH 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 CLEAMED OF DRILLING DEBRIS. AFTER SLAB PLACEMENT, THE DOWEL BARS WILL BE SLID INTO THE PREDRILLED HOLES AND EPOXIED IN ACCORDANCE WITH ARTICLE 442.06(0)(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.

7. ACROSS CUSTOM MADE SLABS

- A. 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
- B. THE DOWEL BARS OF CUSTOM DESIGNED ISOLATED PRECAST SLABS PLACED ON TANGENT MAINLINE PAVEMENT FOR MID SLAB CRACK REPAIR OR FOR JOINT TANGENT MAINELINE FAVEMENT FOR MID SLAG CHACK REPAR OR FOR SOINT
 REPLACEMENT CAN BE EITHER RETROFITIED 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 RETROFITIED 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.
- C. 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:

- 8. 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:

- 10. FOR GRADE SUPPORTED PRECAST SLABS, THE BEDDING AND UNDERSEALING MATERIAL FOR LEVELING AND SUPPORT SHALL CONSIST OF:
 - A. 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
 - AN EXCESS OF SOFT AND UNSUUND PARTILLES AND OTHER UBSECTIONABLE
 MATTER. THE TYPICAL THICKNESS OF THE LEVELING SAND LAYER SHALL BE
 APPROXIMATELY!/A INCH WITH A MAXIMUM THICKNESS OF I INCH.

 B. 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, CROUND 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
 - 1) 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,
 - II) 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.
- 11. 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 COPTIONAL. 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 I 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
 - 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.
 - VIII) THE MAXIMUM THICKNESS OF THE LEVELING FILL SHALL BE 1 INCH.

12. 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:

DENSITY (LBS./CU. FT.)-AIR RISE TENSILE STRENGTH (PSI) ASTM D 1623 100 MIN. ELONGATION (%) 5.1 COMPRESSIVE STRENGTH (PSI) ASTM D 1621 (AT YIELD) 100 MIN. VOLUME CHANGE (Z OF ORGINAL) THE MANUFACTURER SHALL PROVIDE DOCUMENTATION THAT THE LOTIS) OF FOAM MEETS THE SPECIFIED PROPERTIES, MANUFACTURER'S CERTIFICATION SHALL LIST LOT NUMBER(S) AND DOCUMENTATION OF COMPLIANCE WITH THE SPECIFICATION.

II) THE MAXIMUM THICKNESS OF THE HIGH DENSITY FOAM SHALL BE I INCH.

13. HARDWARE GROUT/ADHESIVES

- A, 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
- 1) FIVE STAR HIGHWAY PATCH AS MANUFACTURED BY FIVE STAR PRODUCTS INC. FAIRFIELD, CONNECTICUT,
- 2) HIGHWAY DB RETROFIT MORTAR AS MANUFACTURED BY DAYTON SUPERIOR, MIAMISBURG, OHIO.
- 3) A DEPARTMENT APPROVED EQUIVALENT THAT HAS BEEN TESTED AS A RAPID SET 3) A DEPARTMENT APPROVED EQUIVALENT THAT HAS BEEN TESTED AS A RAPID SET CONCRETE PATCHING MATERIAL PER THE AASHTO NATIONAL TRANSPORTATION PRODUCT EVALUATION PROGRAM (NTPEP), 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.
- B. FOR TIE BAR STITCHING AN APPROVED CHEMICAL ADMESSIVE IN ACCORDANCE WITH ARTICLE 1027,01 OF THE STANDARD SPECIFICATIONS SHALL BE USED AS THE ANCHORING MATERIAL FOR STITCHED TIE BARS.
- C. 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 (0)(2) OF THE STANDARD SPECIFICATIONS WITH RETENTION DISCS OR WASHERS PLACED AGAINST THE FACE OF THE SLAB.
- 14. 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".
- 15. EPOXY COATED TIE BARS FOR STITCHING SHALL COMPLY WITH THE REQUIREMENTS OF ARTICLE 1006.10 OF THE STANDARD SPECIFICATIONS.
- 16. A CLOSED CELL PLASTIC FOAM BACKER ROD OF \(\frac{1}{2} \)" DIAMETER SHALL BE PINNED OR NAILED TO THE FINISHED BASE AROUND THE PERIMETER OF EACH OPENING BEFORE THE PANELS ARE SET.

EQUIPMENT:

- 17. 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.
- 18. CHIPPING HAMMERS SHALL BE HAND HELD AND HAVE A MAXIMUM WEIGHT OF 30 LBS. PRIOR TO ANY HANDLE MODIFICATION WHERE APPLICABLE.
- 19. 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:

 ± ½ INCH OF THE MIDDLE OF THE CONCRETE SLAB DEPTH,

 ± ½ INCH OF BEING CENTERED OVER THE TRANSVERSE JOINT

 ± ½ FROM PARALLEL TO THE CENTERLINE OVER 12 INCHES OF THE BAR

 ± ¼ 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.

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	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE * 12/16/2013	DATE - 10-25-2013	REVISED -

SCALE: NONE

PRECAST CONCRETE PAVEMENT SLABS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	575	14-N	₩ĬĹĹ	163	118
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SHEET NO. 9 OF 19 SHEETS STA. TO STA.	FED. R	OAD DIST. NO. 1 ILLINOIS FED. A	O PROÆCT		

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.
- THE COMPRESSOR FOR AIR BLASTING SHALL HAVE A MINIMUM CAPACITY OF 120 CFM. THE COMPRESSED AIR SHALL BE FREE FROM OIL AND OTHER CONTAMINANTS.
- 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 ROOS USED FOR CONSOLIDATION OF THE REPAIR MATERIAL FOR NARROW MOUTH SLOTS SHALL HAVE A DIAMETER OF LESS THAN 1 INCH.
- 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.
- 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.
- 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

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 $\frac{1}{2}$ 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 FONDINGER PRIOR TO ANY SAWCHITING.
 - 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.
 - A PERGUAL 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 SCRAPED
 - E. ALL SLURRY FROM SAW CUTTING OPERATIONS SHALL BE THOROUGHLY SCRAPED 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 SATIFACTORY 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° F. NO FLOWABLE FILL WILL BE ALLOWED IF THE ANTICIPATED AIR TEMPERATURE WILL BE 36° 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 BECINNING 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 SURROLUNDING 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, THAN 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. NO CUSTOM SLAB GREATER THAN 6 FT, IN LONGITUDINAL LENGTH SHALL BE SET AND OPENED TO TRAFFIC BEFORE GROUTING IS COMPLETE UNLESS THE SLAB WAS FABRICATED WITH TWO MATS OF STEEL REINFORCEMENT IN ACCORDANCE WITH THE DESIGN REQUIREMENTS SHOWN ON SHEETS 2 AND 3. IF THE SET PRECAST SLAB IS OPENED TO TRAFFIC BEFORE THE SLAB IS DOWEL RETROFITTED. THE BAR STITCHED, OR UNDERSLAB GROUTED, PLACE INCOMPRESSIBLE SHIMS APPROVED BY THE ENGINEER DURING INSTALLATION IN EACH TRANSVERSE AND LONGITUDINAL JOINT TO CORRECT AND MAINTAIN HORIZONTAL ALIGNMENT OF THE SLABS. THE TOTAL THICKNESS OF SHIMS USED IN ANY JOINT SHALL BE NO MORE THAN % INCH. BACKFILL MATERIAL MUST BE PLACED THREE DAYS OF EACH SLAB'S PLACEMENT, BEFORE OPENING A NON-GROUTED SLAB TO TRAFFIC, BACKFILL THE ASPHALT SHOULDERS TO MAINTAIN HORIZONTAL ALIGNMENT, ANY WIDE MOUTH DOWEL SLOTS LEFT OPEN BEFORE THE SLAB IS OPENED TO TRAFFIC SHALL BE TEMPORARILLY FILLED WITH A COMPRESSION SEAL APPROVED BY THE ENGINEER TO WITHIN I INCH OF THE PAVEMENT SURFACE, ANY NARROW MOUTH DOWEL SLOTS MAY BE LEFT OPEN AFTER THE SLAB IS OPENED TO TRAFFIC.
- 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 BOYSIED 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 SHAL BE PROVIDED BY THE CONTRCTOR, A 3/6 INCH THICK FOAM INSERT SHOULD BE PLACED AT THE MODULE OF THE DOWEL TO MAINTAIN THE TRANSVERSE JOINT. THE FOAM INSERT SHOULD FIT TIGHTLY AROUND THE DOWEL, THE BOTTOM, AND THE BOES OF THE SLOT, AND BE UP TO THE SUFFACE 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 CONCRETE PATCHING MATERIAL, THE WORK SHALL BE REJECTED AND REDONE AT THE CONTRACTOR'S EXPENSE.
- 37. PLACEMENT OF HARDWARE GROUT/ADHESIVES
 DOWEL BARS THE PLACEMENT OF ANY APPROVED BACKFILL MATERIAL FOR DOWEL
 BAR RETROFITING 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.

SHALL BE REDONE AT THE CONTRACTOR'S EXPENSE.

B. TIE BARS - A FOAM BOARD CASKET SHALL BE INSERTED INTO THE LONGITUDINAL JOINT AT THE STITCHING LOCATION AND THE TIEBAR HOLE PREDRILLED THROUGHT THE CASKET. AFTER PREDRILLED HOLES ARE AIR BLASTED, PRESSURE INJECT THE APPROVED ADMESIVE INTO THE PREDRILLED HOLES, LEAVING SOME VOLUME FOR THE BAR TO OCCUPY THE HOLE. INSERT THE TIEBAR INTO THE HOLE, LEAVING ABOUT I INCH FROM THE TOP OF THE TIE BAR TO THE PAVEMENT SURFACE. REMOVE EXCESS ADMESIVE 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 SLABE SURFACE, THEN A 9" SAW CUT OF THE JOINT SHALL BE REQUIRED FOLLOWED BY REMOVAL AND FULL RETROFITING 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.

SECTION

14-N

BD 57 CONTR.

575

SHEETS NO.

163 119

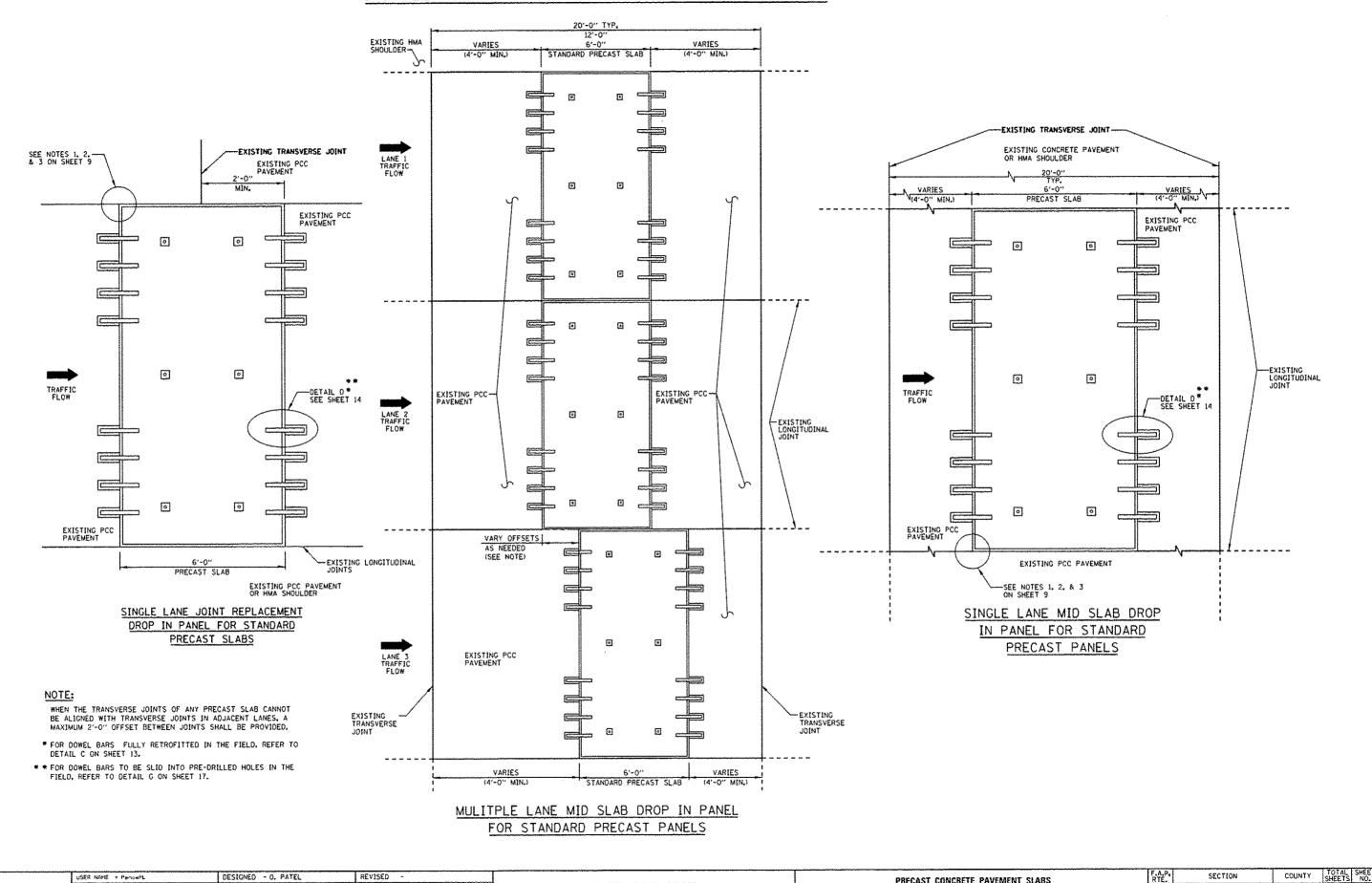
CONTRACT NO. 60W13

COUNTY

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PLOT SCALE - 109.0000 1/ In. CHECKED - REVISEO - DEPARTMENT OF TRANSPORTATION		
PLOT DATE - 12/16/20/3 DATE - 10-25-2013 REVISED - SC	CALE: NONE SHEET NO. 10 OF 19 SHEETS STA. TO STA.	

INSTALLATION OF ISOLATED STANDARD PRECAST SLABS



STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE PAVEMENT SLABS

SHEET NO. 11 OF 19 SHEETS STA.

SCALE: NONE

WILL 163 120 CONTRACT NO. 60W13

575

BD 57

FED, ROAD DIST, NO. 1 | ILLINOISI FED, AID PROJECT

FILE NAME =

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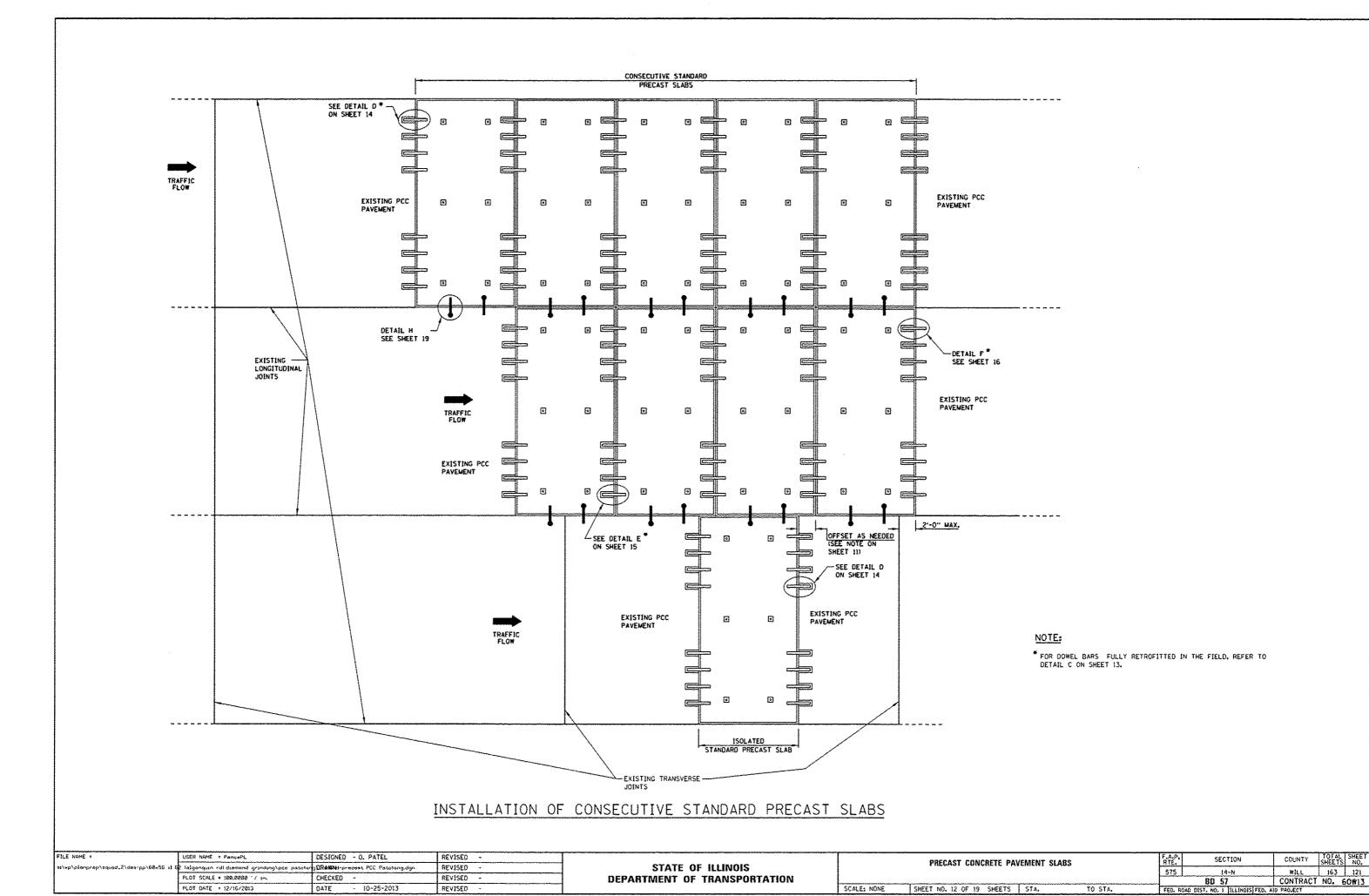
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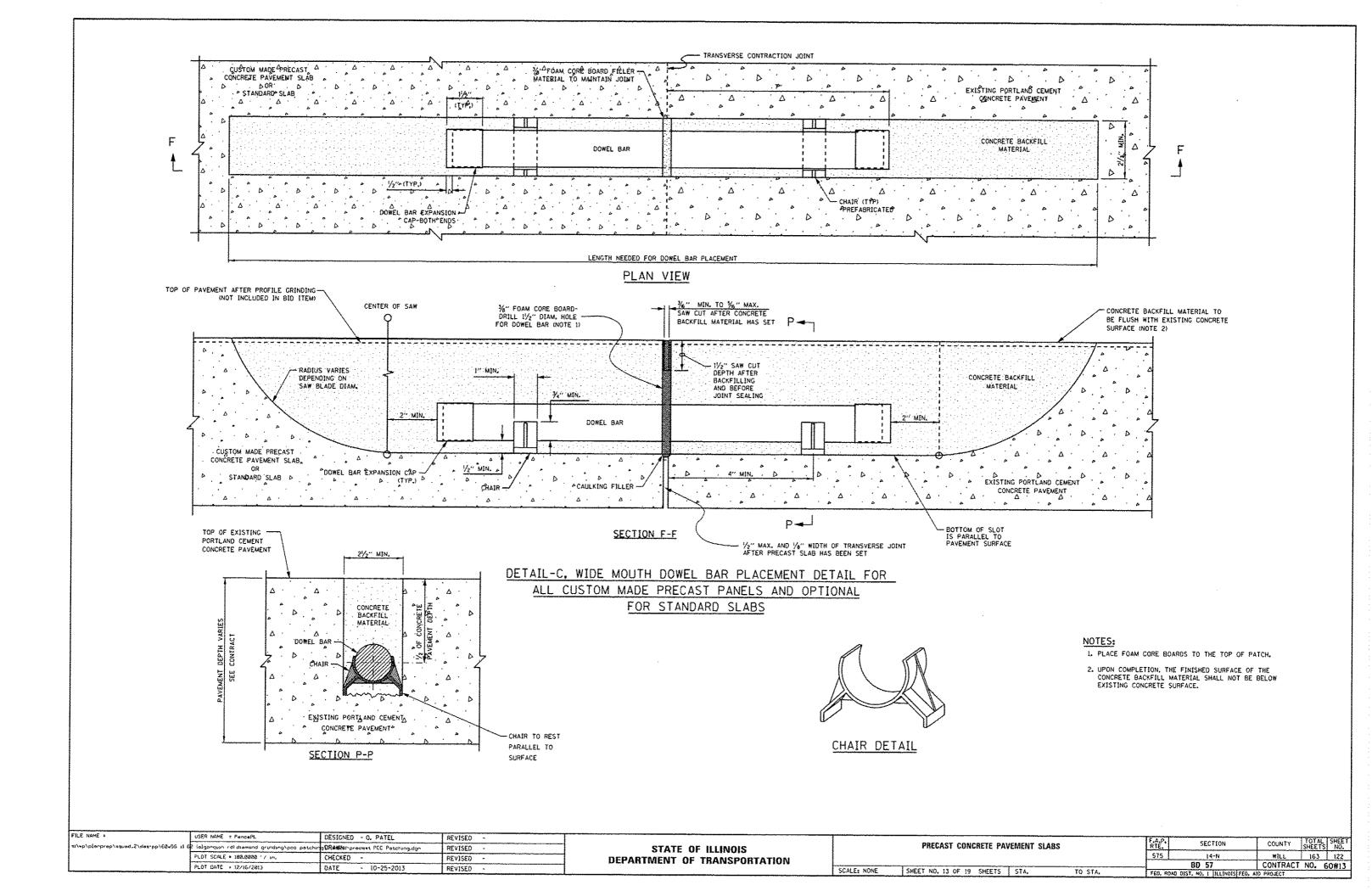
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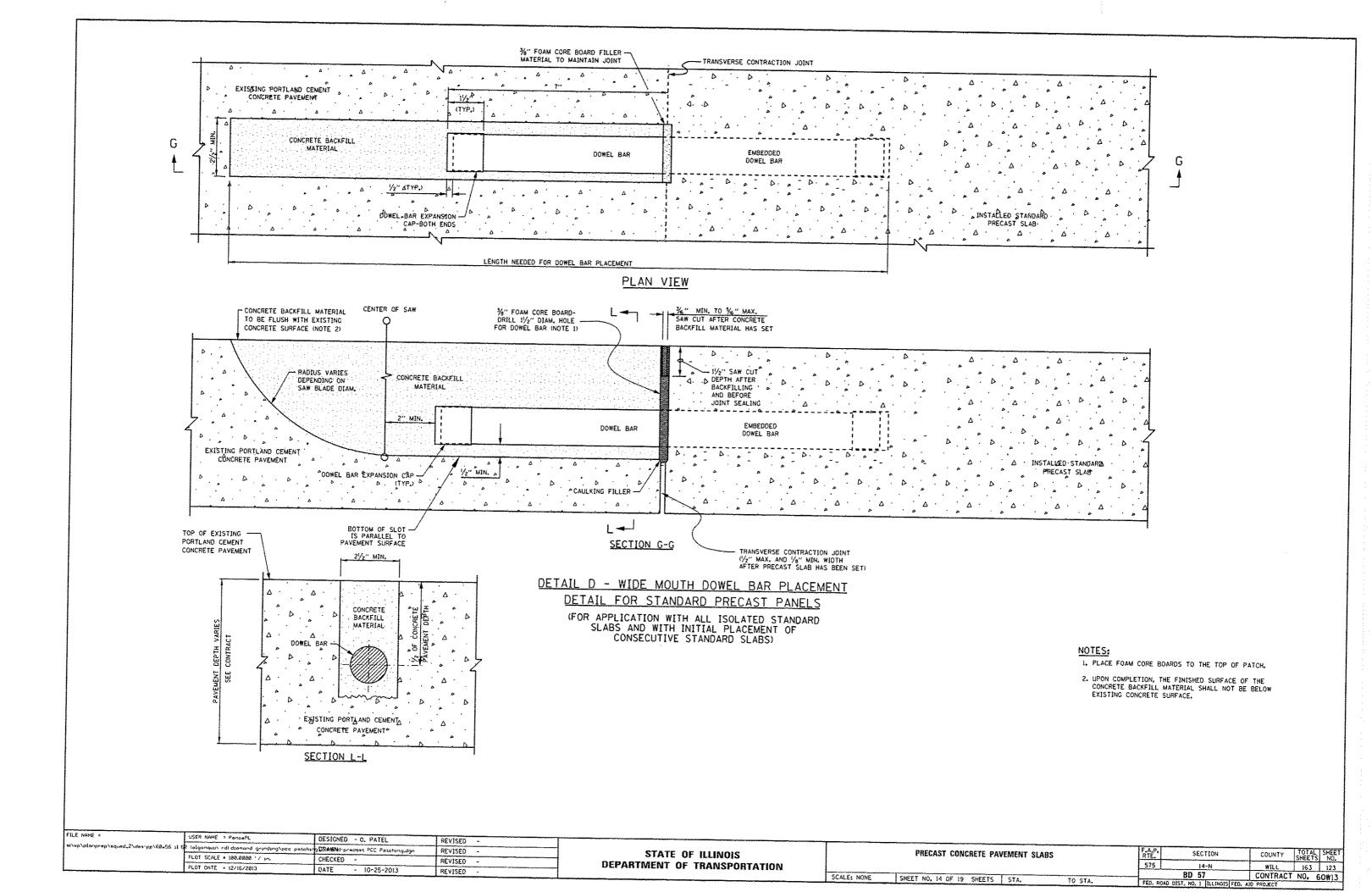
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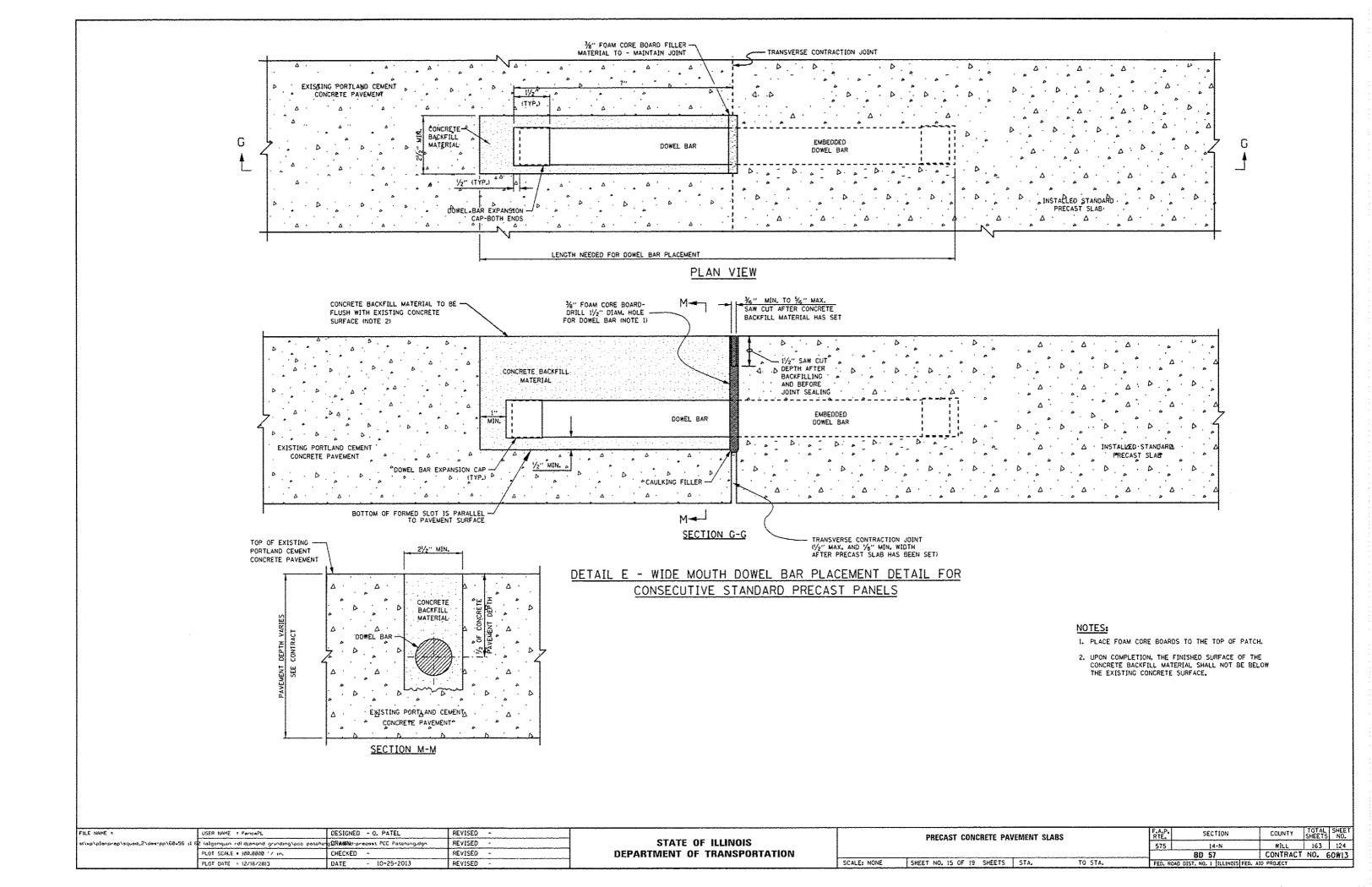
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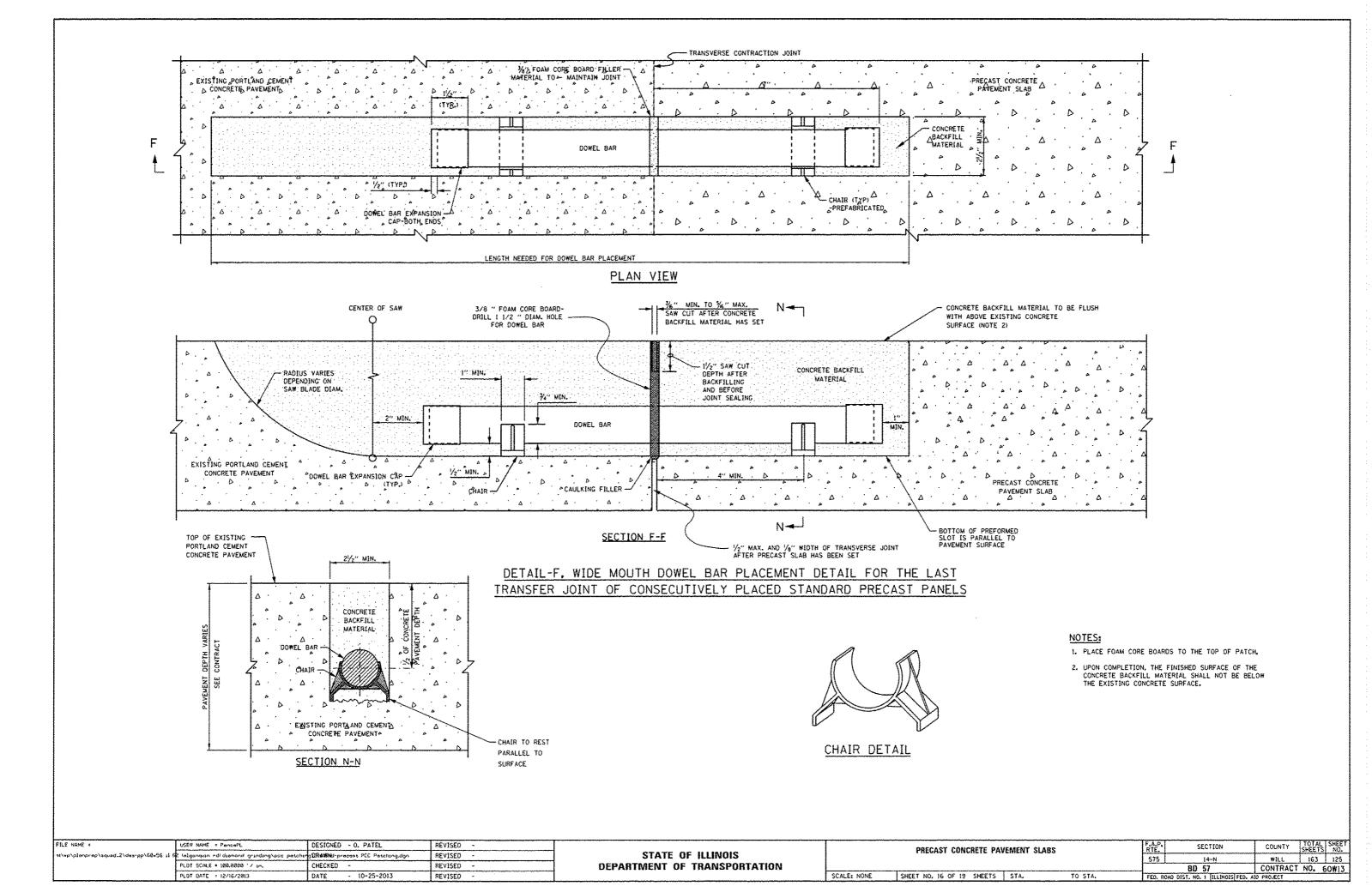
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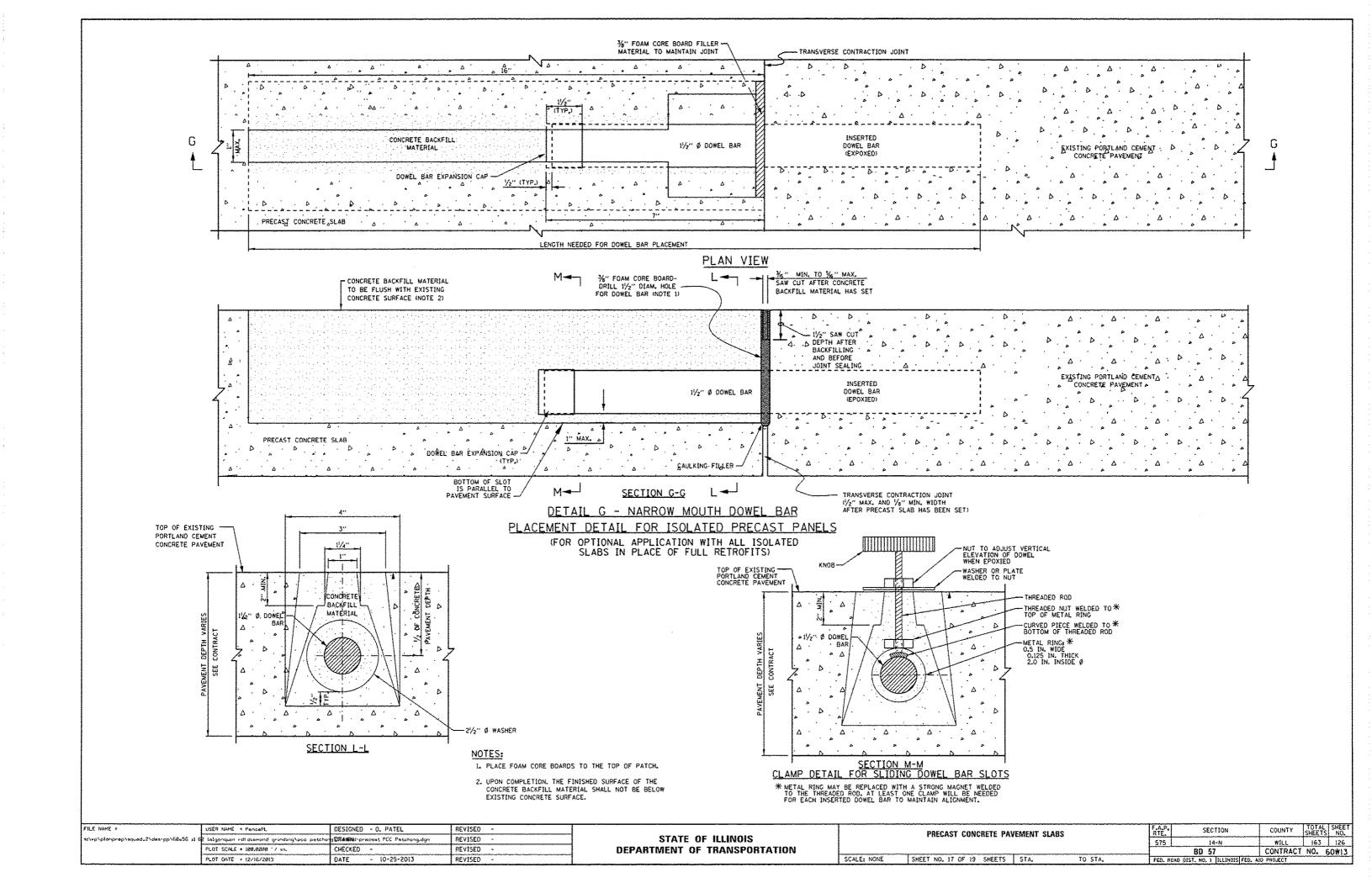












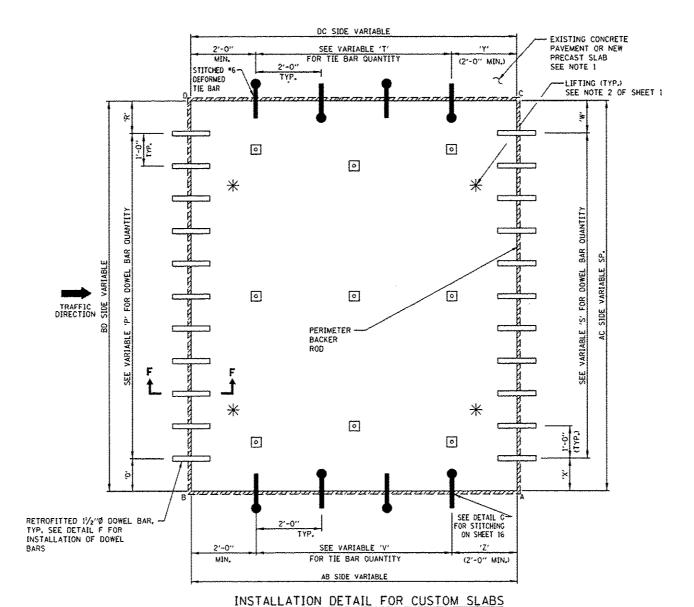
٦٢		CTATION	MAINS INF		RAMP	MARK							VAR	TABLES								.D.₩	20#	A0.*	*	AREA	WALLES	WESCUT.	DIAGONA	LS (FT.)
ХАМР	ROUTE	NUMBER	LANE NO.	RAMP ID.	LANE NO.	NO.	LANE TYPE	AB (FT.)	AC (FT.)	80 (FT.)	CD (FT.)	(NO ₄)	Q (FY ₄)	R (FY ₄)	S (NO.)	T (NO.)	(NO.)	₩ (FT_)	X (FT.)	Y (FT.)	Z (FT.)	SIDE	80* SIDE	SIDE	a L	(SOFT.)	1 YULUME.	(TONS)	AD	BC
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MAINLINE LANE NO.: RAMP LANE NO.: MARK NO.: LANE TYPE:

LAME NO. 1 IS ADJACENT TO MEDIAN SHOULDER. LAME NO. 1 IS ADJACENT TO THE BUILDING. EACH PANEL SHALL BE INDIVIOUALLY MARKED FOR CORRECT PLACEMENT. "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:

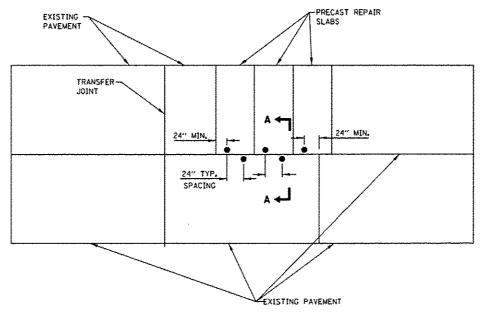
- 1. NO STITCHING OF DEFORMED TIE BARS IS REQUIRED WHEN PRECAST SLAB IS PLACED ADJACENT TO HMA SHOULDER.
- TIE BAR STITCHING SHALL BE REQUIRED WHEN THE REPAIR AREA LENGTH EXCEEDS 20 FT. OR WHEN MORE THAN 3 PRECAST SLAB ARE PLACED IN SEQUENCE.

I	FILE NAME =	USER NAME * PencaPL	DESIGNED - O. PATEL	REVISED -	
I	at/wp/plamprep/squed_2/des-pp/68=56 it 6	? (algonquin rd) diamond grieding/pac patchir	g DRAMM-precest PCC Petching.dgn	REVISED -	
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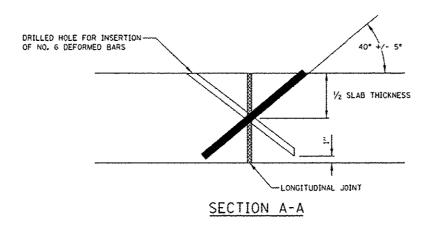
STATI	E OI	F ILLINOIS
DEPARTMENT	OF	TRANSPORTATION

SCALE: NONE

PRECAST CONCRETE PAVEMENT SLABS	F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1,	575	14-N	WILL	163	127
		BD 57	CONTRACT	NO. E	OW13
SHEET NO. 18 OF 19 SHEETS STA. TO STA.	FED. R	DAD DIST, NO. 1 ILLUNOIS FED. A	D PROJECT		$\overline{}$



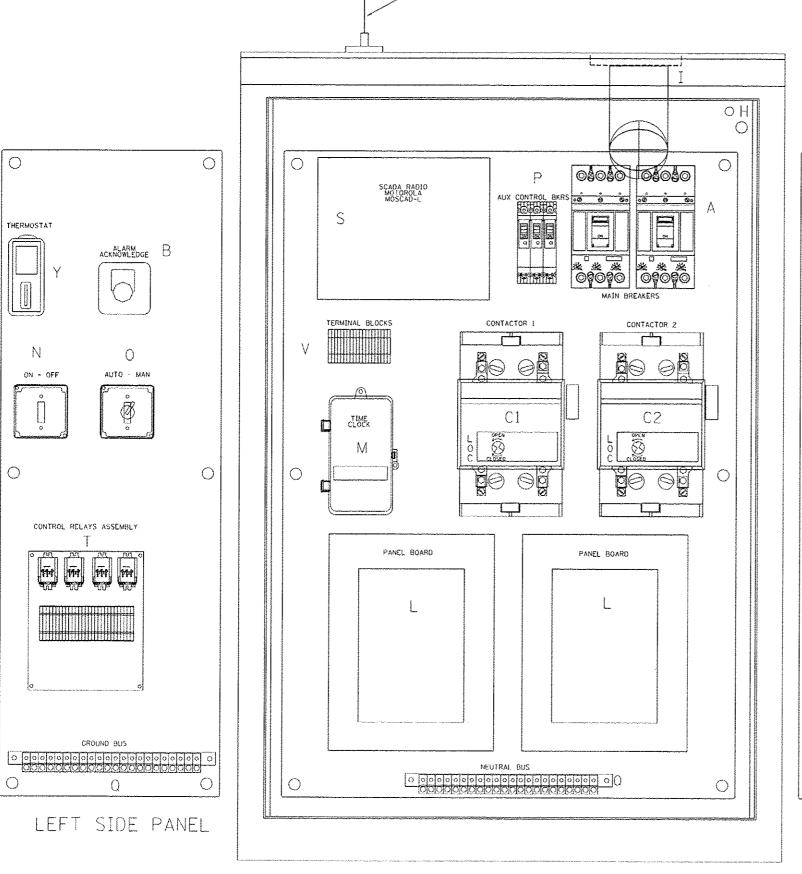
DETAIL H - LONGITUDINAL TIE BAR STITCHING FOR PRECAST PANELS



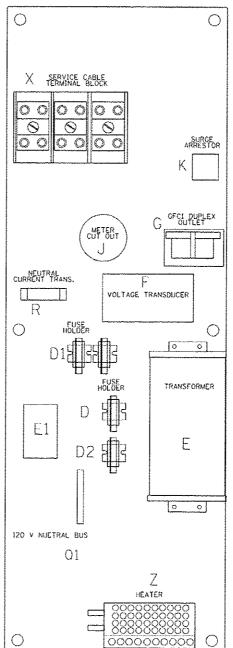
NOTES FOR TIE BAR STITCHING:

- DRILL HOLES THAT ARE ORIENTED AT 40° ± 5° ANGLE TO THE PAYEMENT 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.
- 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) 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 x PancaPL	DESIGNED - O. PATEL	REVISED -			PRECAST CONCRETE PAVEMENT SLABS	F.A.P.	SECTION	COUNTY SHEETS NO.
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	PLOY SCALE * 100.0000 1/ in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION		· · · · · · · · · · · · · · · · · · ·		BD 57	CONTRACT NO. 60W13
	PLOT DATE - 12/16/2013	DATE - 10-25-2013	REVISED -		SCALE: NONE	SHEET NO. 19 OF 19 SHEETS STA. TO STA.	FED. RO	AO DIST. NO. 1 ILLINOIS FED.	AID PROJECT



SCADA RADIO ANTENNA



RIGHT SIDE PANEL

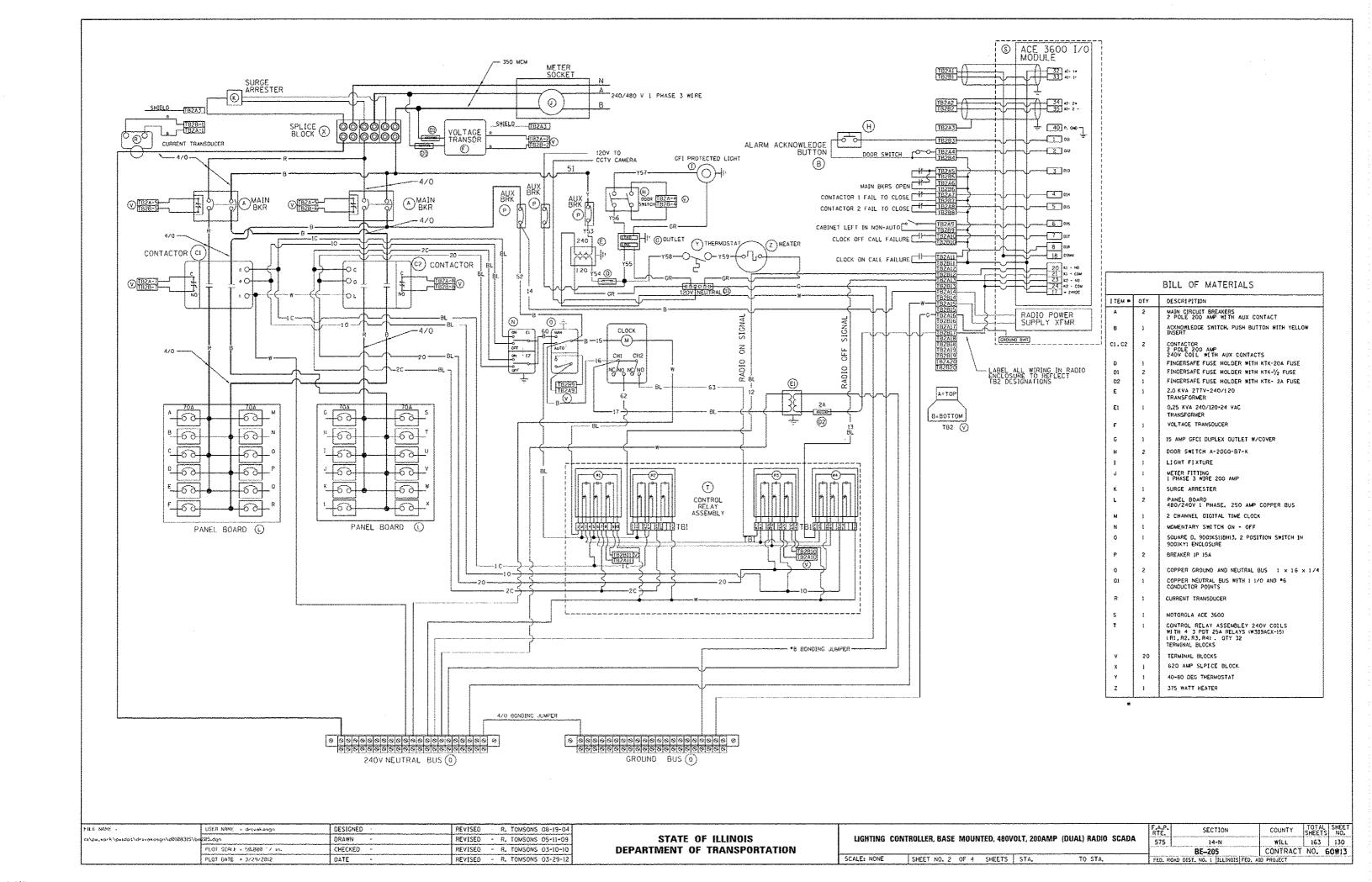
		BILL OF MATERIALS
ITEM	QTY	DESCRI PITION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 200 AMP WITH AUX CONTACT
8		ACKNOWLEDGE SWITCH, PUSH BUTTON WITH YELLOW INSERT
C1.C2*	2	CONTACTOR 2 POLE 200 AMP 240V COIL WITH AUX CONTACTS
D	1	FINGERSAFE FUSE HOLDER WITH KTK-20 FUSE
D1	2	FINGERSAFE FUSE HOLDER WITH KTK-1/2 FUSE
DZ	1	FINGERSAFE FUSE HOLDER WITH KTK-2A FUSE
E	1	2.0 KVA 277V-240/120 TRANSFORMER
El	1	0.25 KVA 240/120 - 24 VAC TRANSFORMER
F	1	VOLTAGE TRANSDUCER WITH COVERED TERMINALS
G	1	20 AMP GFCI DUPLEX OUTLET W/COVER
Н	2	DOOR SWITCH
I	1	LIGHT FIXTURE
Ĵ	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTER
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
М	1	2 CHANNEL DIGITAL TIME CLOCK
N	1	MOMENTARY SWITCH ON - OFF
0	1	SOUARE D. 9001K511BH13. 2 POSITION SWITCH IN 9001KY1 ENCLOSURE OR APPROVED EQUAL
p	2	BREAKER IP 15A
٥	2	COPPER GROUND AND NEUTRAL BUS 1 x 16 x 1/4
01	1	COPPER NEUTRAL BUS WITH 1 #6 AND 8 #12 CONDUCTOR POINTS
R	1	CURRENT TRANSDUCER
s	1	MOTOROLA MOSCAD-L RADIO, 240 V
T *	1	CONTROL RELAY ASSEMBLEY 240V COILS WITH 4 3 PDT 25A RELAYS (W389ACX-15) (R1,R2,R3,R4), OTY 32 TERMINAL BLOCKS
v	20	TERMINAL BLOCKS
X *	1	620 AMP SLPICE BLOCK
Υ	1	40-80 DEG THERMOSTAT
Z	1	375 WATT HEATER

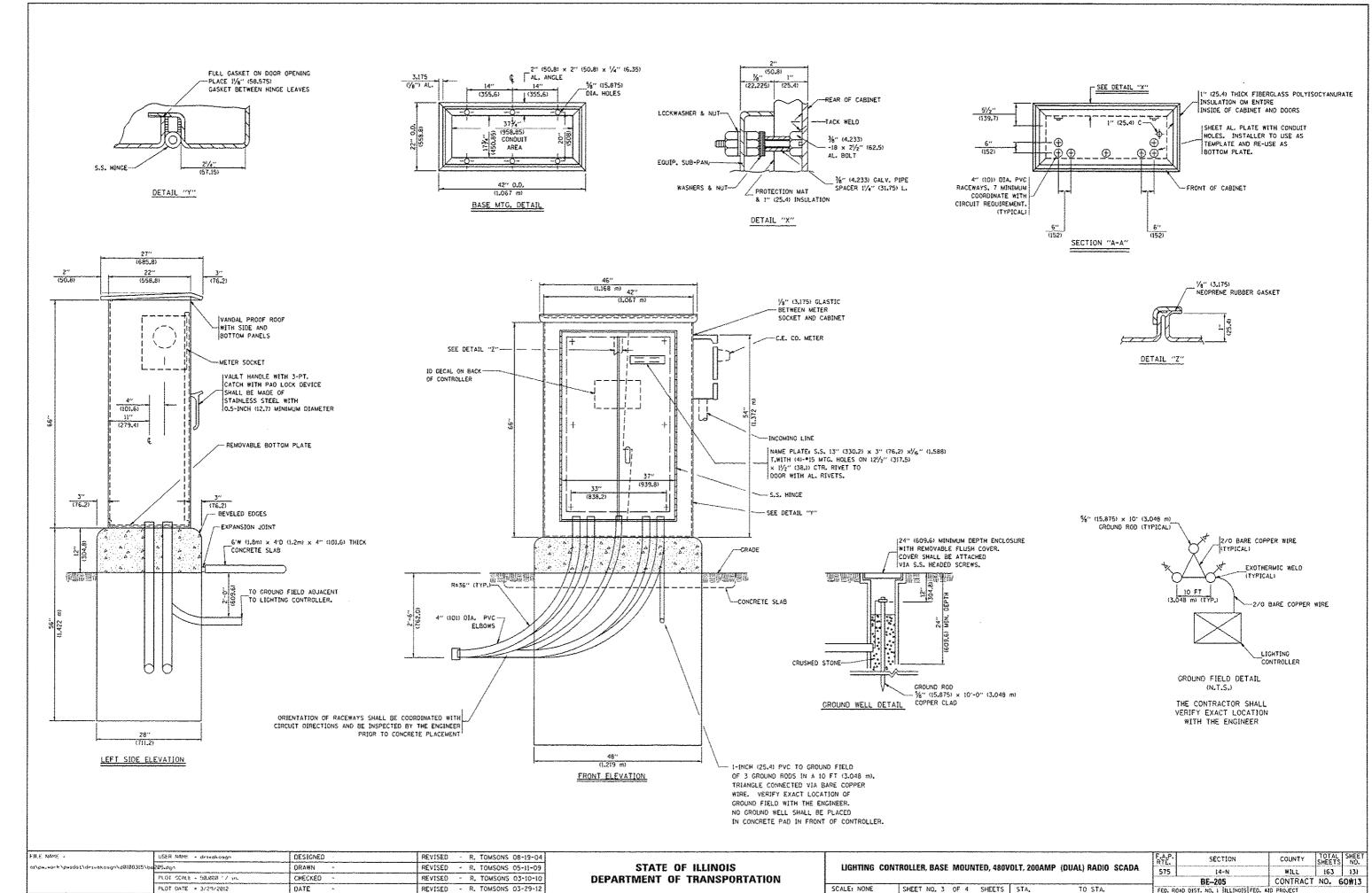
* TERMINALS SHALL BE COVERED WITH CLEAR PLEXIGLASS SHEET

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 200AMP (DUAL) RADIO SCADA

SCALE: NONE SHEET NO. 1 OF 4 SHEETS STA. TO STA.





FILE NAME =	USER NAME - drivakongo	DESIGNED	REVISED - R. TOMSONS 08-19-04
cs/p==e=k/p=idos/deseakosgo/d0100315/bo	2 8 5.dgn	DRAWN -	REVISED - R. TOMSONS 05-11-09
	PEOT SCALE - 90.000 17 in.	CHECKED -	REVISED - R. TOMSONS 03-10-10
	PLOT DATE * 3/29/2012	DATE -	REVISED - R. TOMSONS 03-29-12

TIMO	CONTROLLED DACE	34011E)T	rn *****	01T 000436D	(DUAL) DADIO	*****	F.A.P.	SECTION	COUNTY
HWG	CONTROLLER, BASE	MINIMINI	CU, 480Y	ULI, ZUVANIP	(DUAL) KADIO	SCAUA	575	14-N	MILL
								BE-205	CONTRACT
NONE	SHEET NO. 3	OF 4	SHEETS	STA,	TO STA.		FEO. R	OAD DIST. NO. 1 IILLINOISIFED. A	D PROJECT

NOTES

- CABINET SHALL BE FABRICATED FROM 0.125-INCH (3.175) SHEET ALUMINUM *3003H14, FORMED AND ARC WELDED.
- ALL SCREWS AND HARDWARE SHALL BE PLATED. GALVANIZED, OR MADE OF BRASS, ALUMINUM OR STAINLESS STEEL, UNLESS OTHERWISE NOTED.
- NAME PLATE SHALL HAVE ENGRAVED 0.75-INCH (19.05) HIGH LETTERS FILLED IN BLACK: "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.
- ONE INCH THICK POLYISOCYANURATE INSULATION SHALL BE INSTALL AND PERMANENTLY CEMENTED ON ALL SIDES OF THE CABINET AND DOORS.
- 5. CABINET SHALL BE PRIMED AND PAINTED AS SPECIFIED.
- ELECTRIC UTILITY METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET AS SHOWN ON THE PANEL LAYOUT DIAGRAM.
- THE COMPLETED CONTROLLER SHALL BE U.L. LISTED AS AN INDUSTRIAL CONTROL PANEL UNDER UL508.
- 8. METAL MOUNTING PANEL SHALL BE FABRICATED FROM THE SAME MATERIAL AS THE CABINET AND SHALL BE FLANGED BACK 0.75-INCHES I.D. ON 4 SIDES.
- CIRCUIT BREAKERS AND CONTACTORS AND OTHER COMPONENTS SHALL BE MOUNTED ON 0.125-INCH (3.175) THICK GLASTIC INSULATION BACK PANEL.
- 10. ALL DEVICES SHALL BE FRONT REMOVABLE.
- 11. TIME CLOCK CHANNEL 1 N.O. CONTACT IS CLOSED NIGHT AND OPEN DAY (LIGHTS ON).
- 12. SET LATITUDE TO 42 DEGREES. SET CH.1 TO 23 MINUTES AFTER ASTRONOMICAL SUNSET, 50 MINUTES BEFORE ASTRONOMICAL SUNRISE. SET CH.2 TO 60 MINUTES AFTER ASTRONOMICAL SUNSET (WITH A SIGNAL LENGTH OF 1 SECOND). +28 MINUTES AFTER ASTRONOMICAL SUNRISE (WITH A SIGNAL LENGTH OF 7 SECONDS.)
- 13. BUS BAR SHALL HAVE 22 LUG TERMINALS SIZED TO ACCOMMODATE REQUIRED WIRE SIZES. 240V NEUTRAL BUS SHALL BE PAINTED WHITE, GROUND BUS SHALL BE PAINTED GREEN, AND THE 120V NEUTRAL BUS SHALL BE PAINTED GREY.
- 14. ALL LUGS SHALL BE OF COPPER SCREWS AND CONNECTORS, SPRING HELD.
- 15. ALL WIRING TERMINATIONS SHALL BE RATED NOT LESS THAN 75 DEGREE CENTIGRADE.
- 16. ALL CONTROL WIRING SHALL BE 600V #12 TYPE MTW. SCADA WIRING SHALL BE #18.
- 17. ALL POWER WIRING SHALL BE 600V TYPE RHH/RHW.
- 18. ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED:

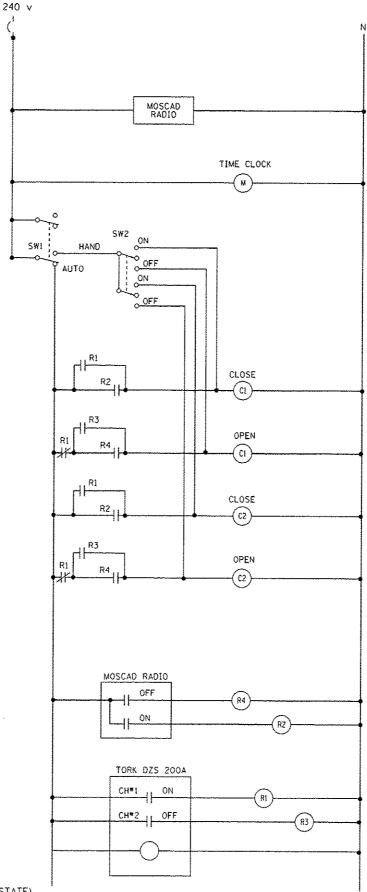
19. MOSCAD I/O WIRING SHALL BE:

DIGITAL INPUT (DI) WIRING SHALL BE #18 MTW PURPLE.

ANALOG INPUT (AI) WIRING SHALL BE #18, 2/C SHIELDED.

AI AND DI WIRING MAY BE BUNDLED TOGETHER, BUT SHALL NOT BE BUNDLED WITH OTHER WIRING.

- 20. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
- 21. SCHEMATIC SHOWN WITH BREAKER OPEN, CONTACTOR OPEN, CABINET DOOR CLOSED, CLOCK NOT ACTIVE (DE-ENERGIZED STATE).
- 22. A LAMINATED COPY OF THE CIRCUIT SCHEMATIC AND SCADA I/O DIAGRAM (NO SMALLER THAN 11"x17" EACH) SHALL BE ATTACHED TO THE INSIDE OF THE CONTROLLER WITH STAINLESS STEEL SCREWS.



CONTROL CIRCUIT LADDER LOGIC DIAGRAM

	MOSCAD I/O AS	SIGNMENTS
TERM	MOSCAD DESTINATION	DESCRIPTION OF INPUT
1	DIGITAL INPUT 1	ALARM KNOWLEDCE
2	DICITAL INPUT 2	DOOR OPEN
3	DIGITAL INPUT 3	MAIN(S) BREAKER OPEN
4	DIGITAL INPUT 4	CONTACTOR OPEN
5	DIGITAL INPUT 5	CONTACTOR 2 OPEN
6	DIGITAL INPUT 6	CASINET IN NON-AUTO
7	DICITAL INPUT 7	BACK-UP CLOCK OFF CALL
В	DIGITAL INPUT 8	BACK-UP CLOCK ON CALL
17	24 V+	24+V0C
18	DI COMMON	COMMON
21	K1 C	KI COMMON
22	KI NO	LIGHTS ON CALL
24	K2 C	K2 COMMON
25	K2 NO	LIGHTS OFF CALL
32	ANALOG INPUT (+)	CABINET NEUTRAL CURRENT
33	ANALOG INPUT 1 (-)	CABINET NEUTRAL CURRENT
34	ANALOG INPUT 2 (+)	CABINET SERVICE VOLTAGE
35	ANALOG INPUT 2 (-)	CABINET SERVICE VOLTAGE
40	P. GROUND	GROUND

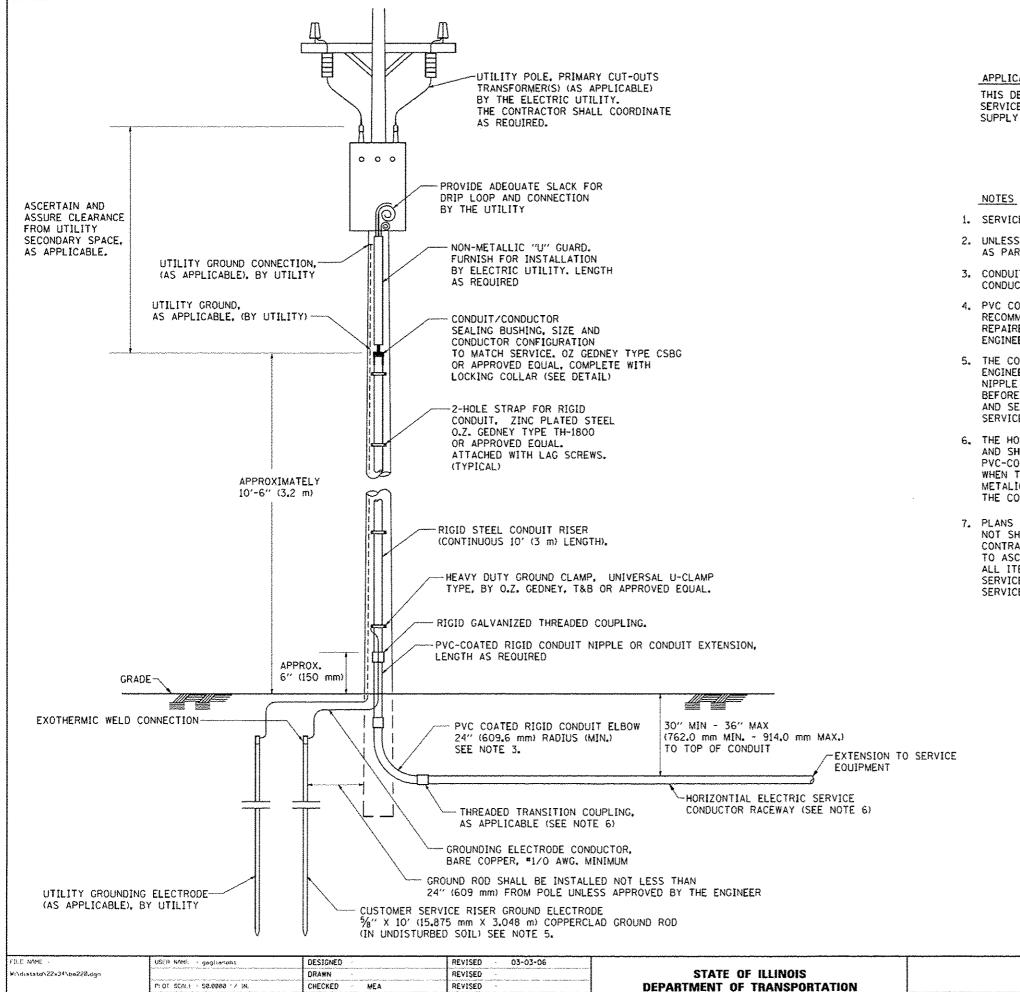
ALL ANALOG INPUTS WILL BE 4-20 MA ONLY. DIGITAL OUTPUT RELAYS WILL BE ELECTRICALLY ENERGIZED AND MOMENTARILY HELD

MIXED I/O MODULE MODEL NUMBER V436

FIRE NAME *	USER NAME = drivakaaga	DESIGNED -	REVISED	- R,	TÖMSONS	08-19-04
os/p=_vark/p=sdat/drsvakosgm\d8l88315/be	R25,4gn	DRAWN -	REVISED	- R	TOMSONS	05-11-09
	PLOT SEALE 4 50.000 17 to,	CHECKED -	REVISED	- R	. TOMSONS	03-10-10
	PLOT DATE = 3/29/2012	DATE -	RÉVISED	- R,	TOMSONS	03-29-12

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING COI	NTROLLER, BASE	MOUNTED, 480V	OLT, 200AMP	(DUAL) RADIO	SCADA
SCALE: NONE	SHEET NO. 4	OF 4 SHEETS	STA.	TO STA.	



REVISED

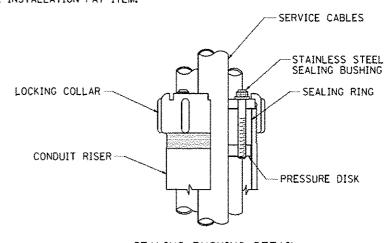
DATE

APPLICATION

SCALE: NONE

THIS DETAIL APPLIES FOR LOW VOLTAGE ELECTRIC SERVICE (660 V OR LESS) FROM AN OVERHEAD UTILITY SUPPLY TO SEPERATLY-MOUNTED SERVICE EQUIPMENT.

- 1. SERVICE VOLTAGE SHALL BE AS INDICATED ELSEWHERE IN THE DRAWINGS.
- 2. UNLESS OTHERWISE INDICATED, ITEMS AND WORK SHALL BE INCLUDED AND PAID AS PART OF THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.
- 3. CONDUIT AND CONNECTOR DIAMETER SHALL MATCH THE DIAMETER OF THE SERVICE CONDUCTOR RACEWAY AS INDICATED ON THE PLANS.
- 4. PVC COATED RACEWAYS AND ACCESSORIES SHALL BE CAREFULLY INSTALLED WITH MFR RECOMMENDED TOOLS AND PROCEDURES TO AVOID DAMAGE. ANY DAMAGE SHALL BE REPAIRED WITH COMPATIBLE PVC TOUCH-UP MATERIAL TO THE SATISFACTION OF THE ENGINEER OR THE DAMAGED MATERIAL SHALL BE REPLACED AT NO ADDITIONAL COST.
- 5. THE CONTRACTOR SHALL OBTAIN INSPECTION AND APPROVAL BY THE ENGINEER OF SERVICE RISER GROUND ELECTRODE, RISER ELBOW. NIPPLE AND CONNECTION TO SERVICE CONDUCTOR RACEWAY EXTENSION BEFORE BACKFILL AND SHALL ALSO OBTAIN INSPECTION OF SERVICE RISER AND SEALING BUSHING BEFORE UTILITY "U" GUARD INSTALLATION AND SERVICE CONNECTION.
- 6. THE HORIZONTAL ELECTRIC SERVICE CONDUCTOR RACEWAY SHALL BE AS INDICATED AND SHALL BE MEASURED SEPARATELY FOR PAYMENT, WHEN THE RACEWAY IS PVC-COATED RIGID GALVANIZED STEEL. THE COUPLING SHALL BE THE SAME. WHEN THE RACEWAY IS PVC CONDUIT (IN CONCRETE). THE COUPLING SHALL BE A METALIC TO NON METALIC ADAPTER, WHEN THE RACEWAY IS ENCASED IN CONCRETE, THE CONCRETE SHALL EXTEND TO COVER THE COUPLING.
- 7. PLANS AND DETAILS INDICATE THE GENERAL NATURE AND REQUIREMENTS. THEY DO NOT SHOW EVERY ACCESSORY AND ATTACHMENT, AND THEY DO NOT RELIEVE THE CONTRACTOR OF THE REQUIREMENTS OF THE SPECIFICATIONS AND SPECIAL PROVISIONS TO ASCERTAIN UTILITY REQUIREMENTS AND TO COORDINATE ACCORDINGLY, FURNISHING ALL ITEMS AND WORK NOT PROVIDED BY THE UTILITY, BUT NECESSARY FOR A COMPLETE SERVICE INSTALLATION IS REQUIRED AND SHALL BE INCLUDED IN THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.



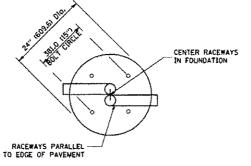
SEALING BUSHING DETAIL

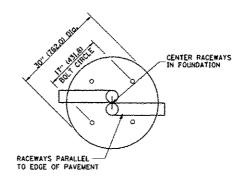
COUNTY SHEETS NO. **ELECTRIC SERVICE INSTALLATION** WILL 163 133 575 14-N **AERIAL, REMOTE DISCONNECT** CONTRACT NO. 60W13 BE-220 SHEET NO. 1 OF 1 SHEETS STA. FED. ROAD DIST, NO. 1 ILLINOIS FED. AID PROJECT

TOP VIEW

LIGHT POLE FOUNDATION DEPTH TABLE 40 FT. (12.192 m) TO 47.5 FT. (14.478 m) MOUNTING HEIGHT

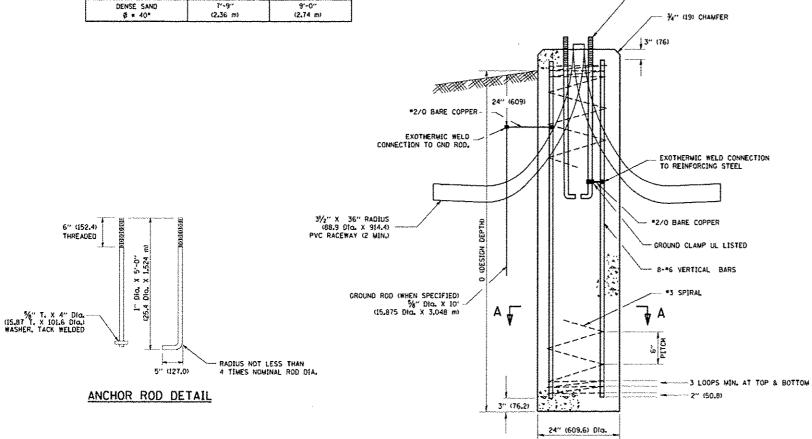
CAU CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION				
SOIL CONDITIONS	SINGLE ARM POLE	TWIN ARM POLE			
SOFT CLAY	13′-0″	15'-0"			
Ou = 0.375 TON/SO, FT.	(3.96 m)	(4,57 m)			
MEDIUM CLAY	9'-6''	10'-9"			
Ou = 0.75 TON/SQFT	(2,09 m)	(3.23 m)			
STIFF CLAY Qu = 1.50 TON/SQ. FT.	7'-0" (2.13 m)	8'-0'' (2,44 m)			
LOOSE SAND	9'-0"	10'-0"			
Ø = 34*	(2.74 m)	(3,05 m)			
MEDIUM SAND	8'-3"	9'-0"			
Ø = 37.5*	(2,52 m)	(2.74 m)			
DENSE SAND	7"-9"	9"-0"			
Ø = 40*	(2,36 m)	(2.74 m)			

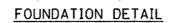


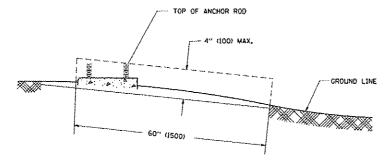


TOP VIEW

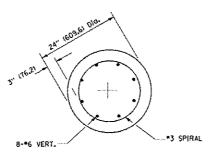
ANCHOR ROD 4-1" Dig. X 5'-0" (4-25.4 Dig. X 1,524 m)



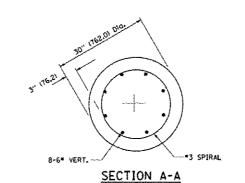




FOUNDATION EXTENSION DETAIL



SECTION A-A



SCALE: NONE

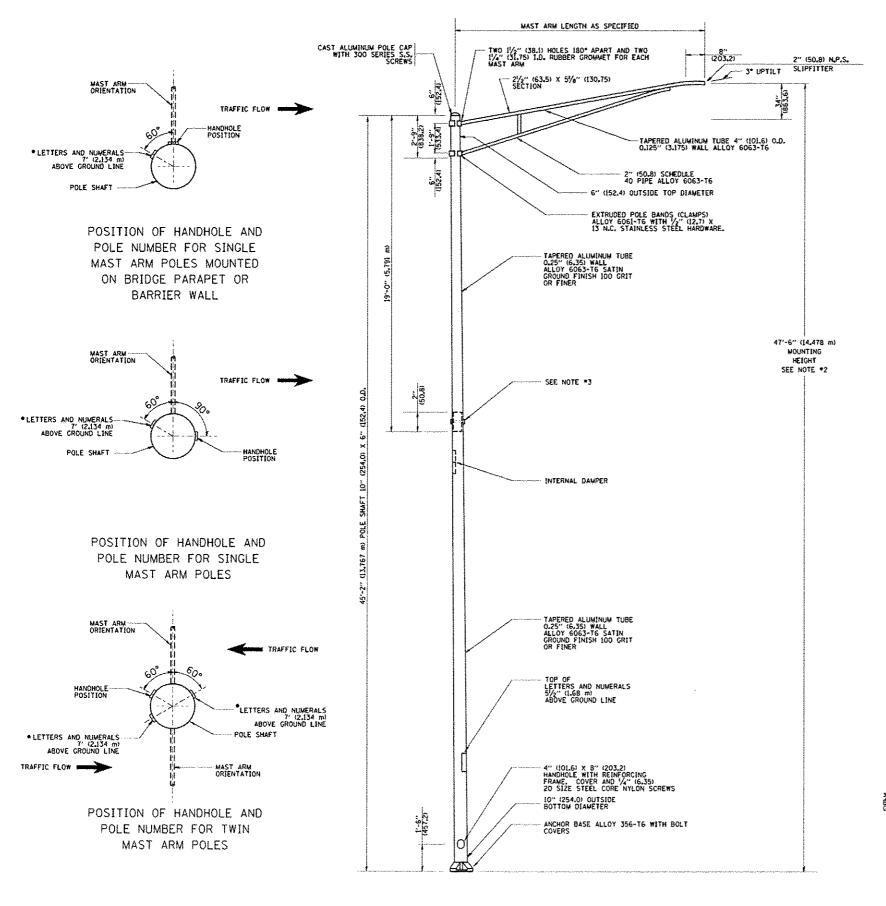
NOTES

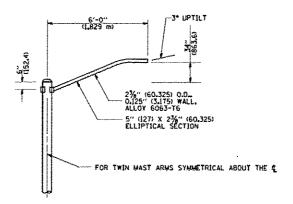
- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IN PLACED.
- THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED. IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS. EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, SEE FOUNDATION EXTENSION DETAIL.
- 4. THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION, IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
- 5. THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL, A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION, FOUNDATION TOP
- THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
- 7. THE ANCHOR ROD SHALL BE A HOOK ROD TYPE, COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- 8. THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (CRADE 105), NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2N OR ASTM A 563 DH, AND WASHERS SHALL BE
- 9. ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS COMFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD COMFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UMG MILS) OR THE ELECTROLYTIC
- 10. THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION,
- 11. ANCHOR RODS SHALL PROJECT 274" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION, IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
- 12. THE CONTRACTOR SHALL USE A *3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE *3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
- 13. THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
- 14. THE RACEMAYS SHALL PROJECT I" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.

B.E. NAME *	USER NAME - gaglianabt	DESIGNED -	REVISED - 04-22-02
f:\diststd\22x34\ba30Ldgn		QRAWN ·	REVISED -
	PLOT SCALE - 50.0000 17 IN.	CHECKED	REVISED -
	PLO1 DATE - 1/4/2008	DATE -	REVISEO -

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

LIGHT POLE FOUNDATION	F.A.P. SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
40' (12.192 m) TO 47 1/2' (14.478 m) M.H. 15" (381 mm) BOLT CIRCLE	575	14-N	WILL	163	134
40 (12.132 (ii) 10 4) 42 (14.410 (ii) iii) ii (001 (iii)) DU1) GILGE	8E-301		CONTRACT	NO. E	0前13
ONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FEO. R	DAD DIST. NO. 1 ILLINOIS FED. AT	O PROJECT	of the state of th	***************************************





6' (1.8 m) SINGLE MEMBER MAST ARM (N.T.S.)

NOTES:

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

 2. MOUNTING HEICHT IS DEFINED AS THE
 DISTANCE FROM THE CENTERLINE OF THE
 TENON TO THE BOTTOM OF THE ANCHON BASE,

 3. TWO PIECE SHAFT WILL BE MATCHED MARKED
 AND INTERCHANCEABLE BETWEEN DIFFERENT
 UNITS. FIELD DRILLING OF THE HOLES WILL
 NOT BE ALLOWED.
- UNITS. HALLOWED.

 NOT BE ALLOWED.

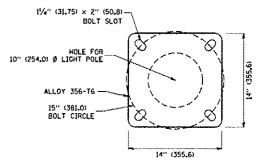
 A THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.

 5. THE INSTALLING CONTRACTOR WILL PROVIDE A UNLISTED GROUNDING CONNECTOR, BURNDY K2C23, TAB SPADL OR APPROVED EQUAL.

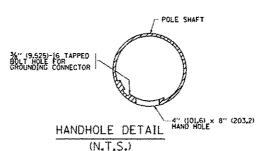
 6. LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.

 7. LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS. WASHERS OR SHIMS.

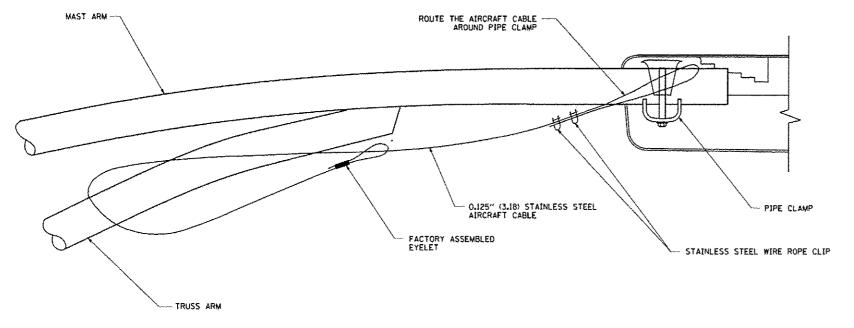
 8. LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.



LIGHT POLE BASE PLATE DETAIL 15 INCH (381.0) BOLT CIRCLE

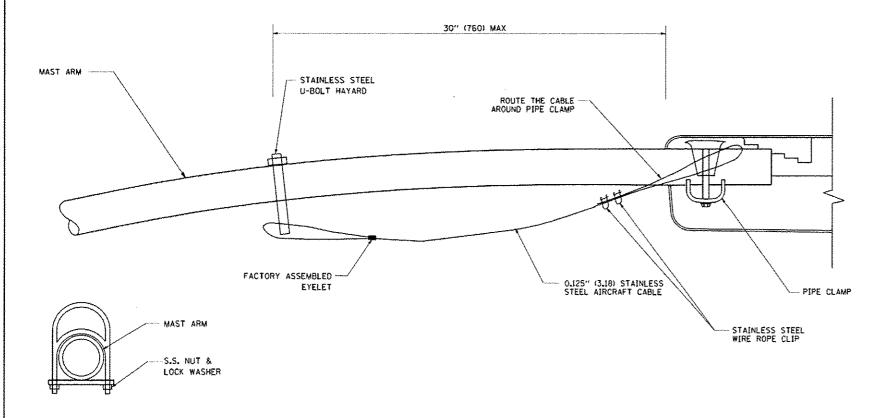


FILE WAME / WindstateS2x34Ne488.dgn	USER NAME > gaglianobs	DESIGNED -	REVISED - R. TOMSONS 09-06-00 REVISED - R. TOMSONS 09-03-03		ALUMINUM LIGHT POLE	nic.	COUNTY TOTAL SHEET NO.
•	PLOT SCALE - 50.000 // IN.	CHECKED	REVISED	DEPARTMENT OF TRANSPORTATION	47'-6" (14.478 m) MOUNTING HEIGHT	575 14-N BE-400 C	WILL 163 135 CONTRACT NO. 60W13
	PLOT DATE - 1/4/2008	DATE -	REVISED		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID F	



SIDE VIEW (TRUSS ARM)

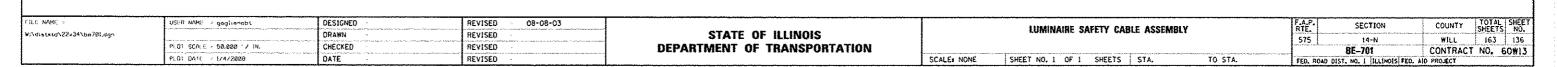
N.T.S.

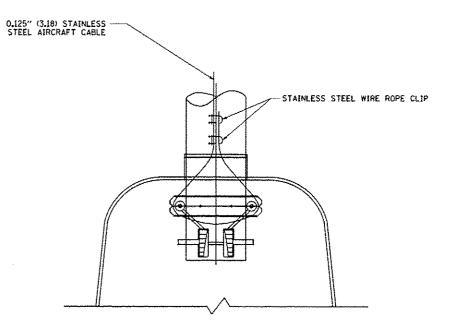


SIDE VIEW (SINGLE MEMBER OR DAVIT ARM)

STAINLESS STEEL U-BOLT HAYARD

N.T.S.

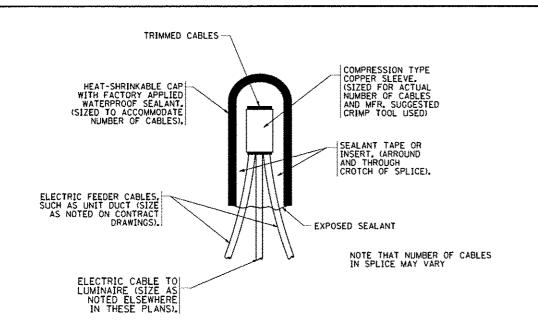




N.T.S.

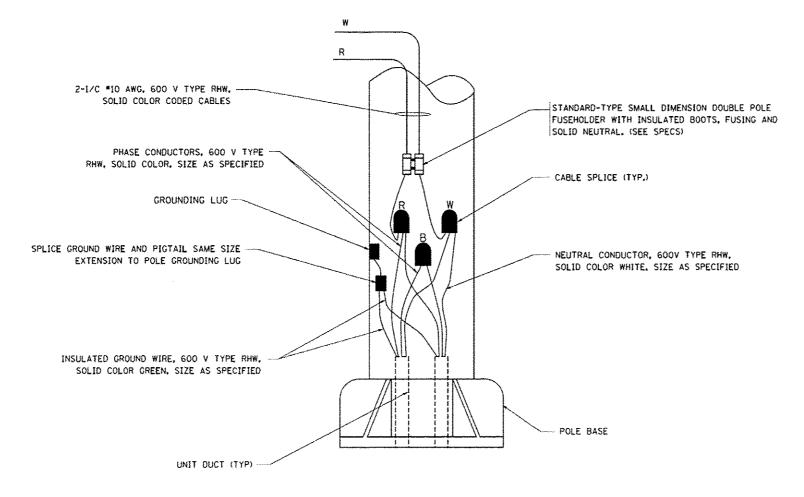
NOTES

- ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
- 2. CONTRACTOR SHALL ADJUST THE WIRE CLIP TO ELIMINATE ANY SLACK FROM THE WIRE ROPE.
- THE 0.125" (3.18) STAINLESS STEEL AIRCRAFT CABLE SHALL REMAIN VISIBLE FROM THE GROUND LEVEL.
- 4. THE BREAKING STRENGTH OF THE CABLE SHALL BE 1700 LBS. MIN.



TYPICAL SPLICE DETAIL

N.T.S.



TYPICAL WIRING IN TRENCH DETAIL N.T.S.

30" (762) MINIMUM COVER 12" (305) MAXIMUM WIDTH EXCEPT AS APPROVED BY THE ENGINEER

12" (305)

WARNING TAPE AS SPECIFIED

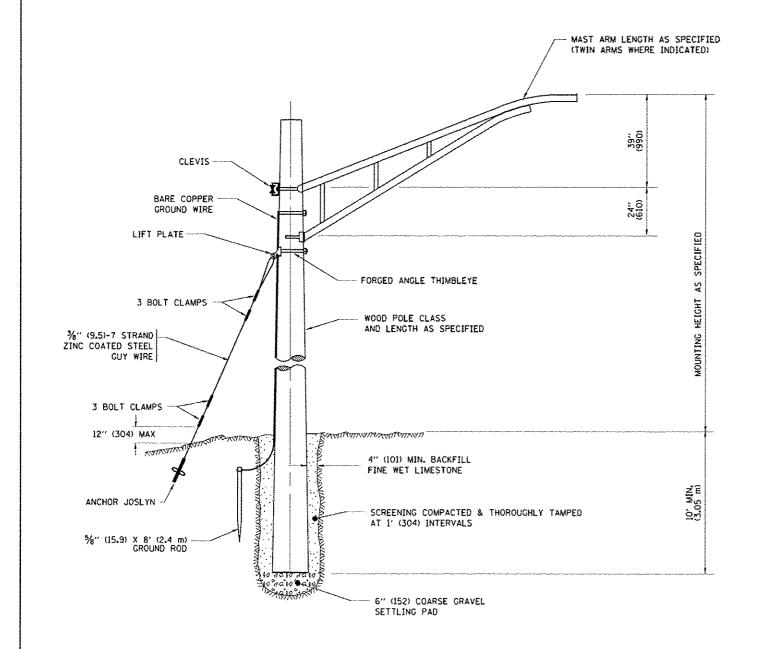
UNIT DUCT OR OTHER RACEWAY
AND WIRING AS PER PLANS. COMPLETE

WITH INTERNAL INSULATED EQUIPMENT GROUND WIRE.

POLE WIRING DETAIL

N.T.S.

FILE MAME +	USER NAME = gaglionobt	DESIGNED -	REVISED - 08-08-03			MISC EIL	ECTRICAL I	DETAII C	F.A.P. RTF.	SECTION	COUNTY	TOTAL SHEET
₩:\dsesetd\28x34\be7882.dgn		DRAWN -	REVISED -	STATE OF ILLINOIS				DETAILS	575	,	WILL	163 137
1	PLOT SCALE - 58.898 '/ IN.	CHECKED	REVISED -	DEPARTMENT OF TRANSPORTATION			SHEET A			BE-702	CONTRAC	T NO. 60#13
	PLOT DATE - 1/4/2008	DATE	REVISED		SCALE: NONE	SHEET NO. 1 OF 1	SHEETS	STA. TO STA.	FED. ROAD D	IST. NO. 1 ILLINOIS FED. A	IO PROJECT	



TEMPORARY LIGHT POLE DETAIL

TEMPORARY LIGHT POLE ATTACHMENT DETAIL

WOOD POLE -

GROUND CLAMP -

AWG BARE COPPER GROUND WIRE

WATERPROOF INSULATION -PIERCING TAP CONNECTOR

MESSENGER TIED TO INSULATOR -WITH FACTORY FORMED CABLE TIE HEAVY DUTY INSULATED PULLEY CLEVIS

TO LUMINAIRE

NEUTRAL CONDUCTOR

- WATERPROOF FUSEHOLDER & FUSE

WATERPROOF FUSEHOLDER

AND SOLID NEUTRAL SLUG

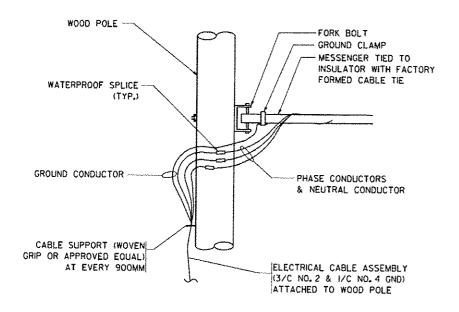
- PHASE CONDUCTOR

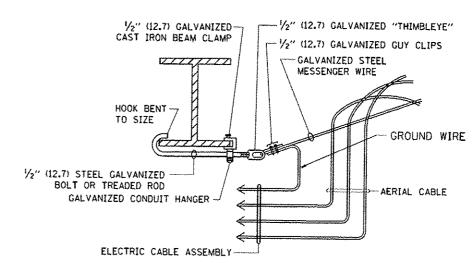
BARE COPPER GROUND WIRE EVERY THIRD POLE

NOTES:

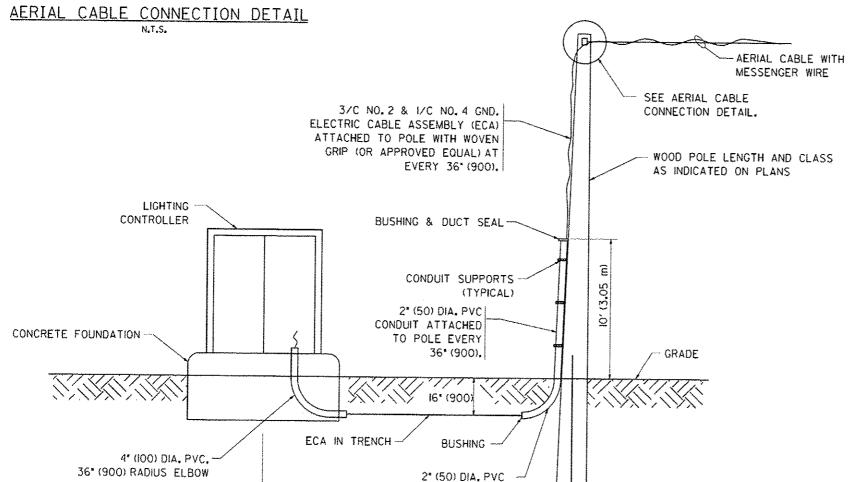
1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED

FILE NAME +	USER NAME - gaglianobt	DESIGNED -	REVISED 08-08-03		TEMPORARY LIGHT POLE DETAILS	F.A.P. SEC	TION	COUNTY	TOTAL	SHEET
W:\diststd\22x34\ba888.dgn		DRAWN	REVISED -	STATE OF ILLINOIS	TEMPORARI LIGHT POLE DETAILS	F75	e-N	W161	SIEE 13	130
	PLOT SCALE - 50.000 1/ IN.	CHECKED	REVISED -	DEPARTMENT OF TRANSPORTATION		8E-80	n .	CONTRACT	NO. F	: 130 :0#13
<u> </u>	PLG1 DATE - 1/4/2008	DATE -	REVISED -		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. HOAD DIST. NO. 1	fife in terminal and a community of	PROJECT	-,-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	3.0.15





AERIAL CABLE ATTACHED TO STRUCTURE NOT TO SCALE



NOTES:

- 1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
- SEE PROPOSED LIGHTING PLAN FOR CONDUIT, CABLE AND ROUTING.
- 3. THE CONTRACTOR SHALL PROVIDE INTERMEDIATE SUPPORTS TO MAINTAIN MINIMUM CLEARANCES. REFER TO AERIAL AERIAL CABLE ATTACHED TO STRUCTURE DETAIL.
- 4. COST OF SPLICES AND MOUNTING HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE FOR AERIAL CABLE.

WOOD POLE TO LIGHTING CONTROLLER WIRING CONNECTION DETAIL

N.T.S.

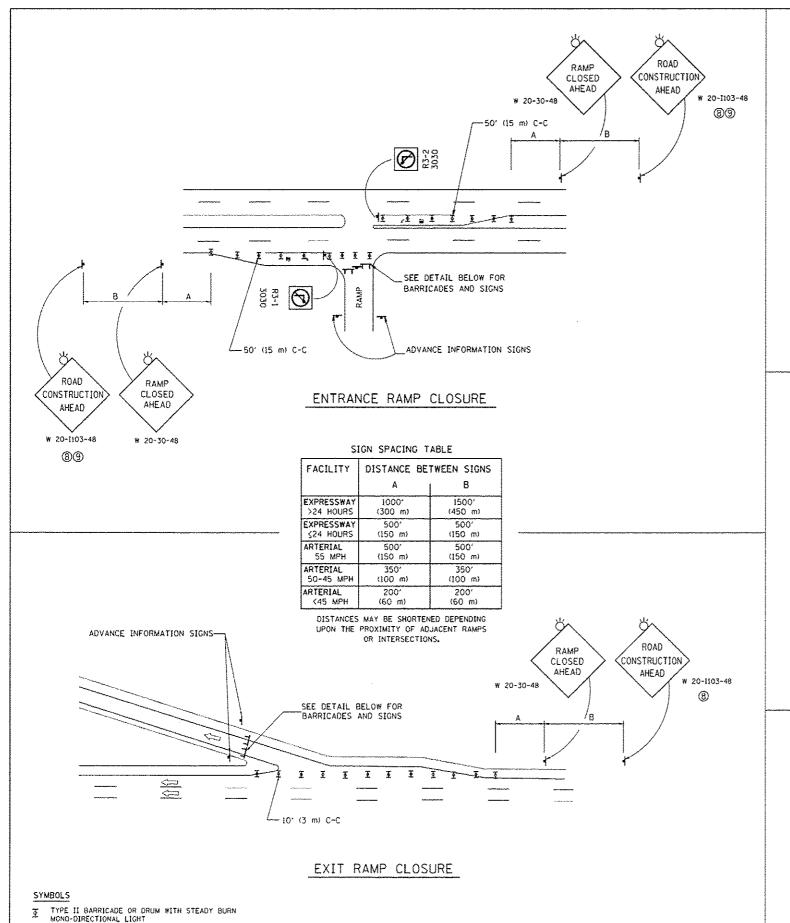
DISTANCE VARIES

CONDUIT ELBOW

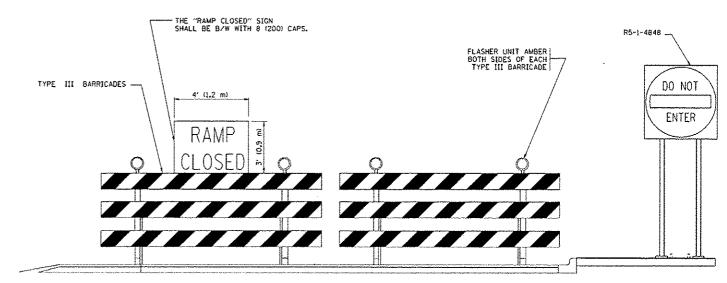
	FILE NAME #	USER NAME & gaglianobt	DESIGNED -	REVISED - 08-08-03
į	Wi\dieteU\ZZx34\beff8J.dgn		DRAWN -	REVISED -
1		PLOT SCALE - 50.000 1/ IN.	CHECKED -	REVISED
	·	PLOT DATE - 1/4/2008	DATE -	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE: NONE



TYPE III BARRICADE WITH 2 FLASHING LIGHTS



DETAIL FOR REQUIRED BARRICADES & SIGNS

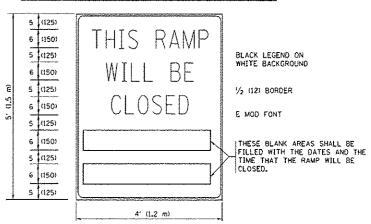
RAMP CLOSURE ADVANCE WARNING SIGN

BACKGROUND MOUNTED
DIAGONALLY
E MOD FONT
1 (25) BORDER
SIGNS ARE REQUIRED ON ALL THE EXIT

THESE SIGNS ARE REQUIRED ON ALL THE EXIT CUIDE SIGNS FOR EXIT RAMPS THAT WILL BE CLOSED FOR MORE THAN FOUR (4) CONSECUTIVE DAYS.

BLACK LEGEND ON ORANGE

RAMP CLOSURE ADVANCE INFORMATION SIGN



THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

THESE SIGNS SHALL BE FABRICATED AND PAID FOR ACCORDING TO THE TEMPORARY INFORMATION SIGNING SPECIAL PROVISION

GENERAL NOTES:

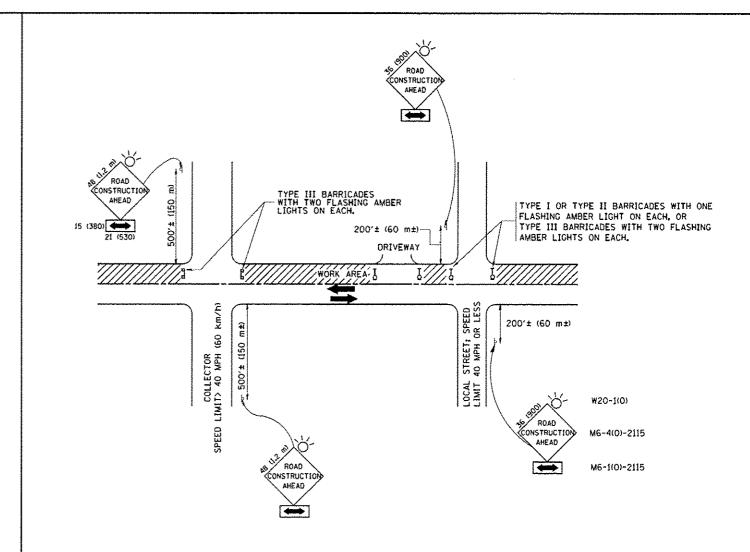
- O CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE !!

 BARRICADES DURING DAY OPERATIONS. CONES SHALL BE
 A MINIMUM OF 28 (700) HIGH,
- ② STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
- 3 A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES, PRECEEDED BY A W20-7 FLAGGER WARNING SIGN.
- 4 ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED WHEN THE RAMP IS CLOSED FOR MORE THAN FOUR (4) DAYS.
- (§) THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSMYS).

- (6) AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
- (7) THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS, ADDITIONAL ADVANCE WARNING SIGNS ON EXIT CUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED FOUR (4) DAYS IN LENGTH
- (8) ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.
- ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS SHALL BE INSTALLED ON THE LEFT SIDE OF TRAFFIC IF THE MEDIAN IS MORE THAN 10 FT WIDE.

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

FILE NAME .	USER NAME & footemy	DESIGNED - DWS	REVISED - JAF 02-06		ENTRANCE AND EXIT RAMP	F.A.P. SECTION	COUNTY TOTAL SHEET
or/pw.work/pwidat/footami/d2198315/to88.	tgn	ORAWN -	REVISED - SPB 01-07	STATE OF ILLINOIS	FIXTHING WAS PUT HUME	575 14-N	WILL 163 140
	PLOT SCALE - 58,880 1/ in.	CHECKED -	REVISED - SP8 12-09	DEPARTMENT OF TRANSPORTATION	CLOSURE DETAILS	TC-08	CONTRACT NO. 60W13
1	PLOT DATE = 7/8/2013	DATE - 02-83	REVISED - MD 06-13		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1 HILLINOIS FED. A	In 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:
- O) 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 CREATER 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 (MG-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (MG-4).

SCALE: NONE

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAYS

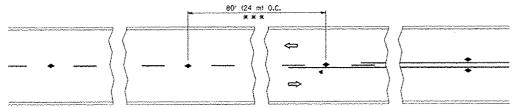
- USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD), THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER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

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

TILE NAME .	USER NAME / gaglianobs	DESIGNED - LHA	REVISED J. OBERLE 10-18-95
Vi\diatatd\22x34\te18.dgn		DRAWN	REVISED A. HOUSEH 03-06-96
	PLOT SCALE > 50.000 '/ IN.	CHECKED	REVISED . A. HOUSEH 10-15-96
	PLOT DATE > L74/2008	DATE 06-89	REVISED T. RAMMACHER 01-06-00

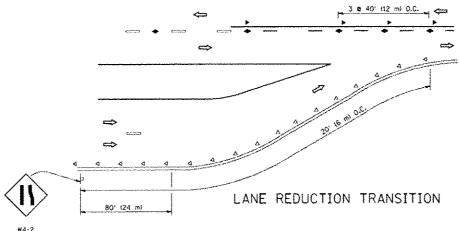
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

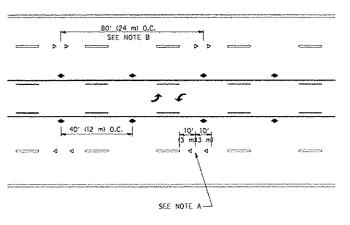
TR	AFFIC	CON	TROI	AND	PROTEC	TION	FOR		
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SHEET	NO. 1	QF	1	SHEETS	STA.		alam it alamaniyada.	TO	STA.



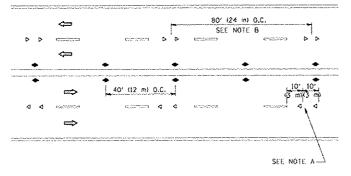
* * * REDUCE TO 40' (IZ m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

TWO-LANE/TWO-WAY

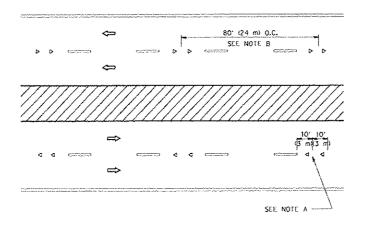




TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

- I. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
- 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.

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.

SYMBOLS

--- YELLOW STRIPE

WHITE STRIPE

- ONE-WAY AMBER MARKER
- ONE-WAY CRYSTAL MARKER (W/O)
- TWO-WAY AMBER MARKER

DESIGN NOTES

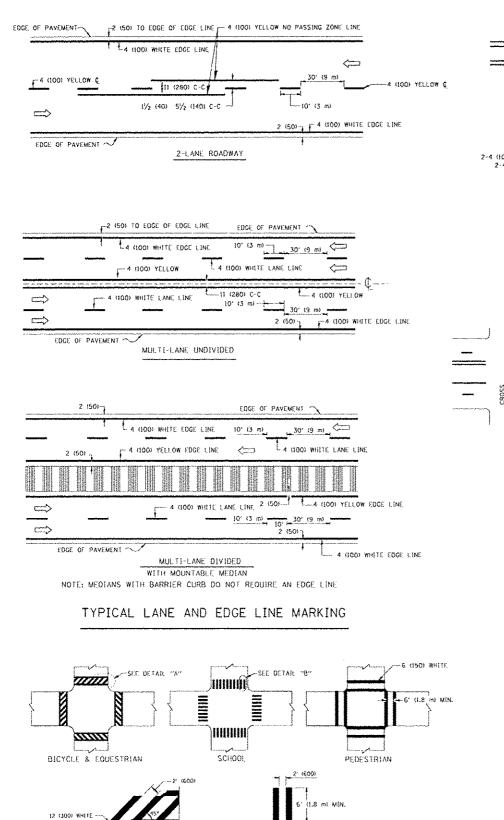
- 1. DOUBLE CAME LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
- 2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT
 RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
- 3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD 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 HAVE WED.

WHERE THE MEDIAN WIDTH IS 6' (2 m) O.C. ## SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE ## SEE TWO-LANE/TWO-WAY WARKERS ## SEE TWO-LANE/TWO-WAY WARK

LEFT TURN

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

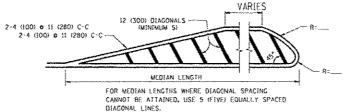
FRII NAME <	USCR NAME > legsa	DESIGNED -	REVISED	- I. RAMMACH	CR 09-19-94			T	VPICAL APPL	ICATIONS		RIE.	SECTION	COUNTY SHEETS NO.	1
c:\p+.work\pwidot\loysa\d8188315\to11.dgr		DRAWN -	REVISEO	T, RAMMACH	FR 03-12-99	STATE OF ILLINOIS					OLL SPOINTARD	575	[4-N	WILL 163 142	7
	PLOT SCALE - 50.000 17 IN.	CHECKED -	REVISED	T. RAMMACH	ER 01-06-00	DEPARTMENT OF TRANSPORTATION	KAISEI	D REFLECTIVE PAV	EMENI MAN	KEK2 (2NOM-LT)	UW RESISTANT)	_	TC-11	CONTRACT NO. 60W13	1
	PLOT BATE - 3/2/2011	DATE	REVISED	- C. JUCIUS	09-09-09		SCALE: NONE	SHEET NO. I	OF I SHEET	S STA.	TO STA.	FED. ROAD D	IST. NO. 1 JELINOIS FE	D. AID PROJECT	_]



NO DIAGONALS OUTSIDE OF LINES - 2-4 (100) YELLOW # 11 (280) C-C

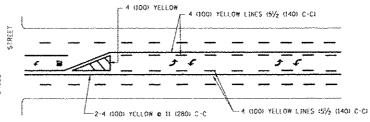
4' (1.2 m) WIDE MEDIANS ONLY

2-4 (100) YELLOW @ 11 (280) C-C-

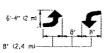


DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1,2 m) WIDE

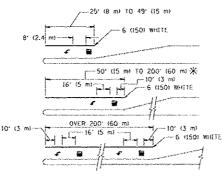


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

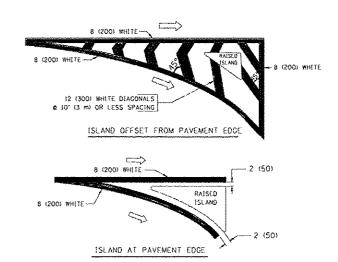


FURL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED. \P AREA = 15.6 SQ, FT, (1.5 m²) $\P\P$ AREA = 20.8 SQ, FT, (1.9 m²)

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

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



TYPICAL ISLAND MARKING

	g0		g	
TYPE OF MARKING	WIDTH OF LINE	PATTERN	COL.0R	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH) EFFOM	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 6 4 (100)	SOLID	YECT'OM.	11 (S80) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 2 4 (100)	SOLID SOLID	AETTOM AETTOM	5/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW: EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (Z.4m))	SOLIÙ	W HITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 6 4 (100) EACH DIRECTION	SKIP-DASH AND SOLID	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE
	B' (2.4m) LEFT ARROW	IN PAIRS	WHITE	SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 e 6 (150) 12 (300) e 45° 12 (300) e 90°	SOLIO SOLIO SOLIO	WHITE WHITE WHITE	MOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	STHR	PLACE 4" H.2 ms IN ADVANCE OF AND PASSALLET TO CROSSMALK, IF PRISENT, OTHERBISE, TACE AT DESIRED STOPPING, POINT, PARRALLET 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	SOLIÐ	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (290) C-C FOR THE DOUBLE LINE SEC TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	B (200) WITH 12 (300) DIAGONALS 0 45°	SOLID	#HI1E	01ACONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h) 20' 16 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h)
RAILROAD CROSSING	24 (600) TRANSVERSE LINES: "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLIO	WHITE.	SEE STATE STANDARD 780001 AREA OF: "R""-3.6 SO. FI. (0.33 m²) EACH "X":54.0 SO. FI. (5.0 m²)
SHOULDER DIAGONALS	12 (300) ø 45°	SOLIO	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.

SCALE: NONE

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

FILE NAME «	USEA NAME / drivakongn	DESIGNED -	EVERS	REVISED -	7. RAMMACHER 10-27-9-
cs/pw.mork/pwsdot/drsvakeagn/d81883(5/tc		DRAWN -		REVISED -	C. JUCIUS 09-09-09
+	PLOF SCALE / EG.RRE / / IN.	CHECKEO -		REVISED -	
.	PLDF DATE + 9/9/2009	DATE -	03-19-90	REVISED -	

-6 (150) WHITE

TYPICAL CROSSWALK MARKING

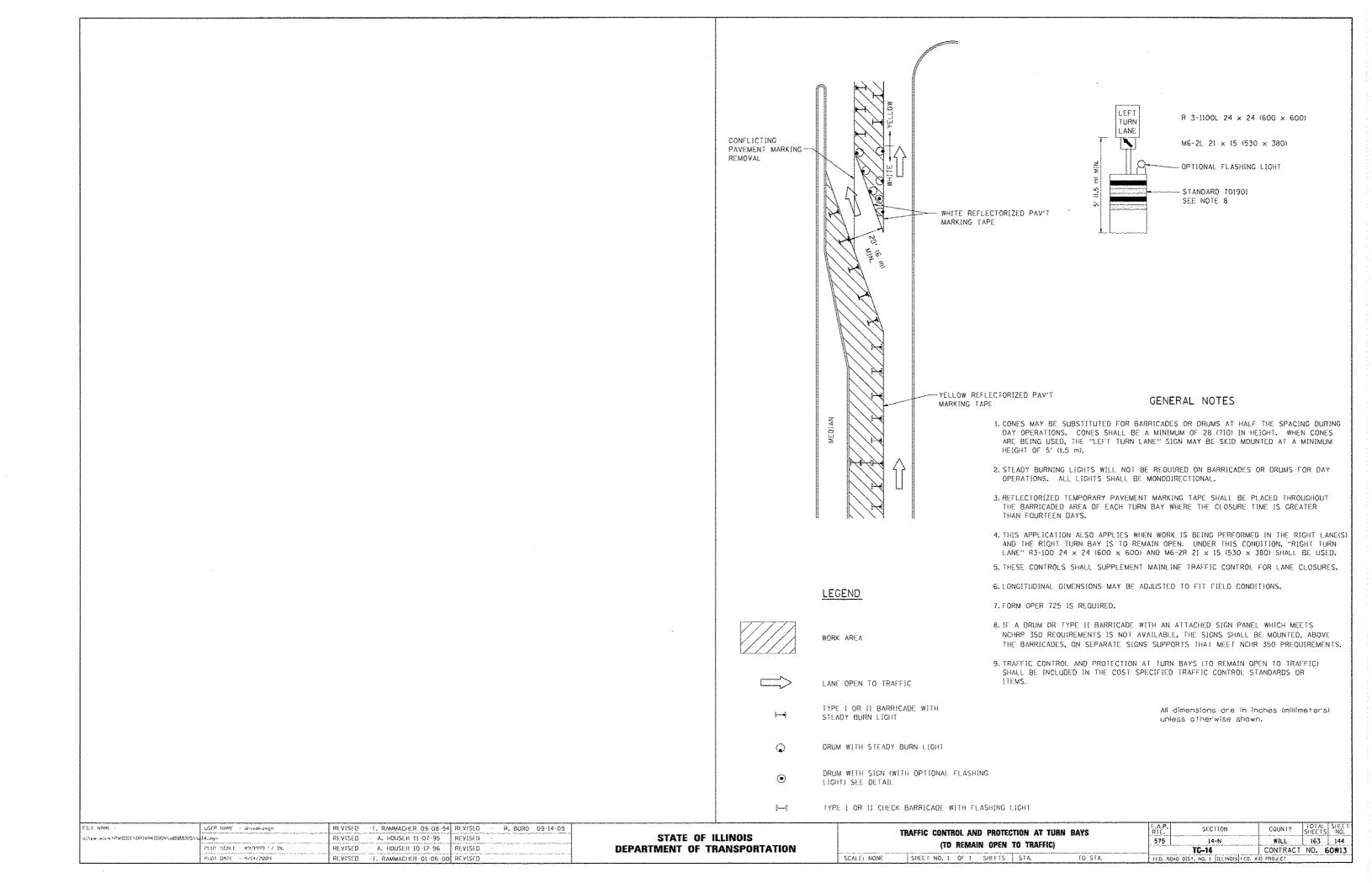
DETAIL "A"

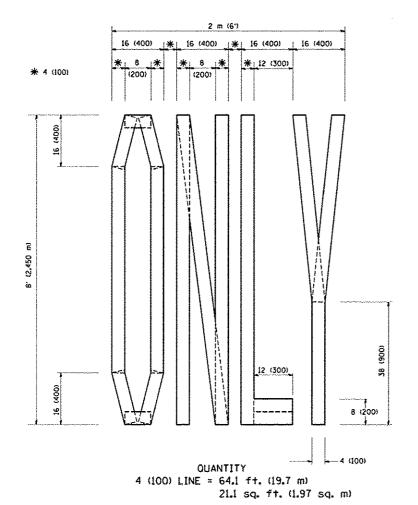
-12 (300) WILLE

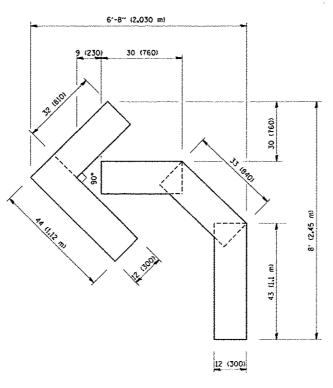
DETAIL "B"

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

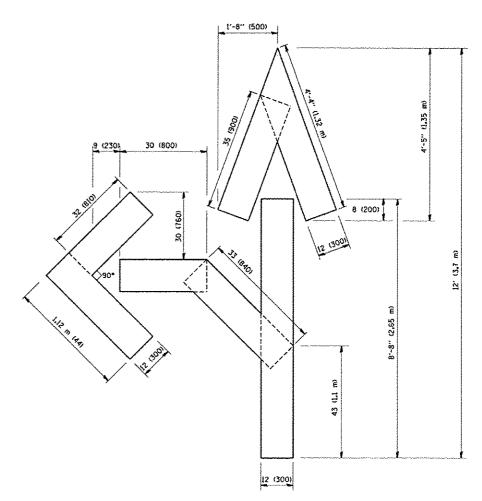
DISTRICT ONE	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEE
TYPICAL PAVEMENT MARKINGS	575	14-N	WILL	163	143
I Friont Payenical Intensities		TC-13	CONTRACT		OW1:
SHEET NO. 1 OF 1 SHEETS STA. TO STA.	EEO 04		ID PROJECT		







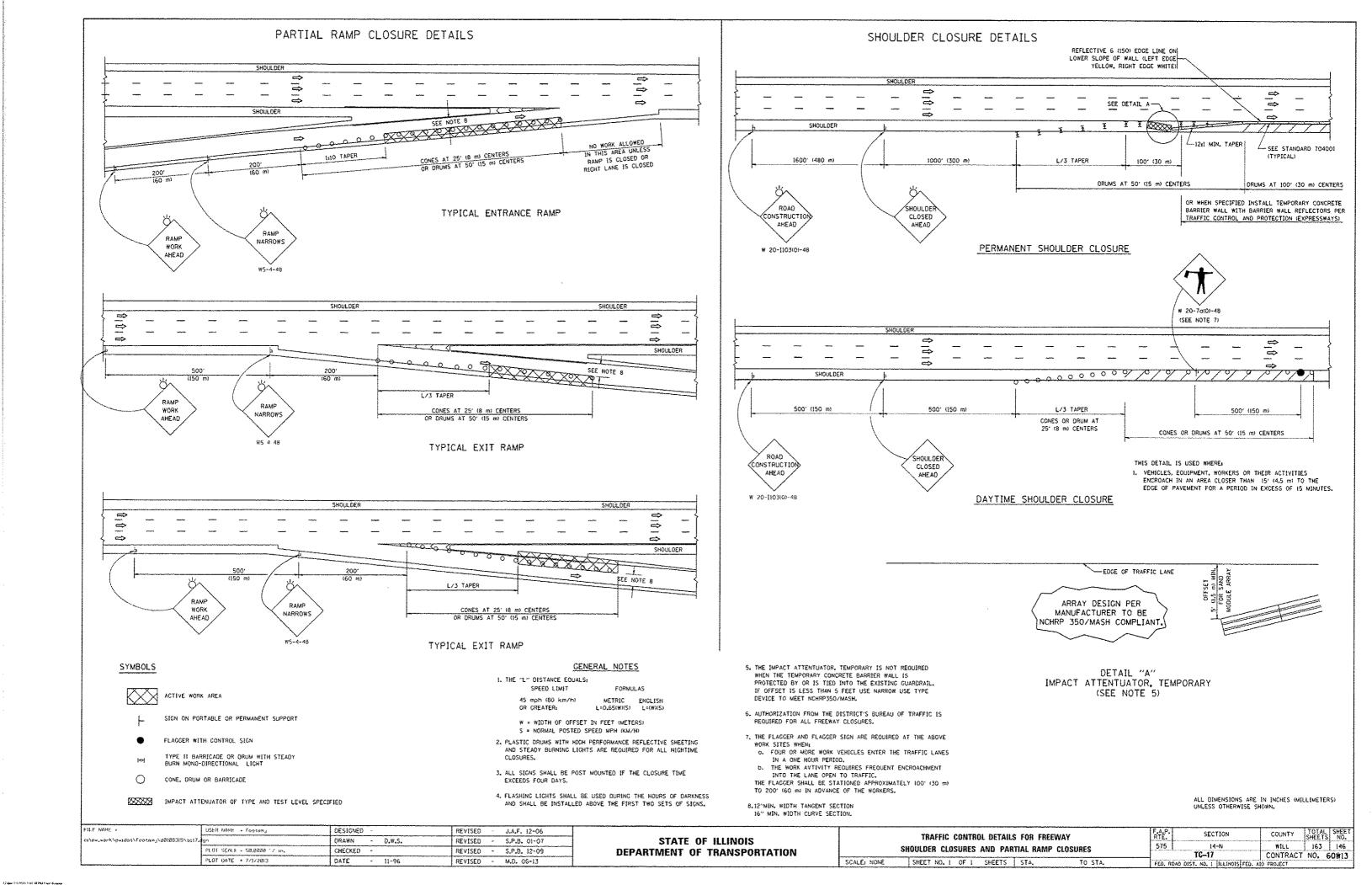
OUANTITY 4 (100) LINE = 45.5 ft. (13.9 m) 15.2 sq. ft. (1.39 sq. m)



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

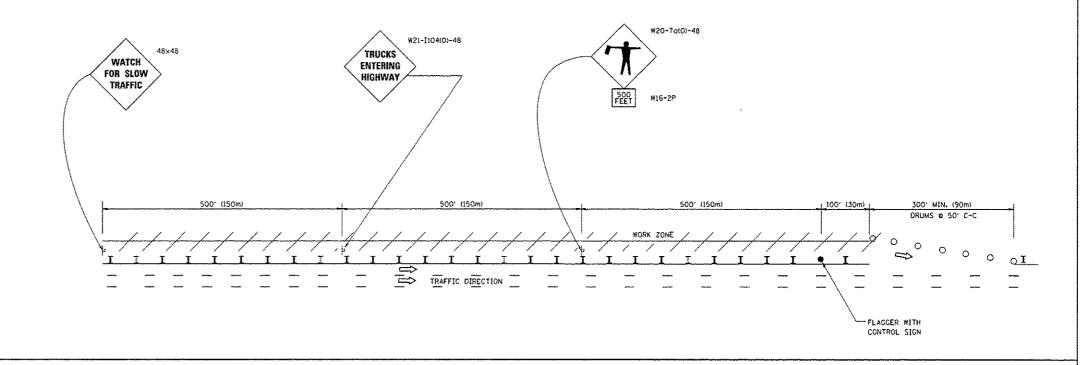
All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME		USER NAME > gaglianobt	DESIGNED -	REVISED -T. RAMMACHER 06-05-96		PAVEMENT MARKING LETTERS AND SYMBOLS	F.A.P. RTE.	SECTION	COUNTY	TOTAL	SHEET
Wildintesdl	\22x34\\c16.dgn		DRAWN -	REVISED -T, RAMMACHER 11-04-97	STATE OF ILLINOIS		575	I4-N	WILL	163	145
- 1		PLOT SCALE = 58.0000 // IN.	CHECKED -	REVISED -T. RAMMACHER 03-02-98	DEPARTMENT OF TRANSPORTATION	FOR TRAFFIC STAGING		TC-16	CONTRAC	CT NO.	50#13
		PLOT DATE - 1/4/2008	DATE 09-18-94	REVISED E. GOWEZ 08-28-00		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. ROA		FED. AID PROJECT		VIIEL-740'01

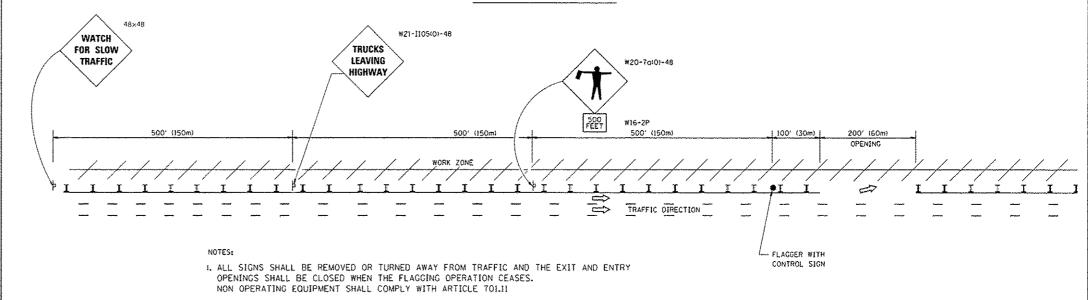


SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



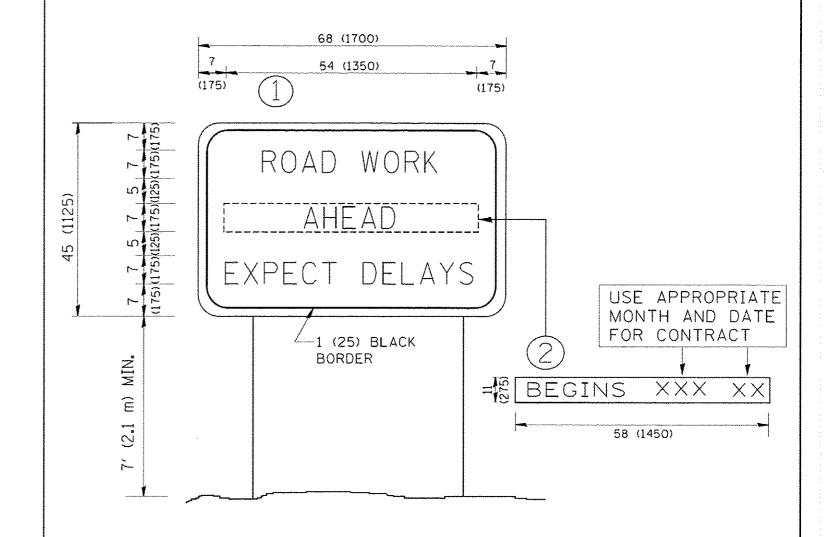
WORK ZONE ENTRY OPENING



- WORK ZONE OPENINGS SHALL BE A MINIMUM OF ONE HALF MILE APART AND A MINIMUM OF ONE QUARTER MILE FROM ALL ENTRANCE AND EXIT RAMPS.
- 3. EXITING THE WORK ZONE AT ANY PLACE OTHER THAN AT A WORK ZONE EXIT OPENING WILL BE PROHIBITED.
- 4. ALL VEHICLES SHALL ENTER THE WORK ZONE AT ENTRY OPENINGS, USING THEIR TURN SIGNALS TO WARN MOTORISTS
- 5. FLAGGERS SHALL NOT STOP TRAFFIC OR DIRECT TRAFFIC INTO AN ADJACENT LANE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

PHE NAME 4	USER NAME . Footons	DESIGNED	REVISED J.A.F. 02-06		EDEE	WAYEXPRESSWAY SIGNING FOR FLAGGING OPERATIONS	F	A.P. SECTION	COUNTY	TOTAL S	HEET
cs\p=.work\pwsdot\footamj\d8l883l3\tal8.d	ga	ORAWN -	REVISED - S.P.B. 01-07	STATE OF ILLINOIS			1	575 14-N	witt	163	147
1	PLOT SCALE - 50.800 ' / in.	CHECKED -	REVISED - S.P.B. 12-09	DEPARTMENT OF TRANSPORTATION	Aj	WORK ZONE OPENINGS ON FREEWAYS/EXPRESSWAYS		TC-18	CONTRACT	T NO. 60	₩13
	PLOT DATE • 7/8/2013	OATE -	REVISED - M.D. 06-13		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS STA. TO STA.	ī	FED. ROAD DIST. NO. 1 ILLINOIS FED.	. AID PROJECT	Address Verrienza Company	S.A.T.



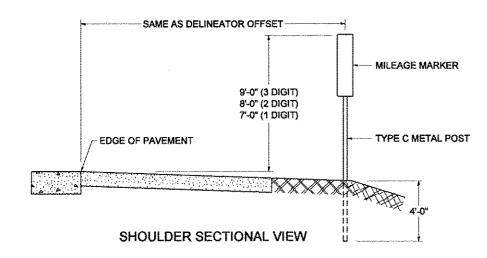
NOTES:

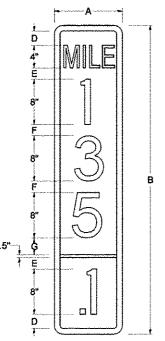
- 1. USE BLACK LETTERING ON ORANGE BACKGROUND.
- 2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
- 3. ERECT SIGN (1) WITH INSTALLED PANEL (2) ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
- 4. REMOVE PANEL (2) SOON AFTER THE START 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.

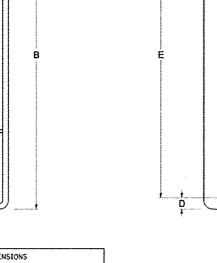
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FB.D NAME >	USER NAME - gaglionobi	DESIGNED	REVISED	- R. WIRS 09-15-97		ARTERIAL ROAD	F.A.P.	SECTION	COUNTY TOTAL SHEET NO.
V:\diatatd\22x34\tc22.dgn		DRAWN	REVISED	- R. MIRS 12-11-97	STATE OF ILLINOIS	∤	575	14-N	WILL 163 148
1	PLOT SCALE - 59.000 1/ IN.	CHECKED	REVISED	T. RAMMACHER 02-02-99	DEPARTMENT OF TRANSPORTATION	INFORMATION SIGN		TC-22	CONTRACT NO. 60W13
<u> </u>	PLO1 DATE - 1/4/2008	DATE	REVISED	C. JUCIUS 01-31-07		SCALES NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FEQ. ROAD	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	AID PROÆCT

STANDARD DESIGN FOR MILE POST







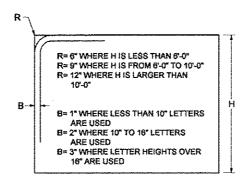
SIGN		DIMENSIONS											
SIZE	A	В	С	۵	E	F	Ç	DIGIT					
12 × 24	12.0	24.0	1.5	1,5	1,5	N/A	1.5	1					
12 × 35	12.0	36.0	1.5	2.0	2,0	2.0	1.5	2					
12 x 48	12.0	48.0	1.5	2.5	2.0	2.0	2.5	3					

			ρc	BLANK STO.			
SIGN SIZE			BORDER				
	1	2	3	4	5	1 16	270.
12 × 24	4C	8D	4¢	N/A	N/A	0,5	B9-1224
12 × 36	4C	8D	80	4¢	N/A	0.5	89-1236
12 × 48	48	8D	80	80	4C	0.5	B9-1248

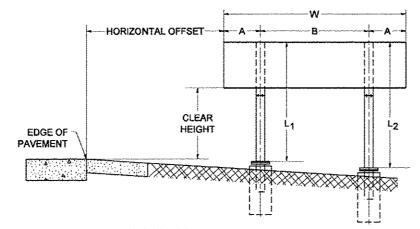
BLANK A B C D E F B9-1224 12.0 24.0 1.5 2.0 20.0 N/A B9-1236 12.0 36.0 1.5 2.0 32.0 12.0 B9-1248 12.0 48.0 1.5 2.0 44.0 12.0

0

BORDER AND RADIUS LAYOUT



MAJOR GUIDE SIGN LAYOUT



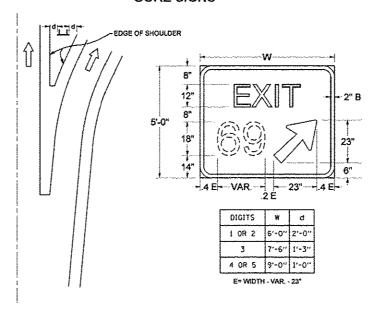
NUMBER OF STEEL SUPPORTS	Á	8		
2	.2 W	.6 ¥		
3	.15 W	.35 #		
4	.125 W	.25 🕷		
5	.; w	,2 ¥		

"L₁IS THE LENGTH OF SUPPORT, NOT INCLUDING THE STUB PROJECTION, CLOSEST TO THE EDGE OF THE PAVEMENT.

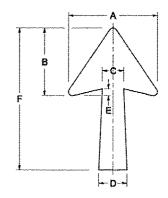
"A" IS THE DISTANCE FROM THE SIGN EDGE TO THE CENTERLINE OF THE NEAREST SUPPORT, "B" IS THE DISTANCE BETWEEN CENTERLINES OF SUPPORTS.

SCALE: NONE

GORE SIGNS

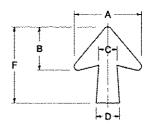


STANDARD ARROWS FOR INTERSTATE GUIDE SIGNS



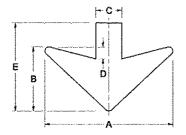
ARROW SYMBOL	A	В	¢	D	£	F	Ŕ
24 ¹ / ₄ × 15 ¹ / ₈	151/e	11%	3 7 /4	5	15%	241/4	13/
29 ¹ /4 × 18 ¹ /4	181/4	14	41/2	6	11/2	291/4	¥4
35% × 221/4	221/4	17	5%	71/8	174	35%	1
181/4 × 111/4	111/4	874	31/6	3%		181/4	

NOTE: D & FARE RECOMMENDED DIMENSIONS. TAPER SHOULD BE HELD CONSTANT FOR LONGER OR SHORTER SHAFT LENGTHS



ARROW SYMBOL	А	В	С	D	£	F	R
171/4 × 141/4	141/4	9 ¹ / ₄	3%	41/2	14	171/4	₹4
201/4 × 171/4	171/4	117/4	43%	5%	11/2	201/4	
25 × 21%	21%	141/4	5	674	174	25	1
9% × 8%	8%	51/16	23/6	211/4		9%	1/2

DOWN ARROWS



ARROW SYMBOL	A	8	С	D	Ε	Ř
16½ × 24	24	12	5	11/2	161/2	¥4
22 × 32	32	16	61/2	3	22	1

TO STA.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MILE POST MARKERS - GORE SIGNS
MAJOR GUIDE SIGN LAYOUT - ARROWS
SHEET NO. 1 OF 1 SHEETS | STA.

