# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION **DIVISION OF HIGHWAYS**

### LAKE 24 1 G-RS-4 CONTRACT NO. 60C32

## D-91-201-07

## FOR INDEX OF SHEETS, SEE SHEET NO. 2

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IMPROVEMENT LOCATED IN THE VILLAGE OF GRAYSLAKE

# PROPOSED HIGHWAY PLANS

F.A.P. ROUTE 342: ILL 120 (E BELVIDERE RD) W. OF US 45 TO ATKINSON RD. (E. OF ILL 83) **SECTION G-RS-4 RESURFACING (MAINTENANCE)** 

> LAKE COUNTY C-91-201-07



TRAFFIC DATA

2005 ADT = 19.800

POSTED SPEED = 35 MPH

R10E

LAKE VILLA AND AVON TOWNSHIPS

GROSS & NET LENGTH OF IMPROVEMENT = 5052 FEET (0.95 MILE)

IMPROVEMENT ENDS: STATION 84+47

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION Diam M. O'Kasha ak
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER Christine M. Redd & DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

LOCATION OF SECTION INDICATED THUS: -

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

**IMPROVEMENT BEGINS:** 

STATION 33+95

ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION 1-800-892-0123

PROJECT ENGINEER - FRITZ GUILLAUME PROJECT MANAGER - KEN ENG (847) 705-4247

CONTRACT NO. 60C32

## INDEX OF SHEETS

## LIST OF STATE STANDARDS

SHEET NO.	DESCRIPTION	STANDARD NO.	DESCRIPTION
1	COVER SHEET	280001-04	TEMPORARY EROSION CONTROL SYSTEMS
2	INDEX OF SHEETS, STANDARDS, AND GENERAL NOTES	442201- <i>03</i>	CLASS C AND D PATCHES
3-4	SUMMARY OF QUANTITIES	606001 <b>-03</b>	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
5	TYPICAL SECTIONS PLAN	701301- <i>02</i>	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
6-8	ROADWAY & PAVEMENT MARKINGS PLANS	701311- <i>02</i>	LANE CLOSURE 2L, 2W MOVING OPERATIONS-DAY ONLY
9	DETECTOR LOOP REPLACEMENT PLANS	701501 <b>-04</b>	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
10-13	PAVEMENT REPLACEMENT PLANS	701701 <b>-<i>05</i></b>	URBAN LANE CLOSURE, MULTILANE INTERSECTION
14	DETAIL OF STORM SEWER CONNECTION TO EXISTING SEWER	701901	TRAFFIC CONTROL DEVICES
15	DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING	70400 <b>1- 04</b>	TEMPORARY CONCRETE BARRIER
16	PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT		
17	BUTT JOINT AND HMA TAPER DETAILS		
18	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS,	AND DRIVEWAYS	
. 19	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-	-PLOW RESISTANT)	
20	DISTRICT ONE TYPICAL PAVEMENT MARKINGS		
21	TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN T	O TRAFFIC)	
22	PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING		
23	ARTERIAL ROAD INFORMATION SIGN		

## GENERAL NOTES

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

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES.

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

WHEN MILLED PAVEMENT IS OPEN TO TRAFFIC THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES OF THE MILLING MACHINE SHALL NOT EXCEED 1 1/2 INCHES (40 MM) WHERE THE SPEED LIMIT IS 45 MPH (45 KM/H) OR LESS AND 1 INCH WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH (45 KM/H). WITH WRITTEN APPROVAL FROM THE ENGINEER, A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES MAY BE ALLOWED IF THE EDGE OF THE MILLING IS SLOPED A MINIMUM 1:3 (V:H).

BUTT JOINTS WILL BE INSTALLED AT THE ENDS OF ALL RESURFACING (WHERE RESURFACING MEETS EXISTING PAVEMENT), IN ACCORDANCE WITH THE "BUTT JOINT AND HOT-MIX ASPHALT TAPER DETAILS" SHEET INCLUDED IN THE PLANS, UNLESS OTHERWISE SPECIFIED.

THE RESIDENT ENGINEER SHALL CONTACT MS DEBBIE HANLON AREA TRAFFIC FIELD ENGINEER AT (847) 438-2300 A MINIMUM OF 2 WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKING.

THE RESIDENT ENGINEER SHALL VERIFY ALL EXISTING PAVEMENT MARKINGS BEFORE MILLING

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS

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

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

ALL PAVEMENT PATCHING LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS

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

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	PLOT DATE = 4/17/2008	DATE -	REVISED -	

DISTRICT ONE DETECTOR LOOP INSTALLATION DETAILS FOR ROADWAY RESURFACING

F.A.P. RTE.	SECTION		COUNT	Υ	TOTAL SHEETS	SHEET NO.
342	G-RS-4		LAKE		24	3
FED.	ROAD DIST. NO. 1	ILL	INOIS	HIG	HWAY PRO	DJECT

CONTRACT \* 60C32

	SUMMARY OF QUANTITIES		URBAN 100% STATE		1	CONSTRUCT	TION TYPE	CODE	1		SUMMARY OF QUANTITIES		INBAN 1001.5TATE		Ι	CONSTRUCT	ION TYPE	CODE	Т
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	1000	1000	,	1.			CODE NO	ITEM	UNIT	TOTAL QUANTITIES	1000	1000				
0201006	GRADING AND SHAPING SHOULDERS	UNIT	101	101						50300300	PROTECTIVE COAT	SQ YD	40		40				
201200	REMOVAL AND DISPOSAL OF UNSUITABLE	CU YD	438		438					50800105	REINFORCEMENT BARS	POUND	110		110				
800150	TRENCH BACKFILL	CU YD	37		37					54248510	CONCRETE COLLAR	CU YD	1		1				
101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	60		60	:				55021600	STORM SEWERS, TYPE 2, REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CLASS III 12"	FOOT	6		6				
200110	SODDING, SALT TOLERANT	SO YD	60		60					55022200	STORM SEWERS. TYPE 2, REINFORCED	FOOT	26		26	·			
101400	SUB-BASE GRANULAR MATERIAL. TYPE B 6"	SQ YD	360		360						CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CLASS III 30"					4	1 .		
600200 600300	BITUMINOUS MATERIALS (PRIME COAT) AGGREGATE (PRIME COAT)	TON	20 100	20 100						60300310	FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)	EACH	7	7					
	MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS	TON	10	10						60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	180		180				
600895	CONSTRUCTING TEST STRIP	EACH	1	1						67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	2	2					
600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	33	33			3	. #*		67100100	MOBILIZATION	L SUM	1	. 1					
600985	PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT	SO YD	3	3				-		70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L.SUM	1	1					
601005	HOT-MIX ASPHALT REPLACEMENT OVER PATCHES	TON	360	360					-	70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	1					
0603310	HOT-MIX ASPHALT SURFACE COURSE,	TON	4		4					70300100	SHORT-TERM PAVEMENT MARKING	FOOT	14480	14240	240				
	MIX "C". N50			,						70300210	TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS	SO FT	- 568. 2	508. 2	60				
0603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	2040	2040						70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	30100	26100	4000		-		
0701921	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH). 12"	SO YD	310		310	4				70300240	TEMPORARY PAVEMENT MARKING	FOOT	2940	2540	400				
4000100	PAVEMENT REMOVAL	SO YD	310	•	310		-			70300260	TEMPORARY PAVEMENT MARKING	FOOT	2800	2500	300				
4000158	HOT-MIX ASPHALT SURFACE REMOVAL, 2	SO YD	24190	24190						70300280	- LINE 12" TEMPORARY PAVEMENT MARKING	FOOT	150	150					
4000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	180		180	:					- LINE 24"								
4002236	HOT-MIX ASPHALT REMOVAL OVER PATCHES, 9"	SO YD	700	700						70400100 X 78000100	TEMPORARY CONCRETE BARRIER THERMOPLASTIC PAVEMENT MARKING	FOOT SO FT	388 508. 2	508. 2	388				
201753	CLASS D PATCHES, TYPE II, 9 INCH	SQ YD	300	300						10000100	- LETTERS AND SYMBOLS		300.2	300.2					
1201757	CLASS D PATCHES, TYPE III. 9 INCH	SQ YD	25	25						¥ 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	26100	26100					
4201759	CLASS D PATCHES, TYPE IV, 9 INCH	SO YD	375	375						<del>X</del> 78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	2540	2540					
8102100	AGGREGATE WEDGE SHOULDER. TYPE B	TON	912	912			est,			¥ 78000600	THERMOPLASTIC PAVEMENT MARKING	FOOT	2500	2500					
						l					- LINE 12"	*							

\* SPECIALTY ITEMS

ILLINOIS DEPARTMENT OF TRANSPORTATION SUMMARY OF QUANTITIES

REVISIONS

DATE

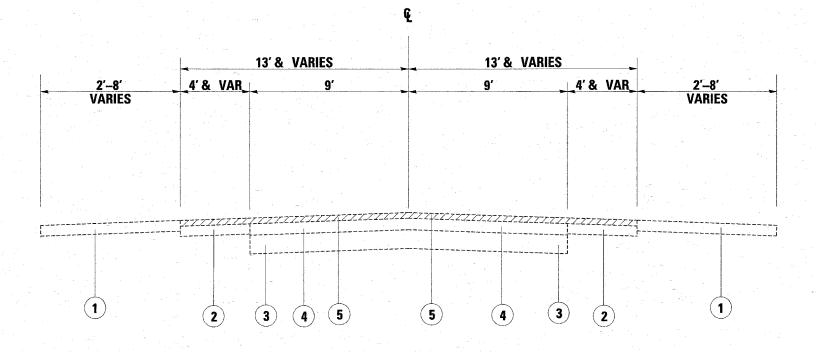
CONTRACT # 60C32

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	SUMMARY OF QUANTITIES		URBAN 1001.STATE		I	CONSTRUCT	TION TYPE	CODE		SUMMAR	Y OF QUAN	TITIES					CONSTRUCT	ION TYPE CO	ODE	T
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	1000	1000				CODE NO		ITEM		UNIT	TOTAL QUANTITIES	1000					
78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	150	150											-					
78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	250	250														İ		
78,300100	PAVEMENT MARKING REMOVAL	SQ FT	300		300													İ		
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	237	237			-													
88600600	DETECTOR LOOP REPLACEMENT	FOOT	817	817										:						
X0326118	LIGHTWEIGHT AGGREGATE	CH YO	405		405													i - 1		
X0322256	TEMPORARY INFORMATION SIGNING	SO FT	102.8	102.8											:			i		
X0324626	PORTLAND CEMENT CONCRETE SURFACE REMOVAL 2 1/4"	SQ YD	160	160									**			٠			٠	
X4067107	POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50	TON	1020	1020							*									
Z0030240	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2		2						9	y <del>v</del>								
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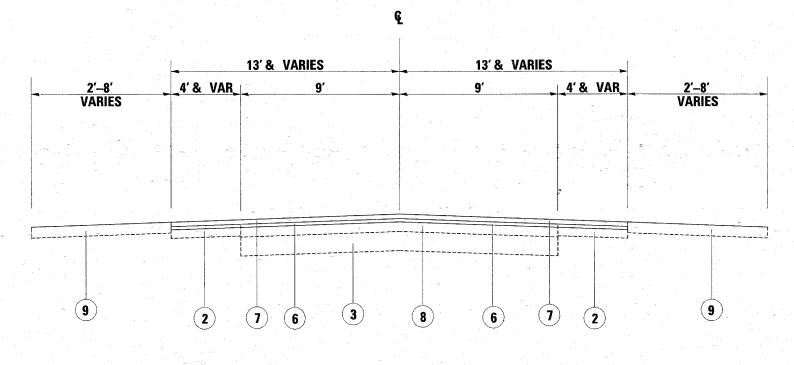
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REVISIONS

ILLINOIS DEPARTMENT OF TRANSPORTATION SUMMARY OF QUANTITIES



# EXISTING TYPICAL SECTION IL ROUTE 120



PROPOSED TYPICAL SECTION
IL ROUTE 120

## LEGEND

- 1 EXISTING AGGREGATE SHOULDER
- (2) EXISTING HOT-MIX ASPHALT BASE COURSE WIDENING ( $\pm$  9")
- 3 EXISTING PCC PAVEMENT (9"-7"-9")
- 4 EXISTING HOT-MIX ASPHALT SURFACE (± 8 3/4")
- 5 PROP. HOT-MIX ASPHALT SURFACE REMOVAL 2 1/4"
- 6 PROP. POLY. LEVELING BINDER (MACHINE METHOD) IL-4.75, N50, 3/4"
- PROP. HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70, 1 1/2"
- 8 EXISTING HOT-MIX ASPHALT SURFACE OVERLAY
- 9 PROP. AGGREGATE WEDGE SHOULDERS, TYPE B

## HOT-MIX ASPHALT MIXTURE REQUIREMENTS

gov. h	MIXTURE TYPE	AC TYPE	AIR VOIDS
RESURFACING	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N7O (IL 9.5 mm)	PG 64-22	4% @ 70 GYR
RESURF ACING	POLYMERIZED LEVELING BINDER, (MM), IL-4.75, N50	SBS/SBR PG 76-28/-22	4% @ 50 GYR
DATCHEC	CLASS D PATCHES, (HMA BINDER IL-19 mm)	PG 64-22*	4% <b>@</b> 70 GYR
PATCHES	HOT-MIX ASPHALT REPLACEMENT OVER PATCHES, (HMA BINDER IL-19 mm)	PG 64-22*	4% @ 70 GYR

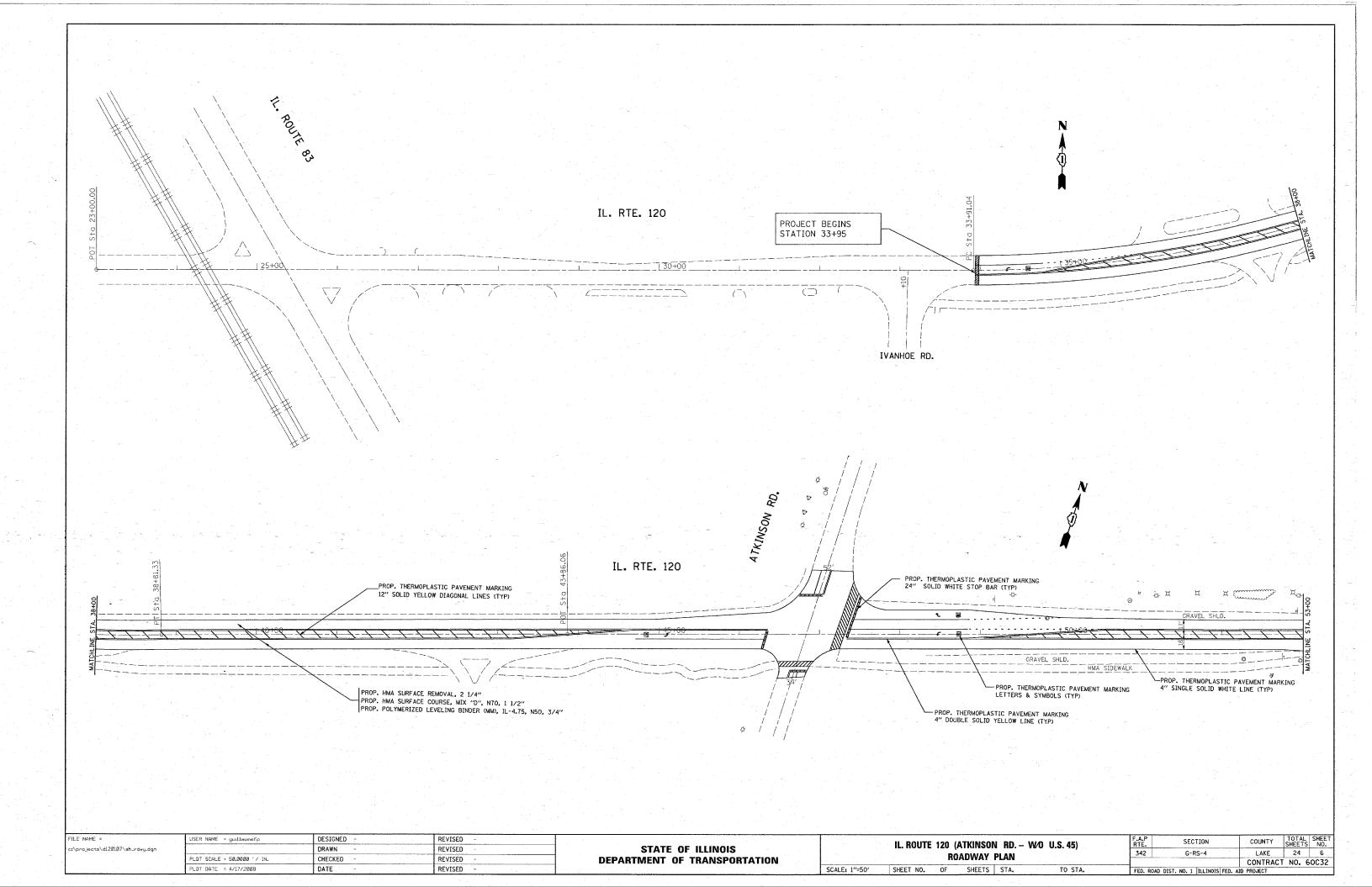
THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT SURFACE MIXTURE QUANTITIES IS 112 LBS/SQYD/IN.

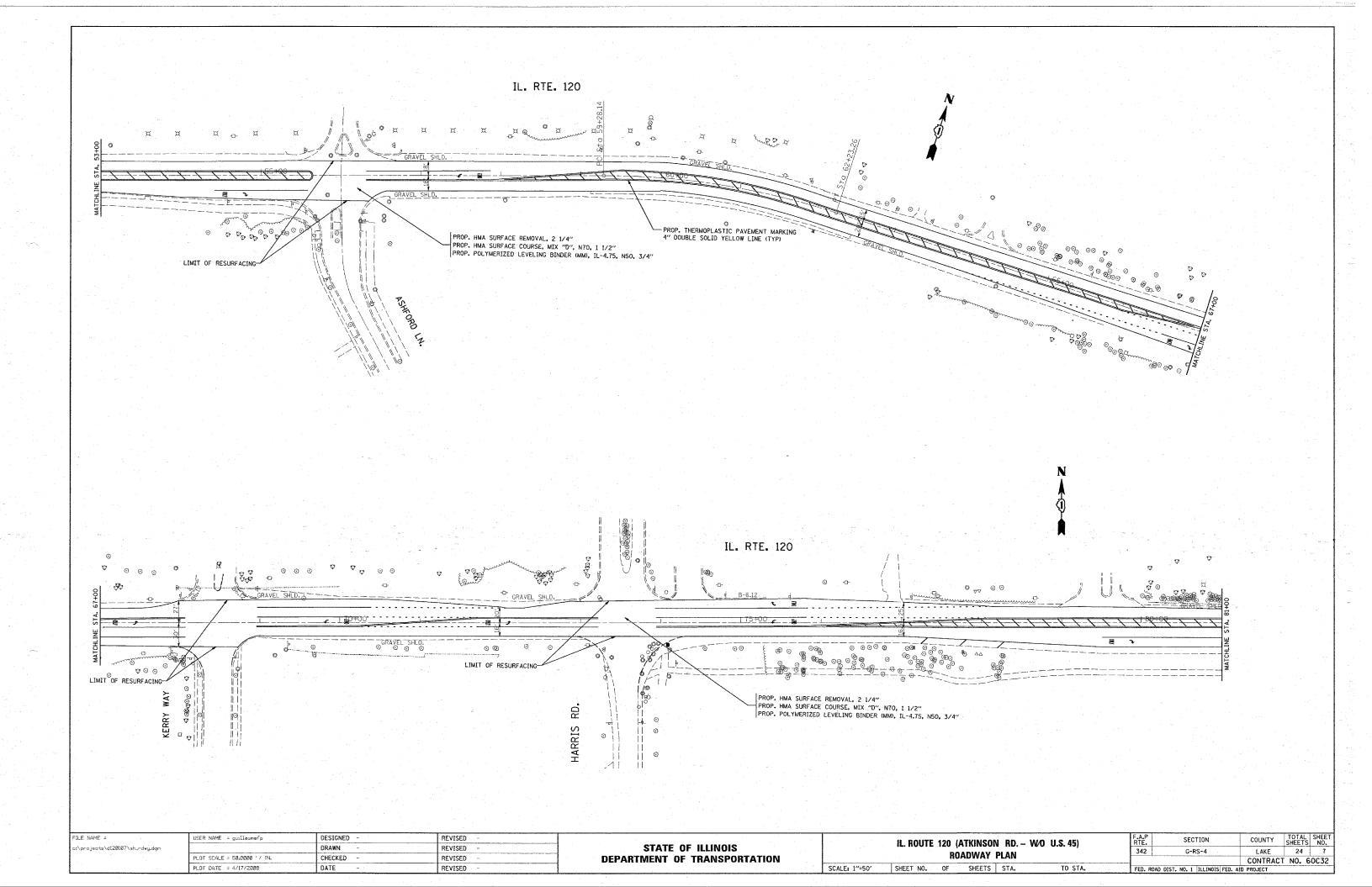
\*WHEN RAP EXCEEDS 20%, THE NEW ASPHALT BINDER IN THE MIX SHALL BE PG 58-22

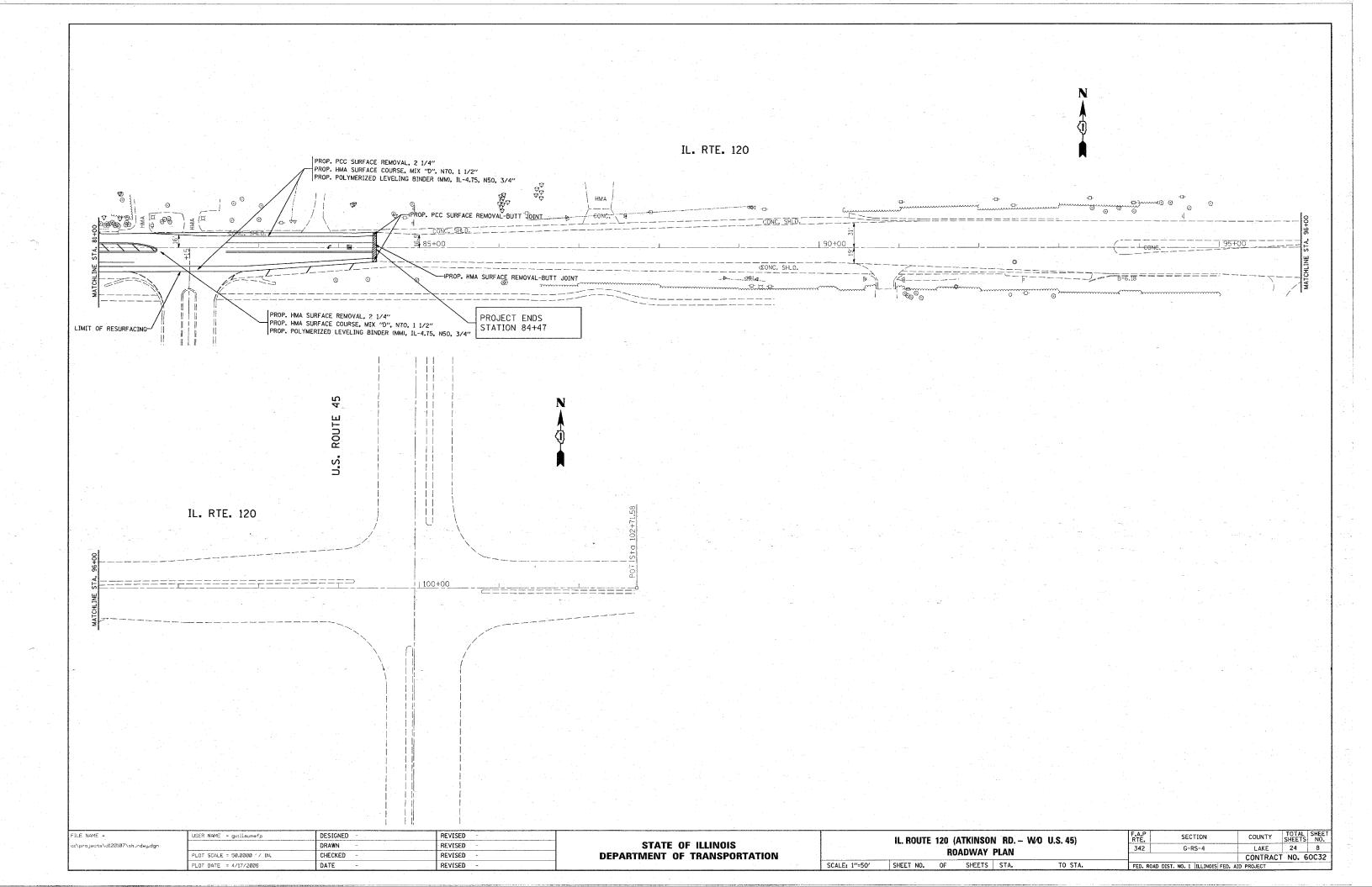
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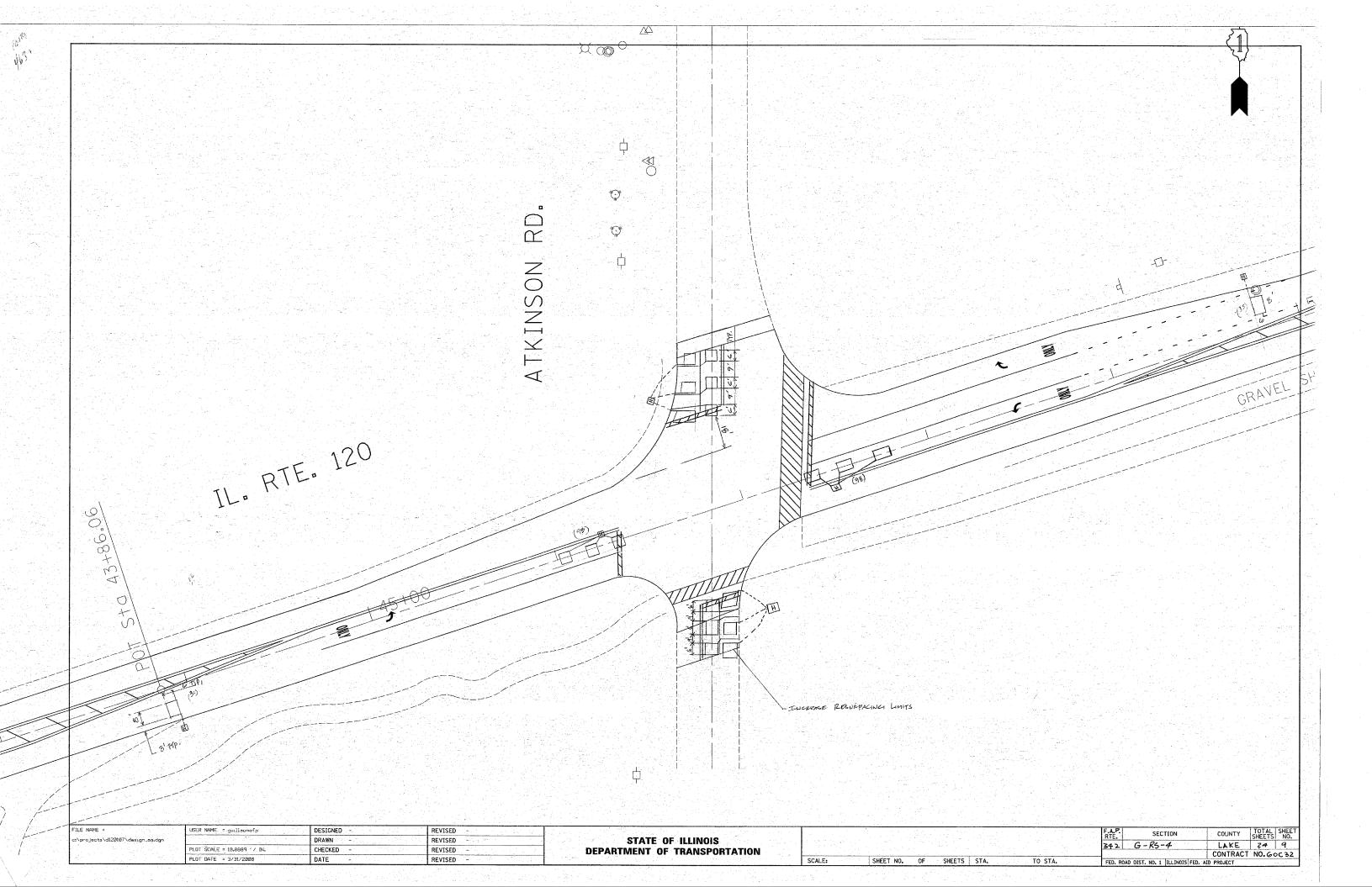
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DEPARTMENT	OF '	TRANSPORTATION	

	IL. ROUTE 120 (ATKINSON RD W/O U.S. 45)	F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TYPICAL SECTIONS	342	G-RS-4	LAKE	24	5
				CONTRACT	NO. 6	SOC32
ALE:	SHEET NO. OF SHEETS STA. TO STA.	FED. R	OAD DIST. NO. 1 ILLINOIS FED. A	ID PROJECT		





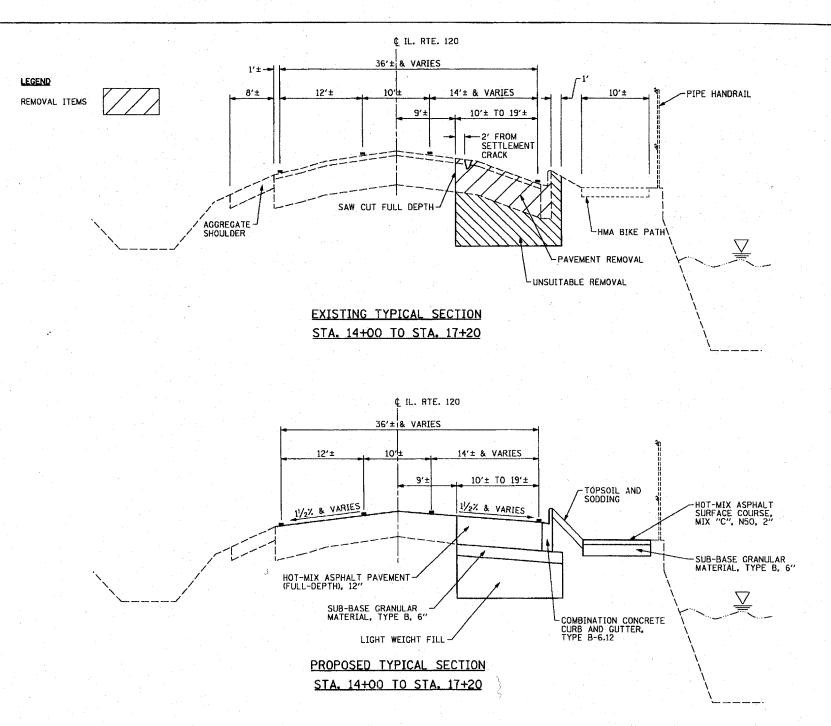




	PAVEMENT REPLACEMENT - BILL OF MATERIALS		
CODE NO	ITEM	UNIT	TOTAL QUANTITIE
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU. YD.	43
20800150	TRENCH BACKFILL	CU. YD.	3
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ. YD.	61
25200110	SODDING, SALT TOLERANT	SQ. YD.	60
31101400	SUB-BASE GRANULAR MATERIAL, TYPE B, 6"	SQ. YD.	360
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	*.
40701921	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 12"	SQ. YD.	310
44000100	PAVEMENT REMOVAL	SQ. YD.	. 310
44000500	COMBINATION CURB AND GUTTER REMOVAL	F00T	180
50300300	PROTECTIVE COAT	SO. YD.	4
50800105	REINFORCEMENT BARS	POUND	11
54248510	CONCRETE COLLAR	CU. YD.	
55021600	STORM SEWERS, TYPE 2, REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CLASS III. 12"	FOOT	
55022200	STORM SEWERS, TYPE 2, REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CLASS III, 30"	FOOT	2
60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	18
70300100	SHORT-TERM PAVEMENT MARKING	F00T	24
70300210	TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ. FT.	6
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	4,00
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	40
70300260	TEMPORARY PAVEMENT MARKING - LINE 12"	FOOT	30
70400100	TEMPORARY CONCRETE BARRIER	FOOT	38
78300100	PAVEMENT MARKING REMOVAL	SQ. FT.	30
MX404030	LIGHT WEIGHT FILL	CU. YD.	40
Z0030240	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 2	EACH	

## PAVEMENT REPLACEMENT GENERAL NOTES

- 1. LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE FROM BEST AVAILABLE RECORD INFORMATION AND MUST BE FIELD VERIFIED BY THE CONTRACTOR.
- 2. DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.
- 3. SAW CUTTING PRIOR TO ANY REMOVAL ITEMS NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER SHALL BE CONSIDERED INCLUDED IN THE COST OF THE ITEMS BEING REMOVED.
- 4. THE CONTRACTOR SHALL USE CARE IN GRADING OR EXCAVATING NEAR ANY AND ALL EXISTING ITEMS WHICH WILL NOT BE REMOVED. ANY DAMAGE DONE TO EXISTING ITEMS BY THE CONTRACTOR SHALL BE REPAIRED BY HIM AT HIS OWN
- 5. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH THE VILLAGE OF GRAYSLAKE.
- 6. ALL PAVEMENT MARKINGS REMOVED DURING CONSTRUCTION SHALL BE REPLACED.



MIXTURE TYPE	AC TYPE	AIR VOIDS
MIATURE TIPE	70 111 2	- AMI 10103
FULL-DEPTH PAVEMENT		
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50 (IL 9.5 mm); $1^{1}\!/_{2}$ "	PG 64-22	4% <b>e</b> 50 GYR.
HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50; 21/2"	PG 64-22*	4% <b>e</b> 50 GYR.
HOT-MIX ASPHALT BASE COURSE (HMA BINDER IL-19 mm); 8"	PG 64-22*	4% @ 50 GYR.
HOT-MIX ASPHALT BIKEWAY		
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50 (IL 9.5 mm); 2"	PG 64-22*	4% € 50 GYR.

THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS / SO. YD. / IN.

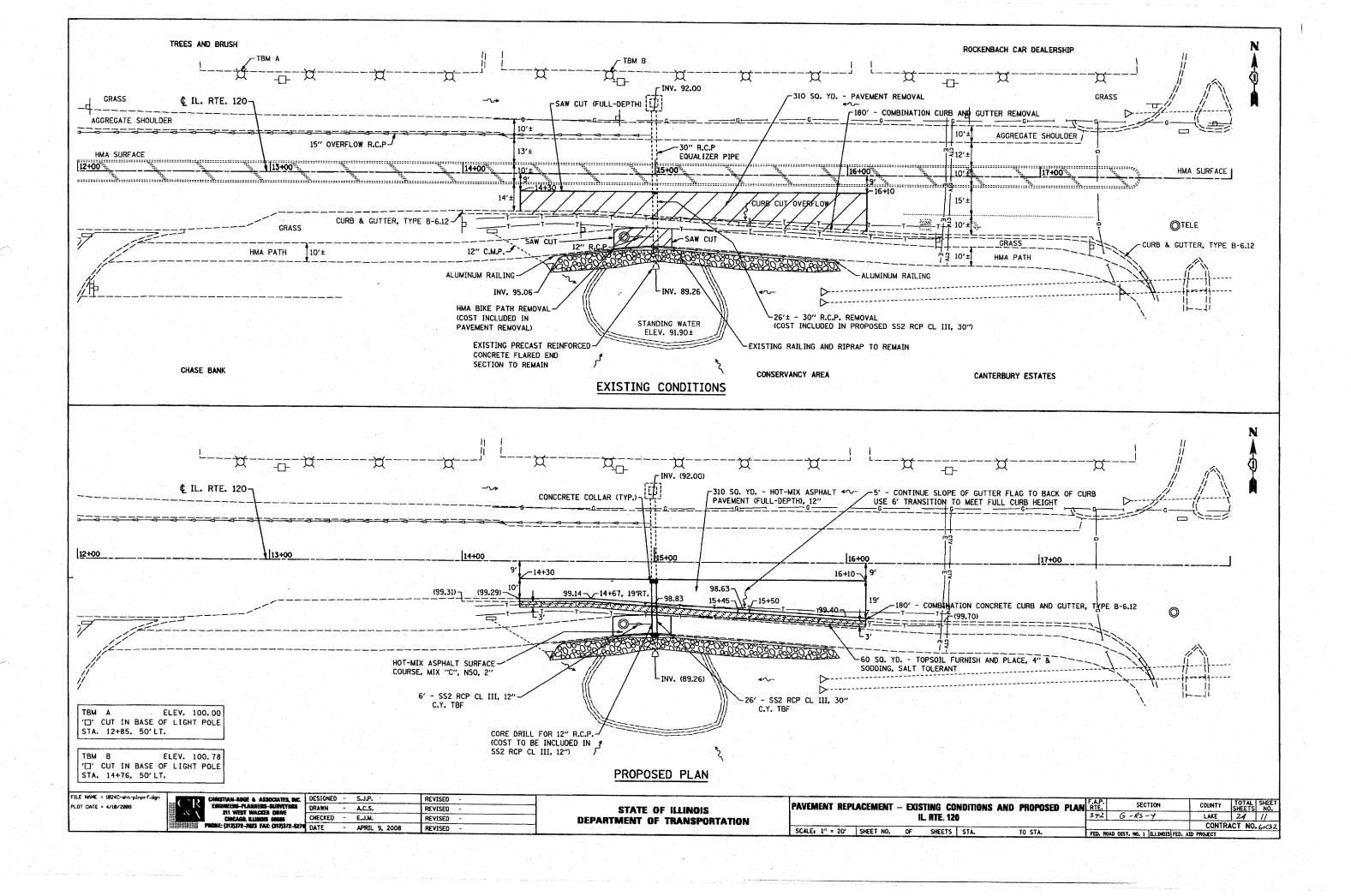
\* WHEN RAP EXCEEDS 20%, THE NEW ASPHALT BINDER IN THE MIX SHALL BE PG 58-22.

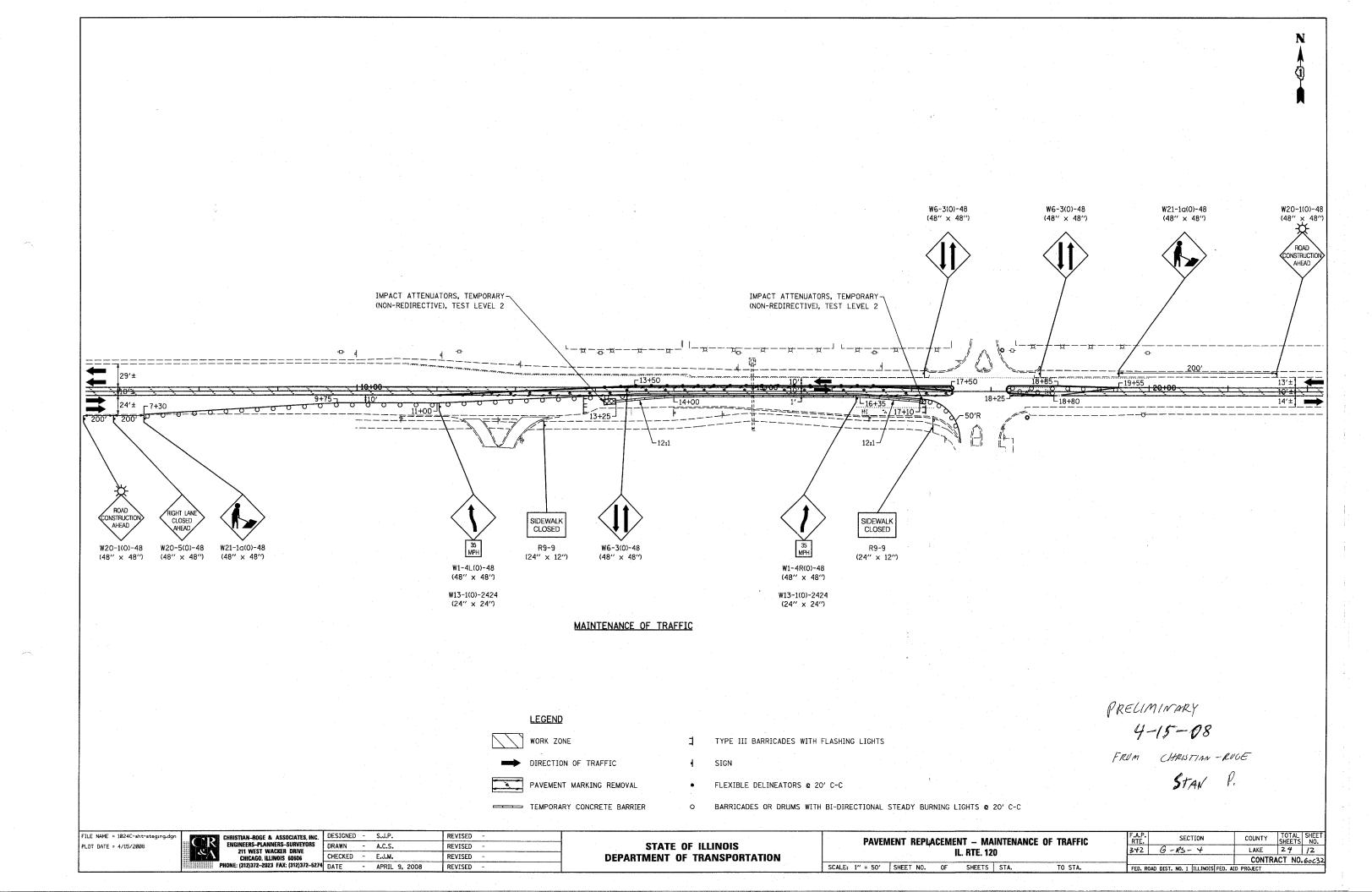
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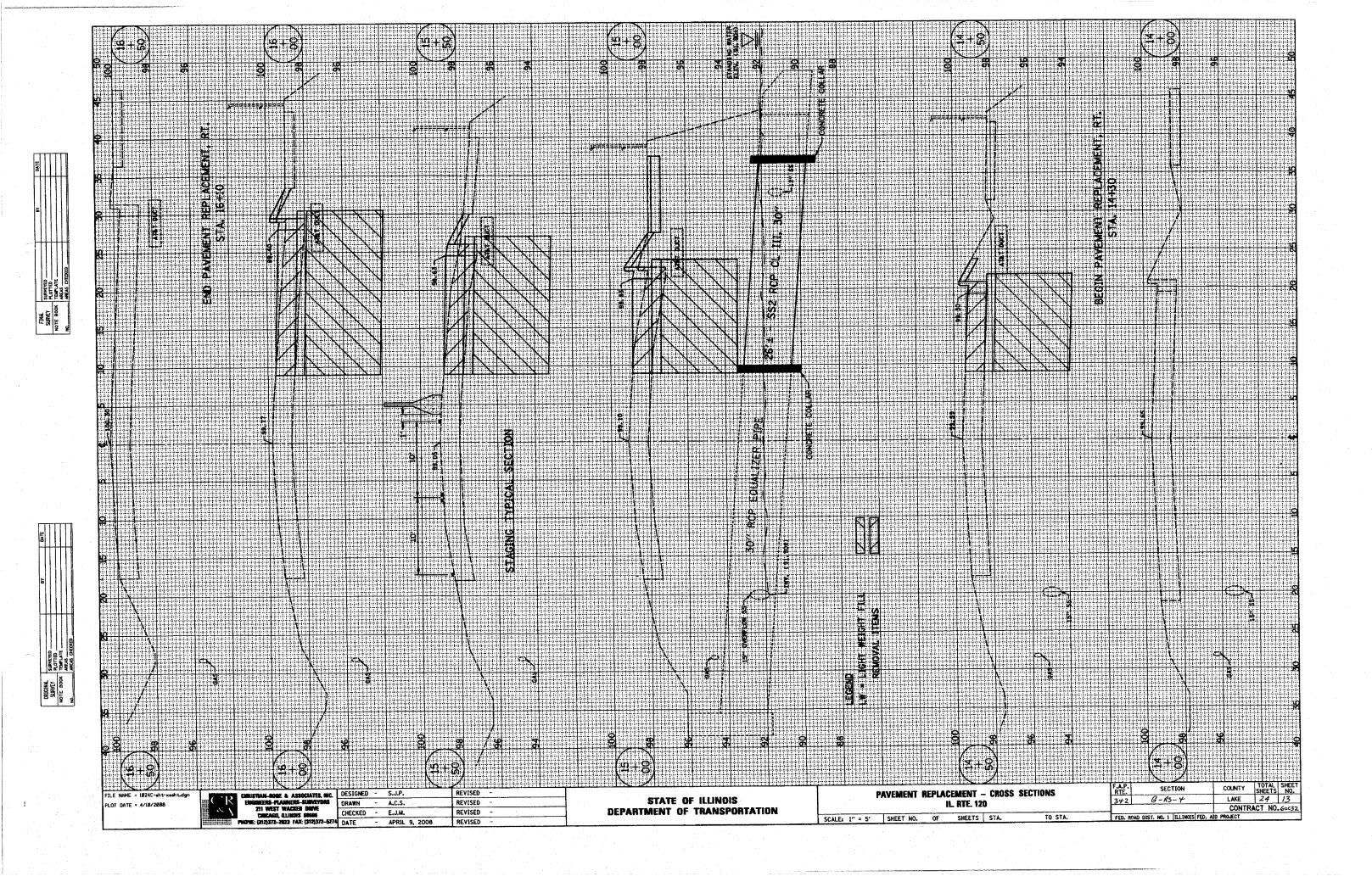
CHRISTIAN-ROGE & ASSOCIATES INC.
EMINIMENS-PLANMENS-SURVEYURS
211 WEST WACKER DRIVE
CHRISTOS BESSES
CHECKED - E.J.M.
PRONNE (172)372-3223 FAX: (212)372-5274
DATE - APRIL REVISED -REVISED -REVISED -- APRIL 9, 2008 REVISED -

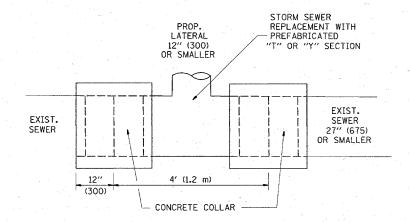
ĺ	1	PAVEN	IENT	REPL	ACE	MENT	- GENERA	AL NO	TES, TYPICA	L SECT	ΠON
1					A	ND DE	TAILS IL.	RTE. 1	20		
5	CALE:	NONE		SHEET	NO.	OF	SHEETS	STA.	. T	O STA.	

	F.A.P. RTE.	SECTION	COUNTY	TOTAL	SHEET NO.			
1	342	G-RS-4	LAKE	24	10			
_		CONTRACT NO.60032						
	FFD. R	DAD DIST, NO. 1 III INDISTEED.	AID PROJECT					



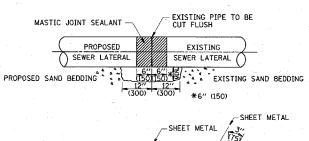


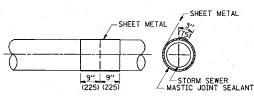


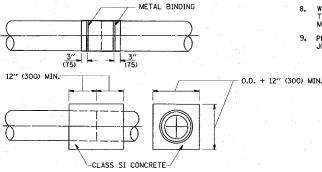


## DETAIL "A"

LATERAL CONNECTION TO EXISTING SEWER
OF 27" (675) OR SMALLER





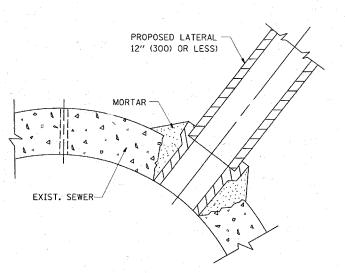


DETAIL "B"

CLASS SI CONCRETE COLLAR

#### CONSTRUCTION SEQUENCE

- 1. 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  $6^{\prime\prime}$  (150) OF EACH PIPE.
- 3. 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.
- AT 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
- 8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OOZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
- 9. PLACE CLASS SI CONCRETE AROUND THE



DETAIL "C"

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

- I. THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD 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 DETAIL "A" AND "B".
  - 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 UNOBSTRUCTED 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.

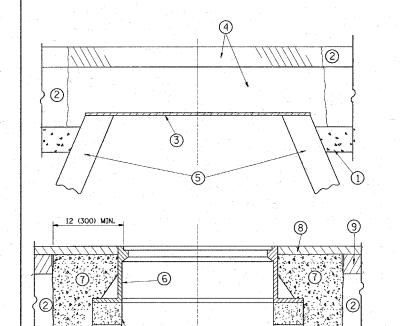
SCALE: NONE

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 = guillaumefp	DESIGNED - M. DE YONG	REVISED - M. DE YONG 05-08-92
W:\diststd\22x34\bdØ7.dgn		DRAWN -	REVISED - R. SHAH 09-09-94
	PLOT SCALE = 50.000 '/ IN.	CHECKED -	REVISED - R. SHAH 10-25-94
	PLOT DATE = 4/17/2008	DATE - 07-25-90	REVISED - R. SHAH 06-12-96

DETAIL OF STORM SEWER		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEET SHEETS NO.
CONNECTION TO EXISTING SEWER		342	G-RS-4	Lake	24 14
			BD500-01 (BD-7)	CONTRACT	NO.60C32
SHEET NO. 1 OF 1 SHEETS STA.	TO STA.	FED. ROA	AD DIST. NO. 1   ILLINOIS FED. AL	PROJECT	



PROPOSED

PROPOSED SAND FILL

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

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

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

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

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

SCALE: NONE

BRICK, MORTAR, OR CONC. ADJUSTING RINGS

## D) BACKFILL WITH CRUSHED STONE AND A MINIMUM 11/2 (40) THICK HMA SURFACE MIX APPROVED BY THE ENGINEER.

STAGE 2 (AFTER PAVEMENT MILLING)

STAGE 1 (BEFORE PAVEMENT MILLING)

A) REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.

CONSTRUCTION PROCEDURES

A) REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE. B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE. C) COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.

- B) INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
- C) THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS SI CONCRETE, OR HMA SURFACE COURSE OR HMA BINDER COURSE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE,

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS.

#### LEGEND

SUB-BASE GRANULAR MATERIAL

PROPOSED SAND FILL

- 2 EXISTING PAVEMENT
- 3 36 (900) DIAMETER METAL PLATE
- PROPOSED CRUSHED STONE AND HMA SURFACE MIX
- 5 EXISTING STRUCTURE

- (6) FRAME AND LID (SEE NOTES)
- CLASS SI CONCRETE, HMA SURFACE COURSE OR HMA BINDER COURSE
- 8 PROPOSED HMA SURFACE COURSE
- 9 PROPOSED HMA BINDER COURSE

## LOCATION OF STRUCTURES:

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

BASIS OF PAYMENT: THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR "FRAMES AND LIDS TO BE ADJUSTED, SPECIAL"

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

## DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

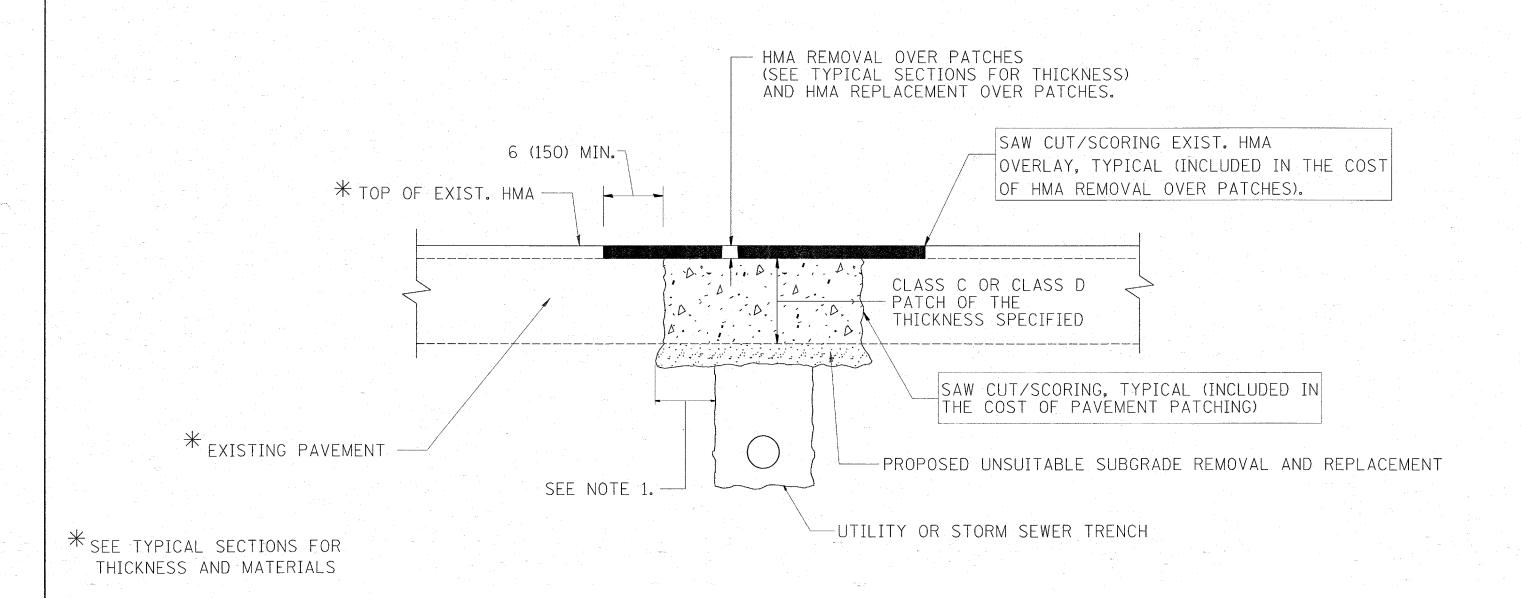
DESIGNED - R. SHAH REVISED - R. SHAH 03-10-95 FILE NAME = USER NAME = guillaumefp REVISED - A. ABBAS 03-21-97 wildistatd\22x34\bdØ8.dgn DRAWN CHECKED REVISED PLOT DATE = 4/2/2008 DATE 10-25-94 REVISED - R. BORO 01-01-07

STATE OF ILLINOIS

**DETAILS FOR** FRAMES AND LIDS ADJUSTMENT WITH MILLING SHEET NO. 1 OF 1 SHEETS STA.

TOTAL SHEET SHEETS NO. COUNTY G-R5-4 LAKE 24 15 BD600-03 (BD-8) CONTRACT NO. 60C32

**DEPARTMENT OF TRANSPORTATION** 



## NOTES:

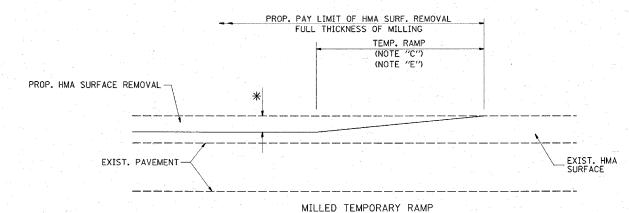
- 1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 12 (300) WIDER ON EACH SIDE OF THE TRENCH.
- 2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

## SEQUENCE OF CONSTRUCTION

- 1. REMOVE THE EXISTING HMA MATERIAL OVER THE AREA TO BE PATCHED.
- 2. REMOVE AND REPLACE FULL DEPTH PATCHES
- 3. REPLACE HMA MATERIAL OVER THE AREA TO BE PATCHED.

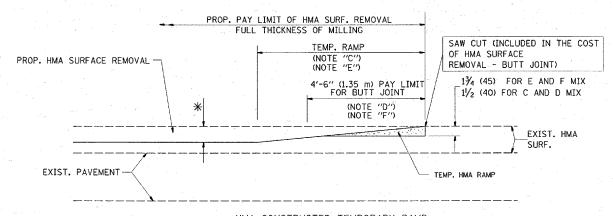
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

DESIGNED - R. SHAH ILE NAME = REVISED - A. ABBAS 01-20-98 **PAVEMENT PATCHING FOR** STATE OF ILLINOIS DRAWN REVISED - A. ABBAS 04-27-98 r\diststd\22x34\bd22.dar G-RS-4 LAKE 24 16 CONTRACT NO. 60 C32 HMA SURFACED PAVEMENT PLOT SCALE = 50.000 '/ IN. CHECKED - R. BORO 01-01-07 **DEPARTMENT OF TRANSPORTATION** BD400-04 (BD-22) 10-25-94 SHEET NO. 1 OF 1 SHEETS STA. PLOT DATE = 4/2/2008 REVISED - R. BORO 09-04-07 SCALE: NONE TO STA.



(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

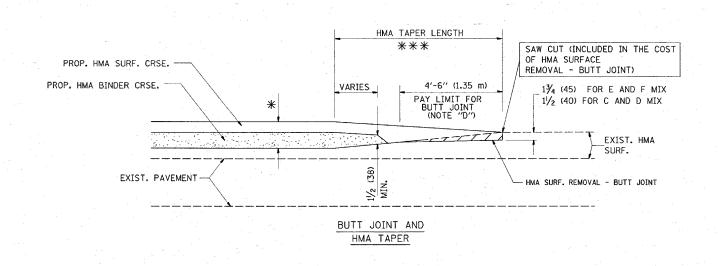
## OPTION 1



HMA CONSTRUCTED TEMPORARY RAMP (FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

## OPTION 2

## TYPICAL TEMPORARY RAMP

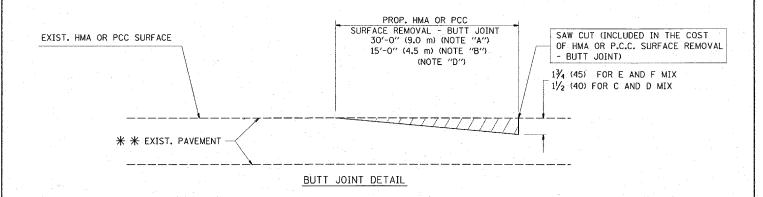


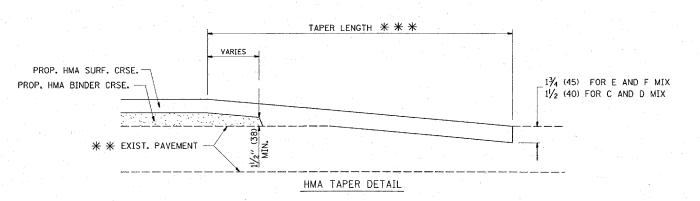
## TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING

FILE NAME = USER NAME = guillaumafp DESIGNED -M. DE YONG REVISED R. SHAH 10-25-94 :\diststd\22x34\bd32.dgn REVISED - A. ABBAS 03-21-97 CHECKED REVISED M. GOMEZ 04-06-01 PLOT SCALE = 50.0000 '/ IN. DATE 06-13-90 REVISED R. BORO 01-01-07

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

TOTAL SHEE SHEETS NO. SECTION COUNTY **BUTT JOINT AND** LAKE 24 17 G-RS-4 342 HMA TAPER DETAILS CONTRACT NO. 60032 BD400-05 BD32 SHEET NO. 1 OF 1 SHEETS STA. TO STA.





## TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

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

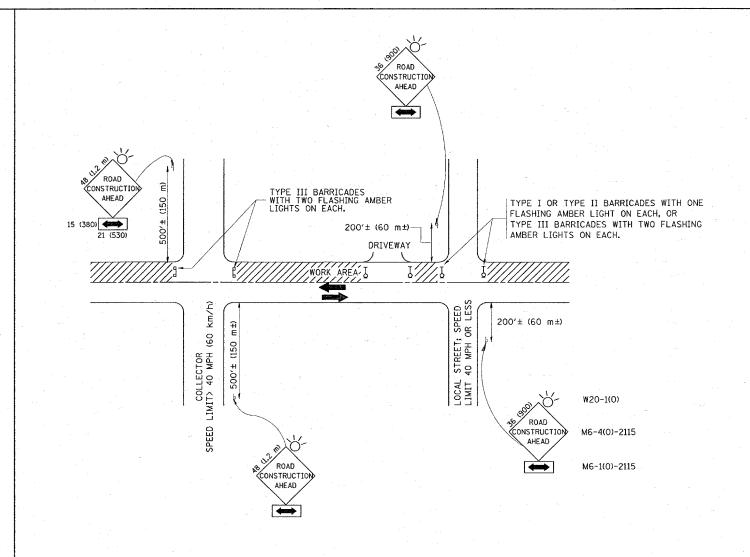
- A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
- B: MINOR SIDE ROADS.
- C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
- D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
- E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
- F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT
- G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".
- \* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- \* \* \* \* 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A") 10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

## BASIS OF PAYMENT:

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

SCALE: NONE

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



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:
- 0) ONE ROAD CONSTRUCTION AHEAD SIGN 36  $\times$  36 (900 $\times$ 900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
- b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
- 2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
- g) ONE ROAD CONSTRUCTION AHEAD SIGN 48  $\times$  48 (1.2 m  $\times$  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 DRIVEWAY:
- USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
- C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
- D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

FILE NAME = USER NAME = guilloumefp DESIGNED - LHA REVISED - J. OBERLE 10-18-95
Wildistatd\22x34\tol0.dgn

PLOT SCALE = 50.000 / IN.

CHECKED - REVISED - A. HOUSEH 03-06-96
PLOT DATE = 4/2/2008

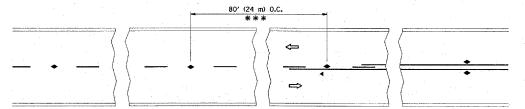
DATE - 06-89

REVISED - T. RAMMACHER 01-06-00

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

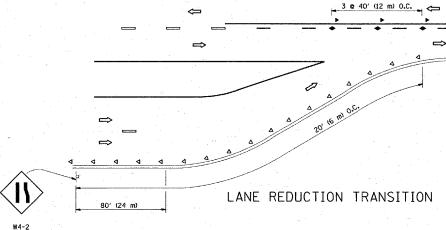
TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

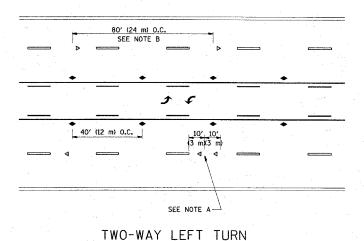
SHEET NO. 1 OF 1 SHEETS STA. TO



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

## TWO-LANE/TWO-WAY





80' (24 m) O.C.

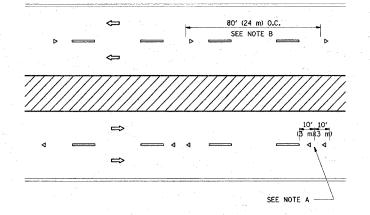
SEE NOTE B

40' (12 m) O.C.

G m)(3 m)

SEE NOTE A

MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

## GENERAL NOTES

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

#### LANE MARKER NOTES

- 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.
- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

## SYMBOLS

---- YELLOW STRIPE

WHITE STRIPE

◆ ONE-WAY AMBER MARKER

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

## DESIGN NOTES

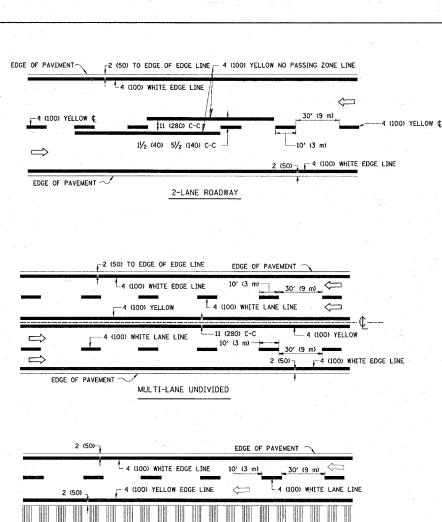
- 1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
- 2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES
- 3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
- MARKERS SHOULD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

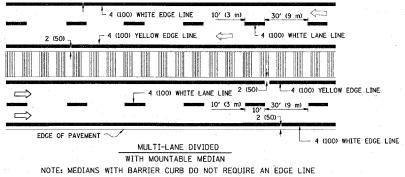
## 

LEFT TURN

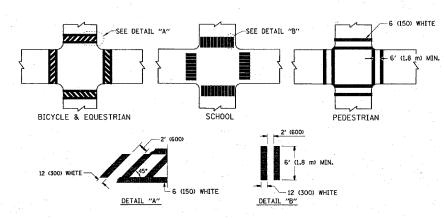
All dimensions are in inches (millimeters) unless otherwise shown.

DESIGNED FILE NAME = USER NAME = guillaumefp REVISED - T. RAMMACHER 09-19-94 TYPICAL APPLICATIONS STATE OF ILLINOIS W:\diststd\22x34\tcl1.dgn DRAWN REVISED -T. RAMMACHER 03-12-99 LAKE 24 19
CONTRACT NO.60C32 342 RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT) PLOT SCALE = 50.000 '/ IN. CHECKED REVISED **DEPARTMENT OF TRANSPORTATION** TC-11 PLOT DATE = 4/2/2008 DATE REVISED SHEET NO. 1 OF 1 SHEETS STA.

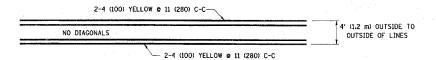




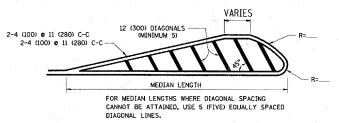
## TYPICAL LANE AND EDGE LINE MARKING



## TYPICAL CROSSWALK MARKING

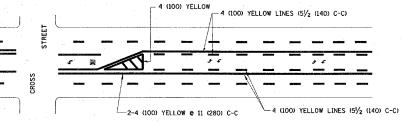


#### 4' (1.2 m) WIDE MEDIANS ONLY

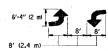


DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h))
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

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

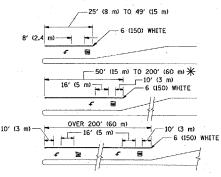


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

## TYPICAL PAINTED MEDIAN MARKING

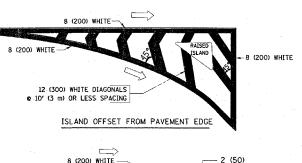


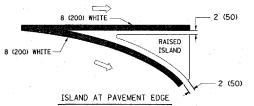
FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.  $\P$  AREA = 15.6 SO. FT. (1.5 m² ) [][][] AREA = 20.8 SQ. FT. (1.9 m²)

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

TYPICAL LEFT (OR RIGHT) TURN LANE

## TYPICAL TURN LANE MARKING





## TYPICAL ISLAND MARKING

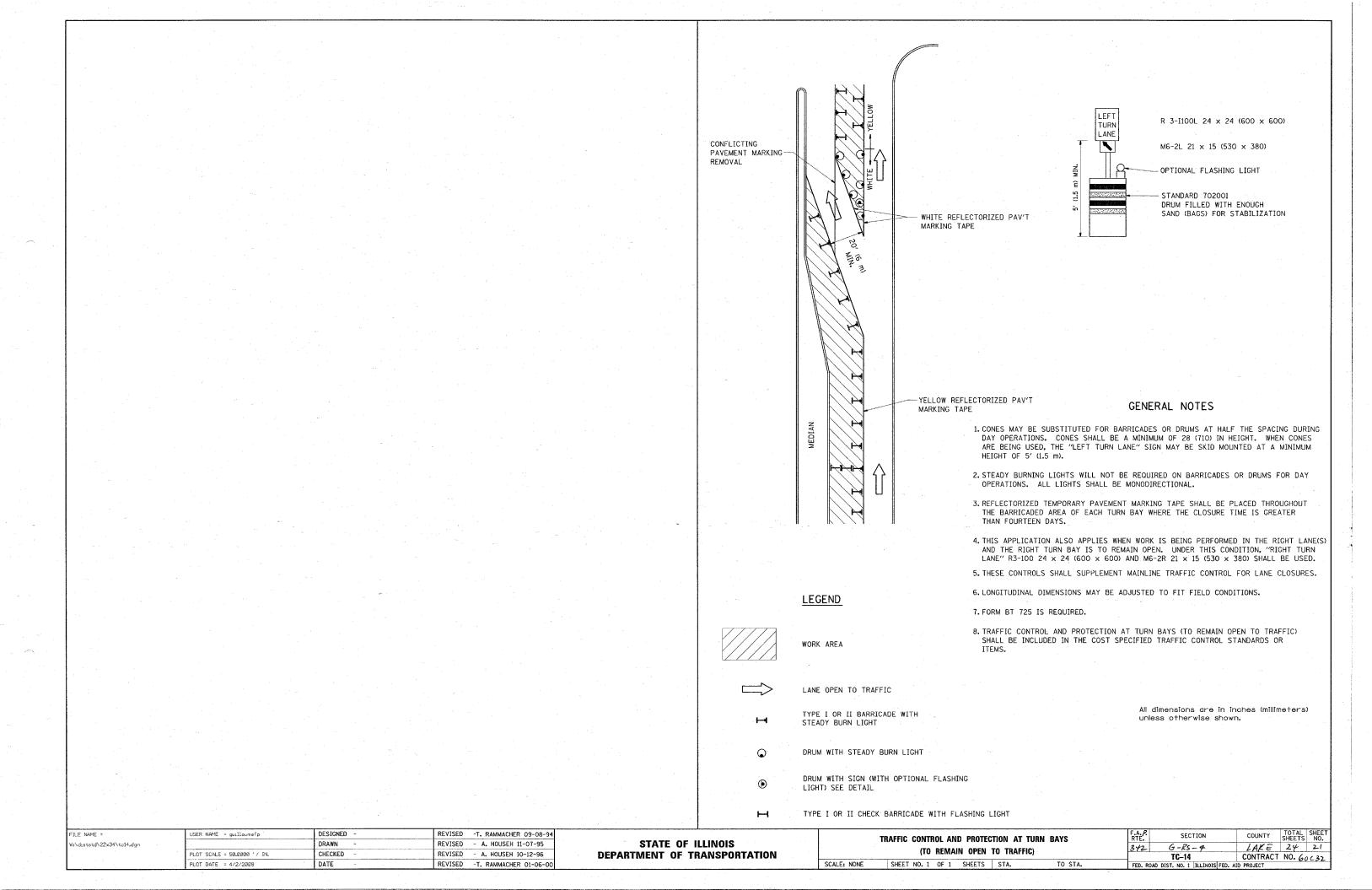
TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVEDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5½ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 & 4 (100) EACH DIRECTION	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
en en en en en en en en en en en en en e	8' (2.4m) LEFT ARROW	IN PAIRS	WHITE	SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (500) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 & 4 (100) WITH 12 (300) DIAGONALS & 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS & 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA 0F: "R"=3.6 SQ. FT. (0.33 m²) EACH "X"=54.0 SQ. FT. (5.0 m²)
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (0VER 45MPH (70 km/h))

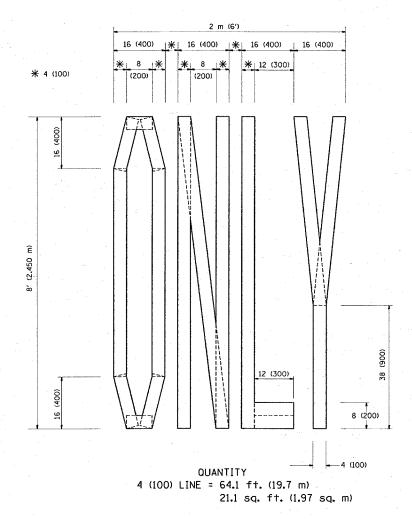
FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

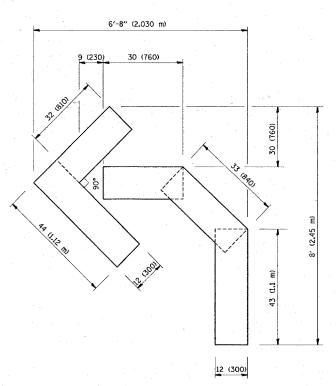
All dimensions are in inches (millimeters) unless otherwise shown.

ILE NAME = guillaumefp DESIGNED -	EVERS	REVISED -T. RAMMACHER 10-27-94
:\distatd\22x34\tol3.dgn DRAWN -	•	REVISED -A. HOUSEH 10-09-96
PLOT SCALE = 50.000 '/ IN. CHECKED -		REVISED -A. HOUSEH 10-17-96
PLOT DATE = 4/2/2008 DATE -	03-19-90	REVISED -T. RAMMACHER 01-06-0

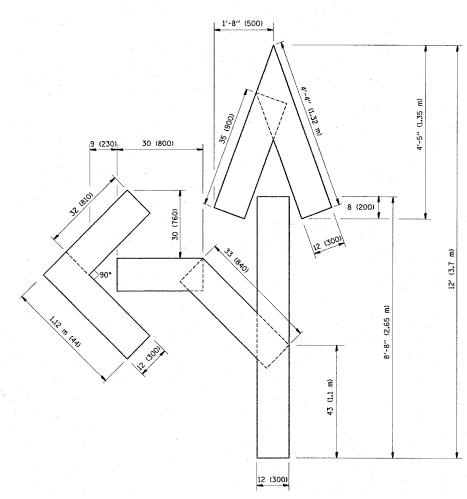
		DISTRICT OF	IE		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	TYPICAL	PAVEMENT	MARKINGS		342	G-KS-4	LAKE	24	20
···						TC-13	CONTRACT	NO.60	C32
SCALE: NONE	SHEET NO. 1 OF	1 SHEETS	STA.	TO STA.	FED. RO	DAD DIST. NO. 1   ILLINOIS FED. A	D PROJECT		







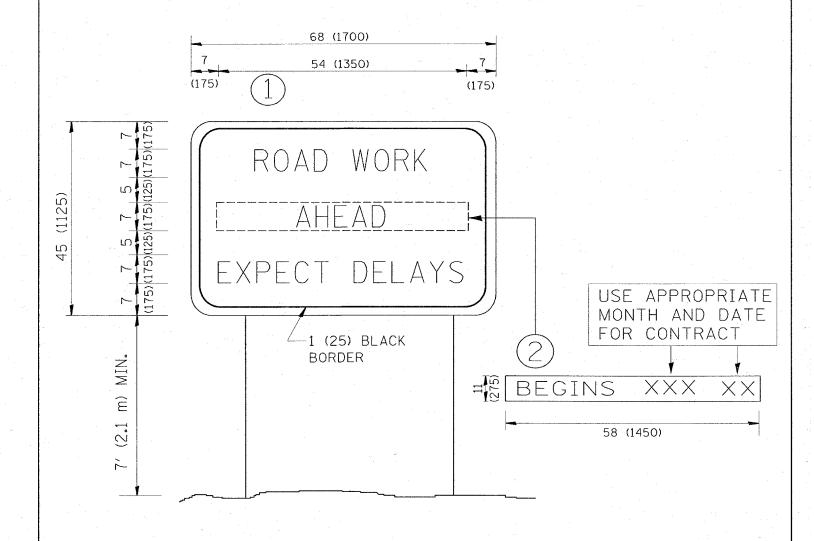
QUANTITY 4 (100) LINE = 45.5 ft. (13.9 m) 15.2 sq. ft. (1.39 sq. m)



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.

1		PAVEMENT MARKING LETTERS AND SYMBOLS	F.A. R RTE.	SECTION	COUNTY	TOTAL	SHEET NO.
ı		FOR TRAFFIC STAGING	342	G - RS - 4	LAKE	24	22
I				TC-16	CONTRACT	NO. 60	C32
l	SCALE: NONE	SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. ROAD (	DIST. NO. 1 ILLINOIS FED. AI	D PROJECT		



## NOTES:

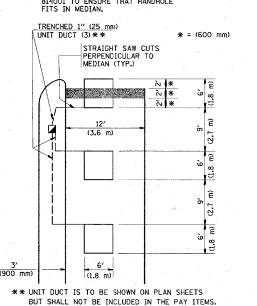
- 1. USE BLACK LETTERING ON ORANGE BACKGROUND.
- 2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
- 3. ERECT SIGN (1) WITH INSTALLED PANEL (2) ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
- 4. REMOVE PANEL (2) SOON AFTER THE START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

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

FILE NAME =	USER NAME = guillaumefp	DESIGNED -	REVISED - R. MIRS 09-15-97			ARTERIAL ROAD		F.A. P. SECTION	COUNTY SHEET
Wa\diststd\22x34\to22,dgn		DRAWN -	REVISED - R. MIRS 12-11-97	STATE OF ILLINOIS			•	342 G-RS-4	144E 24 23
	PLOT SCALE = 50.000 '/ IN.	CHECKED -	REVISED -T. RAMMACHER: 02-02-99	DEPARTMENT OF TRANSPORTATION	*	INFORMATION SIGN	*	TC-22	CONTRACT NO. 60032
	PLOT DATE = 4/2/2008	DATE -	REVISED - C. JUCIUS 01-31-07		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS STA	. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED.	AID PROJECT

# LOOPS NEXT TO SHOULDERS LOOPS NEXT TO SHOULDERS LOOPS NEXT TO SHOULDERS LOOPS NEXT TO SHOULDERS CPROTECTED / PERMITTED LEFT TURN PHASING:

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

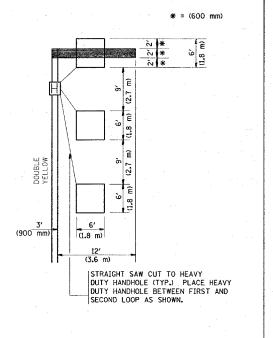


NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO

PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

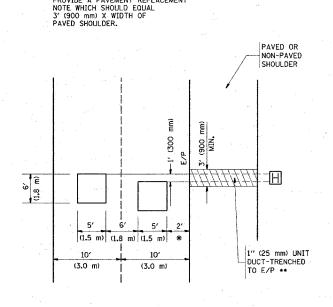
LEFT TURN LANES WITHOUT MEDIANS
VOLUME DENSITY ("FAR OUT" DETECTION)
ON SAME APPROACH

(PROTECTED / PERMITTED LEFT TURN PHASING)



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

SCALE: NONE



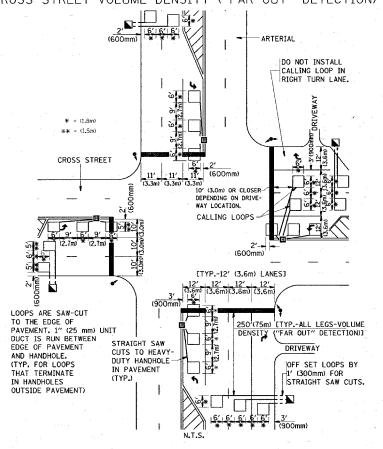
PROVIDE A PAVEMENT REPLACEMENT

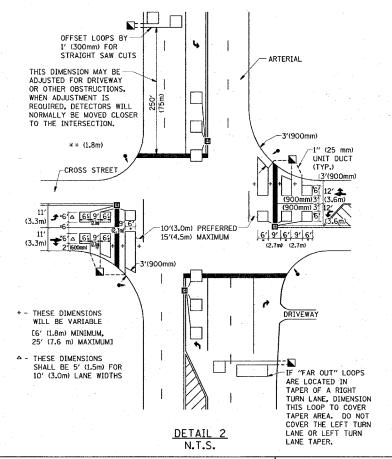
\*\* UNIT DUCT IS TO BE SHOWN ON PLAN SHEETS
BUT SHALL NOT BE INCLUDED IN THE PAY ITEMS.

\* = (600 mm)

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

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





#### NOTES:

#### VEHICLES LOOP DETECTORS

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

## PLACEMENT OF DETECTORS

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

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

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

#### NOTE:

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

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

DETAIL 1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1 - DETECTOR LOOP INSTALLATION
DETAILS FOR ROADWAY RESURFACING

SHEET NO. 1 OF 1 SHEETS STA. TO STA.