

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

* 42 + 2 = 44 TOTAL SHEETS

P.A.P. SHEET NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	2018-111-RS&SW	LAKE	42	2
		ALPHEUS	CONTRACT NO. 62H36	

019

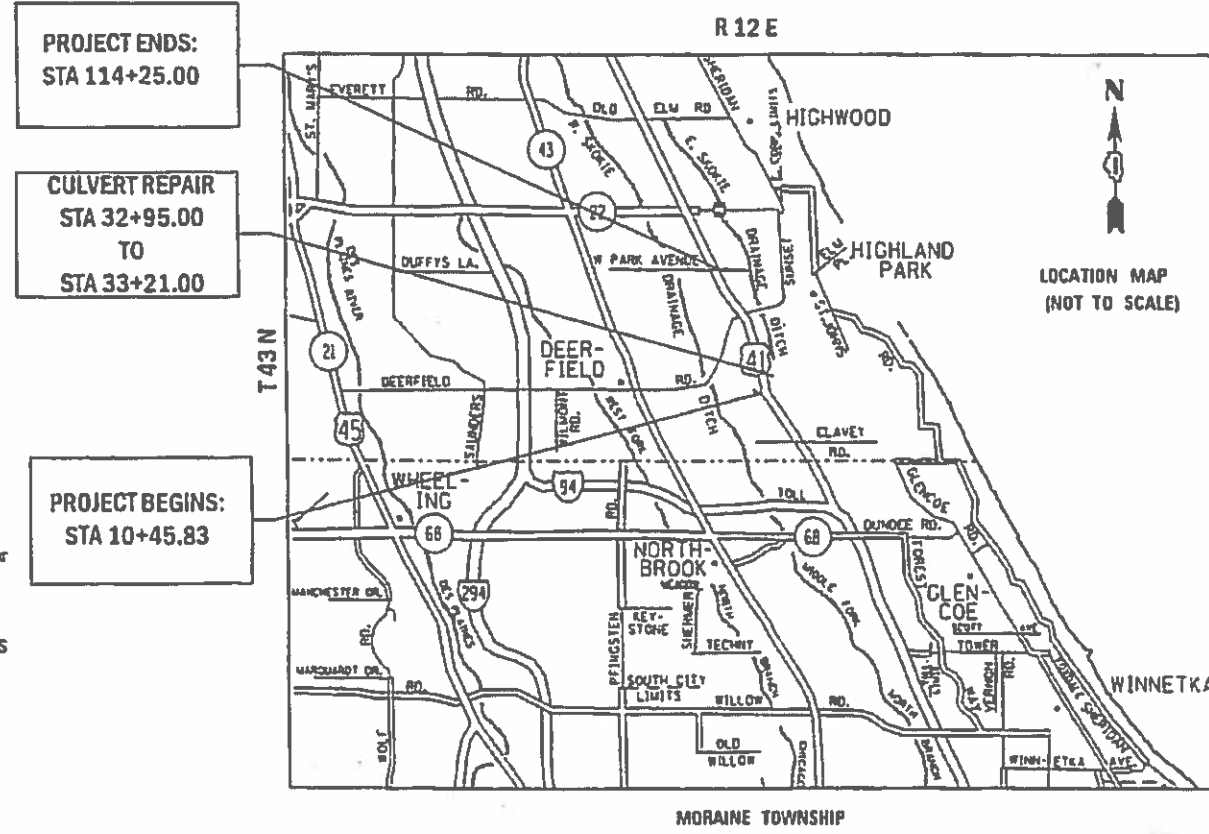
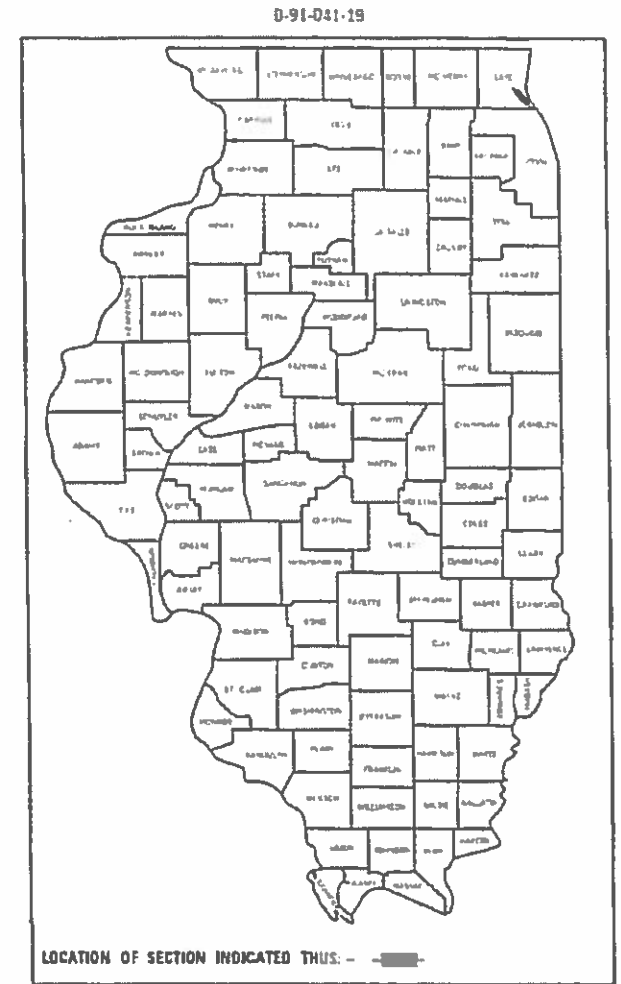
FOR INDEX OF SHEETS, SEE SHEET NO.

THE IMPROVEMENT IS LOCATED IN THE CITY OF HIGHLAND PARK

TRAFFIC DATA:

2017 ADT = 56,000
SPEED LIMIT = 55 MPH

FAP 346 (US 41)
WEST PARK AVENUE TO CHANTILLY BOULEVARD
SECTION: 2018-111-RS&SW
PROJECT: NHPP-4BU1(444)
RESURFACING (3P), PEDESTRIAN RAMPS (ADA),
CULVERT REPAIR
LAKE COUNTY
C-91-240-19



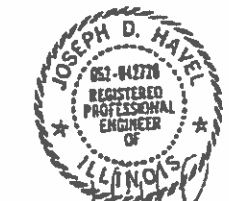
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

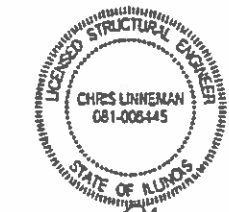
PROJECT ENGINEER: KARI SMITH, P.E. (847)705-4437
PROJECT MANAGER: FAWAD AQUEEL, P.E. (847) 705-4247

CONTRACT NO. 62H36

GROSS LENGTH = NET LENGTH = 10.379 FT. = 1.966 MILE



Signed: [Signature]
Date: 02/04/2019
License Expires: 11/30/2019
The seal shown above is valid for Sheets 18-21.



Signed: [Signature]
Date: 02/04/2019
License Expires: 11/30/2020
The seal shown above is valid for Sheets 24-26.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED February 5, 2019
[Signature]
REGIONAL ENGINEER

March 22, 2019
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

March 22, 2019
[Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

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16-17	DETECTOR LOOP REPLACEMENT PLAN
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19	CULVERT REPAIR: REMOVAL AND PROPOSED ROADWAY PLAN
20	CULVERT REPAIR TRAFFIC CONTROL, GENERAL NOTES AND TYPICAL SECTION
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23	CULVERT REPAIR: PAVEMENT MARKING PLAN
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41	TC-22: ARTERIAL ROAD INFORMATION SIGN
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HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-07	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
424001-11	PERPENDICULAR CURB RAMPS FOR SIDEWALKS
424006-04	DIAGONAL CURB RAMPS FOR SIDEWALKS
424011-04	CORNER PARALLEL CURB RAMPS FOR SIDEWALKS
424021-05	DEPRESSED CORNER FOR SIDEWALKS
424031-02	MEDIAN PEDESTRIAN CROSSINGS
442201-03	CLASS C AND D PATCHES
602011-02	CATCH BASIN TYPE C
604001-04	FRAME AND LIDS TYPE 1
604091-03	FRAME AND GRATE TYPE 24
606001-07	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
635001-02	DELINEATORS
642001-02	SHOULDER RUMBLE STRIPS, 16"
701101-05	OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5 m) TO 24" (600 MM) FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5 m) AWAY
701400-09	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-12	LANE CLOSURE, FREEWAY/EXPRESSWAY
701411-09	LANE CLOSURE, MULTI LANE ENTRANCE OR EXIT RAMP, 45 MPH OR MORE
701421-08	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS ≥ 45 MPH TO 55 MPH
701428-01	TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY
701446-09	TWO LANE CLOSURE, FREEWAY/EXPRESSWAY
701601-09	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701801-06	SIDEWALK CORNER OR CROSSWALK CLOSURE
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
725001-01	OBJECT AND TERMINAL MARKERS
780001-05	TYPICAL PAVEMENT MARKINGS
782006	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

GENERAL NOTES

- BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. (48 HOUR NOTIFICATION IS REQUIRED)
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, AND THE CITY OF HIGHLAND PARK.
- THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
- ANY PAVEMENT MARKINGS AND RAISED REFLECTIVE PAVEMENT MARKERS OBLITERATED BY MILLING AND RESURFACING OPERATIONS ON SIDE STREETS AND ENTRANCES SHALL BE REPLACED AND PAID FOR IN KIND.
- ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE THE REMOVAL LINE SHOWN ON THE PLANS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE DEPARTMENT.
- BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE REFERENCE, ALL EXISTING PAVEMENT MARKING LINES (AND RAISED REFLECTIVE PAVEMENT MARKERS) IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE RESIDENT ENGINEER.
- ALL PAVEMENT PATCHING LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE RESIDENT ENGINEER/TECHNICIAN.
- DRAINAGE ADJUSTMENT OR RECONSTRUCTION LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE RESIDENT ENGINEER/TECHNICIAN.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.
- FRAMES AND GRATES ADJUSTMENT OF PRIVATE UTILITIES WITHIN THE LIMITS OF THE IMPROVEMENTS SHALL BE DONE BY THEIR RESPECTIVE OWNERS AND ARE NOT PART OF THIS CONTRACT.
- FOR FRAMES AND LIDS ADJUSTMENT WITHOUT MILLING, REUSE EXISTING FRAME AND LID UNLESS OTHERWISE SPECIFIED IN THE PLANS.
- THE CONTRACTOR SHALL CONTACT DISTRICT ONE ARTERIAL TRAFFIC CONTROL SUPERVISOR, AT KALPANA.KANNAN-HOSADURGA@ILLINOIS.GOV, AND EXPRESSWAYS TRAFFIC CONTROL SUPERVISOR AT (847)705-4157, A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.
- THE RESIDENT ENGINEER SHALL CONTACT WALTER CZARNY, ARTERIAL TRAFFIC FIELD ENGINEER, AT WALTER.CZARNY@ILLINOIS.GOV A MINIMUM OF TWO (2) WEEKS PRIOR TO THE PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
- 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).
- WHEN THE MILLED PAVEMENT IS OPEN TO TRAFFIC THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES OF THE MILLING MACHINE SHALL NOT EXCEED 1/2 INCHES (40 mm) WHERE THE SPEED LIMIT IS 45 MPH (80 km/h) OR LESS AND 1 INCH (25 mm) WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH (80 km/h). WITH WRITTEN APPROVAL OF THE ENGINEER, A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES (75 mm) MAY BE ALLOWED IF THE EDGE OF THE MILLING IS SLOPED A MINIMUM 1:3 .
- BUTT JOINTS WILL BE INSTALLED AT THE ENDS OF ALL RESURFACING (WHERE RESURFACING MEETS EXISTING PAVEMENT) ACCORDING TO THE "BUTT JOINT AND HOT-MIX ASPHALT TAPER DETAILS" SHEET INCLUDED IN THE PLANS, UNLESS OTHERWISE SPECIFIED.
- PAVEMENT MARKING TAPE, TYPE III SHALL BE USED FOR SHORT TERM PAVEMENT MARKINGS ON ALL FINAL SURFACES.
- LOCATION OF COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT (OR COMBINATION CURB AND GUTTER (THE TYPE SPECIFIED ON THE PLANS)), WILL BE DETERMINED IN THE FIELD BY THE RESIDENT ENGINEER/TECHNICIAN.
- THE CONTRACTOR SHALL USE CARE IN GRADING OR EXCAVATING NEAR ANY AND ALL EXISTING ITEMS THAT WILL NOT BE REMOVED INCLUDING PREVIOUSLY SEEDED AREAS. ANY DAMAGE DONE TO EXISTING ITEMS BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S OWN EXPENSE TO THE SATISFACTION OF THE ENIGINEER.
- THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES DURING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ANY DETECTOR LOOPS DAMAGED DURING CONSTRUCTION.

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	DRAWN -	REVISED -
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PLOT DATE = 3/19/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 41 (PARK AVENUE WEST TO CHANTILLY BLVD.)
INDEX OF SHEETS STATE STANDARDS AND GENERAL NOTES

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-R5&SW	LAKE	42	2
				CONTRACT NO. 62h36
		ILLINOIS	FED. AID PROJECT	

URBAN

URBAN

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT		005 80% FED 20% STATE ROADWAY				
20200100	EARTH EXCAVATION	CU YD	29.5	29.5				
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	16	16				
20700220	POROUS GRANULAR EMBANKMENT	CU YD	13	13				
21101615	TOPSOIL FURNISH AND PLACE, 4"	SO YD	79	79				
25000210	SEEDING, CLASS 2A	ACRE	0.2	0.2				
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	1.5	1.5				
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	1.5	1.5				
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	1.5	1.5				
25100630	EROSION CONTROL BLANKET	SO YD	24	24				
25200110	SODDING, SALT TOLERANT	SO YD	55	55				
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	2	2				
28000400	PERIMETER EROSION BARRIER	FOOT	66	66				
30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	21	21				
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	90615	90615				
40600400	MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS	TON	201	201				
40600827	POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4, 75, N50	TON	5517	5517				
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SO YD	489	489				

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT		005 80% FED 20% STATE ROADWAY				
40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	5861	5861				
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SO FT	570	570				
44000159	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"	SO YD	133741	133741				
44000600	SIDEWALK REMOVAL	SO FT	559	559				
44004250	PAVED SHOULDER REMOVAL	SO YD	21	21				
44200976	CLASS B PATCHES, TYPE IV, 10 INCH	SO YD	832	832				
44201863	CLASS D PATCHES, TYPE II, 18 INCH	SO YD	1000	1000				
44201867	CLASS D PATCHES, TYPE III, 18 INCH	SO YD	1400	1400				
44201869	CLASS D PATCHES, TYPE IV, 18 INCH	SO YD	400	400				
44213000	PATCHING REINFORCEMENT	SO YD	832	832				
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	53	53				
44213200	SAW CUTS	FOOT	1632	1632				
48203037	HOT-MIX ASPHALT SHOULDERS, 10"	SO YD	21	21				
44213208	TIE BARS 1 1/4"	EACH	244	244				
50102400	CONCRETE REMOVAL	CU YD	2.7	2.7				
50200100	STRUCTURE EXCAVATION	CU YD	27	27				
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	980	980				
52200020	TEMPORARY SOIL RETENTION SYSTEM	SO FT	241	241				

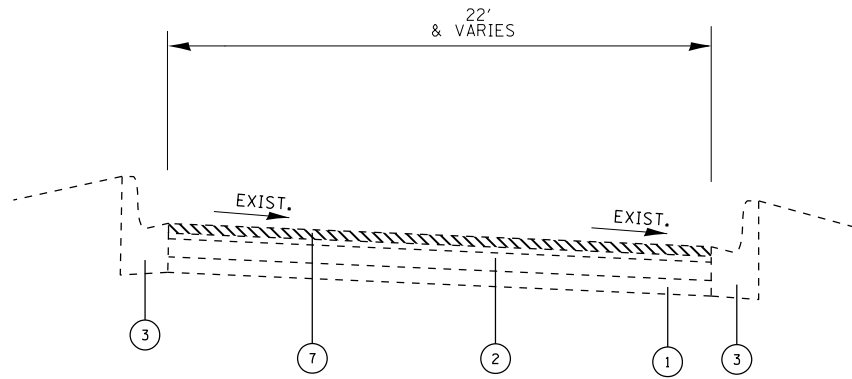
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SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT		005 80% FED 20% STATE ROADWAY				
* 78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SO FT	233	233				
* 78004354	PREFORMED PLASTIC PAVEMENT MARKING TYPE D, INLAID 4"	FOOT	3624	3624				
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	43600	43600				
* 78004355	PREFORMED PLASTIC PAVEMENT MARKING TYPE D, INLAID 5"	FOOT	20710	20710				
* 78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	997	997				
* 78004358	PREFORMED PLASTIC PAVEMENT MARKING TYPE D, INLAID 8"	FOOT	1097	1097				
* 78000500	THERMOPLASTIC PAVEMENT MARKING - LINE 8"	FOOT	4202	4202				
* 78004356	PREFORMED PLASTIC PAVEMENT MARKING TYPE D, INLAID 6"	FOOT	600	600				
* 78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	864	864				
* 78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	175	175				
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	550	550				
78100300	REPLACEMENT REFLECTOR	EACH	14	14				
78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	4	4				
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	564	564				
78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	8	8				
* 88600600	DETECTOR LOOP REPLACEMENT	FOOT	493	493				
X0320050	CONSTRUCTION LAYOUT (SPECIAL)	L SUM	1	1				
X0327980	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	450	450				
* X0900064	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SO YD	3	3				

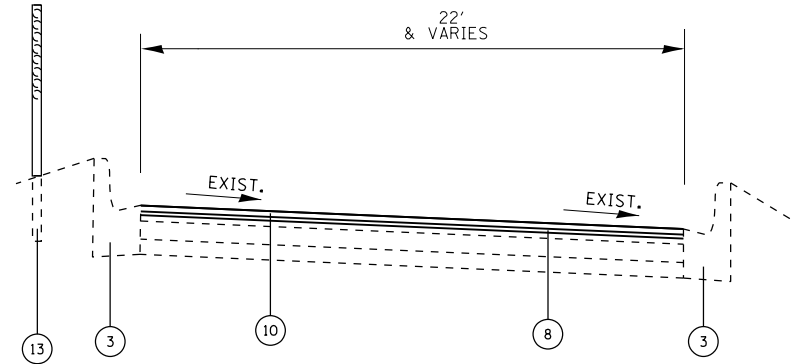
SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT		005 80% FED 20% STATE ROADWAY				
X2020110	GRADING AND SHAPING SHOULDERS	UNIT	215	215				
X4060004	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, 9.5, N80	TON	7246	7246				
X6030205	FRAMES AND GRATES TO BE ADJUSTED (SPECIAL)	EACH	15	15				
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1				
X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1	1				
X7030005	TEMPORARY PAVEMENT MARKING REMOVAL	SO FT	27820	27820				
Z0004562	COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	300	300				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1				
Z0018500	DRAINAGE STRUCTURES TO BE CLEANED	EACH	5	5				
Z0018600	DRAINAGE STRUCTURES TO BE RECONSTRUCTED	EACH	3	3				
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	52	52				
Z0033700	LONGITUDINAL JOINT SEALANT	FOOT	31067	31067				

NON-PART. 100% STATE
 * SPECIALTY ITEMS

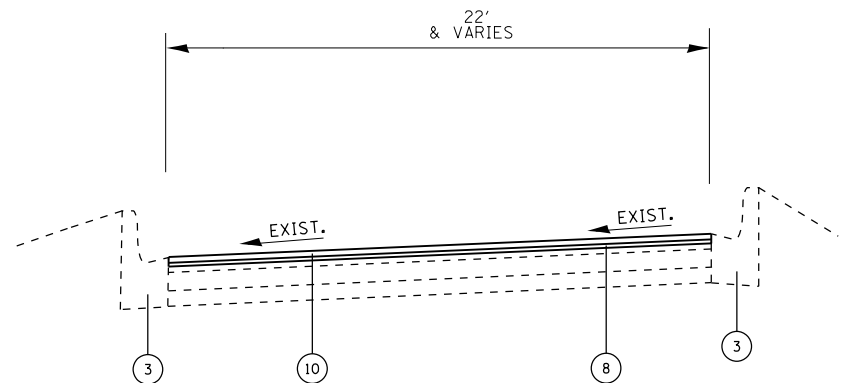
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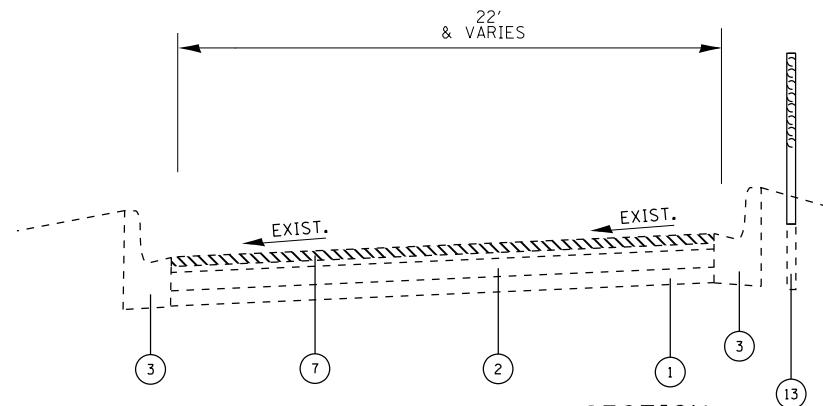
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 RAMP D
 RAMP I
 RAMP G
 RAMP B



PROPOSED TYPICAL SECTION
 RAMP F
 RAMP D
 RAMP I
 RAMP G
 RAMP B



EXISTING TYPICAL SECTION
 RAMP C
 RAMP J
 RAMP E
 RAMP H
 RAMP A



PROPOSED TYPICAL SECTION
 RAMP C
 RAMP J
 RAMP E
 RAMP H
 RAMP A

LEGEND

- ① EXISTING P.C. CONCRETE PAVEMENT, 10"
- ② EXISTING HMA CONCRETE SURFACE, ± 10 1/2"
- ③ EXISTING COMBINATION CONCRETE CURB AND GUTTER
- ④ EXISTING GRAVEL OR CRUSHED STONE SHOULDER
- ⑤ EXISTING CONCRETE BARRIER AND CONCRETE BARRIER, SPECIAL
- ⑥ EXISTING HMA SHOULDER, 10"
- ⑦ PROPOSED HMA SURFACE REMOVAL, 2 1/2"
- ⑧ PROPOSED POLYMERIZED LEVELING BINDER, (MM), IL 4.75, N50, 3/4"
- ⑨ PROPOSED POLYMERIZED HMA SURFACE COURSE STONE MATRIX ASPHALT, 9.5, N80, 1 3/4"
- ⑩ PROPOSED HMA SURFACE COURSE, MIX "D" N70, 1 3/4"
- ⑪ PROPOSED AGGREGATE WEDGE SHOULDERS, TYPE B
- ⑫ PROPOSED GRADING AND SHAPING SHOULDERS
- ⑬ PROPOSED DELINEATORS

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 DATE: 3/18/2019

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PLOT DATE = 3/18/2019	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TYPICAL SECTIONS
 US 41 (PARK AVE. WEST TO CHANTILLY BLVD.)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-R5&SW	LAKE	42	7
CONTRACT NO. 62H36			ILLINOIS FED. AID PROJECT	

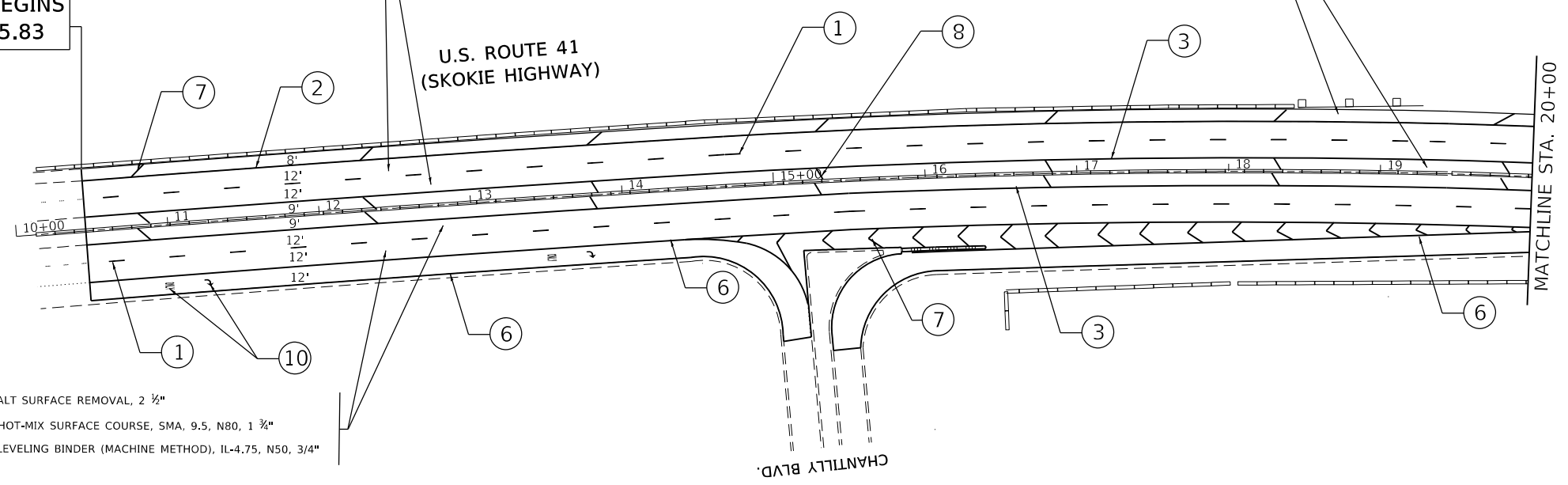
PROPOSED PAVEMENT MARKINGS LEGEND

- ① PREFORMED PLASTIC PAVEMENT MARKING
TYPE D INLAID 5", 10' DASH - 30' SPACE,
WHITE (TYP.)
- ② THERMOPLASTIC PVMT. MARKING 4', SOLID EDGE LINE, WHITE (TYP.)
- ③ THERMOPLASTIC PVMT. MARKING 4', SOLID EDGE LINE, YELLOW (TYP.)
- ④ THERMOPLASTIC PVMT. MARKING 6", LINE, WHITE (TYP.)
- ⑤ PREFORMED PLASTIC PAVEMENT MARKING
TYPE D, INLAID 4", 2' DASH - 6' SPACE,
WHITE (TYP.)
- ⑥ THERMOPLASTIC PVMT. MARKING 8", LINE, WHITE (TYP.)
- ⑦ THERMOPLASTIC PVMT. MARKING 12", CHEVRONS, WHITE (TYP.)
- SEE DETAIL TC-12 FOR SPACING
- ⑧ THERMOPLASTIC PVMT. MARKING 12", DIAGONALS, YELLOW
(TYP.) - SEE DETAIL TC-24 FOR SPACING
- ⑨ THERMOPLASTIC PVMT. MARKING 24", STOP BAR, WHITE (TYP.)
- ⑩ THERMOPLASTIC PVMT. MARKING LETTERS AND SYMBOLS
- ⑪ PREFORMED PLASTIC PAVEMENT MARKING
TYPE D, INLAID 8", 3' DASH - 9' SPACE,
WHITE (TYP.)
- ⑫ PREFORMED PLASTIC PAVEMENT MARKING
TYPE D INLAID 6", 2' DASH - 6' SPACE,
WHITE (TYP.)

**PROJECT BEGINS
STA. 10+45.83**

PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"
PROPOSED POLYMERIZED HOT-MIX SURFACE COURSE, SMA, 9.5, N80, 1 3/4"
PROPOSED POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4"

PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"
PROPOSED HOT-MIX SURFACE COURSE, MIX "D", N70, 1 3/4"
PROPOSED POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4"



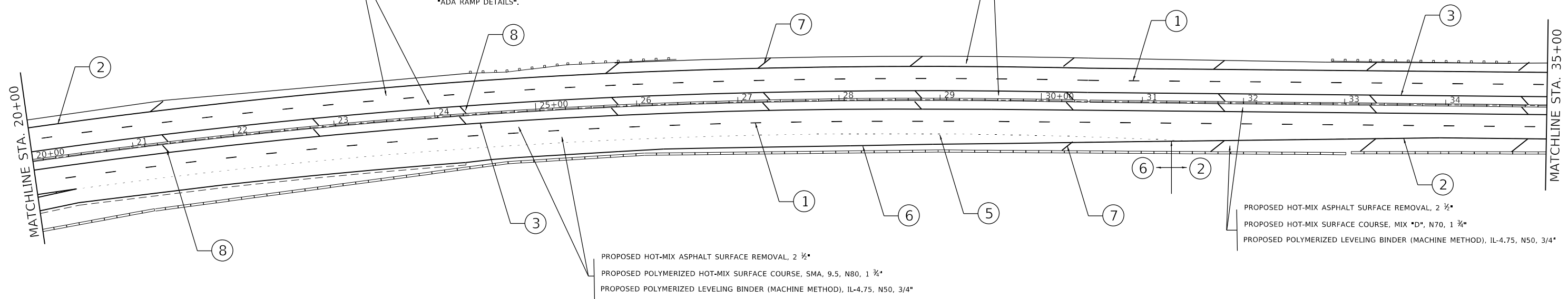
NOTES:

- 1) LIMIT OF RESURFACING ON THE SIDE-STREETS THROUGHOUT THE PROJECT SHALL BE TO THE RADIUS RETURN, UNLESS OTHERWISE SHOWN ON THE PLANS, OR AS DIRECTED BY THE RESIDENT ENGINEER / TECHNICIAN.
- 2) ALL FINAL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC PAVEMENT MARKINGS (OF THE EXTRUDED TYPE).
- 3) ALL FINAL PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH TC-13 "DISTRICT ONE TYPICAL PAVEMENT MARKINGS" STANDARD DETAIL.
- 4) ALL RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED IN ACCORDANCE WITH TC-11 "TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)" STANDARD DETAIL.
- 5) FOR PROPOSED CURB RAMP IMPROVEMENTS, SEE "ADA RAMP DETAILS".

**U.S. ROUTE 41
(SKOKIE HIGHWAY)**

PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"
PROPOSED HOT-MIX SURFACE COURSE, MIX "D", N70, 1 3/4"
PROPOSED POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4"

PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"
PROPOSED POLYMERIZED HOT-MIX SURFACE COURSE, SMA, 9.5, N80, 1 3/4"
PROPOSED POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4"



PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"
PROPOSED POLYMERIZED HOT-MIX SURFACE COURSE, SMA, 9.5, N80, 1 3/4"
PROPOSED POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4"

PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"
PROPOSED HOT-MIX SURFACE COURSE, MIX "D", N70, 1 3/4"
PROPOSED POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4"

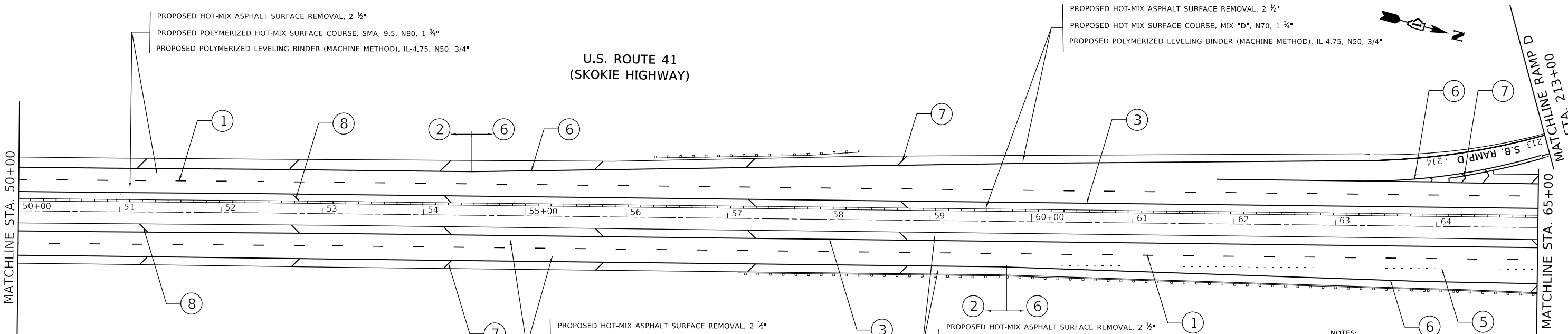
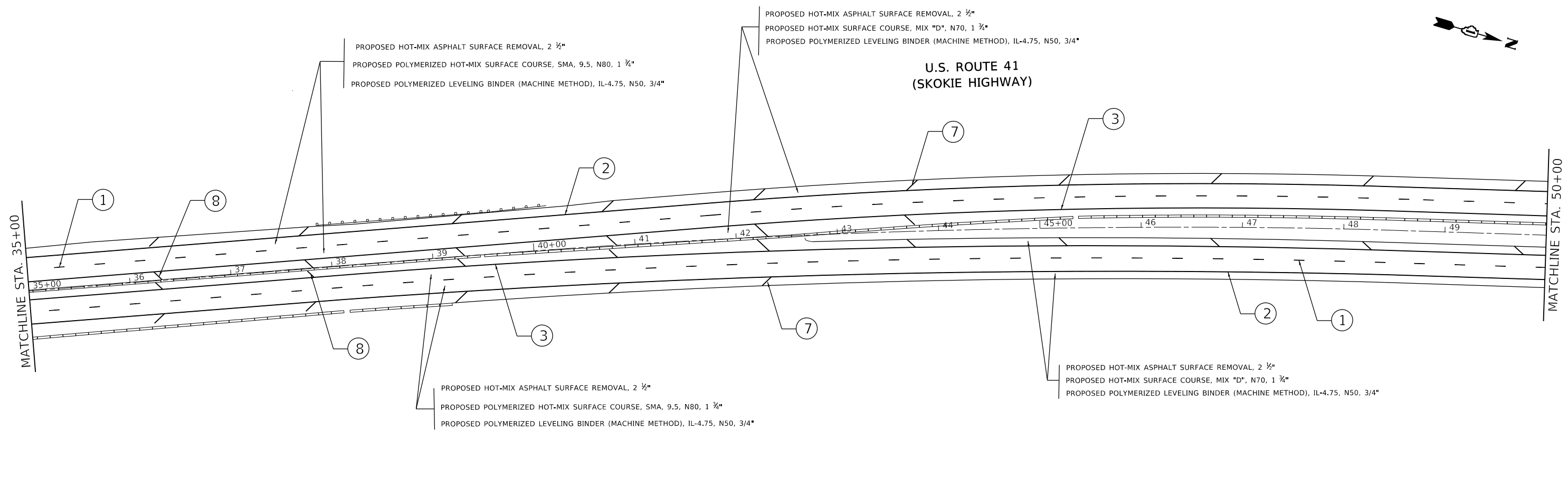
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

ROADWAY PLAN
U.S. ROUTE 41 (SKOKIE HWY.) (W. PARK AVE. - CHANTILLY BLVD.)
SCALE: 1" = 50' SHEET OF SHEETS STA. 10+45.83 TO STA. 35+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-R5&SW	LAKE	42	9
CONTRACT NO. 62H36				
ILLINOIS FED. AID PROJECT				



PROPOSED PAVEMENT MARKINGS LEGEND

- | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>① PREFORMED PLASTIC PAVEMENT MARKING TYPE D INLAID 5", 10' DASH - 30" SPACE, WHITE (TYP.)</p> <p>② THERMOPLASTIC PVMT. MARKING 4', SOLID EDGE LINE, WHITE (TYP.)</p> <p>③ THERMOPLASTIC PVMT. MARKING 4', SOLID EDGE LINE, YELLOW (TYP.)</p> <p>④ THERMOPLASTIC PVMT. MARKING 6", LINE, WHITE (TYP.)</p> | <p>⑤ PREFORMED PLASTIC PAVEMENT MARKING TYPE D, INLAID 4", 2' DASH - 6' SPACE, WHITE (TYP.)</p> <p>⑥ THERMOPLASTIC PVMT. MARKING 8", LINE, WHITE (TYP.)</p> <p>⑦ THERMOPLASTIC PVMT. MARKING 12", CHEVRONS, WHITE (TYP.) - SEE DETAIL TC-12 FOR SPACING</p> | <p>⑧ THERMOPLASTIC PVMT. MARKING 12", DIAGONALS, YELLOW (TYP.) - SEE DETAIL TC-24 FOR SPACING</p> <p>⑨ THERMOPLASTIC PVMT. MARKING 24", STOP BAR, WHITE (TYP.)</p> <p>⑩ THERMOPLASTIC PVMT. MARKING LETTERS AND SYMBOLS</p> | <p>⑪ PREFORMED PLASTIC PAVEMENT MARKING TYPE D, INLAID 8", 3' DASH - 9' SPACE, WHITE (TYP.)</p> <p>⑫ PREFORMED PLASTIC PAVEMENT MARKING TYPE D INLAID 6", 2' DASH - 6' SPACE, WHITE (TYP.)</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- NOTES:**
- LIMIT OF RESURFACING ON THE SIDE-STREETS THROUGHOUT THE PROJECT SHALL BE TO THE RADIUS RETURN, UNLESS OTHERWISE SHOWN ON THE PLANS, OR AS DIRECTED BY THE RESIDENT ENGINEER / TECHNICIAN.
 - ALL FINAL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC PAVEMENT MARKINGS (OF THE EXTRUDED TYPE).
 - ALL FINAL PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH TC-13 "DISTRICT ONE TYPICAL PAVEMENT MARKINGS" STANDARD DETAIL.
 - ALL RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED IN ACCORDANCE WITH TC-11 "TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)" STANDARD DETAIL.
 - FOR PROPOSED CURB RAMP IMPROVEMENTS, SEE "ADA RAMP DETAILS".

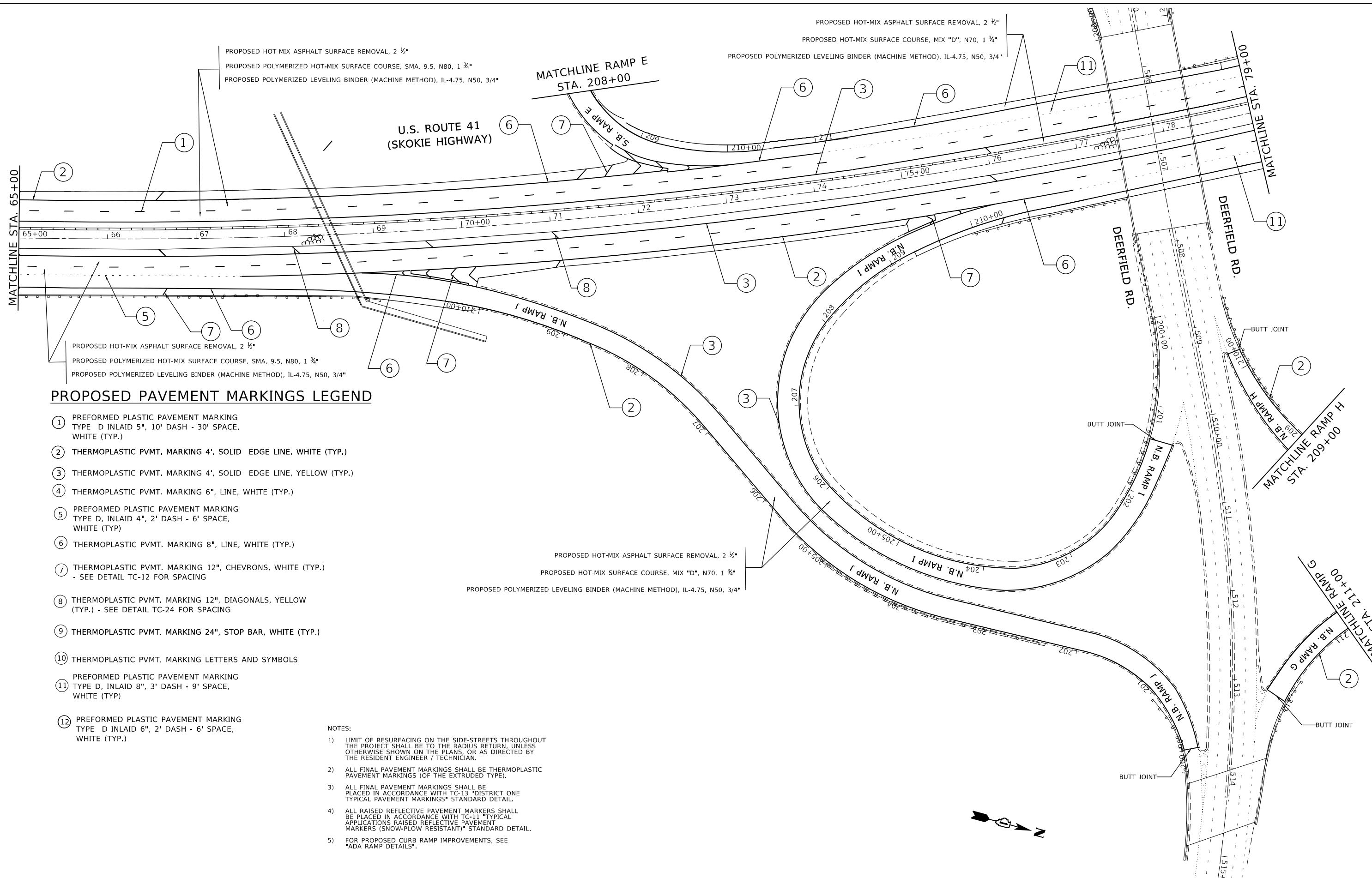
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PLOT DATE = 3/18/2019	CHECKED -	REVISD -
	DATE -	REVISD -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROADWAY PLAN			
U.S. ROUTE 41 (SKOKIE HWY.) (W. PARK AVE. - CHANTILLY BLVD.)			
SCALE: 1" = 50'	SHEET	OF SHEETS	STA. 35+00 TO STA. 65+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-R5&SW	LAKE	42	10
CONTRACT NO. 62H36				
ILLINOIS FED. AID PROJECT				



PROPOSED PAVEMENT MARKINGS LEGEND

- ① PREFORMED PLASTIC PAVEMENT MARKING
TYPE D INLAID 5", 10' DASH - 30' SPACE,
WHITE (TYP.)
- ② THERMOPLASTIC PVMT. MARKING 4', SOLID EDGE LINE, WHITE (TYP.)
- ③ THERMOPLASTIC PVMT. MARKING 4', SOLID EDGE LINE, YELLOW (TYP.)
- ④ THERMOPLASTIC PVMT. MARKING 6", LINE, WHITE (TYP.)
- ⑤ PREFORMED PLASTIC PAVEMENT MARKING
TYPE D, INLAID 4", 2' DASH - 6' SPACE,
WHITE (TYP.)
- ⑥ THERMOPLASTIC PVMT. MARKING 8", LINE, WHITE (TYP.)
- ⑦ THERMOPLASTIC PVMT. MARKING 12", CHEVRONS, WHITE (TYP.)
- SEE DETAIL TC-12 FOR SPACING
- ⑧ THERMOPLASTIC PVMT. MARKING 12", DIAGONALS, YELLOW
(TYP.) - SEE DETAIL TC-24 FOR SPACING
- ⑨ THERMOPLASTIC PVMT. MARKING 24", STOP BAR, WHITE (TYP.)
- ⑩ THERMOPLASTIC PVMT. MARKING LETTERS AND SYMBOLS
- ⑪ PREFORMED PLASTIC PAVEMENT MARKING
TYPE D, INLAID 8", 3' DASH - 9' SPACE,
WHITE (TYP.)
- ⑫ PREFORMED PLASTIC PAVEMENT MARKING
TYPE D INLAID 6", 2' DASH - 6' SPACE,
WHITE (TYP.)

- NOTES:
- 1) LIMIT OF RESURFACING ON THE SIDE-STREETS THROUGHOUT THE PROJECT SHALL BE TO THE RADIUS RETURN, UNLESS OTHERWISE SHOWN ON THE PLANS, OR AS DIRECTED BY THE RESIDENT ENGINEER / TECHNICIAN.
 - 2) ALL FINAL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC PAVEMENT MARKINGS (OF THE EXTRUDED TYPE).
 - 3) ALL FINAL PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH TC-13 "DISTRICT ONE TYPICAL PAVEMENT MARKINGS" STANDARD DETAIL.
 - 4) ALL RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED IN ACCORDANCE WITH TC-11 "TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)" STANDARD DETAIL.
 - 5) FOR PROPOSED CURB RAMP IMPROVEMENTS, SEE "ADA RAMP DETAILS".

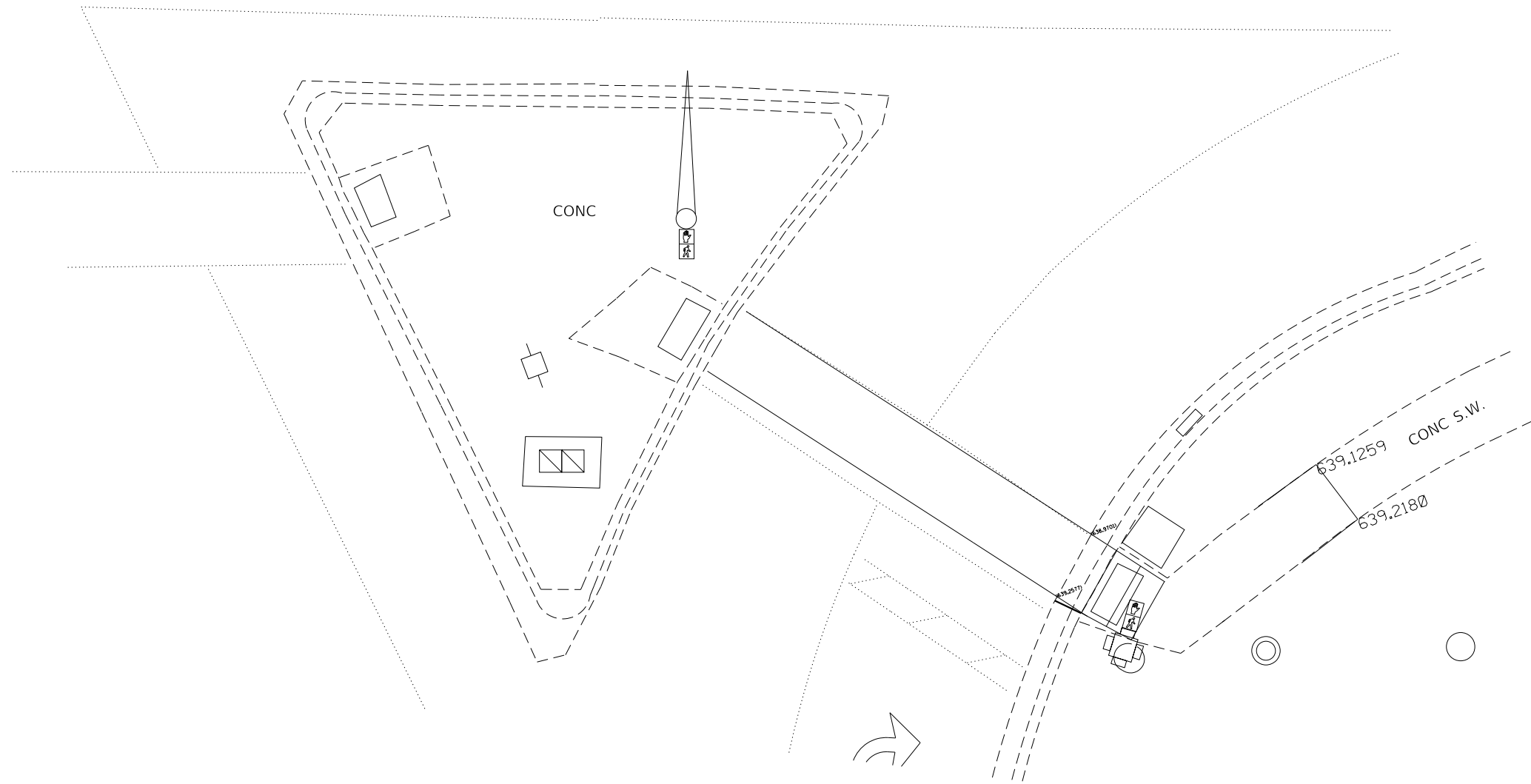
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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

ROADWAY PLAN	
U.S. ROUTE 41 (SKOKIE HWY.) (W. PARK AVE. - CHANTILLY BLVD.)	
SCALE: 1" = 50'	SHEET OF SHEETS STA. 65+00 TO STA. 79+00

F.A.P. RTE. 346	SECTION 2018-111-R5&SW	COUNTY LAKE	TOTAL SHEETS 42	SHEET NO. 12
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62H36	



REFERENCE BENCHMARK ELEV 00.0
 BENCHMARK : xx IN xx OF xx
 LOCATION : xx xx

LEGEND

xx.xx'

EXISTING LENGTH

====

PROPOSED SIDE CURB

()

EXISTING ELEVATION/SLOPE



PROPOSED SIDEWALK



DETECTABLE WARNINGS



SIDEWALK REMOVAL
 REPLACE W/TOPSOIL & SOD

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PLOT DATE = 2/5/2019	DATE -	REVISED - PLP 01/10/2018

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**SIDEWALK DETAIL PLAN
 US 41/SKOKIE HIGHWAY - W PARK AVE TO CHANTILLY BLVD**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-R5&SW	LAKE	42	15
CONTRACT NO. 62H36				
ILLINOIS FED. AID PROJECT				

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REFERENCE BENCHMARK ELEV 00.0
 BENCHMARK : xx IN xx OF xx
 LOCATION : xx xx

LEGEND

xx.xx'

EXISTING LENGTH

====

PROPOSED SIDE CURB

()

EXISTING ELEVATION/SLOPE



PROPOSED SIDEWALK



DETECTABLE WARNINGS



SIDEWALK REMOVAL
REPLACE W/TOPSOIL & SOD

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	DRAWN - PLP 10/04/2016	REVISED - PLP 08/11/2017
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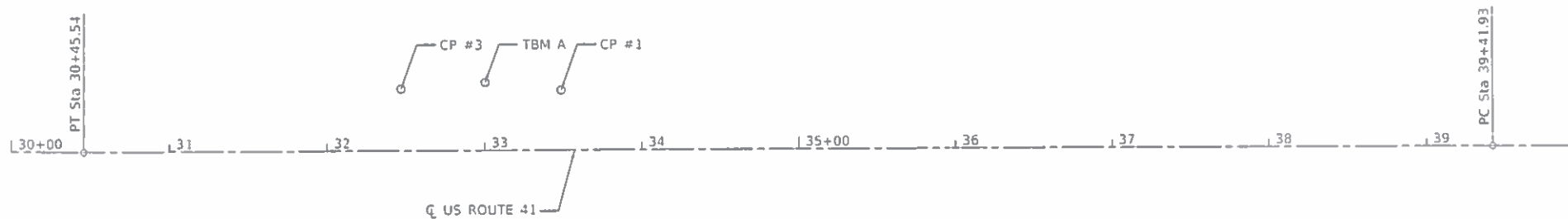
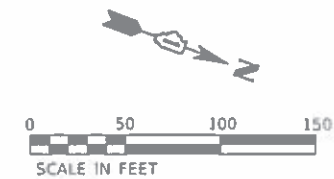
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIDEWALK DETAIL PLAN
US 41/SKOKIE HIGHWAY - W PARK AVE TO CHANTILLY BLVD

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-R5&SW	LAKE	42	17
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62H36	

ALIGNMENT COORDINATES - US ROUTE 41			
POINT	STATION	NORTHING	EASTING
PT	30+45.54	2004382.4128	1125270.2235
PC	39+41.93	2005219.6527	1124950.0050



CONTROL POINT #1

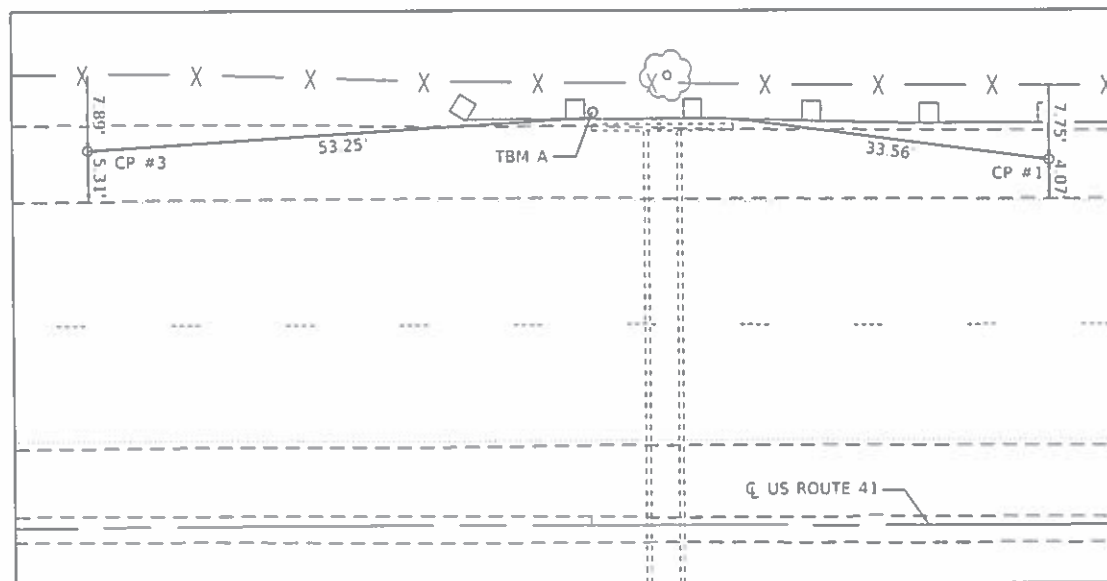
PK NAIL ON ASPHALT SHOULDER
 STA 33+48.69, 37.95' LT
 N: 2004652.0000
 E: 1125126.4800
 EL: 643.24

TEMPORARY BENCHMARK A

CUT SQUARE ON TOP OF SOUTHWEST CORNER
 OF WEST HEADWALL UNDER US ROUTE 41,
 ABOUT 4500 FEET SOUTH OF DEERFIELD ROAD.
 STA 33+00.57, 43.06' LT
 EL: 643.52

CONTROL POINT #3

PK NAIL ON ASPHALT SHOULDER
 STA 32+47.42, 39.24' LT
 N: 2004556.9510
 E: 1125161.4540
 EL: 643.44



NOTES:

HORIZONTAL AND VERTICAL CONTROL WAS ESTABLISHED BY GPS-RTK METHODS USING THE ONLINE POSITIONING USER SERVICE (OPUS) AND OPERATED BY THE NATIONAL GEODETIC SURVEY (NGS).

DOUBLE OBSERVATIONS WERE MADE TO EACH OF THE TWO SURVEY CONTROL POINTS AND RESULTS AVERAGED AFTER CONFIRMING OBSERVATIONS WERE IN ACCORDANCE WITH GPS-RTK OBSERVATIONS.

VERTICAL CONTROL ESTABLISHED BY RUNNING LEVELS TO SURVEY CONTROL AND BENCHMARK USING ELEVATION OF 643.24 FEET OBTAINED BY GPS-RTK OBSERVATION AT CONTROL POINT #1.

EQUIPMENT USED WAS A TRIMBLE R10 ANTENNA (S/N 5316434391) AND A TRIMBLE TSC 3 DATA COLLECTOR EQUIPPED WITH A CELLULAR CONNECTION.

COORDINATES PROVIDED ARE REFERENCED TO THE ILLINOIS STATE PLANE COORDINATE SYSTEM, EAST ZONE (NAD 83-CORS ADJUSTMENT).

ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

FIELD WORK WAS PERFORMED DURING MAY 2018.

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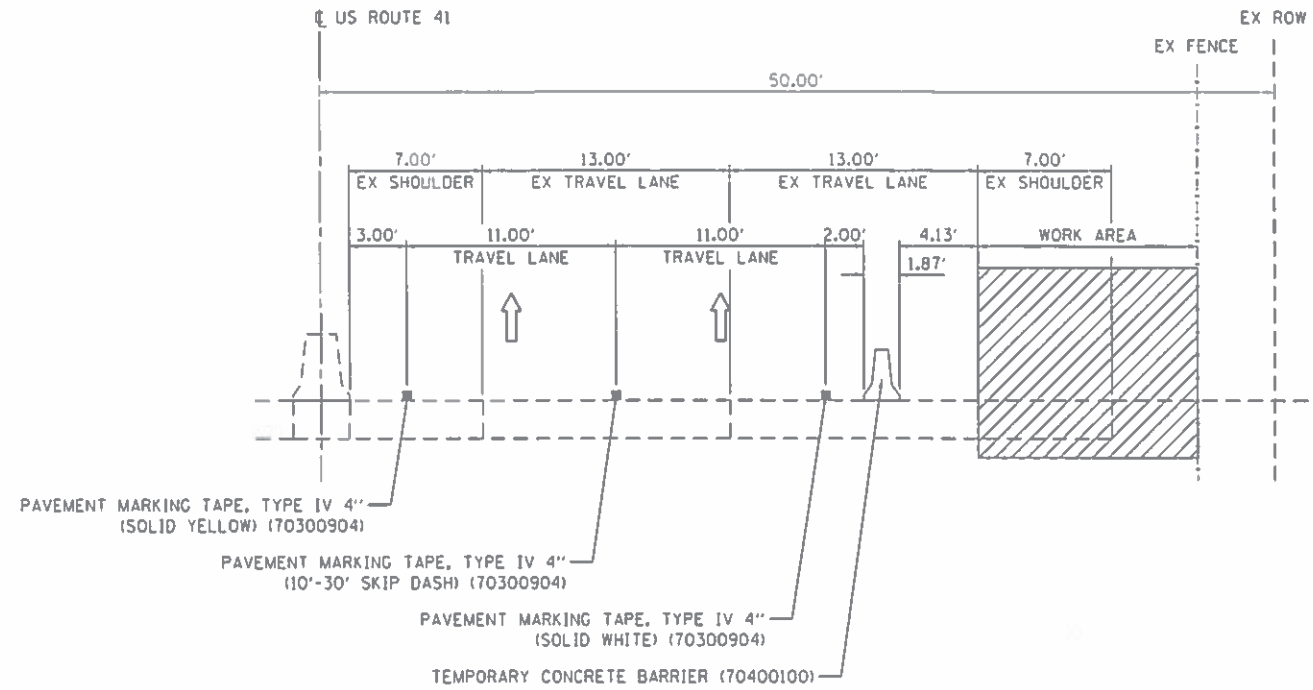
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

US ROUTE 41 (SKOKIE HIGHWAY) ALIGNMENT, TIES, AND BENCHMARK			
SCALE:	SHEET	OF	SHEETS
STA.	TO	STA.	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-R555W	LAKE	42	18
CONTRACT NO. 62H36				
ILLINOIS FED. AID PROJECT				

TRAFFIC CONTROL GENERAL NOTES

1. THE TRAFFIC CONTROL DEPICTED HERE IN IS THE MINIMUM REQUIREMENT. ADDITIONAL TRAFFIC CONTROL DEVICES AS SPECIFIED IN THE HIGHWAY STANDARDS, AS SHOWN IN THE INDEX OF SHEETS, AND AS SHOWN IN THE SPECIAL PROVISIONS SHALL BE PLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. ALL TRAFFIC CONTROL DEVICES SHALL BE CONSIDERED INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (SPECIAL) UNLESS OTHERWISE INDICATED WITHIN THESE GENERAL NOTES, PLANS, OR SPECIAL PROVISIONS.
2. WORK ZONE SPEED LIMIT IS 45 MPH.
3. TWO 11-FOOT-WIDE SOUTHBOUND LANES MUST REMAIN OPEN AT ALL TIMES.
4. TRAFFIC CONDITIONS, ACCIDENTS, AND OTHER UNFORESEEN EMERGENCY CONDITIONS MAY REQUIRE THE ENGINEER TO RESTRICT, MODIFY, OR REMOVE LANE CLOSURES OR CHANNELIZATION SHOWN IN THE PLANS. THE CONTRACTOR SHALL PROMPTLY RESPOND AT THE TIME OF NOTIFICATION BY THE ENGINEER FOR MAINTENANCE OF TRAFFIC CONTROL DEVICES.
5. DRUMS OR TYPE II BARRICADES SHALL BE PROVIDED AS SHOWN IN THE PLANS AND SPACED 50 FEET CENTER TO CENTER IN TANGENTS, 20 FEET CENTER TO CENTER IN TAPERS, AND 10 FEET CENTER TO CENTER IN RADII.
6. ALL EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED IN ACCORDANCE WITH ARTICLE 107.26 OF THE STANDARD SPECIFICATIONS.
7. ALL EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH TRAFFIC CONTROL SHALL BE REMOVED.
8. ALL RAISED REFLECTIVE PAVEMENT MARKERS WHICH CONFLICT WITH TRAFFIC CONTROL SHALL HAVE THE REFLECTIVE LENSES REMOVED.
9. THE CONTRACTOR SHALL CONTACT THE D1 EXPRESSWAY TRAFFIC CONTROL SUPERVISOR AT (847)705-4155 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK OR MAKING CHANGES TO THE SUGGESTED STAGING.
10. IMMEDIATELY UPON COMPLETING CONSTRUCTION THE CONTRACTOR SHALL REPLACE ALL PAVEMENT MARKINGS, SIGNS, AND RAISED REFLECTORS REMOVED DURING CONSTRUCTION.



TRAFFIC CONTROL TYPICAL SECTION

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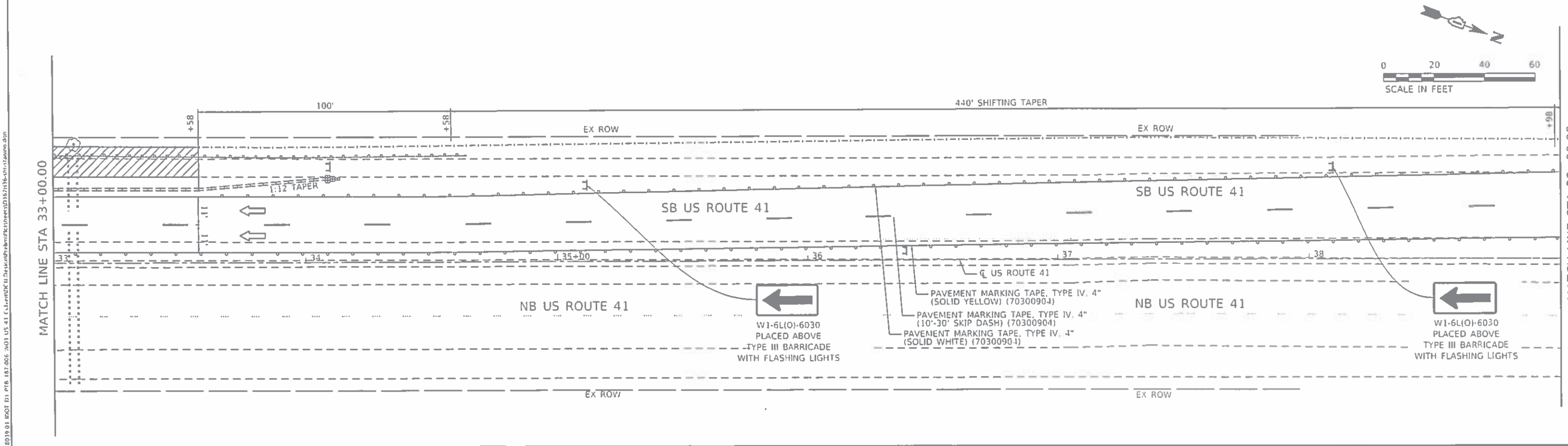
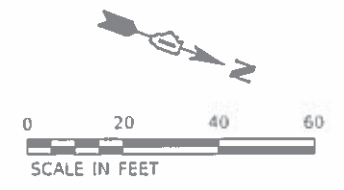
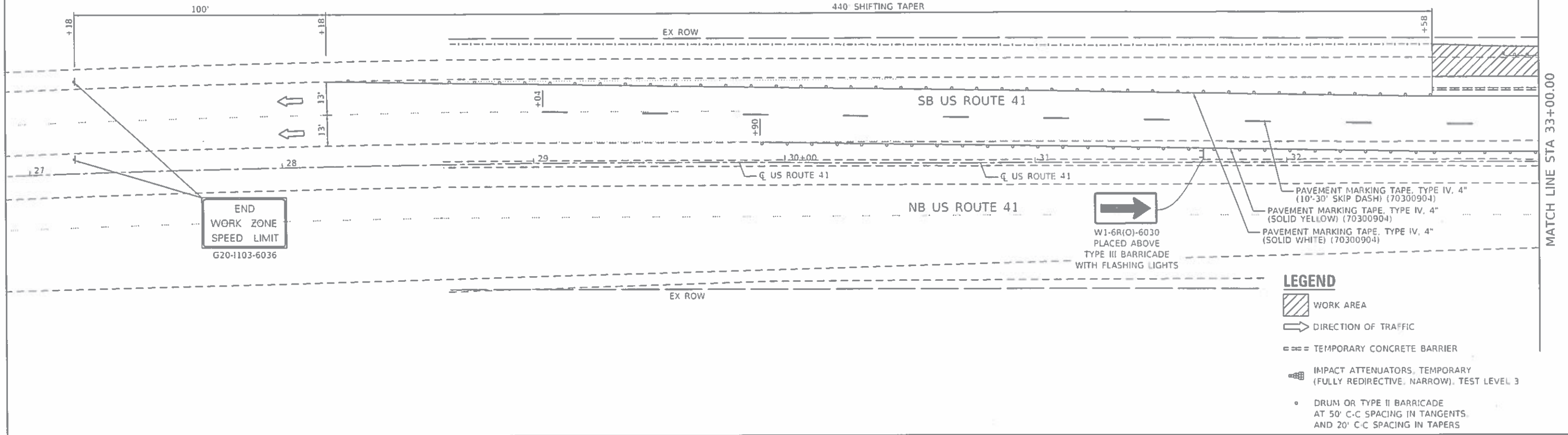
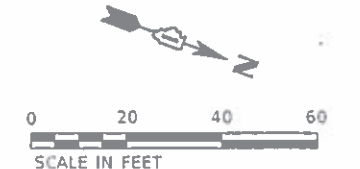
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US ROUTE 41 (SKOKIE HIGHWAY)
TRAFFIC CONTROL GENERAL NOTES AND TYPICAL SECTION

SCALE: SHEET OF SHEETS STA. TO STA.

P.A.P. RFE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-R565W	LAKE	72	20
CONTRACT NO. 62H36				
ILLINOIS I.L.D. 010 P-0101.C1				



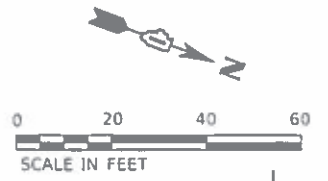
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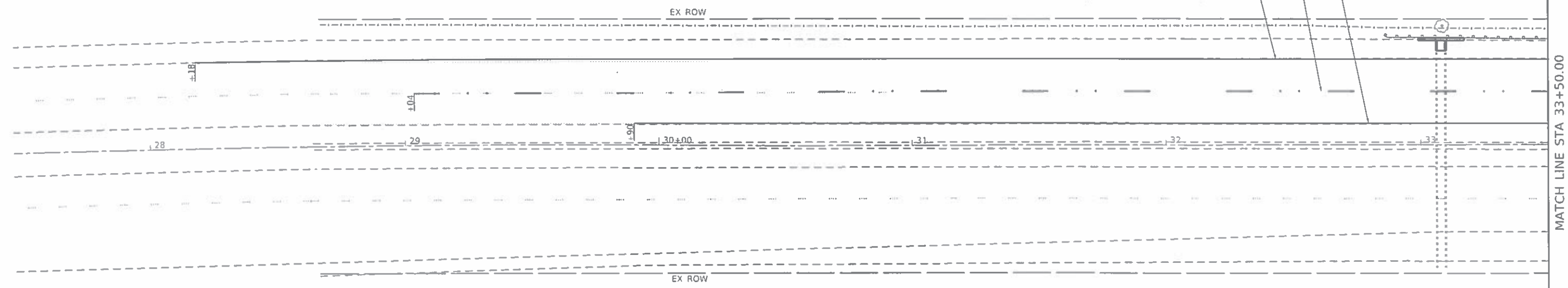
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

US ROUTE 41 (SKOKIE HIGHWAY) TRAFFIC CONTROL PLAN			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

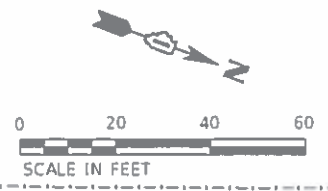
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CONTRACT NO. 62H36			ILLINOIS TLD. AID #40161	



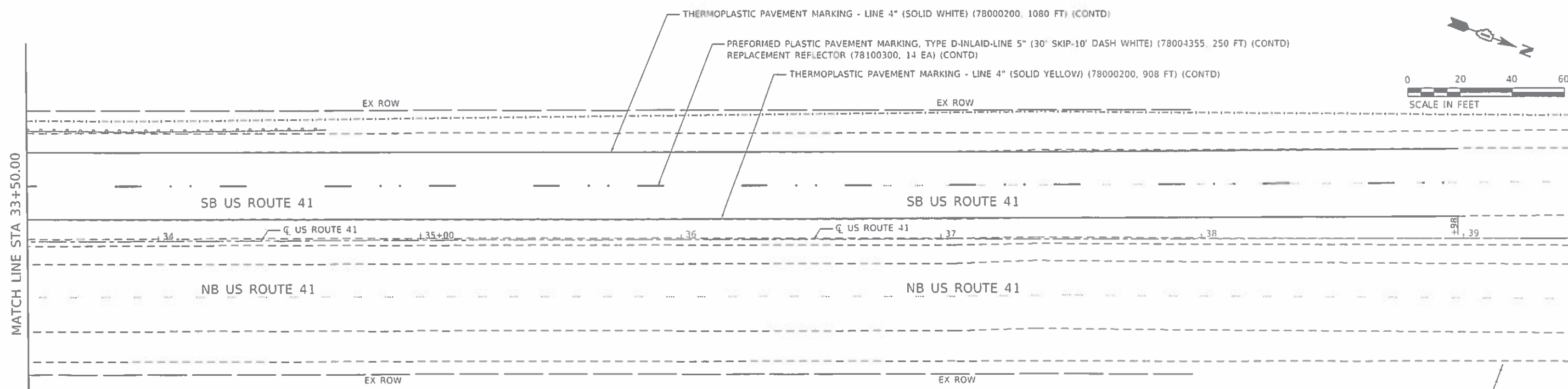
THERMOPLASTIC PAVEMENT MARKING - LINE 4" (SOLID YELLOW) (78000200, 908 FT)
 PREFORMED PLASTIC PAVEMENT MARKING, TYPE D-INLAID-LINE 5" (30' SKIP-10' DASH WHITE) (78004355, 250 FT)
 REPLACEMENT REFLECTOR (78100300, 14 EA)
 THERMOPLASTIC PAVEMENT MARKING - LINE 4" (SOLID WHITE) (78000200, 1080 FT)



MATCH LINE STA 33+50.00



THERMOPLASTIC PAVEMENT MARKING - LINE 4" (SOLID WHITE) (78000200, 1080 FT) (CONTD)
 PREFORMED PLASTIC PAVEMENT MARKING, TYPE D-INLAID-LINE 5" (30' SKIP-10' DASH WHITE) (78004355, 250 FT) (CONTD)
 REPLACEMENT REFLECTOR (78100300, 14 EA) (CONTD)
 THERMOPLASTIC PAVEMENT MARKING - LINE 4" (SOLID YELLOW) (78000200, 908 FT) (CONTD)



MATCH LINE STA 33+50.00

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	DATE - \$PLANDATE\$	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

US ROUTE 41 (SKOKIE HIGHWAY)	
PAVEMENT MARKING PLAN	
SCALE:	SHEET OF SHEETS STA. TO STA.

F.A.P. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-RSG-SW	LAKE	42	23
CONTRACT NO. 62H36				

Existing Structure:
 The existing structure is a single cell reinforced concrete box culvert. The culvert is 85'-4" in length (out-to-out headwalls). The cell width is approximately 3 ft and height is approximately 2 ft. The structure spans east to west and carries two lanes of northbound and two lanes of southbound traffic for a total of four lanes. A metal guardrail is present on the west side of the culvert. A noisewall is present on the east side of the culvert. Remove and replace 4'-8" of the top slab, sidewalls, headwall, and wingwalls.

SCOPE OF WORK:

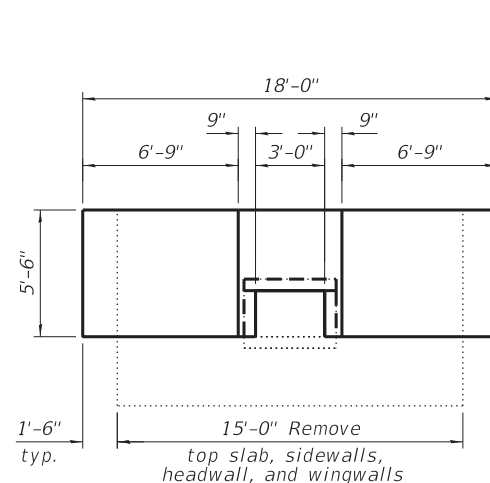
1. Remove the west portion of the top slab, sidewalls, headwall, and wingwalls.
2. Construct the west portion of the top slab, sidewalls, headwall, and wingwalls.
3. Remove the guardrail and guardrail posts on the west side of the roadway. Install the proposed guardrail on the west side of the roadway (See roadway plans).
4. Remove and construct the portions of HMA pavement and shoulder on the west side of the roadway.

GENERAL NOTES:

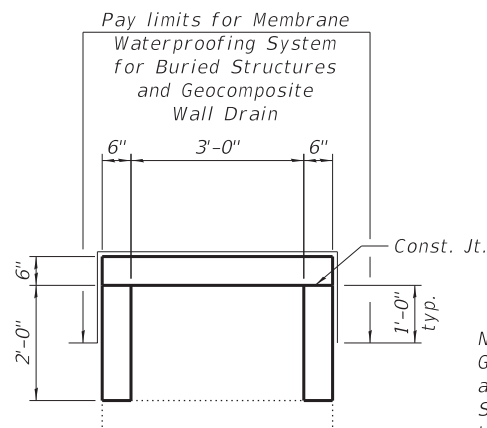
1. Reinforcement bars designated (E) shall be epoxy coated.
2. Expansion bolts shall be $\frac{3}{4}$ " Φ hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete and a minimum of 5" into existing concrete.
3. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work. However, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
4. A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
5. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	13
Concrete Removal	Cu. Yd.	2.7
Structure Excavation	Cu. Yd.	27
Reinforcement Bars, Epoxy Coated	Pound	980
Temporary Soil Retention System	Sq. Ft.	241
Expansion Bolts, $\frac{3}{4}$ "	Each	15
Concrete Box Culverts	Cu. Yd.	3.9
Geocomposite Wall Drain	Sq. Yd.	3
Membrane Waterproofing System for Buried Structures	Sq. Yd.	3

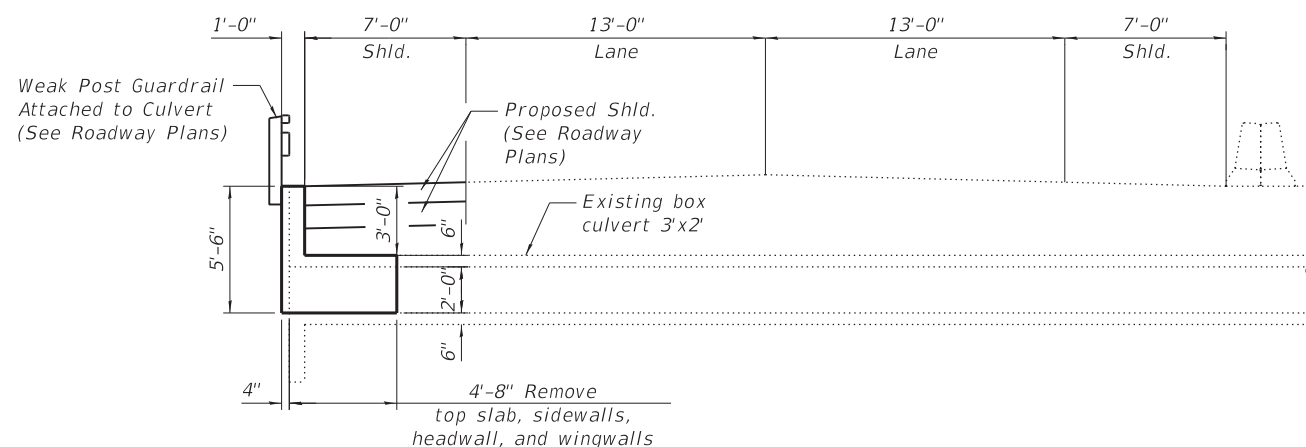


END ELEVATION

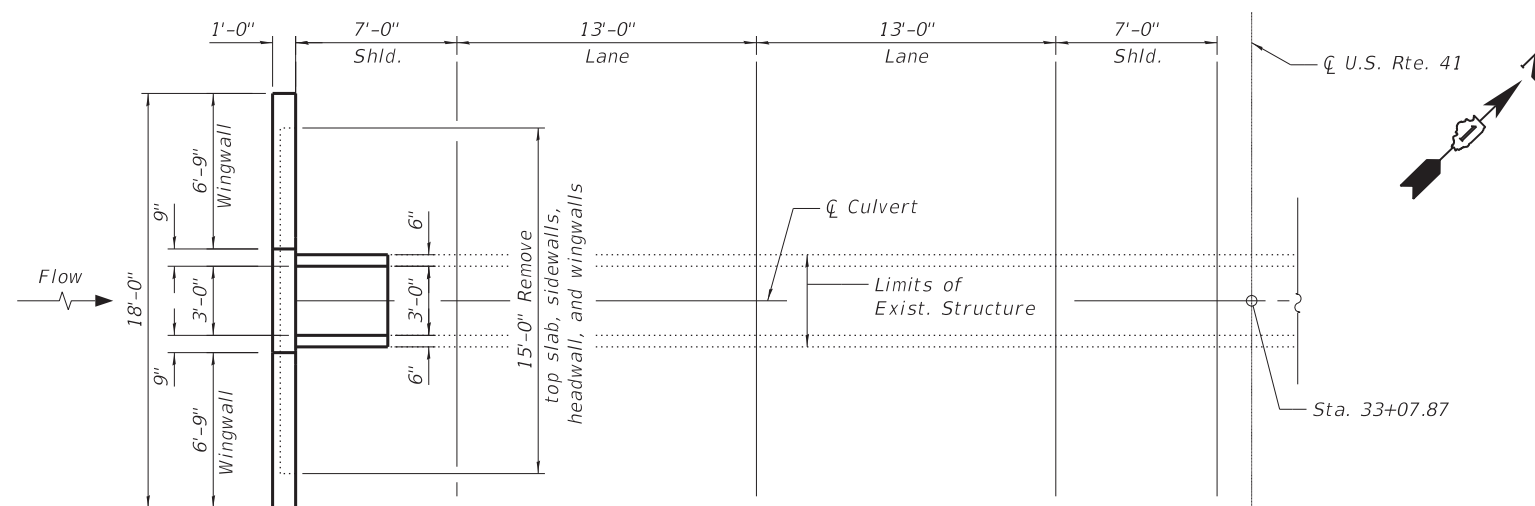


SECTION THRU BARREL

Note:
 Geocomposite Wall Drain shall be according to Section 591 of the Standard Specifications, except that concrete nails shall not be used in areas where it overlaps Membrane Waterproofing System for Buried Structures.



LONGITUDINAL SECTION
 (Looking North)



PLAN

INDEX OF SHEETS

- 1 General Plan and Details
- 2 Box Culvert Structure Removal and Excavation
- 3 Box Culvert Repair Details

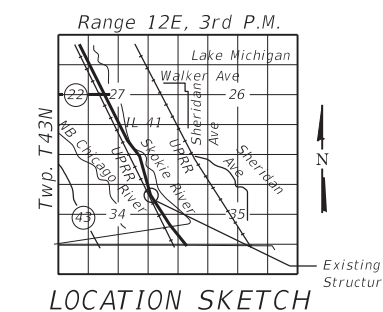
DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

DESIGN SPECIFICATIONS
 2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

LOADING HS-20

No future wearing surface will be allowed.



GENERAL PLAN AND DETAILS
US RTE. 41 OVER DRAINAGE DITCH
F.A.P. 346 SECTION 2018-51-RS&CR
LAKE COUNTY
STA. 33+07.87

MODEL: Default
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EFK•Moen
 Civil Engineering Design

USER NAME =	DESIGNED - JSR	REVISED -
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PLOT DATE =	DRAWN - JSR	REVISED -
	CHECKED - CDL	REVISED -

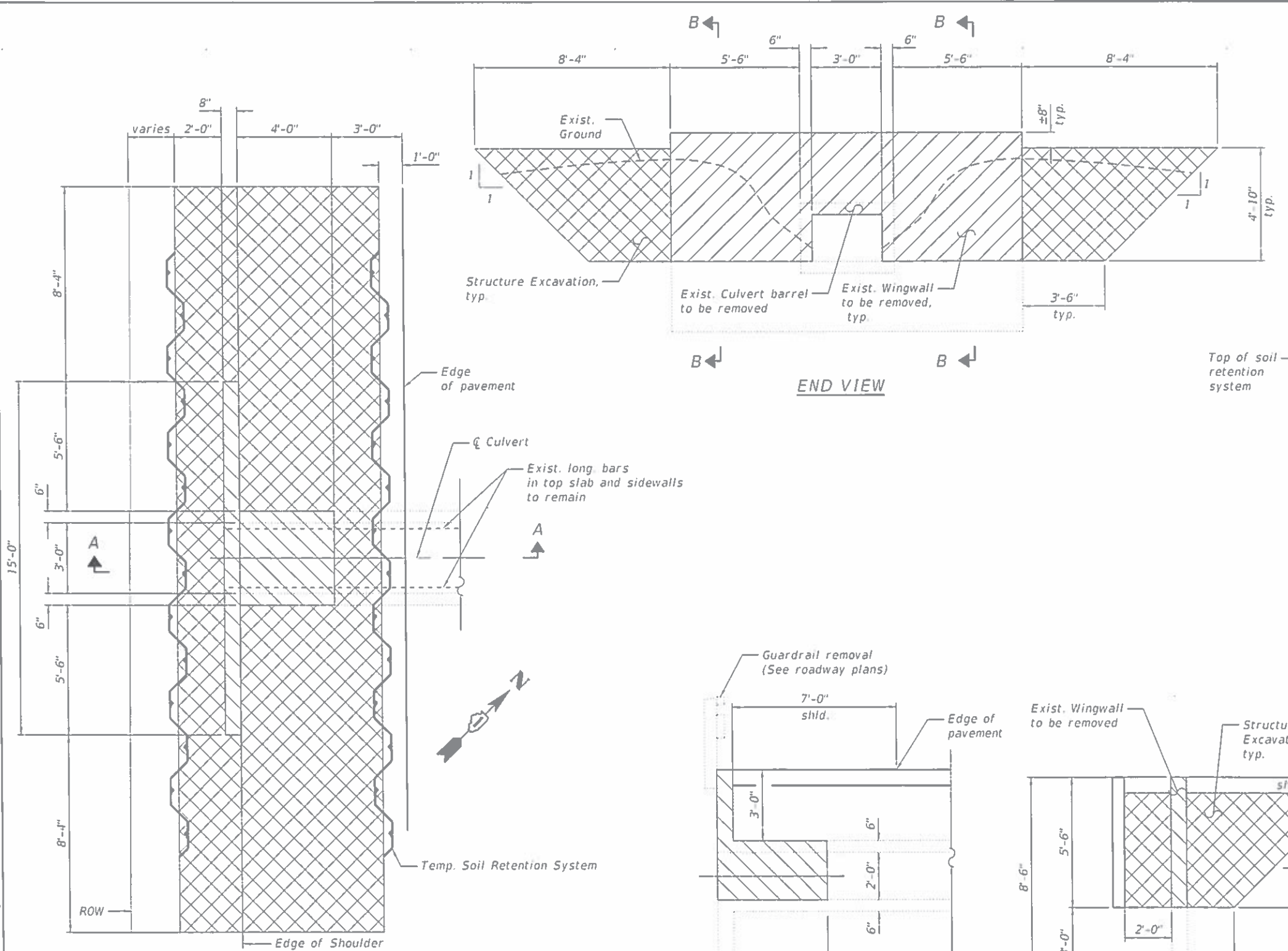
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US ROUTE 41 OVER DRAINAGE DITCH
GENERAL PLAN AND DETAILS

SHEET 1 OF 3 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-RS&SW	LAKE	40	24
CONTRACT NO. 62H36				
ILLINOIS FED. AID PROJECT				

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Notes:

Dimensions shown have been taken from existing plans and survey data and may not represent "as built" conditions. The contractor must verify all dimensions in the field. Variation in the field dimensions shall not warrant additional compensation for Concrete Removal.

The Contractor shall field verify exact location of all existing utilities prior to construction and take precautions not to damage existing utilities during excavations, construction or other underground work. Any such damage shall be repaired by the Contractor at no additional cost.

Existing reinforcement shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	27
Structure Excavation	Cu Yd	27
Temporary Soil Retention System	Sq Ft	241

EFK Moen Civil Engineering Design	USER NAME	DESIGNED - JSR	REVISED -
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	PLOT DATE	DRAWN - JSR	REVISED -
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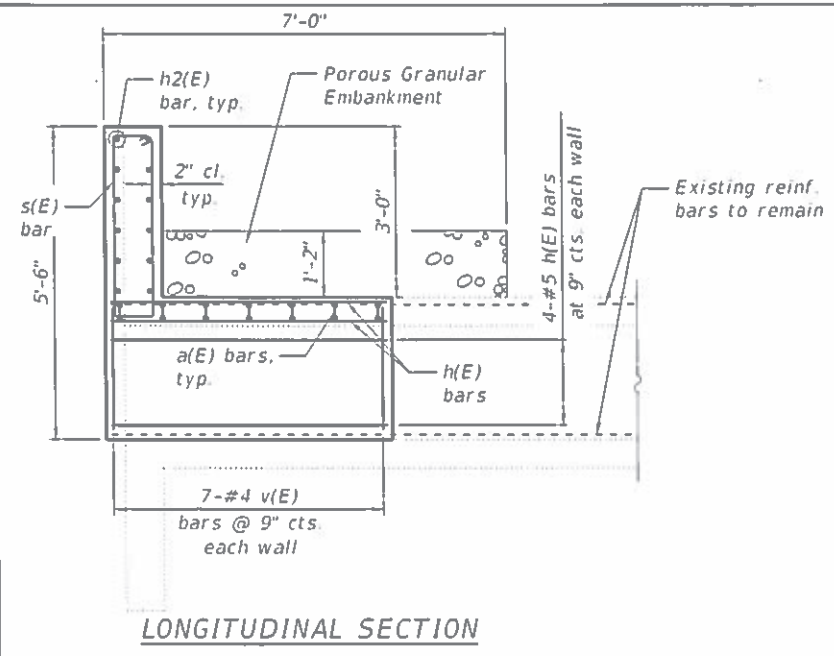
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

US ROUTE 41 OVER DRAINAGE DITCH
 BOX CULVERT STRUCTURE REMOVAL AND EXCAVATION

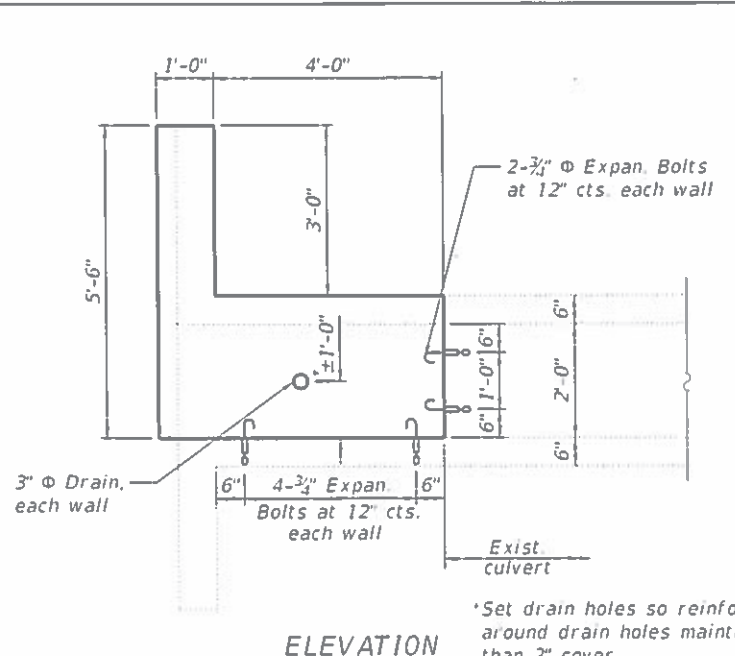
SHEET 2 OF 3 SHEETS

F.A.P. RTE. 346	SECTION 2018-111-R56SW	COUNTY LAKE	TOTAL SHEETS 42	SHEET NO. 25
CONTRACT NO. 62H36				
ILLINOIS FED AID PROJECT				

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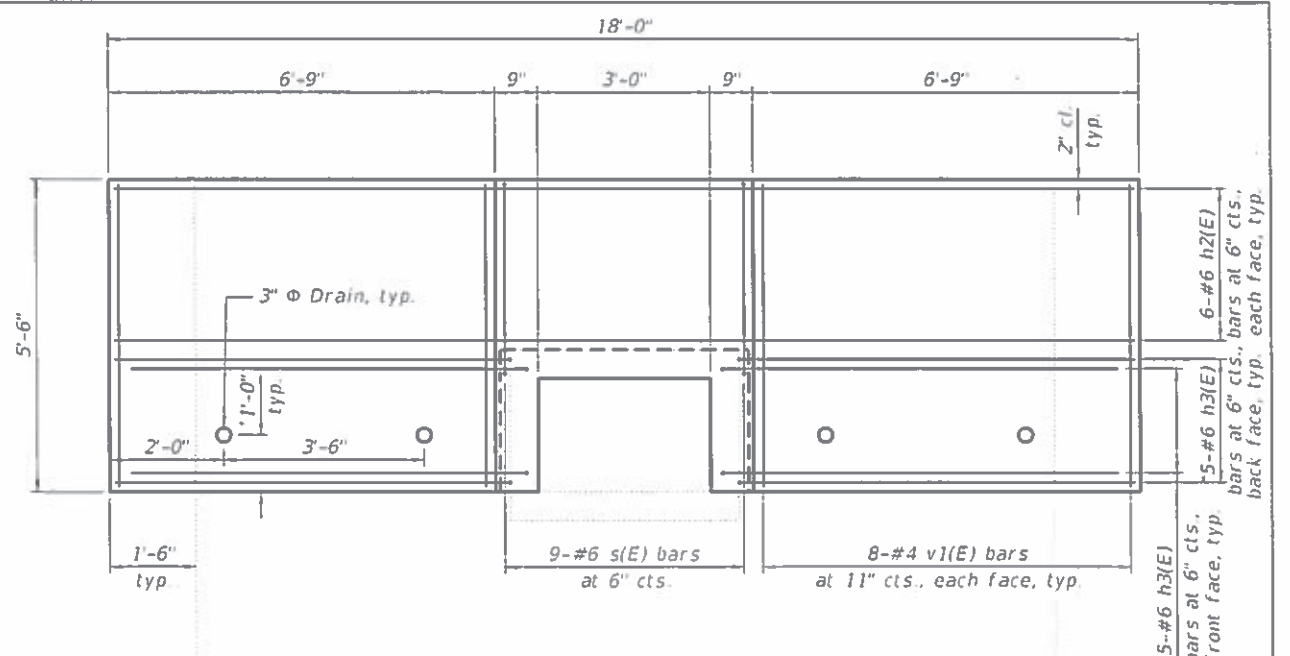


LONGITUDINAL SECTION



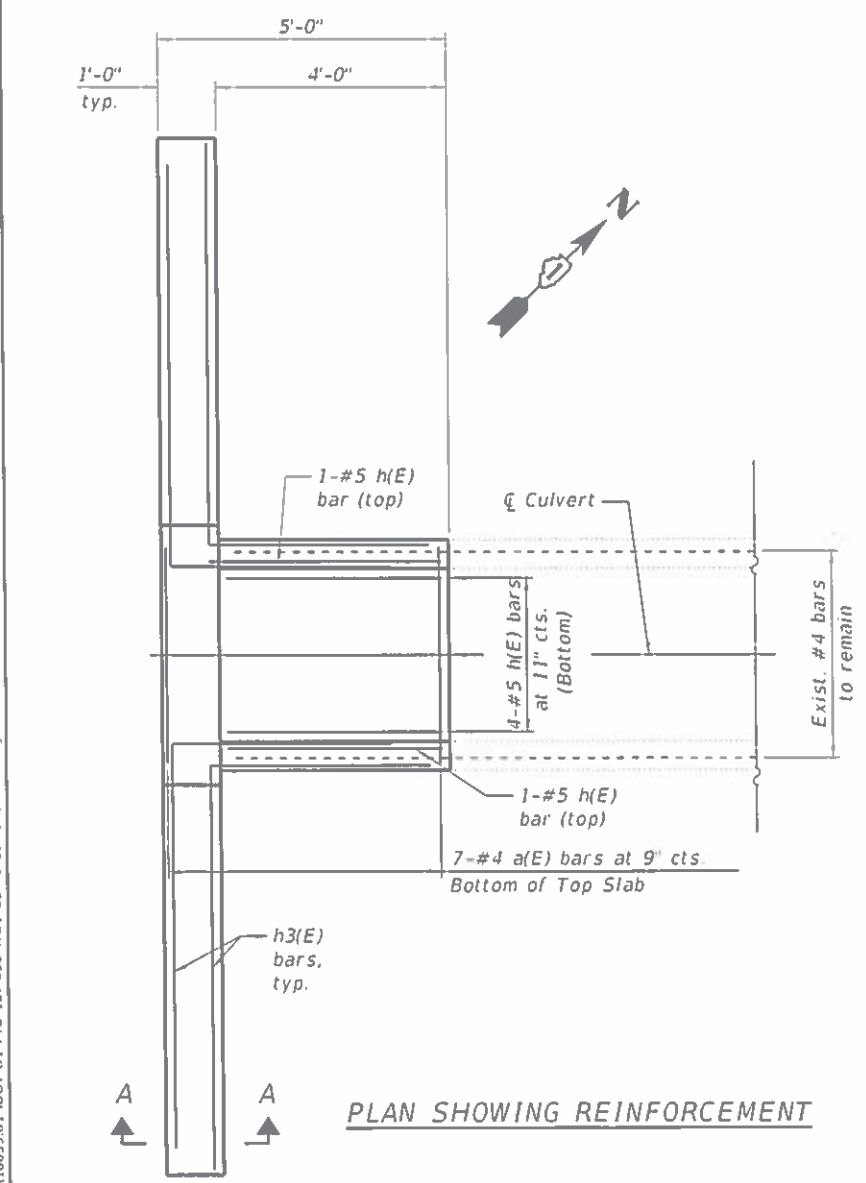
ELEVATION

*Set drain holes so reinforcement around drain holes maintains no less than 2" cover

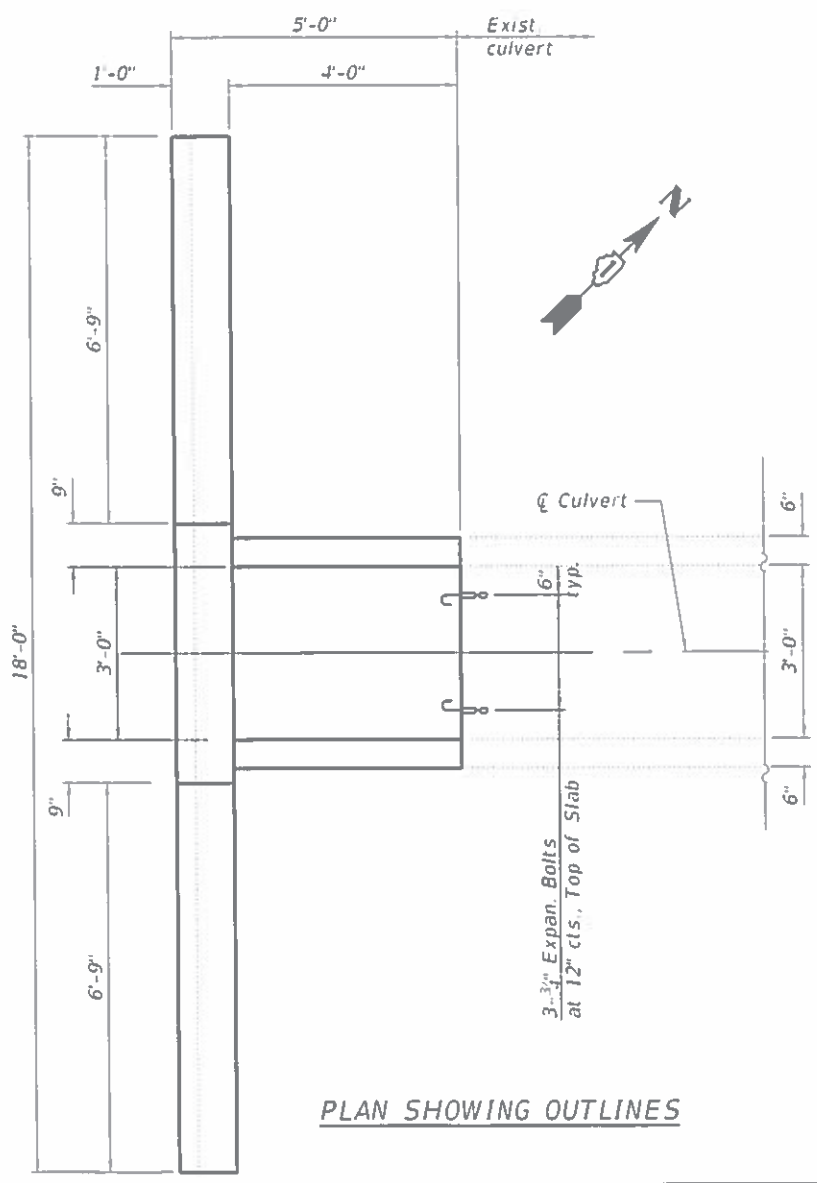


END ELEVATION

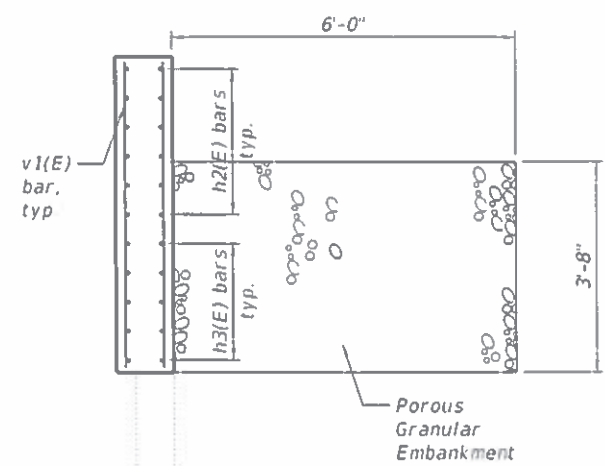
* Bend in field, if necessary



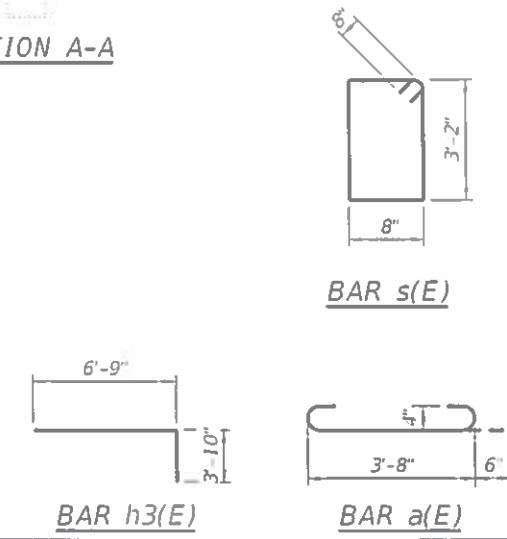
PLAN SHOWING REINFORCEMENT



PLAN SHOWING OUTLINES



SECTION A-A



EAST APPROACH
 BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a(E)	7	#4	4'-8"		
h(E)	14	#5	4'-8"	—	
h2(E)	12	#6	17'-8"	—	
h3(E)	20	#6	10'-7"	—	
v(E)	14	#4	2'-2"	—	
v1(E)	32	#4	5'-2"	—	
s(E)	9	#6	9'-0"		
Reinforcement Bars, Epoxy Coated				Pound	980
Concrete Box Culverts				Cu. Yd.	3.9
Expansion Bolts, 3/4"				Each	15
Porous Granular Embankment				Cu. Yd.	13

EFK Moen
 Civil Engineering Design

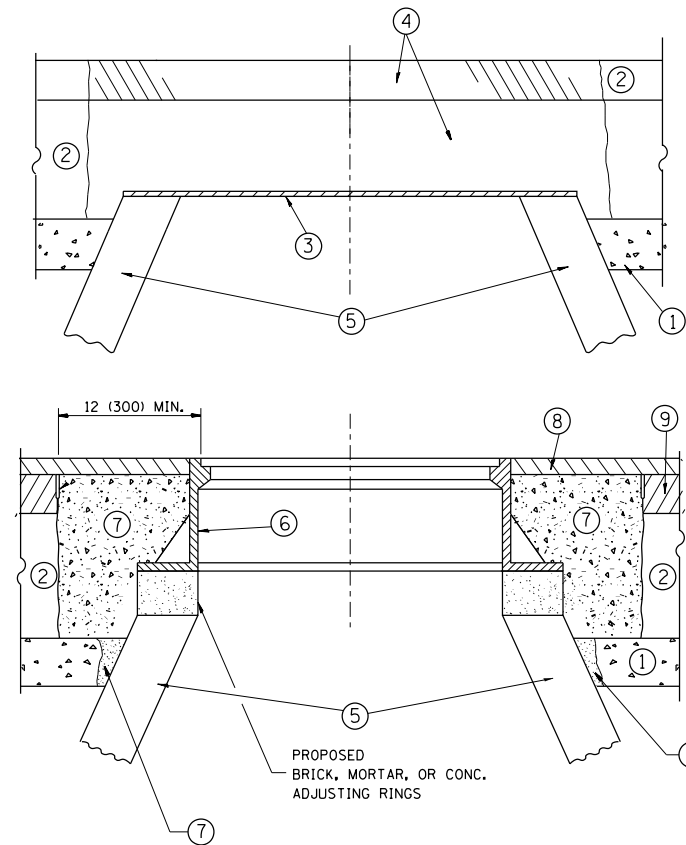
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PLOT SCALE	CHECKED - CDL	REVISED -
PLOT DATE	DRAWN - JSR	REVISED -
	CHECKED - CDL	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

US ROUTE 41 OVER DRAINAGE DITCH
 BOX CULVERT REPAIR DETAILS

SHEET 3 OF 3 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-RS&SW	LAKE	42	26
CONTRACT NO. 62H36				
ILLINOIS FED AID PROJECT				



CONSTRUCTION PROCEDURES

STAGE 1 (BEFORE PAVEMENT MILLING)

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

STAGE 2 (AFTER PAVEMENT MILLING)

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

* UNLESS OTHERWISE SPECIFIED IN THE PLANS.

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

LEGEND

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

LOCATION OF STRUCTURES:

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

BASIS OF PAYMENT:

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

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

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

NOTES:

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

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

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

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

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

DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

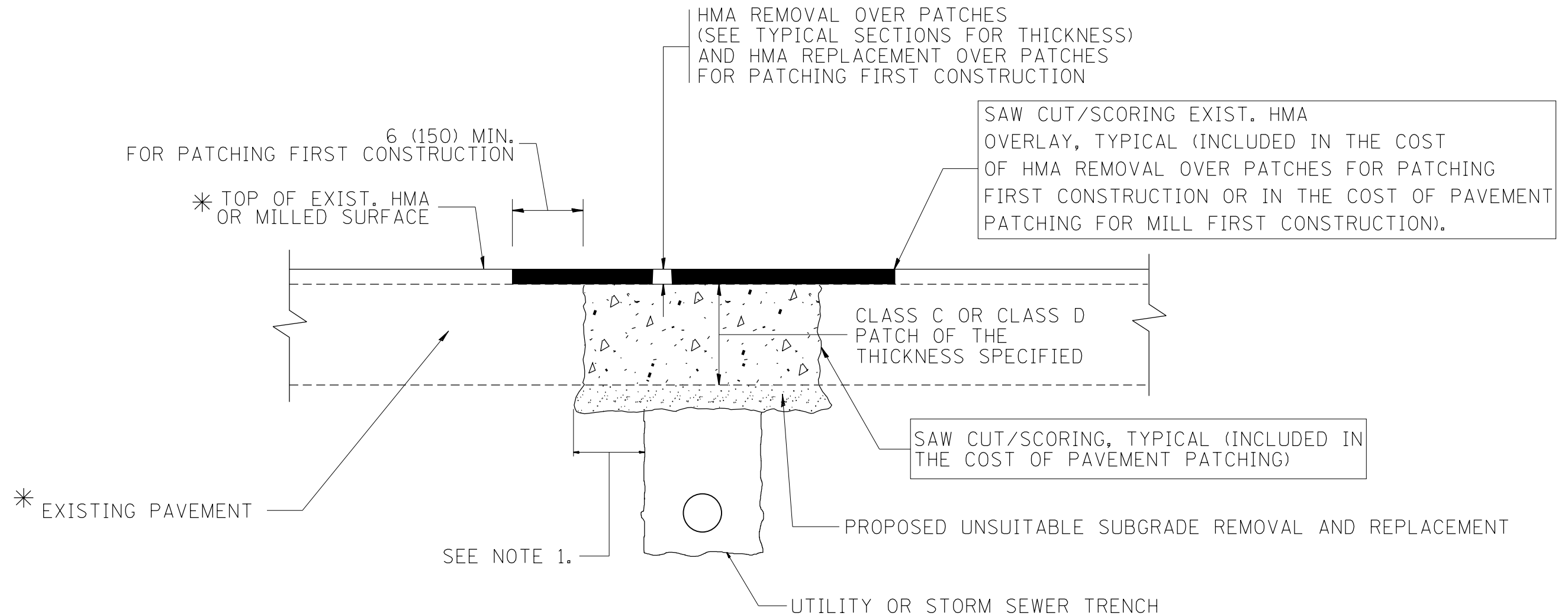
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

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	PLOT DATE = 2/5/2019	DATE - 10-25-94	REVISED - R. BORO 12-06-11

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-RS&SW	LAKE	42	27
BD600-03 (BD-8)		CONTRACT NO.	62H36	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

NOTES:

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

SEQUENCE OF CONSTRUCTION (PATCHING FIRST)

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

SEQUENCE OF CONSTRUCTION (MILLING FIRST)

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

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

FILE NAME =	USER NAME = equinoma	DESIGNED - R. SHAH	REVISED - A. ABBAS 04-27-98
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	PLOT SCALE = 100.0000' / 1in.	DATE - 10-25-94	REVISED - R. BORO 09-04-07
	PLOT DATE = 2/5/2019		REVISED - K. ENG 10-27-08

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT PATCHING FOR
HMA SURFACED PAVEMENT**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-RS&SW	LAKE	42	28
BD400-04 (BD-22)		CONTRACT NO. 62H36		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

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

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

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

SEE STATE STANDARD 606001
EXISTING OR PROPOSED HMA SURFACE (IF APPLICABLE)

18" (450) MAX.

1/4" (5) **

EXISTING SIDEWALK, DRIVEWAY, MEDIAN SURFACE, SOD OR GROUND.

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

EXISTING CONCRETE PAVEMENT, CONCRETE BASE COURSE OR FLEXIBLE PAVEMENT

3" (75) MIN.

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

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

* 3" (75) MINIMUM FROM TOP AND BOTTOM OF THE CONCRETE PAVEMENT OR BASE COURSE.

** IF THE FINAL SURFACE OF THE PAVEMENT IS CONCRETE, THE GUTTER IS TO BE FLUSH WITH THE PAVEMENT.

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

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

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

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

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

② FERTILIZER FOR THE PLACEMENT OF THE SOD IS NOT REQUIRED

③ CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.

④ FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.

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

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

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

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

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

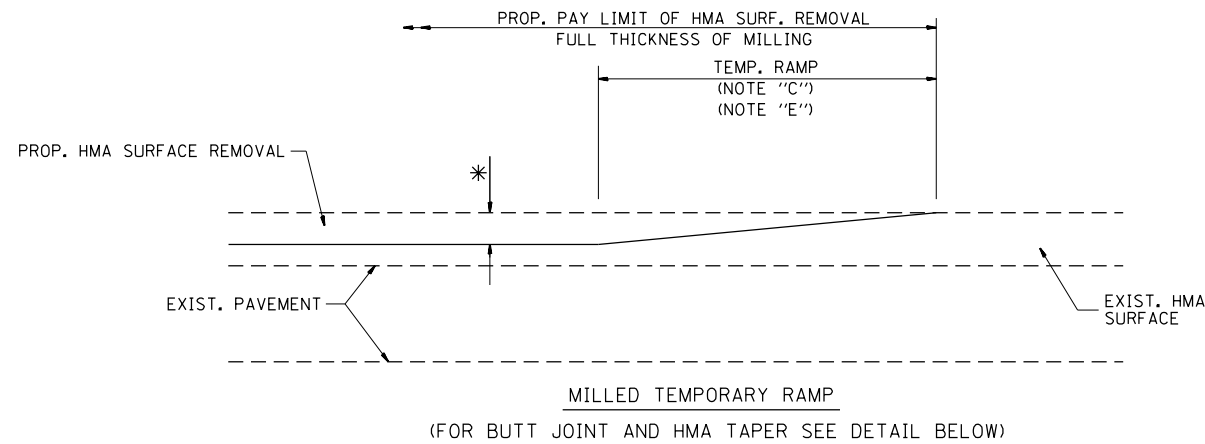
BASIS OF PAYMENT:

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

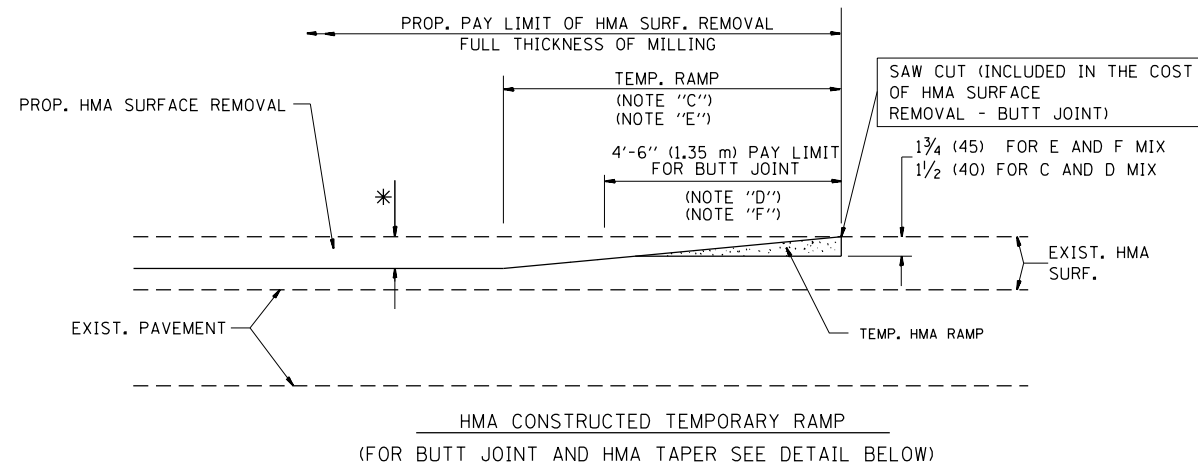
CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

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

FILE NAME =	USER NAME = equinoma	DESIGNED - A. HOUSEH	REVISED - R. SHAH 10-03-96	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT			F.A.P. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw\1\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\DOT Offices\District 1\Projects\DI04\BROWNS\Design\DistStd.dgn			REVISED - A. ABBAS 03-21-97					346	2018-111-RS&SW	LAKE	42	29
PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - M. GOMEZ 01-22-01			BD600-06 (BD-24)			CONTRACT NO. 62H36				
PLOT DATE = 2/5/2019	DATE - 03-11-94	REVISED - R. BORO 12-15-09	SCALE: NONE		SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

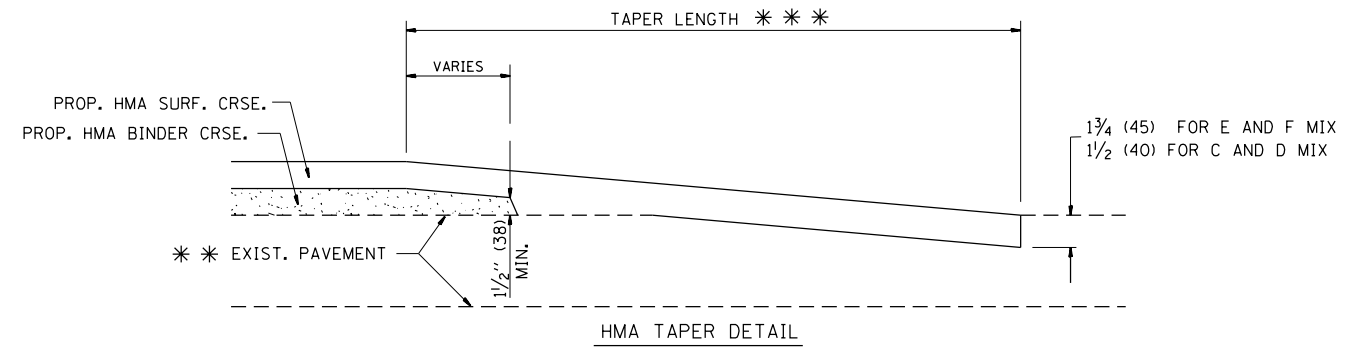
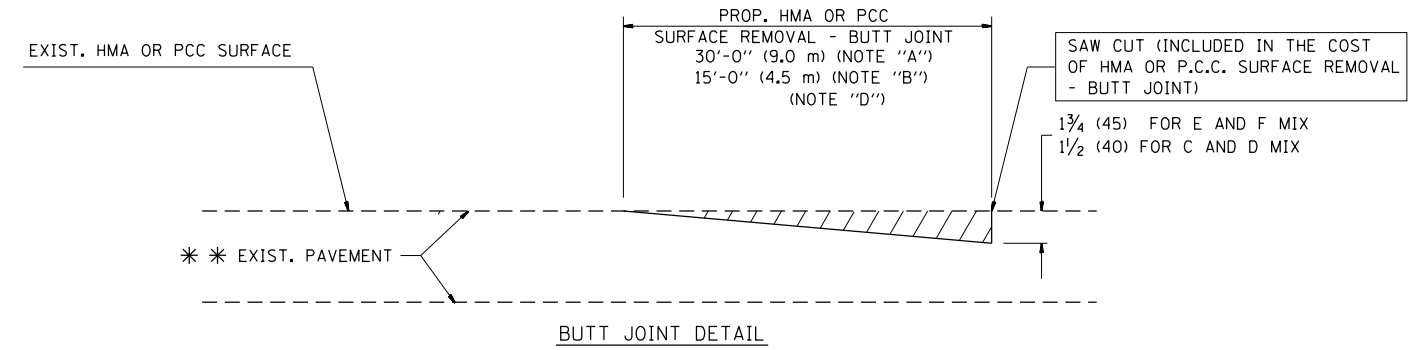


OPTION 1



OPTION 2

TYPICAL TEMPORARY RAMP



TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

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

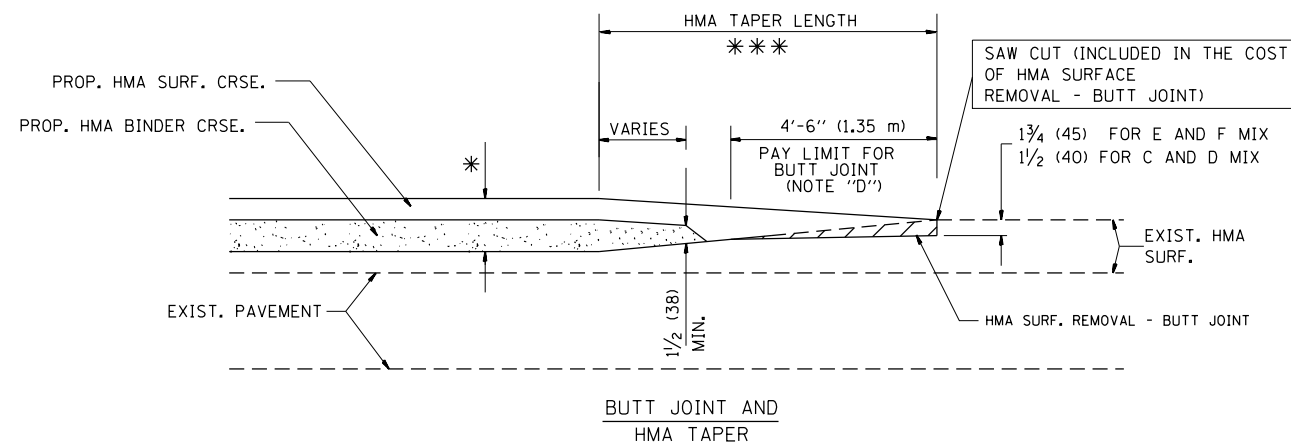
NOTES

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

BASIS OF PAYMENT:

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

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



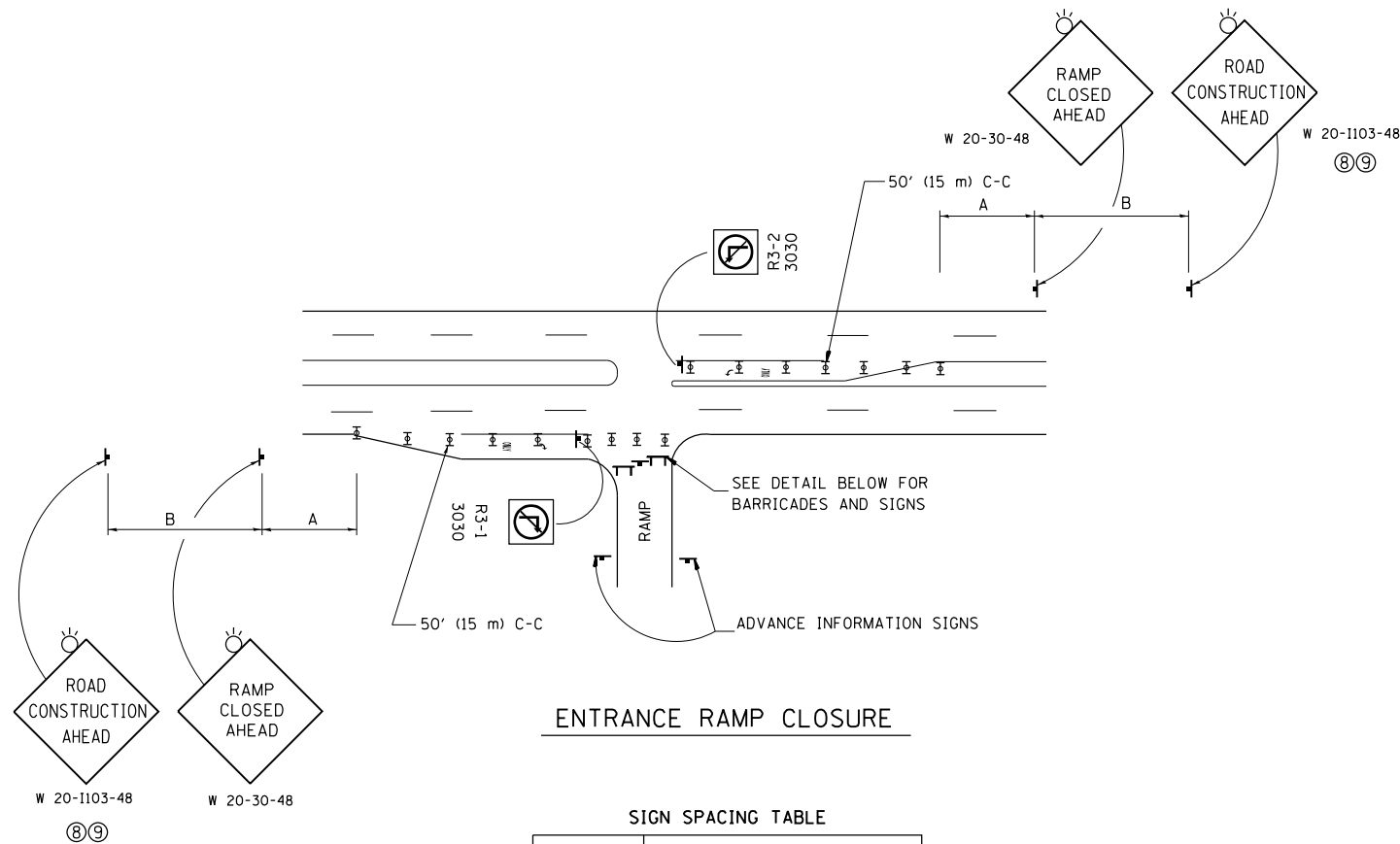
TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING

FILE NAME =	USER NAME = equinoma	DESIGNED - M. DE YONG	REVISED - R. SHAH 10-25-94
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	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - M. GOMEZ 04-06-01
	PLOT DATE = 2/5/2019	DATE - 06-13-90	REVISED - R. BORO 01-01-07

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

BUTT JOINT AND HMA TAPER DETAILS	
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-RS&SW	LAKE	42	30
BD400-05 BD32		CONTRACT NO. 62H36		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

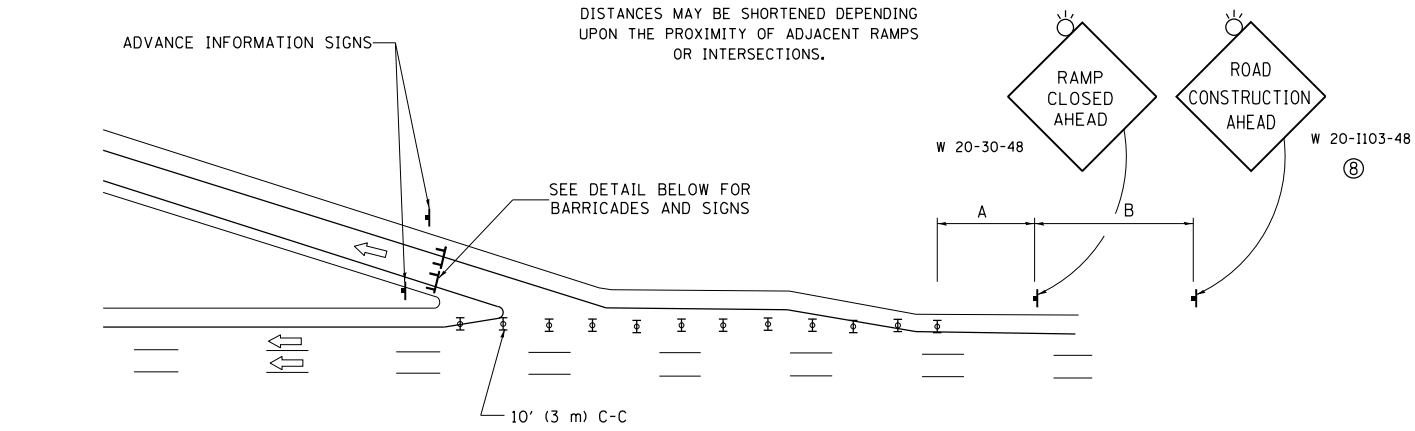


ENTRANCE RAMP CLOSURE

SIGN SPACING TABLE

FACILITY	DISTANCE BETWEEN SIGNS	
	A	B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY <24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL 55 MPH	500' (150 m)	500' (150 m)
ARTERIAL 50-45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	200' (60 m)	200' (60 m)

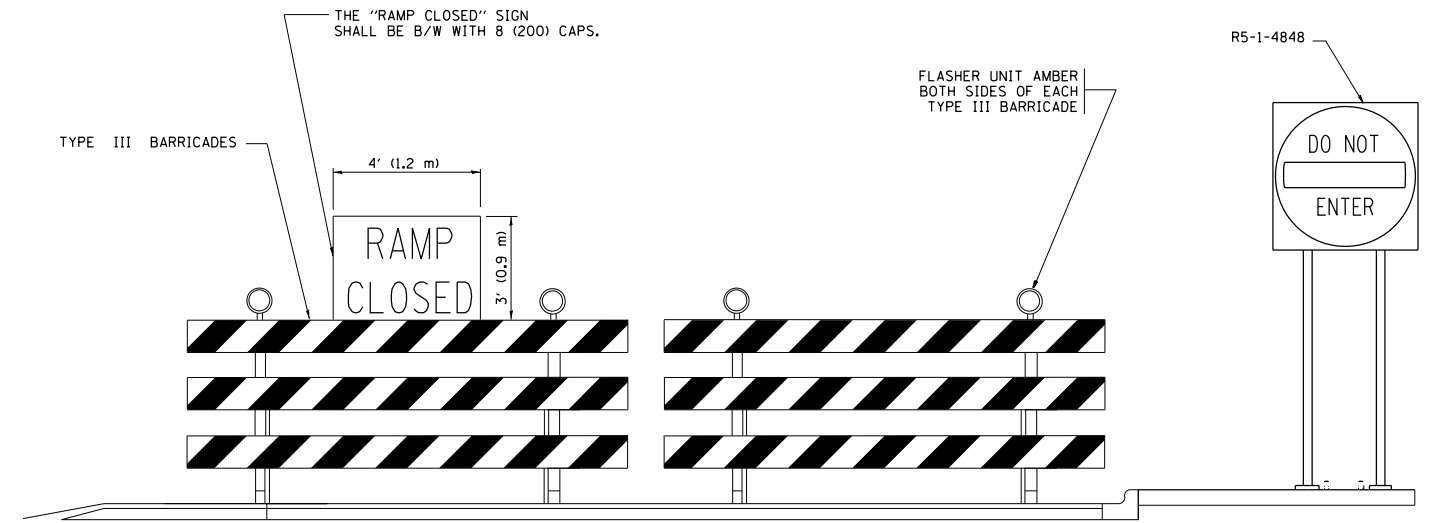
DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.



EXIT RAMP CLOSURE

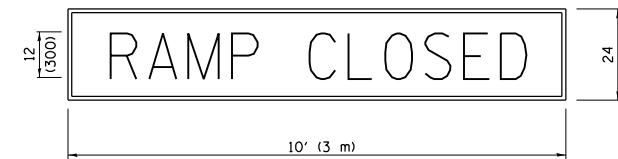
SYMBOLS

- ⊥ TYPE II BARRICADE OR DRUM
- ⊔ TYPE III BARRICADE WITH 2 FLASHING LIGHTS



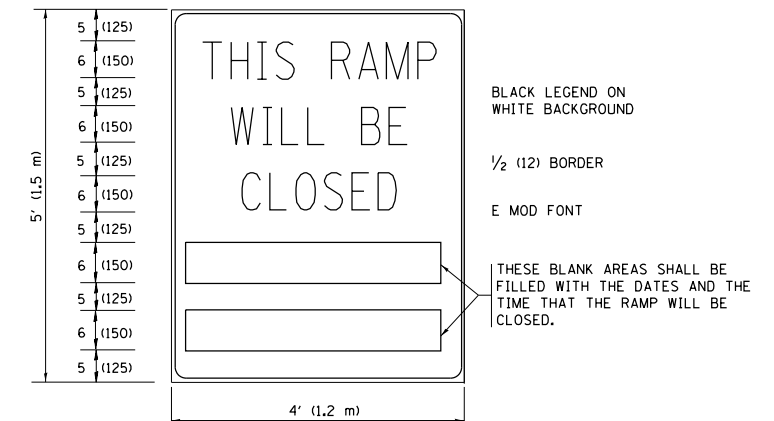
DETAIL FOR REQUIRED BARRICADES & SIGNS

RAMP CLOSURE ADVANCE WARNING SIGN



BLACK LEGEND ON ORANGE BACKGROUND MOUNTED DIAGONALLY
E MOD FONT
1 (25) BORDER
THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR EXIT RAMPS THAT WILL BE CLOSED FOR MORE THAN FOUR (4) CONSECUTIVE DAYS.

RAMP CLOSURE ADVANCE INFORMATION SIGN



BLACK LEGEND ON WHITE BACKGROUND
1/2 (12) BORDER
E MOD FONT

THESE BLANK AREAS SHALL BE FILLED WITH THE DATES AND THE TIME THAT THE RAMP WILL BE CLOSED.

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:

- ① CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
- ② VERTICAL BARRICADES SHALL NOT BE USED FOR RAMP CLOSURES.
- ③ A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES, PRECEDED 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.
- ⑤ THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
- 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 GUIDE 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.
- ⑨ 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 = equinoma	DESIGNED - D.W.S.	REVISED - S.P.B. 01-07
p:\1\084EBIDINTEG\illinois.gov\PIWIDOT\Documents\IDOT Offices\District 1\Projects\DI04\BRAW\Design\DistStd.dgn		CHECKED -	REVISED - S.P.B. 12-09
Default	PLOT SCALE = 100.0000' / in.	DATE - 02-83	REVISED - M.D. 06-13
	PLOT DATE = 2/5/2019		REVISED - M.D. 01-18

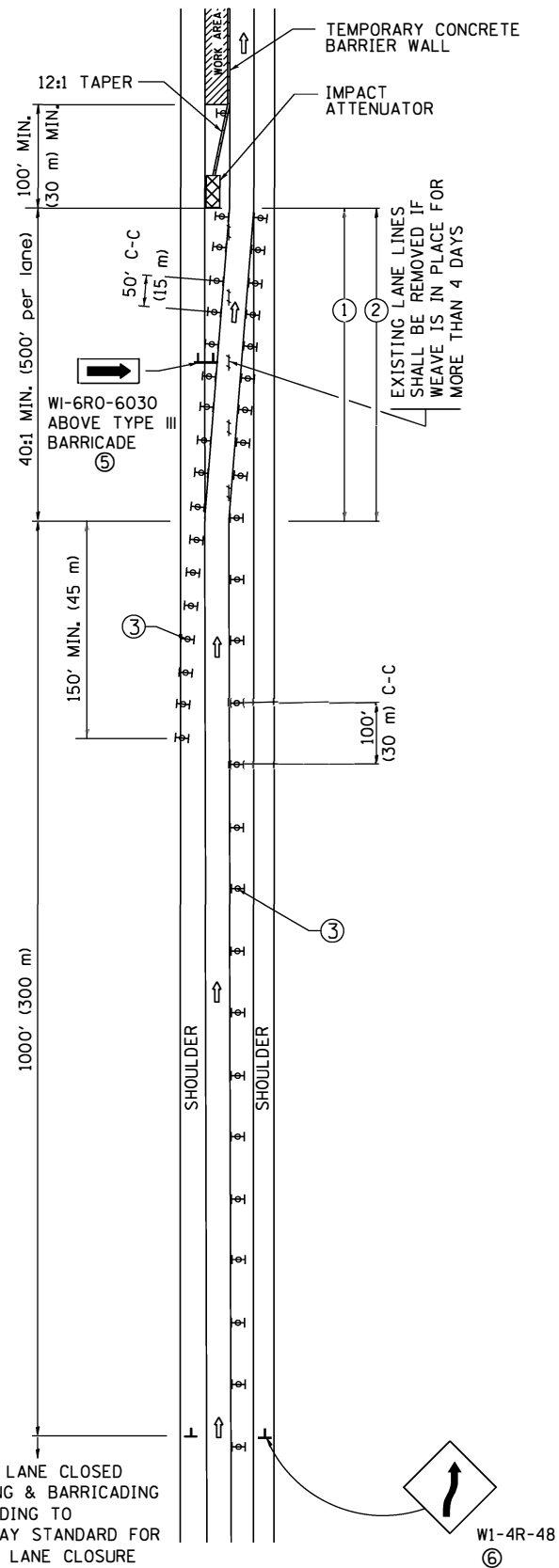
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ENTRANCE AND EXIT RAMP
CLOSURE DETAILS**

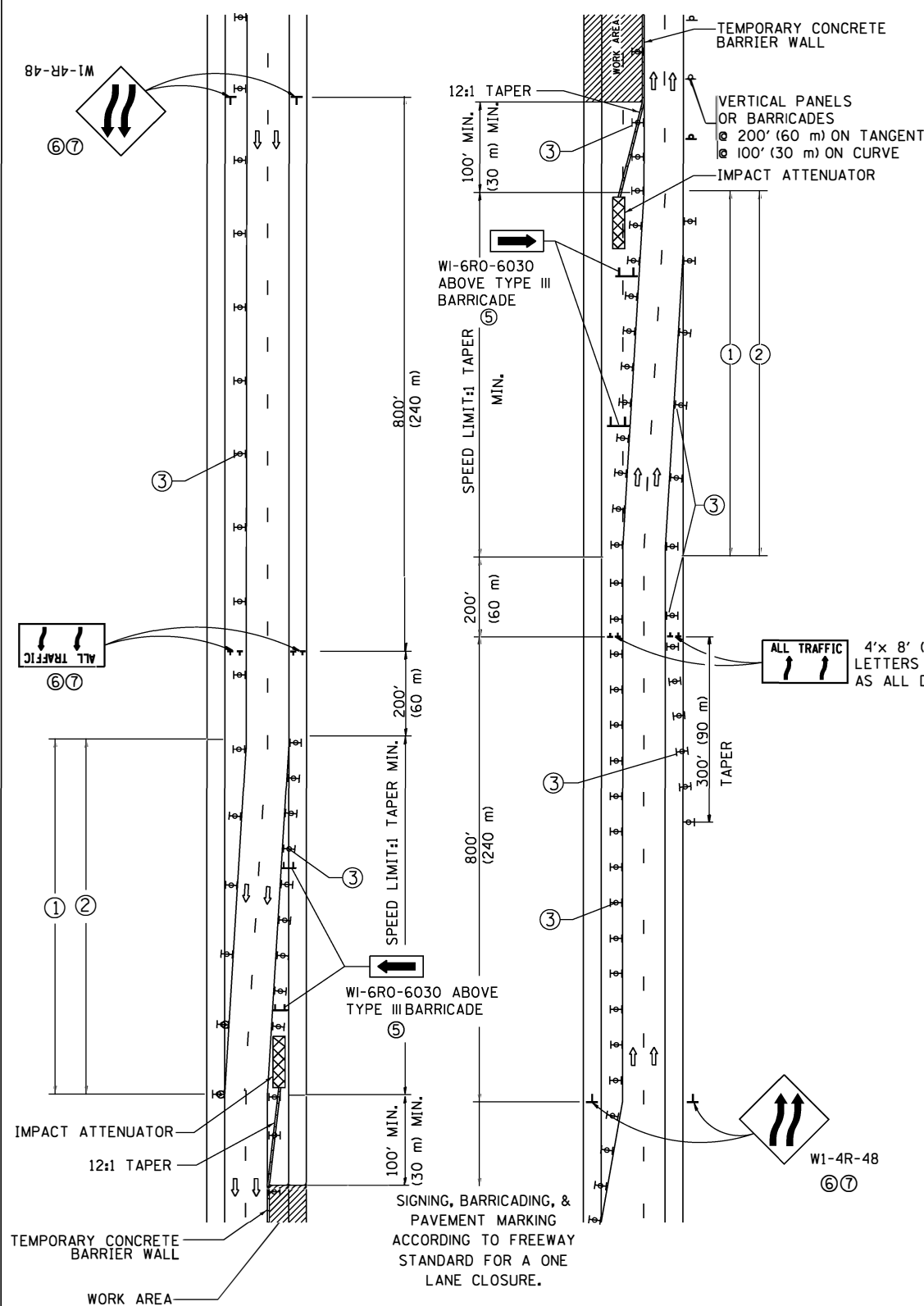
SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-RS&SW	LAKE	42	32
TC-08		CONTRACT NO. 62H36		
ILLINOIS FED. AID PROJECT				

SINGLE LANE WEAVE



MULTI-LANE WEAVE



GENERAL NOTES

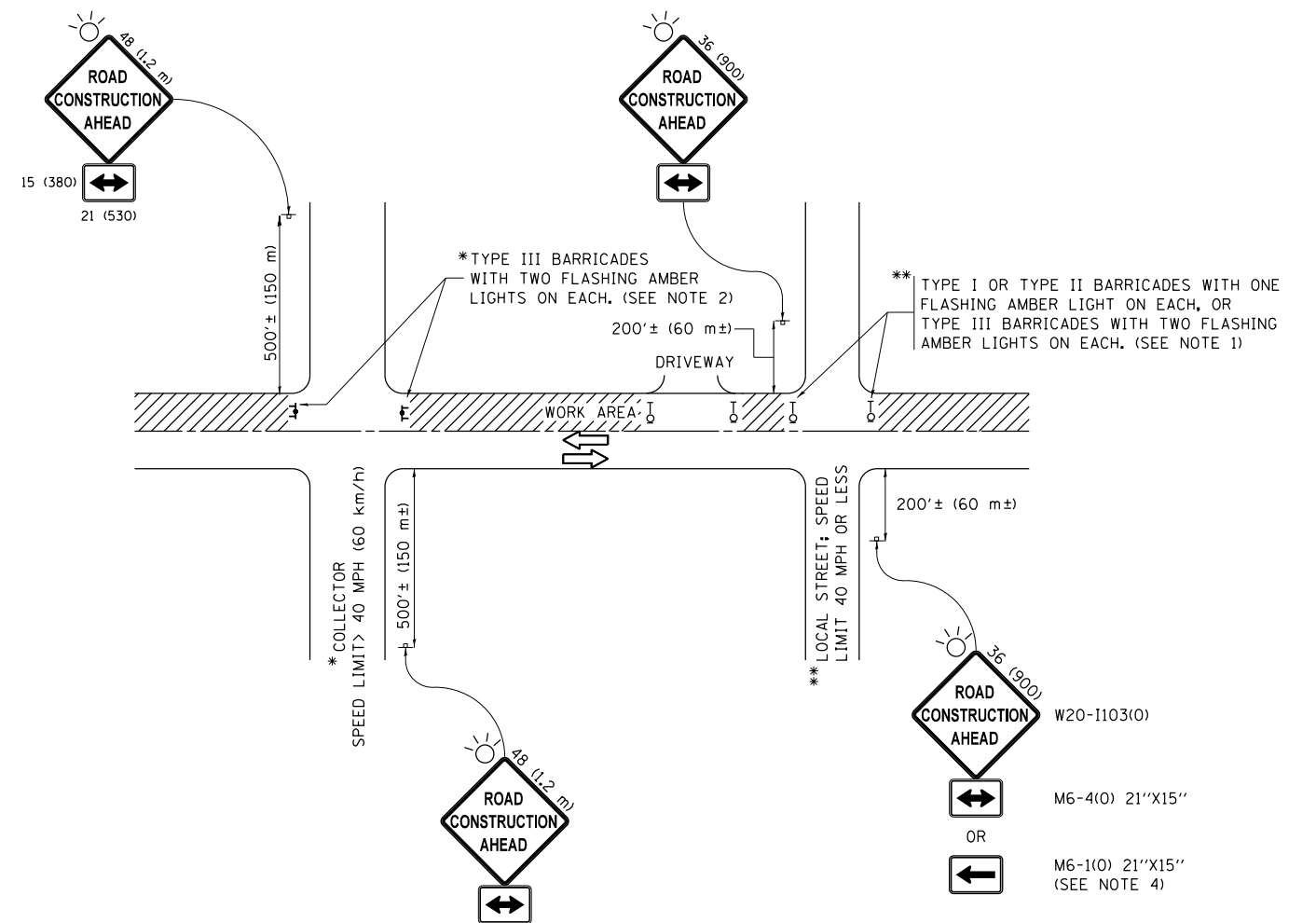
- EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 4 DAYS IN DURATION.
- CONTINUOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.
- PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- TYPE III BARRICADES MAY BE OMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.
- WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.
- THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

SYMBOLS

- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- TEMPORARY CONCRETE BARRIER WALL
- IMPACT ATTENUATOR
- W1-4R-48
- W24-1-48

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

FILE NAME =	USER NAME = equinome	DESIGNED - DWS	REVISED - JAF 02-06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI-LANE WEAVE	F.A.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw:\plnroom\dot.illinois.gov\PIDOT\Documents\DOT Offices\District 1\Projects\0104119\DRAWING\Design\DistStd.dgn		REVISOR - SPB 01-07	REVISED - SPB 12-09			346	2018-111-RS&SW	LAKE	42	32A
PLOT SCALE = 1/8" = 1'-0"	CHECKED -	REVISOR - MD 06-13				TC-09		CONTRACT NO. 62H36		
PLOT DATE = 3/18/2019	DATE - 02-87					FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



NOTES:

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 36 x 36 (900x900) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
 - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
 - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
3. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.
4. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
5. WHEN WORK IS BEING PERFORMED ON A SIDE ROAD OR DRIVEWAY, FOLLOW THE APPLICABLE STANDARD(S). THE DIRECTIONAL ARROW (M6-1 OR M6-4) SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE TRAFFIC CONTROL SET-UP.
6. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAYS UNLESS OTHERWISE SPECIFIED IN THE PLANS OR BY THE ENGINEER.
7. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

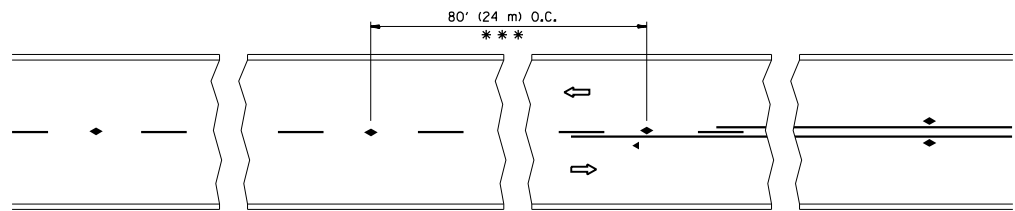
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p:\11\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\IDOT Offices\District 1\Projects\DI04\BRAW\Notes\Design\DistStd.dgn			REVISED - T. RAMMACHER 01-06-00
Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED - A. SCHUETZE 07-01-13
	PLOT DATE = 2/5/2019	DATE - 06-89	REVISED - A. SCHUETZE 09-15-16

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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

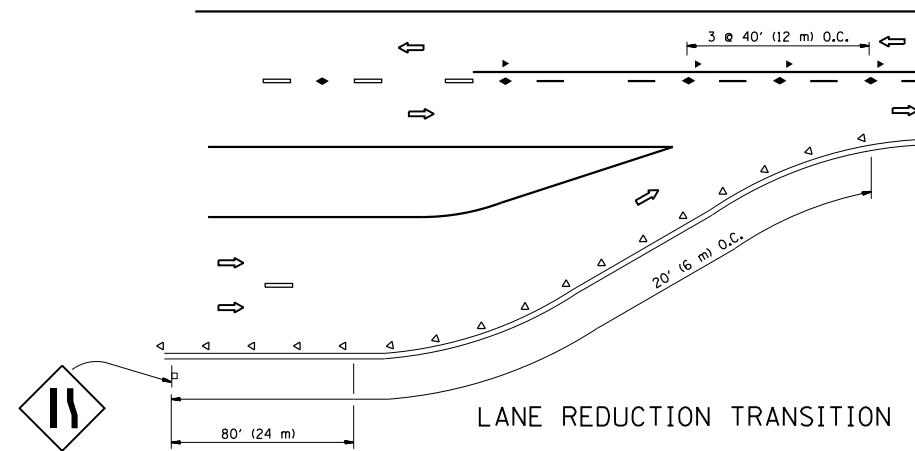
SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-10			CONTRACT NO. 62H36	
ILLINOIS FED. AID PROJECT				

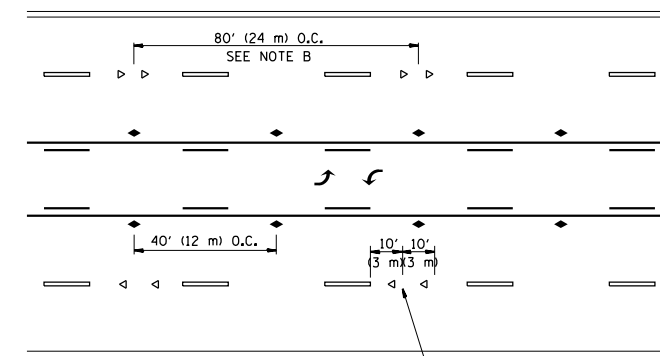


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

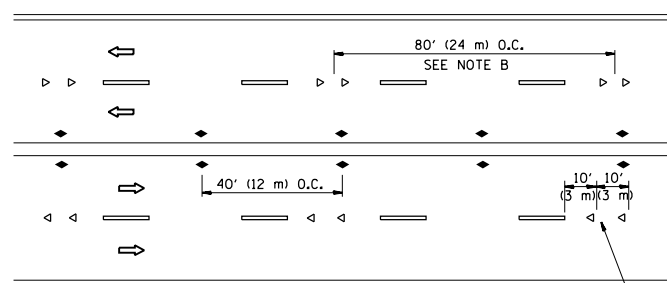
TWO-LANE/TWO-WAY



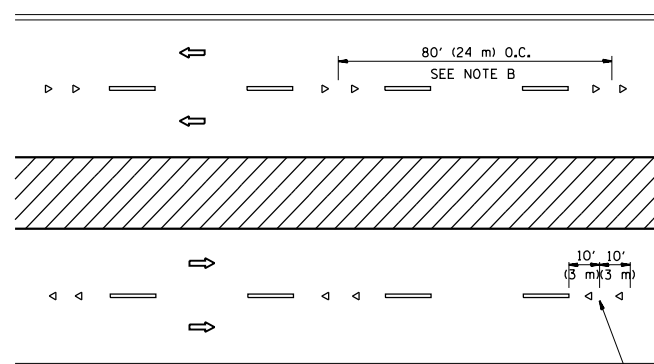
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

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

SYMBOLS

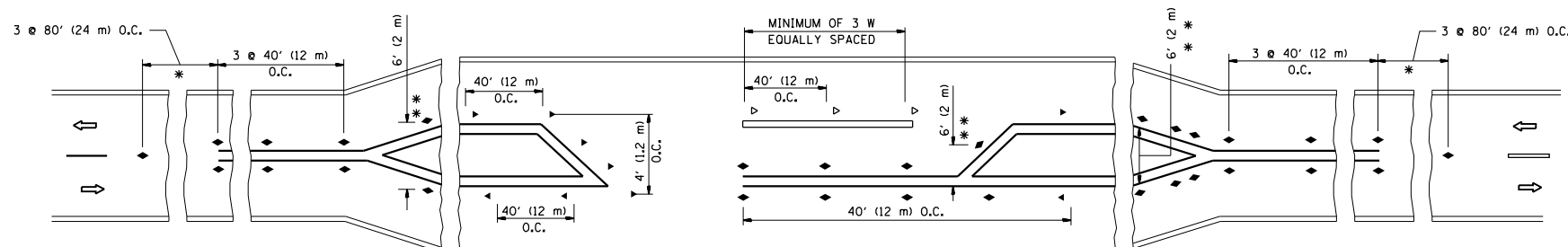
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

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

DESIGN NOTES

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



* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE
 ** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

LEFT TURN

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

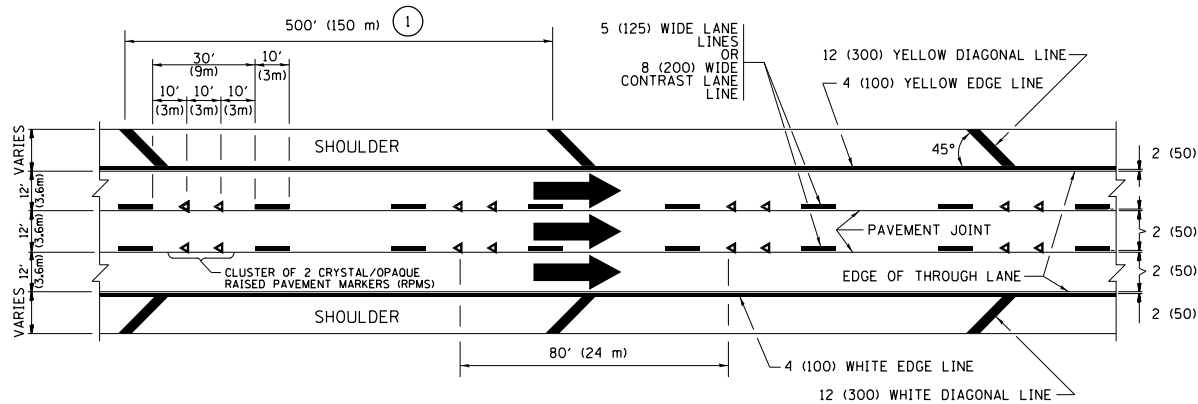
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		DATE -	REVISED - T. RAMMACHER 01-06-00
			REVISED - C. JUCIUS 09-09-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

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

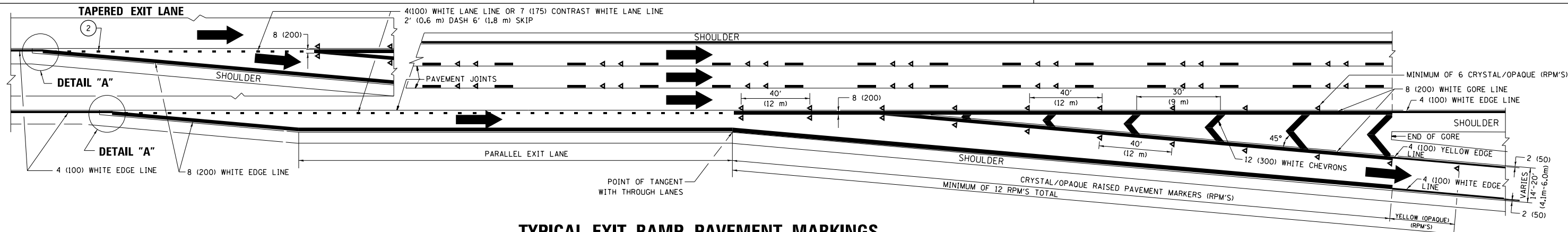
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-RS&SW	LAKE	42	34
TC-11		CONTRACT NO. 62H36		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



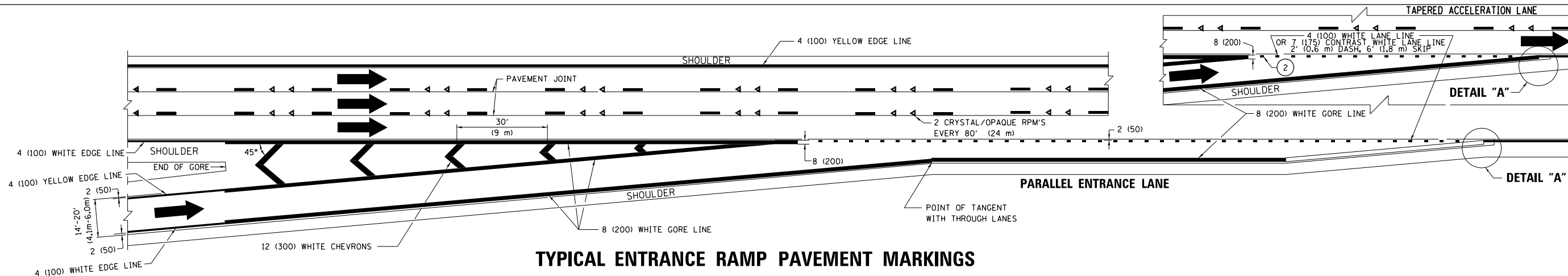
TYPICAL EDGE LINES & LANE LINES

PAVEMENT MARKING MATERIALS

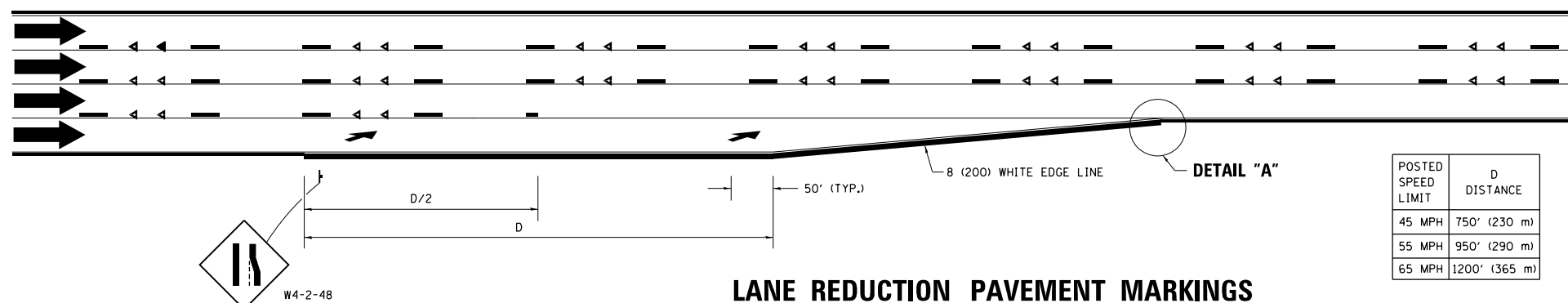
1. THERMOPLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR ALL EDGE LINES, GORE LINES, AND DIAGONAL LINES ON HMA PAVEMENTS.
2. POLYUREA OR MODIFIED URETHANE PAVEMENT MARKING LINE SHALL BE USED FOR ALL EDGE LINES, GORE LINES, AND DIAGONAL LINES ON PCC PAVEMENTS.
3. PREFORMED PLASTIC PAVEMENT MARKING LINE TYPE B, INLAID OR GROOVE IN, SHALL BE USED FOR ALL LANE LINES ON HMA PAVEMENTS.
4. CONTRAST PREFORMED PLASTIC PAVEMENT MARKING LINE TYPE B, GROOVE IN, SHALL BE USED FOR ALL LANE LINES ON PCC PAVEMENT.



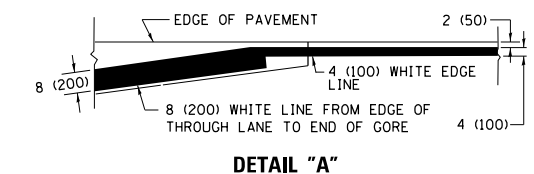
TYPICAL EXIT RAMP PAVEMENT MARKINGS



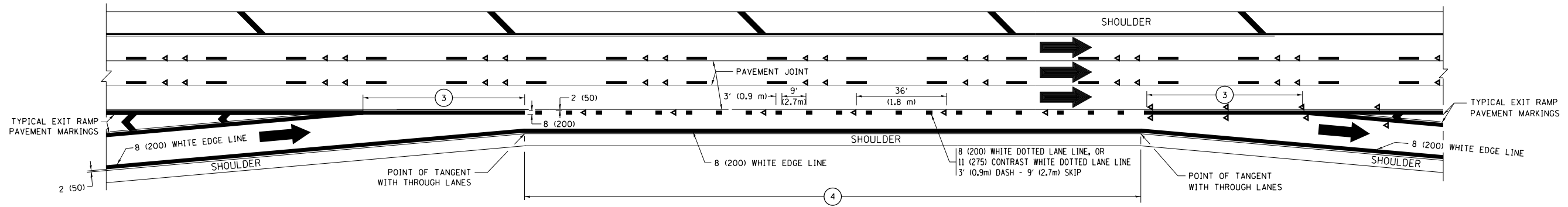
TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS



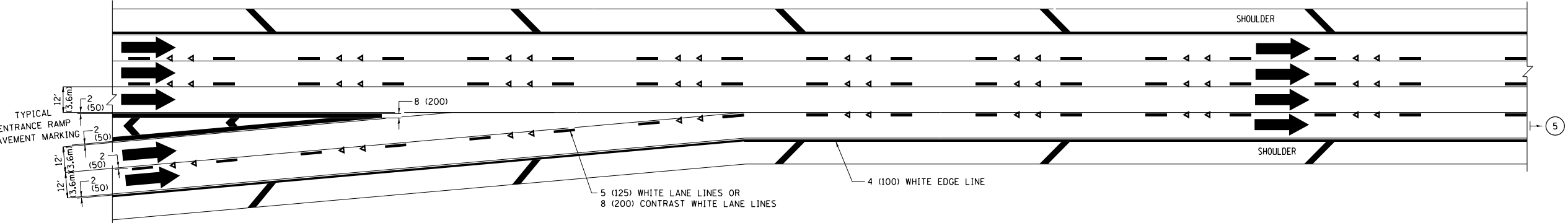
LANE REDUCTION PAVEMENT MARKINGS



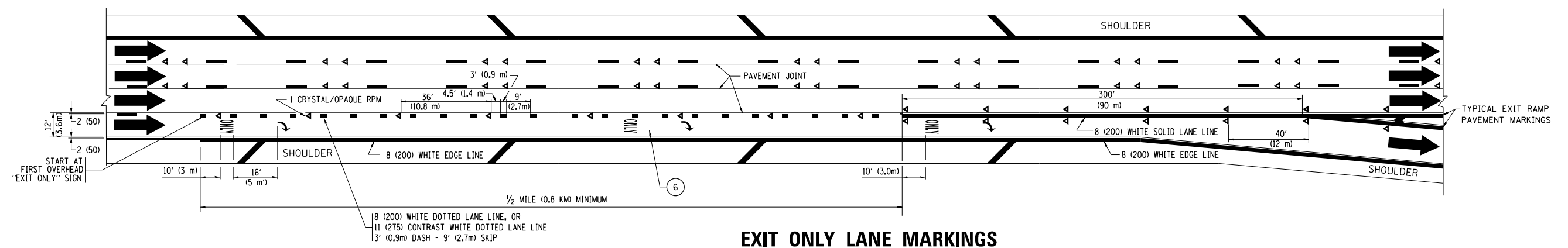
- NOTES:**
- 1 THE DIAGONAL LINES SHALL BE SPACED AT 40' (12 m) C-C ACROSS ALL STRUCTURES WHICH ARE 500' (150 m) OR LESS IN LENGTH. THE DIAGONAL LINES ARE NOT REQUIRED ON SHOULDERS WHICH ARE 6' (1.8 m) OR LESS IN WIDTH.
 - 2 4" (2' DASH, 6' SKIP) MARKING ON TAPERED ENTRANCE AND EXIT RAMP SHALL BE OMITTED ON TANGENT SECTIONS.



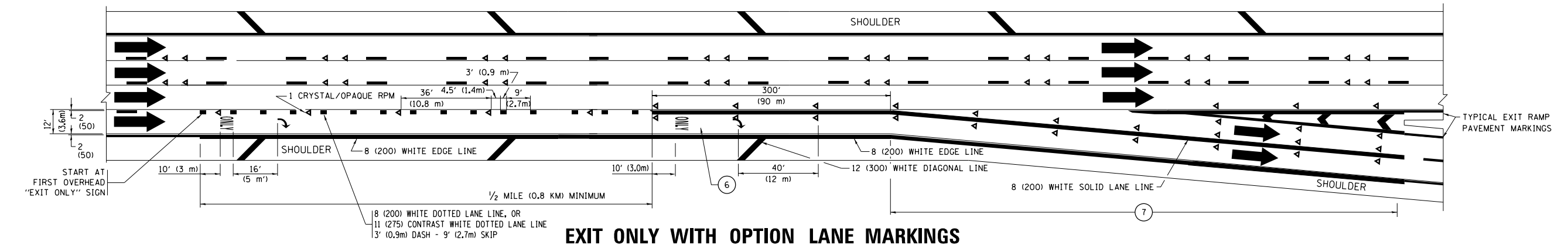
AUXILIARY LANE MARKINGS



TWO LANE ENTRANCE RAMP WITH MERGE MARKINGS



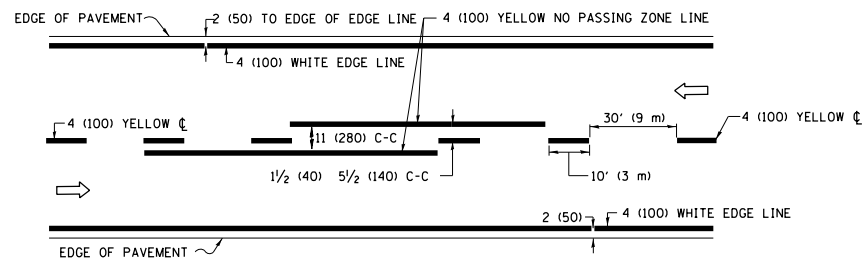
EXIT ONLY LANE MARKINGS



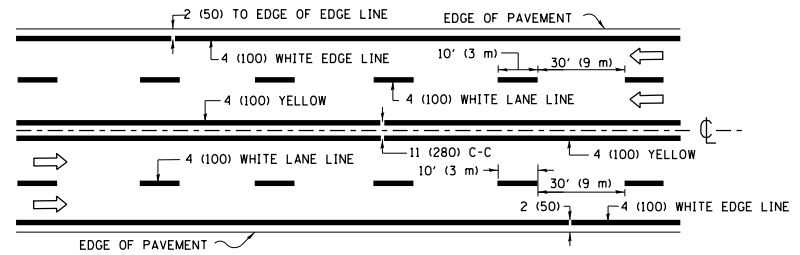
EXIT ONLY WITH OPTION LANE MARKINGS

- NOTES:**
- ③ OMIT WHEN LENGTH OF AUXILIARY LANE IS LESS THAN 500' (150 m).
 - ④ 8-INCH WIDE DOTTED LANE LINE MARKINGS SHALL BE USED WHEN THE LENGTH OF THE AUXILIARY LANE IS 2 MILES OR LESS.
 - ⑤ FOR TWO-LANE ENTRANCE RAMP, IF RIGHT LANE ENDS, USE TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS.
 - ⑥ ONLY AND ARROWS EQUALLY SPACED, 500' (150 m) MAXIMUM SPACING. FULL SIZE LETTERS AND ARROW SHALL BE USED.
 - ⑦ CONTINUE 8" SOLID LANE LINE THROUGH EXIT TO END OF PAVED GORE.

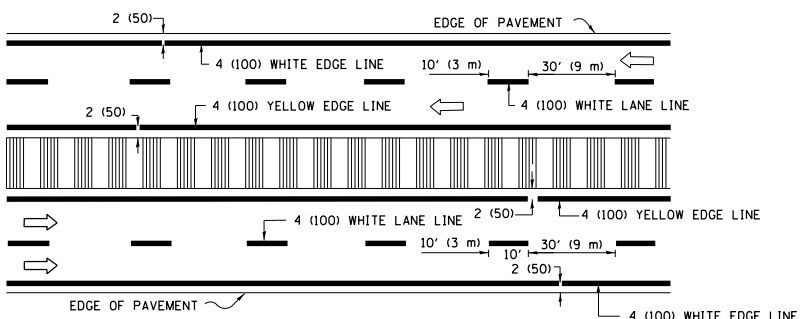
FILE NAME =	USER NAME = equinoma	DESIGNED - D.W.S.	REVISED - J.A.F. 02-06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MULTI-LANE FREEWAY PAVEMENT MARKING DETAILS			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
Default			REVISED - S.P.B. 01-07		SCALE: NONE	SHEET 2	OF 2 SHEETS	STA.	TO STA.	346	2018-111-R5&SW	LAKE	42	36
			REVISED - S.P.B. 01-10							TC-12			CONTRACT NO.	62H36
			REVISED - M.D. 09-17							ILLINOIS FED. AID PROJECT				



2-LANE ROADWAY

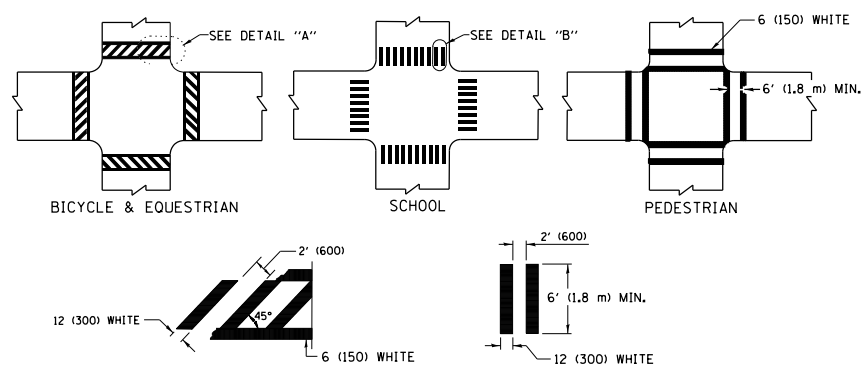


MULTI-LANE UNDIVIDED



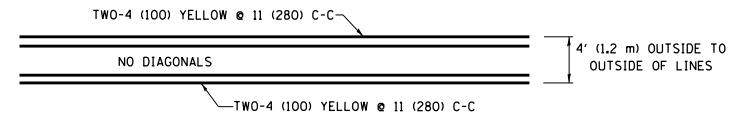
MULTI-LANE DIVIDED WITH MEDIAN

TYPICAL LANE AND EDGE LINE MARKING

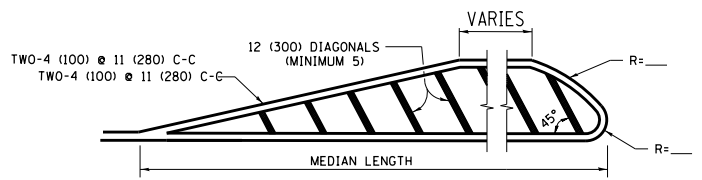


TYPICAL CROSSWALK MARKING

* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES

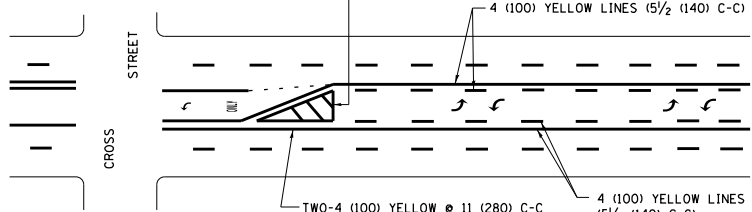


4' (1.2 m) WIDE MEDIANS ONLY



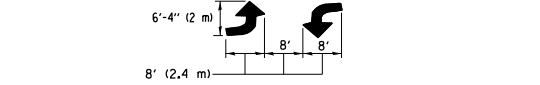
MEDIANS OVER 4' (1.2 m) WIDE

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))

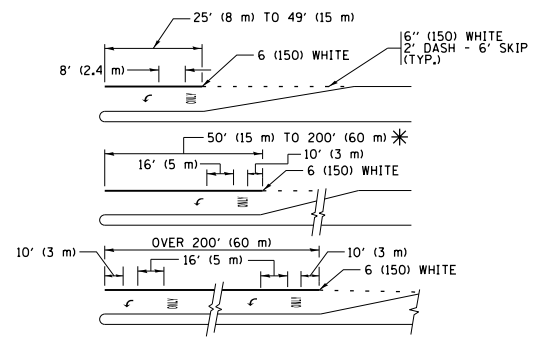


**MEDIAN WITH TWO-WAY LEFT TURN LANE
TYPICAL PAINTED MEDIAN MARKING**

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

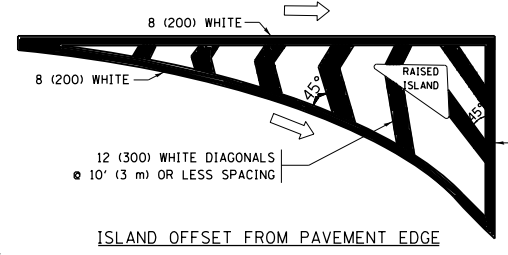


**MEDIAN WITH TWO-WAY LEFT TURN LANE
TYPICAL PAINTED MEDIAN MARKING**

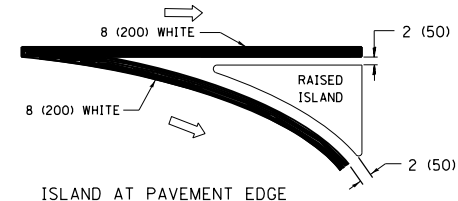


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.6 SQ. FT. (1.5 m²) ONLY AREA = 20.8 SQ. FT. (1.9 m²)
* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

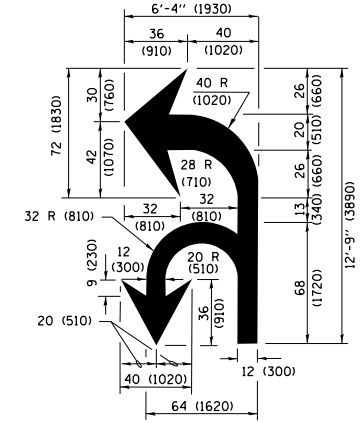
**TYPICAL LEFT (OR RIGHT) TURN LANE
TYPICAL TURN LANE MARKING**



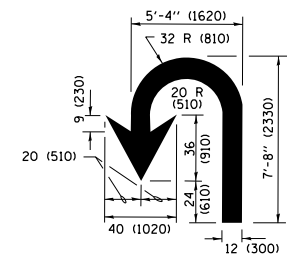
ISLAND OFFSET FROM PAVEMENT EDGE



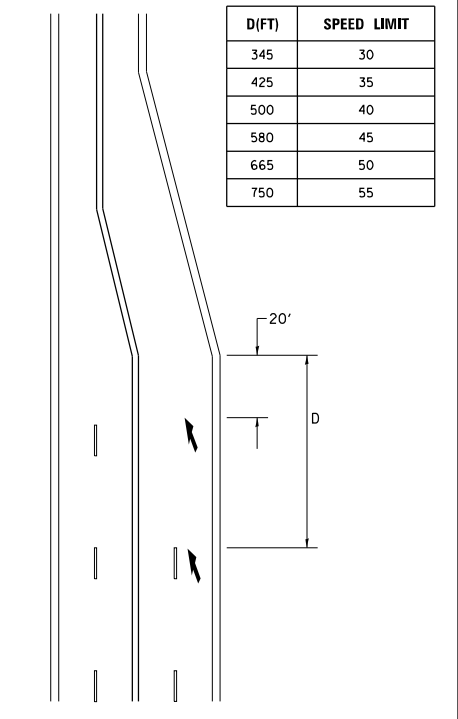
**ISLAND AT PAVEMENT EDGE
TYPICAL ISLAND MARKING**



COMBINATION LEFT AND U-TURN



U-TURN



LANE REDUCTION TRANSITION
* LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS.

D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING /REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MEDIANS IN YELLOW
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT, OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m ²) EACH "X"=54.0 SQ. FT. (5.0 m ²)
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS ≥ 8')	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF

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

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

FILE NAME =	USER NAME = equinoma	DESIGNED - EVERS	REVISED - C. JUCIUS 09-09-09
pw\1\084EBID\INTEG\illinois.gov\PIWID\Documents\DOT Offices\District 1\Projects\0104\BROWN\Design\DistStd.dgn		CHECKED -	REVISED - C. JUCIUS 07-01-13
Default	PLOT SCALE = 100.0000' / in.	DATE - 03-19-90	REVISED - C. JUCIUS 12-21-15
	PLOT DATE = 2/5/2019		REVISED - C. JUCIUS 04-12-16

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DISTRICT ONE TYPICAL PAVEMENT MARKINGS			
SCALE: NONE	SHEET 1	OF 1 SHEETS	STA. TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-RS&SW	LAKE	42	37
TC-13		CONTRACT NO.	62H36	
ILLINOIS FED. AID PROJECT				

TURN BAY ENTRANCE AT START OF LANE CLOSURE TAPER

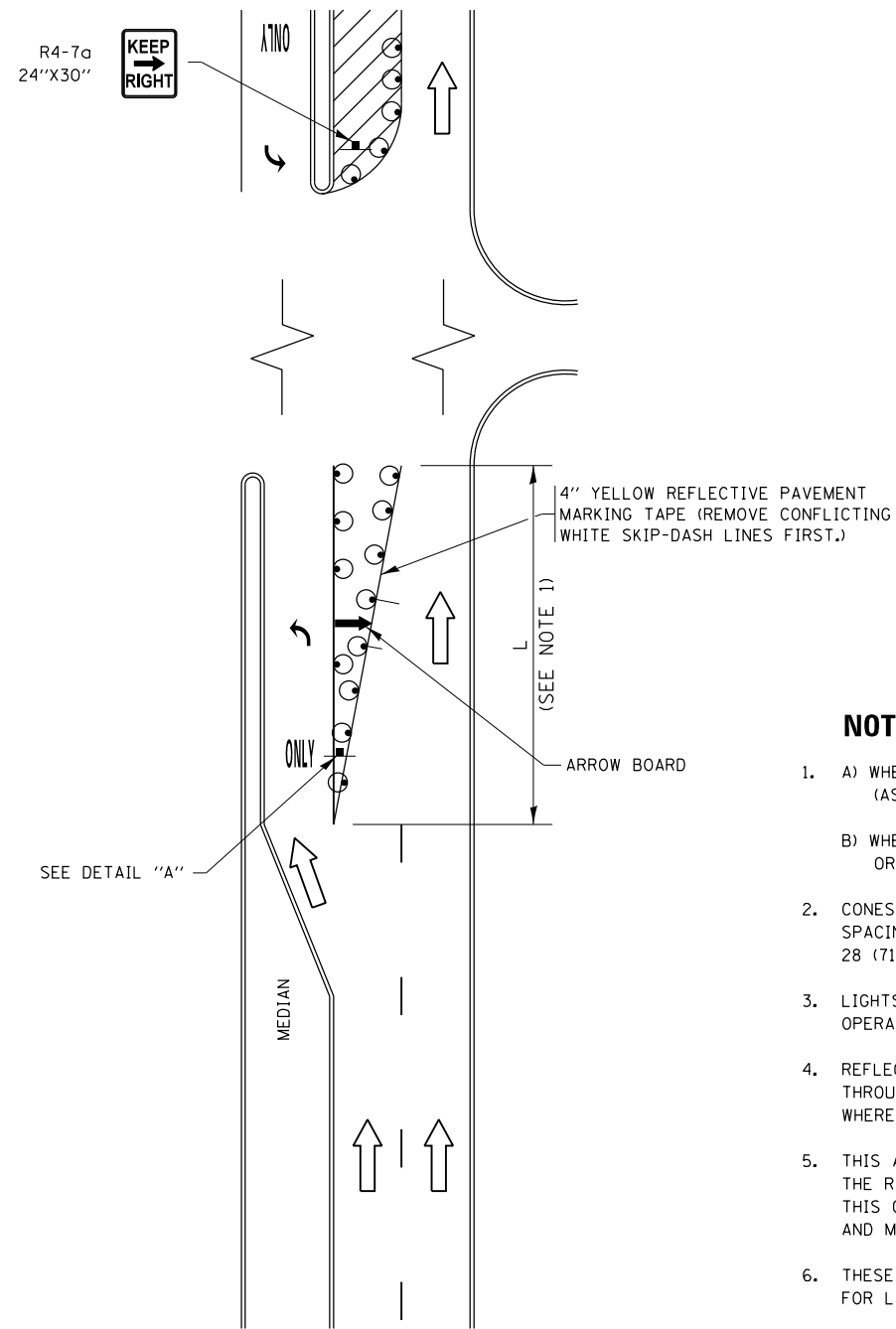


FIGURE 1

TURN BAY ENTRANCE WITHIN A LANE CLOSURE

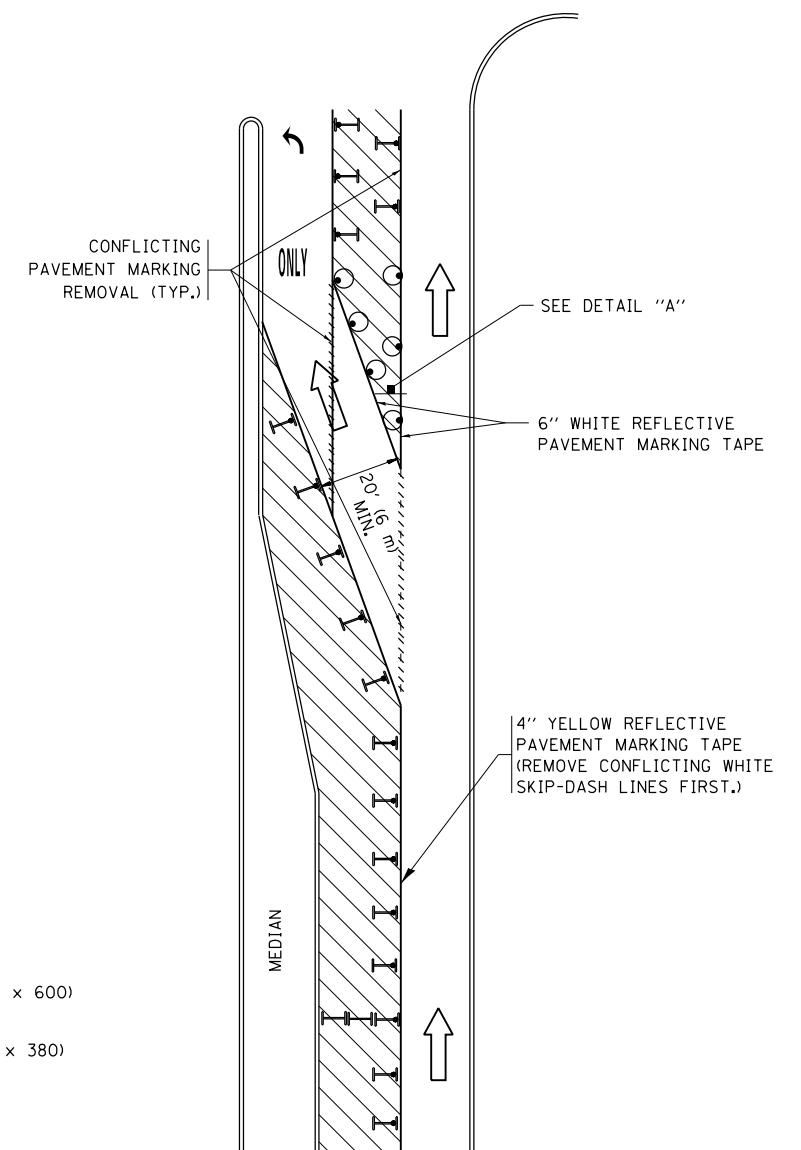


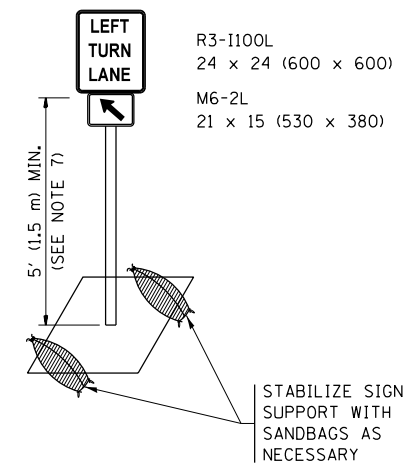
FIGURE 2

LEGEND

- WORK AREA
- LANE OPEN TO TRAFFIC
- ARROW BOARD
- TYPE I OR II BARRICADE OR DRUM WITH STEADY BURN LIGHT
- DRUM WITH STEADY BURN LIGHT
- SIGN ASSEMBLY
- TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

NOTES:

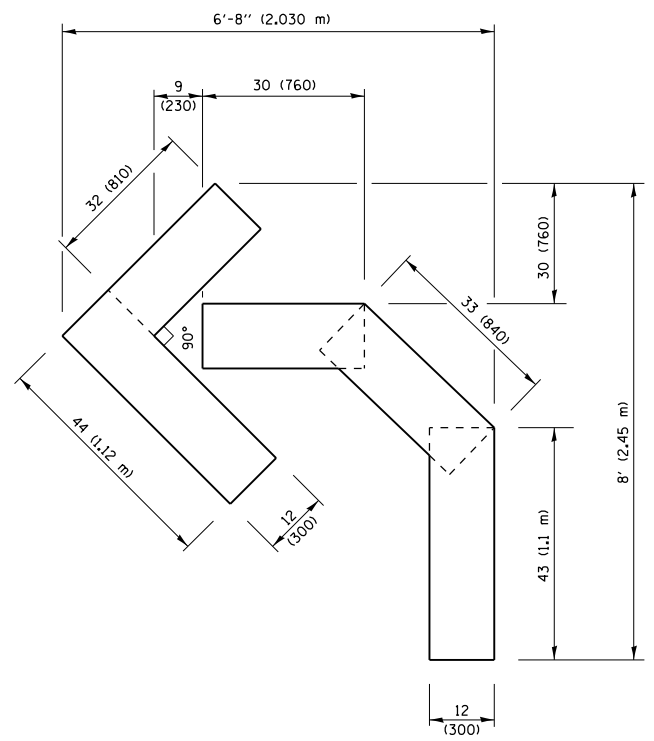
1. A) WHEN "L" IS \leq THE STORAGE LENGTH OF THE TURN LANE (AS SHOWN IN FIG. 1), USE FIGURE 1.
B) WHEN "L" IS $>$ THE STORAGE LENGTH OF THE TURN LANE OR THE TURN LANE IS WITHIN THE LANE CLOSURE, USE FIGURE 2.
2. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.
3. LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
4. REFLECTIVE TEMPORARY PAVEMENT MARKINGS SHALL BE PLACED THROUGHOUT THE BARRICADED AREAS OF EACH TURN BAY AS SHOWN WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN (14) DAYS.
5. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-1100R 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
6. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
7. THE SIGNS SHALL BE MOUNTED ABOVE THE BARRICADES/DRUMS ON SEPARATE SIGN SUPPORTS THAT MEET NCHRP 350 OR MASH PREQUIREMENTS.
8. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.



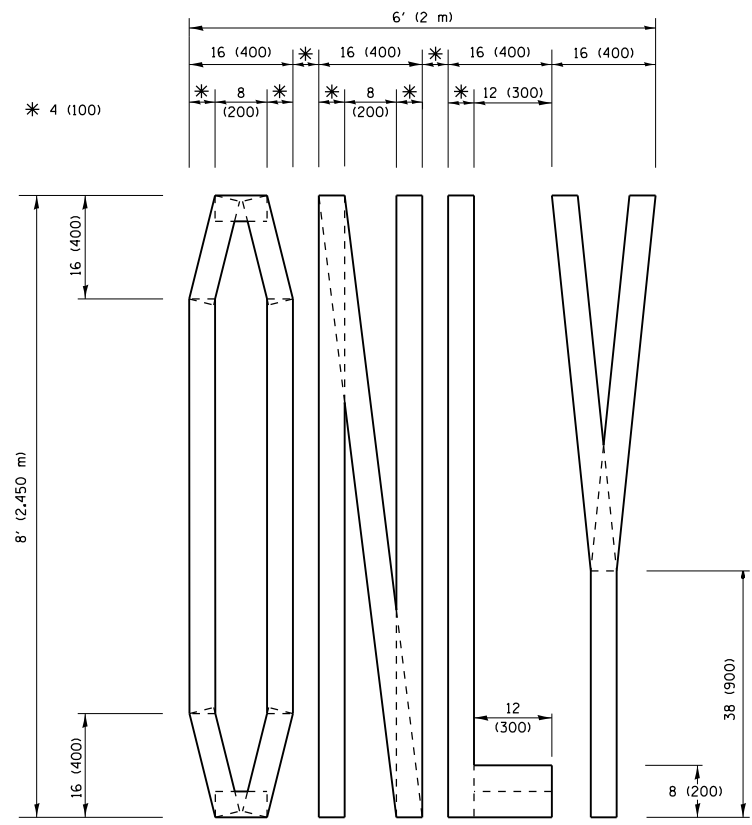
DETAIL A

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

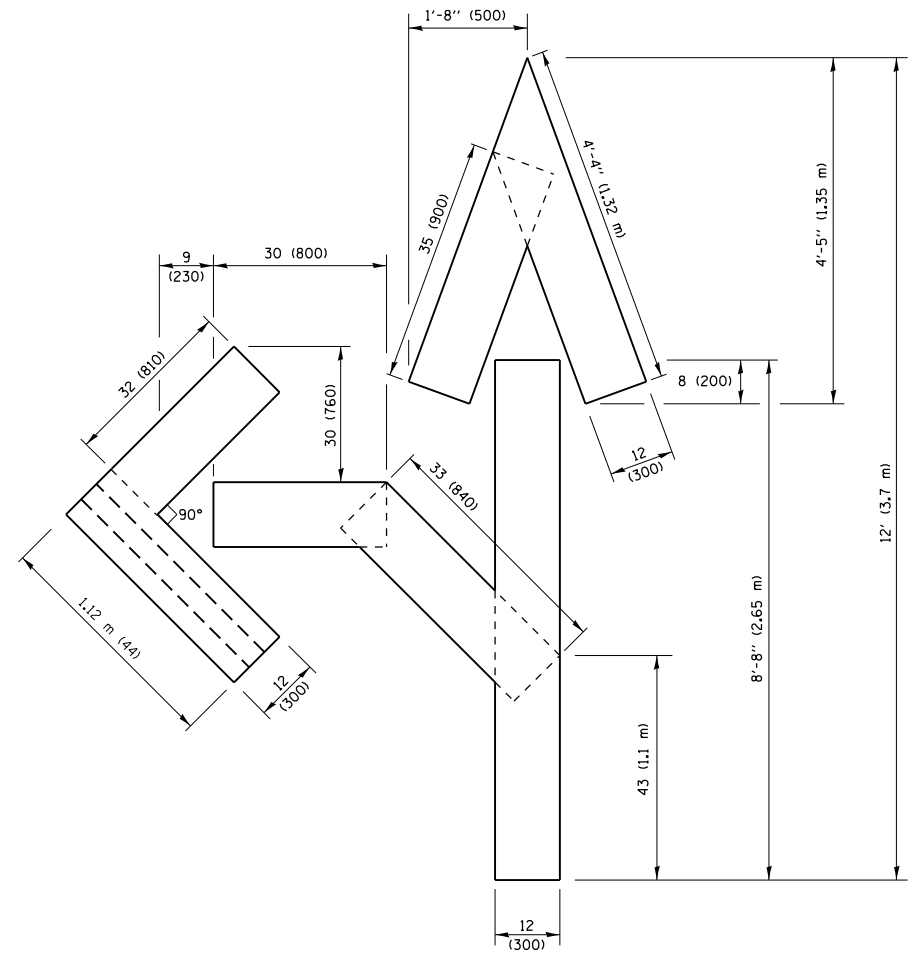
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Default		REVISED - A. HOUSEH 10-12-96	REVISED - A. SCHUETZE 09-15-16			346	2018-111-RS&SW	LAKE	42	38
		REVISED - T. RAMMACHER 01-06-00	REVISED -			TC-14		CONTRACT NO. 62H36		
						ILLINOIS FED. AID PROJECT				
	PLOT DATE = 2/5/2019			SCALE: NONE	SHEET 1 OF 1 SHEETS	STA.	TO STA.			



QUANTITY
 4 (100) LINE = 45.5 ft. (13.9 m)
 15.2 sq. ft. (1.41 sq. m)

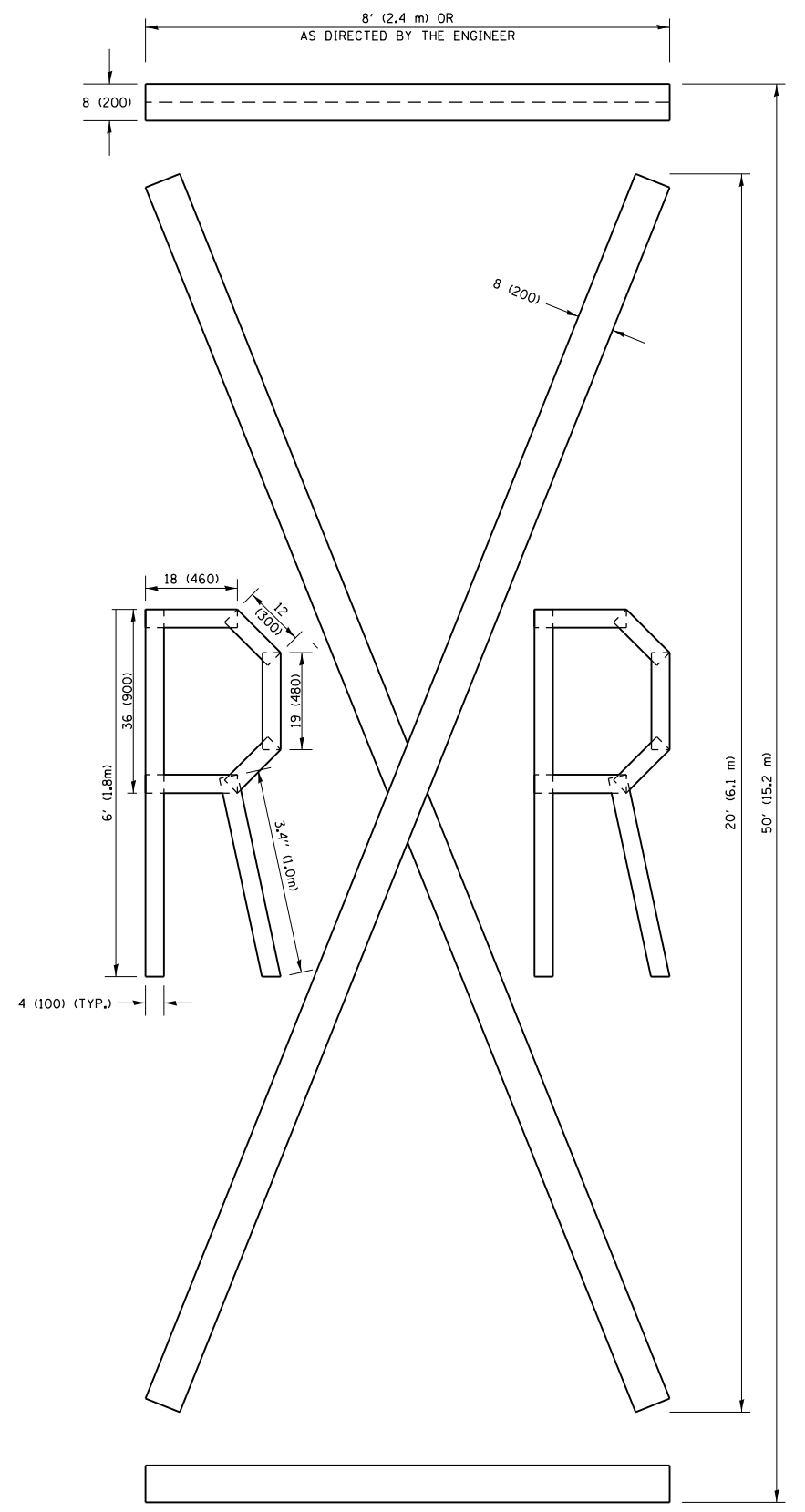


QUANTITY
 4 (100) LINE = 64.1 ft. (19.5 m)
 21.4 sq. ft. (1.99 sq. m)



QUANTITY
 4 (100) LINE = 82.5 ft. (25.1 m)
 27.5 sq. ft. (2.53 sq. m)

NOTE:
 ALL QUANTITIES OF PLACEMENT ARE REPRESENTED IN LINEAR FEET OF 4" LINES TO MATCH THE 4" TEMPORARY TAPE PAY ITEM AND REPRESENTS THE TOTAL QUANTITY OF 4" TAPE REQUIRED.



QUANTITY
 4 (100) LINE = 225.9 ft. (68.9 m)
 75.3 sq. ft. (6.99 sq. m)

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

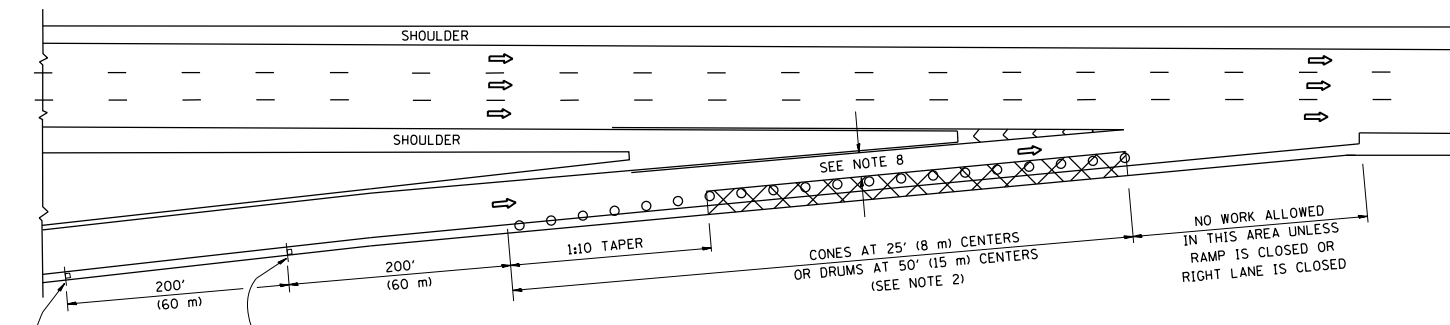
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p:\11\084EBIDINTEG\illinois.gov\PIWIDOT\Documents\DOT Offices\District 1\Projects\DI104\BROWNS\Design\DistStd.dgn			REVISED - E. GOMEZ 08-28-00
		CHECKED -	REVISED - E. GOMEZ 08-28-00
		DATE - 09-18-94	REVISED - A. SCHUETZE 09-15-16

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

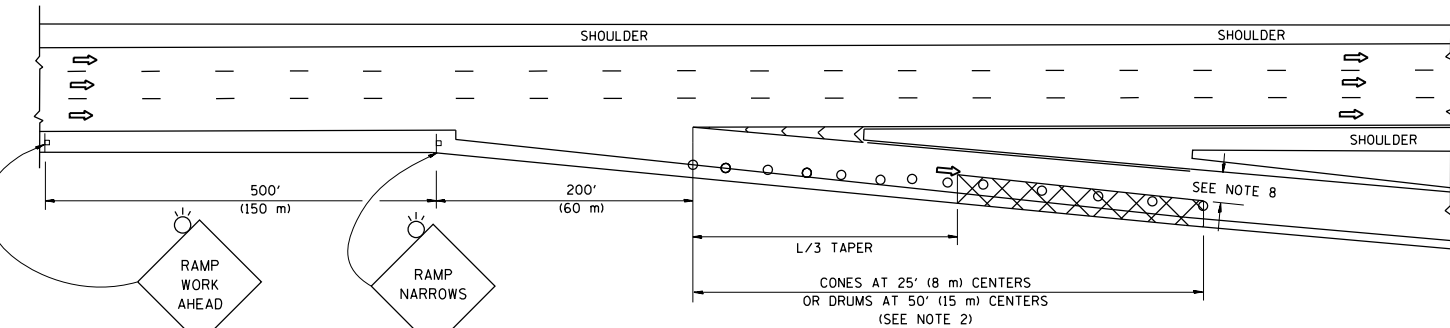
SHORT TERM PAVEMENT MARKING LETTERS AND SYMBOLS			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-RS&SW	LAKE	42	39
TC-16		CONTRACT NO. 62H36		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

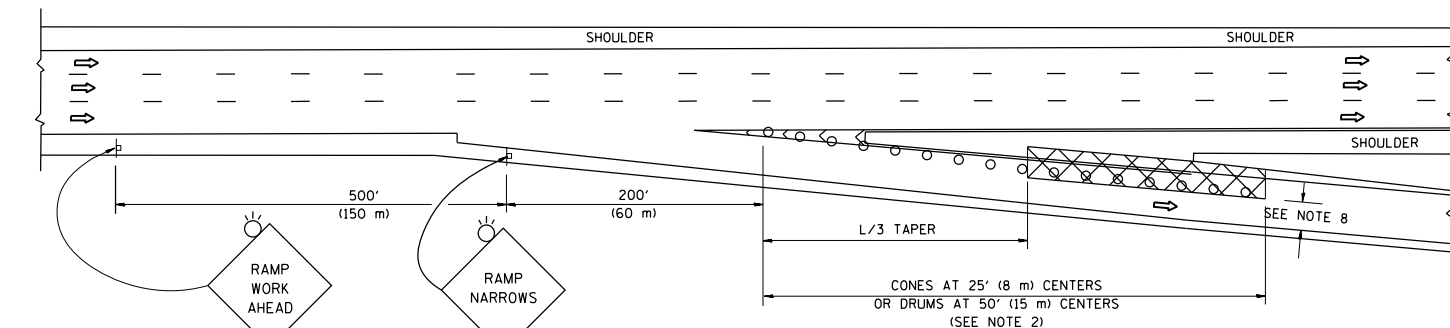
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

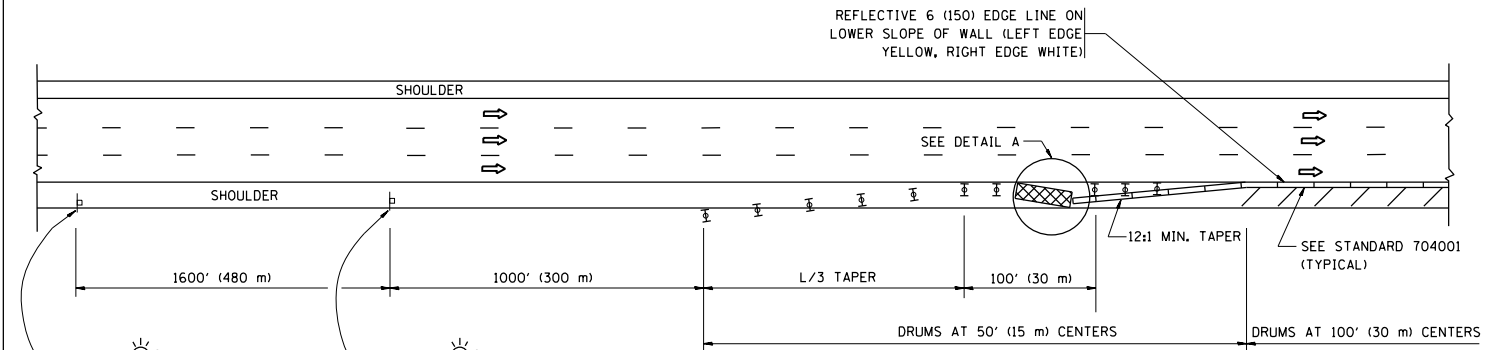
- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

GENERAL NOTES

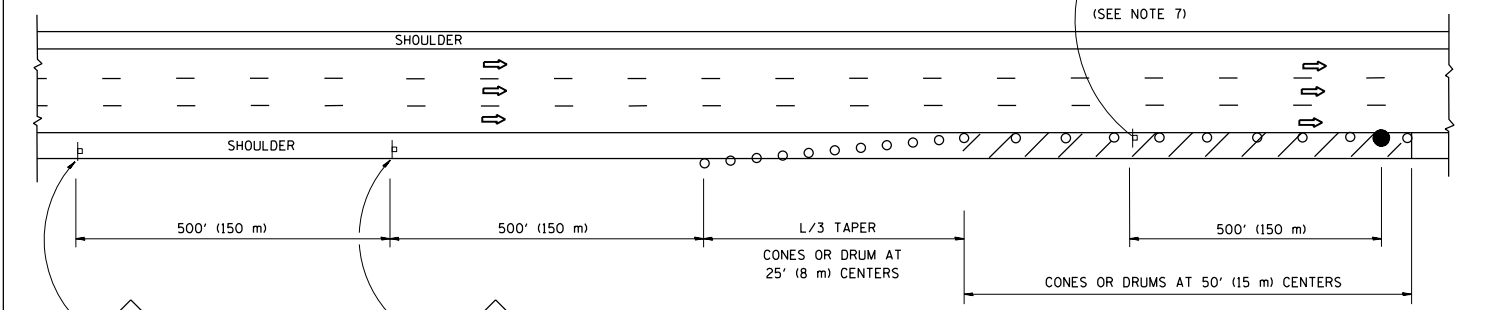
1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS
45 mph (80 km/h) OR GREATER:	METRIC ENGLISH L=0.65(W)(S) L=(W)(S)
W = WIDTH OF OFFSET IN FEET (METERS)	
S = NORMAL POSTED SPEED MPH (KM/H)	
2. TYPE II BARRICADES OR DRUMS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES. TYPE II BARRICADES OR DRUMS WITH MONODIRECTIONAL STEADY BURN LIGHTS ARE REQUIRED FOR DELINEATING OBSTACLES, EXCAVATIONS, OR HAZARDS EXCEEDING 100 FT (30m) IN LENGTH AT NIGHT.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.
5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
 - a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
 - b. THE WORK ACTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.
8. 12' MIN. WIDTH TANGENT SECTION
16' MIN. WIDTH CURVE SECTION.

SHOULDER CLOSURE DETAILS

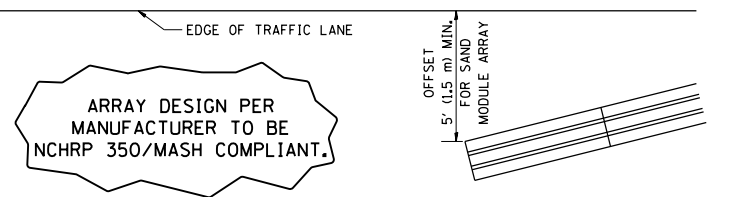


PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:
 1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.



DETAIL "A"
IMPACT ATTENUATOR, TEMPORARY
(SEE NOTE 5)

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

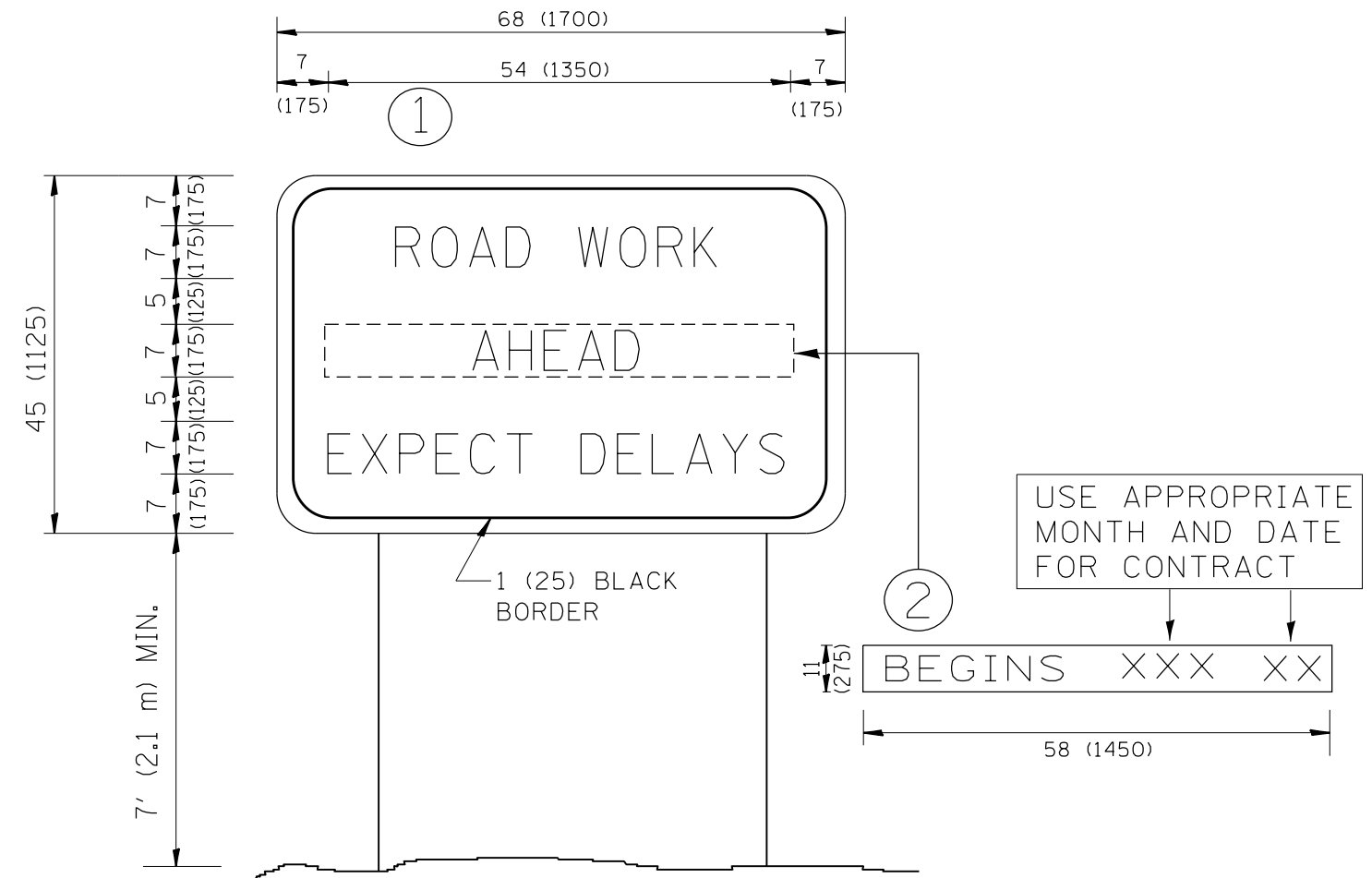
FILE NAME =	USER NAME = equinoma	DESIGNED -	REVISED - S.P.B. 01-07
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Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED - M.D. 06-13
	PLOT DATE = 2/5/2019	DATE -	REVISED - M.D. 01-18

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY
SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	2018-111-RS&SW	LAKE	42	40
TC-17		CONTRACT NO.	62H36	
ILLINOIS FED. AID PROJECT				



NOTES:

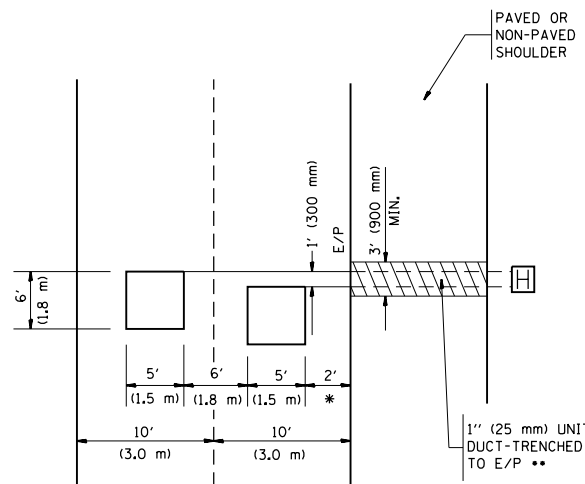
1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.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

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

FILE NAME =	USER NAME = equinome	DESIGNED -	REVISED - R. MIRS 09-15-97	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ARTERIAL ROAD INFORMATION SIGN	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\11\084EBIDINTEG.illinois.gov\PWIDOT\Documents\DOT Offices\District 1\Projects\DI04\BROW\Notes\Design\DistStd.dgn			REVISED - R. MIRS 12-11-97			346	2018-111-RS&SW	LAKE	42	41
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED - T. RAMMACHER 02-02-99				TC-22		CONTRACT NO. 62H36		
PLOT DATE = 2/5/2019	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

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



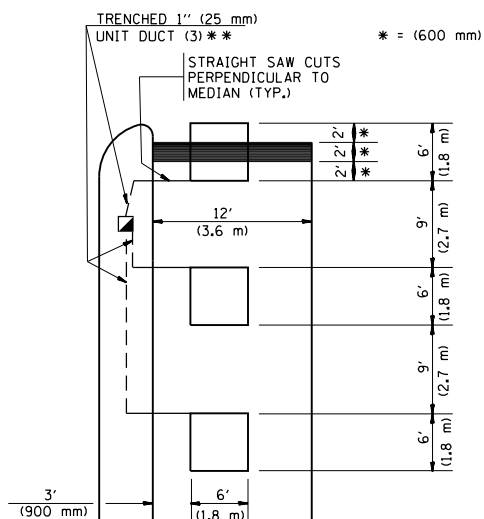
* = (600 mm)

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

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

(PROTECTED / PERMITTED LEFT TURN PHASING)

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

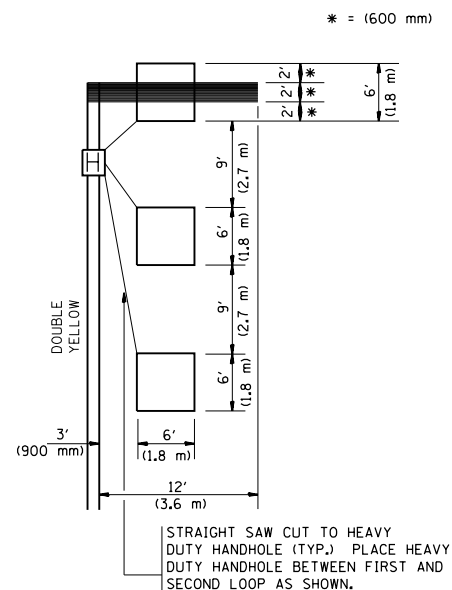


** UNIT DUCT IS TO BE SHOWN ON PLAN SHEETS BUT SHALL NOT BE INCLUDED IN THE PAY ITEMS.

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

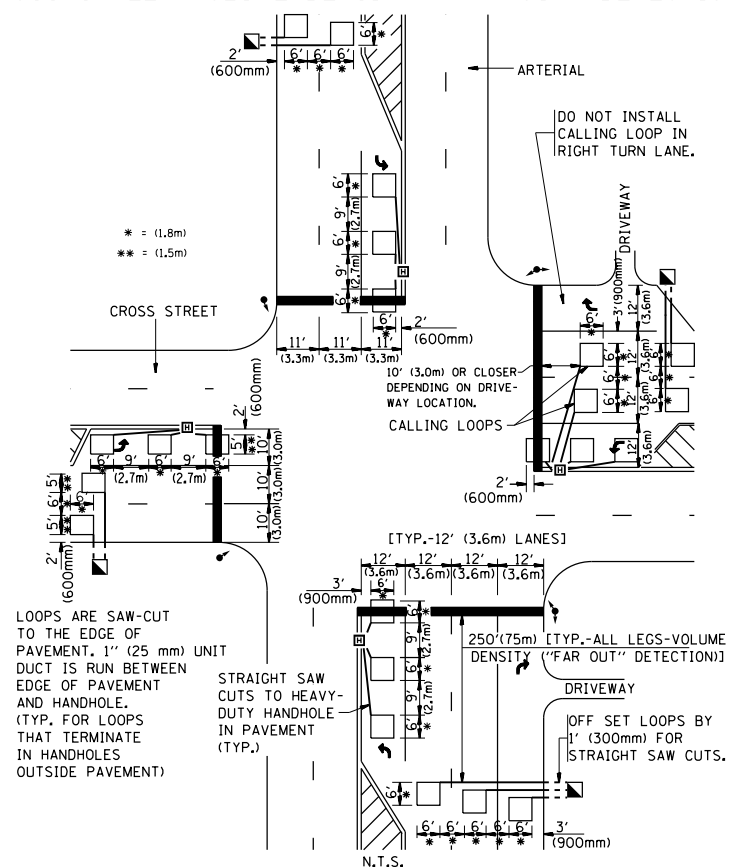
LEFT TURN LANES WITHOUT MEDIANS
VOLUME DENSITY ("FAR OUT" DETECTION)
ON SAME APPROACH

(PROTECTED / PERMITTED LEFT TURN PHASING)



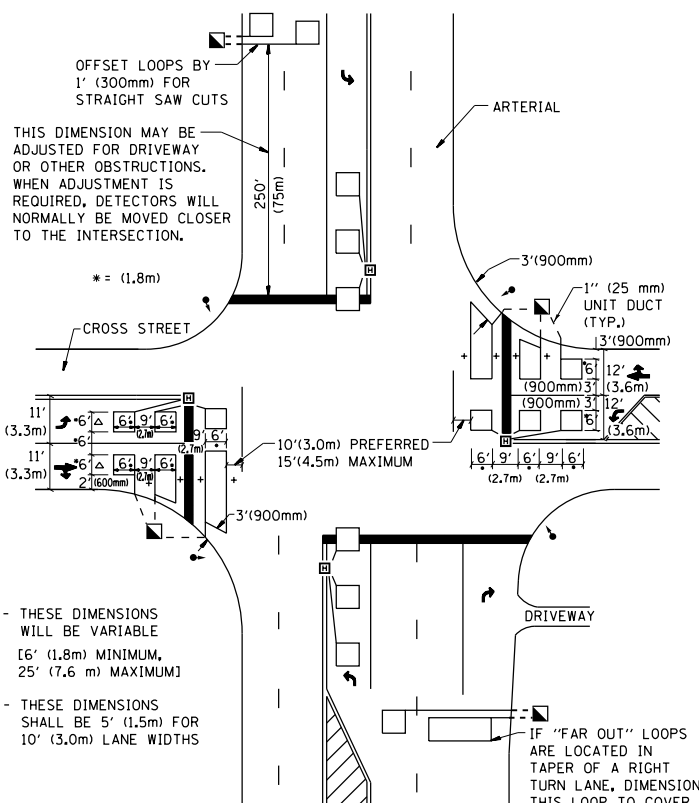
NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

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



DETAIL 1
N.T.S.

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



DETAIL 2
N.T.S.

NOTES:

VEHICLES LOOP DETECTORS

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

PLACEMENT OF DETECTORS

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

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

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

NOTE:

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

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

FILE NAME =	USER NAME = equinoma	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT 1 - DETECTOR LOOP INSTALLATION DETAILS FOR ROADWAY RESURFACING			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\11\084EBID\INTEG.illinois.gov\PI\DOT\Documents\DOT Offices\District 1\Projects\DI04\BRAW\Design\DistStd.dgn		DRAWN -	REVISED -		346	2018-111-RS&SW	LAKE	42	42			
PLOT SCALE = 100.0000' / 1".		CHECKED - R.K.F.	REVISED -		TS-07			CONTRACT NO. 62H36				
PLOT DATE = 2/5/2019		DATE -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				