

INDEX OF SHEETS

06-16-2017 LETTING ITEM 005

- 1 COVER SHEET
- 2 HIGHWAY STANDARDS AND GENERAL NOTES
- 3-7 SUMMARY OF QUANTITIES
- 8-9 TYPICAL SECTIONS
- 10 SCHEDULES OF QUANTITIES
- 11 ALIGNMENT, TIES AND BENCHMARKS
- 12 PLAN AND PROFILE
- 13 DETOUR PLAN
- 14 EROSION CONTROL PLAN
- 15 DRAINAGE UTILITY PLAN AND PROFILE
- 16-20 STRUCTURAL PLANS
- 21-29 DISTRICT ONE DETAILS
- 30-31 CROSS SECTIONS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**PROPOSED
HIGHWAY PLANS**

**F.A. ROUTE SBI 172: (MILWAUKEE AVENUE)
SECTION 2015-004B
PROJECT STP-0172(002)
MILWAUKEE AVENUE OVER DITCH
CULVERT REPLACEMENT
LAKE COUNTY
C - 91 - 251 - 15**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	2015-004B	LAKE	31	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 62A58	

D-91-251-15

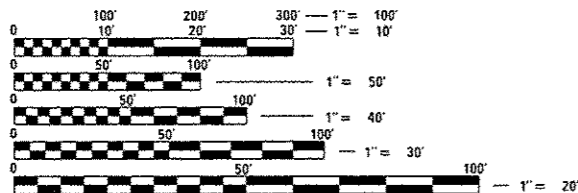
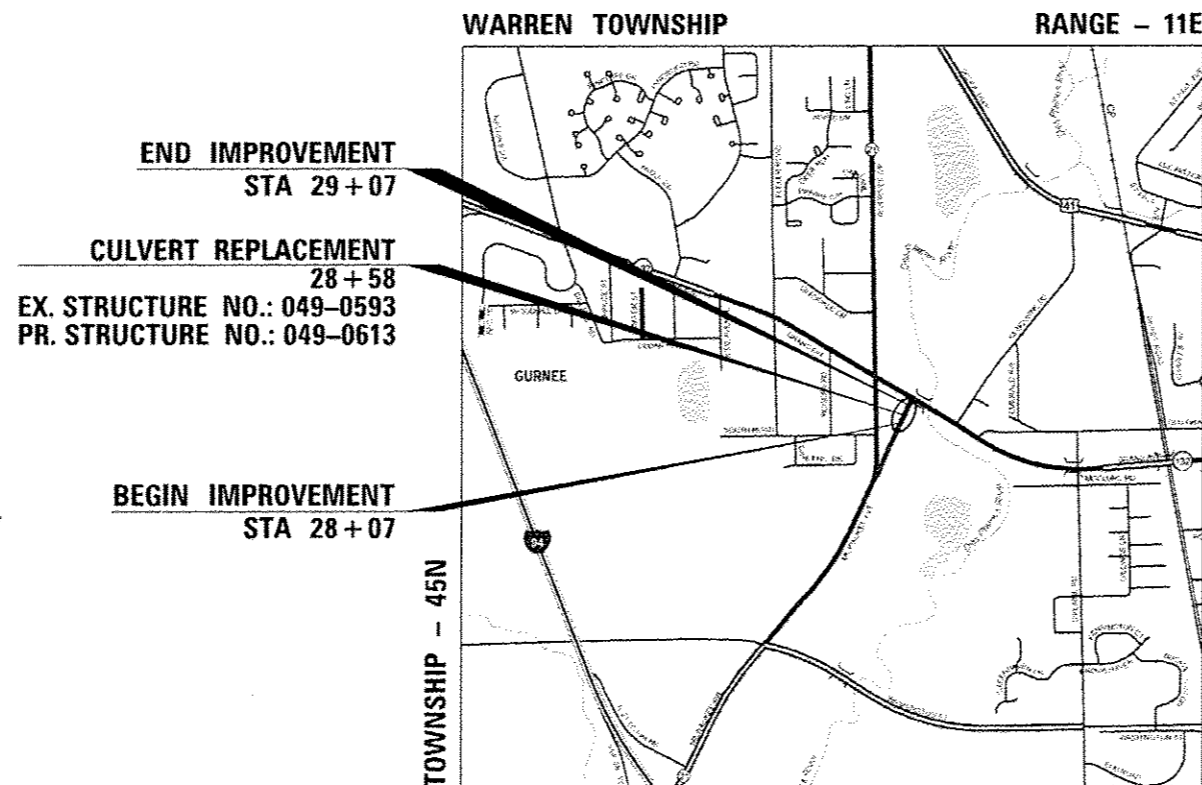


FOR LIST OF HIGHWAY STANDARDS, SEE SHEET NO. 2

**THE IMPROVEMENT IS LOCATED IN
THE VILLAGE OF GURNEE**

DESIGN DESIGNATION:

LOCAL ROAD
ADT (2015) = 4,350
POSTED SPEED LIMIT = 35 MPH



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

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

PROJECT MANAGER: ISSAM RAYYAN, P.E. (847) 705-4178
PROJECT ENGINEER: RAGHAD ADEIS-DAHMAN, P.E. (847) 705-5183

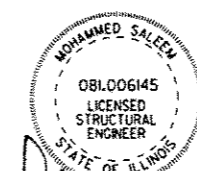
CONTRACT NO. 62A58

LOCATION MAP

NOT TO SCALE
GROSS LENGTH = 100 FT. = 0.019 MI.
NET LENGTH = 100 FT. = 0.019 MI.



Jameel Ahmed 4/3/17
DATE
LICENSE EXPIRES ON 11/30/2017



Mohammed Saleem
DATE 4/3/2017
LICENSE EXPIRES ON 11/30/2018

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED *April 4 2017*
Bob Crangley REGIONAL ENGINEER

May 12 2017
Marreen M. Addis P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

May 12 2017
Paula Allen 2
DIRECTOR OF PROGRAM, DEVELOPMENT

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ILLINOIS PROFESSIONAL DESIGN FIRM
LICENSE NO. 184-003052

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HIGHWAY STANDARDS

STANDARD NO DESCRIPTION

000001-06	STANDARDS SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420001-08	PAVEMENT JOINTS
482001-02	HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
515001-03	NAME PLATE FOR BRIDGES
606001-06	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
631011-10	TRAFFIC BARRIER TERMINAL, TYPE 2
630301-07	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
630106-02	LONG-SPAN GUARDRAIL OVER CULVERT
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701011-04	OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS-DAY ONLY
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701801-06	SIDEWALK, CORNER OR CROSSWALK CLOSURE
701901-06	TRAFFIC CONTROL DEVICES

DISTRICT 1 STANDARDS

STANDARD NO DESCRIPTION

B001	DRIVEWAY DETAILS, DISTANCE BETWEEN ROW AND CURB OR EDGE (>15FT)
B003	OUTLET FOR CONCRETE CURB AND GUTTER
B034	DETAILS FOR DEPRESSED CURB & GUTTER AND SHOULDER TREATMENT AT TBT TY. 1 SPL.
B051	BENCHING DETAIL FOR EMBANKMENT WIDENING
TC-10	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS
TC-11	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)
TC-13	DISTRICT ONE TYPICAL PAVEMENT MARKINGS
TC-16	SHORT TERM PAVEMENT MARKING LETTERS AND SYMBOLS
TC-21	DETOUR SIGNING FOR CLOSING STATE HIGHWAYS
TC-26	DRIVEWAY ENTRANCE SIGNING

GENERAL NOTES

1. THE CONTRACTOR SHALL ERECT A TEMPORARY FENCE AROUND ALL TREES WITHIN THE CONSTRUCTION AREA TO ESTABLISH A "TREE PROTECTION ZONE" BEFORE ANY WORK BEGINS OR ANY MATERIAL IS DELIVERED TO THE JOBSITE. NO WORK IS TO BE PERFORMED (OTHER THAN ROOT PRUNING), MATERIALS STORED OR VEHICLES DRIVEN OR PARKED WITHIN THE "TREE PROTECTION ZONE." REMOVE PROTECTIVE TEMPORARY FENCE ONLY AFTER ALL CONSTRUCTION WORK HAS BEEN COMPLETED. TEMPORARY FENCE SHOULD BE ERECTED ALONG THE DRIPLINE OF THE TREES AND SHRUBS WITHIN THE LIMITS OF CONSTRUCTION.
2. THE CONTRACTOR SHALL USE CARE IN REMOVING OR EXCAVATING NEAR ALL EXISTING ITEMS WHICH WILL REMAIN. ANY DAMAGE DONE TO EXISTING ITEMS BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. TREE ROOT PRUNING IS TO BE USED ON EXISTING TREES TO PREVENT THE RIPPING UP OF ROOTS WHEN TRENCHING OR EXCAVATION IS WITHIN THE ROOT ZONE OF ADJACENT TREES TO REMAIN. SUPPLEMENTAL WATERING OF TREES SHOULD BEGIN IMMEDIATELY AFTER ROOT PRUNING OF THE TREES HAS OCCURRED.
4. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT 800-892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS FACILITIES (48 HOUR NOTIFICATION IS REQUIRED).
5. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND THE VILLAGE OF GURNEE.
6. THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
7. ANY PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS OBLITERATED BY MILLING AND RESURFACING OPERATIONS ON SIDE STREETS AND ENTRANCES SHALL BE REPLACED AND PAID FOR IN KIND.
8. WHEN MILLED PAVEMENT IS OPEN TO TRAFFIC THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES OF THE MILLING MACHINE SHALL NOT EXCEED 1/2 INCHES WHERE SPEED LIMIT IS 45 MPH OR LESS AND 1 INCH WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH WITH WRITTEN APPROVAL FROM THE ENGINEER. A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES MAY BE ALLOWED IF THE EDGE OF THE MILLING IS SLOPED A MINIMUM 1:3 (V:H) OR A NOTED LONGITUDINAL WEDGE IS USED.
9. BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE PREFERENCE, ALL EXISTING PAVEMENT MARKING LINES AND REVISED REFLECTIVE PAVEMENT MARKERS IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER.
10. THE RESIDENT ENGINEER SHALL CONTACT THE AREA TRAFFIC FIELD ENGINEER AT 847-715-8419 OR WALTER.CZARNY@ILLINOIS.GOV, A MINIMUM OF TWO WEEKS PRIOR TO THE PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
11. DRAINAGE STRUCTURE ADJUSTMENT OR RECONSTRUCTION LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
12. THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847)705-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.
13. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.
14. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.
15. 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 ACCORDING TO ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.
16. DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.
17. DOUBLE LANE MARKERS ARE TO BE USED AS SHOWN ON THE DISTRICT 1 DETAIL "TYPICAL APPLICATIONS - RAISED REFLECTIVE PAVEMENT MARKERS (SNOW - PLOW RESISTANT)" SHOWN IN THE PLANS.
18. SIDEWALK REMOVAL AND P.C.C. SIDEWALK 5 IN. LOCATIONS SHALL BE DETERMINED BY THE ENGINEER.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION OF ALL EMERGENCY SERVICES, SCHOOL DISTRICTS, I.D.O.T.'S COMMUNICATIONS CENTER, SPRINGFIELD TRUCK PERMIT SECTION AND OTHER AGENCIES AFFECTED BY THE CLOSURE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR POSTING SIGNS THAT WILL INDICATE THE DATES THE CLOSURE WILL BE IN PLACE.
20. VIBRATORY ROLLER SHALL NOT BE ALLOWED WHILE RECONSTRUCTING THE PAVEMENT OVER THE CULVERT.

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USER NAME	amaruod	DESIGNED -	AWM	REVISED -	
		DRAWN -	TOM	REVISED -	
PLOT SCALE	1/2" = 1' in.	CHECKED -	JA	REVISED -	
PLOT DATE	4/1/2017	DATE	04/03/2017	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HIGHWAY STANDARDS,
GENERAL NOTES AND COMMITMENTS

SCALE	SHEET	OF	SHEETS	STA.	TO	STA.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
							581 172	2015-004B	LAKE	31	2
ILLINOIS FED. AID PROJECT											
CONTRACT NO. 62A58											

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				80% FEDERAL 20% STATE
				BOX CULVERT 0004 S. N. 049-0613
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	6	6
20101000	TEMPORARY FENCE	FOOT	48	48
20101100	TREE TRUNK PROTECTION	EACH	3	3
20101200	TREE ROOT PRUNING	EACH	3	3
20101700	SUPPLEMENTAL WATERING	UNIT	1	1
20200100	EARTH EXCAVATION	CU YD	162	162
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	17	17
20400800	FURNISHED EXCAVATION	CU YD	27	27
20700220	POROUS GRANULAR EMBANKMENT	CU YD	15	15
21101625	TOPSOIL FURNISH AND PLACE, 6"	SO YD	413	413
25000210	SEEDING, CLASS 2A	ACRE	0.1	0.1
25200110	SODDING, SALT TOLERANT	SO YD	147	147
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	11	11
25000500	PHOSPHOROUS FERTILIZER NUTRIENT	POUND	11	11

URBAN

* SPECIALTY ITEMS

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USER NAME = mohammed	DESIGNED - AWM	REVISED -
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PLOT DATE = 4/3/2017	CHECKED - JA	REVISED -
	DATE - 04/03/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES	
SCALE	SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SB1 172	2015-004B	LAKE	31	3
ILLINOIS FED. AIG PROJECT			CONTRACT NO. 62A5B	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				80% FEDERAL 20% STATE
				BOX CIV VERT 0004 S. N. 049-0613
31102000	SUBBASE GRANULAR MATERIAL, TYPE C	CU YD	13	13
35501313	HOT-MIX ASPHALT BASE COURSE, 7 1/4"	SQ YD	120	120
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	232	232
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	121	121
40600635	LEVELING BINDER (MACHINE METHOD), N70	TON	7	7
40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	32	32
42101300	PROTECTIVE COAT	SQ YD	6	6
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SO FT	215	215
44000100	PAVEMENT REMOVAL	SO YD	120	120
44000160	HOT-MIX ASPHALT SURFACE REMOVAL, 2 3/4"	SO YD	160	160
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	145	145
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	106	106
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1
50200100	STRUCTURE EXCAVATION	CU YD	75	75

URBAN

* SPECIALTY ITEMS

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	DATE - 04/03/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES	
SCALE	SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI 174	2015-0048	LAKE	31	5
CONTRACT NO. 62A58				
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				80% FEDERAL 20% STATE
				BOX CULVERT 0004 S.N. 049-0613
50200450	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES	CU YD	20	20
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	12864	12864
51500100	NAME PLATES	EACH	1	1
54003000	CONCRETE BOX CULVERTS	CU YD	65	65
550A0160	STORM SEWERS, CLASS A, TYPE 1 36"	FOOT	8	8
550A4700	STORM SEWERS, CLASS A, TYPE 1 EQUIVALENT ROUND-SIZE 42"	FOOT	16	16
59100100	GEOCOMPOSITE WALL DRAIN	SO YD	13	13
60600095	CLASS SI CONCRETE (OUTLET)	CU YD	3	3
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	100	100
* 63000350	LONG-SPAN GUARDRAIL OVER CULVERT, 12 FT 6 IN SPAN	FOOT	37.5	37.5
* 63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	1	1
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1	1
* 66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	84	84
* 66900450	SPECIAL WASTE PLANS AND REPORTS	LSUM	1	1
* 66900530	SOIL DISPOSAL ANALYSIS	EACH	1	1

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* SPECIALTY ITEMS

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PLOT DATE = 4/3/2017	DATE - 04/03/2017	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES	
SCALE	SHEET OF SHEETS STA. TO STA.

F.A.U. RTE. SBI 172	SECTION 2015-004B	COUNTY LAKE	TOTAL SHEETS 31	SHEET NO. 6
CONTRACT NO. 62A58				
ILLINOIS FED. AID PROJECT				

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URBAN

CONSTR. CODE
80% FEDERAL
20% STATE
BOX CULVERT
0004
S. N. 049-0613

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1	1
67100100	MOBILIZATION	LSUM	1	1
X7015005	CHANGEABLE MESSAGE SIGN	CAL PA	60	60
70300100	SHORT TERM PAVEMENT MARKING	FOOT	170	170
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	57	57
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	2	2
X 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	170	170
Z0013798	CONSTRUCTION LAYOUT	LSUM	1	1
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	12.5	12.5
Z0073510	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	5	5
X0327037	SPECIAL GRATE NO. 1	EACH	1	1
X0322128	MEMBRANE WATERPROOFING FOR BURIED STRUCTURES	SQ YD	77	77
X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	48	48
X7010218	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	EACH	1	1
* X7240600	REMOVE AND RE-ERECT EXISTING SIGN	EACH	2	2

* SPECIALTY ITEMS

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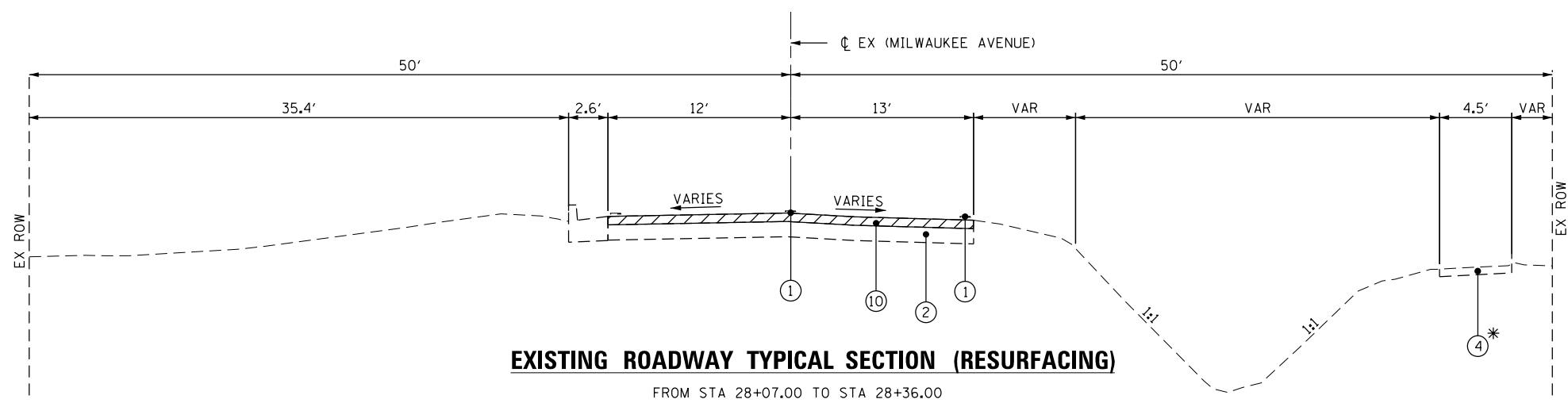
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

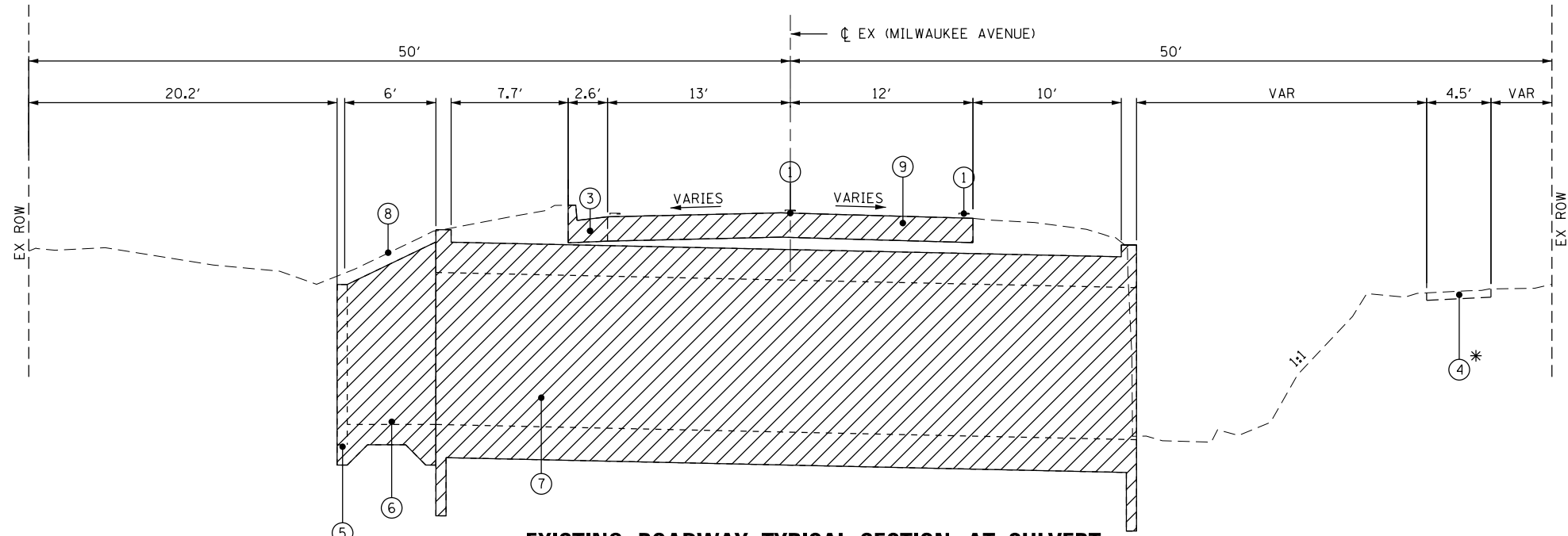
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI 172	2015-004B	LAKE	31	7
SCALE			SHEET OF SHEETS	STA. TO STA.
[ILLINOIS] FED. AIG PROJECT				

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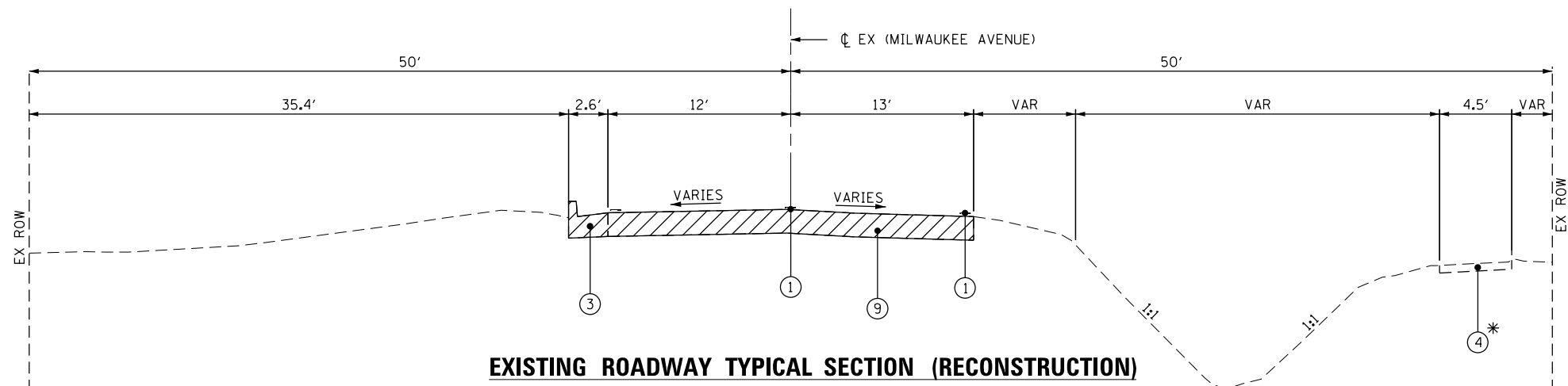
EXISTING ROADWAY TYPICAL SECTION (RESURFACING)

FROM STA 28+07.00 TO STA 28+36.00
FROM STA 28+79.00 TO STA 29+07.00



EXISTING ROADWAY TYPICAL SECTION AT CULVERT

FROM STA 28+51.92 TO STA 28+62.92



EXISTING ROADWAY TYPICAL SECTION (RECONSTRUCTION)

FROM STA 28+36.00 TO STA 28+51.92
FROM STA 28+62.92 TO STA 28+79.00

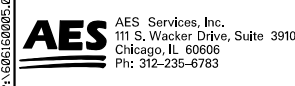
**LEGEND
EXISTING:**

- ① PAVEMENT MARKING
- ② PAVEMENT (9" CONCRETE)
- ③ B-6.24 CURB AND GUTTER REMOVAL
- ④ SIDEWALK
- ⑤ WING WALL REMOVAL
- ⑥ HEAD WALL REMOVAL
- ⑦ 5' X 10' CONCRETE BOX CULVERT REMOVAL
- ⑧ METAL BAR GRATE REMOVAL
- ⑨ PAVEMENT REMOVAL
- ⑩ HMA SURFACE REMOVAL 2 3/4"

TO BE REMOVED

* LOCATIONS AS DIRECTED BY ENGINEER

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING TYPICAL SECTIONS	
SCALE	SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI 172	2015-004B	LAKE	31	8
CONTRACT NO. 62A58				
ILLINOIS FED. AID PROJECT				

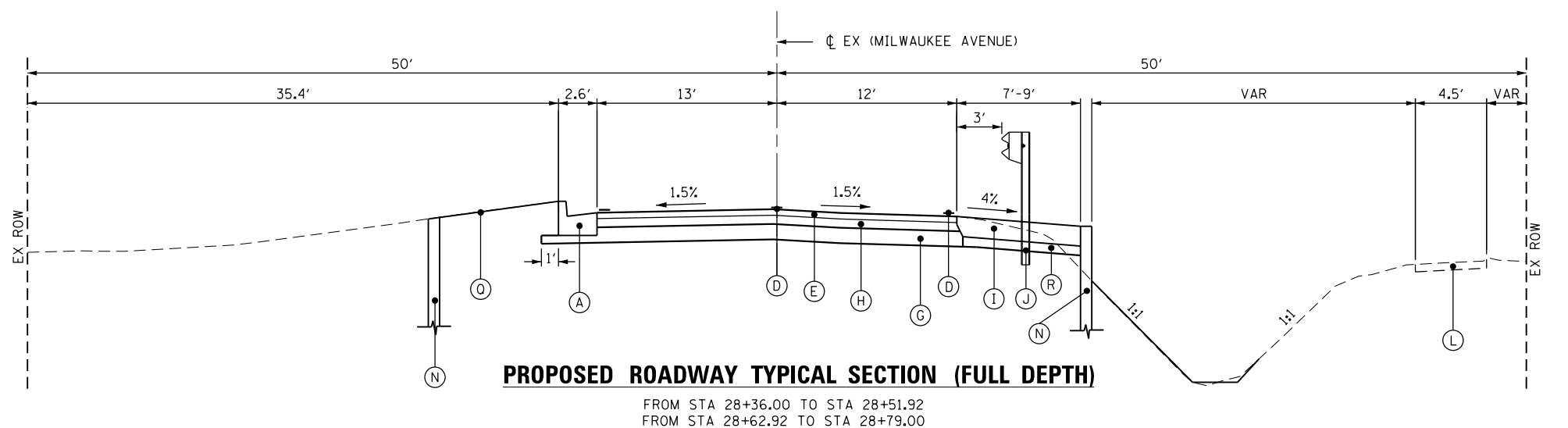
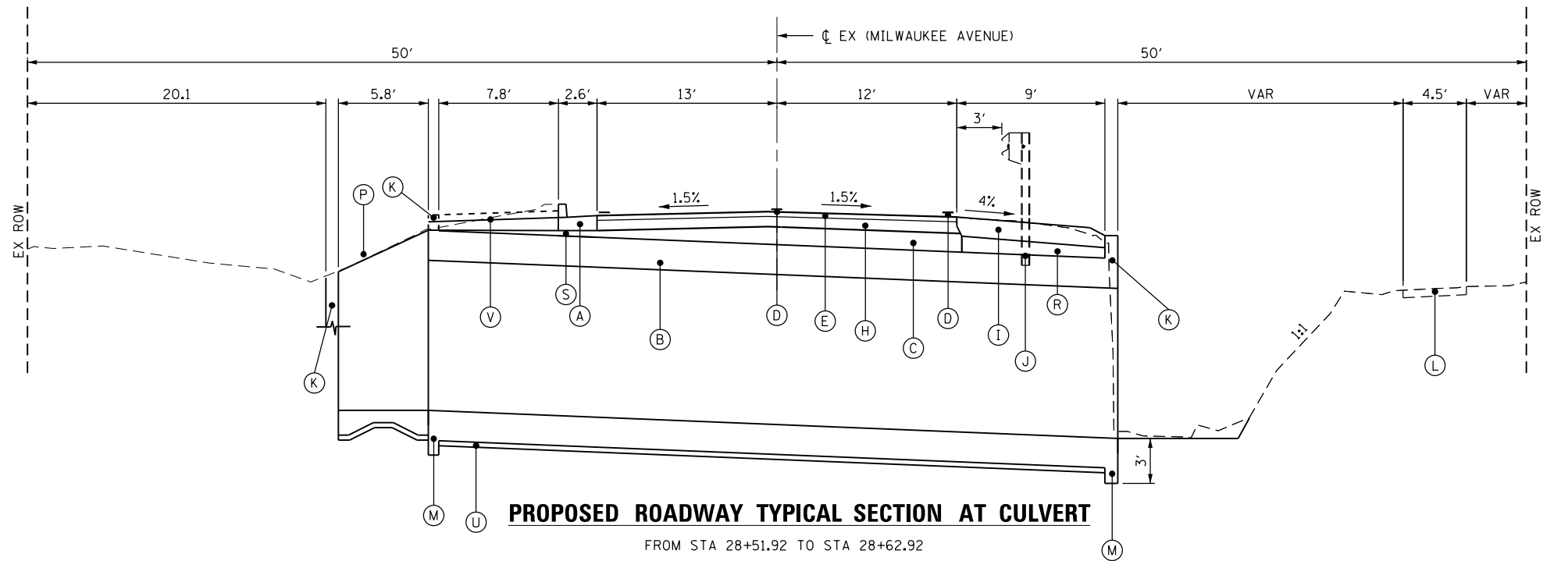
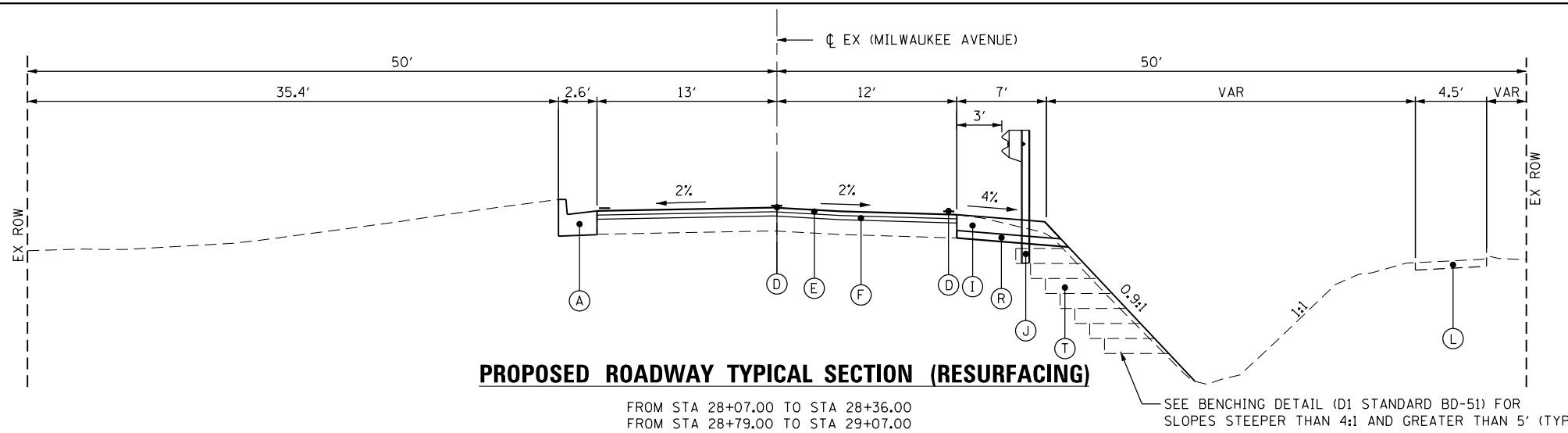
HMA MIXTURE REQUIREMENTS

MIXTURE TYPE	AIR VOIDS @ NDES	QUALITY MANAGEMENT PROGRAM (QMP)
PAVEMENT RECONSTRUCTION		
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 (IL 9.5 MM)	4% @ 70 GYR	QC/OA
HOT-MIX ASPHALT, BASE COURSE 7 1/4" (HMA BINDER, IL-19.0)	4% @ 70 GYR	QC/OA
PAVEMENT RESURFACING		
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 (IL 9.5 MM)	4% @ 70 GYR	QC/OA
LEVELING BINDER (MM), N70, IL 9.5MM	4% @ 70 GYR	QC/OA
HOT MIX ASPHALT SHOULDERS, 8"		
2" HMA SURFACE COURSE, MIX D N70 (IL 9.5 MM)	4% @ 70 GYR	QC/OA
6" HMA BINDER IL-19 MM	4% @ 70 GYR	QC/OA
QMP DESIGNATION: QUALITY CONTROL/QUALITY ASSURANCE (QC/OA)		

THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT SURFACE MIXTURE QUANTITIES IS 112 LBS/SOYD/IN.
 THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 76-22" AND FOR NON POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS. FOR USE OF RECYCLED MATERIALS SEE SPECIAL PROVISIONS. QUALITY MANAGEMENT PROGRAM (QMP) IDENTIFIES THE PARTICULAR QUALITY CONTROL SPECIFICATION THAT APPLIES TO THE HMA MIXTURE.

PROPOSED

- (A) COMBINATION CONCRETE CURB AND GUTTER; B-6.24
- (B) CONCRETE BOX CULVERTS 10' x 5'
- (C) AGGREGATE SUBGRADE IMPROVEMENT
- (D) THERMO PLASTIC PAVEMENT MARKING
- (E) HOT-MIX ASPHALT SURFACE COURSE, MIX D, N70, 2"
- (F) LEVELING BINDER (MACHINE METHOD), N70, 3/4"
- (G) AGGREGATE SUBGRADE IMPROVEMENT 12"
- (H) HOT-MIX ASPHALT BASE COURSE, 7 1/4"
- (I) HOT-MIX ASPHALT SHOULDERS, 8"
- (J) LONG SPAN GUARDRAIL OVER CULVERT, 12.5 FT.
- (K) HEAD WALL
- (L) EXISTING SIDEWALK TO REMAIN
- (M) TOE WALL
- (N) WING WALL
- (P) METAL BAR GRATE (MATCH EXISTING)
- (O) SOD WITH TOPSOIL FURNISH AND PLACE-6"
- (R) SUBBASE GRANULAR MATERIAL, TYPE C
- (S) SUBBASE GRANULAR MATERIAL, TYPE B
- (T) EARTH EXCAVATION
- (U) POROUS GRANULAR EMBANKMENT (BEDDING)
- (V) CLASS SI CONCRETE (GUTTER OUTLET)



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AES Services, Inc.
 111 S. Wacker Drive, Suite 3910
 Chicago, IL 60606
 Ph: 312-235-6783

USER NAME = rmanucod	DESIGNED - AWM	REVISED -
DRAWN - TOM	REVISIONS -	
PLOT SCALE = 10.0000' / in.	CHECKED - JA	REVISED -
PLOT DATE = 4/1/2017	DATE - 04/03/2017	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PROPOSED TYPICAL SECTIONS			
SCALE	SHEET	OF SHEETS	STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI 172	2015-004B	LAKE	31	9
CONTRACT NO. 62A58				
ILLINOIS FED. AID PROJECT				

PAVEMENT SCHEDULE

LOCATION	SIDE	HOT-MIX ASPHALT SURFACE COURSE, MIX D, N70, 2"	LEVELING BINDER (MACHINE METHOD), N70, 3/4"	AGGREGATE SUBGRADE IMPROVEMENT 12"	HOT-MIX ASPHALT BASE COURSE, 7 1/4"	HOT-MIX ASPHALT SHOULDERS, 8"	AGGREGATE SUBGRADE IMPROVEMENT
STATION TO STATION	LT/RT	(TON)	(TON)	(SQ YD)	(SQ YD)	(SQ YD)	(CU YD)
27+54.67 TO 27+78.67						9.33	
27+78.67 TO 28+07.00						22.03	
28+07.00 TO 28+36.00		9.02	3.38			22.56	3.85
28+36.00 TO 28+51.91		4.95		44.19	44.19	14.63	2.90
28+51.91 TO 28+62.91		3.42			30.56	10.96	13.58
28+62.91 TO 28+79.00		5.01		44.69	44.69	16.60	2.93
28+79.00 TO 29+07.00		8.71	3.27			9.56	3.72
TOTAL		32	7	89	120	106	27

PAVEMENT REMOVAL SCHEDULE

LOCATION			HOT-MIX ASPHALT SURFACE REMOVAL, 2 3/4"	PAVEMENT REMOVAL
STATION	TO	STATION	(SQ YD)	(SQ YD)
28+07.00	TO	28+36.00	80.56	
28+36.00	TO	28+79.00		120
28+79.00	TO	29+07.00	77.78	
TOTAL			160	120

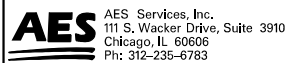
GUARDRAIL SCHEDULE

LOCATION			SIDE	LONG-SPAN GUARDRAIL OVER CULVERT, 12.5 FT SPAN	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	TRAFFIC BARRIER TERMINAL, TYPE 2	TERMINAL MARKER - DIRECT APPLIED
STATION	TO	STATION	LT/RT	(FOOT)	(EACH)	(EACH)	(EACH)
27+88.67	TO	28+38.67			1		1
27+38.67	TO	28+76.17	RT	37.5			
28+26.17	TO	28+88.67				1	1
TOTAL				37.5	1	1	2

EARTHWORK SCHEDULE

LOCATION			EARTH EXCAVATION (CU YD)	UNSUITABLE MATERIAL (CU YD)	15% ADJUSTMENT FOR SHRINKAGE (CU YD)	FILL EMBARKMENT (CU YD)	EARTHWORK BALANCE WASTE(+) SHORTAGE(-) (CU YD)
STATION	TO	STATION					
27+54.67	TO	27+78.67	7.66	0.77	5.86	7.49	-1.63
27+78.67	TO	28+10.00	20.00	2.00	15.30	19.55	-4.25
28+10.00	TO	28+25.00	9.83	0.98	7.52	9.39	-1.87
28+25.00	TO	28+43.69	13.00	1.30	9.95	11.73	-1.78
28+43.69	TO	28+79.00	104.64	10.46	80.05	97.88	-17.88
28+79.00	TO	29+07.00	6.87	0.69	5.26	4.19	1.07
TOTAL			162.01	16.20	123.94	150.23	-26.29

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USER NAME = rmemcod
 PLOT SCALE = 2.0000' / in.
 PLOT DATE = 4/1/2017

DESIGNED - AWM
 DRAWN - TOM
 CHECKED - JA
 DATE - 04/03/2017

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

SCHEDULES OF QUANTITIES

SCALE SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI 172	2015-004B	LAKE	31	10
CONTRACT NO. 62A58				
ILLINOIS FED. AID PROJECT				

CP #1

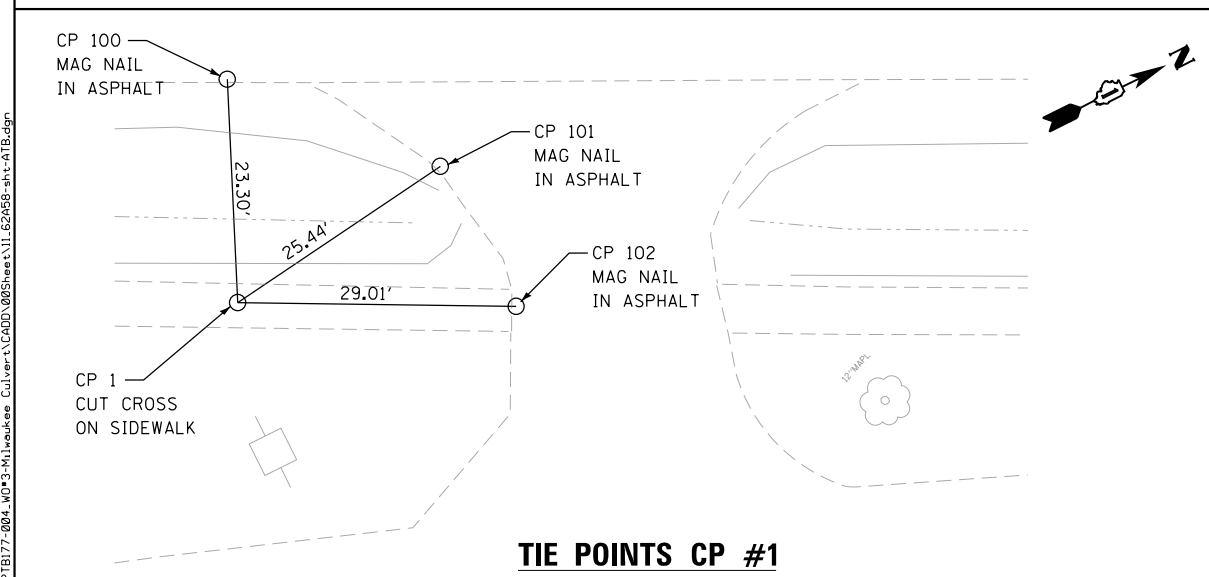
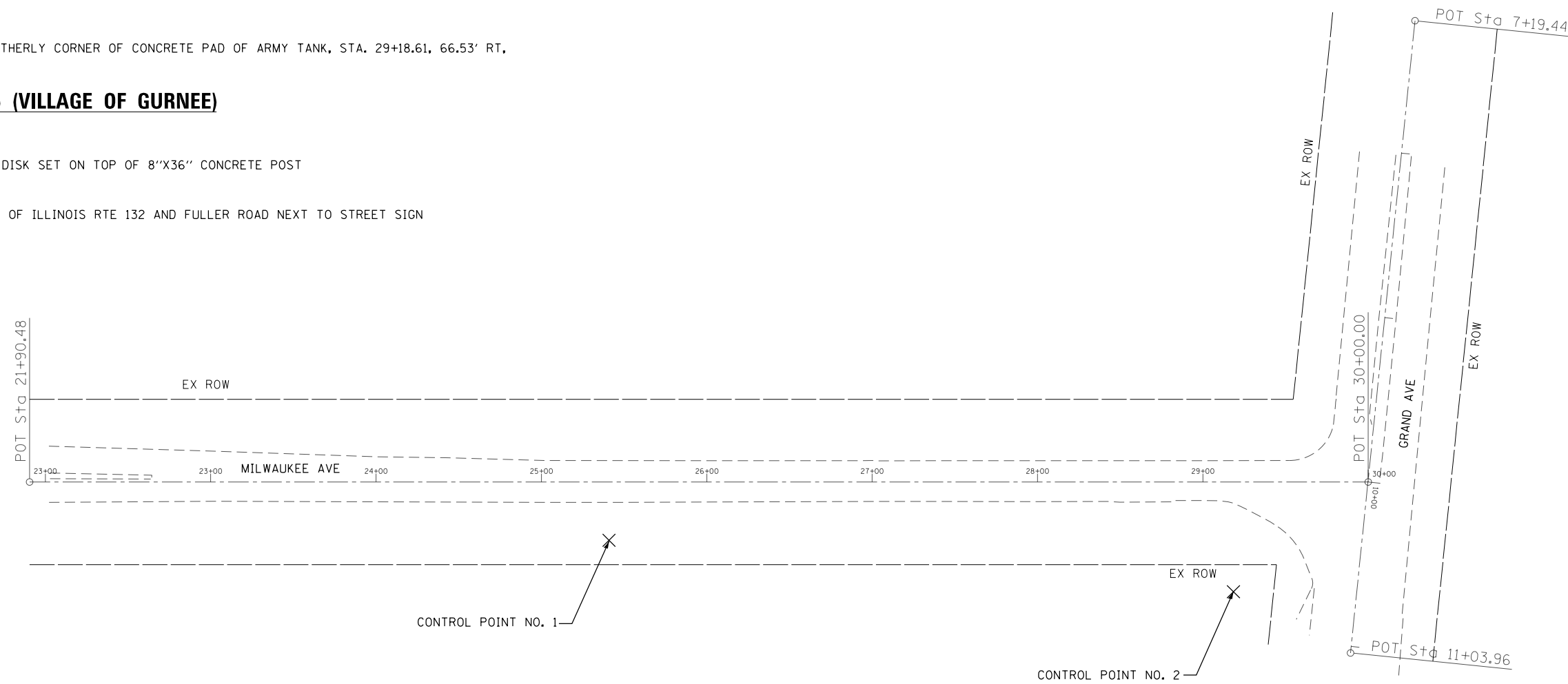
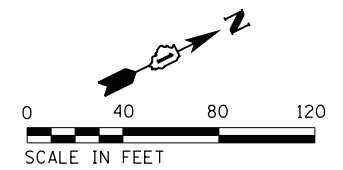
NORTHING : 2078128.371
 EASTING : 1095120.246
 ELEV. : 664.221
 LOCATION : CROSS CUT ON SIDEWALK, STA. 25+40.84, 35.28' RT.

CP #2

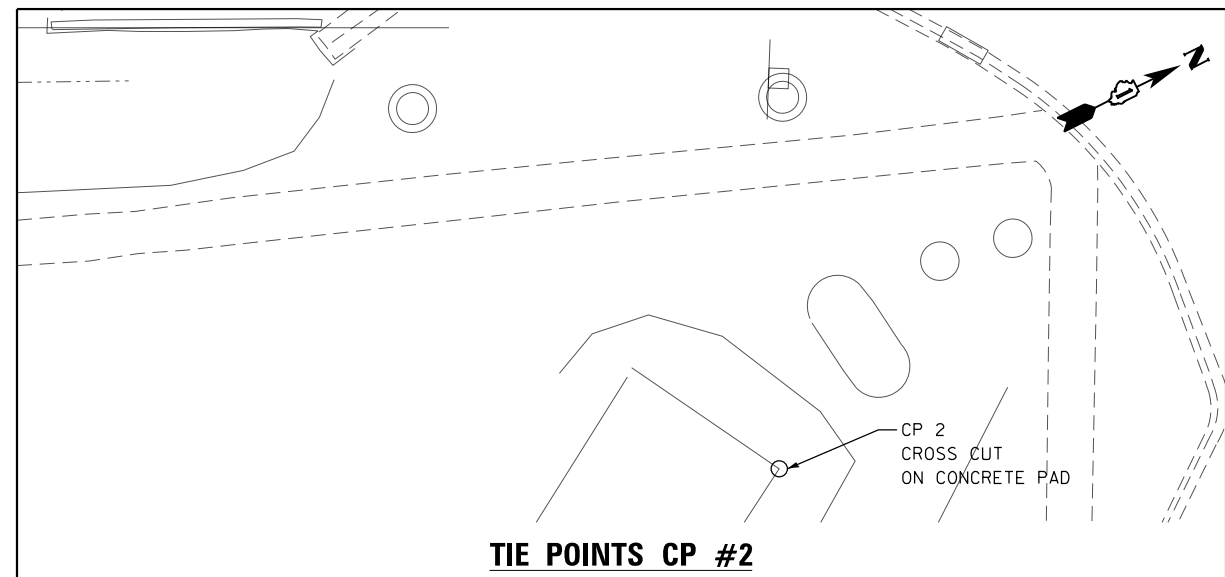
NORTHING : 2078452.853
 EASTING : 1095316.363
 ELEV. : 662.948
 LOCATION : CROSS CUT ON NORTHERLY CORNER OF CONCRETE PAD OF ARMY TANK, STA. 29+18.61, 66.53' RT.

BENCHMARK # 1496 (VILLAGE OF GURNEE)

ELEVATION NGVD 88 - 709.94
 ELEVATION NGVD 29 - 710.372
 TYPE OF MARKER: 3/4" BRASS DISK SET ON TOP OF 8"x36" CONCRETE POST
 NORTHING : 2079700.881
 EASTING : 1093502.234
 LOCATION : NORTHEAST CORNER OF ILLINOIS RTE 132 AND FULLER ROAD NEXT TO STREET SIGN



TIE POINTS CP #1



TIE POINTS CP #2

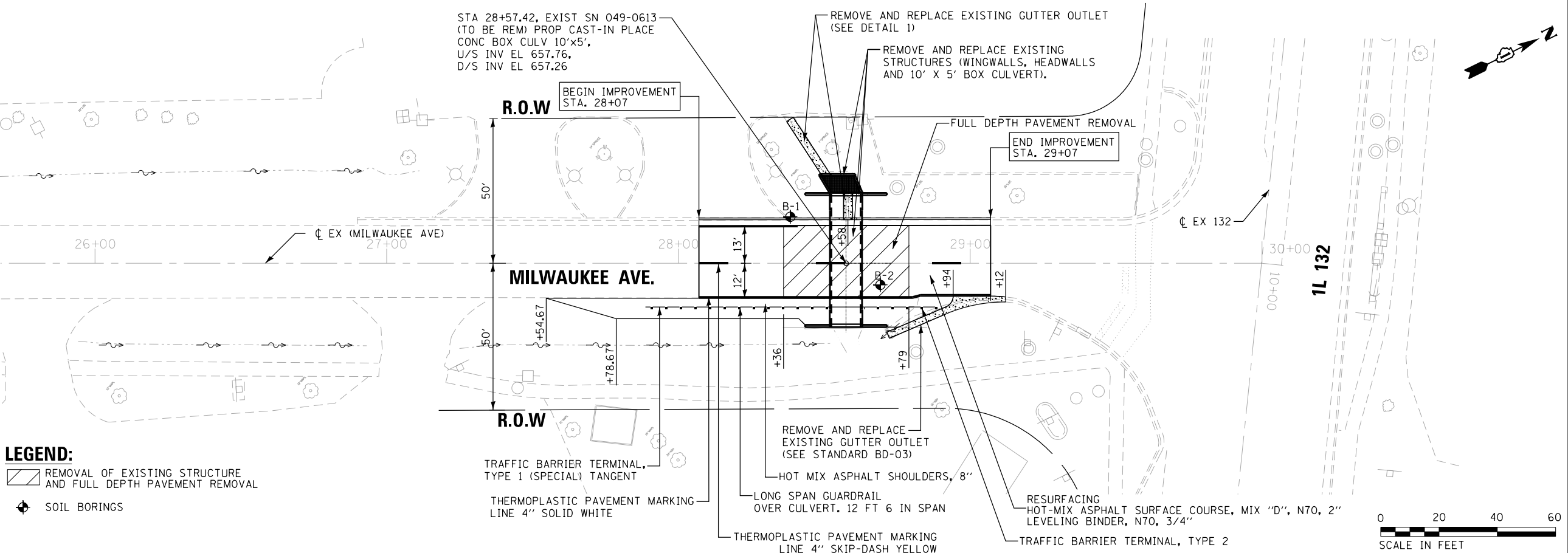
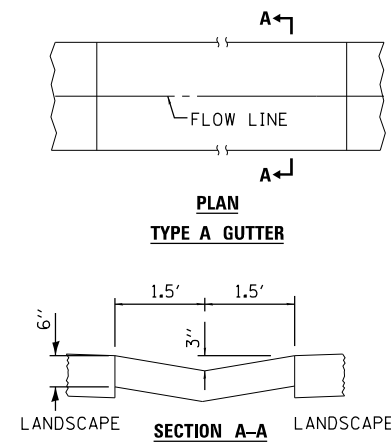
<p>AES Services, Inc. 111 S. Wacker Drive, Suite 3910 Chicago, IL 60606 Ph: 312-235-6783</p>	USER NAME = tmohammed	DESIGNED - AWM	REVISED -
	PLOT SCALE = 80.0000' / in.	DRAWN - TOM	REVISED -
	PLOT DATE = 4/3/2017	CHECKED - JA	REVISED -
		DATE - 04/03/2017	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

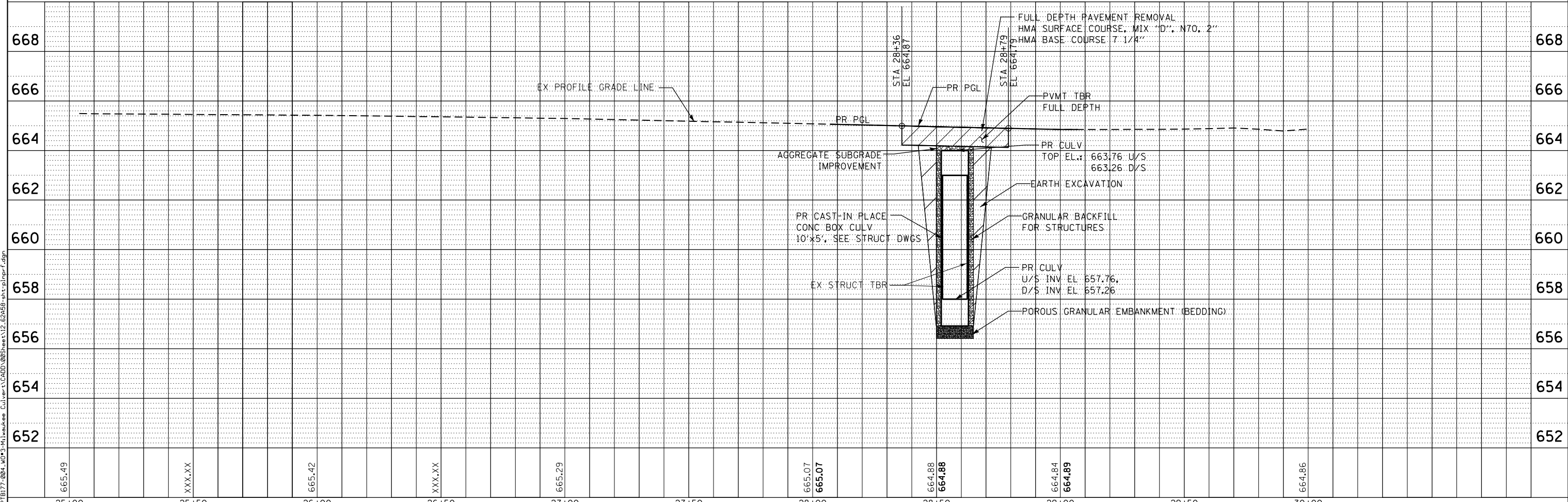
ALIGNMENT, TIES AND BENCHMARKS			
SCALE	SHEET	OF SHEETS	STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI 172	2015-004B	LAKE	31	11
CONTRACT NO. 62A58				
ILLINOIS FED. AID PROJECT				

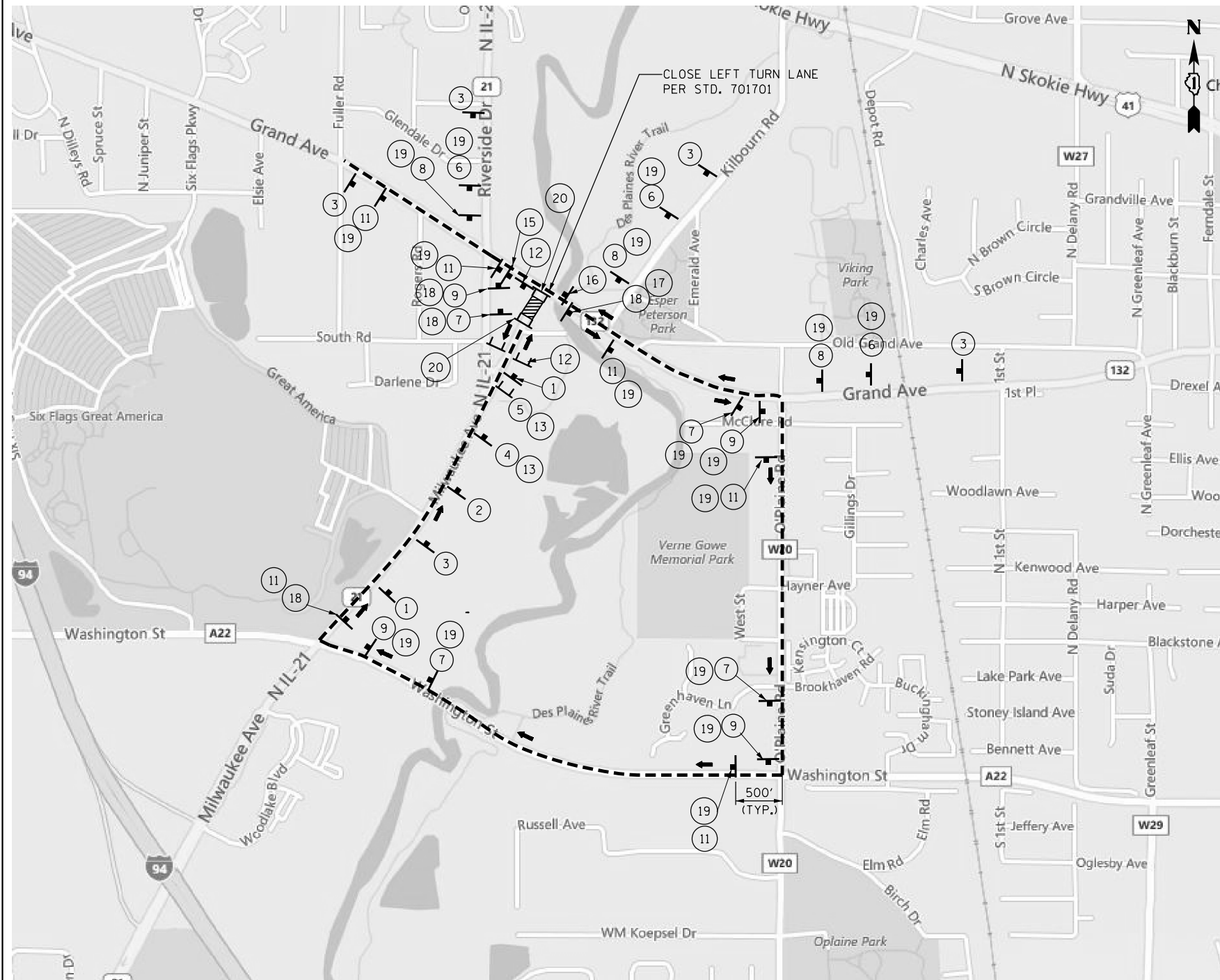
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LEGEND:
 REMOVAL OF EXISTING STRUCTURE AND FULL DEPTH PAVEMENT REMOVAL
 SOIL BORINGS



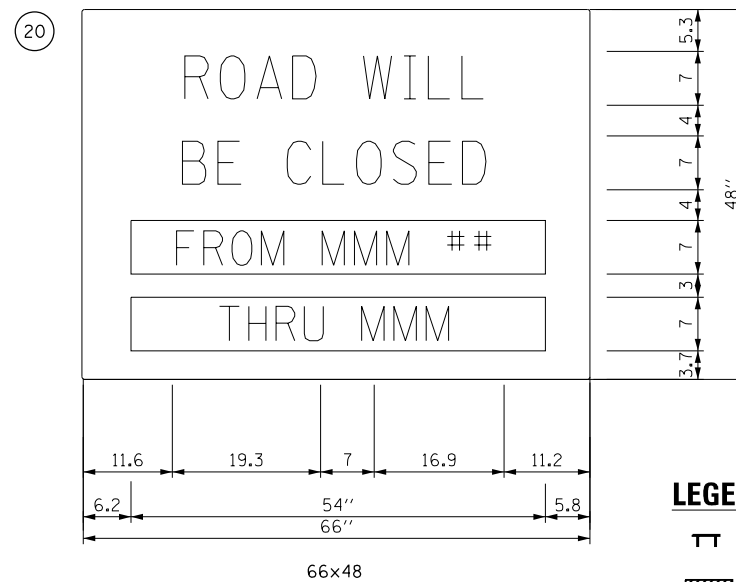
665.49	25+00	XXX.XX	25+50	665.42	26+00	XXX.XX	26+50	665.29	27+00	665.07	665.07	28+00	664.88	664.88	28+50	664.84	664.89	29+00	664.86	30+00					
AES Services, Inc. 111 S. Wacker Drive, Suite 3910 Chicago, IL 60606 Ph: 312-235-6783		USER NAME = rmanucod		DESIGNED - AWM		REVISED -		DRAWN - TOM		REVISED -		CHECKED - JA		REVISED -		DATE - 04/03/2017		REVISED -		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION					
PLOT SCALE = 40.0000' / in.		PLOT DATE = 4/1/2017		SCALE		SHEET		OF		SHEETS		STA.		TO		STA.		SECTION		COUNTY		TOTAL SHEETS		SHEET NO.	
				2015-004B		LAKE		31		12		CONTRACT NO. 62A58		ILLINOIS FED. AID PROJECT											



NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED ERECTED AND MAINTAINED BY THE CONTRACTOR.
2. ALL SIGNS NOT ATTACHED TO BARRICADES SHALL BE POST MOUNTED, UNLESS OTHERWISE NOTED.
3. LOCATIONS OF TRAFFIC CONTROL DEVICES MAY BE ADJUSTED BY THE ENGINEER.
4. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES, THE HIGHWAY STANDARDS AND SPECIAL PROVISIONS.
5. PLACEMENT AND SPACING OF SIGNS AND BARRICADES SHALL BE IN ACCORDANCE WITH TC-21
6. THE COST OF SUPPLYING, ERECTION AND MAINTAINING BARRICADES, WARNING LIGHTS AND ALL SIGNS, INCLUDING SIGN PANEL OVERLAYS SHALL BE INCLUDED IN THE CONTRACT COST OF TRAFFIC CONTROL AND PROJECTION (SPECIAL)
7. FOLLOWING SIGNALIZED INTERSECTION WILL REQUIRE TIMING ADJUSTMENTS DURING DETOUR AND SHALL BE PAID UNDER TEMPORARY TRAFFIC SIGNAL TIMING.

- A. IL RTE. 132 (GRAND AVE.) & RIVERSIDE DR.
- B. IL RTE. 132 (GRAND AVE.) & O'PLAINE RD.
- C. O'PLAINE RD. & WASHINGTON ST.
- D. WASHINGTON ST. & MILWAUKEE AV.
- E. MILWAUKEE AV. & SIX FLAGS GREAT AMERICA

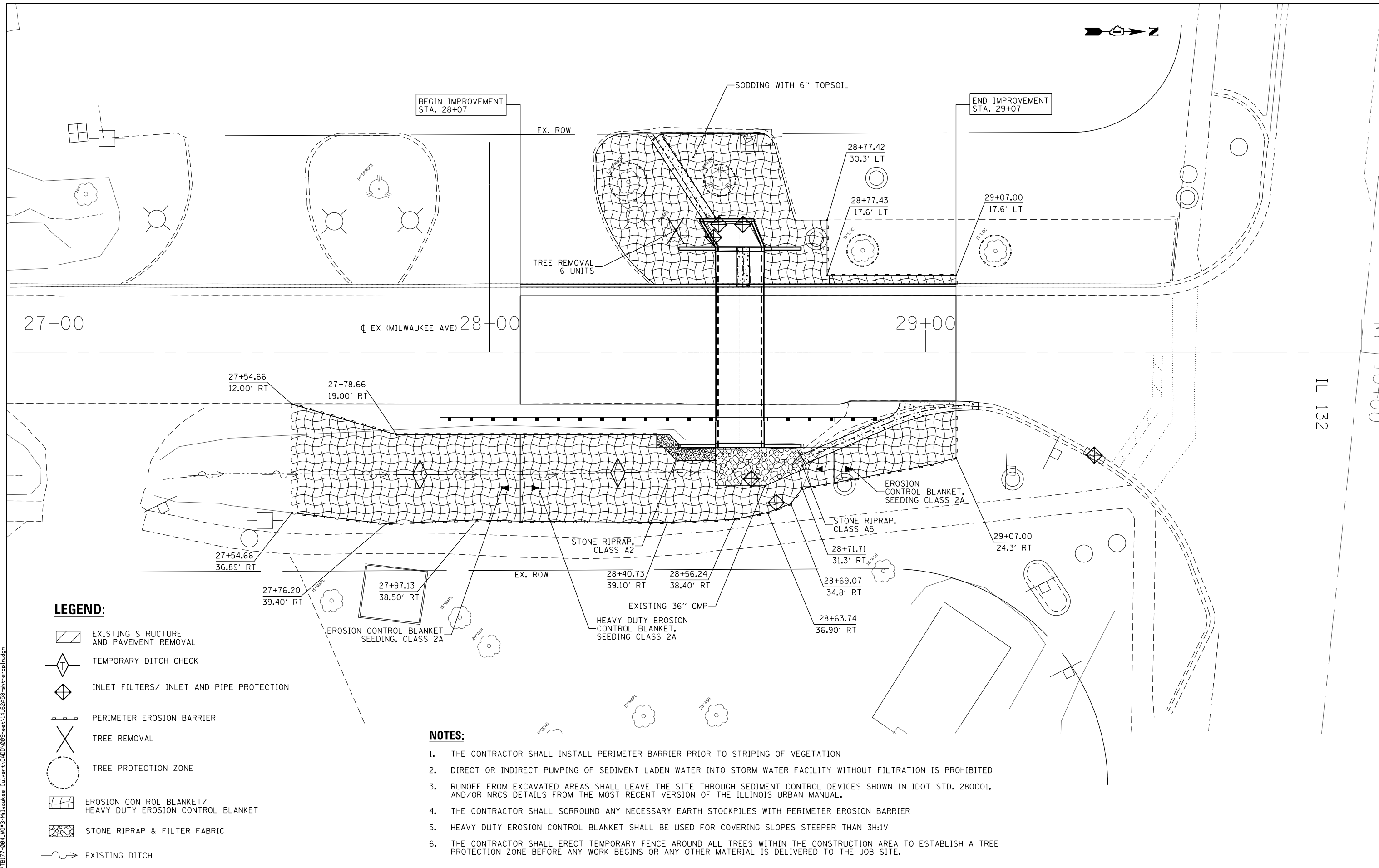


NOTE:
 ERECT SIGN ASSEMBLY (POST-MOUNTED) ON ROAD TO BE CLOSED IN EACH DIRECTION NEAR POINT OF CLOSURE OR WITHIN SECTION TO BE FULLY CLOSED TWO (2) WEEKS PRIOR TO START DATE OF FULL CLOSURE. REMOVE ASSEMBLY AFTER CLOSURE.










LEGEND:

- TYPE III BARRICADES CONFORMING TO STD. 701901 WITH 2 FLASHING LIGHTS PER BARRICADE
- CONSTRUCTION ZONE
- DETOUR ROUTE

1		2		3		4		5		6		7		8		9	
	W20-3-4848		W20-3-4848		W20-2-4848		R11-4-6030		R11-3a-6030		M1-50-2424		M1-50-2424		M1-50-2424		M1-50-2424
											M4-9-3024		M4-9-3024		M4-9-3024		M4-9-3024
10	NOT USED	11		12		13		14		15		16		17		18	
			M1-50-2424		R11-2-4830		M4-10L-4818		M4-10R-4818		R3-1 30"x30"		R3-2 30"x30"		M4-8A		M3-1-2412
			M4-9-3024													19	
																	M3-3-2412



LEGEND:

-  EXISTING STRUCTURE AND PAVEMENT REMOVAL
-  TEMPORARY DITCH CHECK
-  INLET FILTERS/ INLET AND PIPE PROTECTION
-  PERIMETER EROSION BARRIER
-  TREE REMOVAL
-  TREE PROTECTION ZONE
-  EROSION CONTROL BLANKET/ HEAVY DUTY EROSION CONTROL BLANKET
-  STONE RIPRAP & FILTER FABRIC
-  EXISTING DITCH

NOTES:

1. THE CONTRACTOR SHALL INSTALL PERIMETER BARRIER PRIOR TO STRIPING OF VEGETATION
2. DIRECT OR INDIRECT PUMPING OF SEDIMENT LADEN WATER INTO STORM WATER FACILITY WITHOUT FILTRATION IS PROHIBITED
3. RUNOFF FROM EXCAVATED AREAS SHALL LEAVE THE SITE THROUGH SEDIMENT CONTROL DEVICES SHOWN IN IDOT STD. 280001, AND/OR NRCS DETAILS FROM THE MOST RECENT VERSION OF THE ILLINOIS URBAN MANUAL.
4. THE CONTRACTOR SHALL SURROUND ANY NECESSARY EARTH STOCKPILES WITH PERIMETER EROSION BARRIER
5. HEAVY DUTY EROSION CONTROL BLANKET SHALL BE USED FOR COVERING SLOPES STEEPER THAN 3H:1V
6. THE CONTRACTOR SHALL ERECT TEMPORARY FENCE AROUND ALL TREES WITHIN THE CONSTRUCTION AREA TO ESTABLISH A TREE PROTECTION ZONE BEFORE ANY WORK BEGINS OR ANY OTHER MATERIAL IS DELIVERED TO THE JOB SITE.

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AES Services, Inc.
111 S. Wacker Drive, Suite 3910
Chicago, IL 60606
Ph: 312-235-6783

USER NAME = rmanuod	DESIGNED - AWM	REVISED -
PLOT SCALE = 20.0000' / in.	DRAWN - TOM	REVISED -
PLOT DATE = 4/1/2017	CHECKED - JA	REVISED -
	DATE - 04/03/2017	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EROSION CONTROL PLAN

SCALE SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI 172	2015-004B	LAKE	31	14
CONTRACT NO. 62A58				
ILLINOIS FED. AID PROJECT				

BENCH MARK #1496 (VILLAGE OF GURNEE):

Elevation NGVD 29 - 710.372, 3/4" brass disk set on top of 8"x36" concrete post.
 Northing: 2079700.81, Easting: 1093502.234

CONTROL POINT CP#1:

CP 1: Chiseled "X" on sidewalk at Sta. 25+40.84, Offset 35.28' Right, Elev. 664.34

CONTROL POINT CP#2:

CP 1: Chiseled "X" on sidewalk at Sta. 27+27.01, Offset 33.23' Right, Elev. 664.77

EXISTING STRUCTURE:

The existing structure SN 049-0593 was originally built in 1927 as F.A. Rte SBI 172 (Milwaukee Avenue), over the drainage ditch South of IL 132 and East of IL 21 in the Village of Gurnee, Lake County. The existing structure is a 5-foot high by 10-foot wide by 46-foot long concrete box culvert, with wing walls running parallel to the roadway. Additionally, the culvert opening on the west side has headwalls connected to an existing wall for two elliptical pipe culverts. The Structure is located perpendicular to the center line of the road and carries 12'-0" wide one lane in each direction. The existing structure will be removed and replaced in-kind.

STAGING:

No staging required.
 Traffic shall be detoured

SALVAGE:

No Salvage

HIGHWAY CLASSIFICATION

F.A. Rte. SBI 172
 Functional Class: Local Road, Class II Truck Route
 ADT: 6300 (2011), 4350 (2015)
 Design Speed: 35 MPH
 Posted Speed: 35 MPH

LOADING HL-93

Allow 50 #/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2012 AASHTO Standard Specifications for Highway Bridges, 6th edition with 2013 interims
 ASTM C 1577

DESIGN STRESSES

Cast-in-place units
 $f'_c = 5,000$ psi
 $f_y = 65,000$ psi (Welded Wire Fabric)
 $f_y = 60,000$ psi (Reinforcement)

DESIGN FILL HEIGHT

Fill Height: Varies from 1'-0" to 1'-3"

NOTE

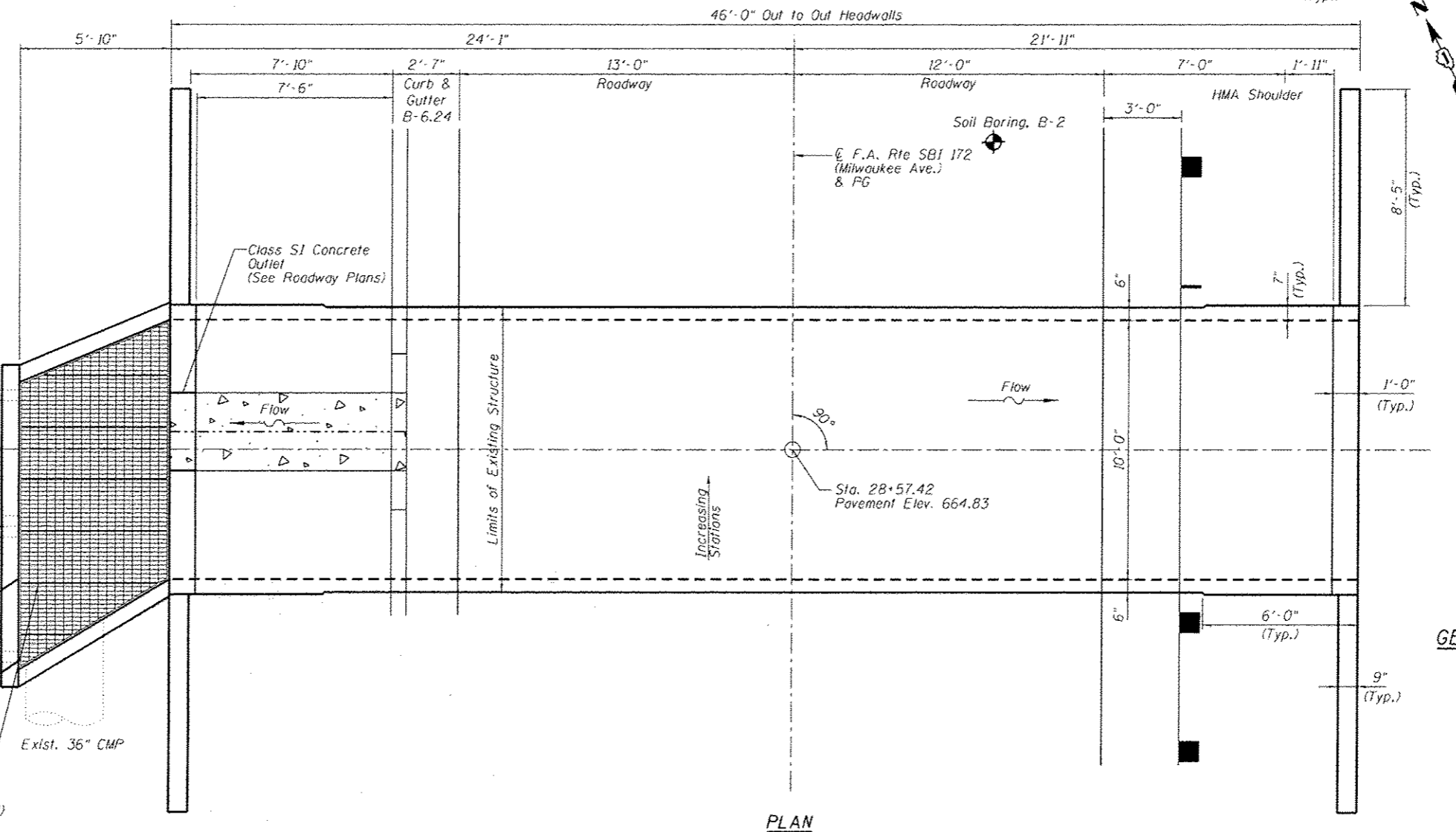
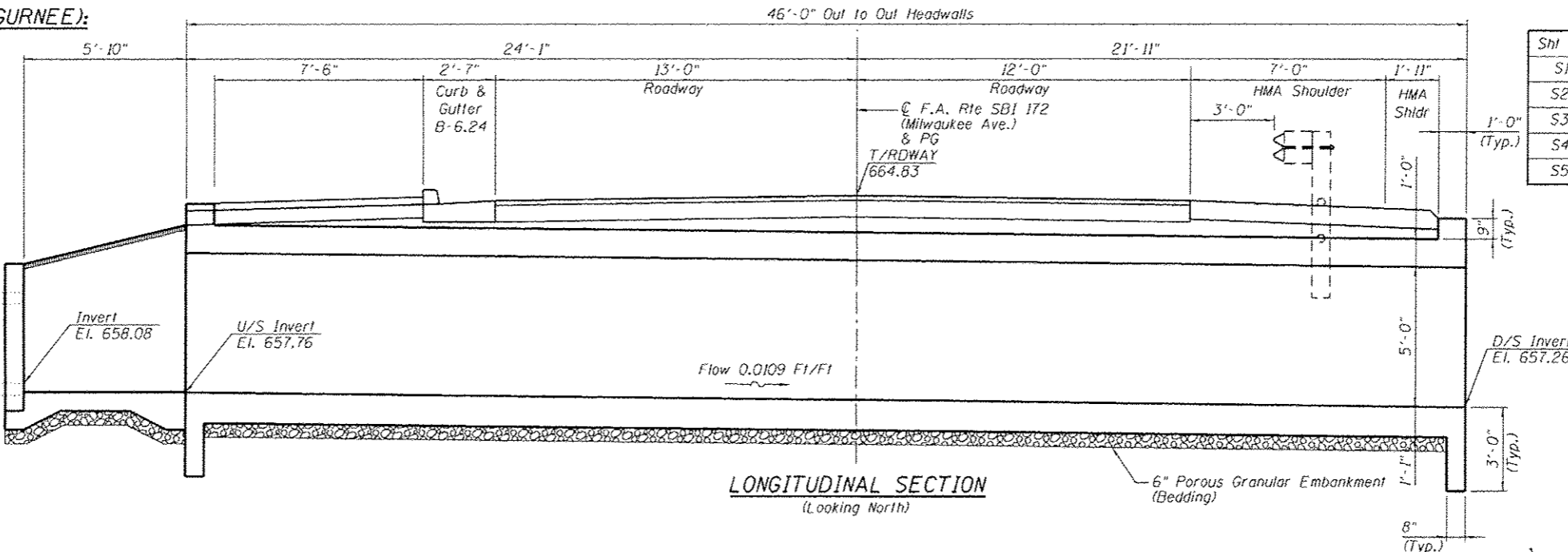
Precast option is not allowed



DATE: 04/03/2017
 LICENSE EXPIRES ON 04/03/2018

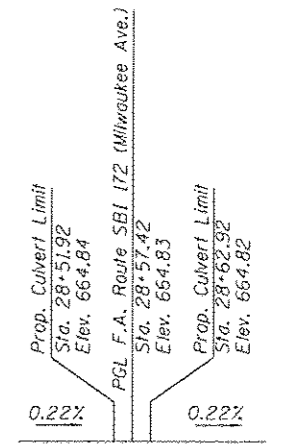
Class S1 Concrete Outlet
 (See Roadway Plans)

Match Existing
 (Special Gate No. 1)



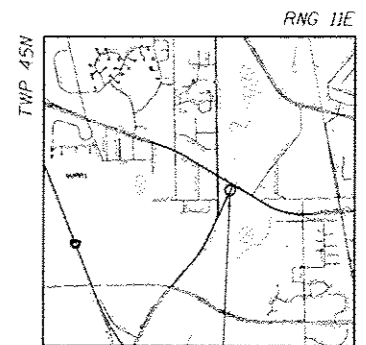
INDEX OF SHEETS

Shl No.	Description
S1	General Plan and Elevation
S2	Miscellaneous Details
S3	Culvert Details I
S4	Culvert Details II
S5	Soil Boring Logs



PROFILE GRADE

(Along E. F.A. Route SBI 172 (Milwaukee Avenue))



LOCATION SKETCH

STATION 28+57.42
 BUILT 2017 BY
 STATE OF ILLINOIS
 F.A. RTE SBI 172 SEC. 004-B
 LOADING HL-93
 STR. NO. 049-0613

NAME PLATE

See Std. 515001

GENERAL PLAN AND ELEVATION

MILWAUKEE AVENUE
 OVER DRAINAGE DITCH
 F.A. ROUTE SBI 172
 SECTION 2015-004B
 GURNEE, LAKE COUNTY
 STATION 28+57.42
 SN 049-0613

<p>AES Services, Inc. 111 S. Wacker Drive, Suite 3910 Chicago, IL 60606 Pk: 312-235-6783</p>	USER NAME - USERS PLT SCALE - SSCALE PLT DATE - 4/4/2017	DESIGNED - AWM DRAWN - AWM CHECKED - MS DATE - 04/03/2017	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION STRUCTURE NO. 049-0613		F.A.U. RTE. 172	SECTION 2015-004B	COUNTY LAKE	TOTAL SHEETS 31	SHEET NO. 16	CONTRACT NO. 62A58 ILLINOIS FED. AID PROJECT
	SCALE SHEET OF SHEETS STA. TO STA.				CONTRACT NO. 62A58							

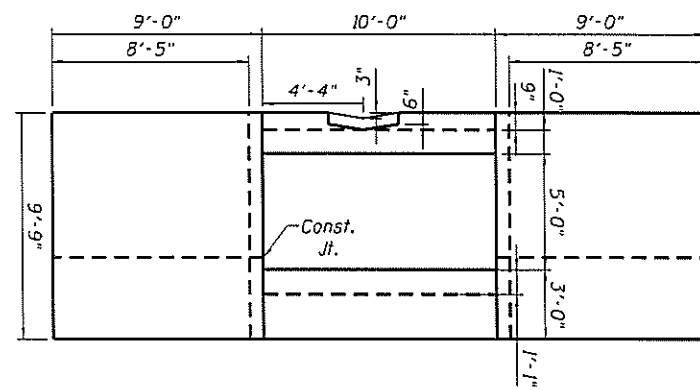
GENERAL NOTES

- Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- Reinforcement bars designated (E) shall be epoxy coated.
- 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.
- Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.
- Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- It shall be the responsibility of the Contractor to divert flow during construction in order to keep construction areas free of water. The method of water diversion shall be subject to the approval of Engineer and shall be included in the cost of Concrete box Culverts.

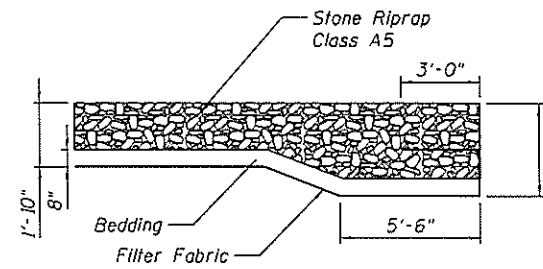
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Stone Riprap, Class A2	Sq. Yd.	5
Stone Riprap, Class A5	Sq. Yd.	20
Filter Fabric	Sq. Yd.	25
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	75
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	20
Reinforcement Bars Epoxy Coated	Pound	12864
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	65
** Special Grate No. 1	Each	1
Membrane Waterproofing for Buried Structures	Sq. Yd.	77
Granular Backfill For Structures	Cu. Yd.	48

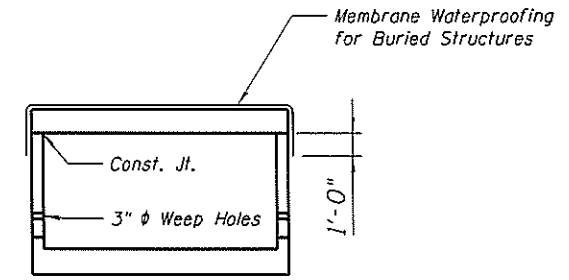
** Pay Item Requires Special Provision



ELEVATION AT UPSTREAM



RIPRAP DETAIL



MEMBRANE WATERPROOFING

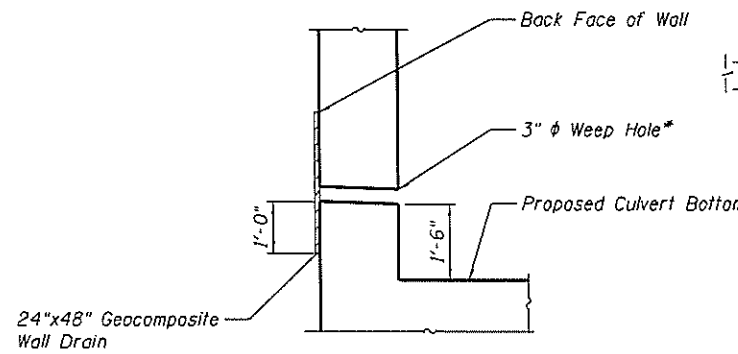
For Culverts with fill heights < 3 ft.

WATERWAY INFORMATION

Drainage Area = 0.66 sq. mi.

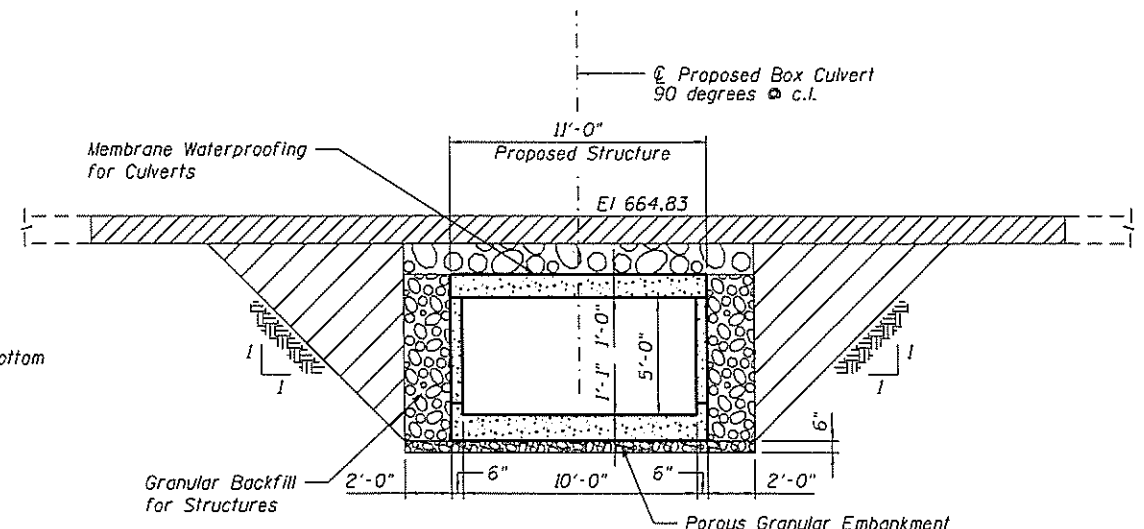
Flood	Freq. Yr.	O C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	221	50	50	XXX.X	X.X	X.X	662.9	XXX.X
Hydraulic Design	50	299	50	50	XXX.X	X.X	X.X	666.7	XXX.X
Base	100	327	50	50	XXX.X	X.X	X.X	667.7	XXX.X
Scour Design	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Max. Calc.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overlapping	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Exist. 10 Year Velocity: X.X (ft./sec.) Prop. 10 Year Velocity: X.X (ft./sec.)



WEEPHOLE DRAIN DETAIL

* Cost included in Concrete Box Culvert



SECTION THRU BARREL

P:\62658\62658-03-PTB17-084_M073-M1\Structure\Culvert\1\CA000\085Sheet\17_62658-03-PTB17-084.dwg

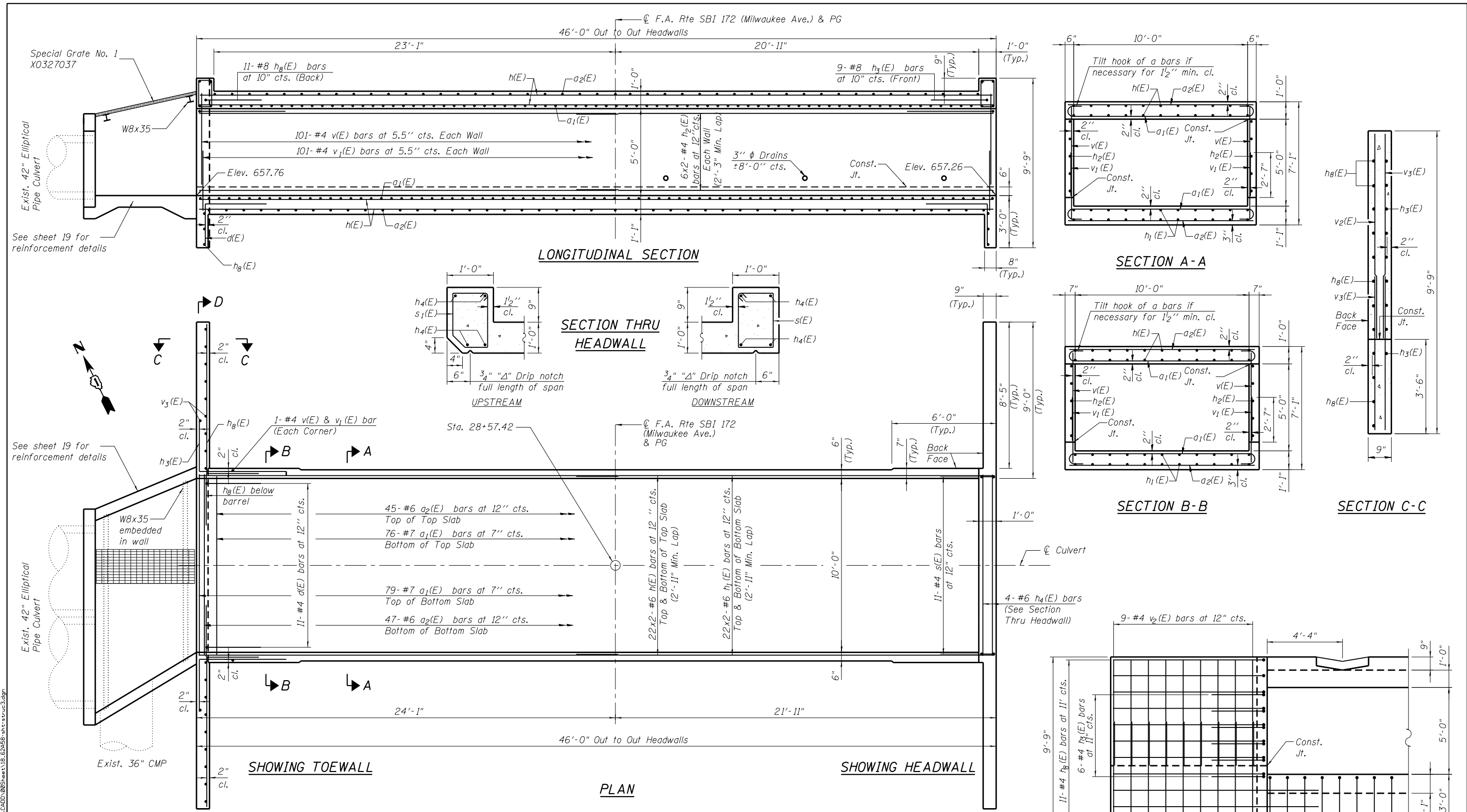


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PLOT SCALE: 9,0000' / 1"	DRAWN: AWM	REVISED:
PLOT DATE: 4/17/2017	CHECKED: MS	REVISED:
	DATE: 04/03/2017	REVISED:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, TOTAL BILL OF MATERIALS
AND MISCELLANEOUS DETAILS
STRUCTURE NO. 049-0613

F.A.U. RTE. 172	SECTION 2015-0048	COUNTY LAKE	TOTAL SHEETS 31	SHEET NO. 17
CONTRACT NO. 62A58			ILLINOIS FED. AID PROJECT	



- NOTES**
1. A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
 2. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
 3. Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

LOADING HL-93

DESIGN STRESSES

$f_y = 60,000$ psi
 $f'_c = 3,500$ psi



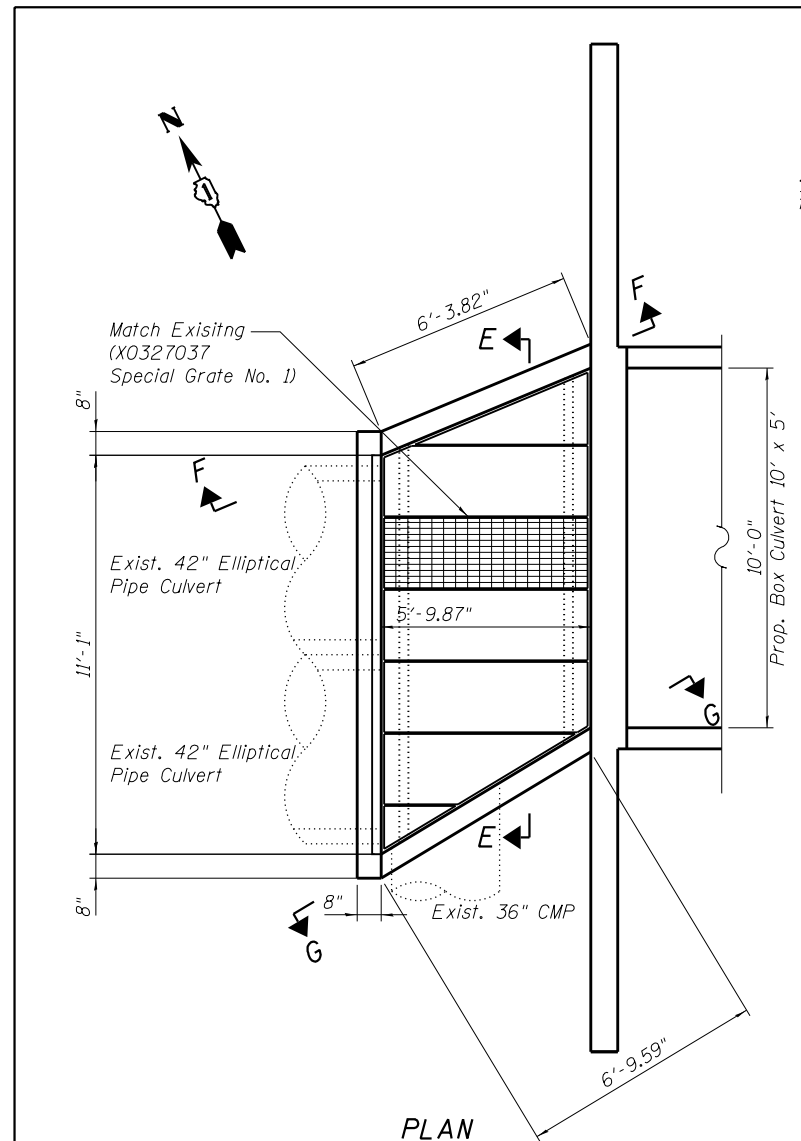
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	DATE - 04/03/2017	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

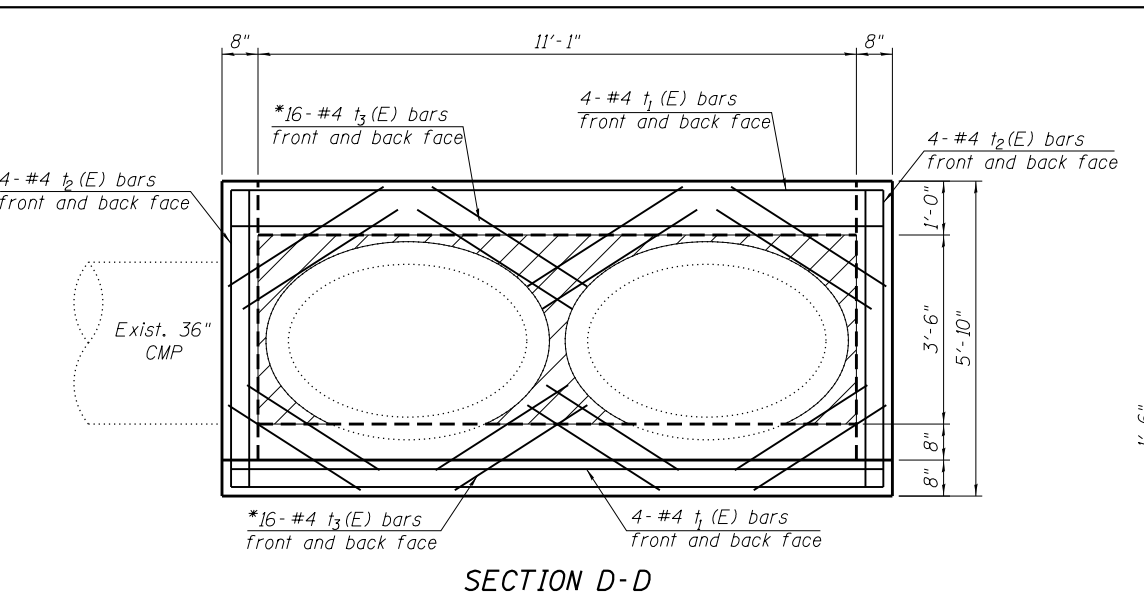
**CULVERT DETAILS I
STRUCTURE NO. 049-0613**

SCALE	SHEET	OF	SHEETS	STA.	TO	STA.
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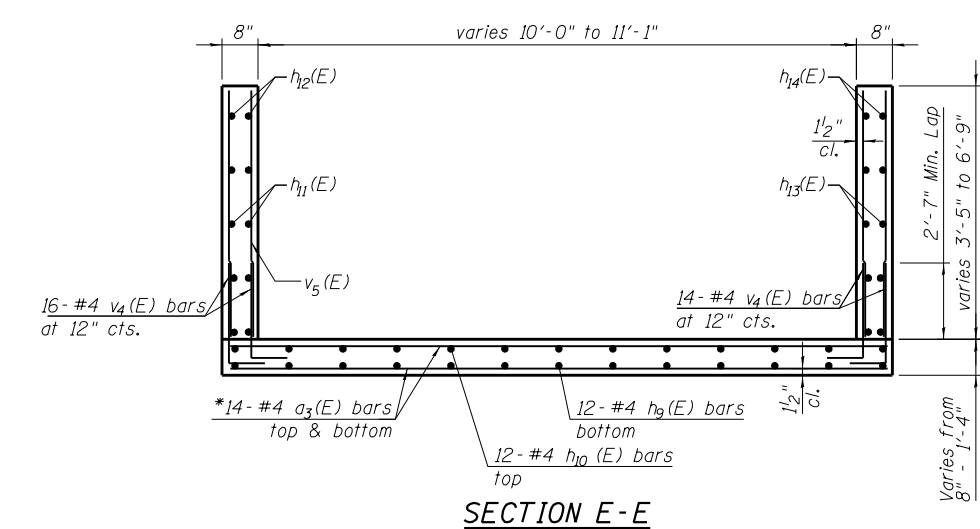
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	2015-004B	LAKE	31	18
CONTRACT NO. 62A58				
ILLINOIS FED. AID PROJECT				



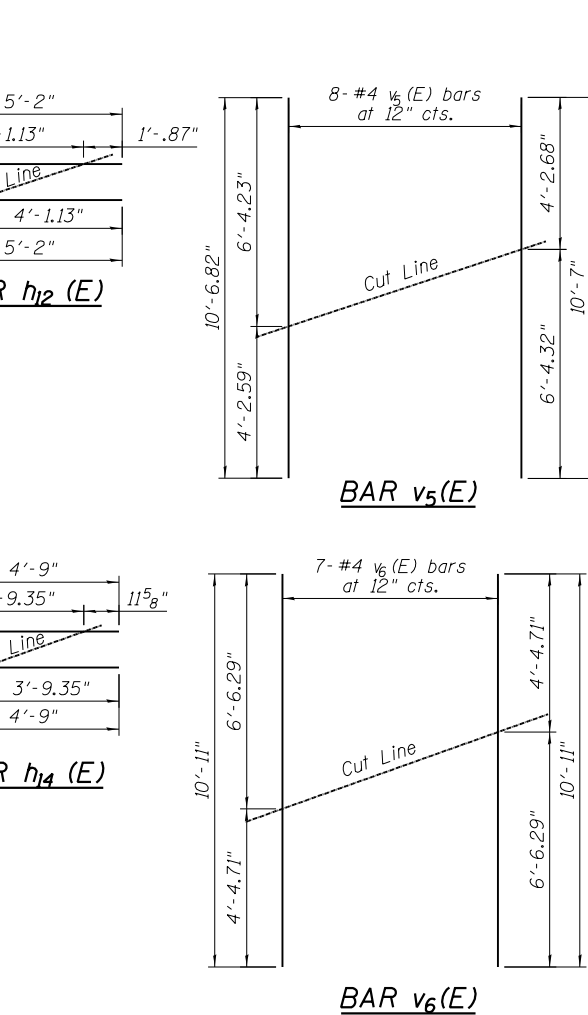
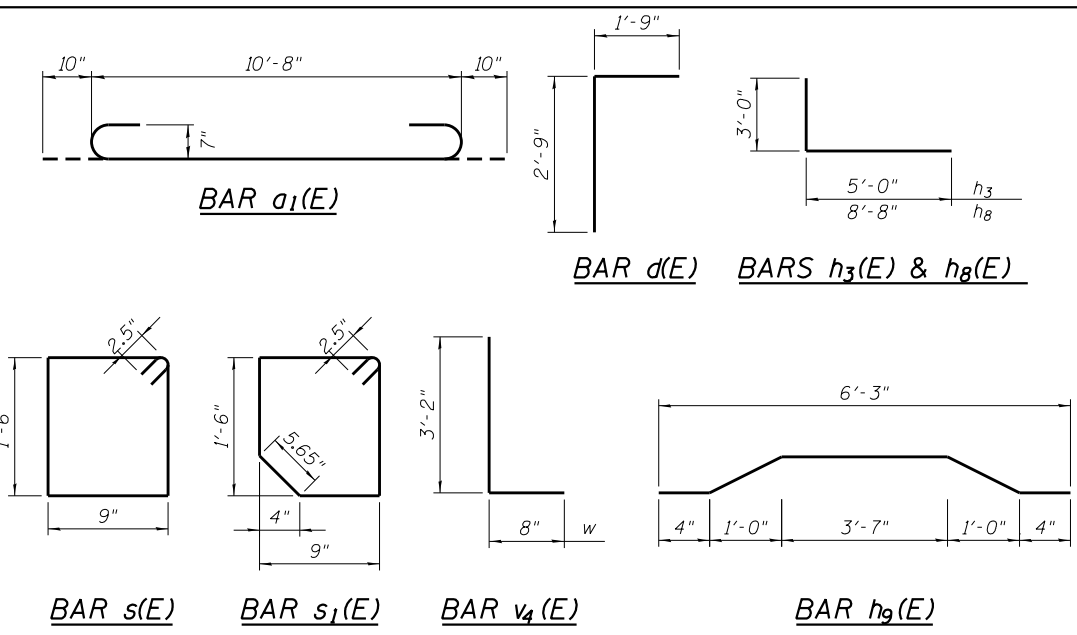
PLAN



SECTION D-D



SECTION E-E



FIELD CUTTING DIAGRAM

Order bars shown full length. Cut as shown and use remainder of bars on opposite face.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1(E)	155	#7	10'-8"	
a2(E)	92	#6	10'-8"	
a3(E)	14	#4	12'-1"	
d(E)	22	#4	4'-6"	
h(E)	44	#6	24'-4"	
h1(E)	44	#6	24'-4"	
h2(E)	24	#4	24'-0"	
h3(E)	24	#8	8'-0"	
h4(E)	8	#6	10'-10"	
h5(E)	44	#8	11'-8"	
h6(E)	10	#4	6'-3"	
h7(E)	2	#4	6'-3"	
h8(E)	10	#4	6'-10"	
h9(E)	2	#4	5'-2"	
h10(E)	10	#4	6'-4"	
h11(E)	2	#4	4'-9"	
h12(E)	1	#4	6'-10"	
h13(E)	1	#4	6'-4"	
h14(E)	1	#4	6'-10"	
h15(E)	1	#4	6'-10"	
h16(E)	1	#4	6'-4"	
v(E)	206	#4	5'-4"	
v1(E)	206	#4	3'-11"	
v2(E)	40	#4	6'-1"	
v3(E)	40	#4	5'-10"	
v4(E)	30	#4	3'-10"	
v5(E)	8	#4	10'-7"	
v6(E)	7	#4	10'-11"	
s(E)	12	#4	4'-11"	
s1(E)	12	#4	4'-9"	
t1(E)	8	#4	12'-1"	
t2(E)	8	#4	12'-1"	
t3(E)	32	#4	3'-5"	
Concrete Box Culverts	Cu. Yd.		65	
Reinforcement Bars	Pound		12,864	
Epoxy Coated				

NOTE: * Cut as per field measurements.

P:\606162005\03-PTB177-004_M03-M1\cadd\Culvert\CAD03\0809sheet119_620A5B-sh1-truc4.dwg

AES Services, Inc.
111 S. Wacker Drive, Suite 3910
Chicago, IL 60606
Ph: 312-235-6783

USER NAME = rmanuod	DESIGNED - AWM	REVISED -
PLOT SCALE = 5.333' / in.	DRAWN - AWM	REVISED -
PLOT DATE = 4/1/2017	CHECKED - MS	REVISED -
	DATE - 04/03/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE		SHEET OF SHEETS		STA.	TO STA.
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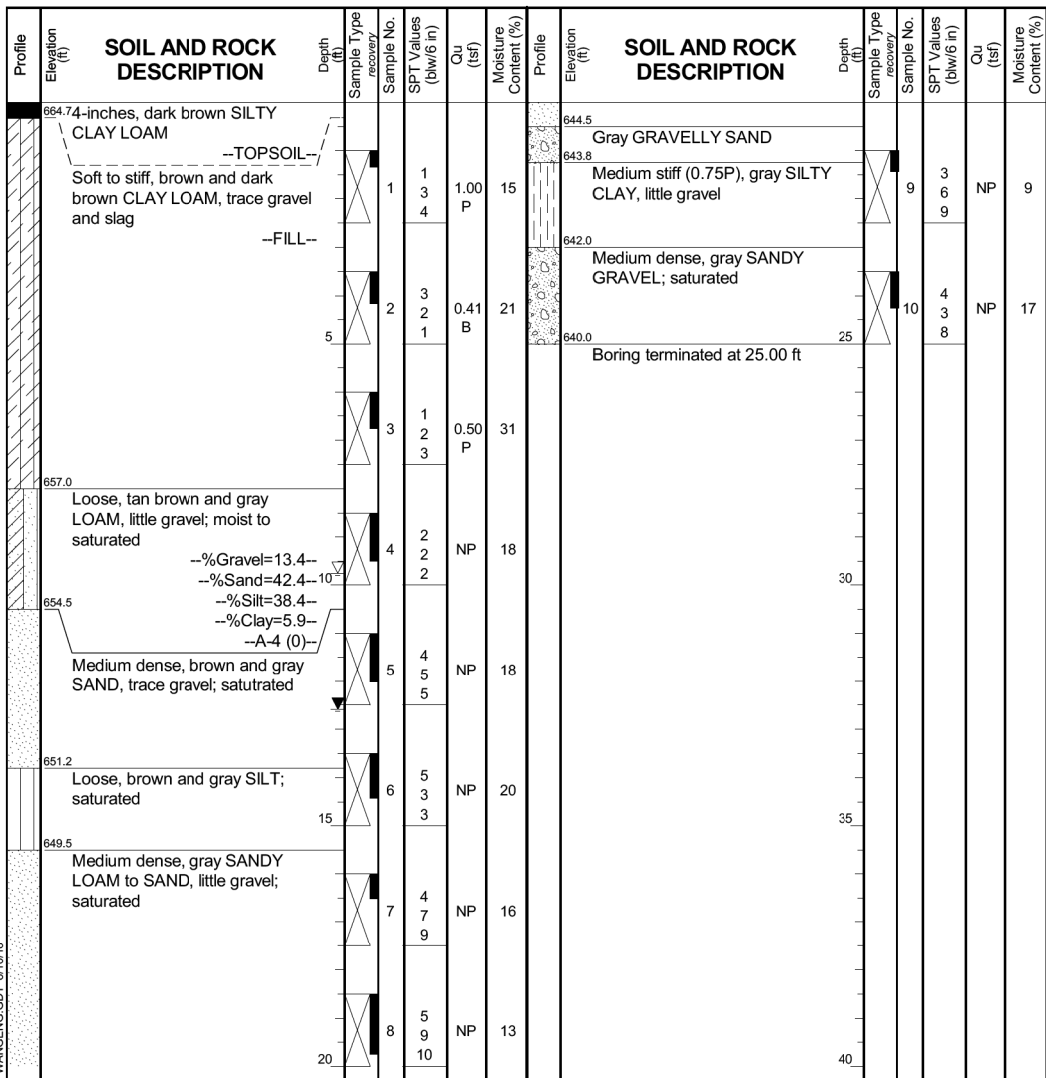
CULVERT DETAILS II
STRUCTURE NO. 049-0613

F.A.U. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	2015-004B	LAKE	31	19
CONTRACT NO. 62A58				
ILLINOIS FED. AID PROJECT				

Wang Engineering
 wangeng@wangeng.com
 1145 N Main Street
 Lombard, IL 60148
 Telephone: 630 953-9928
 Fax: 630 953-9938

BORING LOG CB-01
 WEI Job No.: 199-01-01
 Client: **AES Services, Inc.**
 Project: **Milwaukee Avenue Culvert Replacement**
 Location: **Lake County, Illinois**

Datum: NGVD
 Elevation: 665.04 ft
 North: 2078417.62 ft
 East: 1095206.79 ft
 Station: NA
 Offset: NA

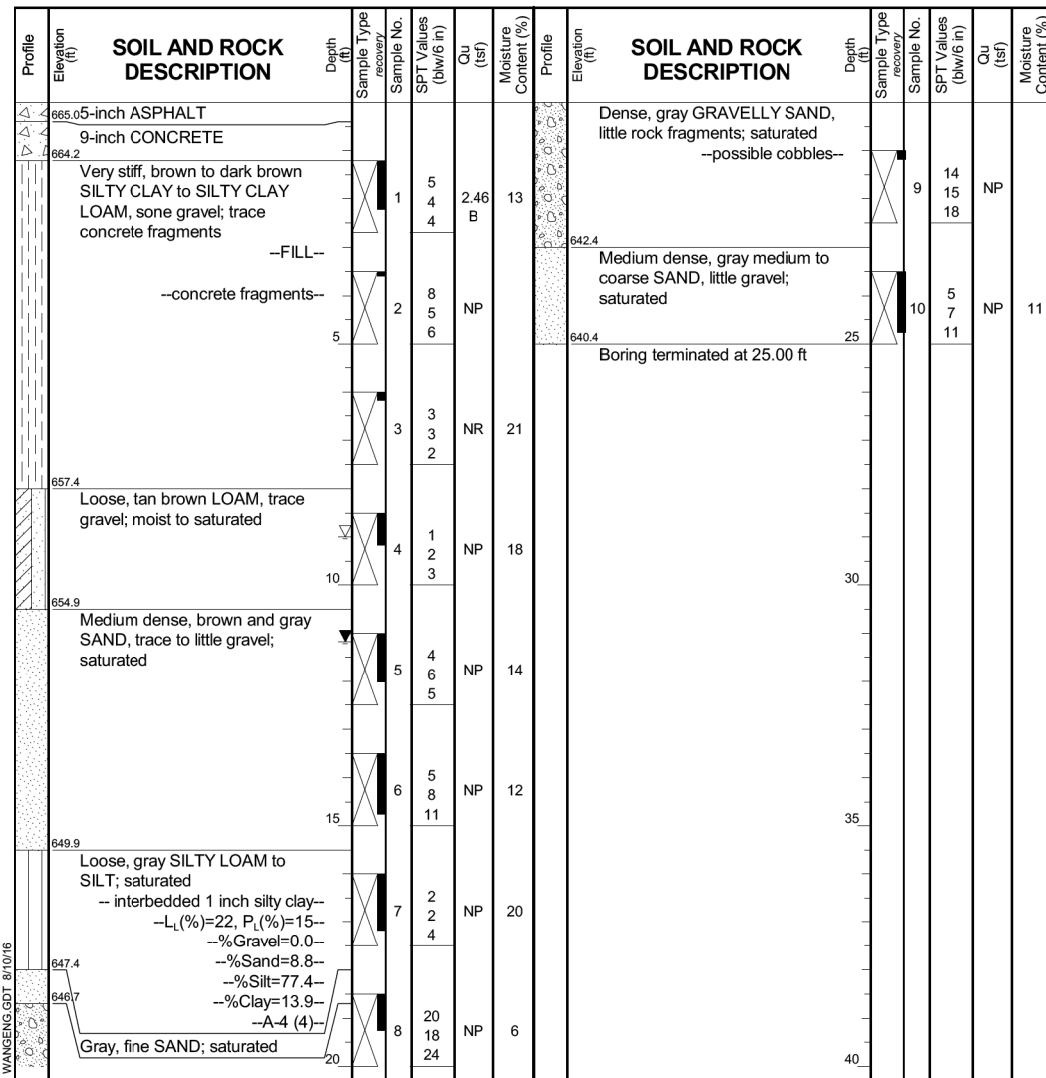


GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	08-05-2016	Complete Drilling	08-05-2016
Drilling Contractor	Wang Testing Services	Drill Rig	TMR CME 55
Driller	N&N	Logger	J. Rowells
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	2.25" ID HSA; boring backfilled	Depth to Water	NA
		While Drilling	
		At Completion of Drilling	
		Time After Drilling	
		Depth to Water	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

Wang Engineering
 wangeng@wangeng.com
 1145 N Main Street
 Lombard, IL 60148
 Telephone: 630 953-9928
 Fax: 630 953-9938

BORING LOG CB-02
 WEI Job No.: 199-01-01
 Client: **AES Services, Inc.**
 Project: **Milwaukee Avenue Culvert Replacement**
 Location: **Lake County, Illinois**

Datum: NGVD
 Elevation: 665.36 ft
 North: 2078434.87 ft
 East: 1095241.42 ft
 Station: NA
 Offset: NA



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	08-05-2016	Complete Drilling	08-05-2016
Drilling Contractor	Wang Testing Services	Drill Rig	TMR CME 55
Driller	N&N	Logger	J. Rowells
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	2.25" ID HSA; boring backfilled	Depth to Water	NA
		While Drilling	
		At Completion of Drilling	
		Time After Drilling	
		Depth to Water	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

SOIL BORING LOGS
MILWAUKEE AVENUE OVER DRAINAGE DITCH
F.A. ROUTE SBI 172 - SECTION 2015-004B
GURNEE, LAKE COUNTY
STATION 28+57.42
SN 049-0613

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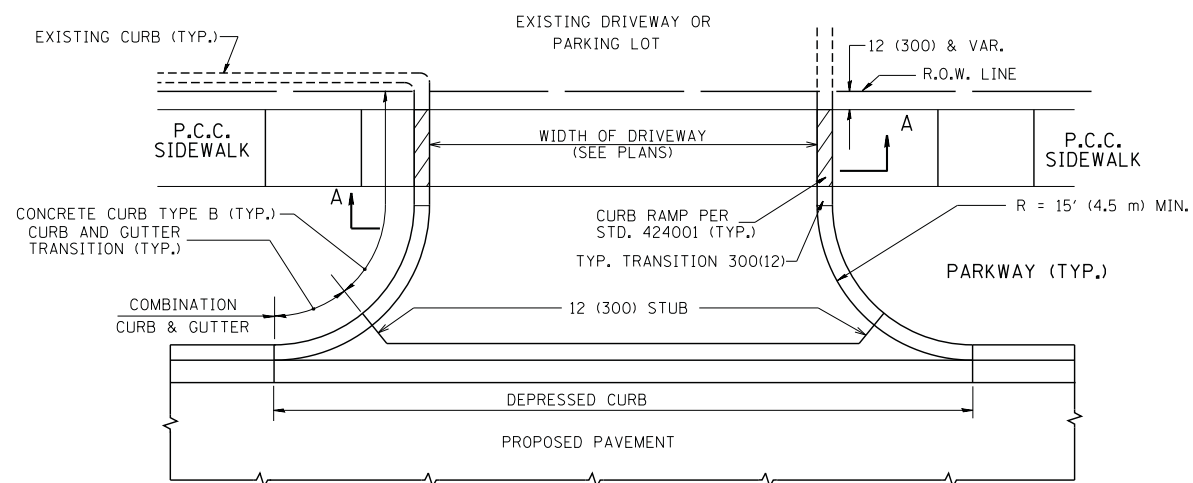


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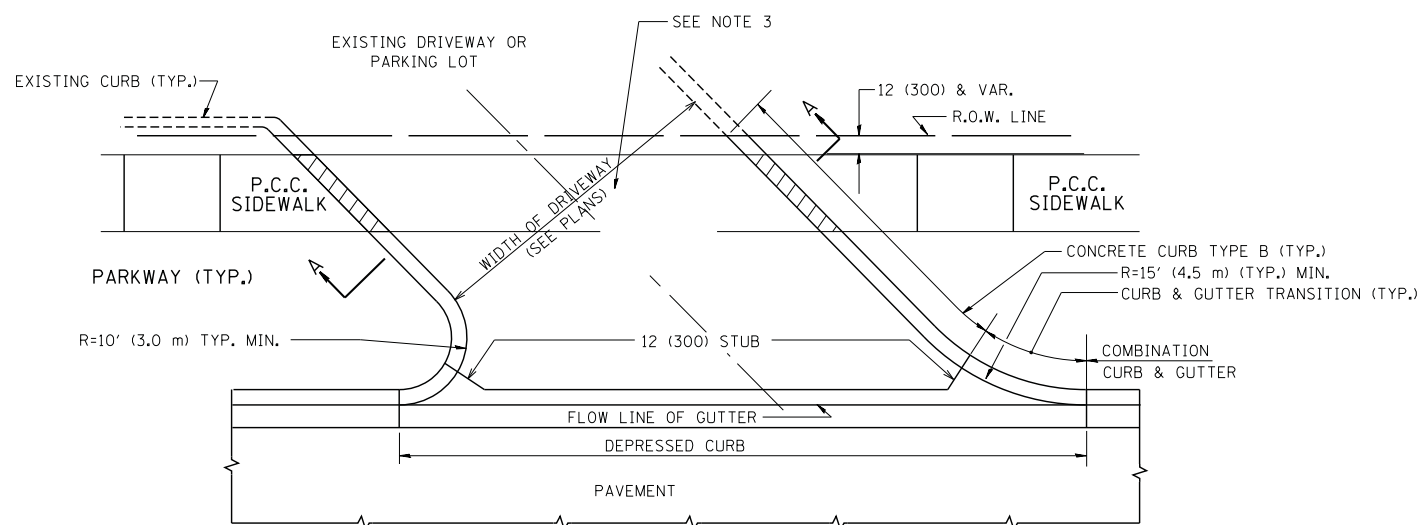
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS			
STRUCTURE NO. 049-0613			
SCALE	SHEET	OF SHEETS	STA. TO STA.

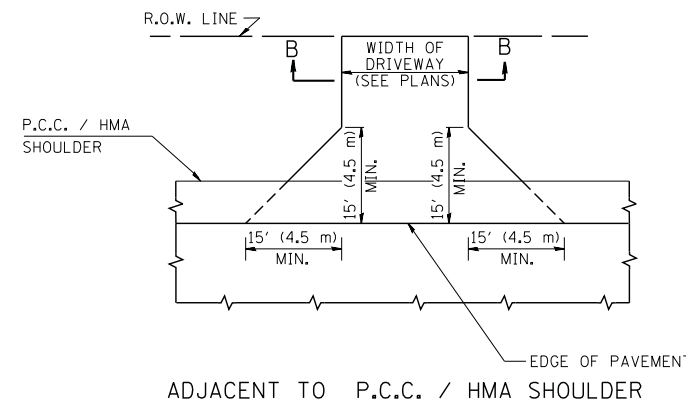
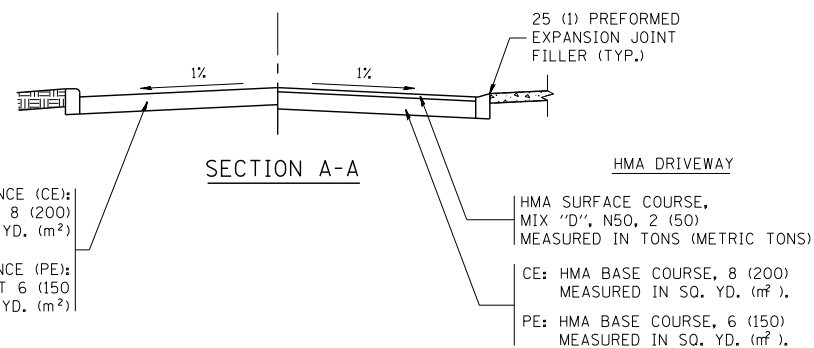
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62A58				
ILLINOIS FED. AID PROJECT				



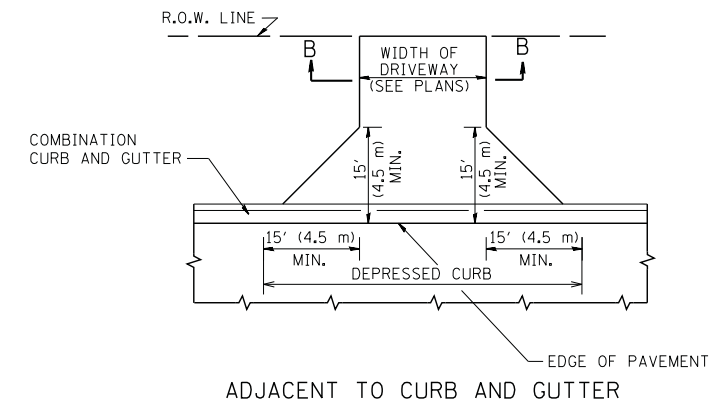
WITH CONCRETE CURB, TYPE B



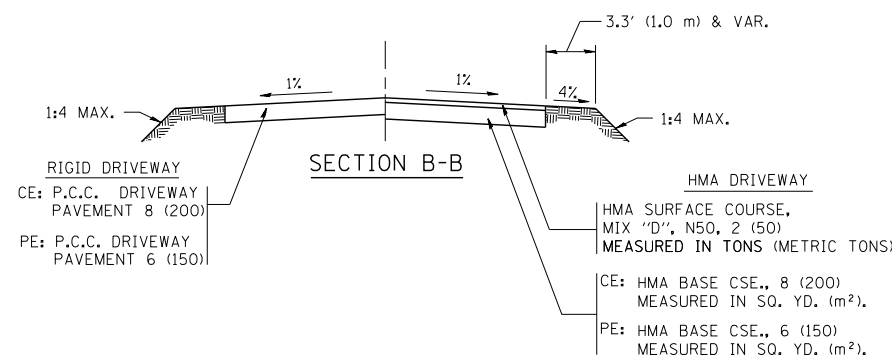
WITH CONCRETE CURB, TYPE B



ADJACENT TO P.C.C. / HMA SHOULDER



ADJACENT TO CURB AND GUTTER



RURAL FIELD ENTRANCE (FE)

HMA SURFACE COURSE, MIX 'D', N50, 2 (50) MEASURED IN TONS (METRIC TONS)

AGGREGATE BASE CSE., TYPE B, 8 (200) MEASURED IN SQ. YD. (m²).

GENERAL NOTES:

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATIONS IN THE PERMIT HANDBOOK. DRIVEWAYS SHALL BE REPLACED IN KIND, UNLESS OTHERWISE NOTED ON THE PLANS.

COMMERCIAL DRIVEWAYS SHALL BE CONSTRUCTED WITH CONCRETE CURB, TYPE B RETURNS EXCEPT WHEN THE SIDEWALK EDGE IS 4 FEET (1.2 METERS) OR LESS FROM THE BACK OF CURB, CONSTRUCT A FLARE DRIVEWAY WITHOUT CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

WHEN THE P.C.C. SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS. SIDEWALK WILL BE PAID FOR AS P.C.C. SIDEWALK OF THE THICKNESS SPECIFIED. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

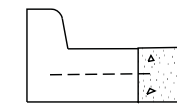
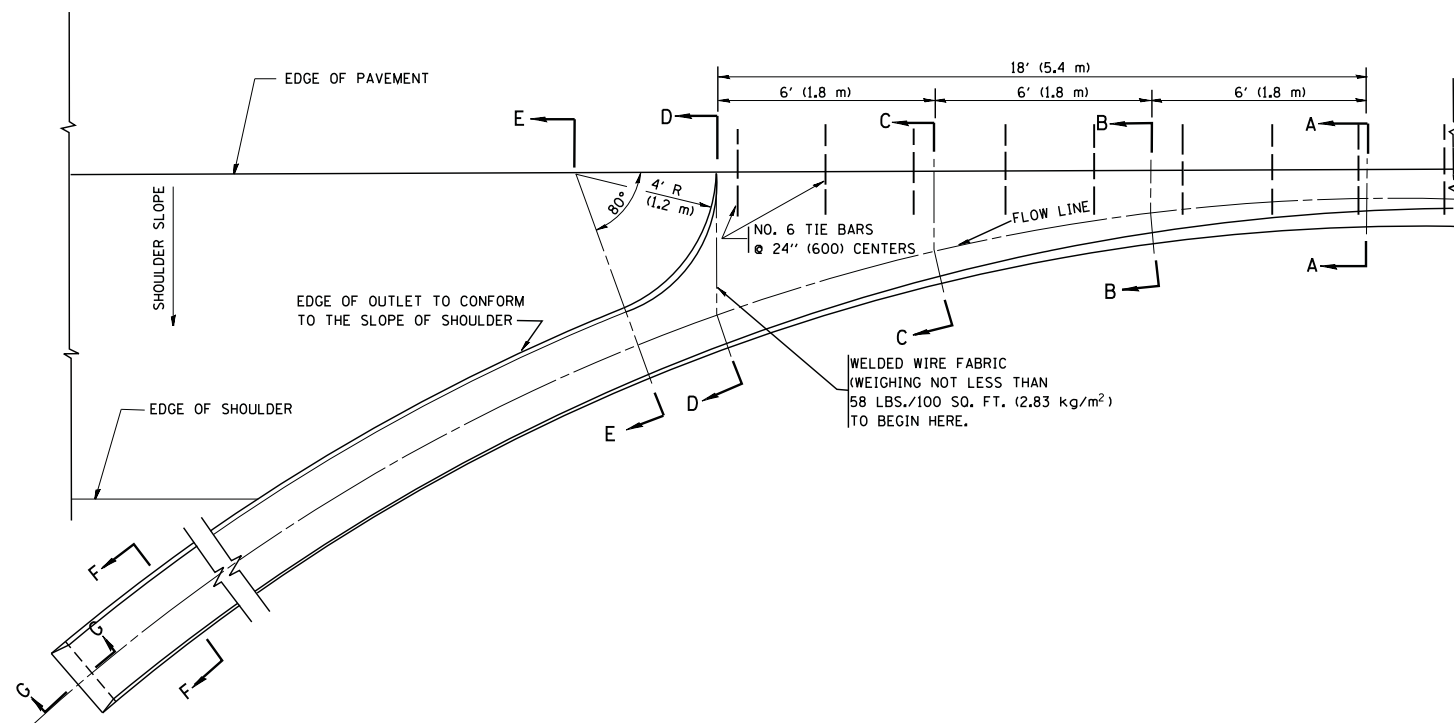
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	PLOT DATE = 9/6/2011	DATE - 11-04-95	REVISED - R. BORO 09-06-11

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DRIVEWAY DETAILS - DISTANCE BETWEEN R.O.W.
AND FACE OF CURB & EDGE OF SHOULDER >= 15' (4.5 m)**

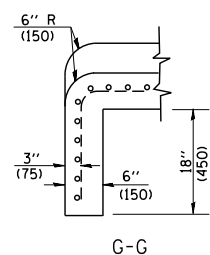
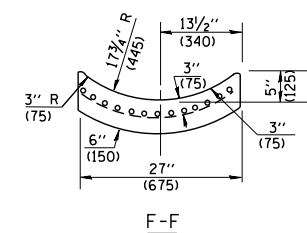
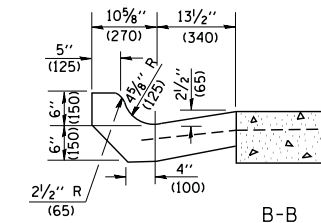
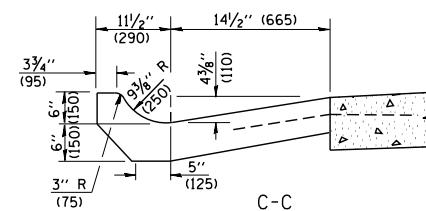
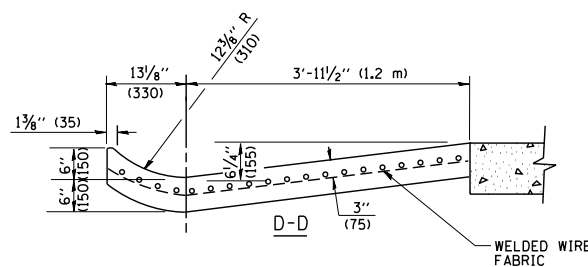
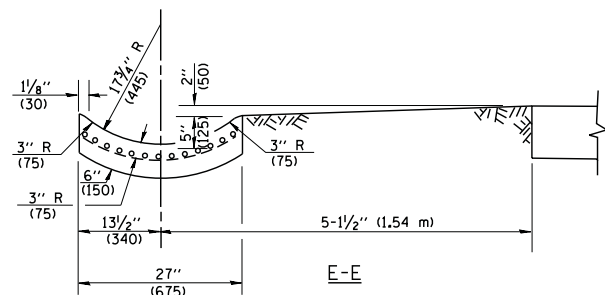
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	2015-004B	LAKE	31	21
BD0156-07 (BD-01)		CONTRACT NO. 62A5B		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



A-A *

* DIMENSIONS OF THE CURB & GUTTER AT SECTION A-A ARE SHOWN ON STATE STANDARD 606001. FOR DETAILS OF OUTLET FOR CONCRETE CURB & GUTTER, TYPE B-6.24 (B-15.60) SEE STATE STANDARD 606006.



GENERAL NOTES

GUTTER OUTLET SHALL BE TIED TO THE PAVEMENT IN ACCORDANCE WITH DETAILS FOR LONGITUDINAL CONSTRUCTION JOINT SHOWN ON STANDARD 420001.

TIE BARS SHALL BE NO. 20 (NO.6) AT 24\"/>

IF THE AVERAGE GRADE OF PAVEMENT FOR THE DISTANCE FROM SECTION A-A TO D-D EXCEEDS 2%, THIS DISTANCE SHALL BE INCREASED 6' (1.8 m) FOR EACH 1% INCREASE IN GRADE.

QUANTITIES

FOR SECTION A-A TO E-E AND CURTAIN WALL =
 1.25 CU. YDS. (0.96 m³) CLASS S1 CONCRETE (OUTLET) FOR 9\"/>

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

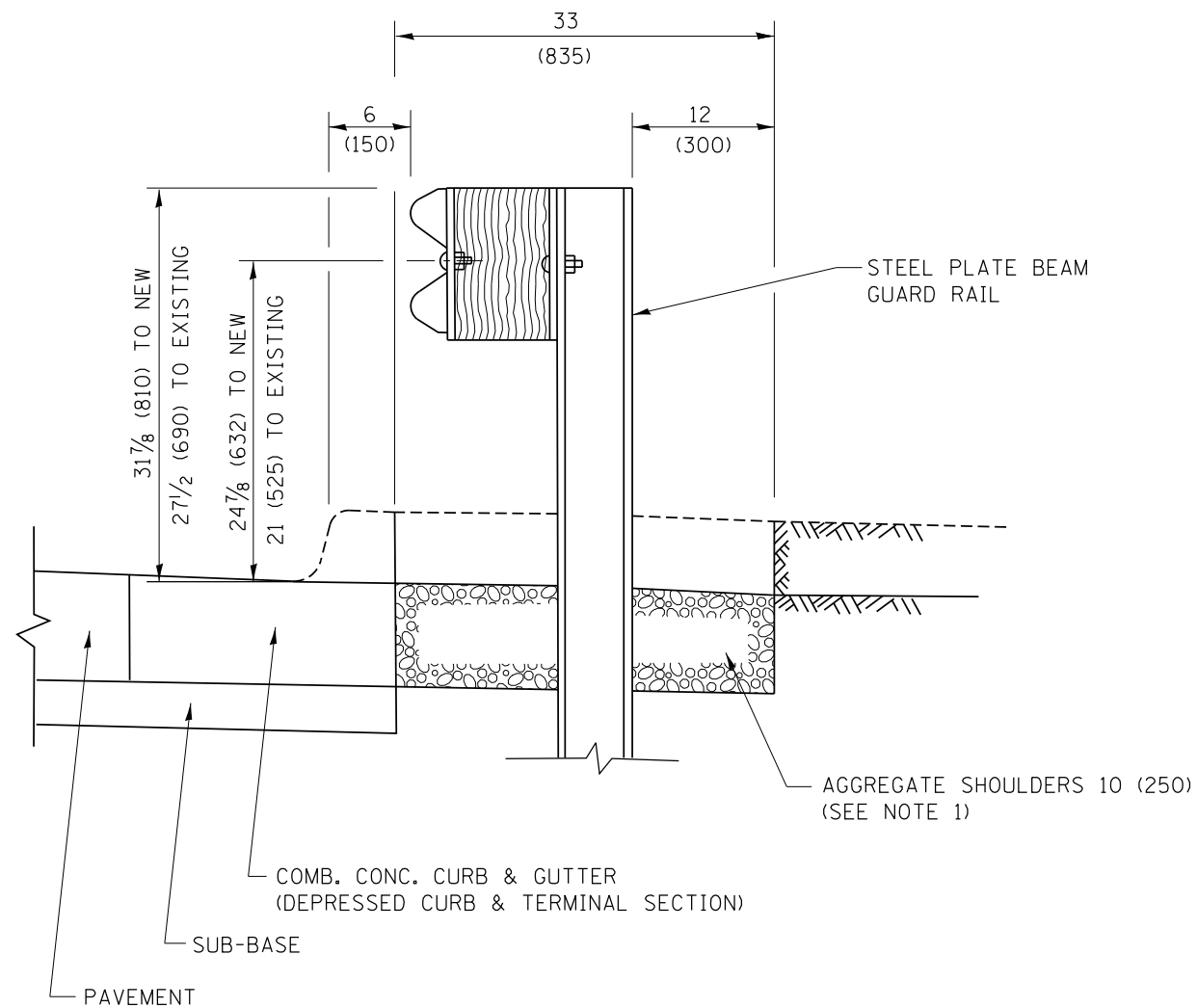
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	PLOT DATE = 1/4/2008	DATE - 08-04-86	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**OUTLET FOR CONCRETE
CURB AND GUTTER**

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

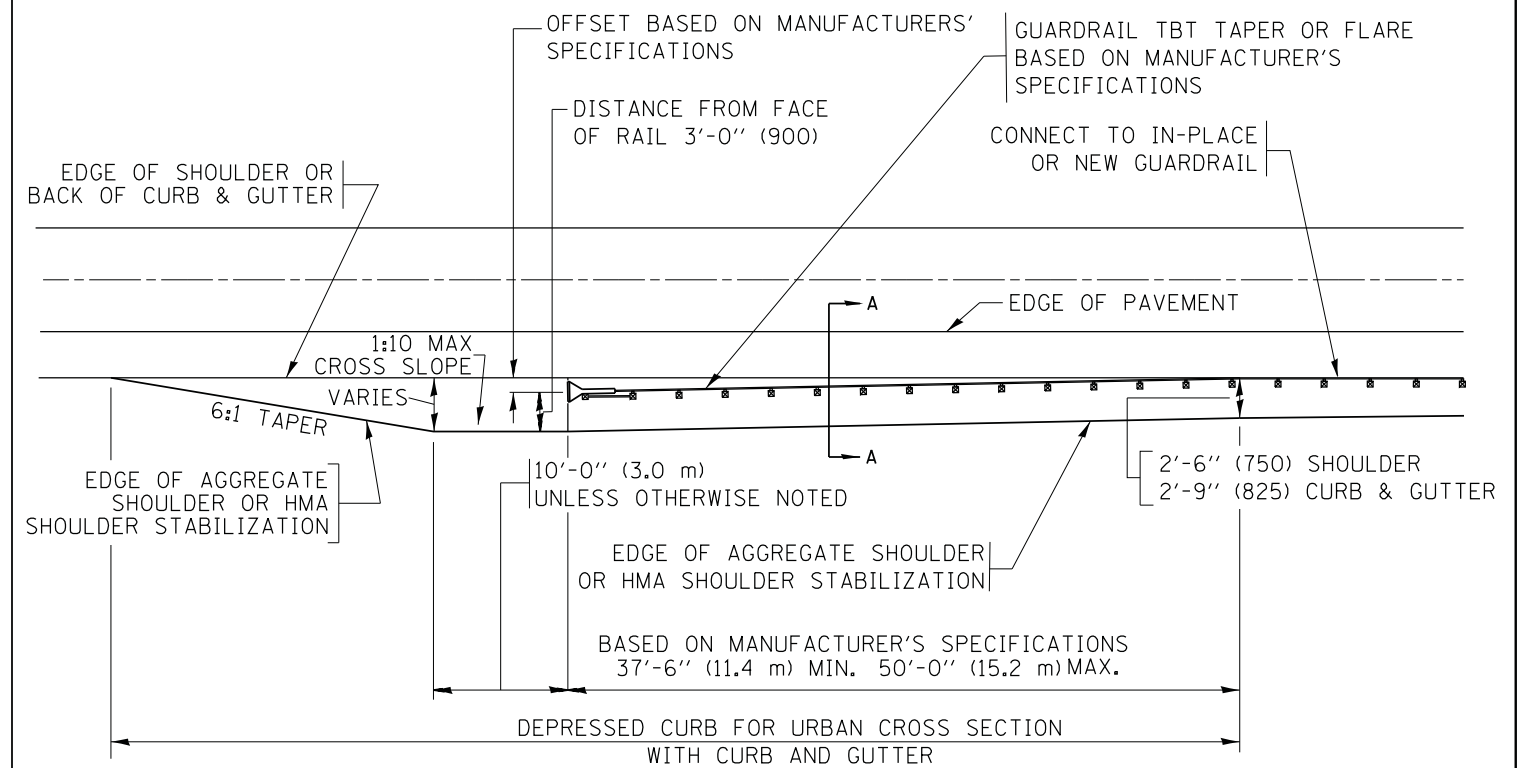
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	2015-004B	LAKE	31	22
BD600-01 (BD-03)			CONTRACT NO.	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



SECTION A-A

- NOTES:
1. THE AGGREGATE SHOULDER, 10 (250) OR HMA SHOULDER, 6 (150) (IF REQUIRED) SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL.
 2. "EXISTING" GUARDRAIL REFERS TO CONNECTING TERMINAL SECTION TO GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.
 3. THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE TERMINAL SECTION HEIGHT TO BE PLACED MUST MATCH THE HEIGHT OF THE IN-PLACE GUARDRAIL.

**DETAILS FOR STEEL PLATE BEAM
GUARD RAIL ADJACENT TO CURB AND GUTTER
[FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]**



**DEPRESSED CURB AND GUTTER AND
SHOULDER TREATMENT AT TBT TY. 1 SPL.**

AGGREGATE SHOULDER, 10 (250) WILL BE PAID ACCORDING TO SECTION 481.

HMA SHOULDERS 6 (150) (IF REQUIRED) WILL BE PAID ACCORDING TO SECTION 482.

COMB. CONC. C&G, STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

TBT = TRAFFIC BARRIER TERMINAL
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)
UNLESS OTHERWISE SHOWN.

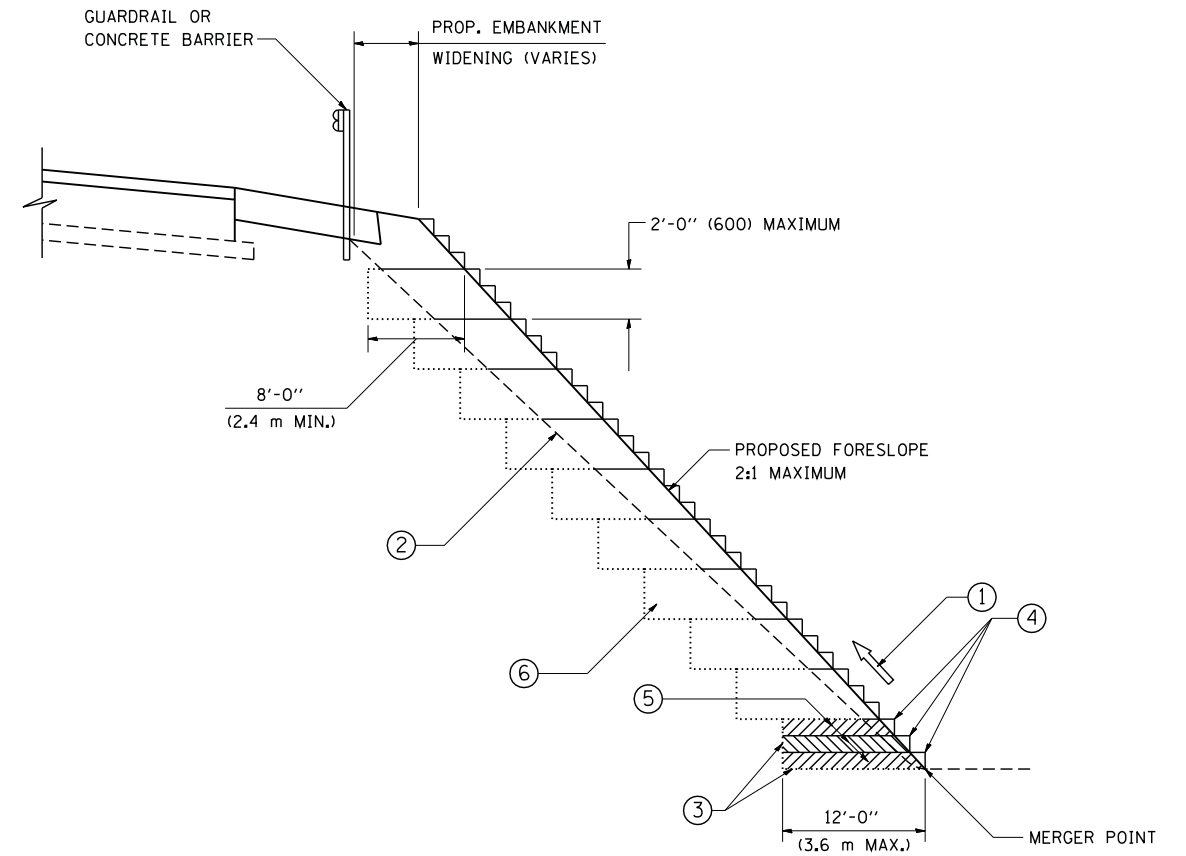
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Default	PLOT SCALE = 50.0000' / in.	DATE - 09-22-90	REVISED - R. BORO 08-06-2012
	PLOT DATE = 12/21/2015		REVISED - R. BORO 05-08-2015

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DETAILS FOR DEPRESSED CURB & GUTTER AND
SHOULDER TREATMENT AT TBT TY. 1 SPL.**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	2015-004B	LAKE	31	23
BD600-10 (BD 34)		CONTRACT NO. 62A58		
ILLINOIS FED. AID PROJECT				



TYPICAL BENCHING DETAIL
FOR EMBANKMENT

NOTES:

- ① CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
- ② EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
- ③ BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
- ④ TRIM TO FINAL SLOPE.
- ⑤ EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
- ⑥ EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL, NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- ⑦ SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

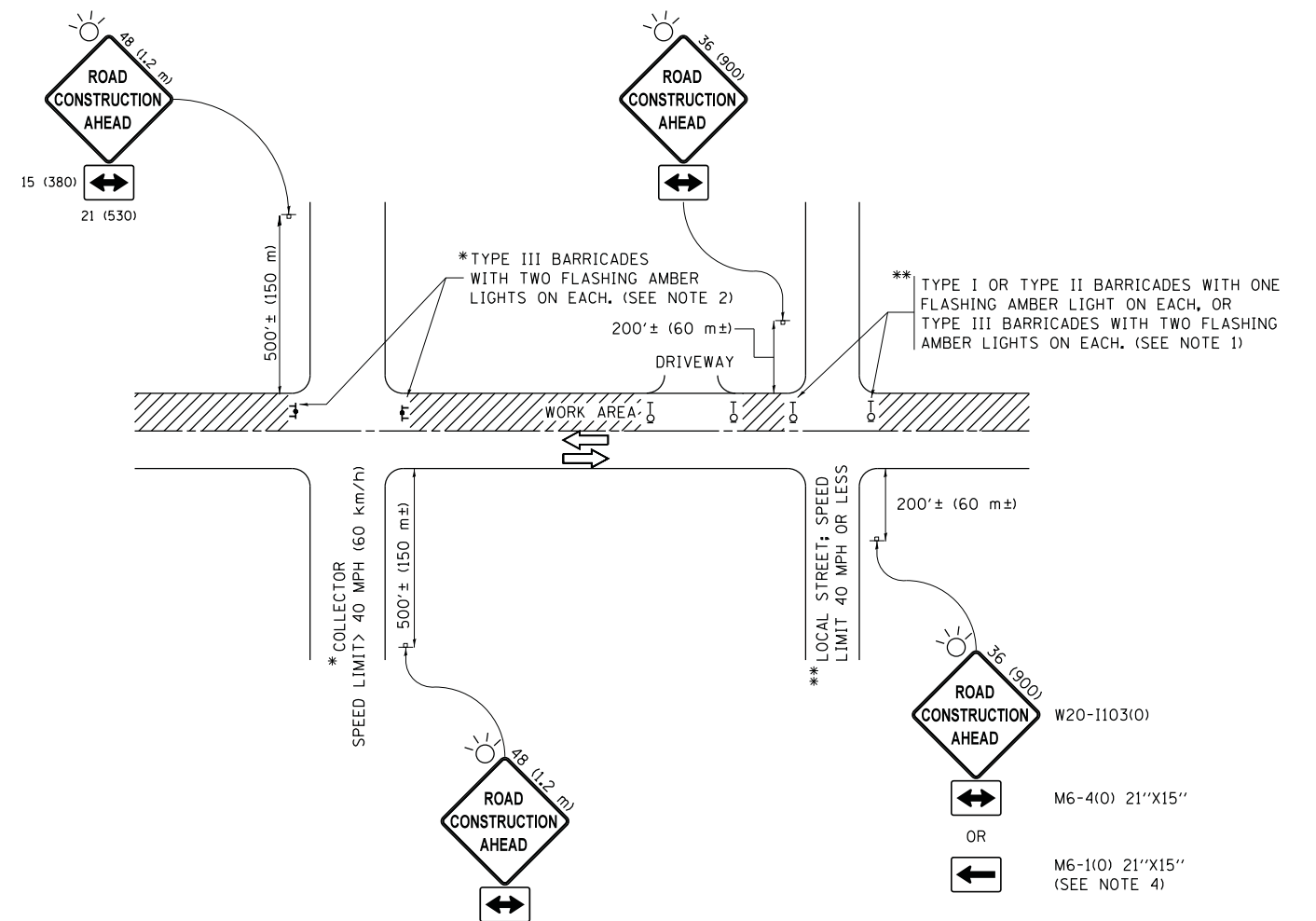
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	PLOT DATE = 1/4/2008	DATE - 06-16-04	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENCHING DETAIL			
FOR EMBANKMENT WIDENING			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	2015-004B	LAKE	31	24
BD-51		CONTRACT NO.		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



NOTES:

- 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:
 - 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.
 - 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.
- SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - 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.
 - 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.
- CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.
- WHEN 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).
- 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.
- ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAYS UNLESS OTHERWISE SPECIFIED IN THE PLANS OR BY THE ENGINEER.
- 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.

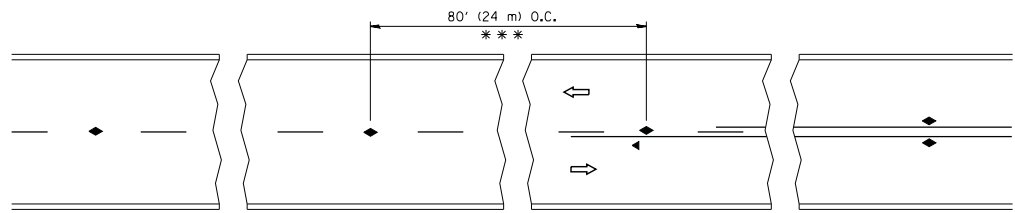
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Default	PLOT SCALE = 50.000' / in.	DATE - 06-89	REVISED - A. SCHUETZE 07-01-13
	PLOT DATE = 9/15/2016		REVISED - A. SCHUETZE 09-15-16

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

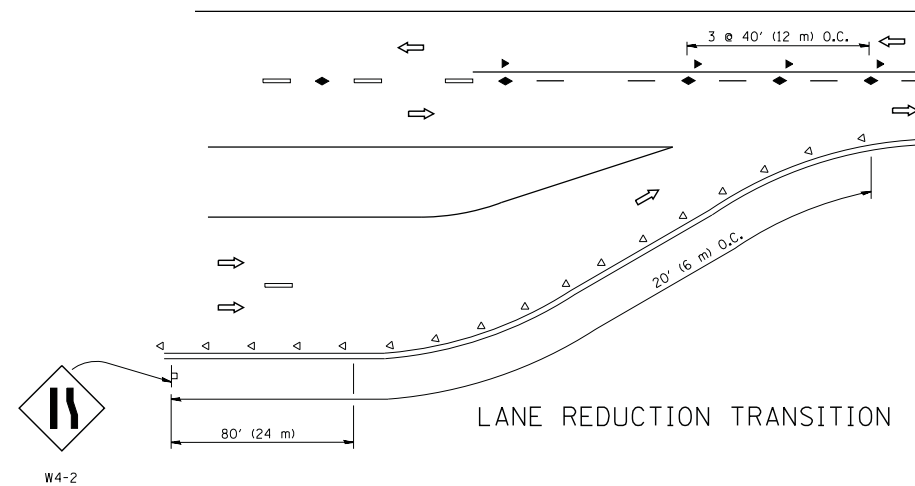
**TRAFFIC CONTROL AND PROTECTION FOR
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS**

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

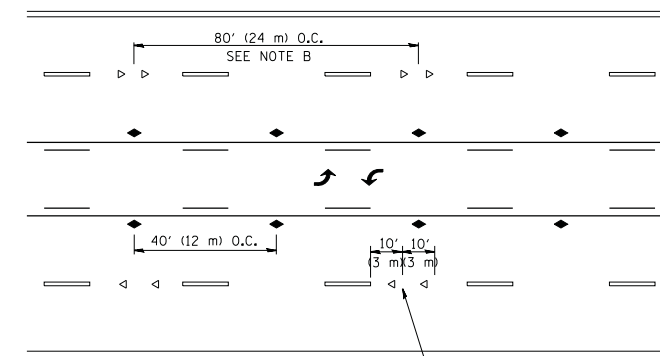
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	2015-004B	LAKE	31	25
TC-10			CONTRACT NO. 62A58	
ILLINOIS FED. AID PROJECT				



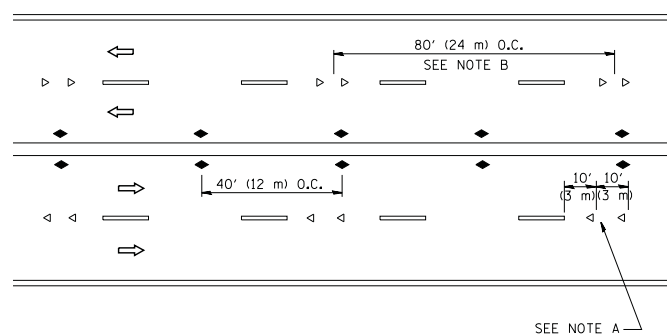
TWO-LANE/TWO-WAY



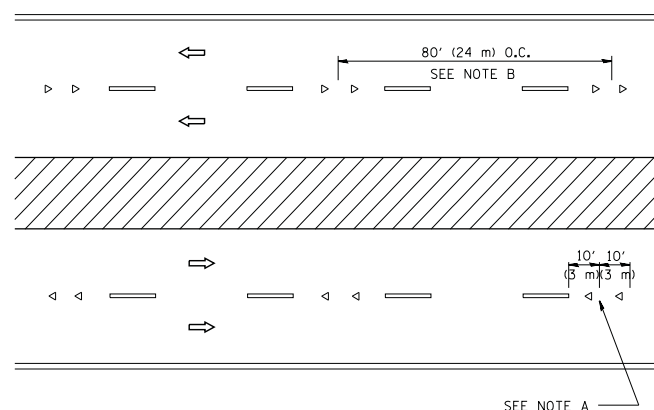
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

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

SYMBOLS

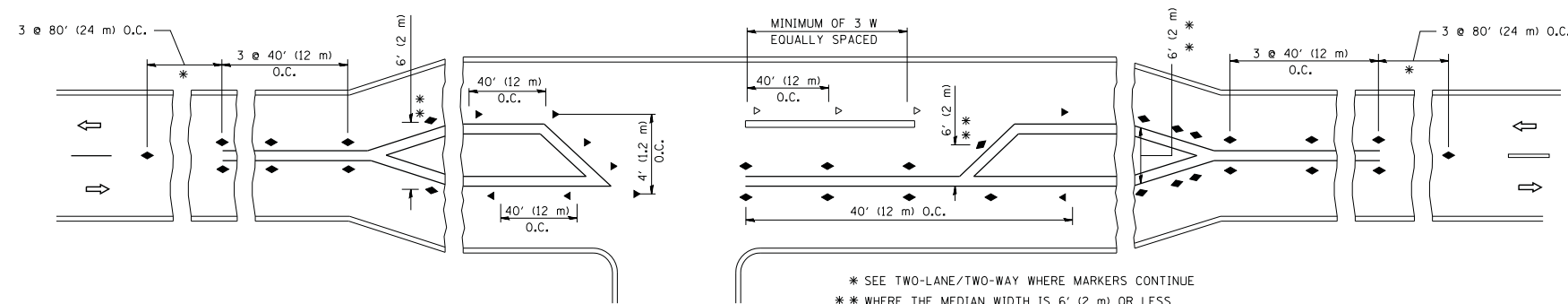
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

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

DESIGN NOTES

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



LEFT TURN

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

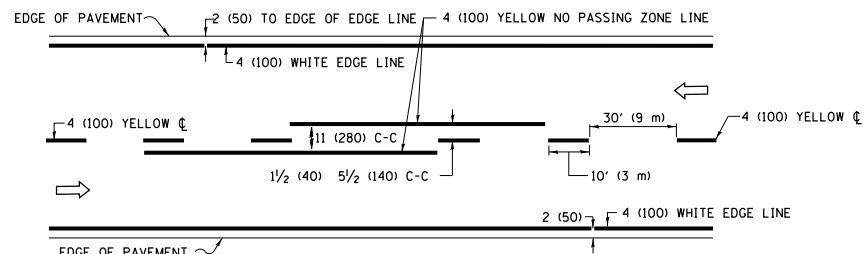
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		PLOT DATE = 3/2/2011	REVISED - C. JUCIUS 09-09-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

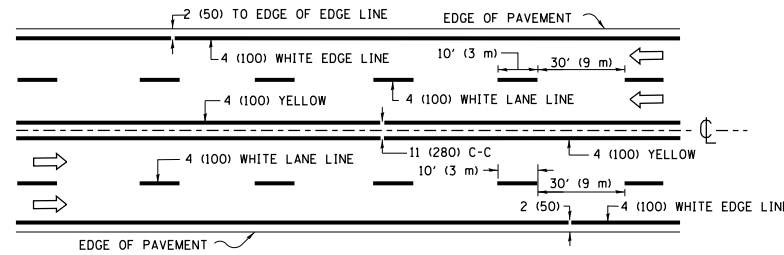
TYPICAL APPLICATIONS
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

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

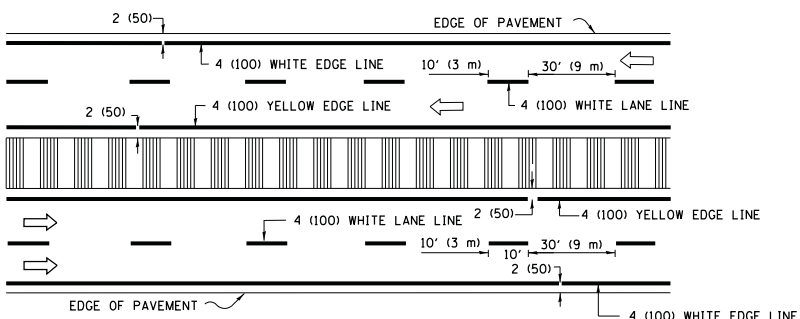
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	2015-004B	LAKE	31	26
TC-11		CONTRACT NO. 62A58		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



2-LANE ROADWAY

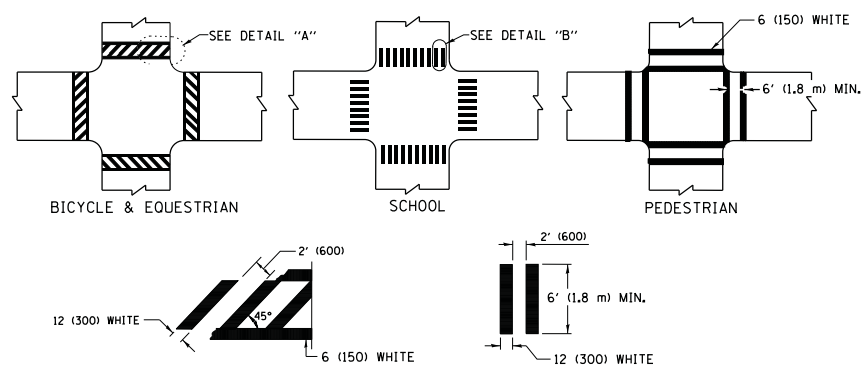


MULTI-LANE UNDIVIDED



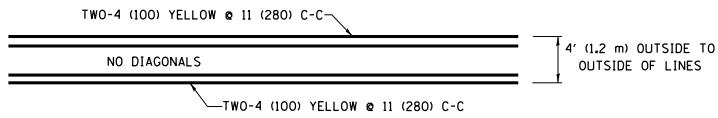
MULTI-LANE DIVIDED WITH MEDIAN

TYPICAL LANE AND EDGE LINE MARKING

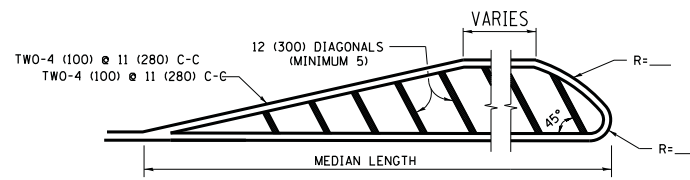


TYPICAL CROSSWALK MARKING

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

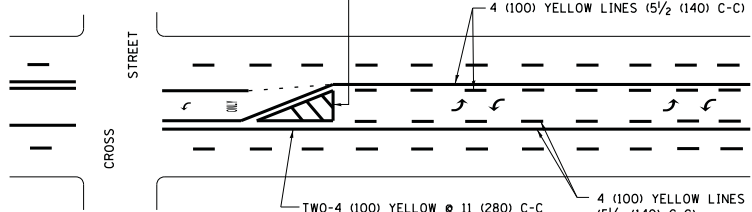


4' (1.2 m) WIDE MEDIANS ONLY

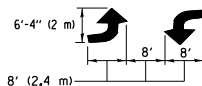


MEDIANS OVER 4' (1.2 m) WIDE

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))

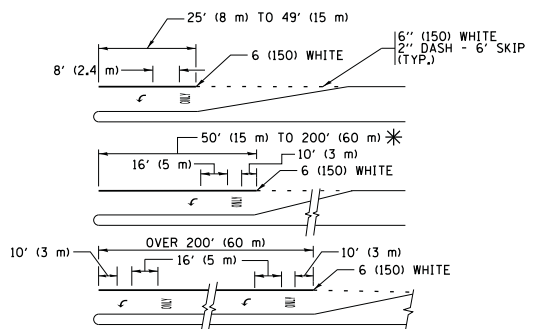


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

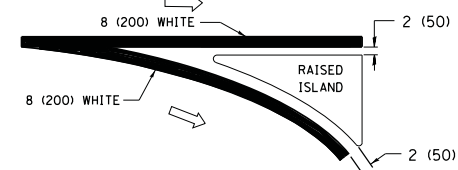
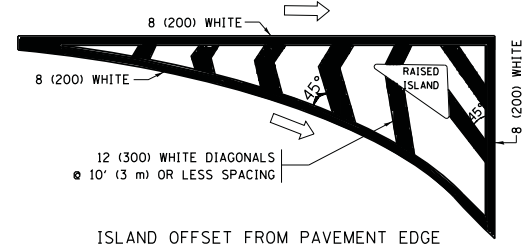


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.6 SQ. FT. (1.5 m²) ONLY AREA = 20.8 SQ. FT. (1.9 m²)

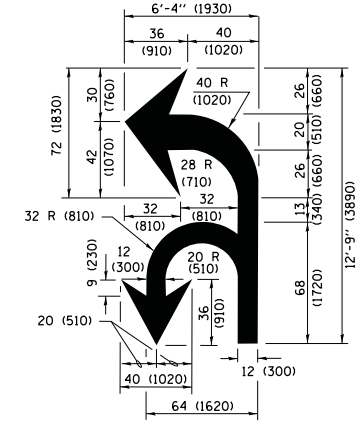
* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

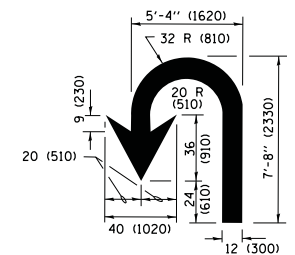
TYPICAL TURN LANE MARKING



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 = footemj	DESIGNED - EVERS	REVISED - C. JUCIUS 09-09-09
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Default	PLOT SCALE = 50.0000' / in.	DATE - 03-19-90	REVISED - C. JUCIUS 12-21-15
	PLOT DATE = 4/13/2016		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. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	2015-004B	LAKE	31	27
TC-13			CONTRACT NO. 62A58	
ILLINOIS FED. AID PROJECT				

ROUTE MARKERS

FOR U.S. ROUTES
M1-40-2424

FOR ILLINOIS ROUTES
M1-50-2424

R.R. UNMARKED ROUTES
SPECIAL 24" x 18" VARIABLE
4" BLACK LETTERS ON WHITE
REFLECTIVE BACKGROUND

ARROWS SIGNS

M5-1L-2115

M5-1R-2115

M6-1-2115

M6-1-2115

M6-3-2115

CARDINAL DIRECTION & DETOUR SIGNS

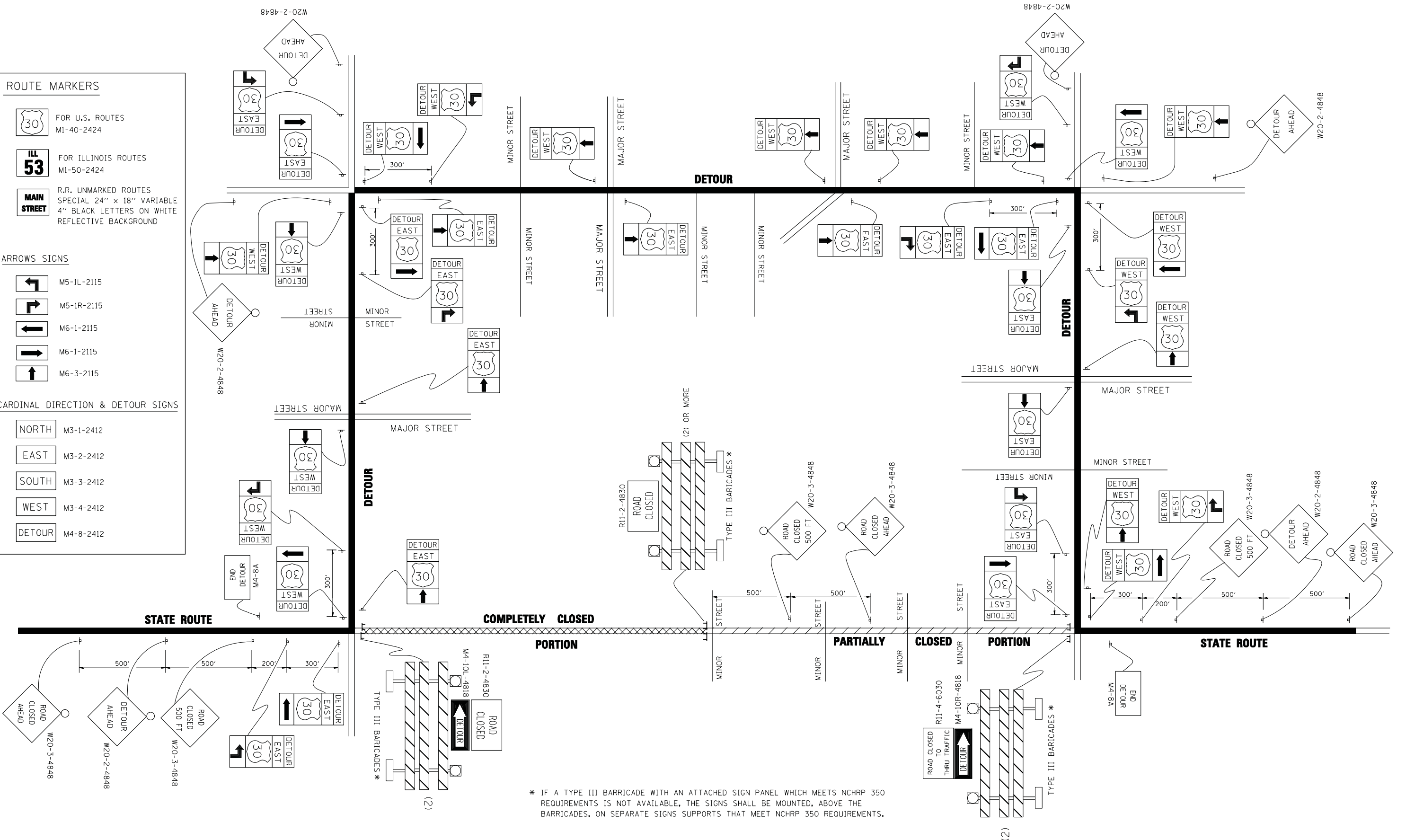
NORTH M3-1-2412

EAST M3-2-2412

SOUTH M3-3-2412

WEST M3-4-2412

DETOUR M4-8-2412



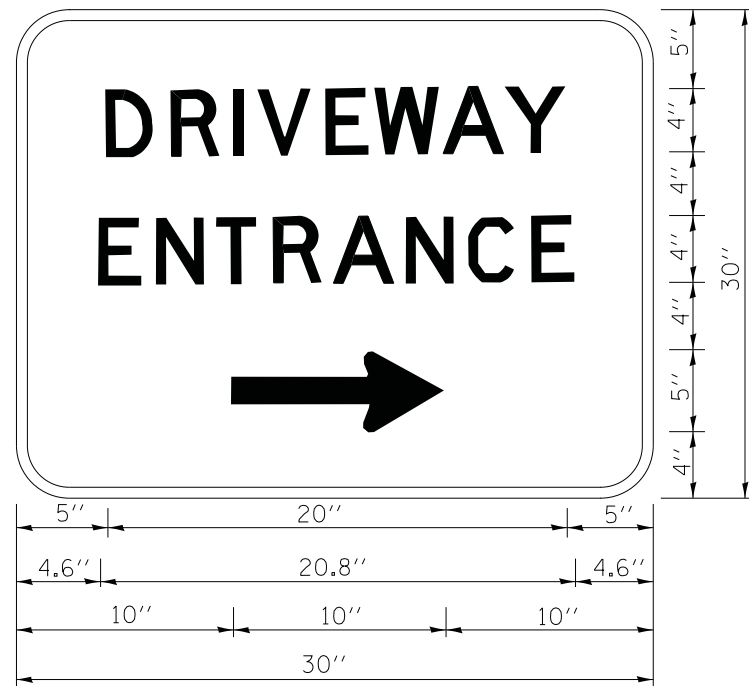
* IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 REQUIREMENTS.

FILE NAME =	USER NAME = drivakosgn	DESIGNED -	REVISED - 10-18-02
ct:\pw\work\PWIDOT\DRIVAKOSGN\d0108315\1421.dgn		DRAWN -	REVISED - R. BORO 09-14-09
		CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DETOUR SIGNING FOR CLOSING STATE HIGHWAYS			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	2015-0048	LAKE	31	28
TC-21		CONTRACT NO. 62A58		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



3.0" RADIUS, 0.5" BORDER, WHITE ON GREEN; REFLECTORIZED
 "DRIVEWAY" D; "ENTRANCE" D; STANDARD ARROW CUSTOM 12.0" x 5.0"

NOTES:

1. HALF OF THE SIGNS WILL REQUIRE A LEFT HAND FACING ARROW.
2. TWO SIGNS SHALL BE USED AT EACH COMMERCIAL ENTRANCE
 PLACED BACK-TO-BACK; ONE WITH A RIGHT HAND ARROW (SHOWN)
 SHALL BE PLACED ON THE NEAR RIGHT SIDE THE DRIVEWAY
 AND ONE WITH A LEFT HAND ARROW SHALL BE PLACED ON THE
 FAR LEFT SIDE OF THE DRIVEWAY.
3. SIGNS TO BE PAID FOR AS ITEM "TEMPORARY INFORMATION SIGNING".

FILE NAME =	USER NAME = gegl1enob1	DESIGNED -	REVISED - C. JUCIUS 02-15-07
ct:\pw\work\p1dot\gagl1enob1\d0108315\to26.dgn		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

DRIVEWAY ENTRANCE SIGNING

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	2015-004B	LAKE	31	29
TC-26			CONTRACT NO. 62A58	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

