

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY & LAKE	64	1
		ILLINOIS	CONTRACT NO. 62B92	

PROPOSED HIGHWAY PLANS

- FAP ROUTE 334: US 12
- 1) OVER DITCHES 0.7 MI E OF IL 31,
 - 2) OVER DITCHES 2.1 MI E OF IL 31,
 - 3) OVER DITCHES 8.3 MI S OF STATE LINE
 - 4) OVER DITCHES 5.1 MI S OF STATE LINE, AND
 - 5) N OF OAK ST

SECTION 2015-087B
PROJECT NHPP-0334(027)
CULVERT REPAIR AND STORM SEWER (NEW)
MCHENRY AND LAKE COUNTIES

C-91-177-16

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROJECT LOCATED IN VILLAGES OF RICHMOND,
FOX LAKE AND UNINCORPORATED BURTON TWP

LOCATION 1
S.N. 056-0280
2013 ADT = 8800
POSTED SPEED LIMIT = 50 MPH

LOCATIONS 2 & 4
S.N. 056-0251 AND 056-0284
2013 ADT = 11700
POSTED SPEED LIMIT = 45 MPH

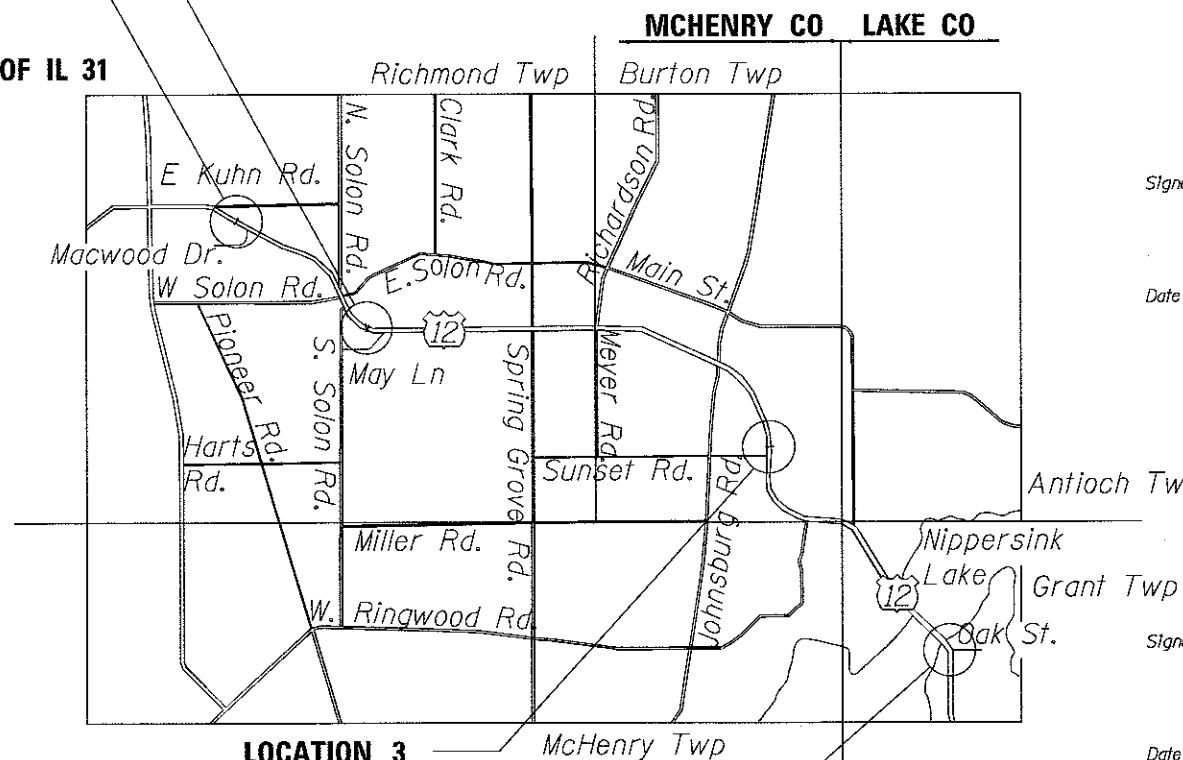
LOCATION 3
S.N. 056-0283
2013 ADT = 12500
POSTED SPEED LIMIT = 50 MPH

LOCATION 5
N OF OAK ST
2015 ADT = 22400
POSTED SPEED LIMIT = 35 MPH

LOCATION 2
S.N. 056-0284
2.1 MI E OF IL 31

LOCATION 4
S.N. 056-0251
5.1 MI S OF STATE LINE

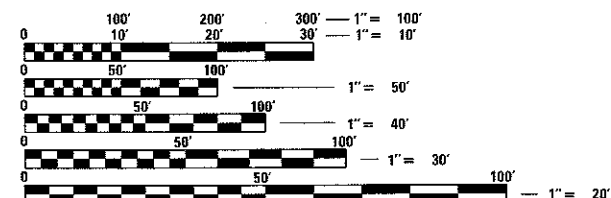
LOCATION 1
S.N. 056-0280
AT DITCH 0.7 MI E OF IL 31



LOCATION 3
S.N. 056-0283
8.3 MI S OF STATE LINE

LOCATION 5
STORM SEWER (NEW)
N OF OAK ST

GROSS LENGTH = 400 FT. = 0.076 MILE
NET LENGTH = 400 FT. = 0.076 MILE

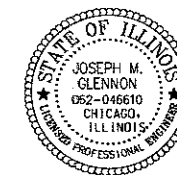


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

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

CONTRACT NO. 62B92

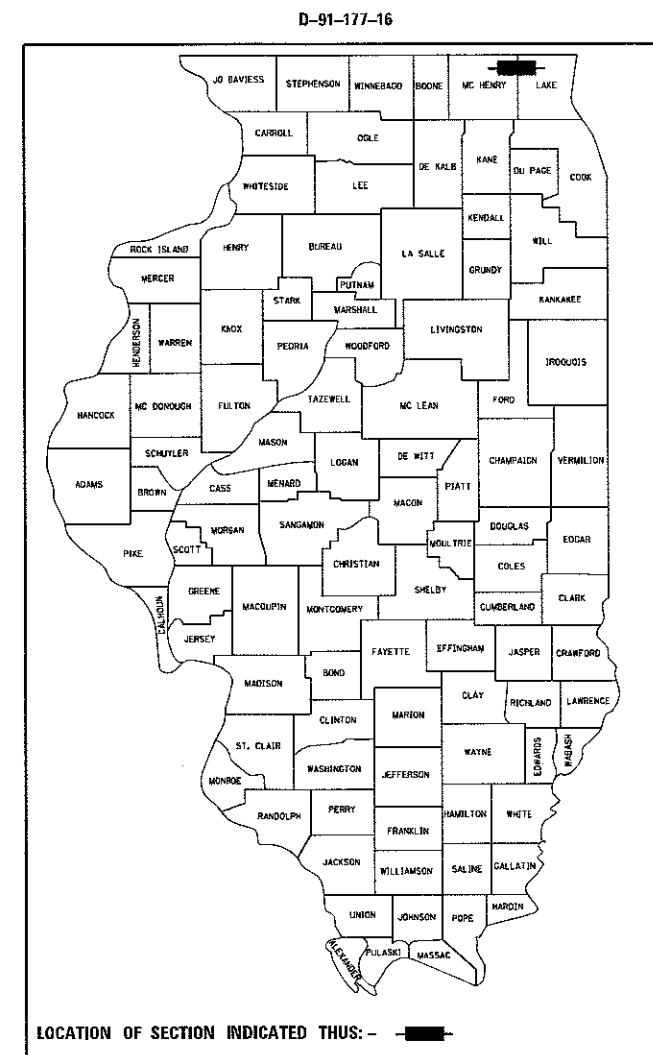


Signed *Joseph M. Glennon*
Joseph M. Glennon, P.E.
Il. Lic. No. 062-046610
Expires 11-30-2017
Date 03/30/2017
For Sheets 1 thru 22



Signed *Moussa A. Issa*
Dr. Moussa A. Issa, S.E.
Il. Lic. No. 081-005738
Expires 11-30-2018
Date 03/30/2017
For Sheets 23 thru 57

PREPARED BY



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Submitted *April 4 2017*
Abdulaziz J. Alshaykh
REGIONAL ENGINEER

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

May 12 2017
Tracie A. O'Connell
DIRECTOR OF PROGRAM DEVELOPMENT

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

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LIST OF HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
442201-03	CLASS C AND D PATCHES
602301-04	INLET TYPE A
602306-03	INLET TYPE B
602401-03	MANHOLE TYPE A
602601-04	PRECAST REINFORCED CONCRETE FLAT SLAB TOP
604001-04	FRAME AND LID TYPE 1
604091-03	FRAME AND GRATE TYPE 24
606001-06	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
701006-05	OFF-RD OPERATIONS 2L, 2W 15' TO 24" FROM PYMT EDGE
701011-04	OFF-RD MOVING OPERATIONS 2L, 2W, DAY
701301-04	LANE CLOSURE 2L, 2W, SHORT TIME
701311-03	LANE CLOSURE 2L, 2W MOVING OPERATIONS - DAY ONLY
701336-06	LANE CLOSURE, 2L, 2W, WORK AREAS IN SERIES FOR SPEEDS >= 45 MPH
701602-08	URBAN LANE CLOSURE, MULTILANE, 2W WITH BIDIRECTIONAL LTL
701901-06	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
B.L.R. 23-4	TRAFFIC BARRIER TERMINAL TYPE 1

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 WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM 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 ENGINEER.

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

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

THE ~~RESIDENT ENGINEER~~ SHALL CONTACT WALTER CZARNY, AREA TRAFFIC FIELD ENGINEER, AT WALTER.CZARNY@ILLINOIS.GOV A MINIMUM OF TWO (2) WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS.

THE CONTRACTOR IS REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, AND THE CITIES OF FOX LAKE AND RICHMOND.

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.

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

FOR STORM SEWER CONSTRUCTED UNDER THE ROADWAY, BACKFILLING METHODS TWO AND THREE AUTHORIZED UNDER THE PROVISIONS OF ARTICLE 550.07 OF THE STANDARD SPECIFICATIONS WILL NOT BE ALLOWED.

THE CONTRACTOR SHALL VERIFY THE EXISTING TYPE/HEIGHT OF EXISTING GUARDRAIL BEFORE ORDERING THE NEW GUARDRAIL. COST INCLUDED WITH THE COST OF THE NEW GUARDRAIL. THE NEW GUARDRAIL SECTION SHALL MATCH THE HEIGHT OF THE EXISTING GUARDRAIL.

THIS PROJECT REQUIRES A US ARMY CORPS OF ENGINEERS (USACE) 404 PERMIT THAT WILL BE SECURED BY THE DEPARTMENT. AS A CONDITION OF THIS PERMIT, THE CONTRACTOR WILL NEED TO SUBMIT AN IN-STREAM WORK PLAN TO THE DEPARTMENT FOR APPROVAL. GUIDELINES ON ACCEPTABLE IN-STREAM WORK TECHNIQUES CAN BE FOUND ON THE USACE WEBSITE. THE USACE DEFINES AND DETERMINES IN-STREAM WORK. THE COST OF ALL MATERIALS AND LABOR NECESSARY TO COMPLY WITH THE ABOVE PROVISIONS TO PREPARE AND IMPLEMENT AN IN-STREAM WORK PLAN WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE UNIT BID PRICES OF THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE CONTRACTOR SHALL USE CARE IN GRADING OR EXCAVATING NEAR ALL EXISTING ITEMS WHICH WILL NOT BE REMOVED. ANY DAMAGED DONE TO EXISTING ITEMS BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

COMMITMENTS

STRICT ADHERENCE TO BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENTATION CONTROL SHOULD BE USED TO MINIMIZE THE POSSIBILITY OF ANY ADVERSE IMPACTS TO THE NIPPERSINK MARCH INAI, LISTED SPECIES, AND WETLANDS IN THE VICINITY.



USER NAME = Ken.drabant	DESIGNED - KJD	REVISED -
	DRAWN - KJD	REVISED -
PLOT SCALE = 48x0.8808 1/2" / in.	CHECKED - RTB	REVISED -
PLOT DATE = 3/30/2017	DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, HIGHWAY STANDARDS AND GENERAL NOTES
 US ROUTE 12

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY/LAKE	64	2
CONTRACT NO. 62B92			ILLINOIS FED. AID PROJECT	

Rev

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE				
				LAKE COUNTY		MCHENRY COUNTY		
				80% FED 20% STATE		80% FED 20% STATE URBAN		
				DRAINAGE		SPECIAL BRIDGE		
			LOCATION 5	LOCATION 4	LOCATION 1	LOCATION 3	LOCATION 2	
			0044	0004	0004	0004	0004	
			URBAN ✓	S.N. 056-0251	S.N. 056-0280	S.N. 056-0283	S.N. 056-0284	
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	60				60	
20200100	EARTH EXCAVATION	CU YD	351.7		200.7			151
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	20		11			9
20800150	TRENCH BACKFILL	CU YD	6.5	6.5				
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	280		142			138
25000210	SEEDING, CLASS 2A	ACRE	0.11		0.03	0.03	0.02	0.03
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	11		3	3	2	3
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	11		3	3	2	3
25100630	EROSION CONTROL BLANKET	SQ YD	280		142			138
28000400	PERIMETER EROSION BARRIER	FOOT	880		222	236	174	248
30300001	AGGREGATE SUBGRADE IMPROVEMENT	CU YD	37		22			15
42001300	PROTECTIVE COAT	SQ YD	168	168				
42300400	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8 INCH	SQ YD	112	112				
44000200	DRIVEWAY PAVEMENT REMOVAL	SQ YD	112	112				

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USER NAME = Kandrabant	DESIGNED - KJD	REVISED -
	DRAWN - KJD	REVISED -
PLOT SCALE = 400.0000 1" = 400'	CHECKED - RTB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
US ROUTE 12

SCALE: SHEET 1 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY/LAKE	64	3
CONTRACT NO. 62B92			ILLINOIS FED. AID PROJECT	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE				
				LAKE COUNTY		MCHENRY COUNTY		
				80% FED 20% STATE		80% FED 20% STATE URBAN		
				DRAINAGE		SPECIAL BRIDGE		
LOCATION 5	LOCATION 4	LOCATION 1	LOCATION 3	LOCATION 2				
0044	0004	0004	0004	0004				
URBAN	S.N. 056-0251	S.N. 056-0280	S.N. 056-0283	S.N. 056-0284				
44004250	PAVED SHOULDER REMOVAL	SQ YD	210		105			105
44201823	CLASS D PATCHES, TYPE I, 15 INCH	SQ YD	28	24	4			
44201831	CLASS D PATCHES, TYPE III, 15 INCH	SQ YD	100		20	30	30	20
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	14		7			7
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	210		105			105
50102400	CONCRETE REMOVAL	CU YD	59.9		33.8	1.3	1.7	23.1
50200100	STRUCTURE EXCAVATION	CU YD	281		176			105
50300225	CONCRETE STRUCTURES	CU YD	29.2			14	15.2	
50500505	STUD SHEAR CONNECTORS	EACH	150			72	78	
50800105	REINFORCEMENT BARS	POUND	14490		9270			5220
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	6160		1490	1860	2090	720
52200010	TEMPORARY SHEET PILING	SQ FT	4905		2849			2056
52200015	PERMANENT SHEET PILING	SQ FT	2698			1318	1380	
54003000	CONCRETE BOX CULVERTS	CU YD	63.6		37.7			25.9

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USER NAME - Ken.drabant	DESIGNED - KJD	REVISED -
	DRAWN - KJD	REVISED -
PLOT SCALE = 4000.0000 1" = 100'	CHECKED - RTB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES			
US ROUTE 12			
SCALE:	SHEET 2	OF 5 SHEETS	STA. TO STA.

F.A.P. RTE. 334	SECTION 2015-087B	COUNTY MCHENRY/LAKE	TOTAL SHEETS 64	SHEET NO. 4
CONTRACT NO. 62B92				
[ILLINOIS] FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE				
				LAKE COUNTY	MCHENRY COUNTY			
				80% FED 20% STATE	80% FED 20% STATE			
					URBAN			
				SPECIAL BRIDGE				
				LOCATION 5	LOCATION 4	LOCATION 1	LOCATION 3	LOCATION 2
				0044	0004	0004	0004	0004
				URBAN	S. N. 056-0251	S. N. 056-0280	S. N. 056-0283	S. N. 056-0284
550A0050	STORM SEWERS, CLASS A, TYPE 1 12"	FOOT	45	45				
60218300	MANHOLES, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID	EACH	2	2				
60237470	INLETS, TYPE A, TYPE 24 FRAME AND GRATE	EACH	3	3				
60240328	INLETS, TYPE B, TYPE 24 FRAME AND GRATE	EACH	2	2				
60255700	MANHOLES TO BE ADJUSTED WITH NEW TYPE 1 FRAME, OPEN LID	EACH	1	1				
60264140	INLETS TO BE RECONSTRUCTED WITH NEW TYPE 24 FRAME AND GRATE	EACH	1	1				
60500060	REMOVING INLETS	EACH	1	1				
* 63000009	STEEL PLATE BEAM GUARDRAIL, TYPE B, 9 FOOT POSTS	FOOT	350		175			175
* 63000350	LONG-SPAN GUARDRAIL OVER CULVERT, 12 FT 6 IN SPAN	FOOT	75		37.5			37.5
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1		1			
* 66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	638	638				
63200310	GUARDRAIL REMOVAL	FOOT	483		241.5			241.5
* 66900450	SPECIAL WASTE PLANS AND REPORTS	L SUM	1	1				
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	1.2	1.2	1.2	1.2	1.2
* 66900530	SOIL DISPOSAL ANALYSIS	EACH	2	2				
67100100	MOBILIZATION	LSUM	1	0.2	0.2	0.2	0.2	0.2
70300904	PAVEMENT MARKING TAPE, TYPE IV 4"	FOOT	6745		1511	2034	1689	1511
	* Specialty Item							

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USER NAME - Ken.dreabant	DESIGNED - KJD	REVISED -
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PLOT SCALE = 4000.0000 1" = 100'	CHECKED - RTB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES			
US ROUTE 12			
SCALE:	SHEET 3	OF 5 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY/LAKE	64	5
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

Rev

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE				
				LAKE COUNTY	MCHENRY COUNTY			
				80% FED 20% STATE	80% FED 20% STATE URBAN			
				DRAINAGE	SPECIAL BRIDGE			
				LOCATION 5	LOCATION 4	LOCATION 1	LOCATION 3	LOCATION 2
				0044	0004	0004	0004	0004
				URBAN	S. N. 056-0251	S. N. 056-0280	S. N. 056-0283	S. N. 056-0284
70400100	TEMPORARY CONCRETE BARRIER	FOOT	228		114			114
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	228		114			114
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2		1			1
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2		1			1
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	3		3			
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	4488		1006	1352	1124	1006
78100300	REPLACEMENT REFLECTOR	EACH	30		7	8	8	7
* 78200006	GUARDRAIL REFLECTORS, TYPE B	EACH	12		6			6
* 78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	20		10			10
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	30		7	8	8	7
X0327980	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	1494		335	450	374	335
* X2300007	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2		2			
X5430100	INSERTION CULVERT LINER (SPECIAL)	FOOT	108			57	51	
14 □ X5537800	STORM SEWERS TO BE CLEANED 12"	FOOT	181	181				
	* Specialty Item							



USER NAME = Ken.drabant	DESIGNED - KJD	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
US ROUTE 12

SCALE: SHEET 4 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY/LAKE	64	6
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

□ NON-PARTICIPATING

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE				
				LAKE COUNTY	MCHENRY COUNTY			
				80% FED	80% FED			
				20% STATE	20% STATE			
				SPECIAL BRIDGE				
				DRAINAGE	LOCATION 4	LOCATION 1	LOCATION 3	LOCATION 2
				LOCATION 5				
				0044	0004	0004	0004	0004
				URBAN	S. N. 056-0251	S. N. 056-0280	S. N. 056-0283	S. N. 056-0284
<input type="checkbox"/>	X5537900	STORM SEWERS TO BE CLEANED 15"	FOOT	312	312			
	X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	331		136		195
	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	LSUM	1	0.2	0.2	0.2	0.2
	X7030005	TEMPORARY PAVEMENT MARKING REMOVAL	SO FT	2997		671	904	751
	X7040125	PINNING TEMPORARY CONCRETE BARRIER	EACH	72		36		36
	Z0001700	APPROACH SLAB REPAIR (FULL DEPTH)	SO YD	14	14			
	Z0004556	HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SO YD	1.8	1.8			
	Z0004562	COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	129	129			
<input type="checkbox"/>	Z0005305	BOX CULVERTS TO BE CLEANED	FOOT	82		36		46
	Z0012755	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SO FT	86			86	
<input type="checkbox"/>	Z0018500	DRAINAGE STRUCTURES TO BE CLEANED	EACH	8	8			
	Z0022800	FENCE REMOVAL	FOOT	40			40	
	Z0030850	TEMPORARY INFORMATION SIGNING	SO FT	363	129	39	78	78
	Z0076600	TRAINEES	HOUR					



USER NAME = Ken.drabant
 DESIGNED - KJD
 DRAWN - KJD
 PLOT SCALE = 400.0000' / 1" / 1"
 CHECKED - RTB
 PLOT DATE = 3/28/2017
 DATE - 03/24/2017
 REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
US ROUTE 12

SCALE: SHEET 5 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY/LAKE	64	7
CONTRACT NO. 62B92			ILLINOIS FED. AID PROJECT	

NON-PARTICIPATING

LEGEND

- ① EXIST. 8" HMA SHOULDER
- ② EXIST. 9" BASE COURSE WIDENING
- ③ EXIST. CONCRETE PAVEMENT
- ④ EXIST. HMA OVERLAY
- ⑤ EXIST. HMA SURFACE COURSE
- ⑥ EXIST. HMA BINDER COURSE
- ⑦ PROP. 8" HMA SHOULDER (STA. 139+36.00 TO 139+93.00) (STA. 140+18.00 TO 140+80.00)
- ⑧ PROP. 8" HMA SHOULDER (STA. 139+65.00 TO 140+80.00)
- ⑨ CLASS D PATCHES, TYPE I, 15 INCH (STA. 140+41.00 TO STA. 140+56.00)
- ⑩ PROP. AGGREGATE WEDGE SHOULDER

HMA MIXTURE TABLE

PAY ITEM DESCRIPTION	MIX TYPE	% AIR VOIDS @ Ndes	OMP DESIGNATION
CLASS D PATCHES	HOT-MIX ASPHALT SURFACE COURSE, MIX D, N70 (IL-9.5mm); TOP 2" (HMA BINDER IL-19 mm)	4%±70 Gyr	QC/OA
HOT-MIX ASPHALT SHOULDERS 8"	HOT-MIX SURFACE COURSE, MIX D, N70 (IL-9.5mm); 2" HMA SHOULDER (HMA BINDER IL-19 mm); 6"	4%±70 Gyr	QC/OA
		4%±70 Gyr	QC/OA

OMP DESIGNATION: QUALITY CONTROL/QUALITY ASSURANCE (QC/OA); QUALITY CONTROL FOR PERFORMANCE (QCP)

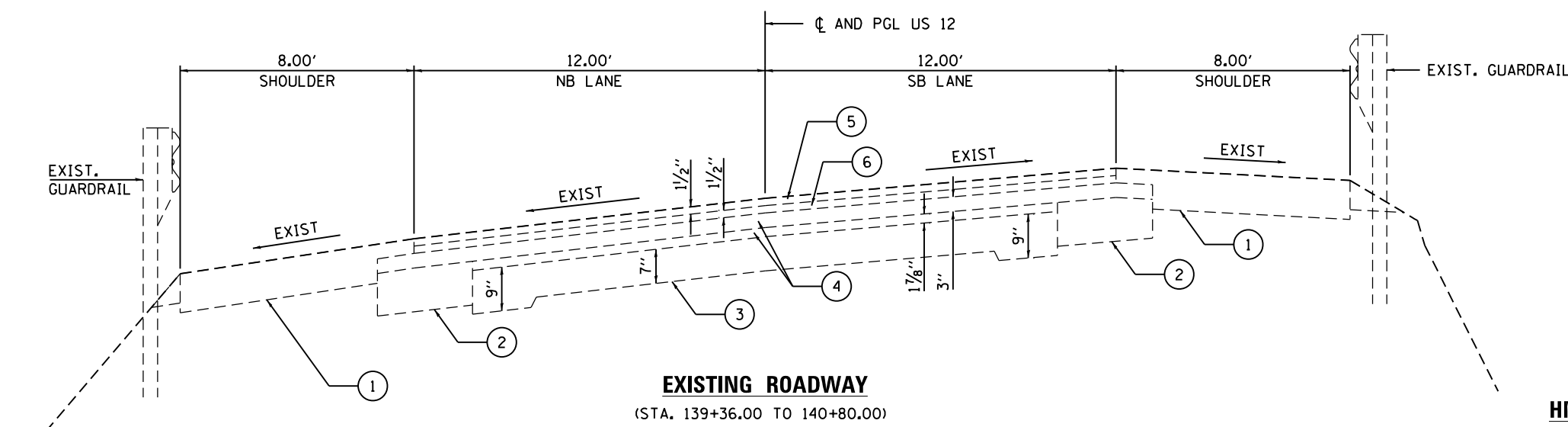
QUALITY MANAGEMENT PROGRAM (QMP) IDENTIFIES THE PARTICULAR QUALITY CONTROL SPECIFICATION THAT APPLIES TO THE HMA MIXTURE.

THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIX QUANTITIES IS 112 LBS/SQYD/IN. THE AC TYPE FOR POLYMERIZED HMA MIXTURES 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 RECYCLE MATERIALS SEE DISTRICT ONE SPECIAL PROVISIONS.

NOTE

SEE STRUCTURAL SHEETS FOR STAGING SECTIONS

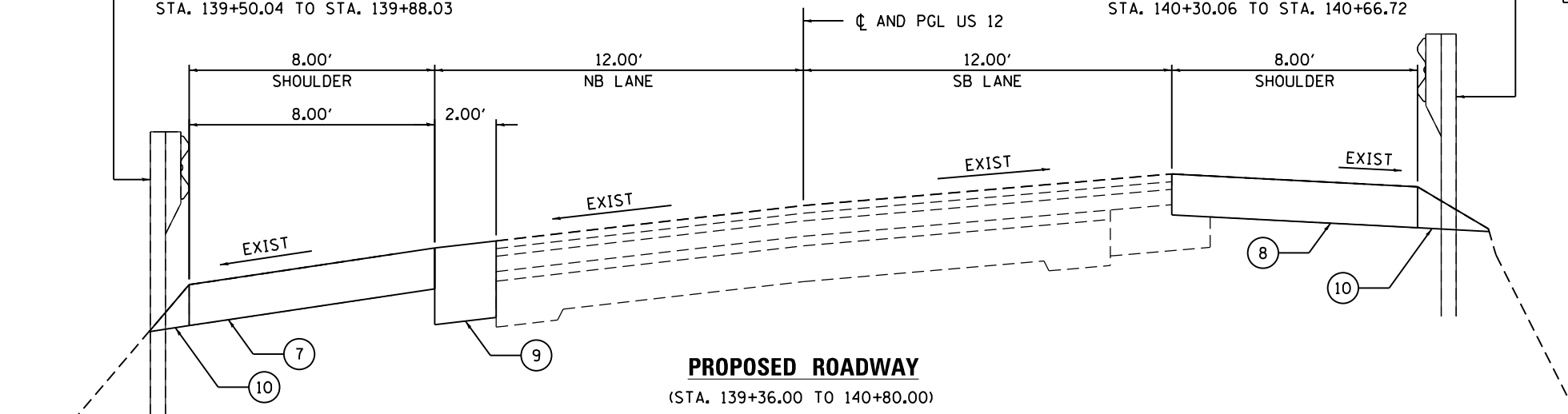


STEEL PLATE BEAM GUARDRAIL, TYPE B, 9 FOOT POSTS
STA. 138+74.07 TO STA. 139+50.04 & STA. 139+88.03 TO STA. 140+85.03

INSTALL LONG-SPAN GUARDRAIL OVER CULVERT
STA. 139+50.04 TO STA. 139+88.03

STEEL PLATE BEAM GUARDRAIL, TYPE B, 9 FOOT POSTS
STA. 138+69.61 TO STA. 140+30.06 & STA. 141+33.99 TO STA. 141+46.33

INSTALL LONG-SPAN GUARDRAIL OVER CULVERT
STA. 140+30.06 TO STA. 140+66.72



USER NAME = KenDrabant	DESIGNED - KJD	REVISED -
	DRAWN - KJD	REVISED -
PLOT SCALE = 1/8" = 1' / in.	CHECKED - RTB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS (LOCATIONS 2 & 4)	
US ROUTE 12	
SCALE:	SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY/LAKE	64	8
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

EARTHWORK SCHEDULE						
LOCATION	EARTH EXCAVATION (CU YD)	STRUCTURE EXCAVATION (CU YD)	EARTH AND STRUCTURE EXCAVATION ADJUSTED FOR SHRINKAGE (15%) (CU YD)	UNSUITABLE MATERIAL (CU YD)	EMBANKMENT (CU YD)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) (CU YD)
SN. 056-0284 NORTH END OF CULVERT	44.7	25.3	59.5	0	30.5	+29
SN. 056-0284 SOUTH END OF CULVERT	106.3	79.7	158.1	9	30.4	+118.7
SN. 056-0251 NORTH END OF CULVERT	88.40	89.7	151.4	0	65.8	+85.6
SN. 056-0251 SOUTH END OF CULVERT	112.3	85.6	168.2	11	98.2	+59.0
TOTAL						+292.3

TEMPORARY TRAFFIC CONTROL								
	LOCATION	STATION	TO	STATION	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	PAVEMENT MARKING REMOVAL - WATER BLASTING (SQ FT)	TEMPORARY PAVEMENT MARKING REMOVAL (SQ FT)	REPLACEMENT REFLECTOR
LOCATION 4 AND 2	056-0251 AND 056-0284	137+61		142+64	14	670	1342	14
LOCATION 1	056-0280	66+90		70+28	8	450	904	8
LOCATION 3	056-0283	327+08		329+89	8	374	751	8

LONG-SPAN GUARDRAIL OVER CULVERT, 12 FT 6 IN SPAN					
LOCATION	STAGE	STATION	TO	STATION	LENGTH (FOOT)
LOCATION 4 AND 2	STAGE I	139+50.04		139+88.03	37.5
	STAGE II	140+30.06		140+66.72	37.5

GUARDRAIL REMOVAL					
LOCATION	STAGE	STATION	TO	STATION	LENGTH (FOOT)
LOCATION 4 AND 2	STAGE I	138+74.07		140+87.51	211
	STAGE II	138+69.61		140+73.39	222
	STAGE II	140+96.96		141+46.33	50

STEEL PLATE BEAM GUARDRAIL, TYPE B, 9 FOOT POSTS					
LOCATION	STAGE	STATION	TO	STATION	LENGTH (FOOT)
LOCATION 4 AND 2	STAGE I	138+74.07		139+50.04	75
	STAGE I	139+88.03		140+85.03	100
	STAGE II	138+69.61		140+30.06	162.5
	STAGE II	141+33.99		141+46.33	12.5

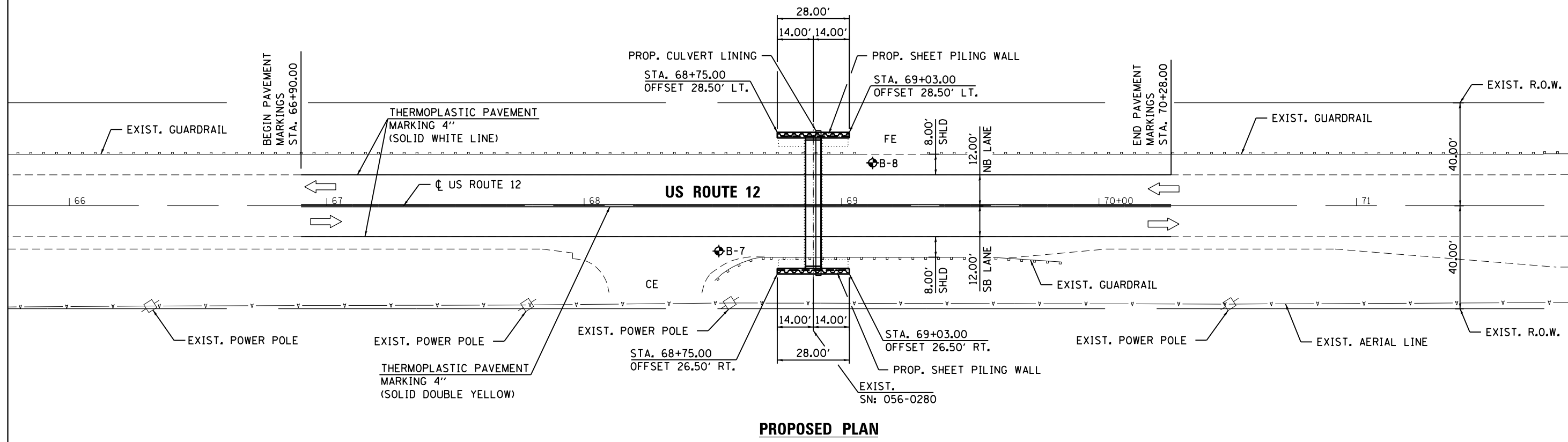
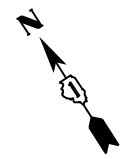


USER NAME = KenDrabant	DESIGNED - KJD	REVISED -
	DRAWN - KJD	REVISED -
PLOT SCALE = 40:0.0000 '1' / 1in.	CHECKED - RTB	REVISED -
PLOT DATE = 5/3/2017	DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES			
US ROUTE 12			
SCALE:	SHEET 1	OF 1 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY/LAKE	64	9
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



PROPOSED PLAN

NOTES:

1. THE PROPOSED PAVEMENT MARKINGS SHALL BE PLACED IN THE SAME LOCATIONS AS THE EXISTING PAVEMENT MARKINGS OR AS DIRECTED BY THE ENGINEER.
2. EXIST. TREES & BRUSH TO BE PRUNNED AND CLEARED PER ARTICLE 201.10(C)(3) OF THE STANDARD SPECIFICATIONS.

LEGEND

- DIRECTION OF TRAFFIC
- EXIST. POWER POLE
- EXIST. AERIAL LINE
- EXIST. GUARDRAIL
- BORING



USER NAME = Kenndrabant	DESIGNED - KJD	REVISED -
	DRAWN - KJD	REVISED -
PLOT SCALE = 40.0000' / in.	CHECKED - RTB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

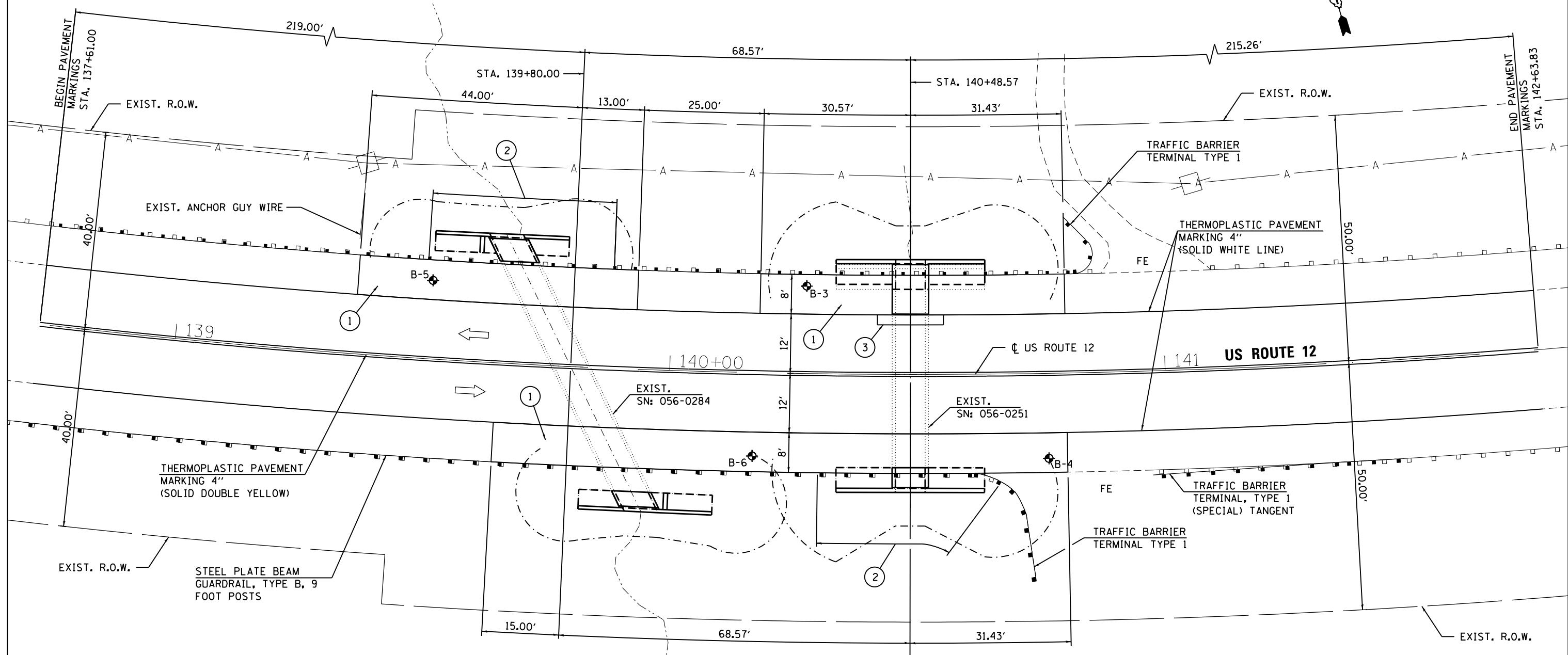
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PROPOSED PLAN (LOCATION 1)
US ROUTE 12**

SCALE: SHEET 1 OF 4 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	10
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

- ① PROP. 8" HMA SHOULDER
- ② LONG-SPAN GUARDRAIL OVER CULVERT
- ③ CLASS D PATCHES, TYPE 1, 15 INCH



PROPOSED PLAN

NOTE:

1. EXIST. TREES & BRUSH TO BE PRUNED AND CLEARED PER ARTICLE 201.10(C)(3) OF THE STANDARD SPECIFICATIONS.

LEGEND

- DIRECTION OF TRAFFIC
- EXIST. POWER POLE
- EXIST. AERIAL LINE
- EXIST. GUARDRAIL
- BORING



USER NAME = Kenndrabant	DESIGNED - KJD	REVISED -
	DRAWN - KJD	REVISED -
PLOT SCALE = 200.00' / 1" / 10'	CHECKED - RTB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

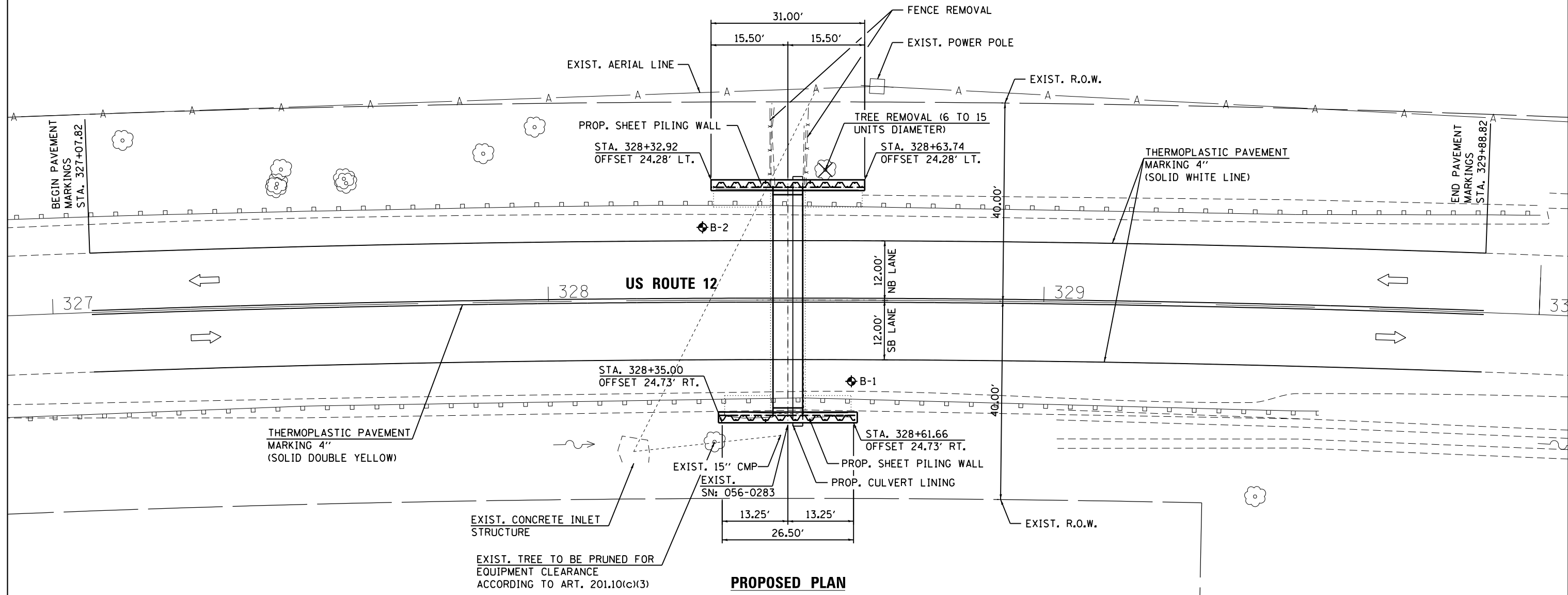
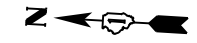
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED PLAN (LOCATIONS 2 & 4)
US ROUTE 12

SCALE: SHEET 2 OF 4 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	11
CONTRACT NO. 62B92				

ILLINOIS FED. AID PROJECT



PROPOSED PLAN

NOTES:

- EXIST. TREES & BRUSH TO BE PRUNED AND CLEARED PER ARTICLE 201.10(C)(3) OF THE STANDARD SPECIFICATIONS.
- FILL VOIDS UNDERNEATH THE GUARDRAIL WITH SAME MATERIAL AS AGGREGATE WEDGE SHOULDER

LEGEND

- DIRECTION OF TRAFFIC
- EXIST. POWER POLE
- EXIST. AERIAL LINE
- EXIST. GUARDRAIL
- BORING
- EXIST. TREE
- TREE REMOVAL



USER NAME = Kenndrabort	DESIGNED - KJD	REVISED -
	DRAWN - KJD	REVISED -
PLOT SCALE = 20.00' / in.	CHECKED - RTB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED PLAN (LOCATION 3)
US ROUTE 12

SCALE: SHEET 3 OF 4 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	12
CONTRACT NO. 62B92				

ILLINOIS FED. AID PROJECT

BENCHMARK

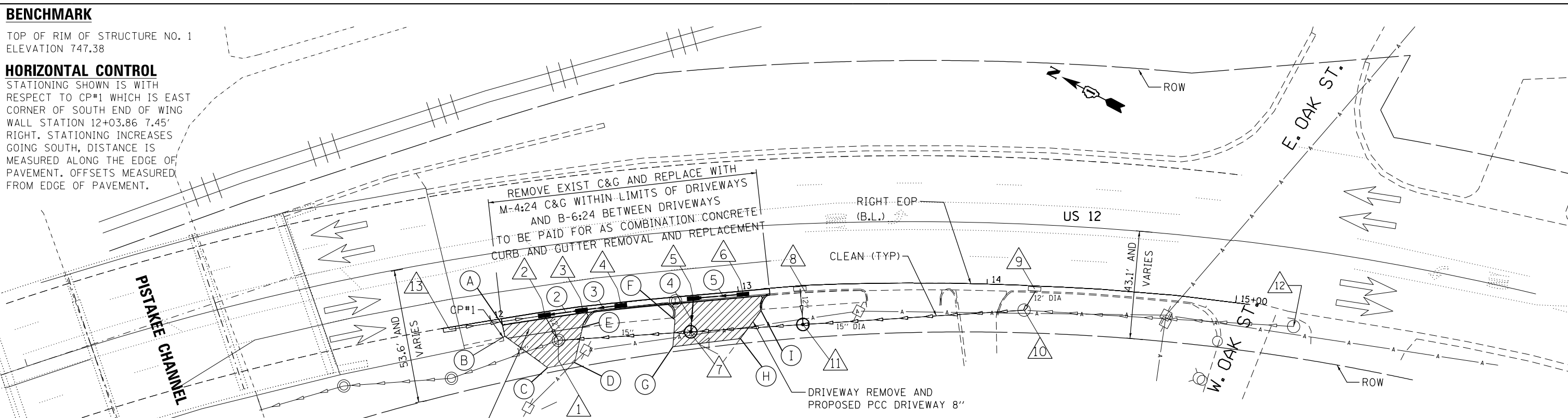
TOP OF RIM OF STRUCTURE NO. 1
ELEVATION 747.38

HORIZONTAL CONTROL

STATIONING SHOWN IS WITH RESPECT TO CP#1 WHICH IS EAST CORNER OF SOUTH END OF WING WALL STATION 12+03.86 7.45' RIGHT. STATIONING INCREASES GOING SOUTH, DISTANCE IS MEASURED ALONG THE EDGE OF PAVEMENT. OFFSETS MEASURED FROM EDGE OF PAVEMENT.

PLAN	SURVEYED	DATE
	PLOTTED	
	ALIGNED	
	CHECKED	
	FILED	
	NO.	

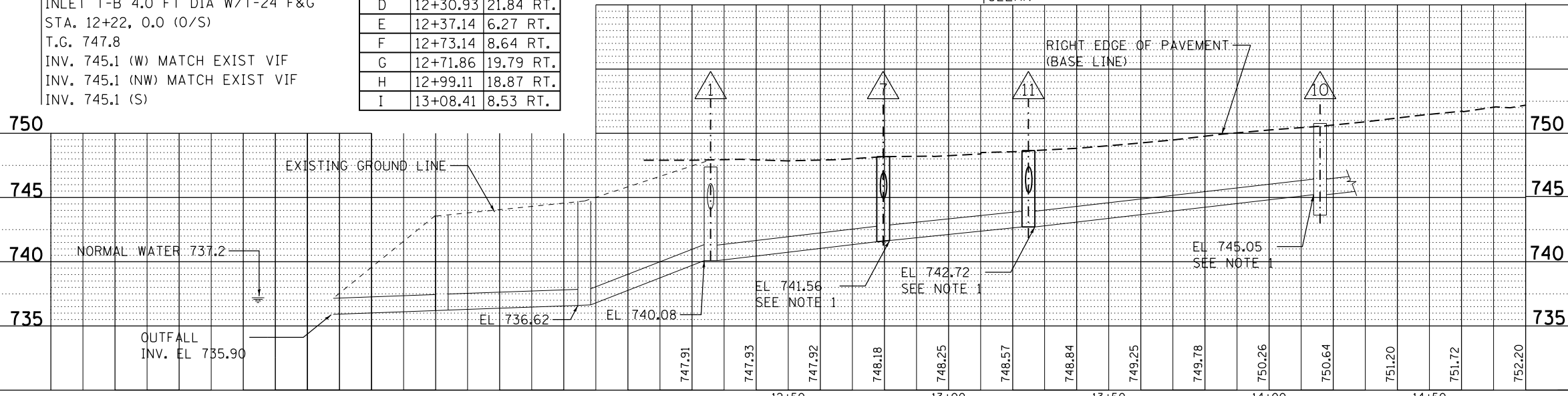
PROFILE	SURVEYED	DATE
	PLOTTED	
	GRADES	
	CHECKED	
	STRUCTURE	
	NOTATIONS	
	CHKD	
	NO.	



PROPOSED PLAN

- 1 EXIST MANHOLE CLOSED LID TO BE ADJUSTED WITH NEW T-1 FRAME OPEN LID (CLEAN)
STA. 12+25.8 12.16 RT
T.G. 747.38
INV. 740.18 (SE)
INV. 740.08 (NW)
- 2 EXIST STORM INLET TO BE REMOVED AND REPLACED WITH INLET T-B 4.0 FT DIA W/T-24 F&G
STA. 12+22, 0.0 (O/S)
T.G. 747.8
INV. 745.1 (W) MATCH EXIST VIF
INV. 745.1 (NW) MATCH EXIST VIF
INV. 745.1 (S)
- 3 INLET T-A 2.0 FT DIA. W/T-24 F&G
STA. 12+37, 0.0 FT (O/S)
T.G. 747.96
INV. 745.16 (S)
INV. 745.16 (N)
- 4 INLET, T-A 2.0 FT DIA. W/T-24 F&G
STA. 12+53.0, 0.0 FT (O/S)
T.G. 747.88
INV. 745.23 (N)
- 5 INLET, T-B 4.0 FT DIA. W/T-24 F&G
STA. 12+82, 0.0 FT (RT)
T.G. 748.19
INV. 745.1 (S)
INV. 745.1 (W)
- 6 INLET, T-A 2.0 FT DIA. W/T-24 F&G
STA. 13+01.0, 0.0 FT (O/S)
T.G. 748.27
INV. 745.24 (N)
- 7 MH, T-A 4.0 FT DIA. W/T-1 OPEN LID
STA. 12+79.6, 14.47 FT (RT) MEET EXIST SS VIF
T.G. +/- 748.4 MEET EXIST GRND
INV. 741.56 (N&S) NOTE 1
INV. 744.97 (E)
- 8 EXISTING STORM INLET
STA. 13+24.9, 0.0 FT (O/S)
T.G. 748.6
CLEAN
- 9 EXISTING STORM INLET
STA. 14+19.2, 0.0 FT (O/S)
T.G. 750.62
CLEAN
- 10 EXISTING CB OR MH, W/BEE HIVE LID
STA. 14+15.90, 9.9 FT (RT)
T.G. 750.35
INV. 745.05 (N&S) CLEAN
- 11 MH, T-A 4.0 FT DIA. W/T-1 OPEN LID
STA 13+24.91, 15.60 FT (RT)
T.G. (VERIFY MATCH EXISTING)
INV. 742.72 (N&S) NOTE 1
- 12 EXISTING CATCH BASIN
STA. 15+24.45, 5.64 FT (RT)
CLEAN
- 13 EXISTING INLET TO BE RECONSTRUCTED W/T-24 F&G
STA 11+83.21, 0.0 FT (RT)
T.G. (VERIFY MATCH EXISTING)
CLEAN
- 2 12" DIA STORM SEWER TYPE 1 @ 0.005 FT/FT - 12 FT 1.584 CY TB
- 3 12" DIA STORM SEWER TYPE 1 @ 0.005 FT/FT - 14 FT 1.806 CY TB
- 4 12" DIA STORM SEWER TYPE 1 @ 0.015 FT/FT - 8.5 FT 1.479 CY TB
- 5 12" DIA STORM SEWER TYPE 1 @ 0.015 FT/FT - 9.5 FT 1.558 CY TB

POINT	STATION	OFFSET
A	12+04.51	2.58 RT.
B	12+04.62	7.17 RT.
C	12+19.51	22.32 RT.
D	12+30.93	21.84 RT.
E	12+37.14	6.27 RT.
F	12+73.14	8.64 RT.
G	12+71.86	19.79 RT.
H	12+99.11	18.87 RT.
I	13+08.41	8.53 RT.



NOTES

- LOCATIONS SHOWN FOR STRUCTURES NO. 7 & 11 ARE APPROXIMATE, CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF THE EXISTING SEWER HORIZONTAL AND VERTICAL LOCATION PRIOR TO FABRICATING STRUCTURE NO. 7 & 11.
- FOR MAINTENANCE OF TRAFFIC DURING CONSTRUCTION, CLOSE RIGHT LANE OF SB US 12 PER HIGHWAY STANDARD 701602
- FOR INLETS, THE OFFSET AND RIM ELEVATIONS ARE GIVEN TO EDGE OF PAVEMENT NOT CENTERLINE OF STRUCTURE.
- PAVEMENT DISTURBED WITH THE INSTALLATION OF DRAINAGE STRUCTURES SHALL BE REPLACED WITH CLASS D PATCH TYPE 1 15" OR APPROACH SLEB REPAIR (FULL DEPTH).
- PAVED SURFACE BEHIND CURB DISTURBED BY CONSTRUCTION OF NEW C&G SHALL BE REPAIRED WITH MINIMUM OF 2" HMA SURFACE COURSE. COST SHALL BE INCLUDED IN CLASS D PATCH, TYPE 1.



USER NAME = Ken.drabant	DESIGNED - JMG	REVISED -
	DRAWN - JMG	REVISED -
PLOT SCALE = 40:0.0000 '1" = 10'	CHECKED - RTB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

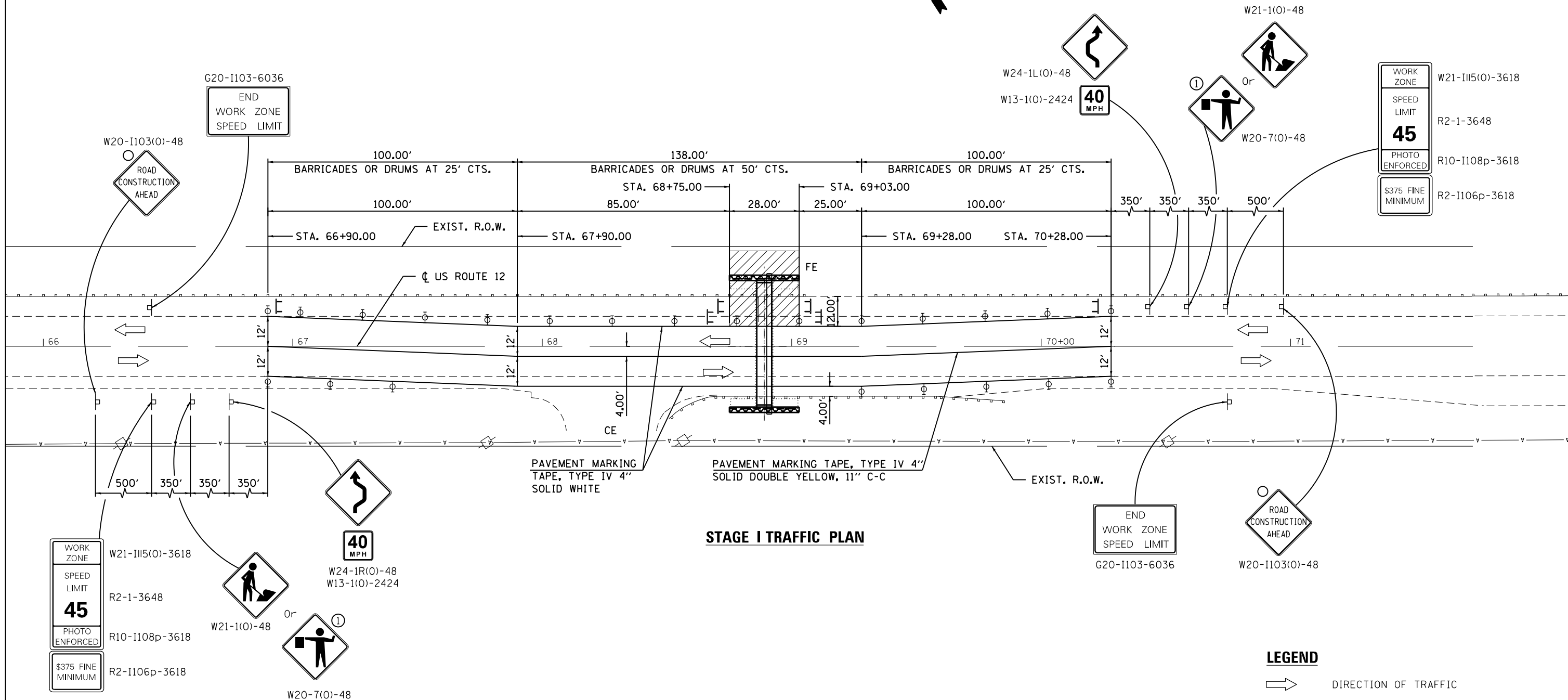
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOCATION 5 - PROPOSED DRAINAGE PLAN
WITH MAINTENANCE OF TRAFFIC

SCALE: SHEET 4 OF 4 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY/LAKE	64	13
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

① USE FLAGGER SIGN ONLY WHEN FLAGGER IS PRESENT



STAGE I TRAFFIC PLAN

LEGEND

- DIRECTION OF TRAFFIC
- TYPE II BARRICADE OR DRUM WITH MONODIRECTIONAL STEADY BURNING LIGHT
- WORK AREA
- SIGN
- TYPE III BARRICADES W/FLASHING LIGHTS



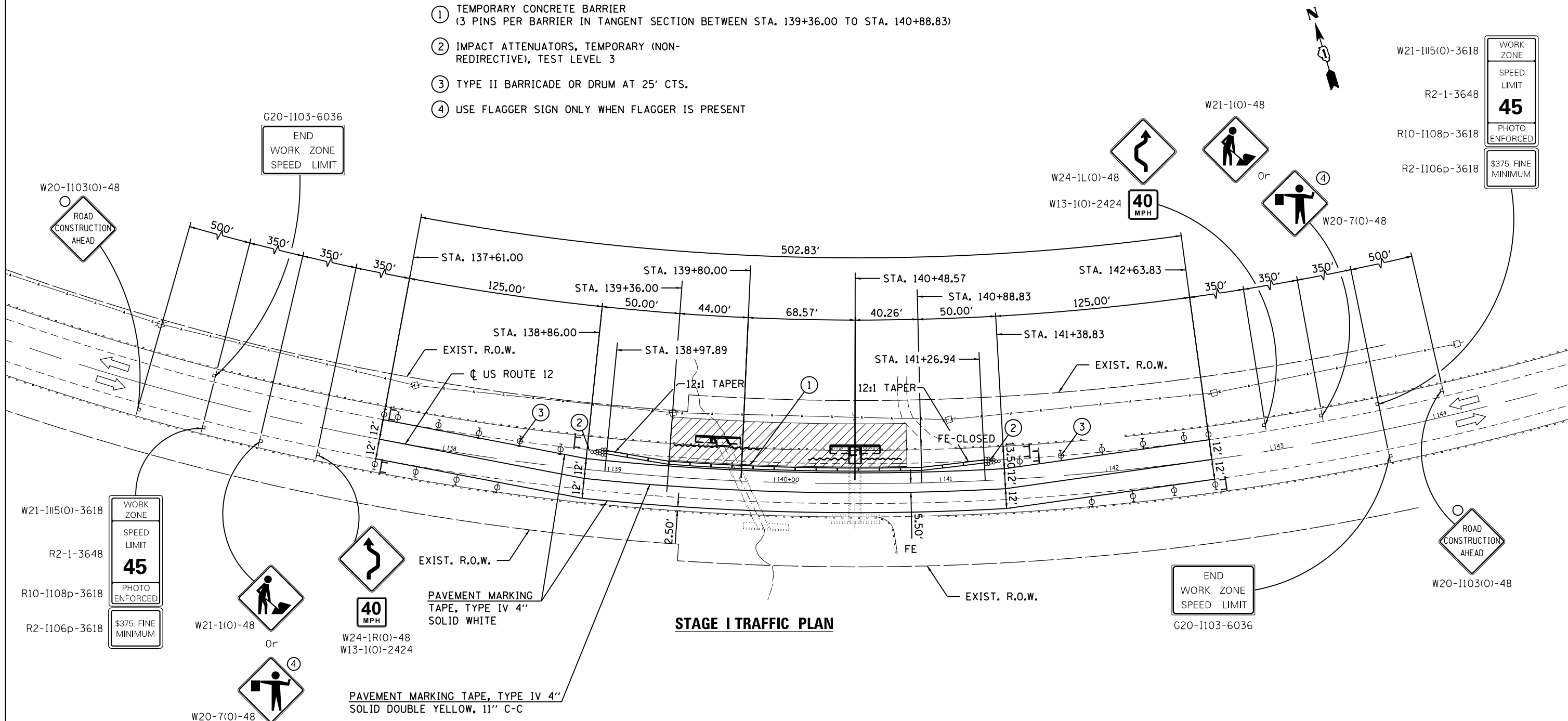
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DRAWN - KJD	REVISED -	
PLOT SCALE = 40:0.0000 ' / in.	CHECKED - RTB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC - STAGE I (LOCATION 1)	
US ROUTE 12	
SCALE:	SHEET 1 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	14
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

- ① TEMPORARY CONCRETE BARRIER
(3 PINS PER BARRIER IN TANGENT SECTION BETWEEN STA. 139+36.00 TO STA. 140+88.83)
- ② IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3
- ③ TYPE II BARRICADE OR DRUM AT 25' CTS.
- ④ USE FLAGGER SIGN ONLY WHEN FLAGGER IS PRESENT



STAGE I TRAFFIC PLAN

- LEGEND**
- DIRECTION OF TRAFFIC
 - TYPE II BARRICADE OR DRUM WITH MONODIRECTIONAL STEADY BURNING LIGHT
 - WORK AREA
 - SIGN
 - TYPE III BARRICADES W/FLASHING LIGHTS



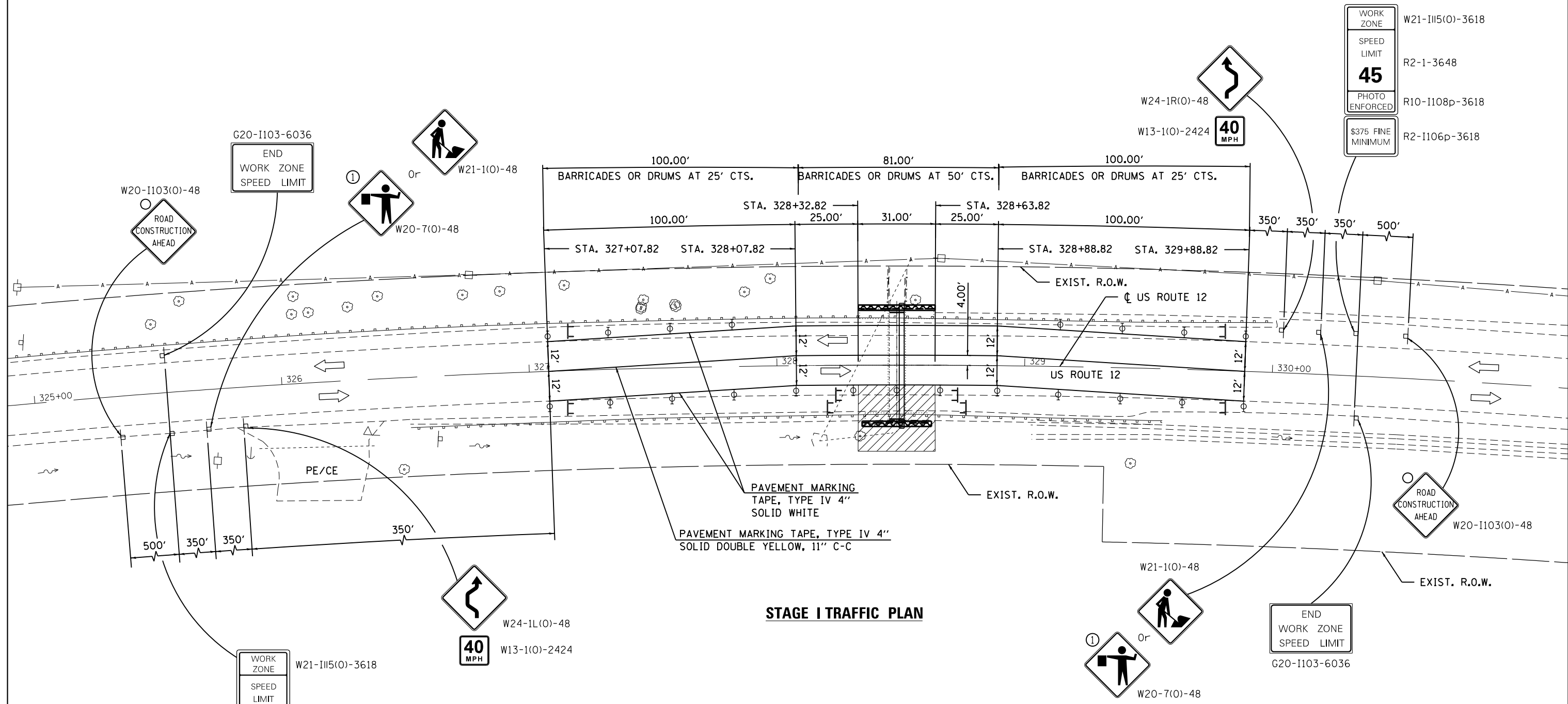
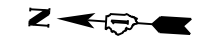
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	DRAWN - KJD	REVISED -
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PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC - STAGE I (LOCATIONS 2 & 4)	
US ROUTE 12	
SCALE:	SHEET 2 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	15
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

① USE FLAGGER SIGN ONLY WHEN FLAGGER IS PRESENT



STAGE I TRAFFIC PLAN

WORK ZONE
SPEED LIMIT
45
PHOTO ENFORCED
\$375 FINE MINIMUM

W21-1115(O)-3618
R2-1-3648
R10-1108p-3618
R2-1106p-3618

END WORK ZONE SPEED LIMIT
G20-1103-6036

- LEGEND**
- DIRECTION OF TRAFFIC
 - TYPE II BARRICADE OR DRUM WITH MONODIRECTIONAL STEADY BURNING LIGHT
 - WORK AREA
 - SIGN
 - TYPE III BARRICADES W/FLASHING LIGHTS



USER NAME = KenDrabant	DESIGNED - KJD	REVISED -
DRAWN - KJD	REVISIONS -	
PLOT SCALE = 40:0.0000' / 1"	CHECKED - RTB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

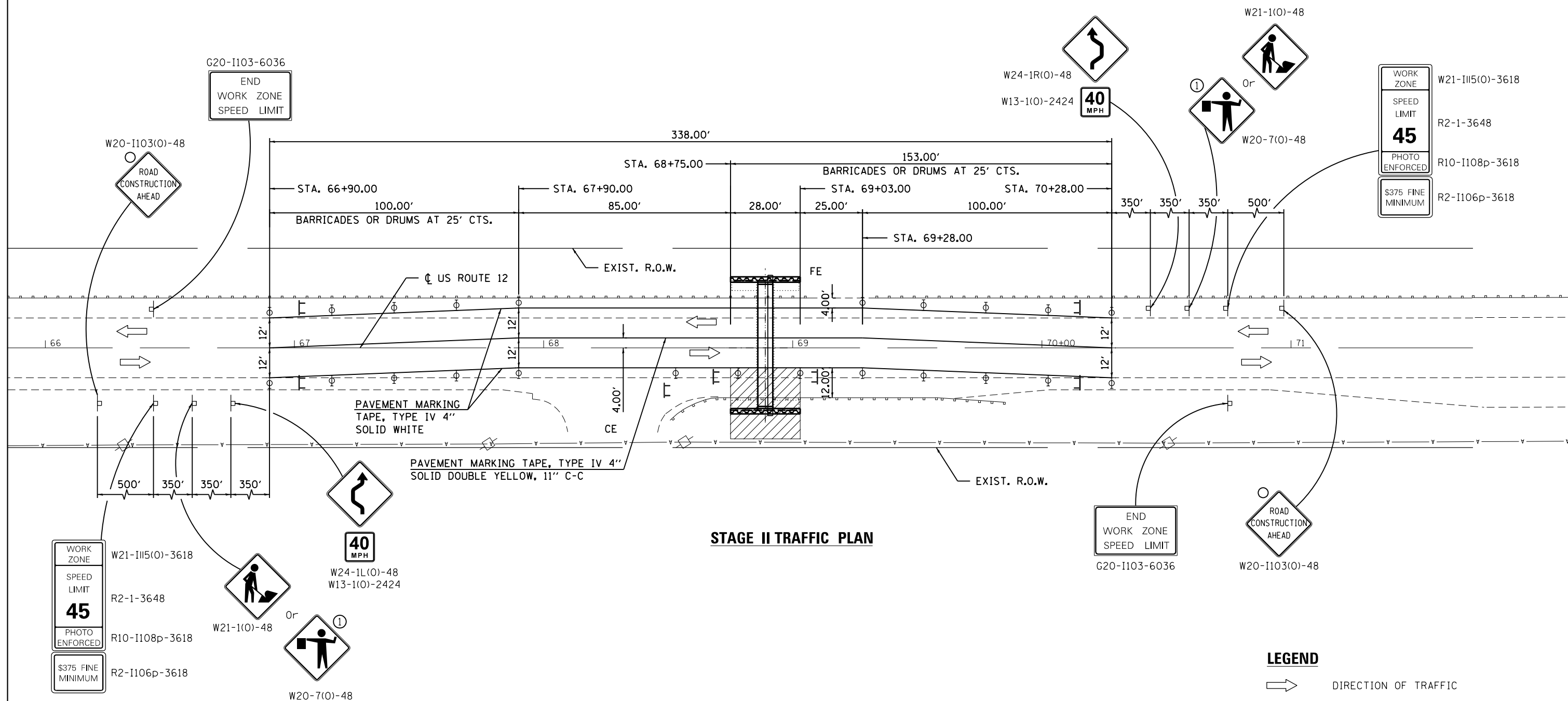
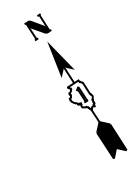
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC - STAGE I (LOCATION 3)
US ROUTE 12

SCALE: SHEET 3 OF 3 SHEETS STA. TO STA.

F.A.P. RTE. 334	SECTION 2015-087B	COUNTY MCHENRY	TOTAL SHEETS 64	SHEET NO. 16
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

① USE FLAGGER SIGN ONLY WHEN FLAGGER IS PRESENT



STAGE II TRAFFIC PLAN

- LEGEND**
- ➔ DIRECTION OF TRAFFIC
 - ⊕ TYPE II BARRICADE OR DRUM WITH MONODIRECTIONAL STEADY BURNING LIGHT
 - ▨ WORK AREA
 - ⊥ SIGN
 - ⌈ TYPE III BARRICADES W/FLASHING LIGHTS



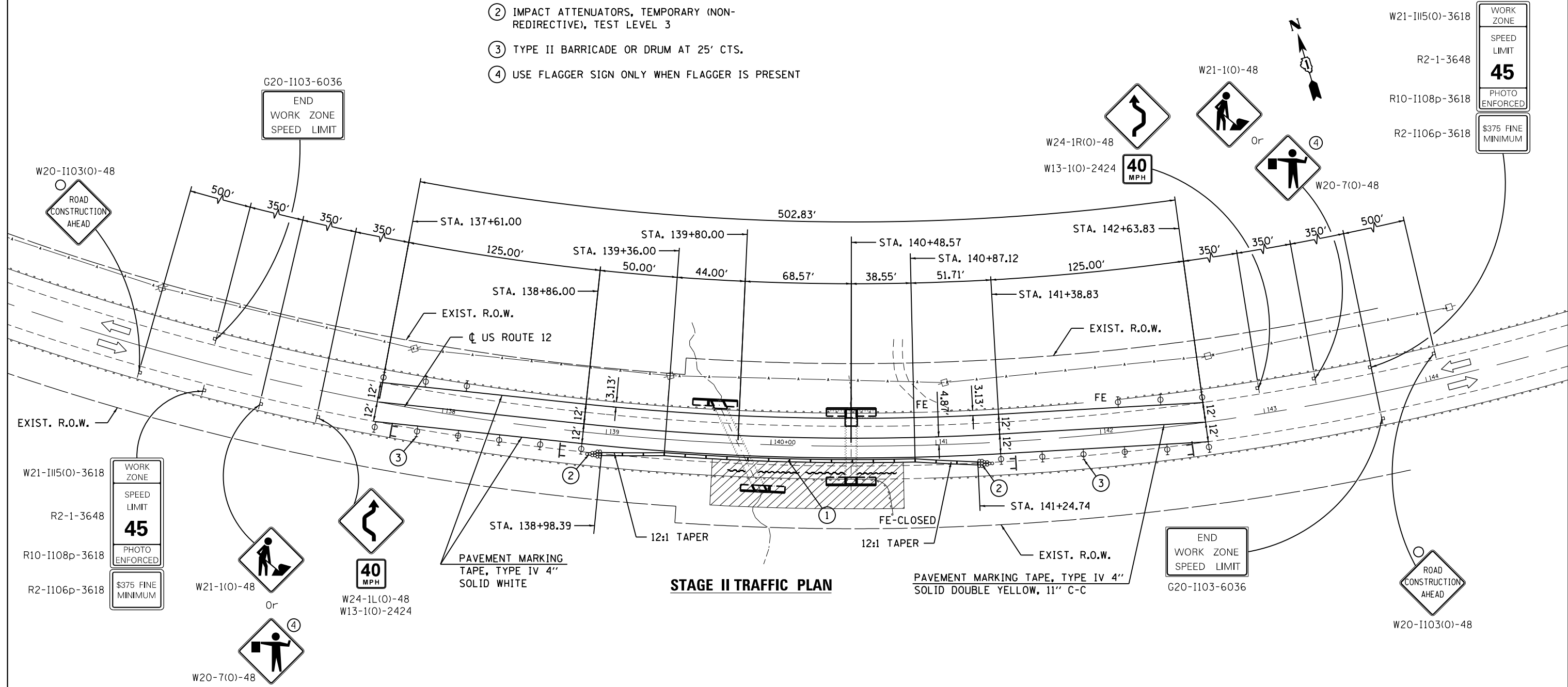
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DRAWN - KJD	REVISED -	
PLOT SCALE = 40:0.0000' / 1"	CHECKED - RTB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

MAINTENANCE OF TRAFFIC - STAGE II (LOCATION 1)			
US ROUTE 12			
SCALE:	SHEET 1	OF 3 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	17
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

- ① RELOCATE TEMPORARY CONCRETE BARRIER (3 PINS PER BARRIER IN TANGENT SECTION BETWEEN STA. 139+36.00 TO STA. 140+87.12)
- ② IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3
- ③ TYPE II BARRICADE OR DRUM AT 25' CTS.
- ④ USE FLAGGER SIGN ONLY WHEN FLAGGER IS PRESENT



STAGE II TRAFFIC PLAN

LEGEND

- DIRECTION OF TRAFFIC
- TYPE II BARRICADE OR DRUM WITH MONODIRECTIONAL STEADY BURNING LIGHT
- WORK AREA
- SIGN
- TYPE III BARRICADES W/FLASHING LIGHTS



USER NAME = Kenndrabant	DESIGNED - KJD	REVISED -
	DRAWN - KJD	REVISED -
PLOT SCALE = 60.0000' / in.	CHECKED - RTB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

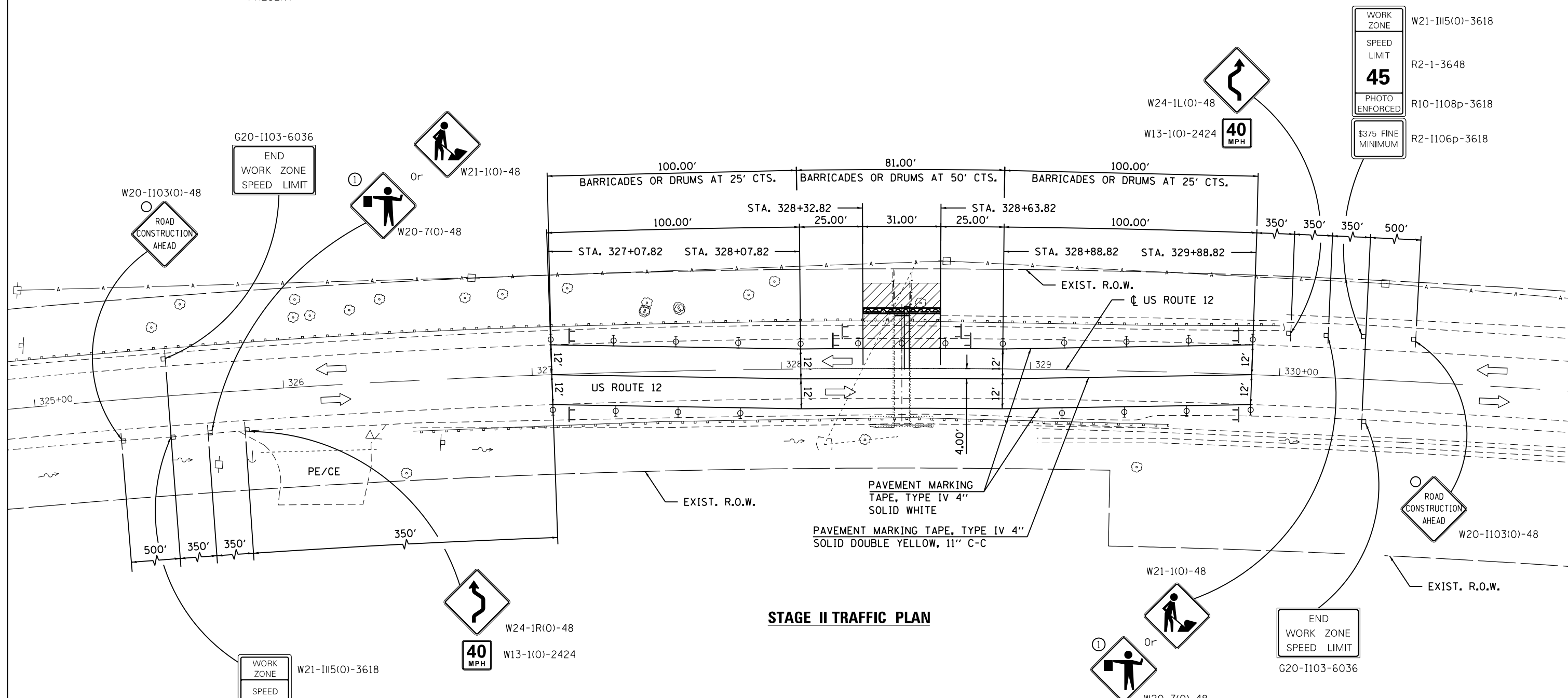
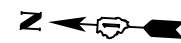
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC - STAGE II (LOCATIONS 2 & 4)
US ROUTE 12

SCALE: SHEET 2 OF 3 SHEETS STA. TO STA.

F.A.P. RTE. 334	SECTION 2015-087B	COUNTY MCHENRY	TOTAL SHEETS 64	SHEET NO. 18
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

① USE FLAGGER SIGN ONLY WHEN FLAGGER IS PRESENT



STAGE II TRAFFIC PLAN

WORK ZONE
SPEED LIMIT
45
PHOTO ENFORCED
\$375 FINE MINIMUM

W21-III5(O)-3618
R2-1-3648
R10-1108p-3618
R2-1106p-3618

END WORK ZONE SPEED LIMIT
G20-1103-6036

- LEGEND**
- ➔ DIRECTION OF TRAFFIC
 - ⊕ TYPE II BARRICADE OR DRUM WITH MONODIRECTIONAL STEADY BURNING LIGHT
 - ▨ WORK AREA
 - ⊥ SIGN
 - ⌈ TYPE III BARRICADES W/FLASHING LIGHTS

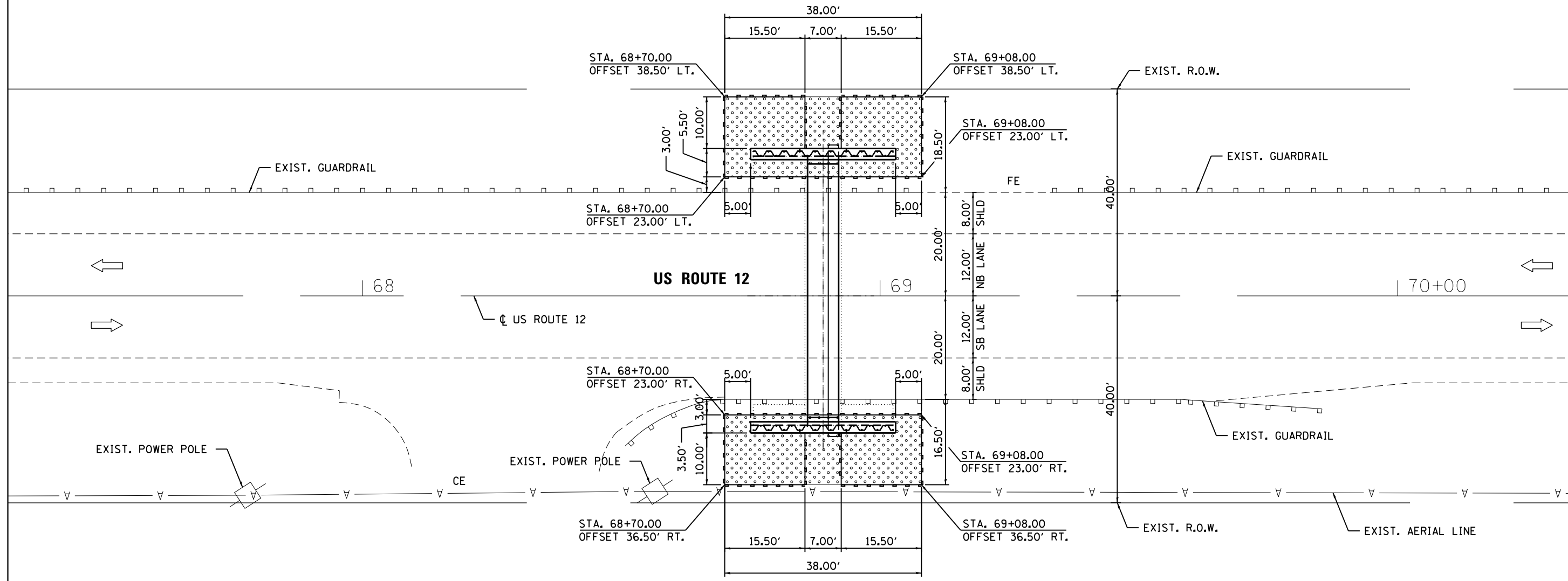
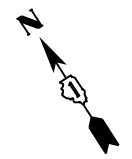


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DRAWN - KJD	REVISIONS -	
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PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISIONS -







STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC - STAGE II (LOCATION 3)			
US ROUTE 12			
SCALE:	SHEET 3	OF 3 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	19
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



LEGEND

-  PERIMETER EROSION BARRIER
-  TEMPORARY EROSION CONTROL SEEDING
-  DIRECTION OF TRAFFIC
-  EXIST. POWER POLE
-  EXIST. AERIAL LINE
-  EXIST. GUARDRAIL



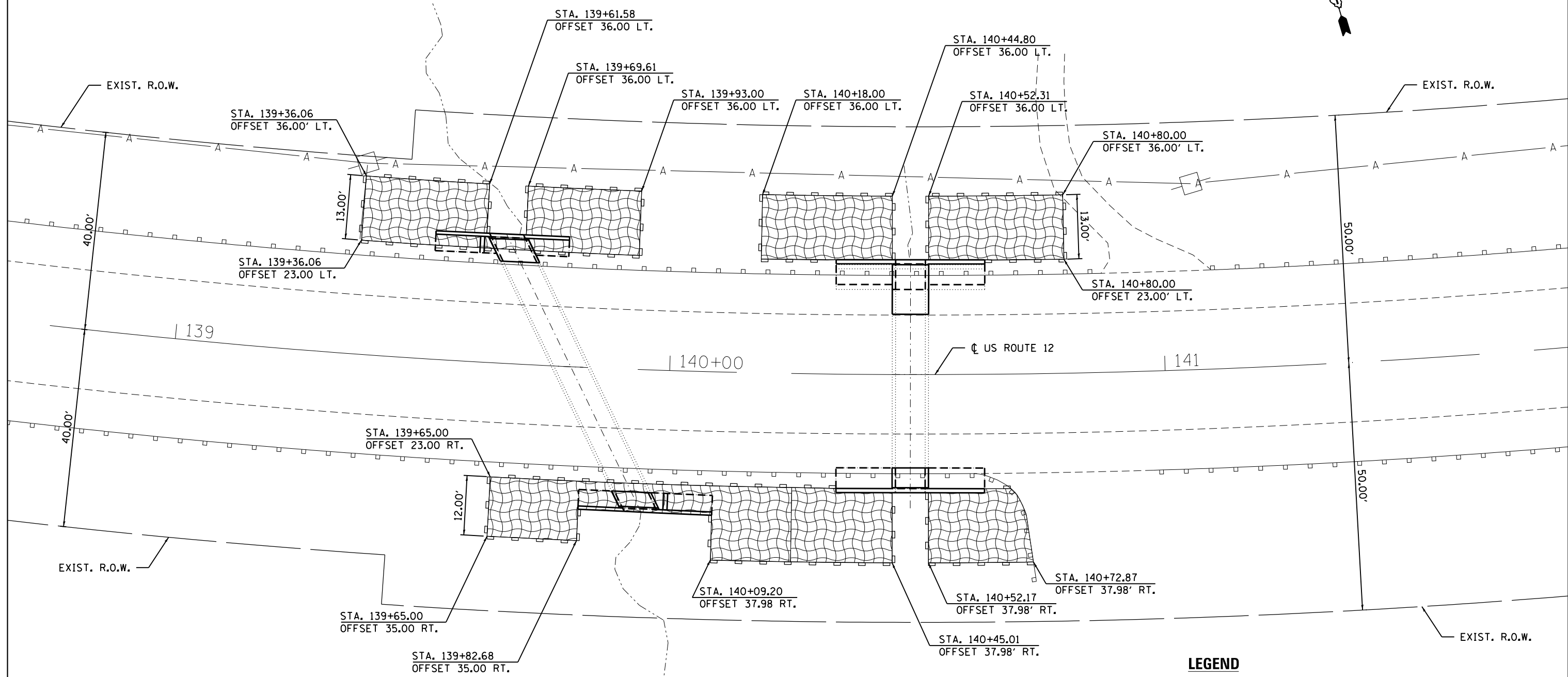
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	DRAWN - KJD	REVISED -
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PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EROSION AND SEDIMENT CONTROL PLAN (LOCATION 1)
US ROUTE 12**

SCALE: SHEET 1 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	20
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



EROSION AND SEDIMENT CONTROL PLAN

- LEGEND**
- PERIMETER EROSION BARRIER
 - EROSION CONTROL BLANKET
 - DIRECTION OF TRAFFIC

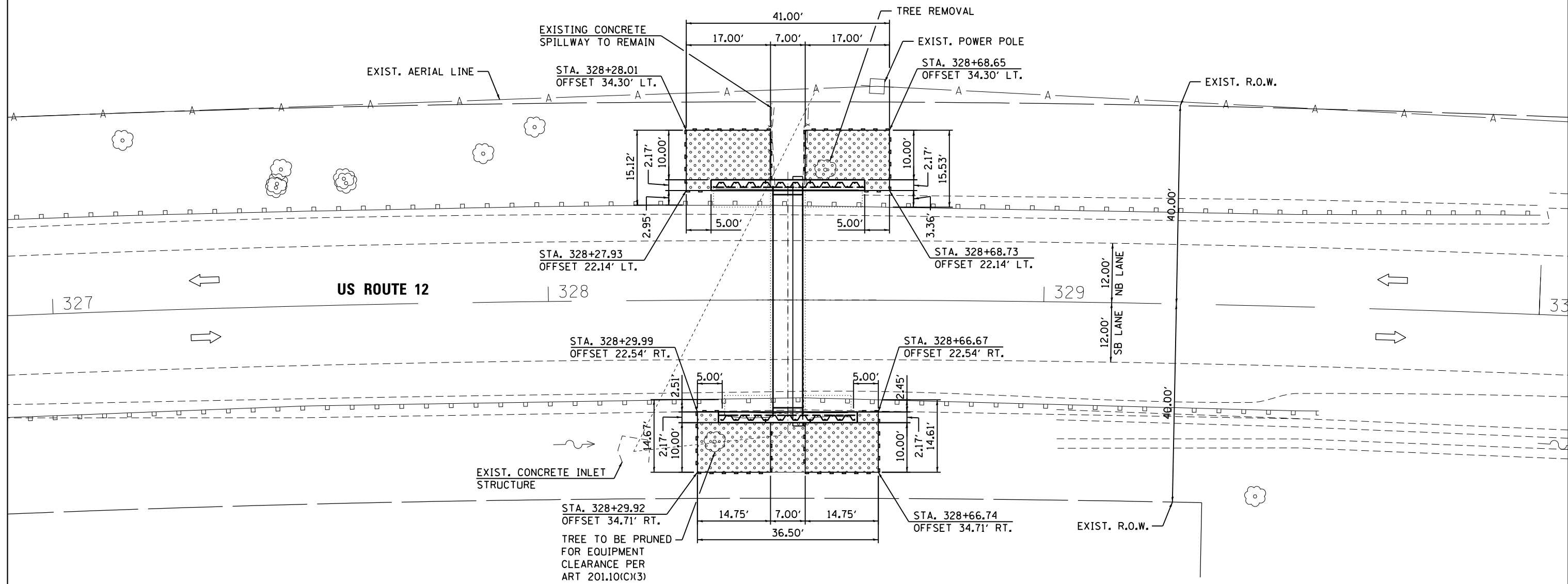
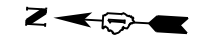


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PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EROSION AND SEDIMENT CONTROL PLAN (LOCATIONS 2 & 4)
US ROUTE 12
SCALE: SHEET 2 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	21
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



EROSION AND SEDIMENT CONTROL PLAN

LEGEND

- PERIMETER EROSION BARRIER
- TEMPORARY EROSION CONTROL SEEDING
- DIRECTION OF TRAFFIC
- EXIST. POWER POLE
- EXIST. AERIAL LINE
- EXIST. GUARDRAIL
- EXIST. TREE



USER NAME = Kenndrabant	DESIGNED - KJD	REVISED -
	DRAWN - KJD	REVISED -
PLOT SCALE = 20.00' / in.	CHECKED - RTB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EROSION AND SEDIMENT CONTROL PLAN (LOCATION 3)
US ROUTE 12

SCALE: SHEET 3 OF 3 SHEETS STA. TO STA.

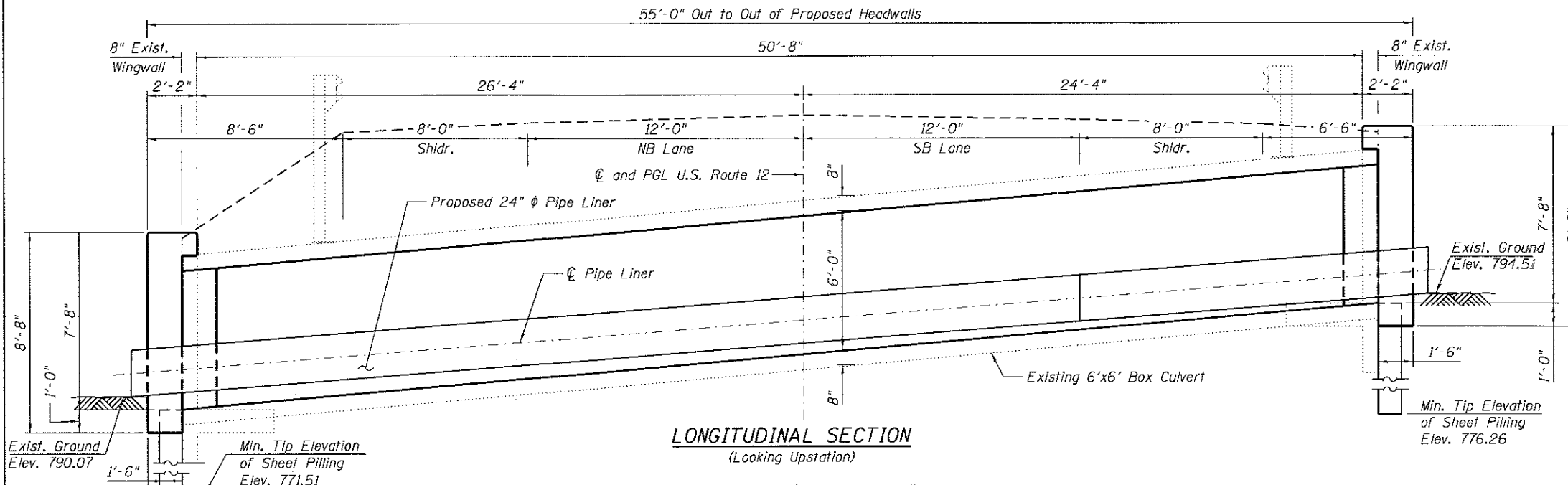
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	22
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

Benchmark: Spike on south side of first power pole northwest of the intersection of Macwood Drive and US 12 (located approximately 120 feet northwest of SN 056-0283). Elevation 803.03.

Existing Structure: S.N. 056-0280 Located on US 12 0.7 miles east of IL 31 is a single-cell reinforced concrete box culvert. The culvert is 52'-0" in length; the cell width and height are both approximately 6 ft. The structure spans north to south and carries one lane of northbound and southbound traffic for a total of two traffic lanes. A metal guardrail is present at both ends of the culvert.

GENERAL NOTES:

1. 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.
2. It shall be the responsibility of the contractor to divert the stream flow during construction in order to keep the construction area free of water. The method of the water diversion shall be subjected to the approval of the Engineer and the cost shall be included with the cost of concrete box culverts.
3. Reinforcement bars designated (E) shall be epoxy coated.
4. The Contractor shall submit for review and approval shop drawings that detail fabrication, erection, installation, etc. at permanent steel sheet piling.
5. Permanent steel sheet piling shall meet requirements of ASTM A328. Sheet pile shall have an effective section modulus meeting or exceeding 30.2in³. Use of an alternate section is subject to the approval of the Engineer.



TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	1.3
Concrete Structures	Cu Yd	14.0
Stud Shear Connectors	Each	72
Reinforcement Bars, Epoxy Coated	Pound	1,860
Permanent Sheet Piling	Sq Ft	1,318
Insertion Culvert Liner (Special) 24"	Foot	57

INDEX OF SHEETS

- SI-01 General Plan
- SI-02 Stage Construction
- SI-03 Existing Structure Removal
- SI-04 Sheet Pile Wall Section and Elevation (Sheet 1 of 2)
- SI-05 Sheet Pile Wall Sections and Details (Sheet 2 of 2)
- SI-06 Sheet Pile Wall Sections and Details (Sheet 2 of 2)
- SI-07 Boring Logs

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 50,000$ psi (Sheet Piling)
 $f_y = 60,000$ psi (Reinforcement)

DESIGN SPECIFICATIONS

AASHTO Standard Specifications For Highway Bridges, 17th Edition, 2002

LOADING HS-20

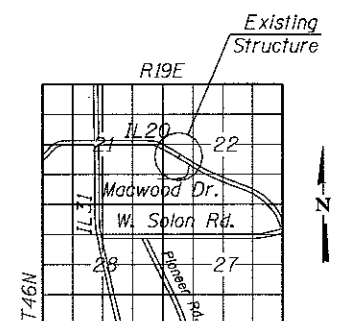
No Future Wearing Surface will be allowed

SCOPE OF WORK:

1. Clean the inside of existing box culvert.
2. Perform concrete removal of top portion of existing headwalls.
3. Drive Sheet piling adjacent to the existing headwalls.
4. Insert culvert liner.
5. Construct concrete cap and end section attached to sheet pile wall and bulkhead.
6. Fill the void around the liner with CLSM.

LEGEND

- Permanent Sheet Piling
- Exist. Guardrail



GENERAL PLAN

U.S. 12 OVER DRAINAGE DITCH

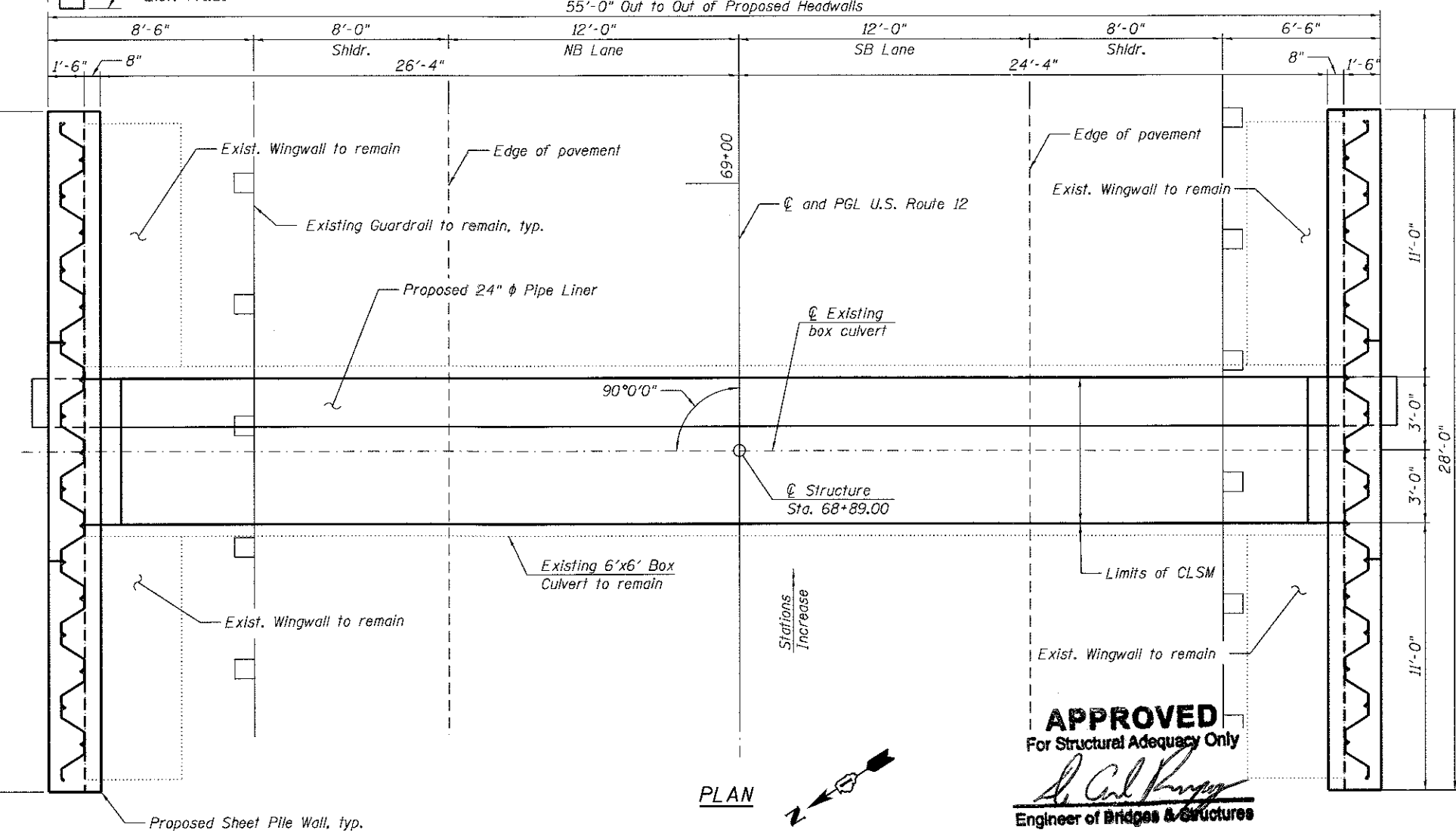
F.A.P. 334 SECTION 2015-087B

MCHENRY COUNTY

STA. 68+89.00

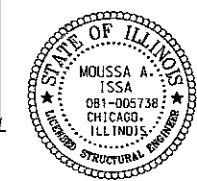
STRUCTURE NO. 056-0280

FILE PATH = P:\1501-650\DOT\PTB\172\Item_18\Culvert\Structure\SI-01\GPE.dgn



APPROVED
For Structural Adequacy Only

Dr. Carl Rupp
Engineer of Bridges & Structures



Signed *Moussa A. Issa*
Dr. Moussa A. Issa, S.E.
Il. Lic. No. 081-005738
Expires 11-30-2018
Date **03/30/2017**
For sheets SI-1 thru SI-7
(Total of 7 sheets)



056-0280 SI-01 GPE.dgn
 USER NAME = Ken.drabant
 PLOT SCALE =
 PLOT DATE = 4/3/2017

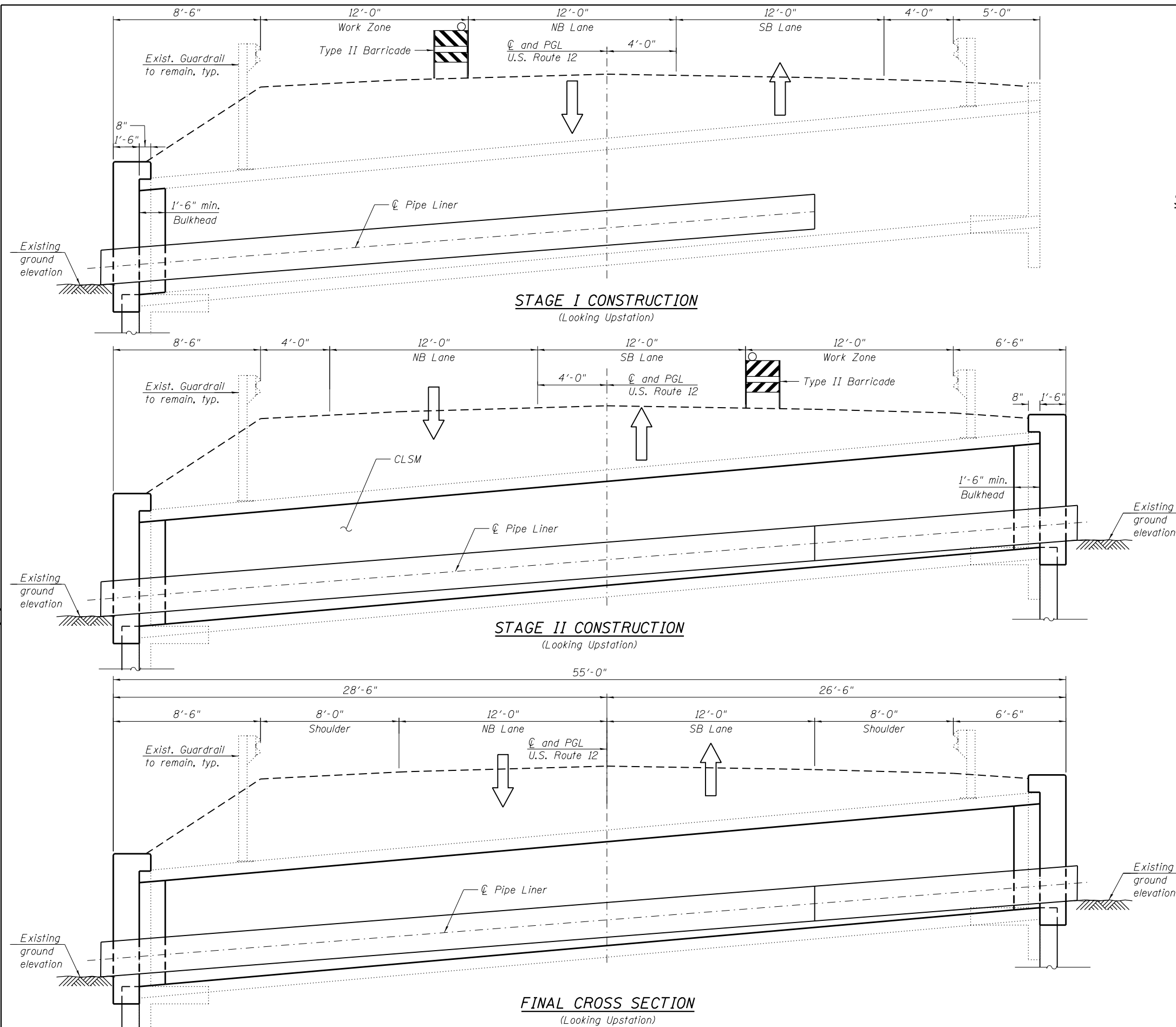
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DRAWN - SK	REVISIONS -
CHECKED - MI, LAB	REVISIONS -
DATE - 03/24/2017	REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

S.N. 056-0280 (LOCATION 1)

SCALE: SHEET SI-01 OF SI-07 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	23
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

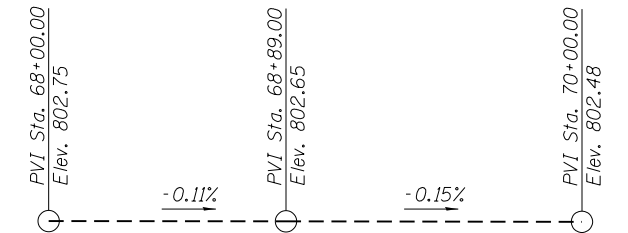


STAGE I CONSTRUCTION:

1. Clean the inside of existing box culvert
2. Drive Sheet piling adjacent to the existing north headwall and wingwalls
3. Perform concrete removal of top portion of existing north headwall and wingwalls
4. Insert and brace the north portion of the liner
5. Pour concrete for the north sheet pile wall and bulkhead

STAGE II CONSTRUCTION:

1. Drive Sheet piling adjacent to the existing south headwall and wingwalls
2. Perform concrete removal of top portion of existing south headwall and wingwalls
3. Insert, brace and connect the south portion of the liner to the north portion
4. Pour concrete for the south sheet pile wall and bulkhead
5. Fill the void around the liner with CLSM



PROFILE GRADE
(Along CL and PGL US 12)

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Varioual)\056-0280 S1-02 Stage.dgn



056-0280 S1-02 Stage.dgn
 USER NAME = Ken.drobant
 PLOT SCALE =
 PLOT DATE = 3/28/2017

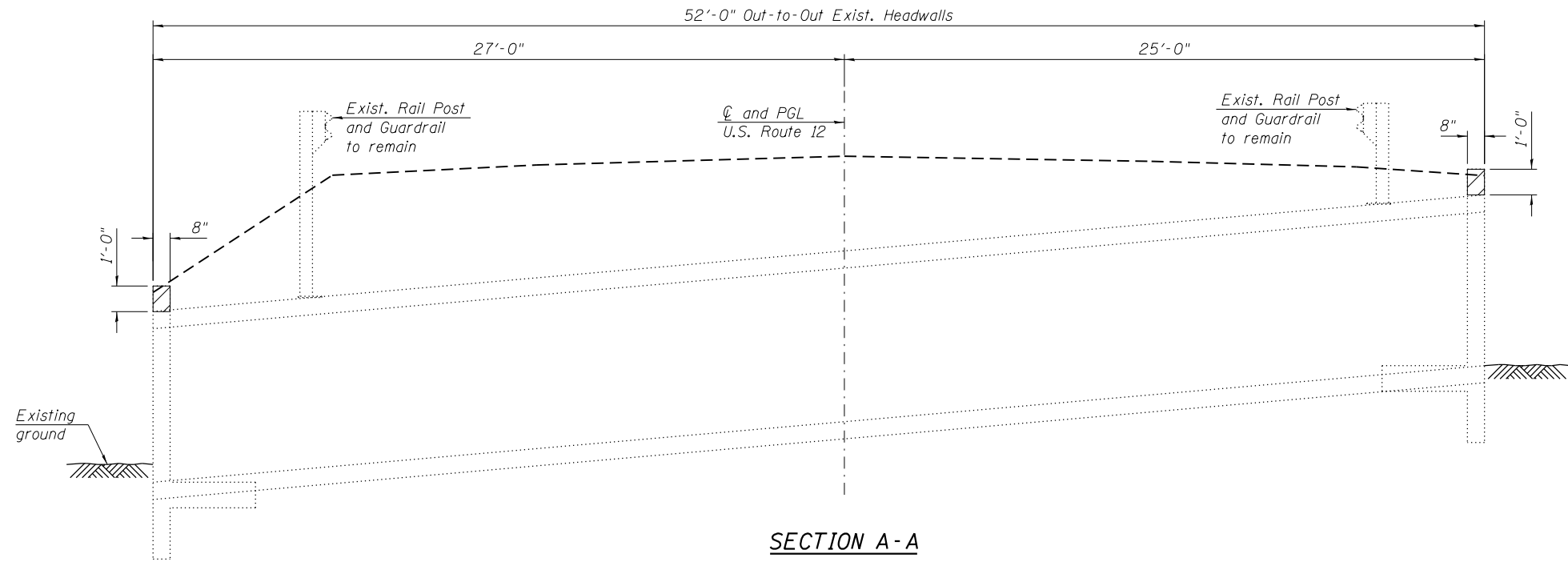
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 DRAWN - SK
 CHECKED - MI, LAB
 DATE - 03/24/2017

REVISED -
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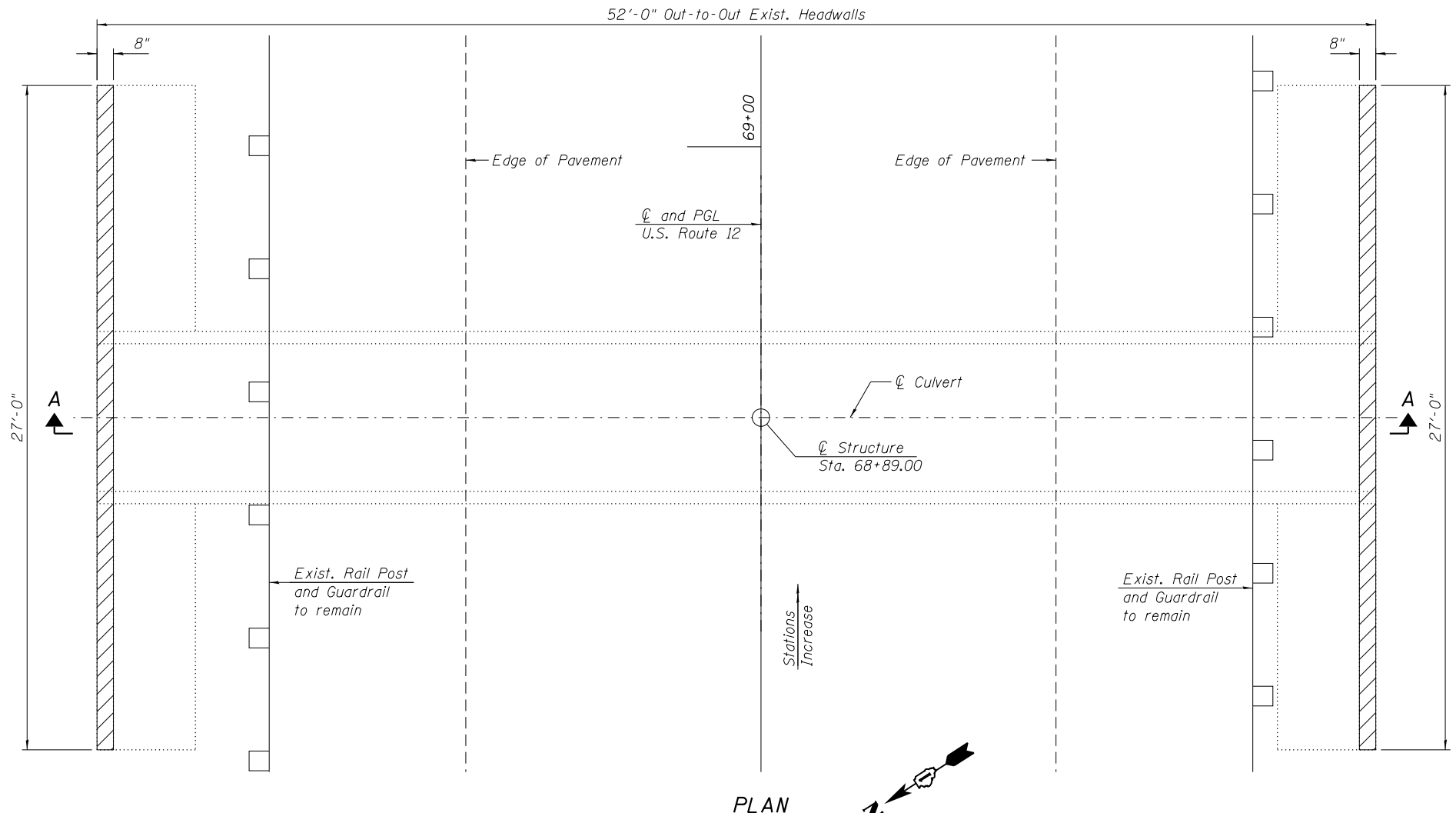
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION
 S.N. 056-0280 (LOCATION 1)**
 SCALE: SHEET S1-02 OF S1-07 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	24
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



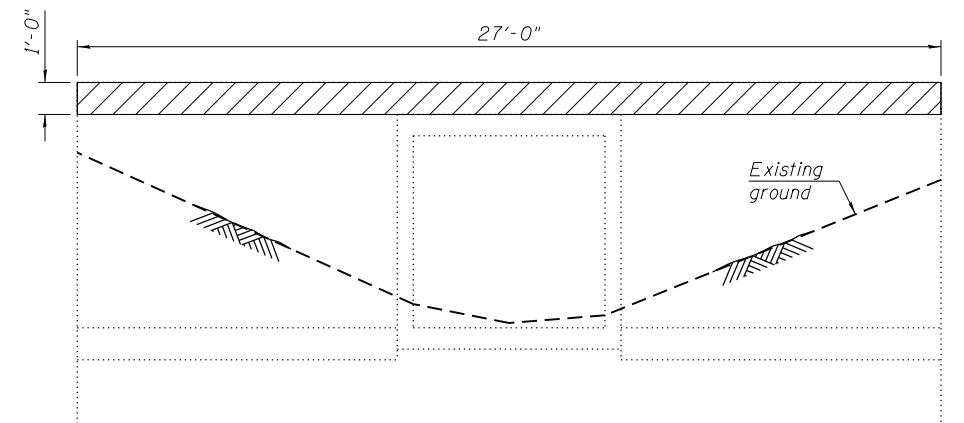
SECTION A-A



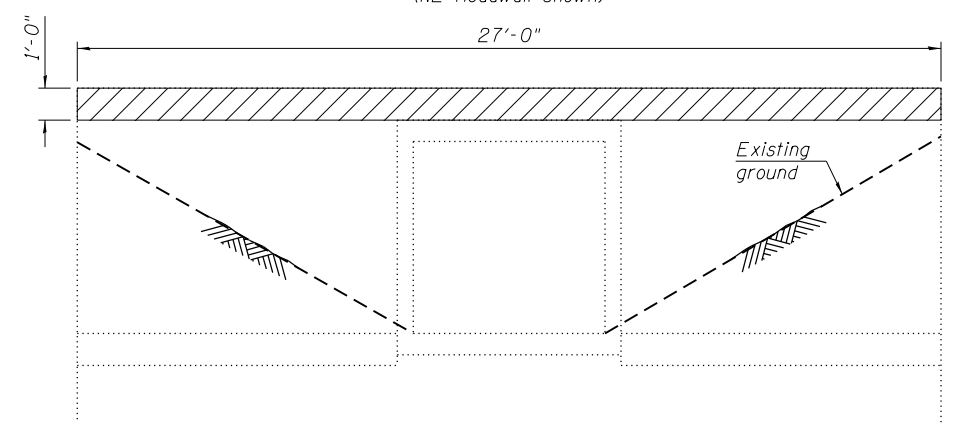
PLAN

NOTES:

1. Dimensions shown have been taken from historical design drawings 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.
2. The Contractor shall field verify exact location of all existing utilities prior to construction and take precautions not to damage existing utilities during construction or other underground work. Any such damage shall be repaired by the Contractor at no additional cost.
3. Existing reinforcement shall be cleaned 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.
4. Structural excavation and backfill required to construct the concrete facing will not be paid separately and will be included with Concrete Structures.



END VIEW
(NE Headwall shown)



END VIEW
(SW Headwall shown)

LEGEND:



BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	1.3

FILE PATH = P:\1501-630 IDOT PTB 172 Item 10 (Various-Varioual)\0112 US 12 Culverts\Sheet Files\Structural\056-0280 S1-03 Removal.dgn



056-0280 S1-03 Removal.dgn
 USER NAME = Ken.drobant
 PLOT SCALE =
 PLOT DATE = 3/28/2017

DESIGNED - SK
 DRAWN - SK
 CHECKED - MI, LAB
 DATE - 03/24/2017

REVISED -
 REVISED -
 REVISED -
 REVISED -

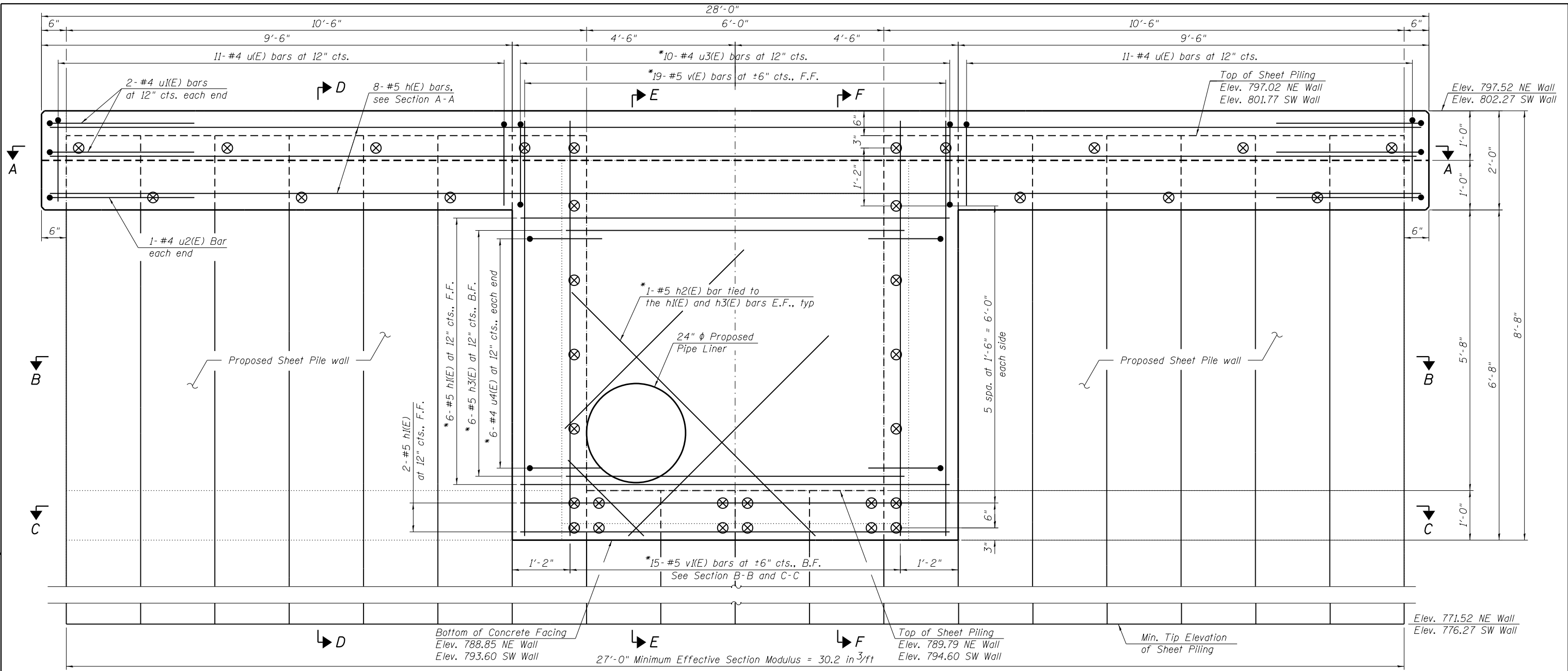
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE REMOVAL
 S.N. 056-0280 (LOCATION 1)

SCALE: SHEET S1-03 OF S1-07 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	25
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

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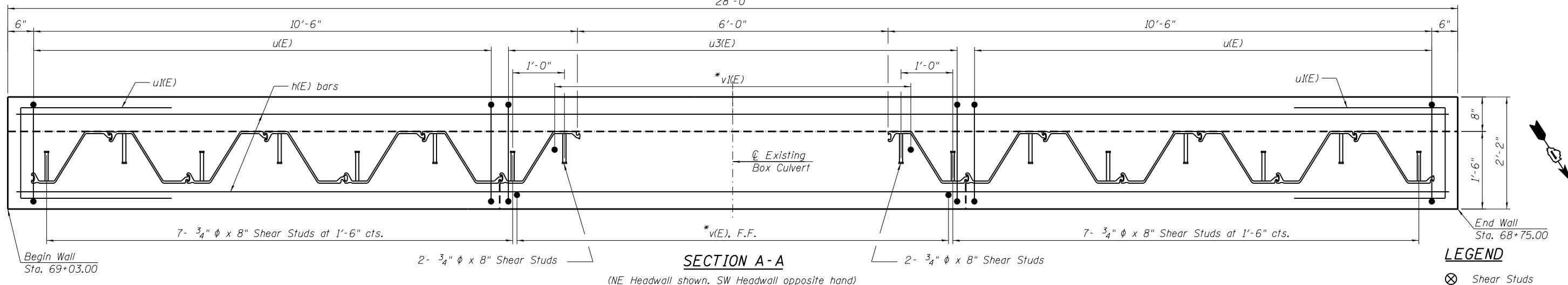
ELEVATION

(NE Headwall shown. SW Headwall opposite hand)

NOTES:

- 1. For Bill of Material, bar diagrams, notes and Sections D-D, E-E and F-F, see Sheet S1-06.
- 2. For Sections B-B and C-C, see Sheet S1-05.

* Cut to fit in field



SECTION A-A

(NE Headwall shown. SW Headwall opposite hand)

LEGEND

⊗ Shear Studs



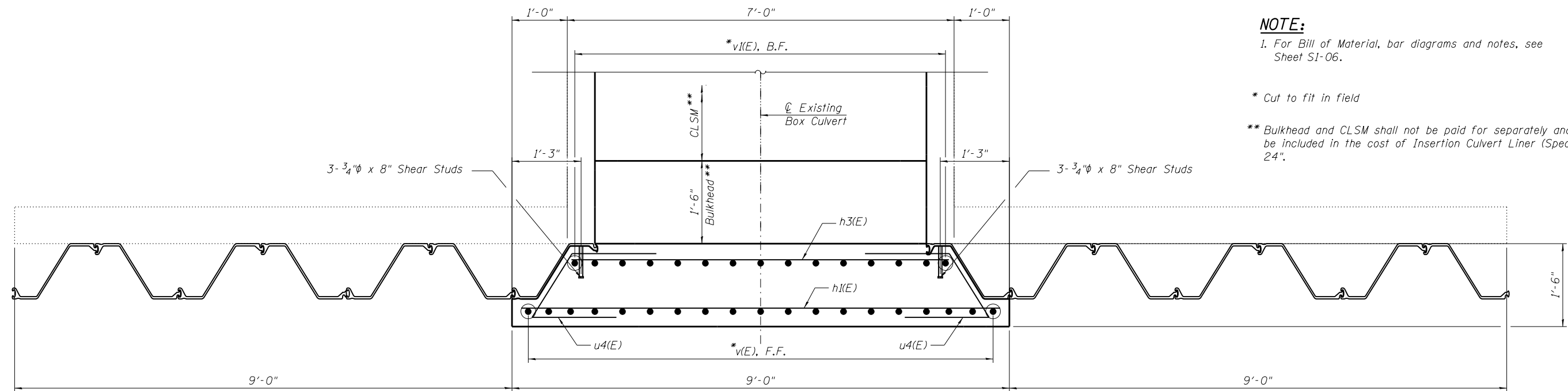
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USER NAME = Ken.drobant	DRAWN - SK	REVISED -
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PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SHEET PILE WALL SECTION AND ELEVATION
S.N. 056-0280 (LOCATION 1)**

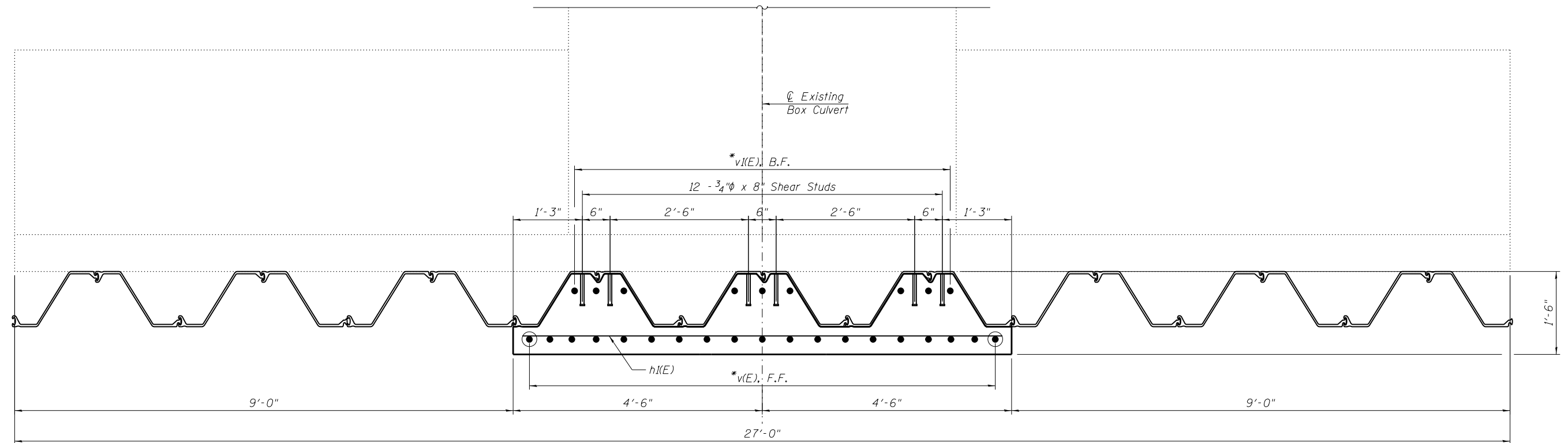
SCALE: SHEET S1-04 OF S1-07 SHEETS STA. TO STA.

F.A.P. RTE. 334	SECTION 2015-087B	COUNTY MCHENRY	TOTAL SHEETS 64	SHEET NO. 26
CONTRACT NO. 62B92				ILLINOIS FED. AID PROJECT



SECTION B-B

(NE Headwall shown. SW Headwall opposite hand)



SECTION C-C

(NE Headwall shown. SW Headwall opposite hand)



NOTE:

1. For Bill of Material, bar diagrams and notes, see Sheet S1-06.

* Cut to fit in field

** Bulkhead and CLSM shall not be paid for separately and shall be included in the cost of Insertion Culvert Liner (Special) 24".

FILE PATH = P:\1501-630 IDOT PTB 172 Item 10 (Various-Varioual)\0112 US 12 Culverts\Sheet Files\Structural\056-0280 S1-05 SheetPileWallSecDet.dgn



056-0280 S1-05 SheetPileWallSecDet.dgn
 USER NAME = Ken.drobant
 PLOT SCALE =
 PLOT DATE = 3/28/2017

DESIGNED - KJD
 DRAWN - KJD
 CHECKED - MI, LAB
 DATE - 03/24/2017

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SHEET PILE WALL SECTIONS AND DETAILS (SHEET 1 OF 2)
 S.N. 056-0280 (LOCATION 1)

SCALE: SHEET S1-05 OF S1-07 SHEETS STA. TO STA.

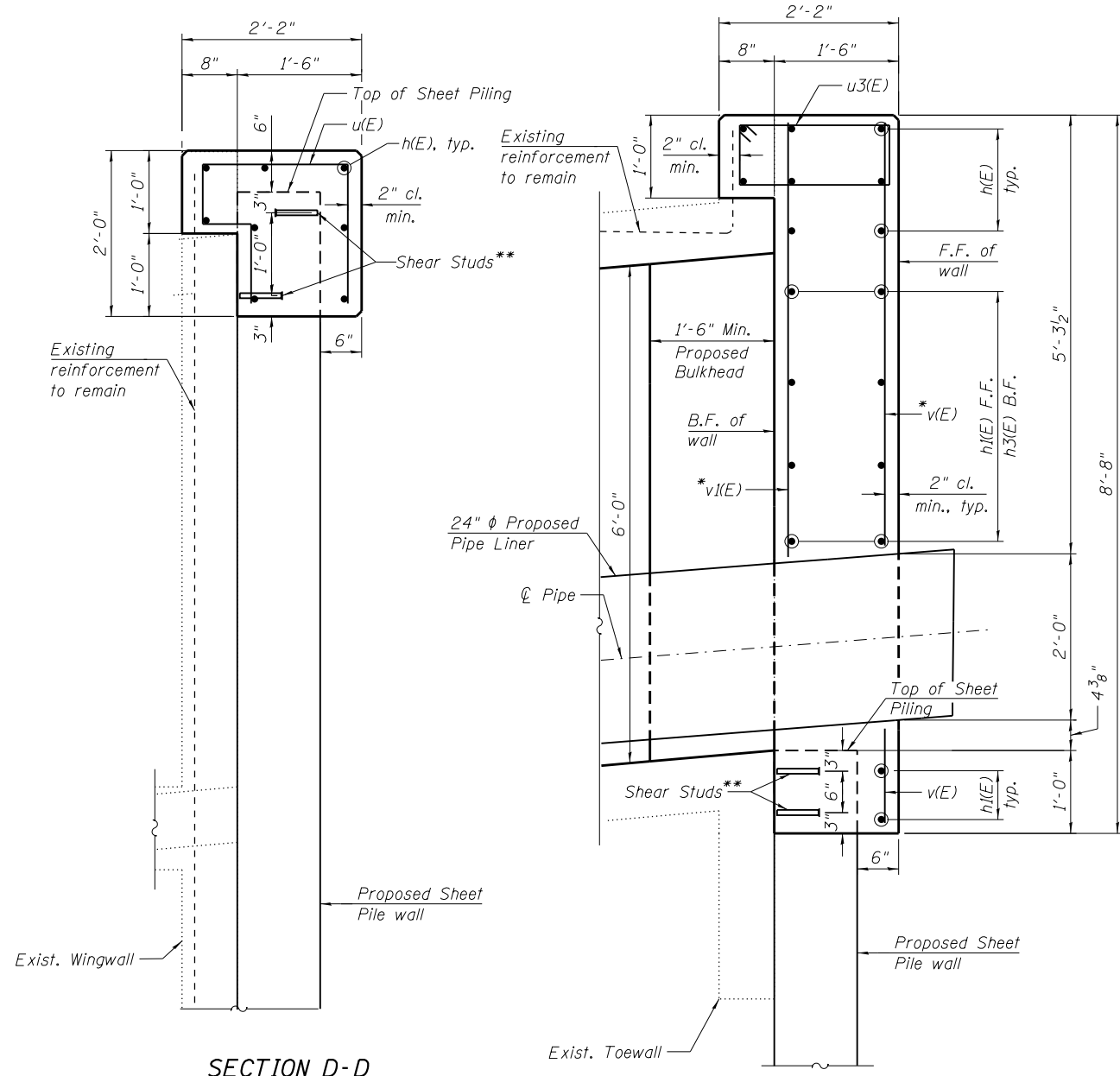
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	27
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

* Cut to fit in field

** 3/4" φ x 8" Granular or solid flux filled headed studs conforming to Art. 1006.32 of the Std. Specs. Alternate ea. side of sheet pile

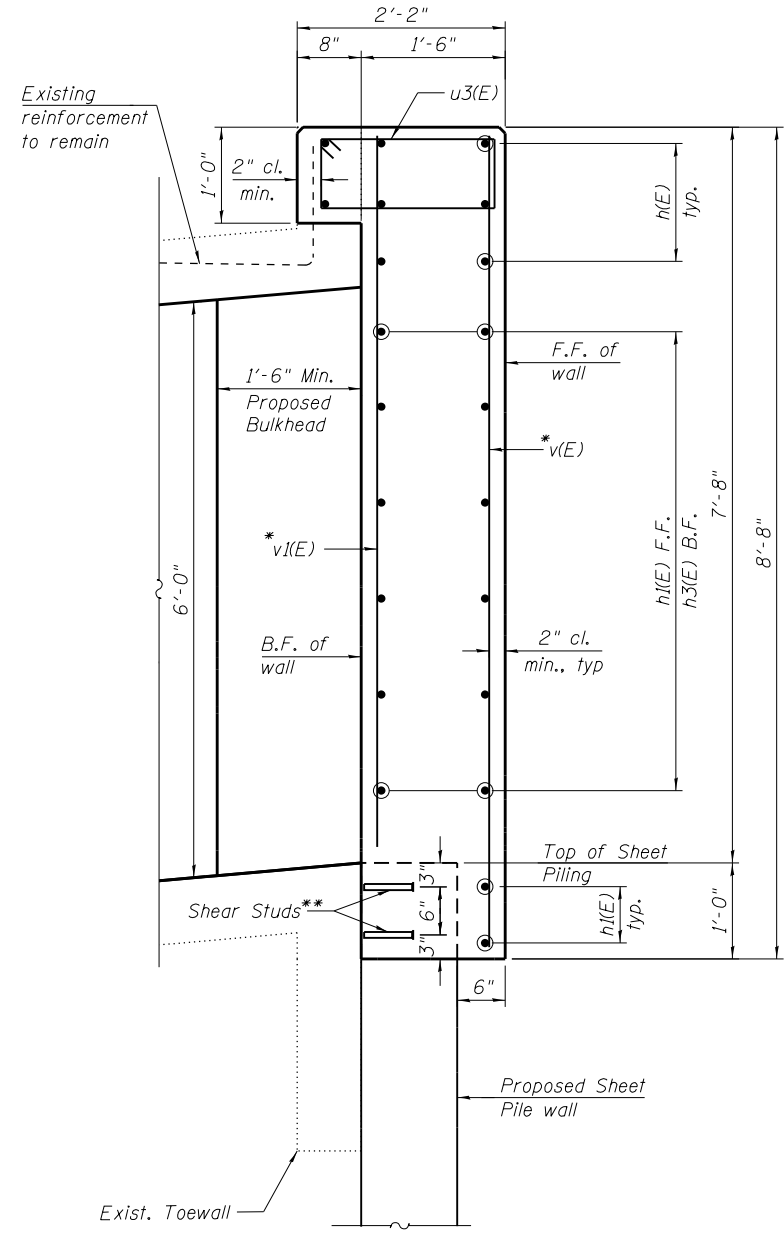
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	16	#5	27'-8"	—
h1(E)	16	#5	8'-8"	—
h2(E)	16	#5	8'-0"	—
h3(E)	12	#5	6'-8"	—
u(E)	44	#4	5'-10"	⌋
u1(E)	8	#4	8'-2"	⌋
u2(E)	4	#4	7'-6"	⌋
u3(E)	20	#4	5'-9"	⌋
u4(E)	24	#4	7'-9"	⌋
v(E)	38	#5	8'-4"	—
v1(E)	30	#5	8'-4"	—
Concrete Structures		Cu Yd	14.0	
Stud Shear Connectors		Each	72	
Reinforcement Bars, Epoxy Coated		Pound	1,860	
Permanent Sheet Piling		Sq Ft	1,318	
Insertion Culvert Liner (Special) 24"		Foot	57	



SECTION D-D

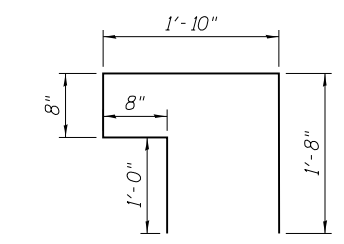
SECTION E-E



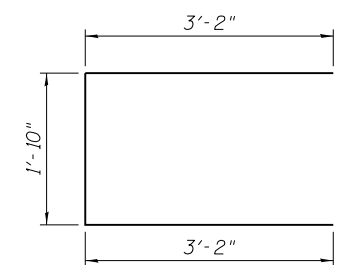
SECTION F-F

NOTES:

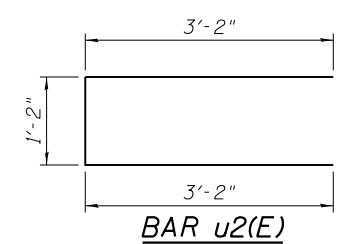
1. Due to the deteriorated condition of the existing wingwalls, Permanent Sheet Piling shall be installed prior to any concrete Removal operations. Existing wingwalls that do not interfere with the construction of the new pipe culvert may be left in place.
2. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
3. Cost of Proposed 18" Bulkhead is included in Insertion Culvert Liner (Special) 24".
4. Reinforcement bars designed (E) shall be epoxy coated.
5. All edges shall have standard 3/4" chamfer.
6. The Concrete for the Bulkhead shall use the same material and be poured at the same time as the Concrete Structures.



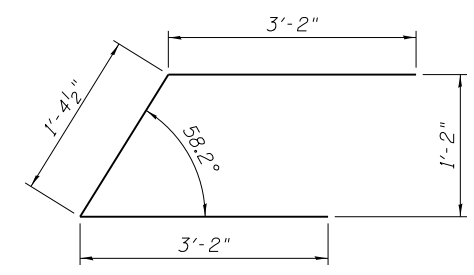
BAR u(E)



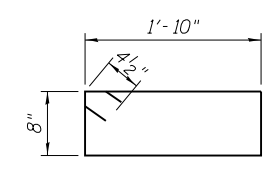
BAR u1(E)



BAR u2(E)



BAR u4(E)



BAR u3(E)



056-0280 S1-06 SheetPileWallSecDet2.dgn	DESIGNED - KJD, SK	REVISED -
USER NAME = Ken.drobant	DRAWN - SK	REVISED -
PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SHEET PILE WALL SECTIONS AND DETAILS (SHEET 2 OF 2)
S.N. 056-0280 (LOCATION 1)

F.A.P. RTE. 334	SECTION 2015-087B	COUNTY MCHENRY	TOTAL SHEETS 64	SHEET NO. 28
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Various)\056-0280 S1-06 SheetPileWallSecDet2.dgn

SEECO CONSULTANTS, INC.		SOIL BORING LOG		Page 1 Of 1	
ROUTE FAP 334 (US Rte. 12)		DESCRIPTION Culverts at Various Locations		Date 11/9/16	
SECTION _____		LOCATION US Rte. 12, McHenry County, IL		Logged By DK	
COUNTY McHenry		STRUCTURE NO. 056-0280 (Exist.)		(Prop.) _____	
Drilling Method AASHTO T 206-09		Hammer Type Automatic Hammer			
Boring No. B-7	E	D	S	U	M
Station 68+55	L	E	P	C	O
Offset 15.08' from SB Lane	E	P	T	S	I
Ground Surface El. +802.49 +/- M.S.L.	V.	H	N	Q	S
	(MSL)	(ft.)	(blows)	(TSF)	(%)
Surf. Wat. El. _____					
Groundwater Elev.: _____					
When Drilling 33'					
at Completion 30'					
After _____					
Hrs _____					
	MSL	(ft.)	(blows)	(TSF)	(%)
6.5" BITUMINOUS CONCRETE PAVEMENT	801.9				
SANDY GRAVEL BASE COURSE, Dark Brown	801.5	1.0			
FILL: CLAY LOAM, Brown and Dark Brown, Trace Gravel, Very Stiff, Moist (A-6)	799.5	2.0	3	2.25	10.4
CLAY, Reddish Brown, Medium Stiff, Moist (A-6)	798.0	4.0	1	0.75	23.2
SAND, Brown, Trace Gravel, Medium Dense, Dry (A-3)	794.0	5.0	5		
SAND AND GRAVEL, Brown, Dense, Dry (A-1-b)	789.0	6.0	5		4.3
SAND AND GRAVEL, Brown, Dense, Dry (A-1-b)	788.5	7.0	6		
CLAY, Brown, Trace Gravel, Medium Stiff, Moist (A-6)	788.5	8.0	8		
SAND AND GRAVEL, Brown, Extremely Dense to Dense, Dry (A-1-b)	788.5	9.0	16		3.7
(N = 50 Blows/2" @ 14.0')	789.0	10.0	18		
SAND AND GRAVEL, Brown, Medium Dense, Dry (A-1-b)	787.9	11.0	14		3.7
CLAY, Brown, Trace Gravel, Stiff, Moist (A-6)	787.9	12.0	18		
SAND AND GRAVEL, Brown, Dense to Very Dense to Medium Dense, Dry (A-1-b)	787.9	13.0	16		
SILT, Brown and Gray, Dense, Saturated (A-4)	764.5	14.0	4	0.50	19.9
(N = 50 Blows/2" @ 14.0')	764.5	15.0	50	P	
SAND AND GRAVEL, Brown, Medium Dense, Saturated (A-4)	764.5	16.0	18		3.4
SILT, Brown and Gray, Dense, Saturated (A-4)	764.5	17.0	21		
End of Boring at 40 Feet.	762.5	18.0	27		
South End Culvert Surveyed Boring Coordinates: Lat = 42.44884 Long = -88.29221	762.5	19.0	14		3.3
CLAY, Brown, Very Stiff, Moist (A-6)	781.5	20.0	18		
CLAY, Brown, Very Stiff, Moist (A-6)	781.5	21.0	25		
CLAY, Brown, Very Stiff, Moist (A-6)	781.5	22.0	26		
CLAY, Brown, Very Stiff, Moist (A-6)	781.5	23.0	23	3.50	19.1
CLAY, Brown, Very Stiff, Moist (A-6)	781.5	24.0	11		

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
 Split Spoon Sampler 24" with 140lb hammer falling 30"
 4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.
 DRILL RIG: D-50

SEECO Job No. 10612G-12

SEECO CONSULTANTS, INC.		SOIL BORING LOG		Page 1 Of 1	
ROUTE FAP 334 (US Rte. 12)		DESCRIPTION Culverts at Various Locations		Date 11/9/16	
SECTION _____		LOCATION US Rte. 12, McHenry County, IL		Logged By DK	
COUNTY McHenry		STRUCTURE NO. 056-0280 (Exist.)		(Prop.) _____	
Drilling Method AASHTO T 206-09		Hammer Type Automatic Hammer			
Boring No. B-8	E	D	S	U	M
Station 69+17	L	E	P	C	O
Offset 16' from NB Lane	E	P	T	S	I
Ground Surface El. +802.35 +/- M.S.L.	V.	H	N	Q	S
	(MSL)	(ft.)	(blows)	(TSF)	(%)
Surf. Wat. El. _____					
Groundwater Elev.: _____					
When Drilling 29.3'					
at Completion 23'					
After _____					
Hrs _____					
	MSL	(ft.)	(blows)	(TSF)	(%)
7" BITUMINOUS CONCRETE PAVEMENT	801.8				
11" FILL: SANDY GRAVEL BASE COURSE, Dark Brown, Medium Dense	800.9	1.0	5		
FILL: CLAY, Brown and Dark Brown, Trace Gravel, Stiff, Moist (A-6)	799.4	2.0	2	1.07	21.3
SAND AND GRAVEL, Brown, Loose, Dry (A-1-b)	799.4	3.0	4	B	
SAND AND GRAVEL, Brown, Loose, Dry (A-1-b)	796.4	4.0	2		7.9
CLAY, Brown and Dark Brown, Trace Gravel, Medium Stiff, Moist (A-6)	794.9	5.0	2	0.50	24.3
SAND AND GRAVEL, Brown, Medium Dense, Dry (A-1-b)	794.9	6.0	5	P	
SAND AND GRAVEL, Brown, Medium Dense, Dry (A-1-b)	788.9	7.0	2		3.4
CLAY, Brown, Trace Gravel, Stiff, Moist (A-6)	787.9	8.0	6		
SAND AND GRAVEL, Brown, Dense to Very Dense to Medium Dense, Dry (A-1-b)	787.9	9.0	12		3.5
SAND AND GRAVEL, Brown, Dense to Very Dense to Medium Dense, Dry (A-1-b)	787.9	10.0	12		
SILT, Brown and Gray, Dense, Saturated (A-4)	764.4	11.0	7		3.1
(N = 50 Blows/2" @ 14.0')	764.4	12.0	14		
SAND AND GRAVEL, Brown, Medium Dense, Saturated (A-4)	764.4	13.0	11		
SILT, Brown and Gray, Dense, Saturated (A-4)	764.4	14.0	4	1.50	26.2
(N = 50 Blows/2" @ 14.0')	764.4	15.0	7	P	
SAND AND GRAVEL, Brown, Medium Dense, Saturated (A-4)	764.4	16.0	24		3.1
SILT, Brown and Gray, Dense, Saturated (A-4)	764.4	17.0	14		
End of Boring at 40 Feet.	762.4	18.0	26		
South End Culvert Surveyed Boring Coordinates: Lat = 42.44883 Long = -88.29196	762.4	19.0	28		
CLAY, Brown, Very Stiff, Moist (A-6)	783.4	20.0	9	2.25	18.5
CLAY, Brown, Very Stiff, Moist (A-6)	783.4	21.0	7	P	
CLAY, Brown, Very Stiff, Moist (A-6)	783.4	22.0	7	2.31	20.9
CLAY, Brown, Very Stiff, Moist (A-6)	783.4	23.0	11	B	

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
 Split Spoon Sampler 24" with 140lb hammer falling 30"
 4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.
 DRILL RIG: D-50

SEECO Job No. 10612G-12

FILE PATH = P:\1501-638 IDOT P172 Item 10 (Various-Variou)\056-0280 SI-07 Boring Log.dgn



DESIGNED - SK	REVISOR -
DRAWN - SK	REVISIONS -
CHECKED - MI, LAB	REVISIONS -
DATE - 03/24/2017	REVISIONS -

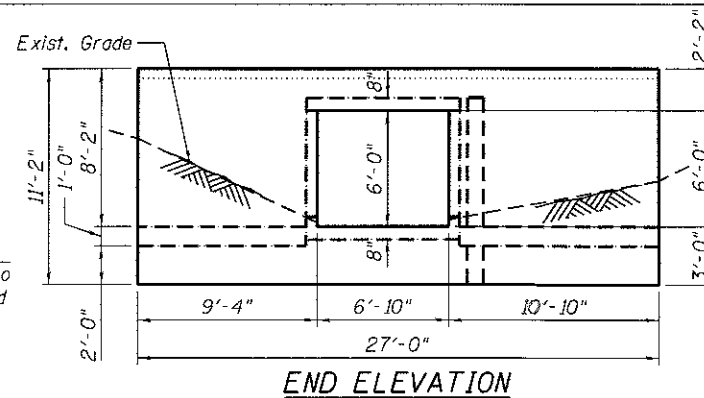
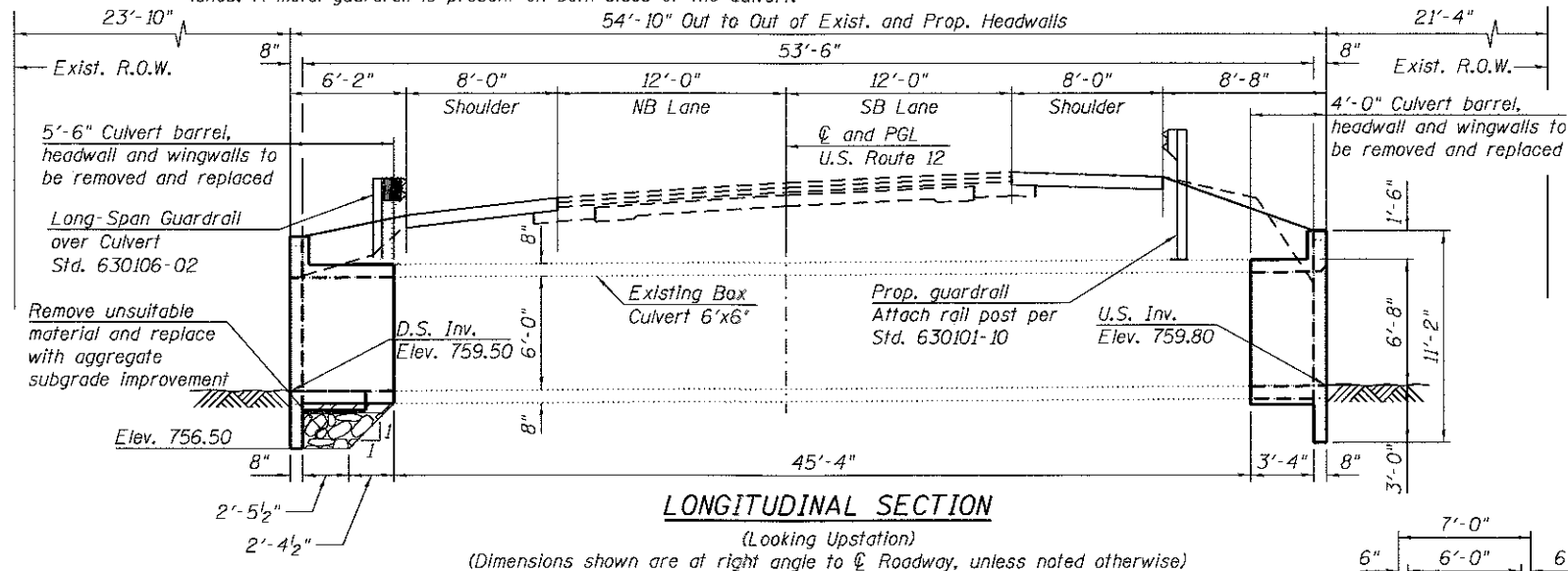
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BORING LOGS	
S.N. 056-0280 (LOCATION 1)	
SCALE:	SHEET S1-07 OF S1-07 SHEETS STA. TO STA.

F.A.P. RTE. 334	SECTION 2015-087B	COUNTY MCHENRY	TOTAL SHEETS 64	SHEET NO. 29
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

Benchmark: Painted cross mark on top of headwall of Structure No. 056-0251, approximately 2.35 feet from north edge of headwall. Elev. 769.82

Existing Structure: The structure at US 12 located 2.1 miles east of IL Route 31 is a single-cell reinforced concrete box culvert. The culvert is 54'-10" in length (out-to-out headwalls). The cell width and height are both approximately 6 ft. The structure spans north to south and carries one lane of northbound and southbound traffic for a total of two traffic lanes. A metal guardrail is present on both sides of the culvert.



TOTAL BILL OF MATERIAL		
ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.	9
Aggregate Subgrade Improvement	Cu. Yd.	15
Concrete Removal	Cu. Yd.	23.1
Structure Excavation	Cu. Yd.	105
Reinforcement Bars	Pound	5,220
Reinforcement Bars, Epoxy Coated	Pound	720
Temporary Sheet Piling	Sq. Ft.	2,056
Concrete Box Culverts	Cu. Yd.	25.9
Granular Backfill For Structures	Cu. Yd.	195
Box Culverts to be Cleaned	Foot	46

GENERAL NOTES:

- 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.
- It shall be the responsibility of the contractor to divert the stream flow during construction in order to keep the construction area free of water. The method of the water diversion shall be subjected to the approval of the Engineer and the cost shall be included with the cost of concrete box culverts.

DESIGN STRESSES

FIELD UNITS
 f'c = 3,500 psi (Concrete)
 fy = 60,000 psi (Reinforcement)

EXISTING UNITS
 f'c = 3,500 psi (Concrete)
 fy = 33,000 psi (Reinforcement)

Max. Soil Pressure under Footing = 3,000 psf

LOADING HS-20

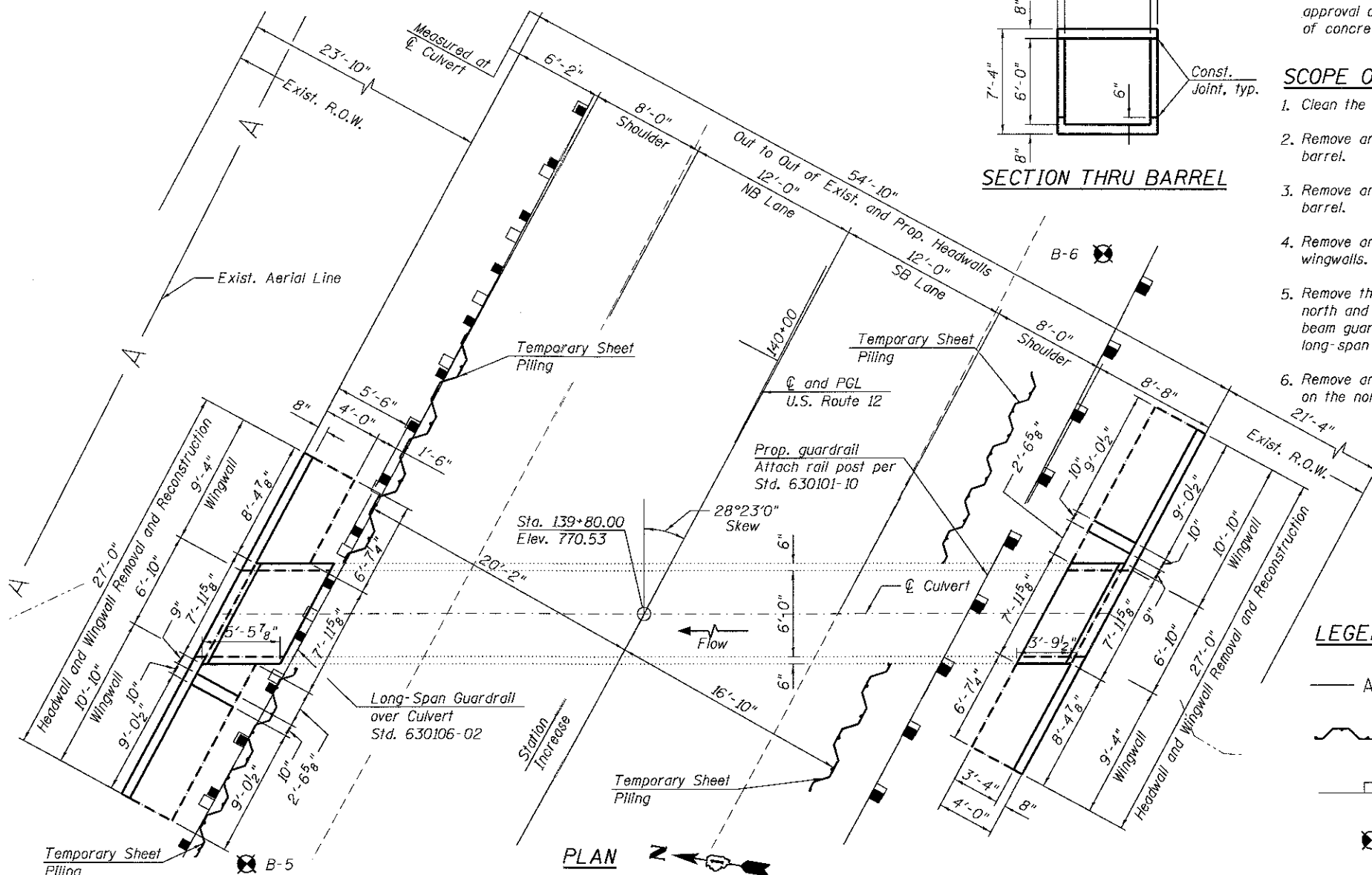
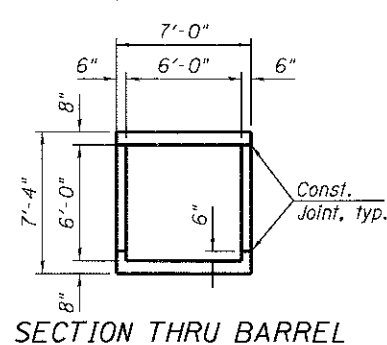
No Future Wearing Surface will be allowed

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

SCOPE OF WORK:

- Clean the inside of existing box culvert.
- Remove and reconstruct the 5'-6" of the north portion of culvert barrel.
- Remove and reconstruct the 4'-0" of the south portion of culvert barrel.
- Remove and reconstruct the north and south culvert headwalls and wingwalls.
- Remove the steel plate beam guardrails and guardrail posts on the north and south sides of the roadway. Install the prop. steel plate beam guardrail on the south side of the roadway and install long-span guardrail over culvert on the north side of the roadway.
- Remove and reconstruct the portions of HMA pavement and shoulder on the north and south sides of the roadway.

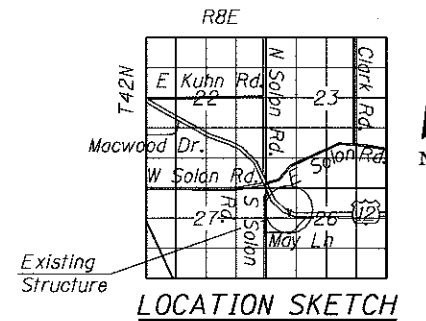


APPROVED
For Structural Adequacy Only

Dr. Carl Krueger
Engineer of Bridges & Structures



Signed *Moussa A. Issa*
 Dr. Moussa A. Issa, S.E.
 Il. Lic. No. 081-005738
 Expires 11-30-2018
 Date 03/30/2017
 For Sheets S2-01 Thru S2-10
 (Total of 10 Sheets)



GENERAL PLAN
U.S. 12 OVER
DRAINAGE DITCH
F.A.P. 334 SECTION 2015-087B
McHENRY COUNTY
STA. 139+80.00
STRUCTURE NO. 056-0284

FILE PATH: P:\1501-638 IDOT PTB 172 Item 18 (Various-Varioual)\V0112 US 12 Culvert.svs\Sheet: F:\as\Structure\056-0284 S2-01 OPE.dgn



056-0284 S2-01 OPE.dgn
 USER NAME = Ken.drebert
 PLOT SCALE =
 PLOT DATE = 4/3/2017

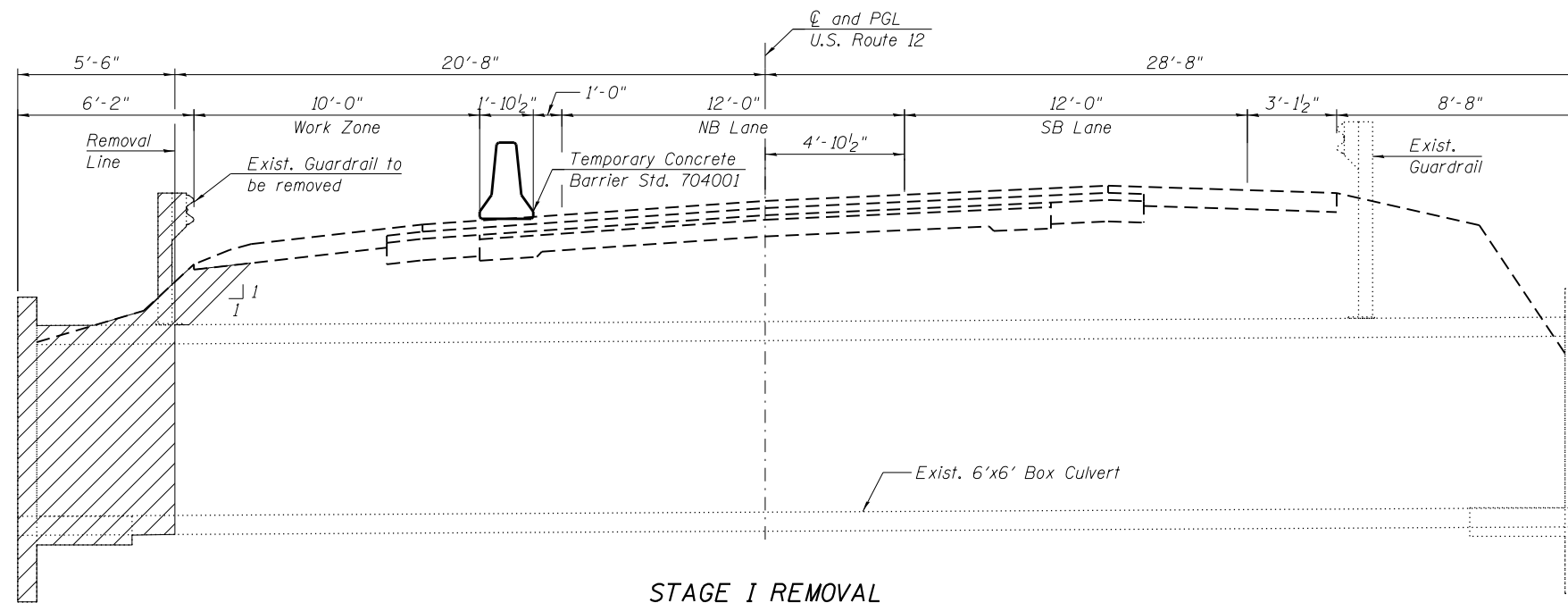
DESIGNED - KJD, MAA	REVISED -
DRAWN - MAA	REVISED -
CHECKED - MI, LAB	REVISED -
DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

S.N. 056-0284 (LOCATION 2)
 SCALE: SHEET S2-01 OF S2-10 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	McHENRY	64	30
			CONTRACT NO. 62B92	

ILLINOIS FED. AID PROJECT



STAGE I REMOVAL
(Looking Upstation)
(Dimensions are at right angle to \varnothing Roadway)

STAGE I REMOVAL

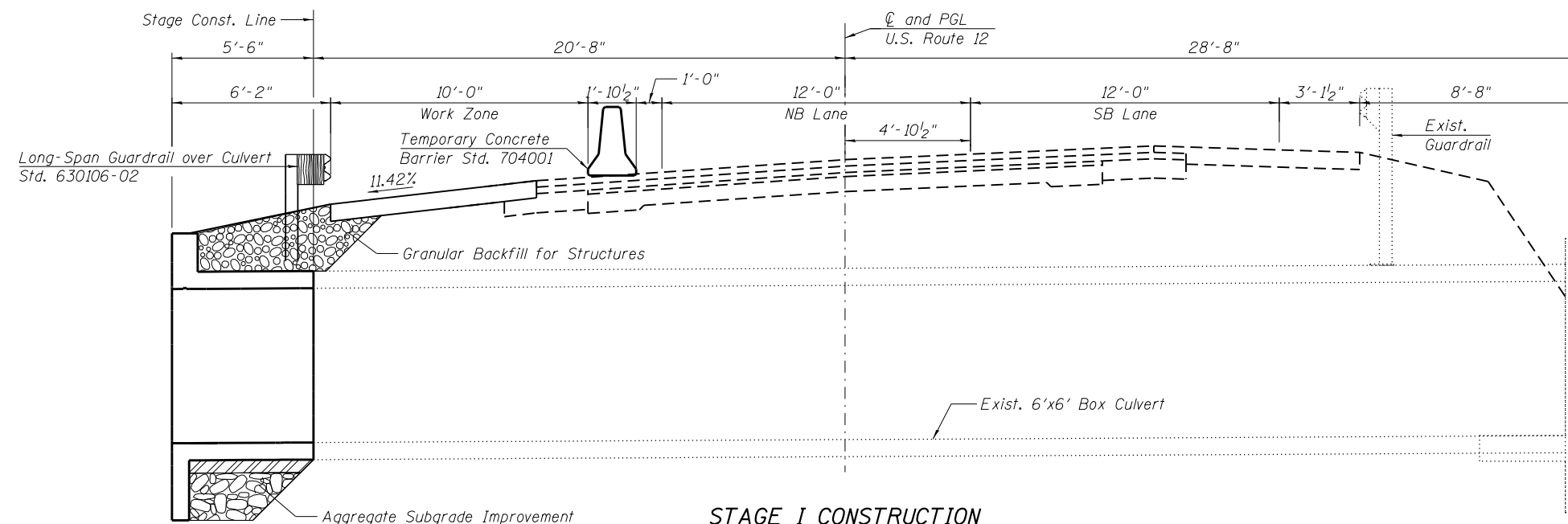
1. Install temporary Concrete barrier as shown to locate Construction work area on the north side of the existing structure.
2. Clean the inside of existing box culvert.
3. Remove the steel plate beam guardrail and guardrail posts at the north side of the road.
4. Remove portion of the existing HMA pavement and shoulder on the north side of the roadway.
5. Remove the 5'-6" portion of the north culvert barrel, and remove the north headwall and wingwall.

STAGE I CONSTRUCTION

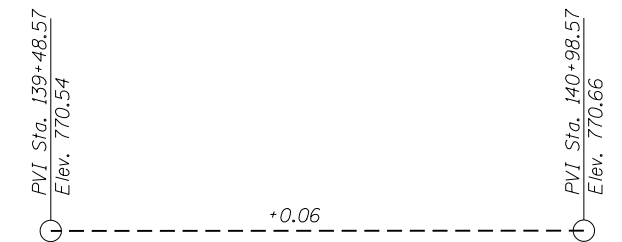
1. Reconstruct the 5'-6" portion of the north culvert barrel and reconstruct the north headwall and the wingwall.
2. Reconstruct the HMA pavement and shoulder on the north side of the roadway.
3. Install the long-span guardrail over culvert at the north side of the road.

NOTE:

1. Dimensions are at right angles to \varnothing Roadway.



STAGE I CONSTRUCTION
(Looking Upstation)
(Dimensions are at right angle to \varnothing Roadway)



PROFILE GRADE
(Along \varnothing and PGL US 12)

LEGEND:



FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Varioual)\056-0284 S2-02 Stage 1.dgn



056-0284 S2-02 Stage 1.dgn
USER NAME = Ken.drobant
PLOT SCALE =
PLOT DATE = 3/28/2017

DESIGNED - KJD
DRAWN - KJD
CHECKED - MI, LAB
DATE - 03/24/2017

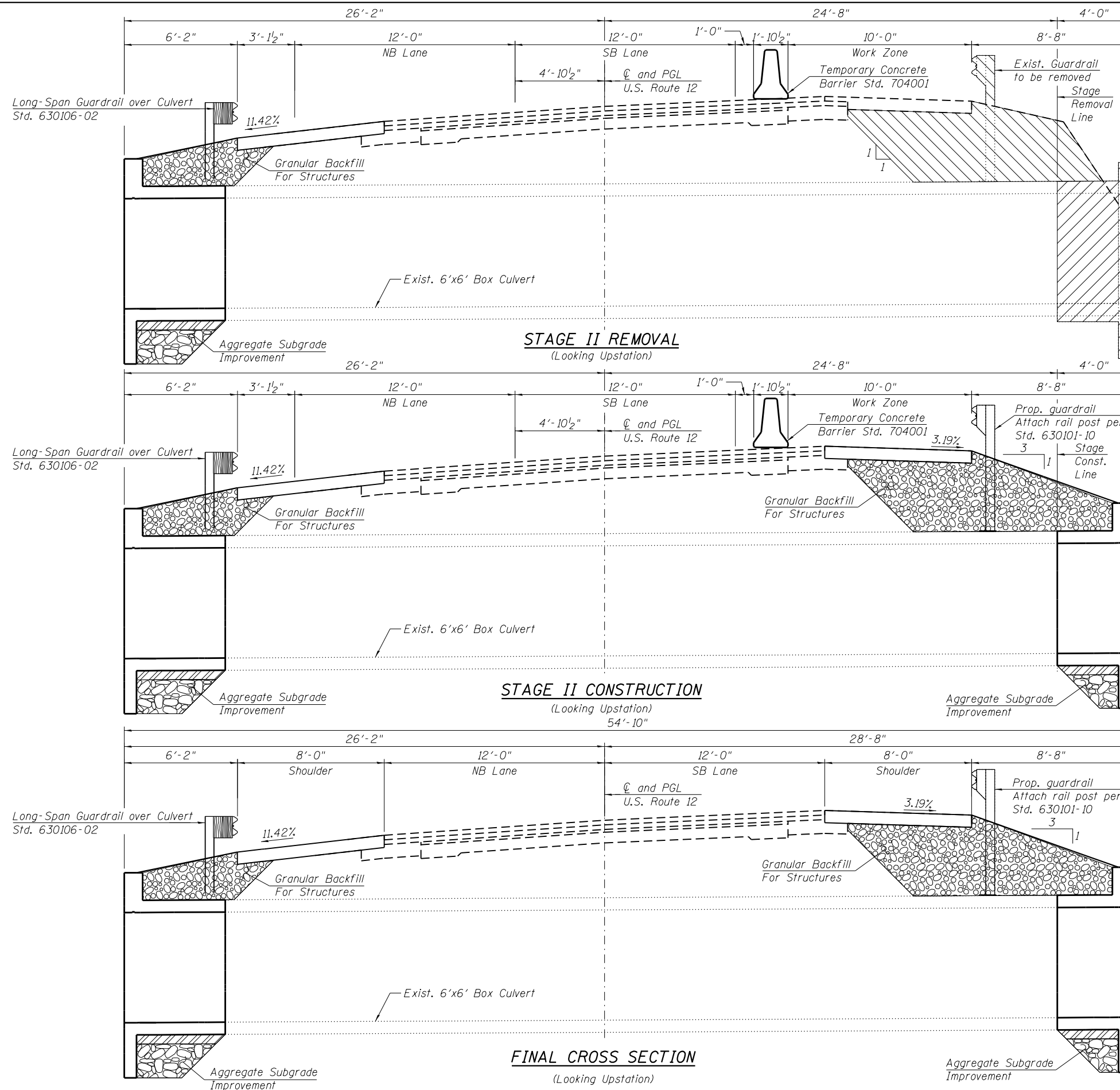
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE REMOVAL AND CONSTRUCTION (SHEET 1 OF 2)
S.N. 056-0284 (LOCATION 2)

SCALE: SHEET S2-02 OF S2-10 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	31
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



STAGE II REMOVAL

1. Install temporary Concrete barrier as shown to locate Stage II traffic on the south side of the structure.
2. Remove the steel plate beam guardrail and guardrail posts at the south side of the road.
3. Remove portion of the existing HMA pavement and shoulder on the south side of the roadway.
4. Remove the 4'-0" portion of the south culvert barrel, and remove the south headwall and wingwall.

STAGE II CONSTRUCTION

1. Reconstruct the 4'-0" portion of the south culvert barrel and reconstruct the south headwall and the wingwall.
2. Replace the HMA pavement and shoulder on the south side of the roadway.
3. Install the steel plate beam guardrail and guardrail posts at the south side of the road.

NOTE:

1. Dimensions are at right angles to \odot Roadway.

LEGEND:



FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Varioual)\0512 US 12 Culverts\Sheet Files\Structural\0515-0284 S2-03 Stage II.dgn



056-0284 S2-03 Stage II.dgn
 USER NAME = Ken.drobant
 PLOT SCALE =
 PLOT DATE = 3/28/2017

DESIGNED - KJD
 DRAWN - KJD
 CHECKED - MI, LAB
 DATE - 03/24/2017

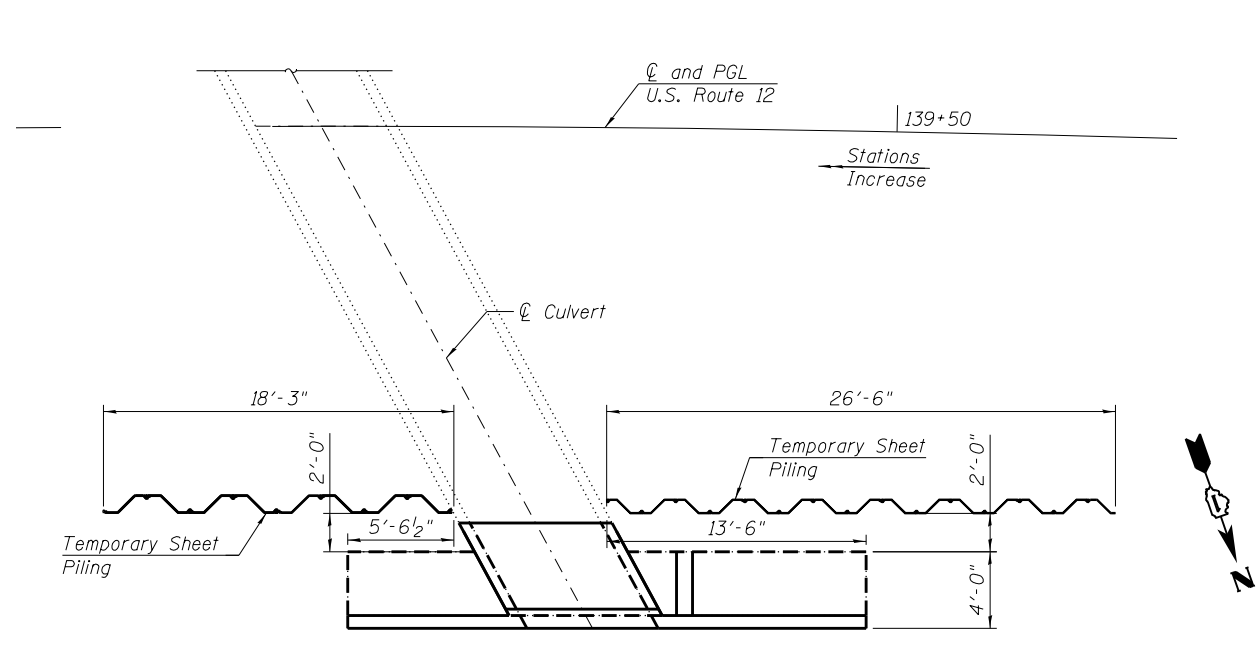
REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

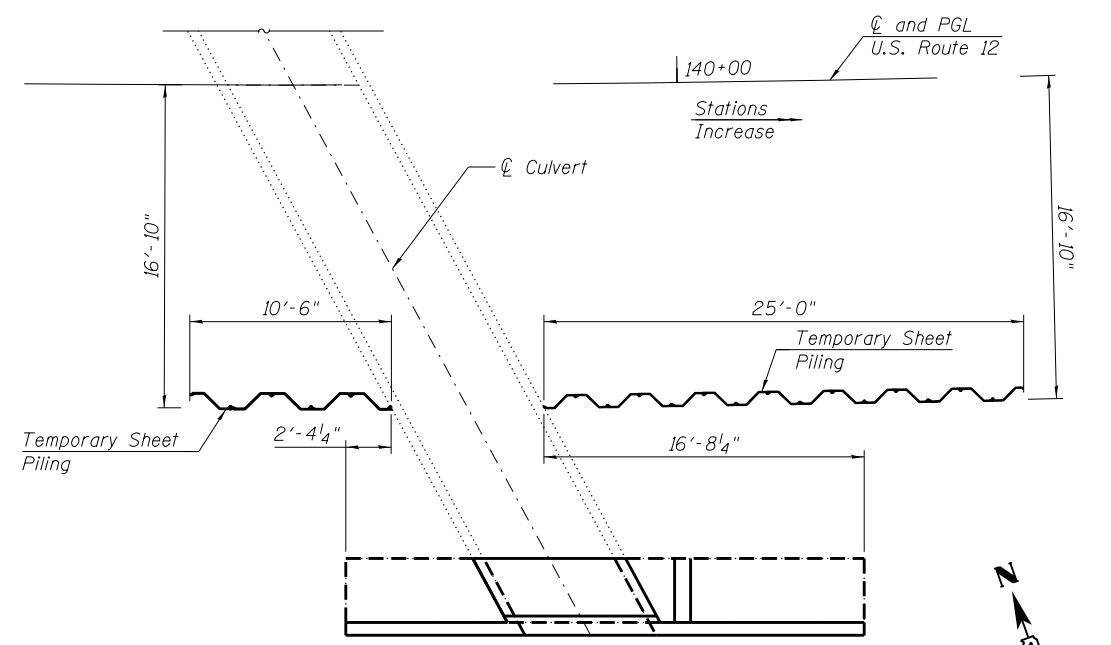
**STAGE REMOVAL AND CONSTRUCTION (SHEET 2 OF 2)
 S.N. 056-0284 (LOCATION 2)**

SCALE: SHEET S2-03 OF S2-10 SHEETS STA. TO STA.

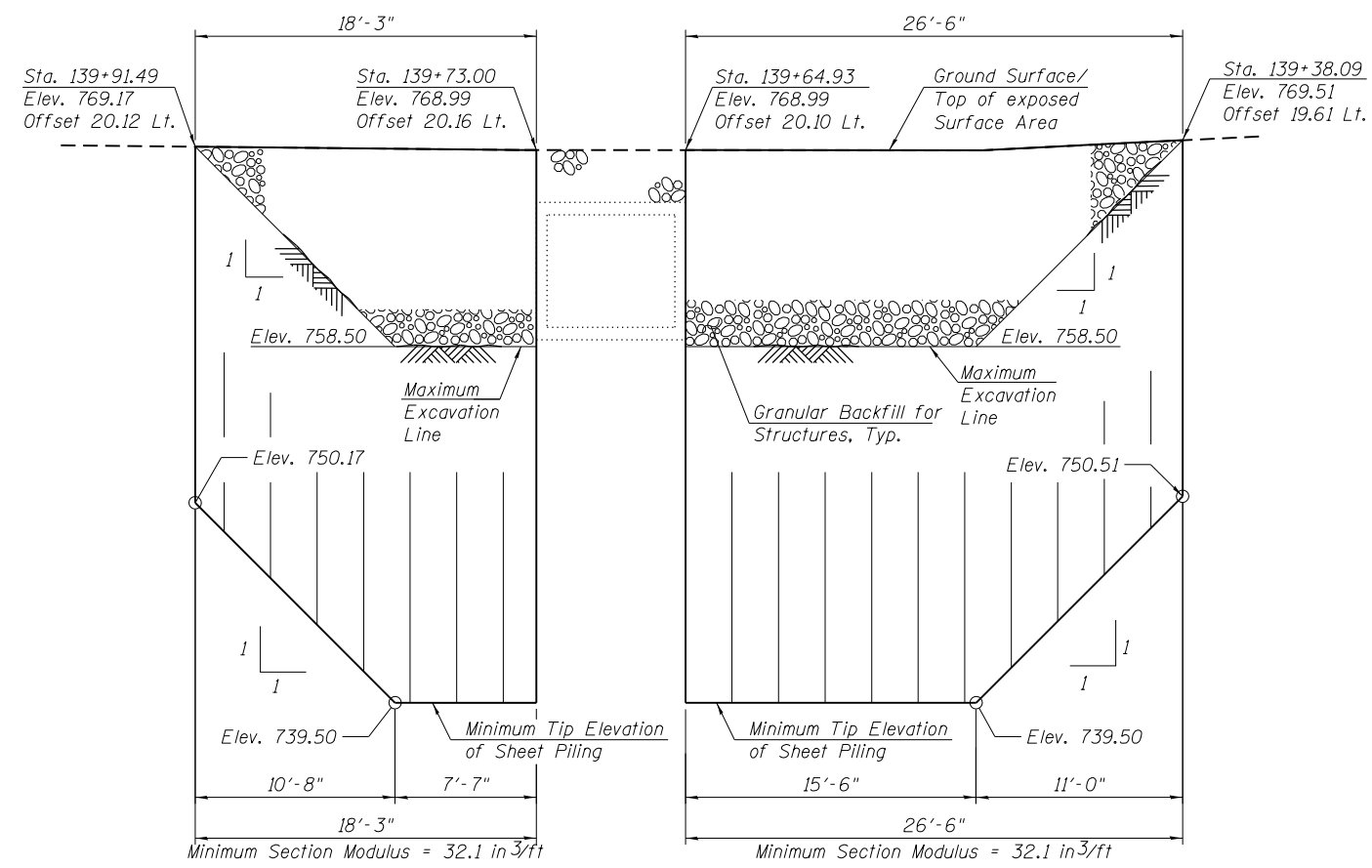
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	32
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



PARTIAL PLAN AT NORTH CULVERT END

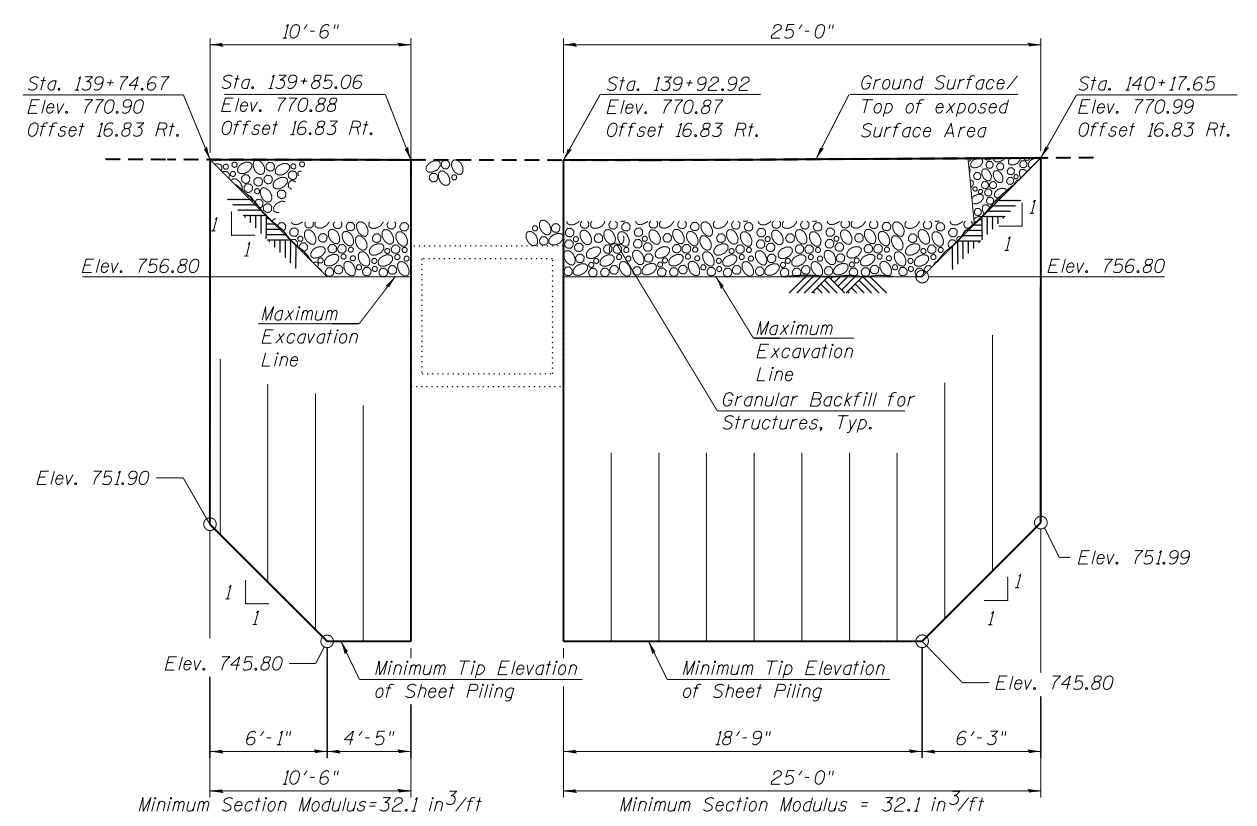


PARTIAL PLAN AT SOUTH CULVERT END



ELEVATION-TEMPORARY SHEET PILING AT NORTH CULVERT END


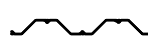
(Looking South)



ELEVATION-TEMPORARY SHEET PILING AT SOUTH CULVERT END

(Looking North)

LEGEND

-  Granular Backfill For Structures
-  Temporary Sheet Piling

NOTE:

1. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirement shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Temporary Sheet Piling	Sq Ft	2,056

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Various)\012 US 12 Culverts\Sheet Files\Structural\056-0284 S2-04 TempSheetPiling.dgn



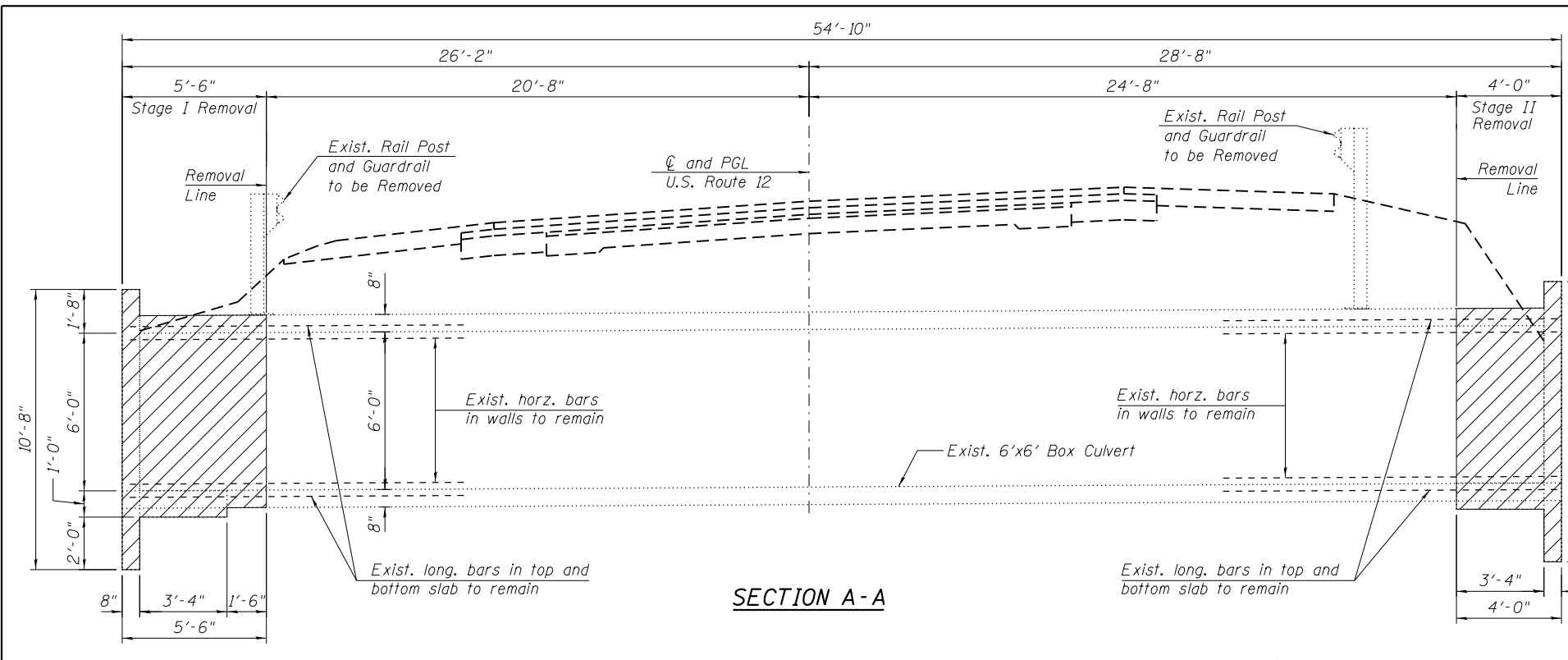
056-0284 S2-04 TempSheetPiling.dgn	DESIGNED - KJD	REVISED -
USER NAME = Ken.drobant	DRAWN - KJD	REVISED -
PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY SHEET PILING
S.N. 056-0284 (LOCATION 2)

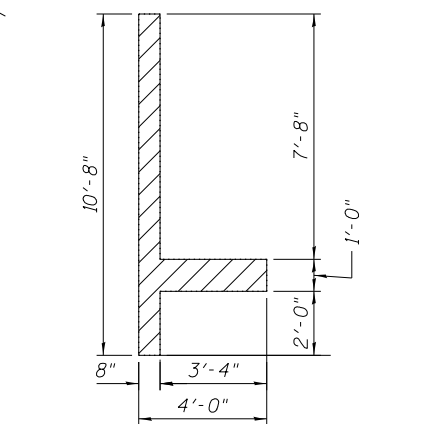
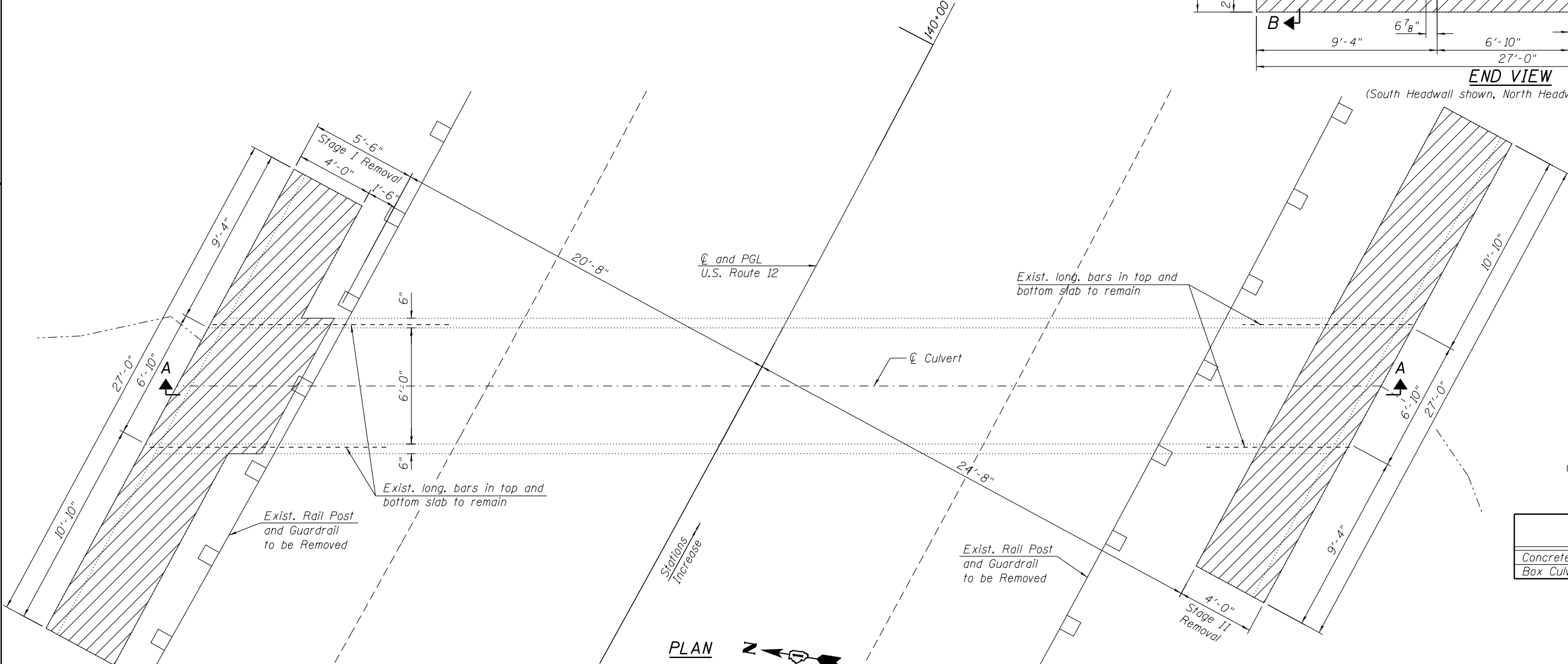
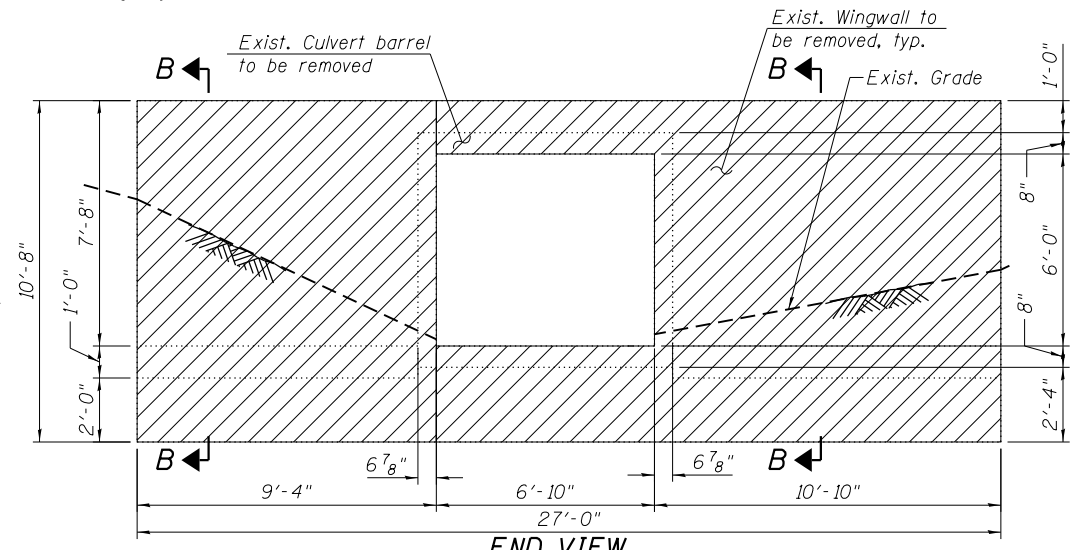
SCALE: SHEET S2-04 OF S2-10 SHEETS STA. TO STA.

F.A.P. RTE. 334	SECTION 2015-087B	COUNTY MCHENRY	TOTAL SHEETS 64	SHEET NO. 33
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



NOTES:

1. Dimensions shown have been taken from historical design drawings, field measurements, 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.
2. For Temporary Sheet Piling, see Sheet S2-04.
3. 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.
4. Existing reinforcement shall be cleaned 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.

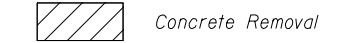


SECTION B-B
(Dimensions at right angle to C Roadway)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	23.1
Box Culvert to be cleaned	Foot	46

LEGEND:



FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Variations)\0112 US 12 Culverts\Sheet Files\Structural\056-0284 S2-05 Removal.dgn



056-0284 S2-05 Removal.dgn
 USER NAME = Ken.drobant
 PLOT SCALE =
 PLOT DATE = 3/28/2017

DESIGNED - SK, KJD
 DRAWN - SK
 CHECKED - MI, LAB
 DATE - 03/24/2017

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**EXISTING STRUCTURE REMOVAL
 S.N. 056-0284 (LOCATION 2)**

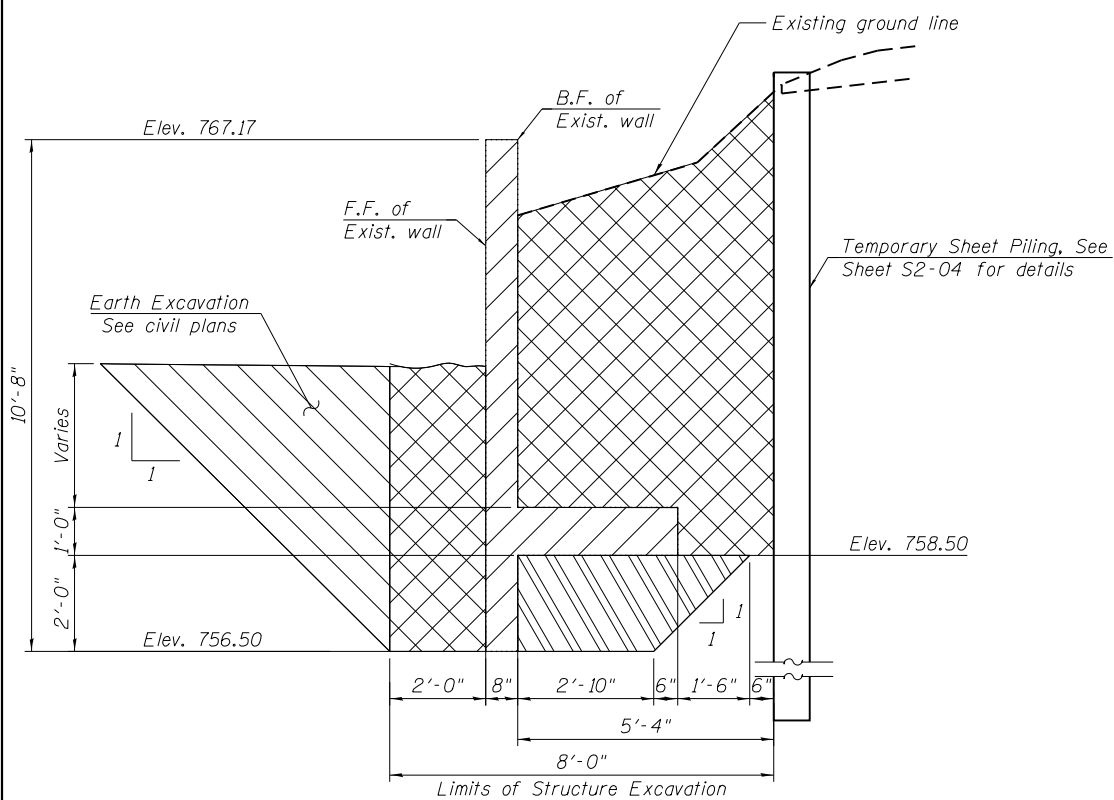
SCALE: SHEET S2-05 OF S2-10 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	34

CONTRACT NO. 62B92
 ILLINOIS FED. AID PROJECT

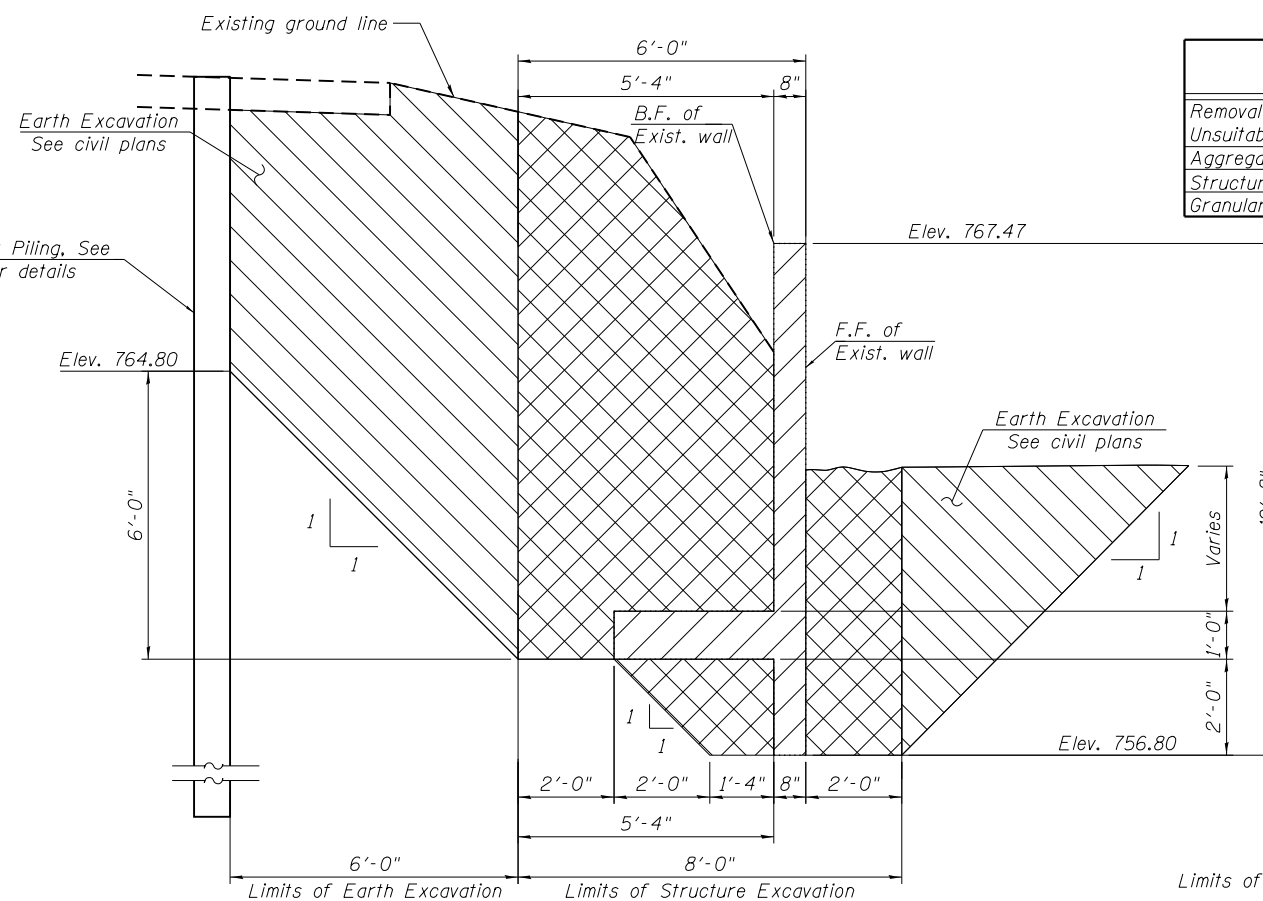
BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu Yd	9.0
Aggregate Subgrade Improvement	Cu Yd	15
Structure Excavation	Cu Yd	105
Granular Backfill for Structures	Cu Yd	195



TYPICAL STRUCTURE EXCAVATION SECTION AT NORTH END

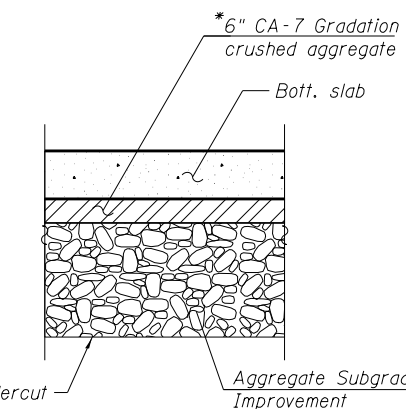
(Looking Upstation)
(Dimensions are at right angle to ϕ Roadway)



TYPICAL STRUCTURE EXCAVATION SECTION AT SOUTH END

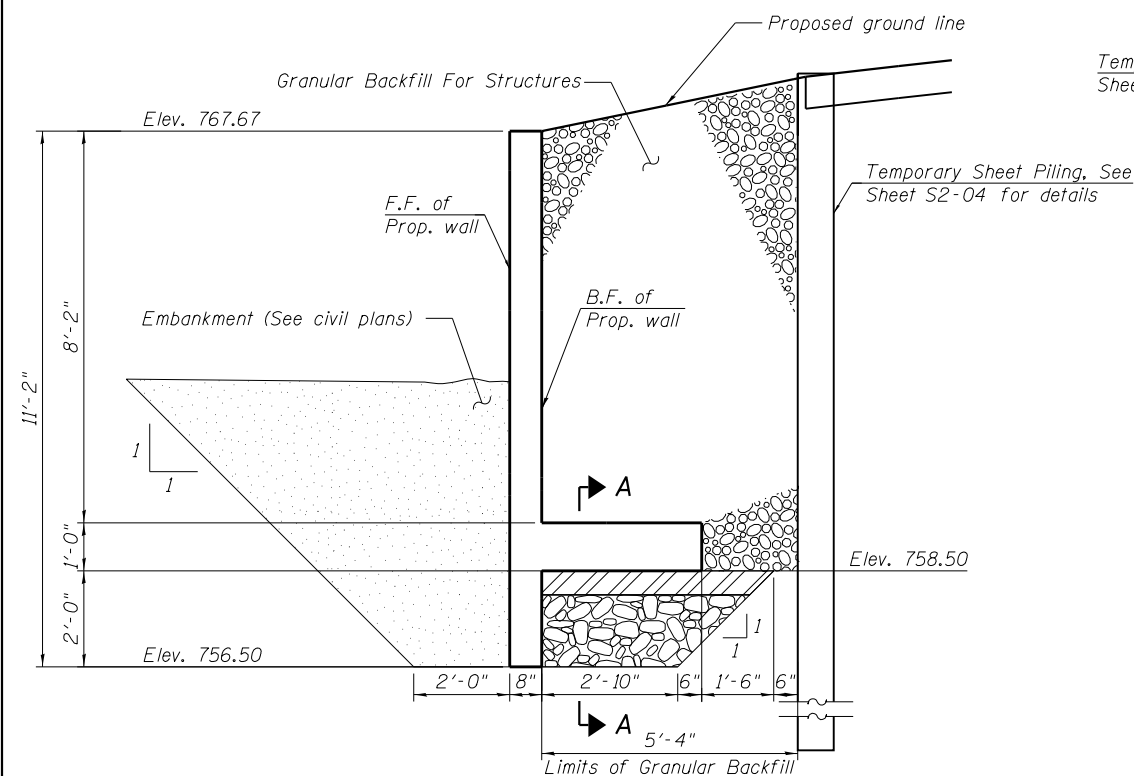
(Looking Upstation)
(Dimensions are at right angle to ϕ Roadway)

*Cost included with Aggregate Subgrade Improvement



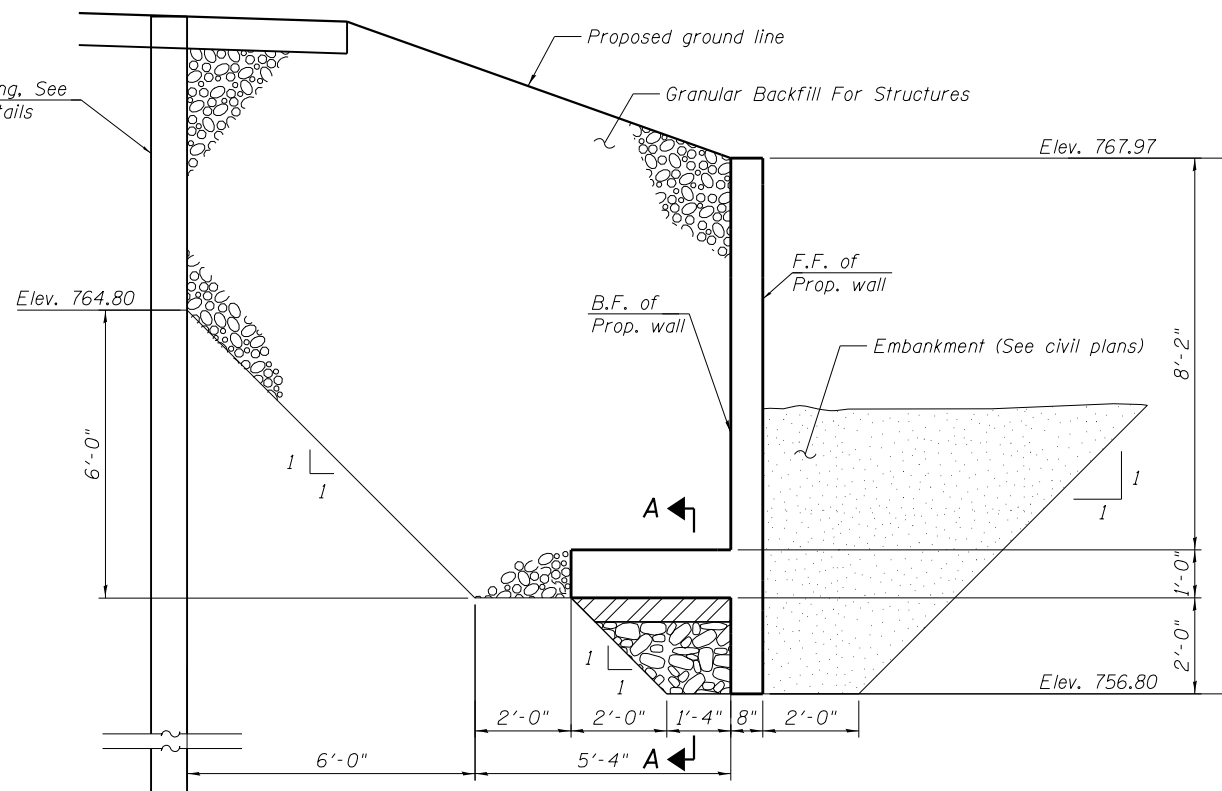
SECTION A-A

(Showing Aggregate Subgrade Improvement)



TYPICAL GRANULAR BACKFILL SECTION AT NORTH END

(Looking Upstation)
(Dimensions are at right angle to ϕ Roadway)



TYPICAL GRANULAR BACKFILL SECTION AT SOUTH END

(Looking Upstation)
(Dimensions are at right angle to ϕ Roadway)

LEGEND:

- Earth Excavation
- Concrete Removal
- Structure Excavation
- Granular Backfill For Structures
- Embankment
- Aggregate Subgrade Improvement
- Removal and Disposal of Unsuitable Material
- 6" CA-7 Gradation crushed aggregate

F.F. Front Face

B.F. Back Face

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Varioual)\0112 US 12 Culverts\Sheet Files\Structural\056-0284 S2-06 Excavation and Backfill.dgn



056-0284 S2-06 Excavation and Backfill.dgn
USER NAME = Ken.drobant
PLOT SCALE =
PLOT DATE = 3/28/2017

DESIGNED - KJD
DRAWN - KJD
CHECKED - MI, LAB
DATE - 03/24/2017

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

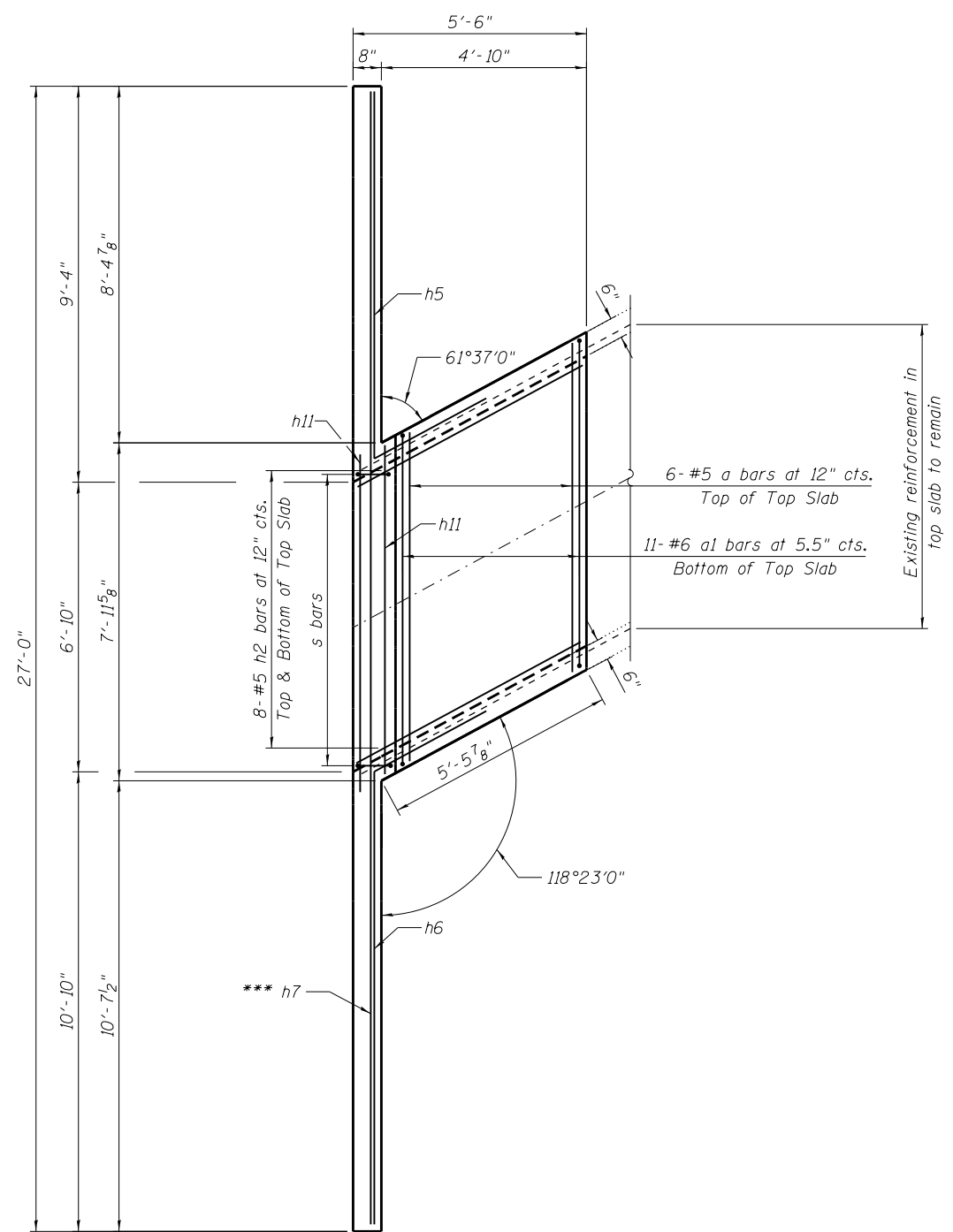
**STRUCTURE EXCAVATION AND BACKFILL
S.N. 056-0284 (LOCATION 2)**

SCALE: SHEET S2-06 OF S2-10 SHEETS STA. TO STA.

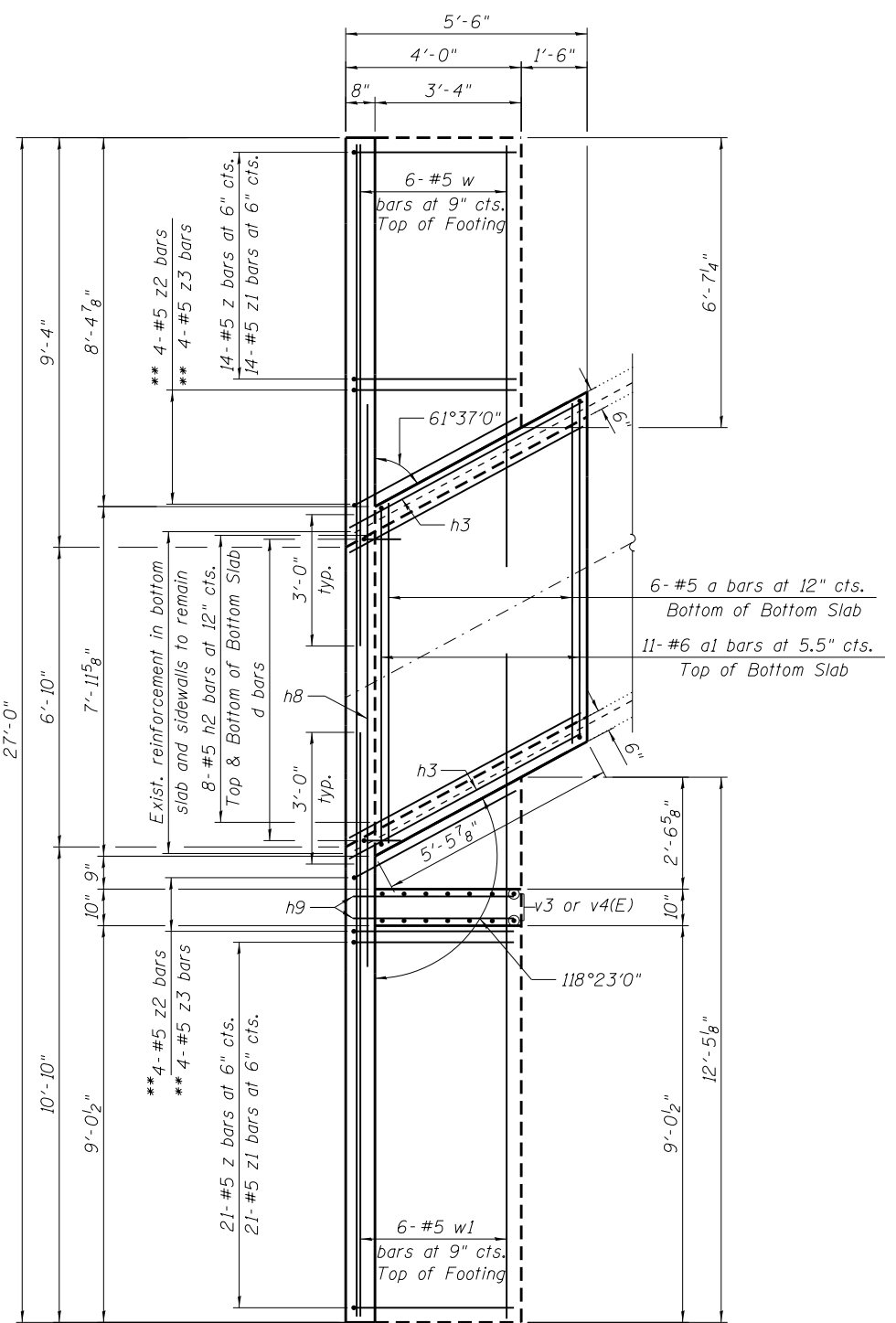
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	35
CONTRACT NO. 62B92				

ILLINOIS FED. AID PROJECT

FILE PATH = P:\1501-630 IDOT PTB 172 Item 10 (Various-Variants)\056-0284 S2-08 NorthPlan&Elev.dgn



NORTH TOP SLAB PARTIAL PLAN

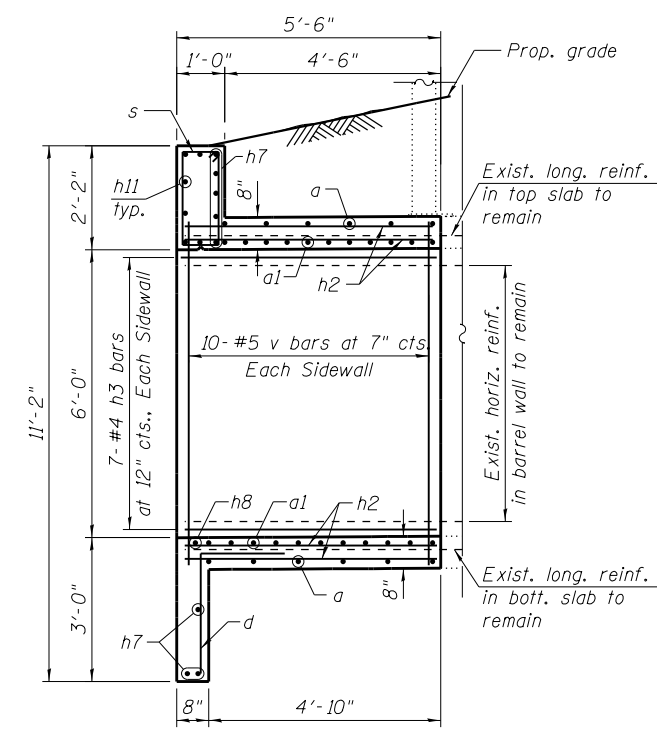


NORTH BOTTOM SLAB PARTIAL PLAN

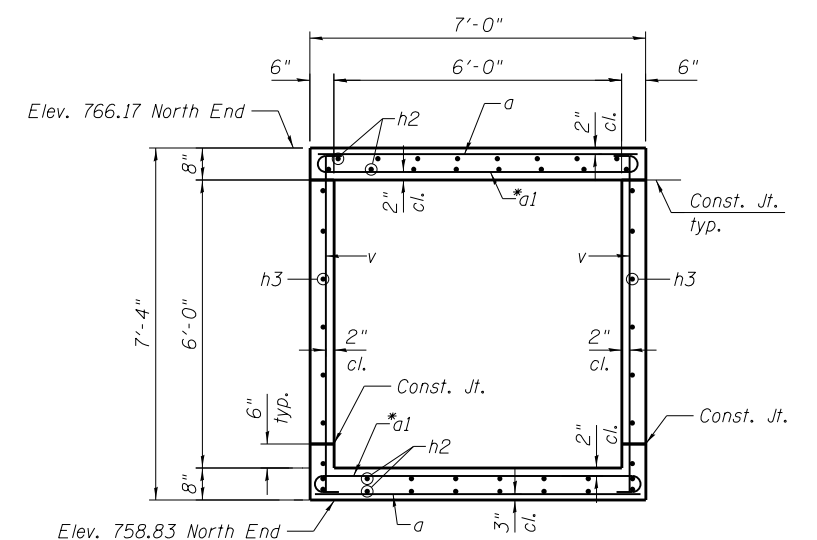
NOTE

- For bill of material, bar diagrams, wingwall reinforcement and notes, see Sheet S2-09.

- * Tilt hook of a1 bars if necessary for 2" min. cl.
- ** Cut to fit in field and fan z2 and z3 bars as required
- *** Bend h7 bars at back face of Wingwalls to match the back face of Headwalls.



PARTIAL NORTH LONGITUDINAL SECTION



SECTION THRU BARREL



056-0284 S2-08 NorthPlan&Elev.dgn
 USER NAME = Ken.drobant
 PLOT SCALE =
 PLOT DATE = 3/28/2017

DESIGNED - LAB, SK
 DRAWN - SK, MAA
 CHECKED - MI, LAB
 DATE - 03/24/2017

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**NORTH END OF CULVERT PLAN AND SECTIONS
 S.N. 056-0284 (LOCATION 2)**

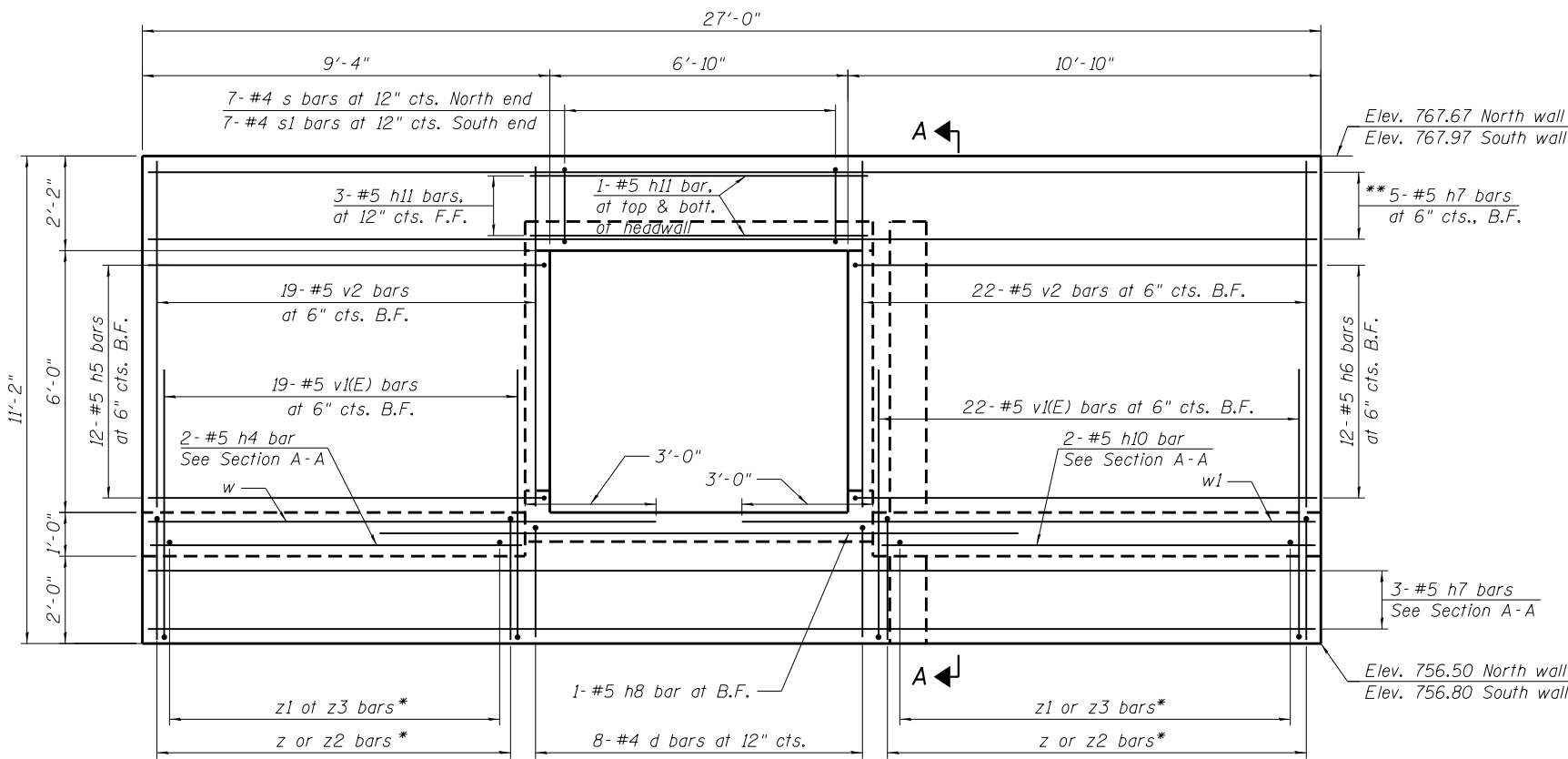
SCALE: SHEET S2-07 OF S2-10 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	36
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	20	#5	7'-7"	—
a1	38	#6	8'-11"	—
d	16	#4	4'-5"	└
h	32	#5	4'-2"	—
h1	14	#4	4'-2"	—
h2	32	#5	5'-11"	—
h3	14	#4	5'-11"	—
h4	2	#5	8'-6"	—
h5	24	#5	12'-4"	—
h6	24	#5	13'-10"	—
h7	16	#5	26'-8"	—
h8	2	#5	13'-10"	—
h9	28	#4	3'-8"	—
h10	2	#5	10'-0"	—
h11	12	#6	7'-6"	—
s	7	#4	5'-11"	—
s1	7	#4	5'-10"	—
v	36	#5	6'-11"	—
v(E)	82	#5	6'-5"	—
v2	82	#5	7'-10"	—
v3	28	#5	6'-5"	—
v4(E)	28	#5	5'-9"	—
w	12	#5	21'-0"	—
w1	12	#5	28'-4"	—
z	70	#5	6'-3"	└
z1	70	#5	3'-8"	—
z2	16	#5	6'-9"	└
z3	16	#5	4'-2"	—
Reinforcement Bars			Pound	5,220
Reinforcement Bars, Epoxy Coated			Pound	720
Concrete Box Culverts			Cu. Yd.	25.9

Reinforcement bars designated (E) shall be epoxy coated



ELEVATION

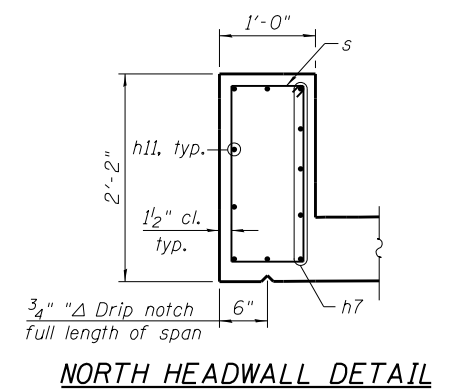
(Looking North, South wall shown, North wall similar)
(Barrel and Counterfort Reinforcement not shown for clarity)

* Cut to fit in field and fan Z2 and Z3 bars near barrel as required.

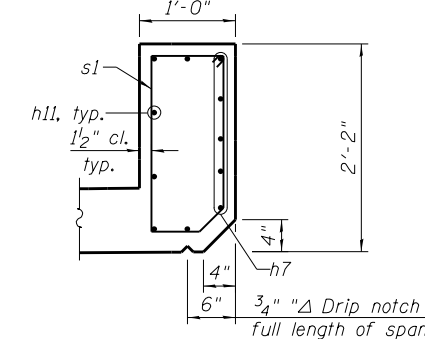
** Bend h7 bars at back face of Wingwalls to match the back face of Headwalls.

NOTES:

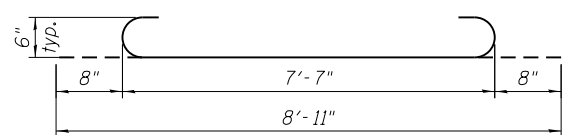
- The presented elevations and limits of the existing structure have been taken from historical design drawings and Survey data. Dimensions may not present "as-built" condition. All existing structure limits shall be field verified by the contractor and coordinated with the engineer prior to ordering materials, fabrication and construction of the proposed culvert extension.
- Existing reinforcement shall be cleaned 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.
- All exposed concrete edge shall have a 3/4" x 45° chamfer, except where shown otherwise.
- The culvert barrels shall be poured monolithically with the wingwalls.



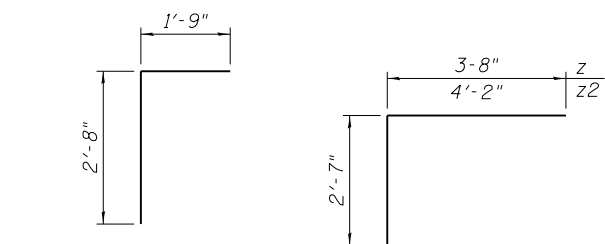
NORTH HEADWALL DETAIL



SOUTH HEADWALL DETAIL

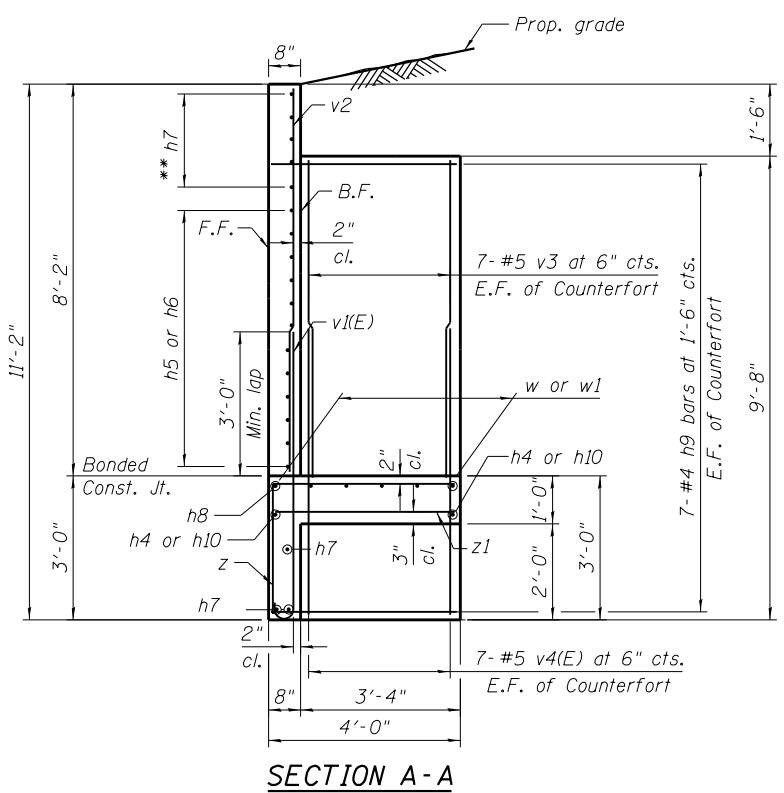


BAR a1

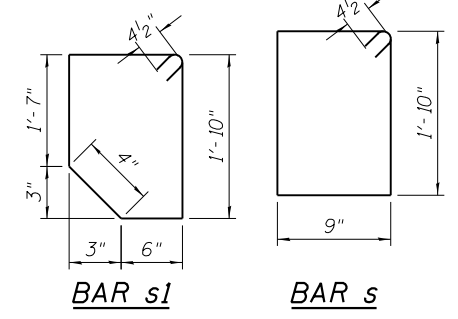


BAR d

BARS z and z2

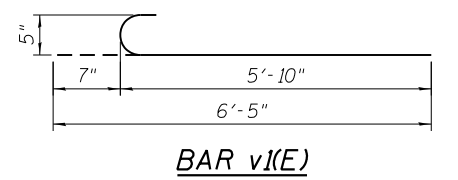


SECTION A-A

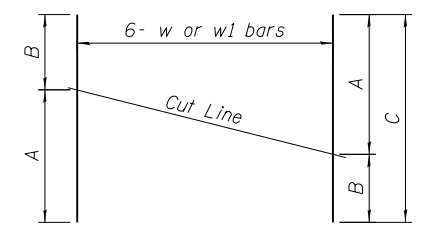


BAR s1

BAR s



BAR v(E)

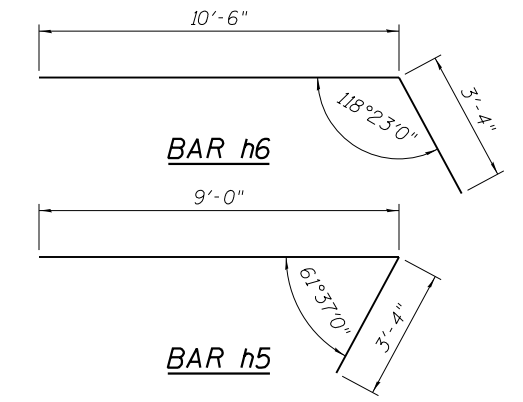


BAR CUTTING DIAGRAM

(See Table for dimensions, make all cuts normal to bar axis)

TABLE

Bar	A	B	C
w	9'-6"	11'-6"	21'-0"
w1	15'-2"	13'-2"	28'-4"



BAR h6

BAR h5

Minimum Bar Laps		
Bar	Lap	
	s < 6"	s >= 6"
#4	2'-7"	2'-7"
#5	3'-4"	3'-2"
#6	4'-9"	3'-10"
#7	5'-6"	4'-5"
#8	7'-2"	5'-1"

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Various)\012 US 12 Culverts\Sheet Files\Structural\056-0284 S2-10 Sections&Det.dgn



056-0284 S2-10 Sections&Det.dgn
USER NAME = Ken.drobant
PLOT SCALE =
PLOT DATE = 3/28/2017

DESIGNED - LAB, SK
DRAWN - SK, MAA
CHECKED - MI, LAB
DATE - 03/24/2017

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CULVERT SECTIONS AND DETAILS
S.N. 056-0284 (LOCATION 2)
SCALE: SHEET S2-09 OF S2-10 SHEETS STA. TO STA.

F.A.P. RTE. 334 SECTION 2015-087B COUNTY MCHENRY TOTAL SHEETS 64 SHEET NO. 38 CONTRACT NO. 62B92 ILLINOIS FED. AID PROJECT

SEECO CONSULTANTS, INC.		SOIL BORING LOG										Page 1 Of 1	
ROUTE FAP 334 (US Rte. 12)		DESCRIPTION Culverts at Various Locations										Date 11/10/16	
SECTION _____		LOCATION US Rte. 12, McHenry County, IL										Logged By DK	
COUNTY McHenry		STRUCTURE NO. 056-0284 (Exist.)										(Prop.) _____	
Boring No. B-5		Drilling Method AASHTO T 206-09										Hammer Type Automatic Hammer	
Station 139+42		Surf. Wat. El. _____										E L E V. _____	
Offset 14.33' from NB Lane		Groundwater Elev.: _____										D E P T H _____	
Ground Surface El. +769.98 +/- M.S.L.		When Drilling 13.5'										S P T _____	
		at Completion _____										U C S _____	
		After _____										M O I S T _____	
		Hrs _____										Qu _____	
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Benchmark: Painted cross mark on top of headwall of Structure No. 056-0251, approximately 2.35 feet from north edge of headwall, Elev. 769.82

Existing Structure: The SN 056-0251 at US 12 located 5.1 miles south of state line is a single-cell reinforced concrete box culvert. The culvert is 46'-0" in length (out-to-out headwalls). The cell width is approximately 6 ft and height is approximately 7 ft. The structure spans north to south and carries one lane of northbound and one lane of southbound traffic for a total of two traffic lanes. A metal guardrail is present on both sides of the culvert. Traffic is to be maintained utilizing staged construction.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.	11
Aggregate Subgrade Improvement	Cu. Yd.	22
Concrete Removal	Cu. Yd.	33.8
Structure Excavation	Cu. Yd.	176
Reinforcement Bars	Pound	9,270
Reinforcement Bars, Epoxy Coated	Pound	1,490
Temporary Sheet Piling	Sq. Ft.	2,849
Concrete Box Culverts	Cu. Yd.	37.7
Granular Backfill for Structures	Cu. Yd.	136
Box Culverts to be Cleaned	Fool	36

INDEX OF SHEETS

- S3-01 General Plan
- S3-02 Stage I Removal and Construction
- S3-03 Stage II Removal and Construction
- S3-04 Temporary Sheet Piling
- S3-05 Existing Structure Removal
- S3-06 Structure Excavation and Backfill
- S3-07 North End of Culvert Plan and Sections
- S3-08 South End of Culvert Plan and Sections
- S3-09 Culvert Sections and Details
- S3-10 Boring Logs

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

DESIGN STRESSES

FIELD UNITS
 f'c = 3,500 psi (Concrete)
 fy = 60,000 psi (Reinforcement)

EXISTING UNITS
 f'c = 3,500 psi (Concrete)
 fy = 33,000 psi (Reinforcement)

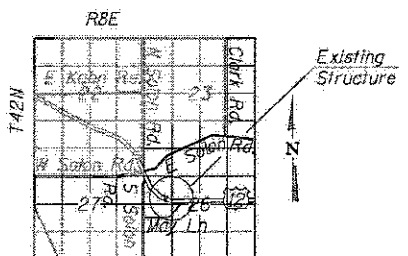
Max. Soil Pressure under footing = 2,000 psf

APPROVED
 For Structural Adequacy Only

Moussa A. Issa
 Engineer of Bridges & Structures

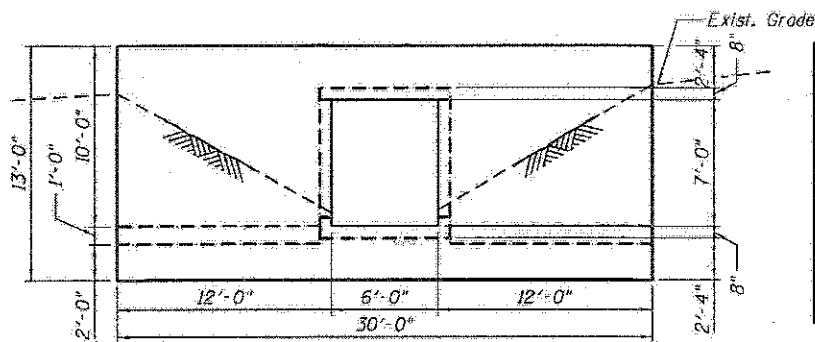
LOADING HS-20

No Future Wearing Surface will be allowed

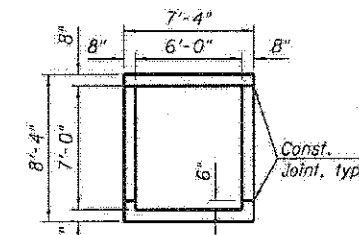


LOCATION SKETCH

GENERAL PLAN
U.S. 12 OVER DRAINAGE DITCH
F.A.P. 334 SECTION 2015-087B
MCHENRY COUNTY
STA. 140+48.57
STRUCTURE NO. 056-0251



END ELEVATION



SECTION THRU BARREL

GENERAL NOTES:

- 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.
- It shall be the responsibility of the contractor to divert the stream flow during construction in order to keep the construction area free of water. The method of the water diversion shall be subjected to the approval of the Engineer and the cost shall be included with the cost of concrete box culverts.

SCOPE OF WORK:

- Clean the inside of existing box culvert.
- Remove the north and south portions of the culvert barrel, headwall and wingwalls.
- Construct the north and south portions of the culvert barrel, headwall, and wingwalls.
- Remove the steel plate beam guardrails and guardrail posts on the north and south sides of the roadway. Install the prop. steel plate beam guardrail on the north side of the roadway and install long-span guardrail over culvert on the south side of the roadway.
- Remove and reconstruct the portions of HMA pavement and shoulder on the north and south sides of the roadway.

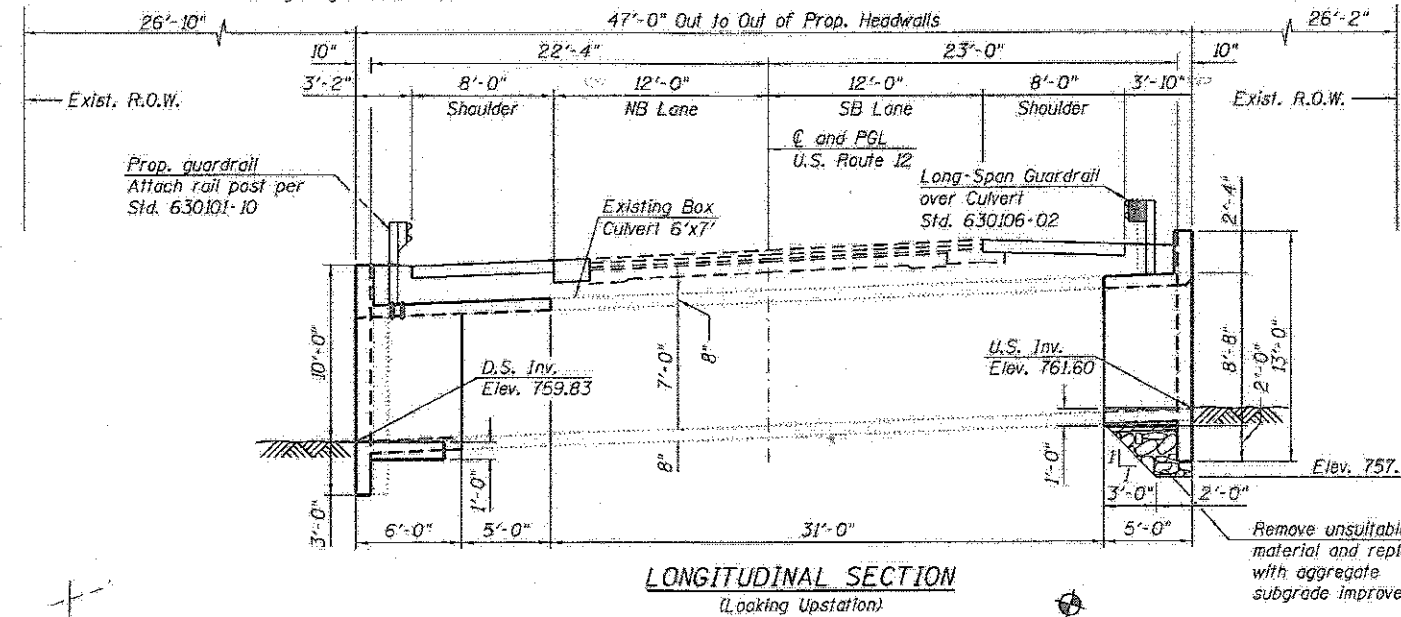
LEGEND

- A — Exist. Aerial Line
- Temporary Sheet Piling
- Exist. Guardrail
- Soil Boring

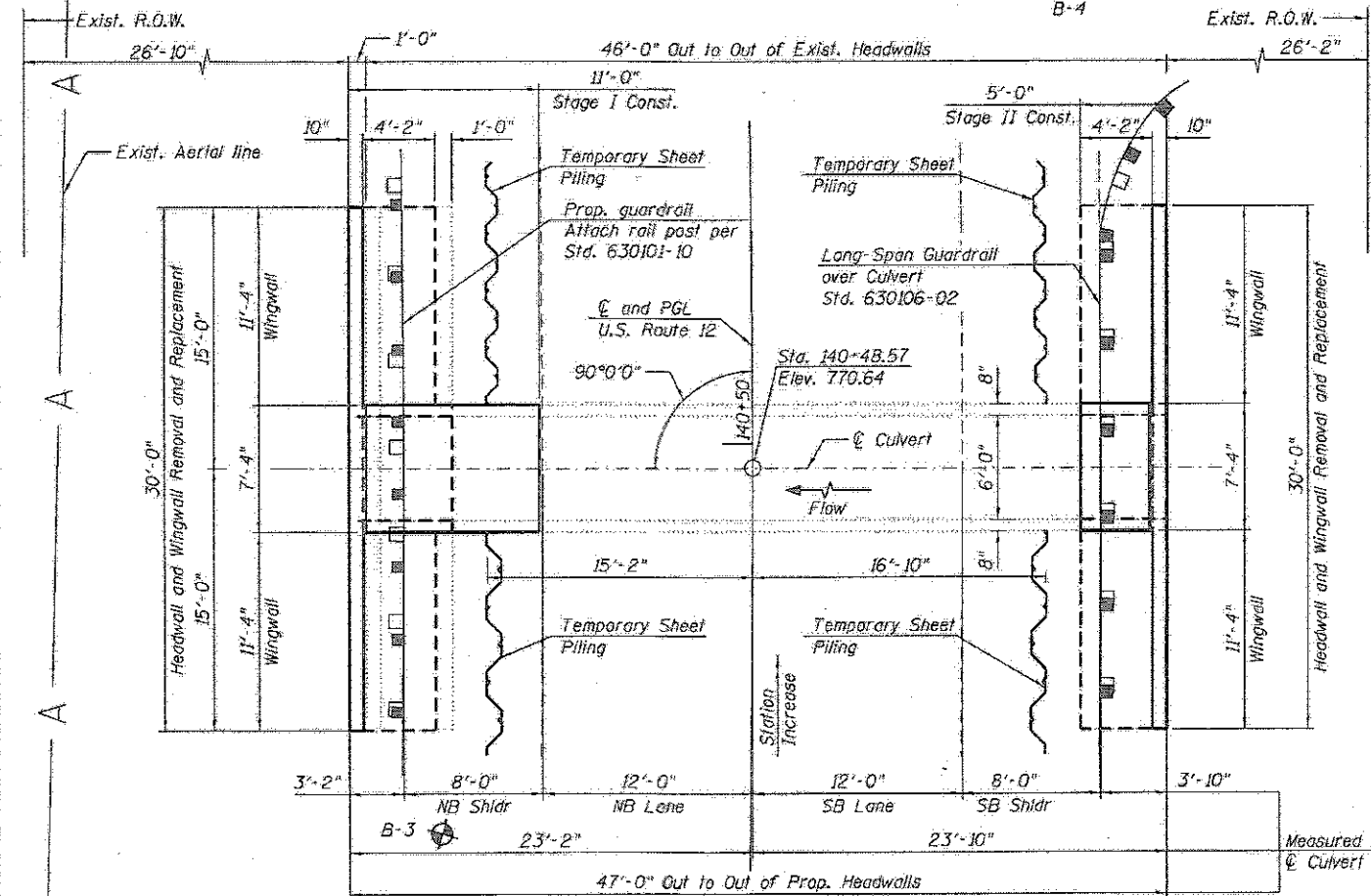


Signed *Moussa A. Issa*
 Dr. Moussa A. Issa, S.E.
 Il. Lic. No. 081-005738
 Expires 11-30-2018

Date 03/28/2017
 For Sheets S3-01 Thru S3-10
 (Total of 10 Sheets)



LONGITUDINAL SECTION
 (Looking Upstation)



PLAN



056-0251 S3-01 CPE.dgn
 USER NAME: K.J.D. MAA
 PLOT SCALE: 1"=40'
 PLOT DATE: 3/28/2017

DESIGNED - K.J.D. MAA
 DRAWN - K.J.D. MAA
 CHECKED - M.L. LAB
 DATE - 03/24/2017

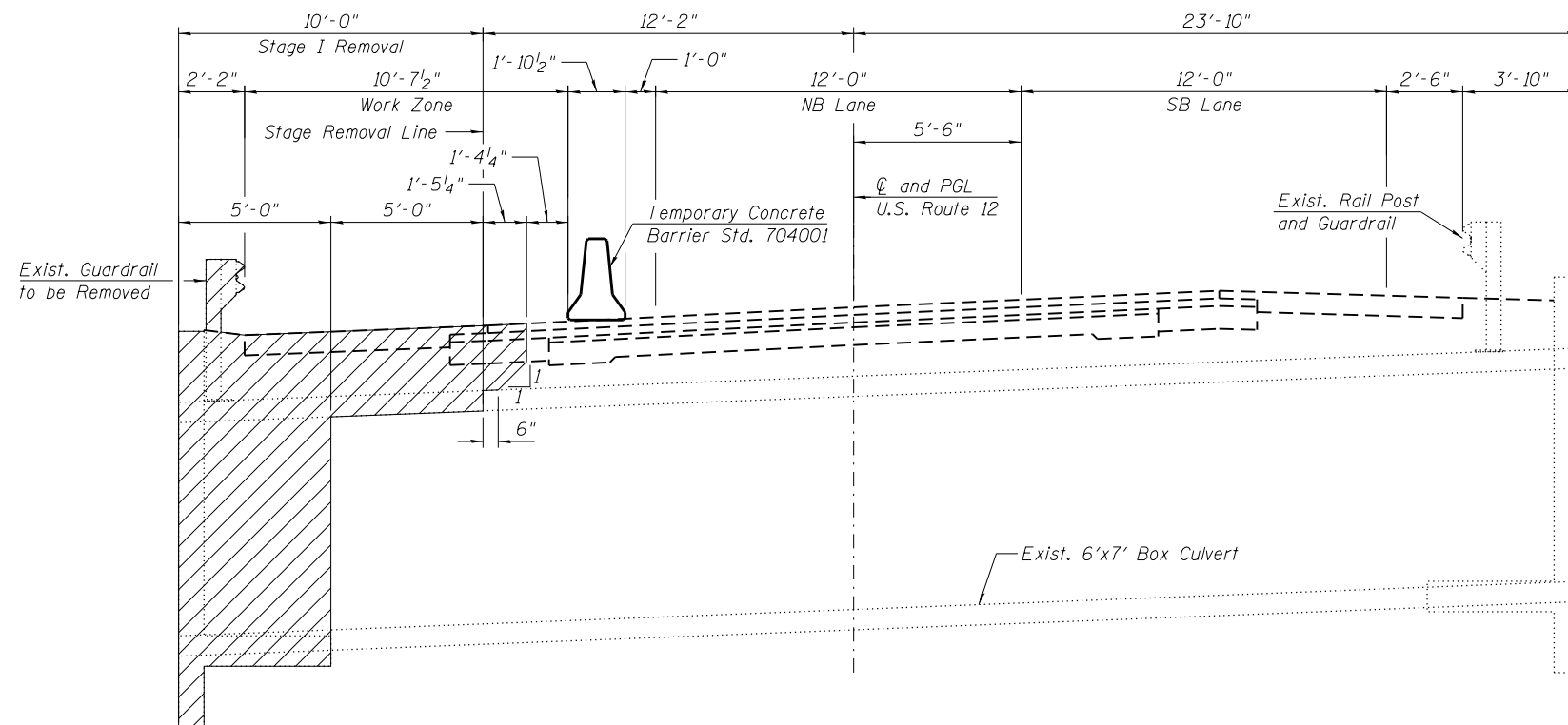
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

S.N. 056-0251 (LOCATION 4)

SCALE: SHEET S3-01 OF S3-10 SHEETS STA. TO STA.

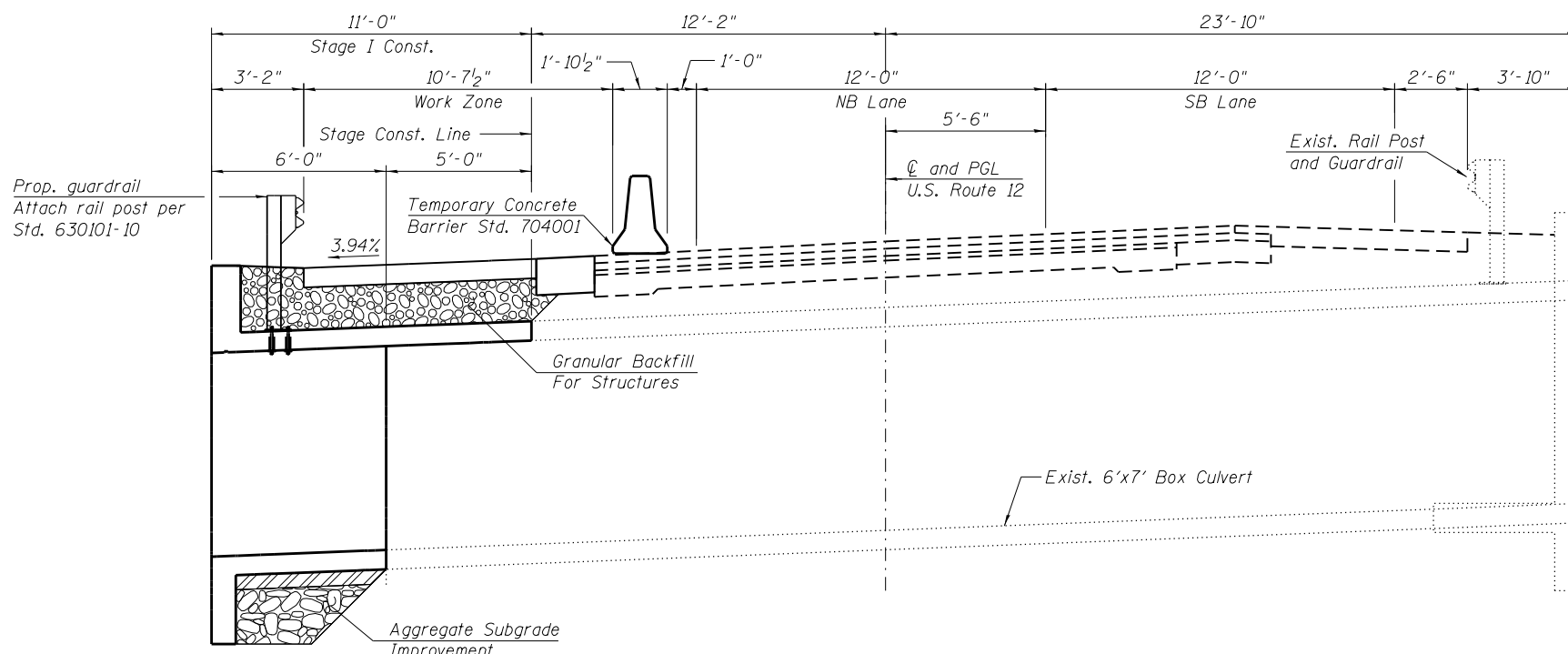
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	40
			CONTRACT NO. 62B92	

FILE PATH: C:\P\5601-620\JOB\PTB\172\172-18\Drawings\Structure\056-0251_S3-01_CPE.dgn



STAGE I REMOVAL

(Looking Upstation)



STAGE I CONSTRUCTION

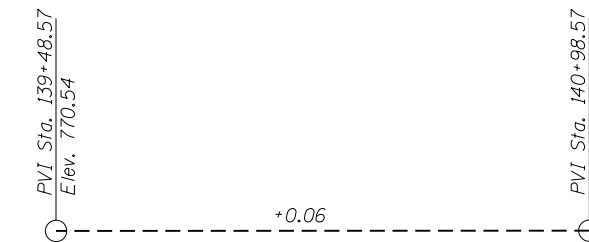
(Looking Upstation)

STAGE I REMOVAL:

1. Install temporary Concrete barrier as shown to locate Construction work area on the north side of the existing structure.
2. Clean the inside of existing box culvert.
3. Remove the steel plate beam guardrail and guardrail posts at the north side of the road.
4. Install Temporary Sheet Piling on the north side of the roadway.
5. Remove portion of the existing HMA pavement and shoulder on the north side of the roadway.
6. Remove the 10'-0" north portion of the top slab, 5'-0" north portion of the bottom slab and culvert barrel walls, and remove the north headwall and wingwall.

STAGE I CONSTRUCTION:

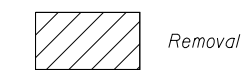
1. Construct the 11'-0" north portion of the top slab, 6'-0" north portion of the bottom slab and culvert barrel walls, and the north headwall, and wingwalls.
2. Backfill as required at the new constructed area at the north end of the culvert.
3. Remove Temporary Sheet Piling.
4. Reconstruct the HMA pavement and shoulder on the north side of the roadway.
5. Install the steel plate beam guardrail and guardrail posts at the north side of the road.



PROFILE GRADE

(Along \bar{C} and PGL US 12)

LEGEND:



FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Various)\WD12 US 12 Culverts\Sheet Files\Structural\056-0251 S3-02 Stage 1.dgn



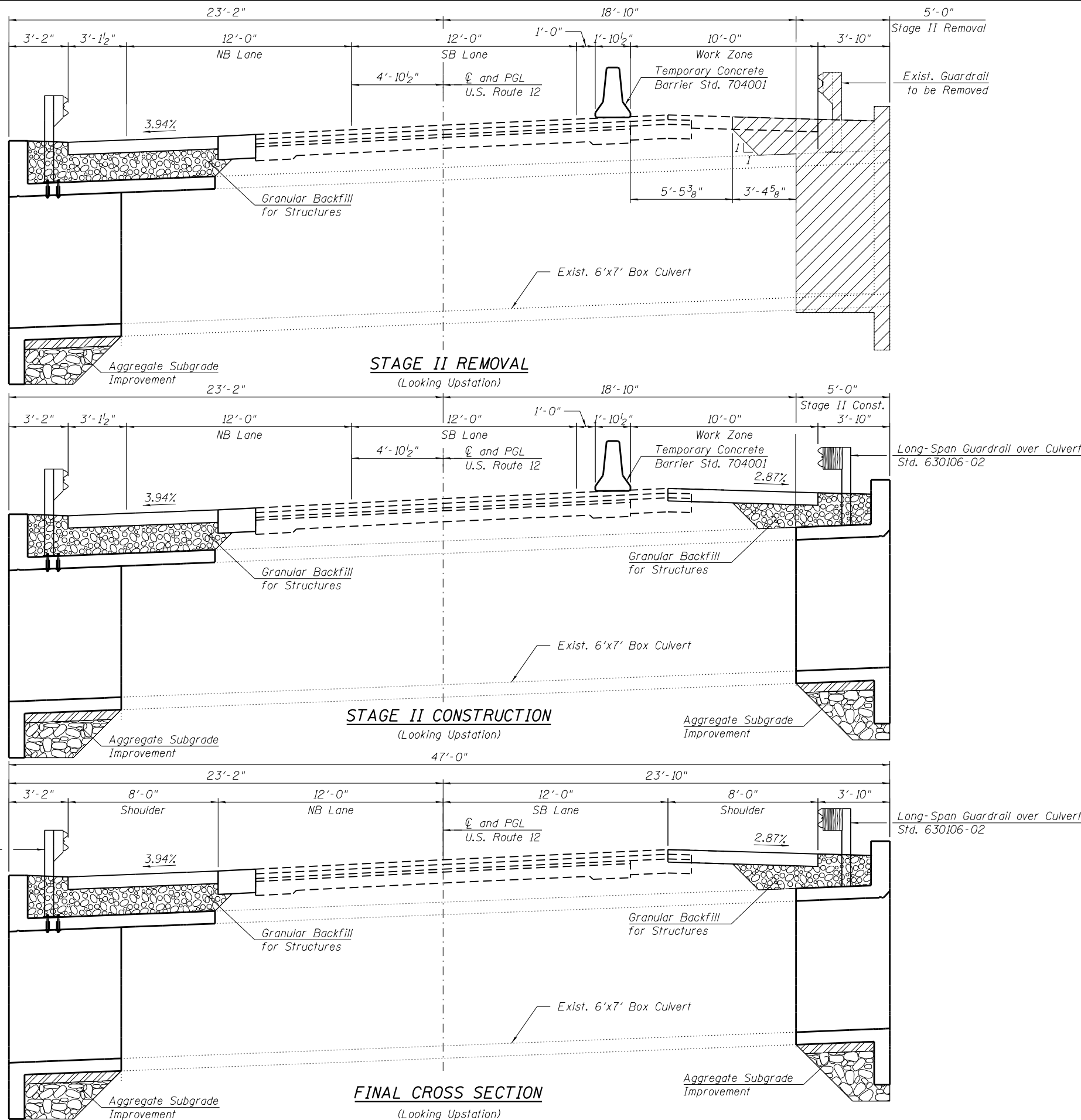
056-0251 S3-02 Stage 1.dgn	DESIGNED - KJD	REVISED -
USER NAME = Ken.drobant	DRAWN - KJD	REVISED -
PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGE I REMOVAL AND CONSTRUCTION
S.N. 056-0251 (LOCATION 4)**

SCALE: SHEET S3-02 OF S3-10 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	41
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



STAGE II REMOVAL:

1. Install temporary Concrete barrier as shown to locate Stage II traffic on the south side of the structure.
2. Remove the steel plate beam guardrail and guardrail posts at the south side of the road.
3. Install Temporary Sheet Piling at the south side of the roadway.
4. Remove portion of the existing HMA pavement and shoulder on the south side of the roadway.
5. Remove the 5'-0" portion of the south culvert barrel, and remove the south headwall and wingwall.

STAGE II CONSTRUCTION:

1. Reconstruct the 5'-0" portion of the south culvert barrel, south headwall and the wingwalls.
2. Backfill as required at the new constructed area at the south end of the culvert.
3. Remove Temporary Sheet Piling.
4. Replace the HMA pavement and shoulder on the south side of the roadway.
5. Install the long-span guardrail over culvert at the south side of the road.

LEGEND:



FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Various)\V0112 US 12 Culverts\Sheet Files\Structural\056-0251 S3-03 Stage II.dgn

Prop. guardrail
Attach rail post per
Std. 630101-10



056-0251 S3-03 Stage II.dgn
USER NAME = Ken.drobant
PLOT SCALE =
PLOT DATE = 3/28/2017

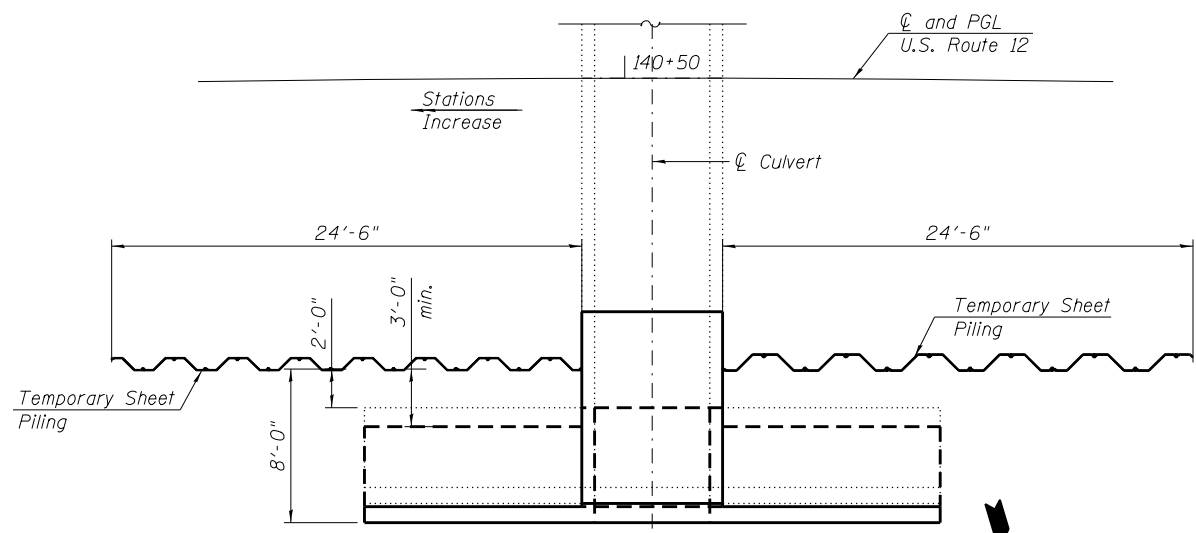
DESIGNED - KJD
DRAWN - KJD
CHECKED - MI, LAB
DATE - 03/24/2017

REVISED -
REVISED -
REVISED -
REVISED -

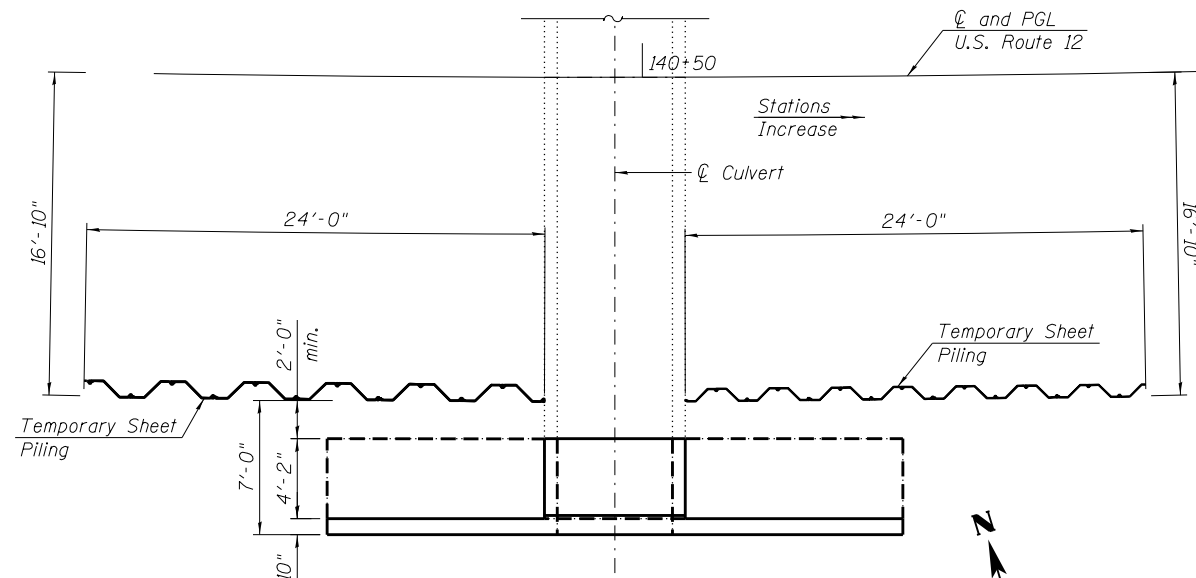
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGE II REMOVAL AND CONSTRUCTION
S.N. 056-0251 (LOCATION 4)**
SCALE: SHEET S3-03 OF S3-10 SHEETS STA. TO STA.

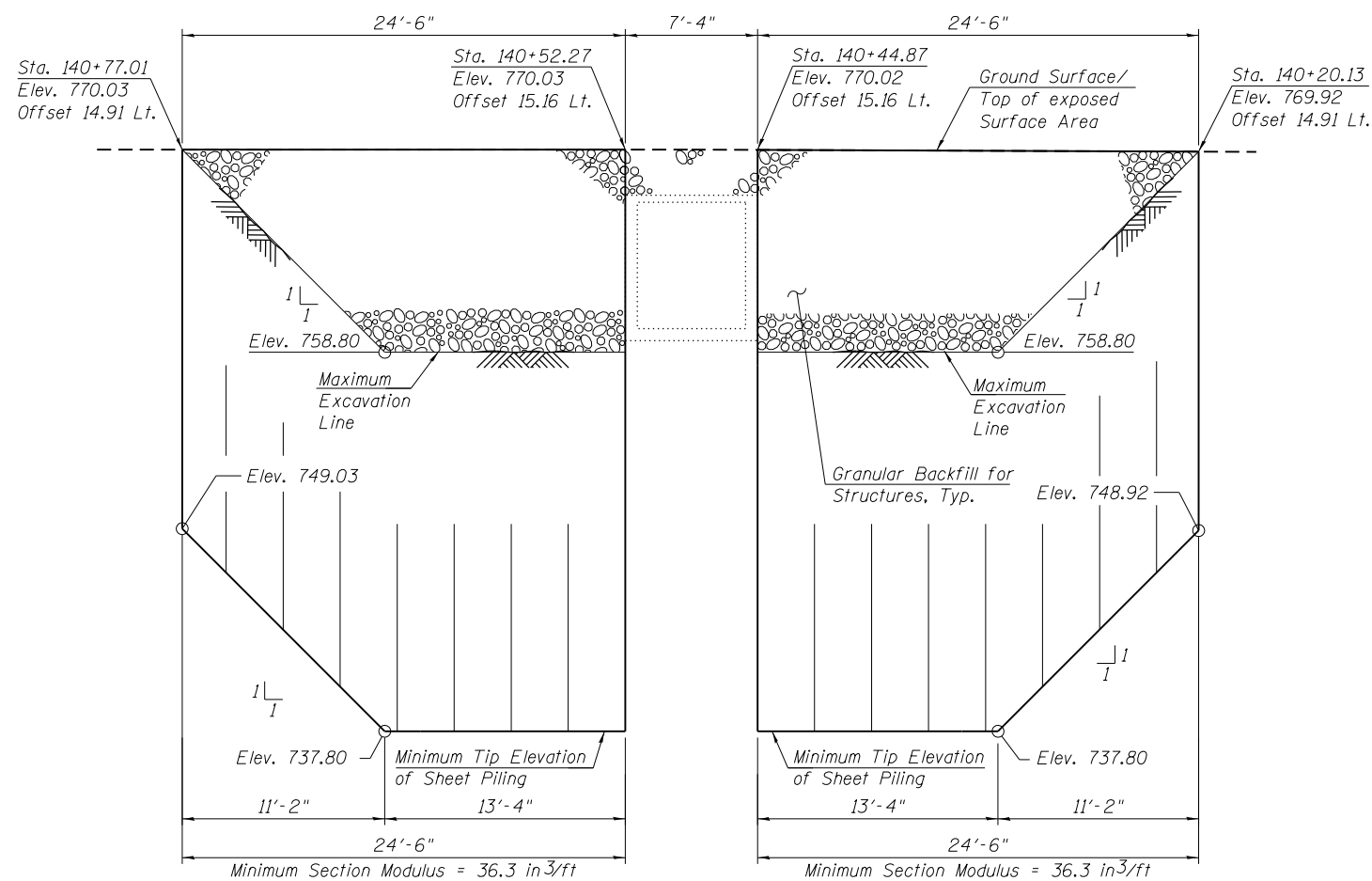
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	42
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



PARTIAL PLAN AT NORTH CULVERT

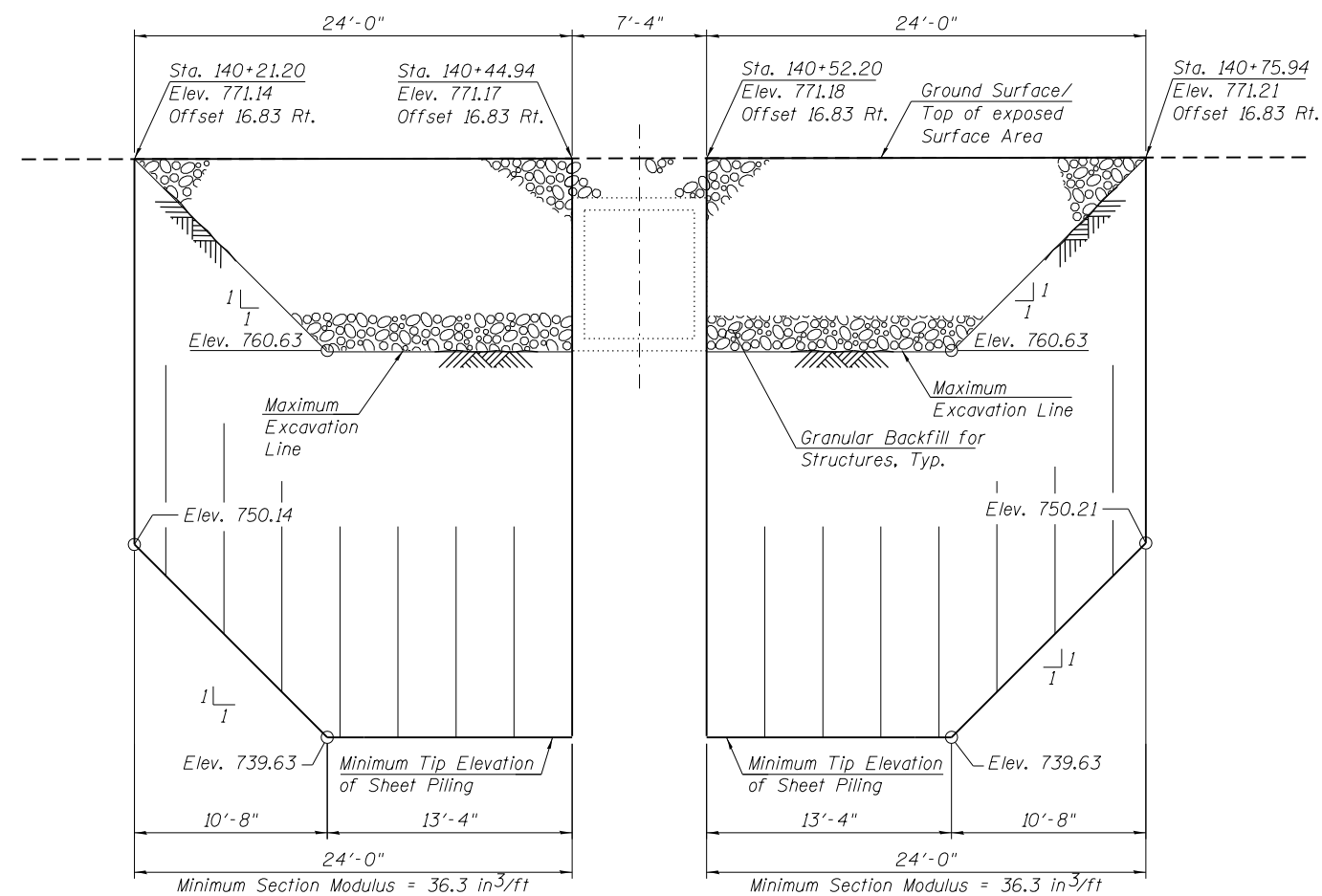


PARTIAL PLAN AT SOUTH CULVERT END



ELEVATION - TEMPORARY SHEET PILING AT NORTH CULVERT END

(Looking South)





ELEVATION - TEMPORARY SHEET PILING AT SOUTH CULVERT END

NOTE:

1. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirement shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

LEGEND

-  Granular Backfill For Structures
-  Temporary Sheet Piling

(Looking North)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Temporary Sheet Piling	Sq Ft	2,849



056-0251 S3-04 TempSheetPiling.dgn
 USER NAME = Ken.drobant
 PLOT SCALE =
 PLOT DATE = 3/28/2017

DESIGNED - KJD
 DRAWN - KJD
 CHECKED - MI, LAB
 DATE - 03/24/2017

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TEMPORARY SHEET PILING
 S.N. 056-0251 (LOCATION 4)

SCALE: SHEET S3-04 OF S3-10 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	43
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

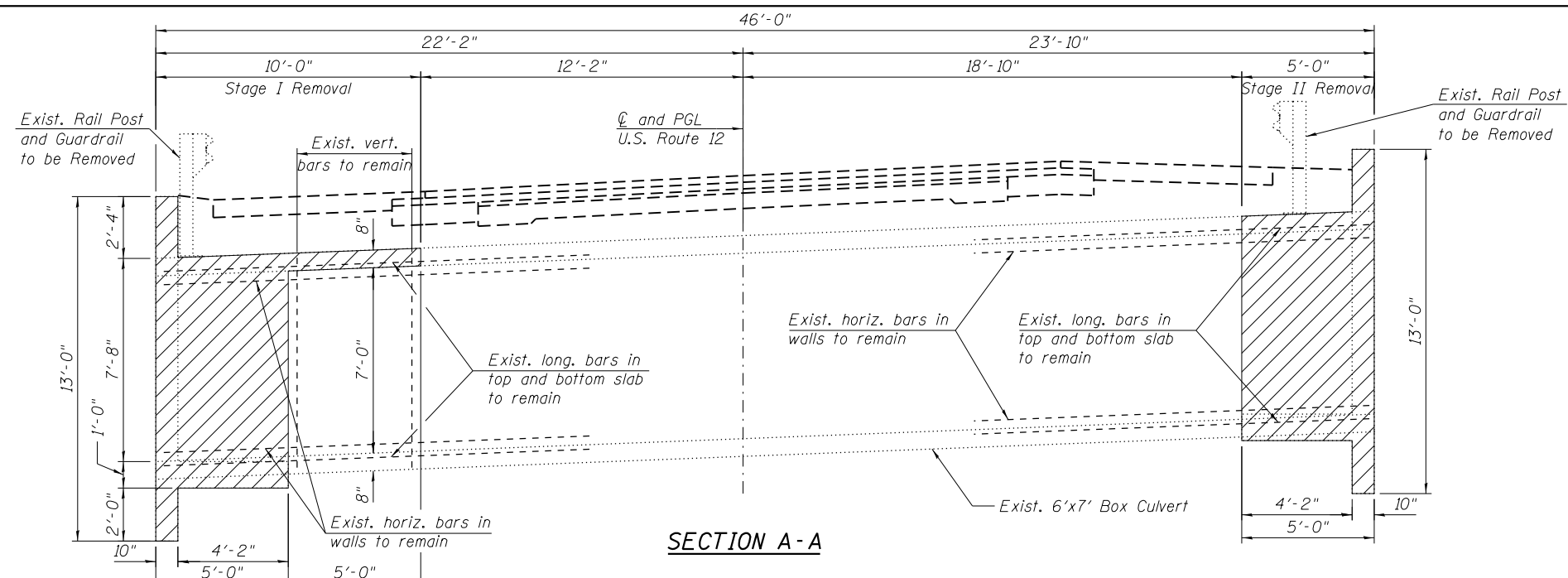
FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Various)\0512 US 12 Culverts\Sheet Files\Structural\056-0251 S3-04 TempSheetPiling.dgn

BILL OF MATERIAL

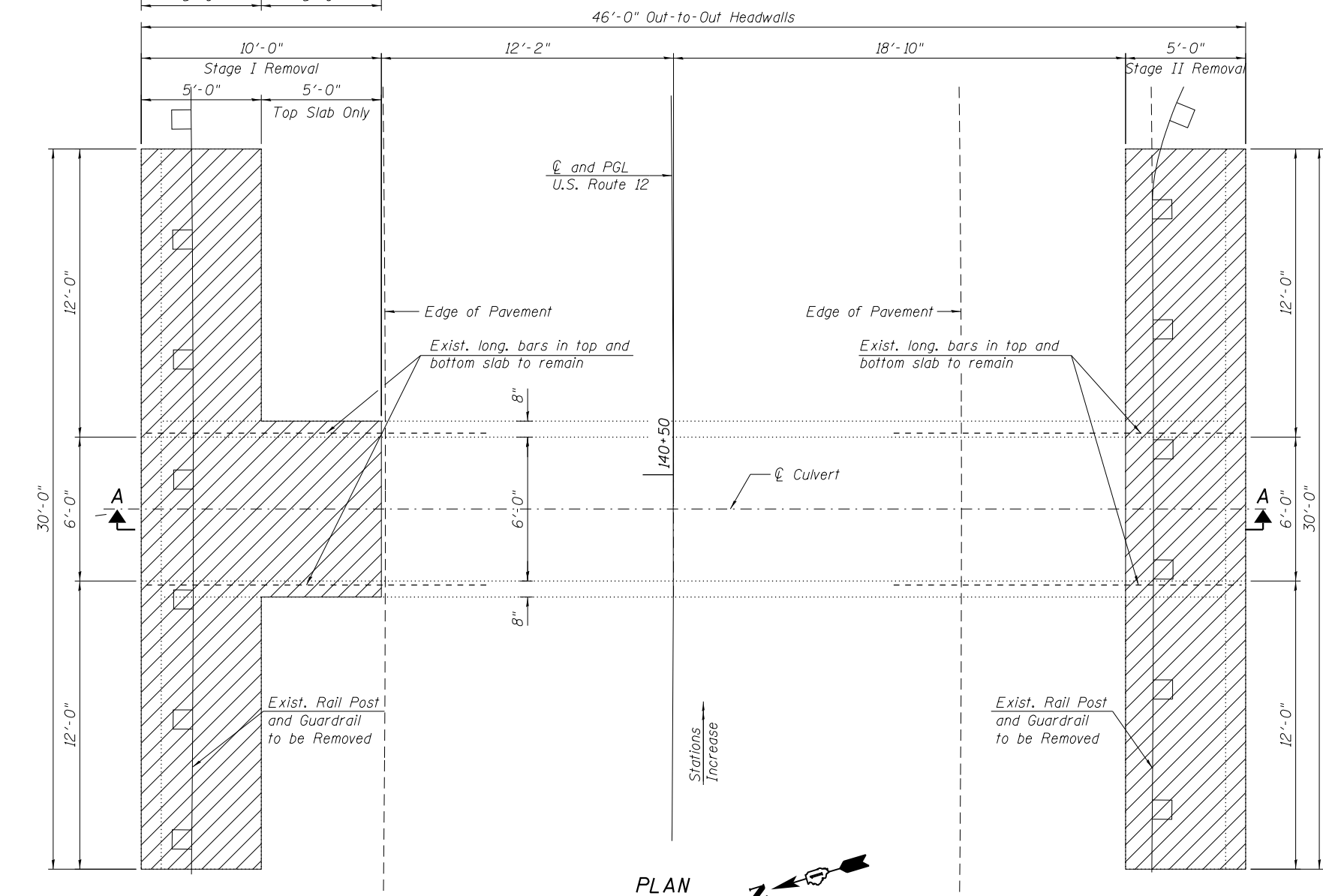
ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	33.8
Box Culvert to be cleaned	Foot	36

NOTES:

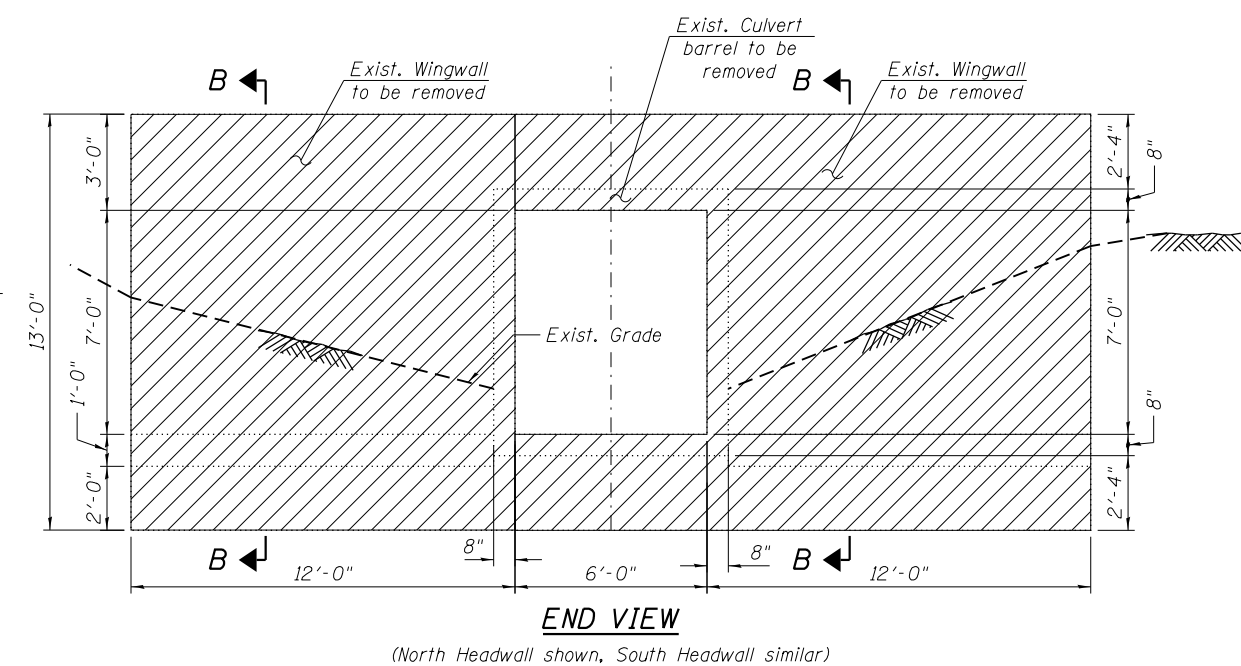
1. Dimensions shown have been taken from field measurements and survey data and may not represent "as built" conditions. The Contractor must verify all dimensions in the field. Variation in the field dimensions shall not warrant additional compensation for Concrete Removal.
2. For Temporary Sheet Piling, see Sheet S3-04.
3. 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.
4. Existing reinforcement shall be cleaned 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.



SECTION A-A

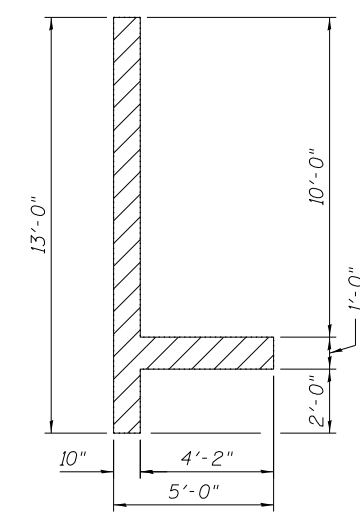


PLAN



END VIEW

(North Headwall shown, South Headwall similar)



SECTION B-B

LEGEND:

Concrete Removal

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Varioual)\W0112 US 12 Culverts\Sheet Files\Structural\056-0251 S3-05 Removal.dgn



056-0251 S3-05 Removal.dgn
 USER NAME = Ken.drobant
 PLOT SCALE =
 PLOT DATE = 3/28/2017

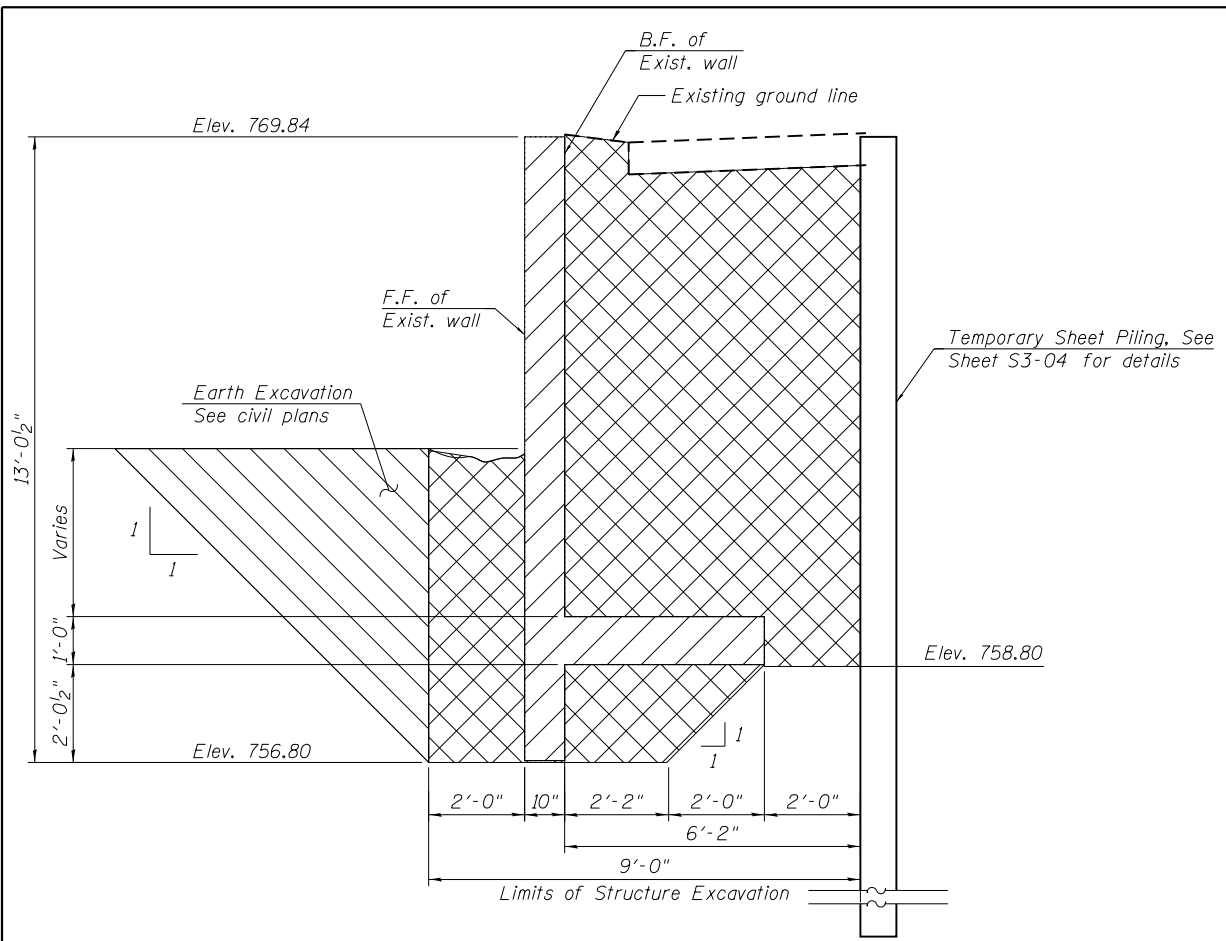
DESIGNED - SK, KJD	REVISED -
DRAWN - SK	REVISED -
CHECKED - MI, LAB	REVISED -
DATE - 03/24/2017	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

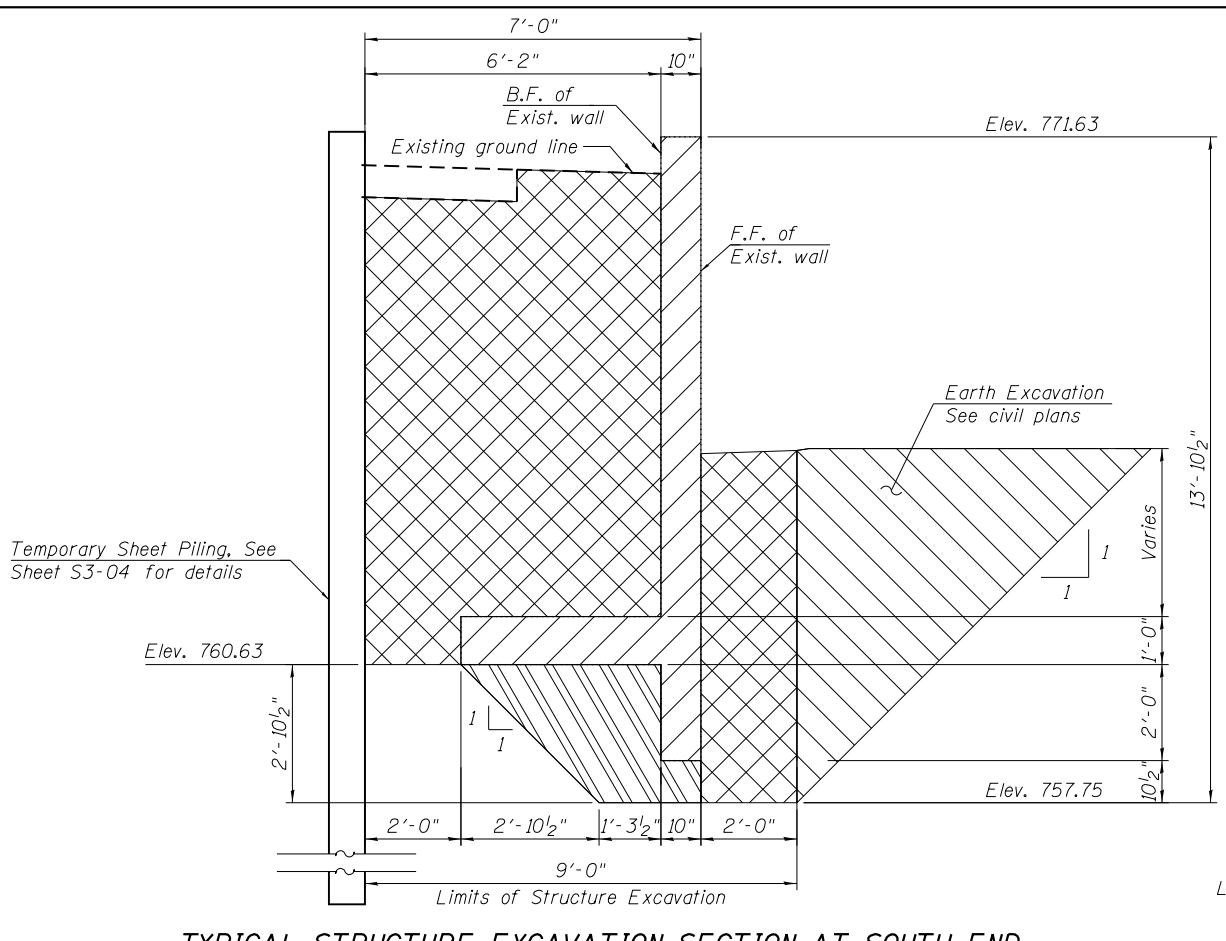
**EXISTING STRUCTURE REMOVAL
 S.N. 056-0251 (LOCATION 4)**

SCALE: SHEET S3-05 OF S3-10 SHEETS STA. TO STA.

F.A.P. RTE. 334	SECTION 2015-087B	COUNTY MCHENRY	TOTAL SHEETS 64	SHEET NO. 44
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



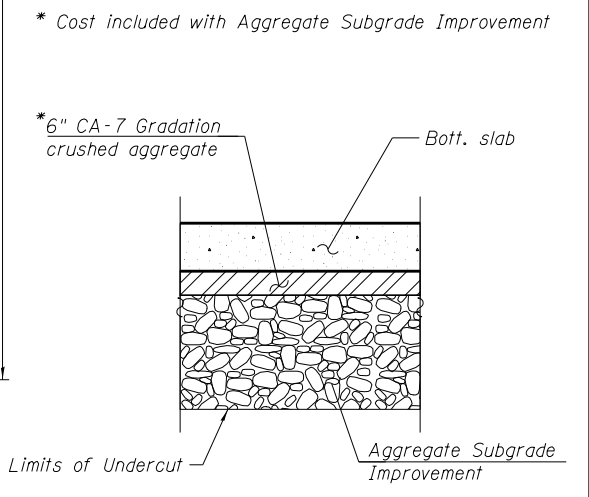
TYPICAL STRUCTURE EXCAVATION SECTION AT NORTH END
(Looking Upstation)



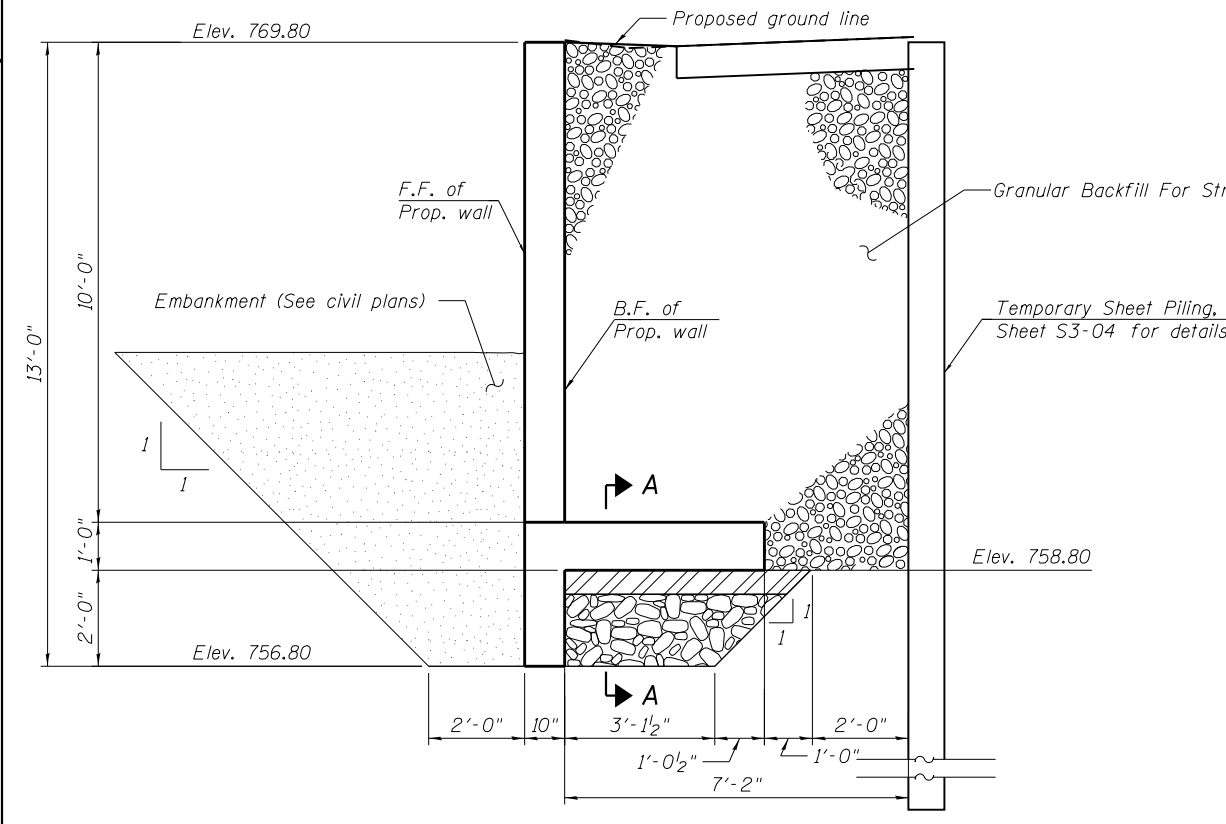
TYPICAL STRUCTURE EXCAVATION SECTION AT SOUTH END
(Looking Upstation)

BILL OF MATERIAL

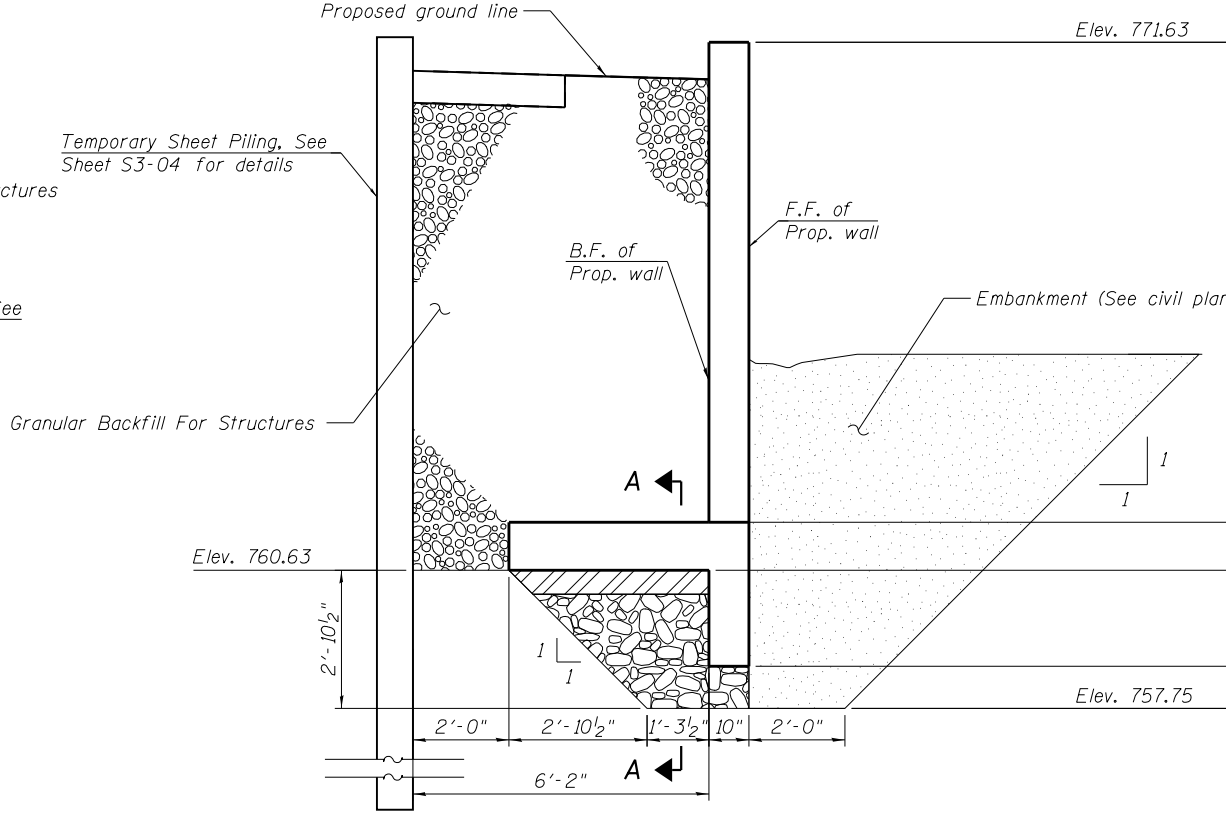
ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu Yd	11
Aggregate Subgrade Improvement	Cu Yd	22
Structure Excavation	Cu Yd	176
Granular Backfill for Structures	Cu Yd	136



SECTION A-A
(Showing Aggregate Subgrade Improvement)



TYPICAL GRANULAR BACKFILL SECTION AT NORTH END
(Looking Upstation)



TYPICAL GRANULAR BACKFILL SECTION AT SOUTH END
(Looking Upstation)

LEGEND:

- Earth Excavation
- Concrete Removal
- Structure Excavation
- Granular Backfill For Structures
- Embankment
- Aggregate Subgrade Improvement
- Removal and Disposal of Unsuitable Material
- 6" CA-7 Gradation crushed aggregate

F.F. Front Face
B.F. Back Face

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Variou)\WD12 US 12 Culverts\Sheet Files\Structural\056-0251 S3-06 StructExcav.dgn



056-0251 S3-06 StructExcav.dgn
USER NAME = Ken.drobant
PLOT SCALE =
PLOT DATE = 3/28/2017

DESIGNED - KJD
DRAWN - KJD
CHECKED - MI, LAB
DATE - 03/24/2017

REVISED -
REVISED -
REVISED -
REVISED -

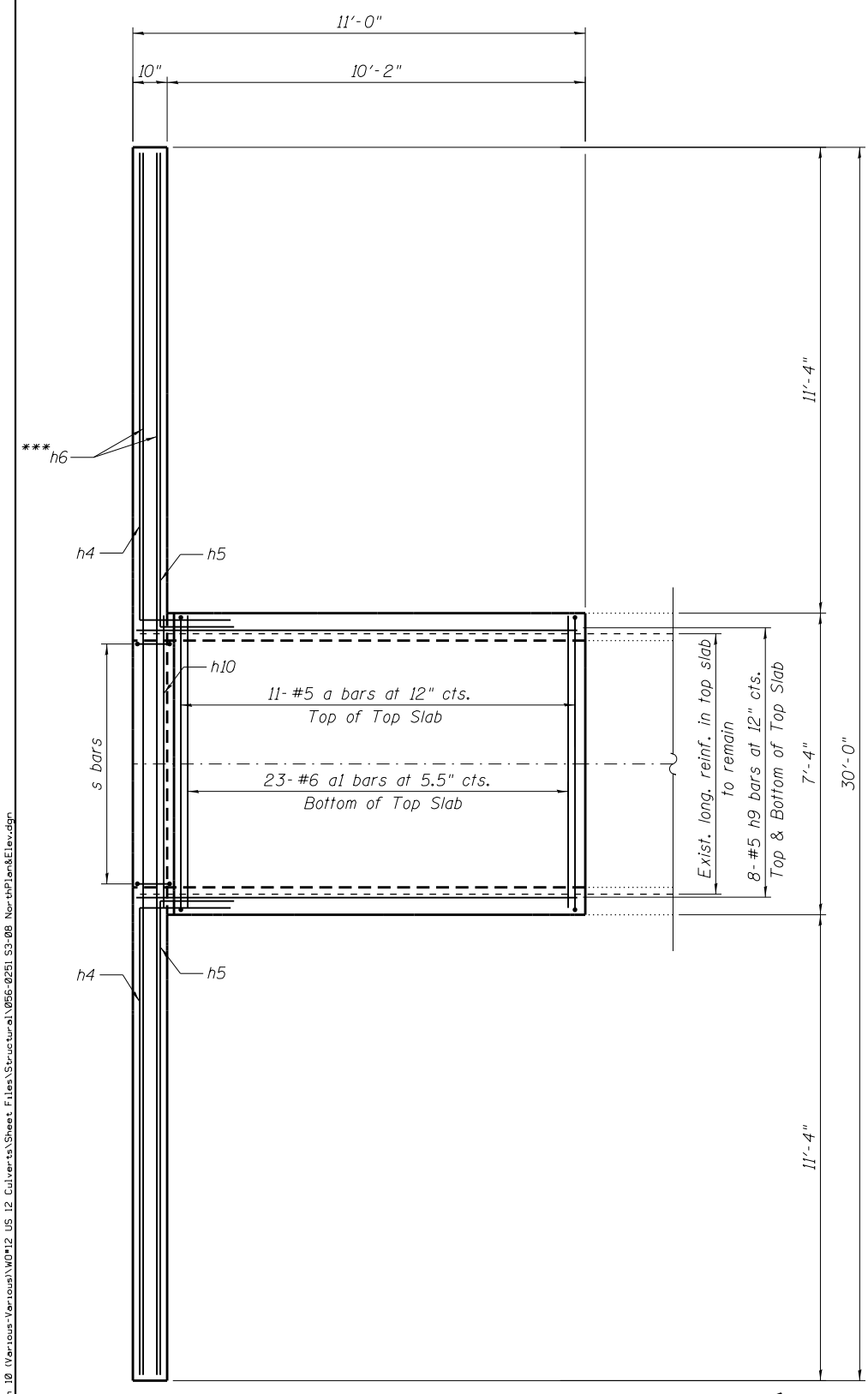
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURE EXCAVATION AND BACKFILL
S.N. 056-0251 (LOCATION 4)**

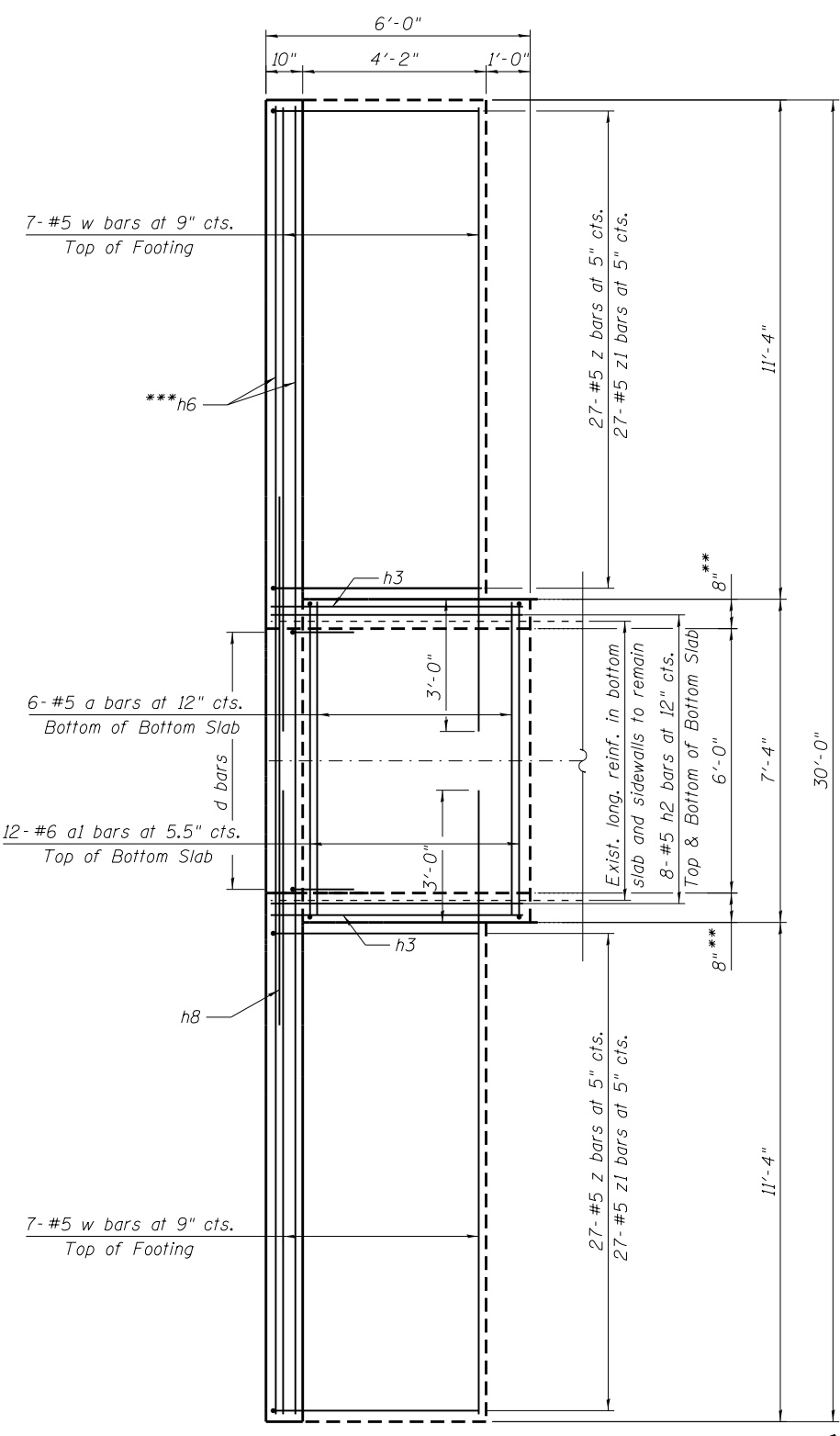
SCALE: SHEET S3-06 OF S3-10 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	45
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

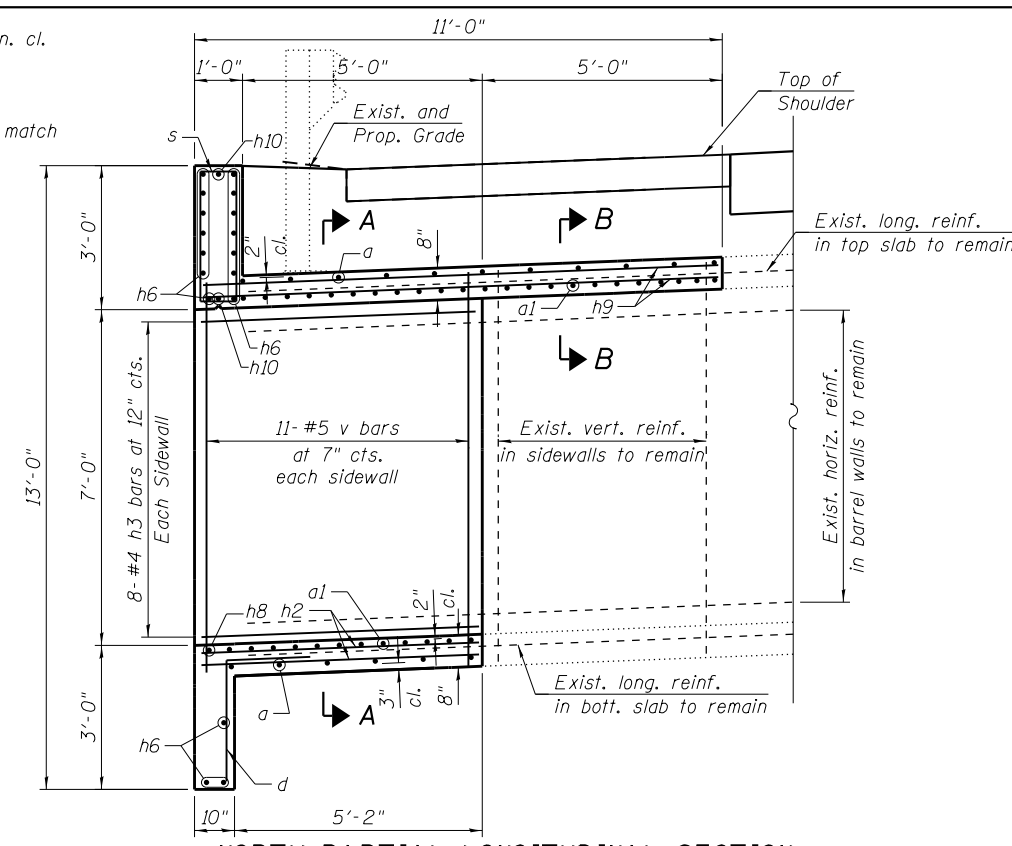
- * Tilt hook of a1 bars if necessary for 2" min. cl.
- ** Verify in field
- *** Bend h6 bars at back face of Wingwalls to match the back face of Headwalls.



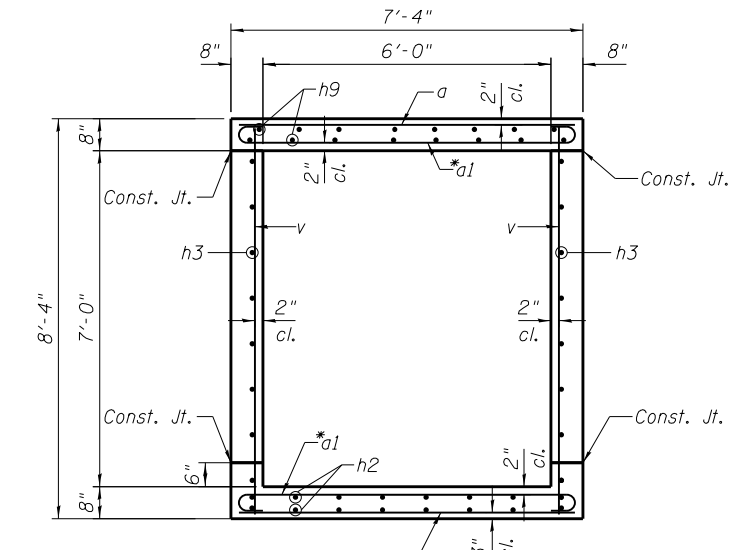
NORTH TOP SLAB PARTIAL PLAN



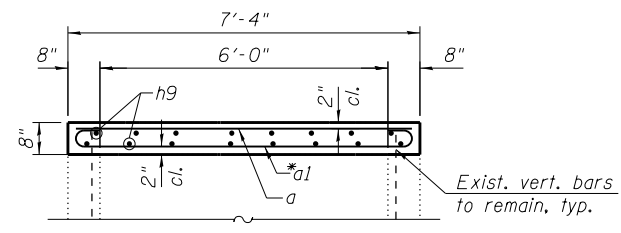
NORTH BOTTOM SLAB PARTIAL PLAN



NORTH PARTIAL LONGITUDINAL SECTION



SECTION A-A



SECTION B-B

NOTE
 1. For bill of material, bar diagrams, wingwall reinforcement and additional notes, see Sheet S3-09.

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Various)\012 US 12 Culverts\Sheet Files\Structural\056-0251 S3-08 NorthPlan&Elev.dgn



056-0251 S3-08 NorthPlan&Elev.dgn	DESIGNED - LAB, SK	REVISED -
USER NAME = Ken.drobant	DRAWN - SK, MAA	REVISED -
PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

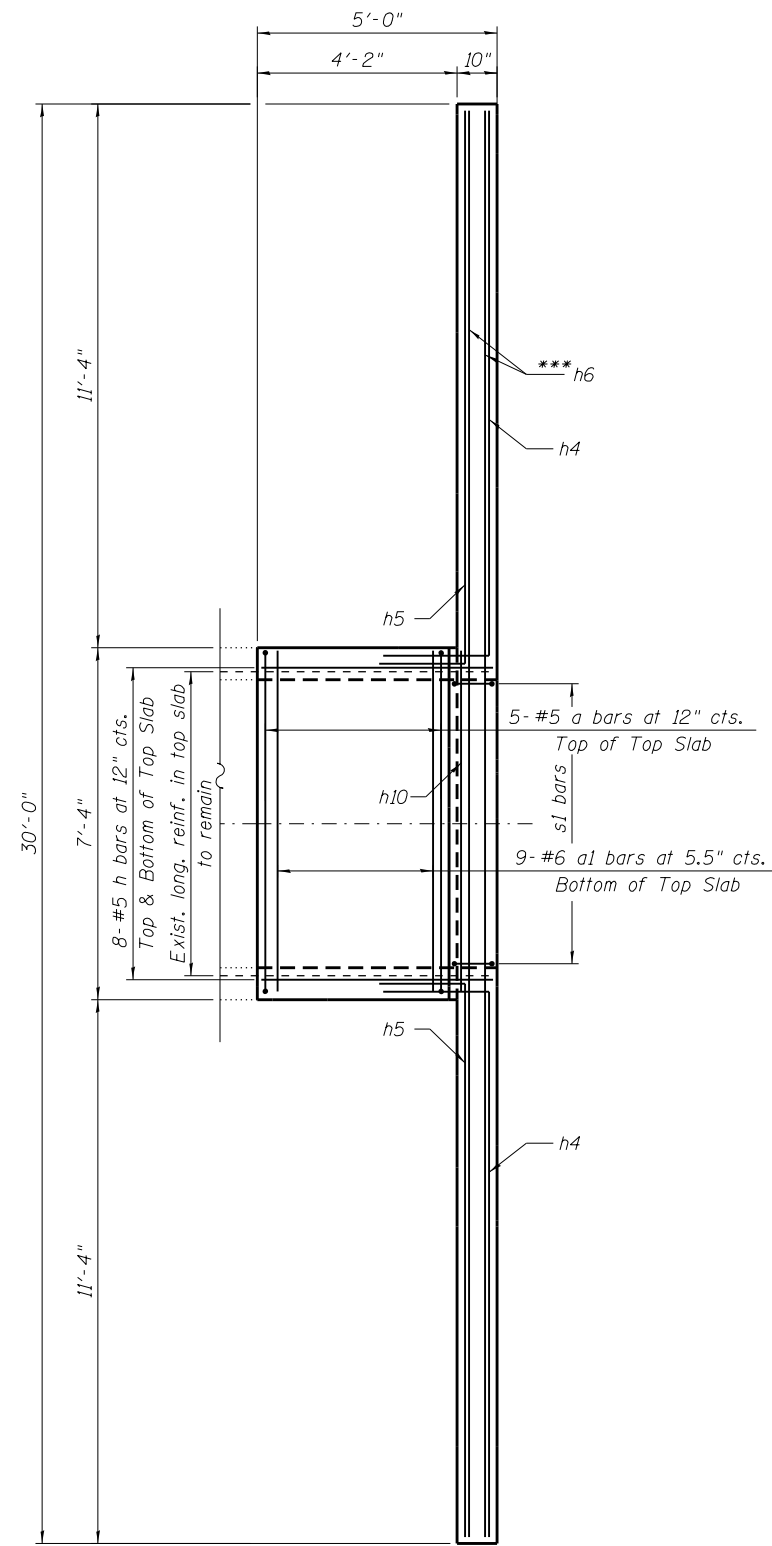
STATE OF ILLINOIS	NORTH END OF CULVERT PLAN AND SECTIONS
DEPARTMENT OF TRANSPORTATION	S.N. 056-0251 (LOCATION 4)

SCALE:	SHEET S3-07 OF S3-10 SHEETS	STA.	TO STA.
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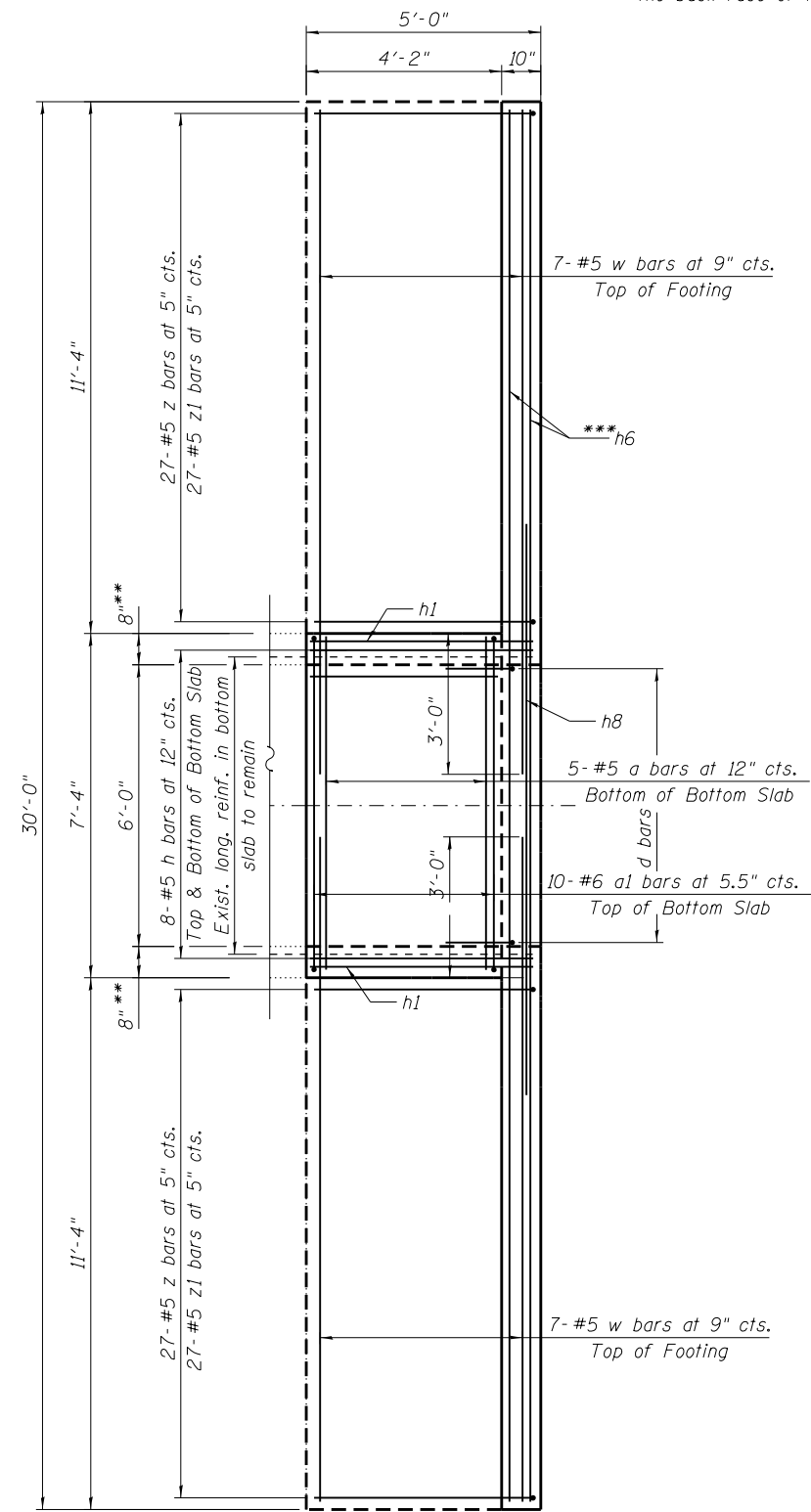
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	46
CONTRACT NO. 62B92				

ILLINOIS FED. AID PROJECT				
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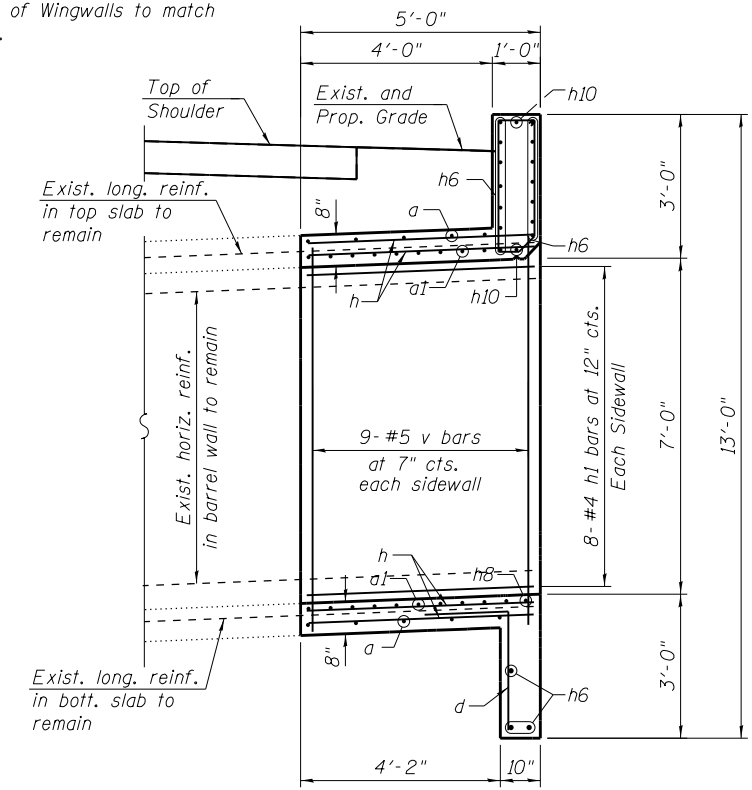
- * Tilt hook of a1 bars if necessary for 2" min. cl.
- ** Verify in field
- *** Bend h6 bars at back face of Wingwalls to match the back face of Headwalls.



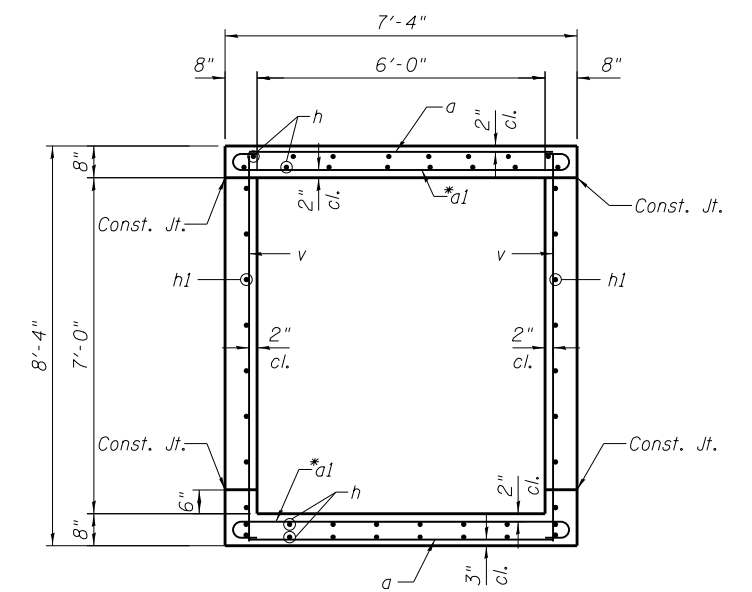
SOUTH TOP SLAB PARTIAL PLAN



SOUTH BOTTOM SLAB PARTIAL PLAN



SOUTH PARTIAL LONGITUDINAL SECTION



SECTION THRU BARREL

NOTE

1. For bill of material, bar diagrams, wingwall reinforcement and additional notes, see Sheet S3-09.

FILE PATH = P:\1501-630 IDOT PTB 172 Item 10 (Various-Varioual)\0112 US 12 Culverts\Sheet Files\Structural\056-0251 S3-09 SouthPlan&Elev.dgn



056-0251 S3-09 SouthPlan&Elev.dgn	DESIGNED - LAB, SK	REVISED -
USER NAME = Ken.drobant	DRAWN - SK, MAA	REVISED -
PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

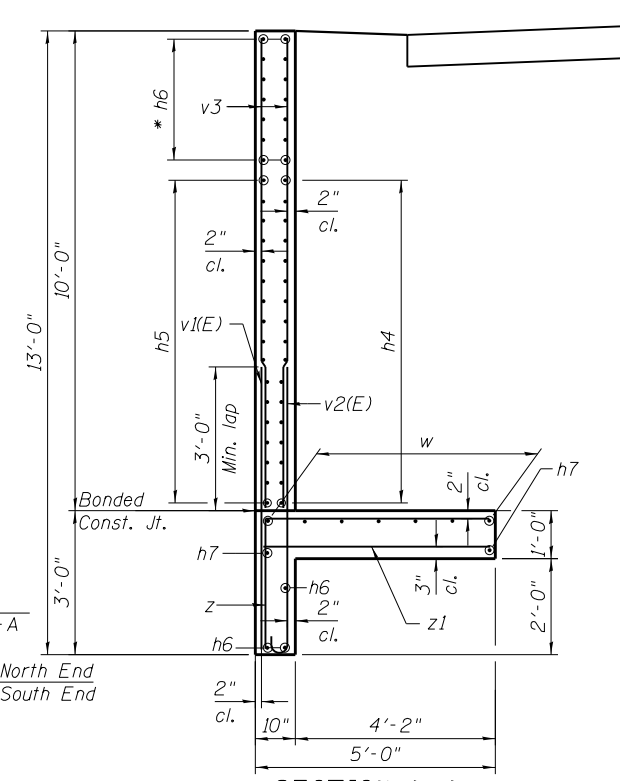
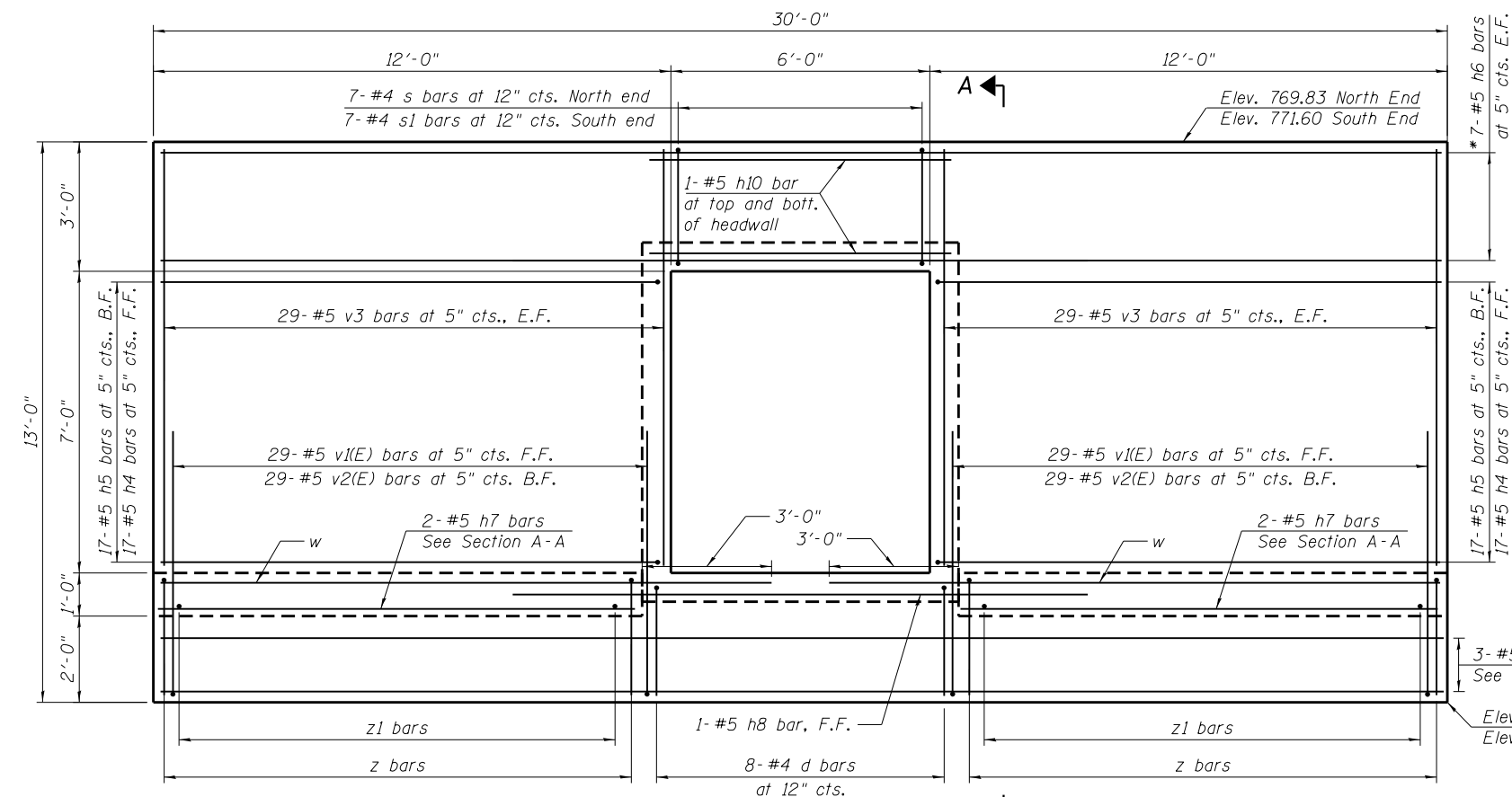
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH END OF CULVERT PLAN AND SECTIONS
S.N. 056-0251 (LOCATION 4)

SCALE: SHEET S3-08 OF S3-10 SHEETS STA. TO STA.

F.A.P. RTE. 334	SECTION 2015-087B	COUNTY MCHENRY	TOTAL SHEETS 64	SHEET NO. 47
CONTRACT NO. 62B92			ILLINOIS FED. AID PROJECT	

*Bend h6 bars at back face of Wingwalls to match the back face of Headwalls.

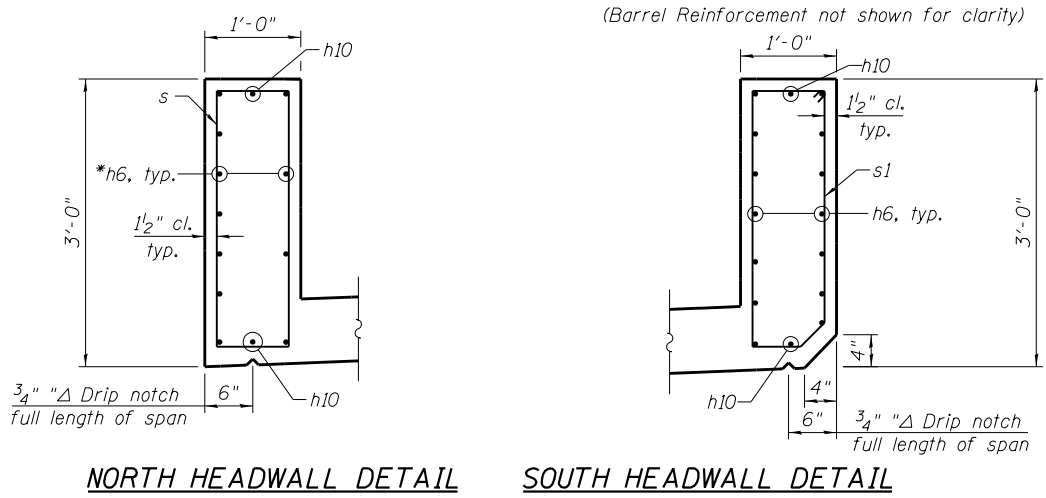


ELEVATION
(North End Shown, South End Similar)
(Barrel Reinforcement not shown for clarity)

SECTION A-A

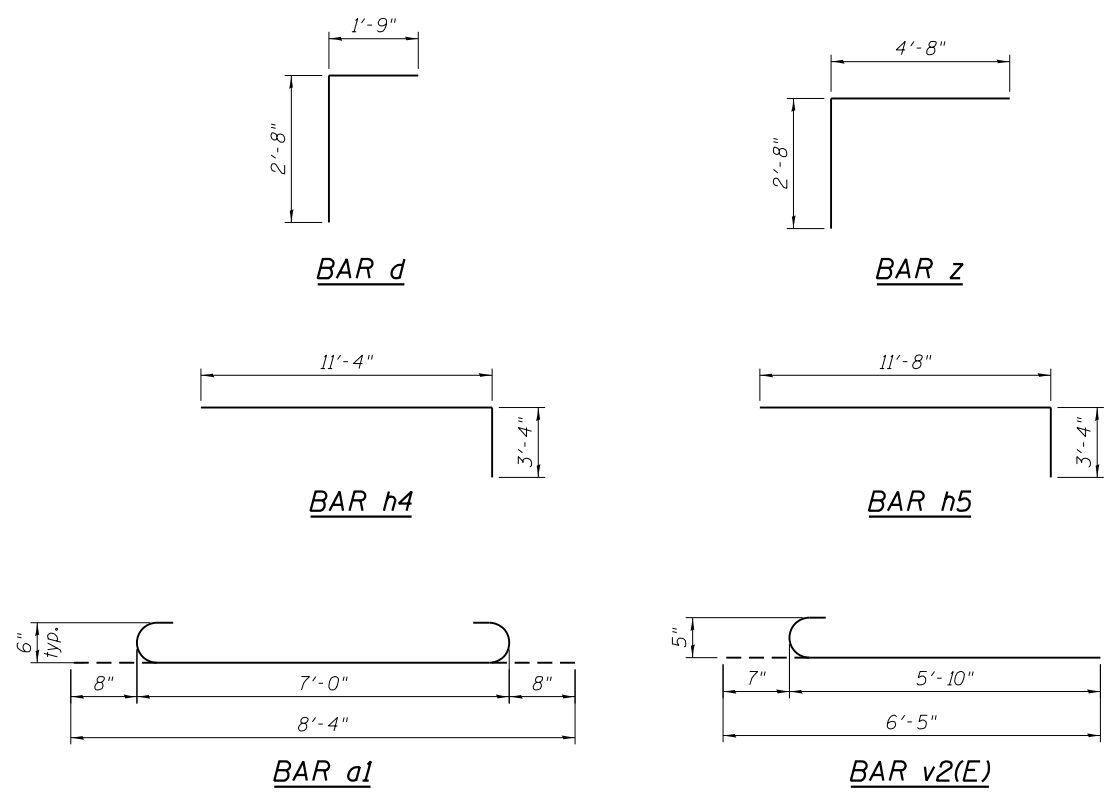
BILL OF MATERIAL				
Bar	No.	Size	Length	Shape
a	27	#5	7'-0"	—
a1	54	#6	8'-4"	—
d	16	#4	4'-5"	—
h	32	#5	4'-8"	—
h1	16	#4	4'-8"	—
h2	16	#5	5'-8"	—
h3	16	#4	5'-8"	—
h4	68	#5	14'-8"	—
h5	68	#5	15'-0"	—
h6	34	#5	29'-8"	—
h7	8	#5	11'-0"	—
h8	2	#5	14'-0"	—
h9	16	#5	10'-8"	—
h10	4	#5	7'-0"	—
s	7	#4	7'-7"	—
s1	7	#4	7'-4"	—
v	40	#5	7'-11"	—
v1(E)	116	#5	5'-10"	—
v2(E)	116	#5	6'-5"	—
v3	232	#5	9'-8"	—
w	28	#5	14'-2"	—
z	108	#5	7'-4"	—
z1	108	#5	4'-8"	—
Reinforcement Bars			Pound	9,270
Reinforcement Bars, Epoxy Coated			Pound	1,490
Concrete Box Culverts			Cu. Yd.	37.7

Reinforcement bars designated (E) shall be epoxy coated

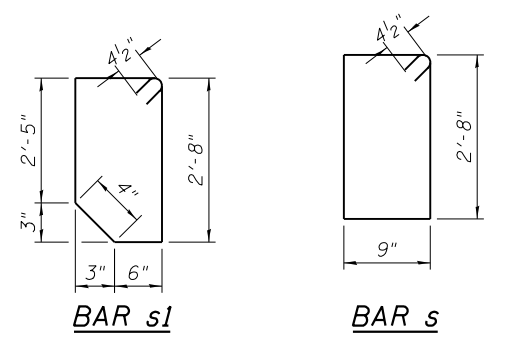


NORTH HEADWALL DETAIL

SOUTH HEADWALL DETAIL



Bar	Minimum Bar Laps	
	s < 6"	s >= 6"
#4	2'-7"	2'-7"
#5	3'-4"	3'-2"
#6	4'-9"	3'-10"
#7	5'-6"	4'-5"
#8	7'-2"	5'-1"



NOTES:

- The presented elevations and limits of the existing structure have been taken from field measurements drawings and Survey data. Dimensions may not present "as-built" condition. All existing structure limits shall be field verified by the contractor and coordinated with the engineer prior to ordering materials, fabrication and construction of the proposed culvert extension.
- Existing reinforcement shall be cleaned 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.
- All exposed concrete edge shall have a 3/4" x 45° chamfer, except where shown otherwise.
- The culvert barrels shall be poured monolithically with the wingwalls.

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Various)\W0112 US 12 Culverts\Structural\056-0251 S3-10 Sec&Det.dgn



DESIGNED - LAB, SK	REVISED -
DRAWN - SK, MAA	REVISED -
CHECKED - MI, LAB	REVISED -
DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT SECTIONS AND DETAILS	
S.N. 056-0251 (LOCATION 4)	
SCALE:	SHEET S3-09 OF S3-10 SHEETS STA. TO STA.

F.A.P. RTE. 334	SECTION 2015-087B	COUNTY MCHENRY	TOTAL SHEETS 64	SHEET NO. 48
CONTRACT NO. 62B92			ILLINOIS FED. AID PROJECT	

SEECO CONSULTANTS, INC.		SOIL BORING LOG					Page 1 Of 1				
ROUTE FAP 334 (US Rte. 12)		DESCRIPTION Culverts at Various Locations					Date 11/10/16				
SECTION _____		LOCATION US Rte. 12, McHenry County, IL					Logged By DK				
COUNTY McHenry		STRUCTURE NO. 056-0251 (Exist.)					(Prop.) _____				
Boring No. B-3		Drilling Method AASHTO T 206-09					Hammer Type Automatic Hammer				
Station 140+24		Surf. Wat. El. _____					E L E V. _____				
Offset 14.08' from NB Lane		Groundwater Elev.: _____					D E P T H _____				
Ground Surface El. +769.81 +/- M.S.L.		When Drilling 11'					S P T _____				
		at Completion _____					U C S _____				
		After _____					M O I S T _____				
		Hrs _____					M.S.L. _____				
7.75" BITUMINOUS CONCRETE PAVEMENT	769.2					23.0					
FILL: SAND, Brown, Trace Gravel, Some Clay, Loose, Dry (A-1-b)	1.0	2			8.3	24.0	15				
	2.0	3				25.0	16				
	3.0	5				26.0	16				
	766.3					743.8					
FILL: CLAY LOAM, Brown and Dark Brown, Medium Stiff, Moist (A-6)	4.0	2			21.3	26.0	7				
	5.0	2	1.00 P			27.0	9				
	764.8	3				28.0	13				
FILL: CLAY, Brown and Dark Brown, Medium Stiff, Moist (A-6)	6.0					29.0	8				
	7.0	3	0.75 P		28.0	30.0	11				
	8.0	3				31.0	15				
	761.3					32.0					
ORGANIC SILTY LOAM, Dark Gray and Black, Trace Organics, Roots, and Shells, Loose, Moist (A-4)	9.0	3			30.0	33.0					
	10.0	3				34.0					
	758.8					736.3					
SANDY LOAM, Gray, Loose, Saturated (A-2-4)	11.0	3				35.0	15				
	12.0	3				36.0	21				
	13.0	2				37.0	24				
	756.3					38.0					
SAND AND GRAVEL, Dark Gray, Loose, Saturated (A-1-b)	14.0	3			24.9	39.0	17				
	15.0	3	1.50 P			40.0	17				
	16.0	3				41.0	22				
	17.0	3	1.00 P		23.4	42.0					
	18.0	6				43.0					
	755.8					44.0					
CLAY, Gray, Trace Gravel, Stiff to Medium Stiff, Moist (A-6)	19.0	6				45.0					
	20.0	8									
	21.0	10									
	751.3										
SAND AND GRAVEL, Gray, Medium Dense to Dense, Saturated (A-1-b)	22.0	9									
	23.0	11									
	24.0	13									

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
 Split Spoon Sampler 24" with 140lb hammer falling 30" DRILL RIG: D-50
 4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 10612G-12

SEECO CONSULTANTS, INC.		SOIL BORING LOG					Page 1 Of 1				
ROUTE FAP 334 (US Rte. 12)		DESCRIPTION Culverts at Various Locations					Date 11/10/16				
SECTION _____		LOCATION US Rte. 12, McHenry County, IL					Logged By DK				
COUNTY McHenry		STRUCTURE NO. 056-0251 (Exist.)					(Prop.) _____				
Boring No. B-4		Drilling Method AASHTO T 206-09					Hammer Type Automatic Hammer				
Station 140+73		Surf. Wat. El. _____					E L E V. _____				
Offset 13.5' from SB Lane		Groundwater Elev.: _____					D E P T H _____				
Ground Surface El. +771.25 +/- M.S.L.		When Drilling 13.5'					S P T _____				
		at Completion _____					U C S _____				
		After _____					M O I S T _____				
		Hrs _____					M.S.L. _____				
9.75" BITUMINOUS CONCRETE PAVEMENT	770.4					23.0					
FILL: SAND, Brown, Fine, Trace Gravel, Medium Dense, Dry (A-3)	1.0	7			6.7	24.0	10				
(Clay lenses)	2.0	9				25.0	12				
	3.0	11				26.0	13				
	765.3					27.0					
FILL: CLAY LOAM, Dark Brown, Trace Gravel, Stiff, Moist (A-6)	4.0	7			8.0	28.0	11				
	5.0	8				29.0	14				
	762.8	8				30.0	15				
FILL: CLAY LOAM, Dark Brown, Trace Gravel, Stiff, Moist (A-6)	6.0	6			16.1	31.0	13				
	7.0	5	1.25 P			32.0	16				
	8.0	4				33.0	18				
	762.8					34.0					
SILTY LOAM (TOPSOIL), Black, Trace Roots, Trace Organics and Fibers, Loose to Medium Dense, Wet to Moist (A-4)	9.0	2			35.2	35.0					
	10.0	3				36.0					
	757.8	5				37.0					
SAND AND GRAVEL, Gray, Loose, Saturated (A-1-b)	11.0	5			28.0	38.0					
	12.0	5				39.0	12				
	13.0	6				40.0	15				
	756.3					41.0	16				
SAND AND GRAVEL, Gray, Loose, Saturated (A-1-b)	14.0	2				42.0					
	15.0	2				43.0					
	16.0	2				44.0					
	17.0	2				45.0					
	752.8										
SAND AND GRAVEL, Gray, Loose, Saturated (A-1-b)	18.0	2									
	19.0	3			24.3						
	20.0	3	2.23 B								
	21.0	4									
	749.3										
CLAY, Gray, Very Stiff to Stiff, Moist (A-6)	22.0	7			22.4						
	23.0	11	1.50 P								
	24.0	11									

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
 Split Spoon Sampler 24" with 140lb hammer falling 30" DRILL RIG: D-50
 4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 10612G-12

FILE PATH = P:\1501-638 IDOT P172 Item 10 (Various-Variou)\V0112 US 12 Culverts\Sheet Files\Structural\056-0251 S3-11 Boring Log.dgn



056-0251 S3-11 Boring Log.dgn	DESIGNED - MAA	REVISED -
USER NAME = Ken.drabant	DRAWN - MAA	REVISED -
PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS	
S.N. 056-0251 (LOCATION 4)	
SCALE:	SHEET S3-10 OF S3-10 SHEETS STA. TO STA.

F.A.P. RTE. 334	SECTION 2015-087B	COUNTY MCHENRY	TOTAL SHEETS 64	SHEET NO. 49
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

Benchmark: Magnail embedded in east shoulder at sta. 328+52.04 with an offset of 16.59L. at Elev. 760.43

Existing Structure: S.N. 056-0283 Located on US 12 0.1 miles north of Sunset Road is a single cell reinforced concrete box culvert. The culvert is 46'-0" in length; the cell width and height are both approximately 6 ft. The structure spans north to south and carries one lane of northbound and southbound traffic for a total of two traffic lanes. A metal guardrail is present at both ends of the culvert.

GENERAL NOTES:

1. 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.
2. It shall be the responsibility of the contractor to divert the stream flow during construction in order to keep the construction area free of water. The method of the water diversion shall be subjected to the approval of the Engineer and the cost shall be included with the cost of concrete box culverts.
3. Reinforcement bars designed (E) shall be epoxy coated.
4. The Contractor shall submit for review and approval shop drawings that detail fabrication, erection, installation, etc. at permanent steel sheet piling.
5. Permanent steel sheet piling shall meet requirements of ASTM A328. Sheet pile shall have an effective section modulus meeting or exceeding 30.2in³. Use of an alternate section is subject to the approval of the Engineer.
6. Prior to installing permanent steel sheet piling the contractor shall field verify the location of the existing drainage pipe by hand excavation. Permanent steel sheet piling shall be terminated at the top of pipe. Cost of hand excavation shall be included with cost of Permanent steel sheet piling. Any damage to the pipe shall be repaired at no additional cost to the Department.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	1.7
Concrete Structures	Cu Yd	15.2
Stud Shear Connectors	Each	78
Reinforcement Bars, Epoxy Coated	Pound	2,090
Permanent Sheet Piling	Sq Ft	1,380
Insertion Culvert Liner (Special) 24"	Foot	51
Structural Repair of Concrete (Depth Greater than 5")	Sq Ft	86

DESIGN SPECIFICATIONS

AASHTO Standard Specifications For Highway Bridges, 17th Edition, 2002

LOADING HS-20

No Future Wearing Surface will be allowed

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 50,000$ psi (Sheet Piling)
 $f_y = 60,000$ psi (Reinforcement)

INDEX OF SHEETS

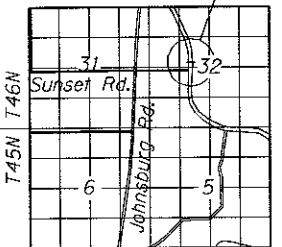
- S4-01 General Plan
- S4-02 Stage Construction
- S4-03 Existing Structure Removal
- S4-04 East Sheet Pile Wall Section and Elevation
- S4-05 West Sheet Pile Wall Section and Elevation
- S4-06 Sheet Pile Wall Sections and Details (Sheet 1 of 2)
- S4-07 Sheet Pile Wall Sections and Details (Sheet 2 of 2)
- S4-08 Boring Logs

SCOPE OF WORK:

1. Clean the inside of existing box culvert.
2. Perform concrete removal of top portion of existing headwalls and east concrete spillway.
3. Perform concrete repairs at the barrel to headwall connections.
4. Drive Sheet piling adjacent to the existing headwalls.
5. Insert culvert liner.
6. Construct concrete cap and end section attached to sheet pile wall and bulkhead.
7. Fill the void around the liner with CLSM.

LEGEND

- Structural Repair of Concrete (Depth Greater than 5 inches)
- Concrete Removal
- Permanent Sheet Piling
- Exist. Guardrail
- Soil Boring



LOCATION SKETCH

GENERAL PLAN

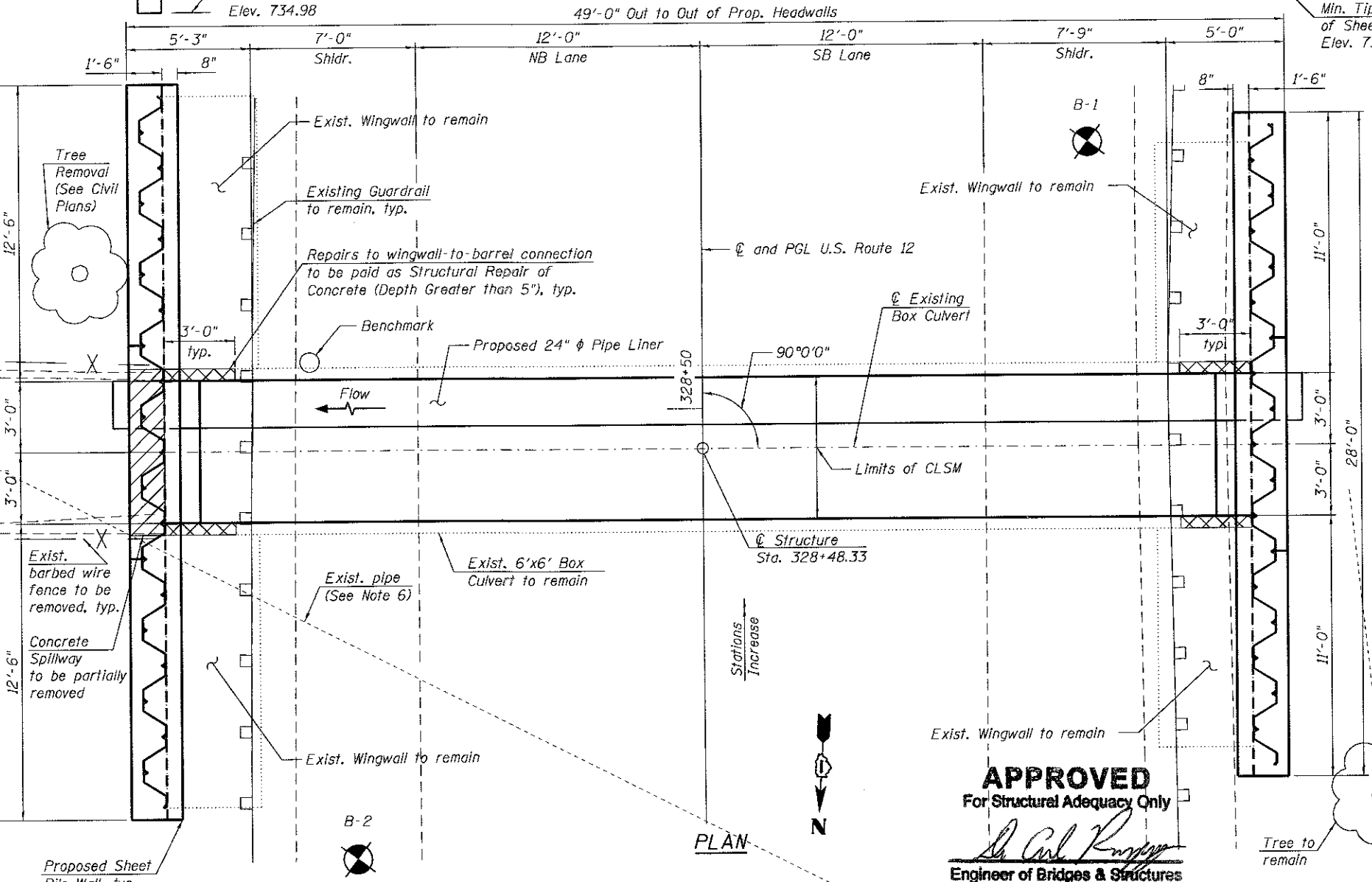
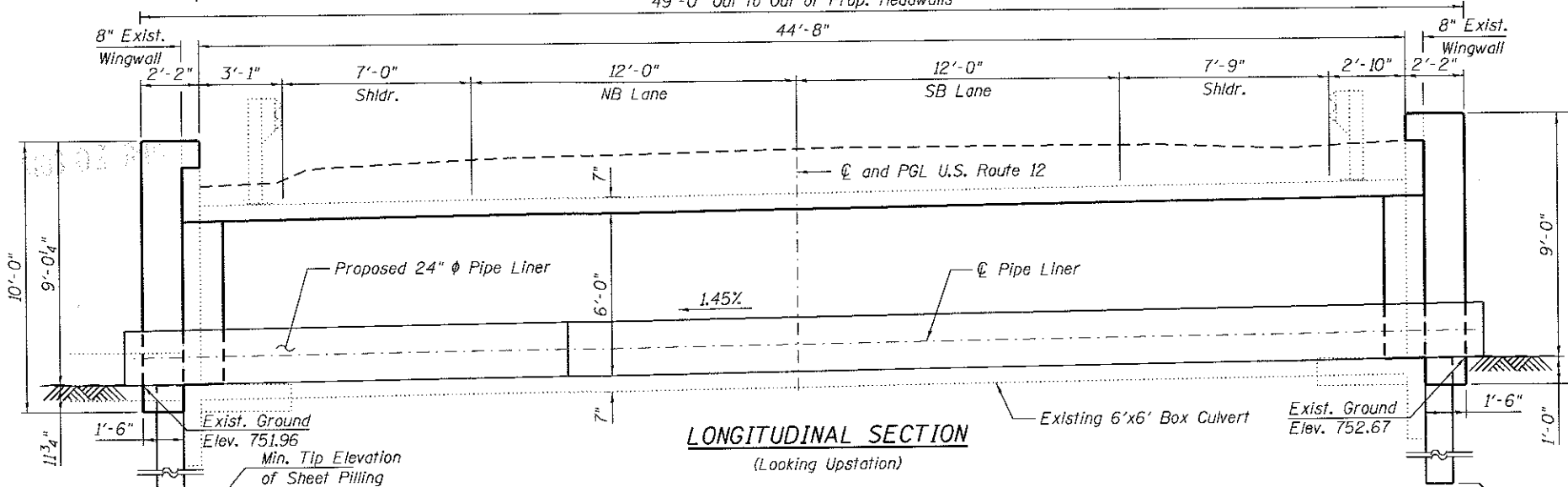
U.S. 12 OVER DRAINAGE DITCH
F.A.P. 334 SECTION 2015-087B
McHENRY COUNTY
STA. 328+48.33
STRUCTURE NO. 056-0283

Signed *Moussa A. Issa*
 Dr. Moussa A. Issa, S.E.
 Il. Lic. No. 081-005738
 Expires 11-30-2018
 Date 03/30/2017
 For Sheets S4-1 Thru S4-8
 (Total of 8 Sheets)



APPROVED
 For Structural Adequacy Only

Carl Rupp
 Engineer of Bridges & Structures



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

S.N. 056-0283 (LOCATION 3)

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	McHENRY	64	50

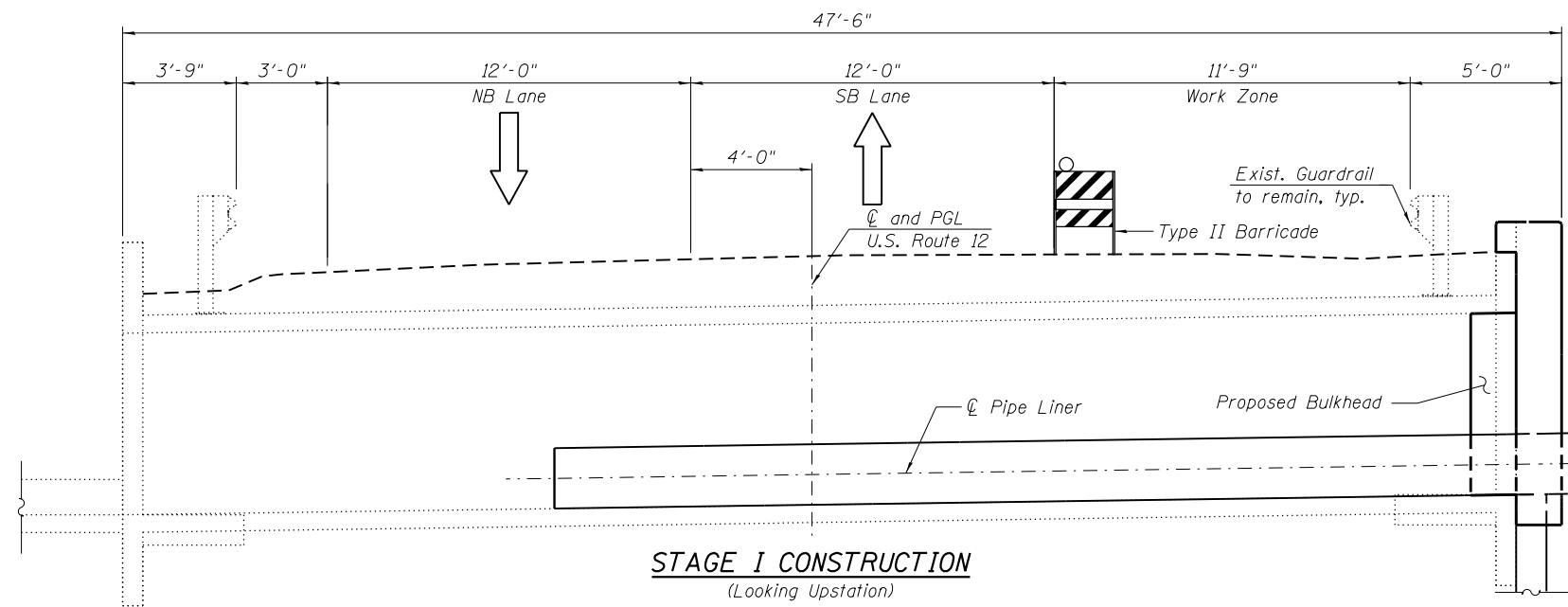
CONTRACT NO. 62B92
 ILLINOIS FED. AID PROJECT



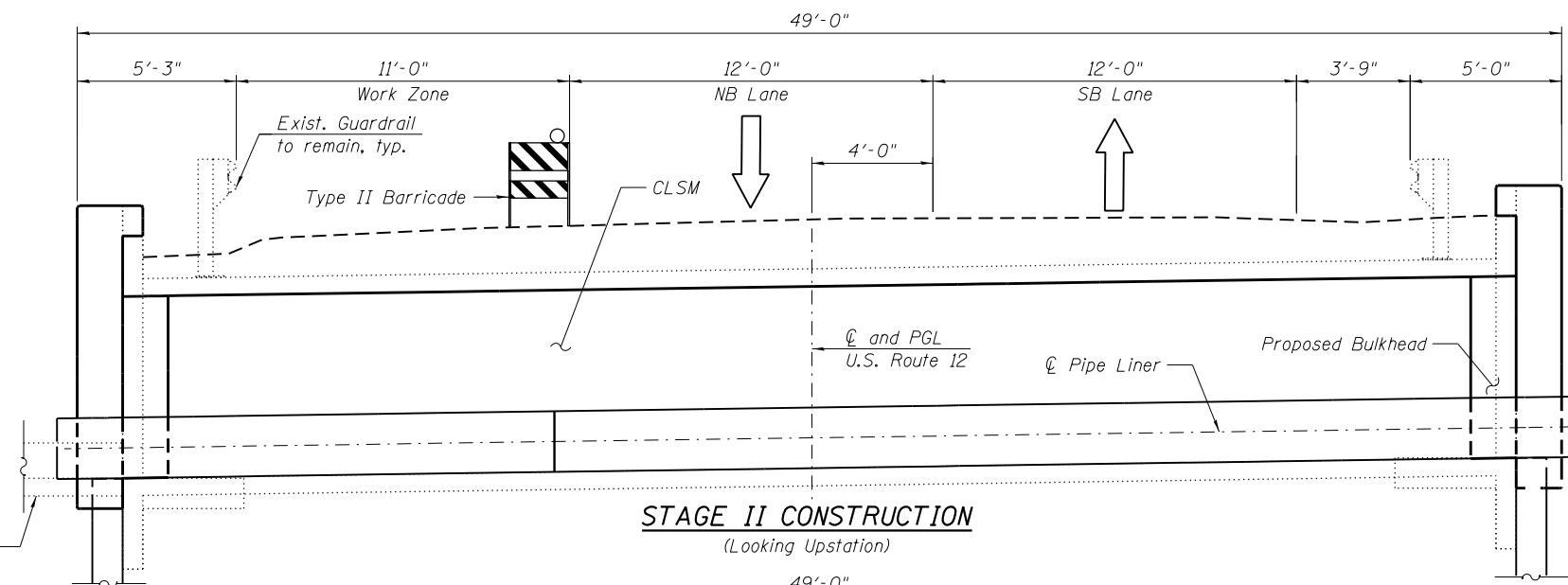
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 USER NAME = Kerdrabant
 PLOT SCALE =
 PLOT DATE = 4/3/2017

DESIGNED	REVISIONS
KJD, SK	REVISED -
SK	REVISED -
MI, LAB	REVISED -
03/24/2017	REVISED -

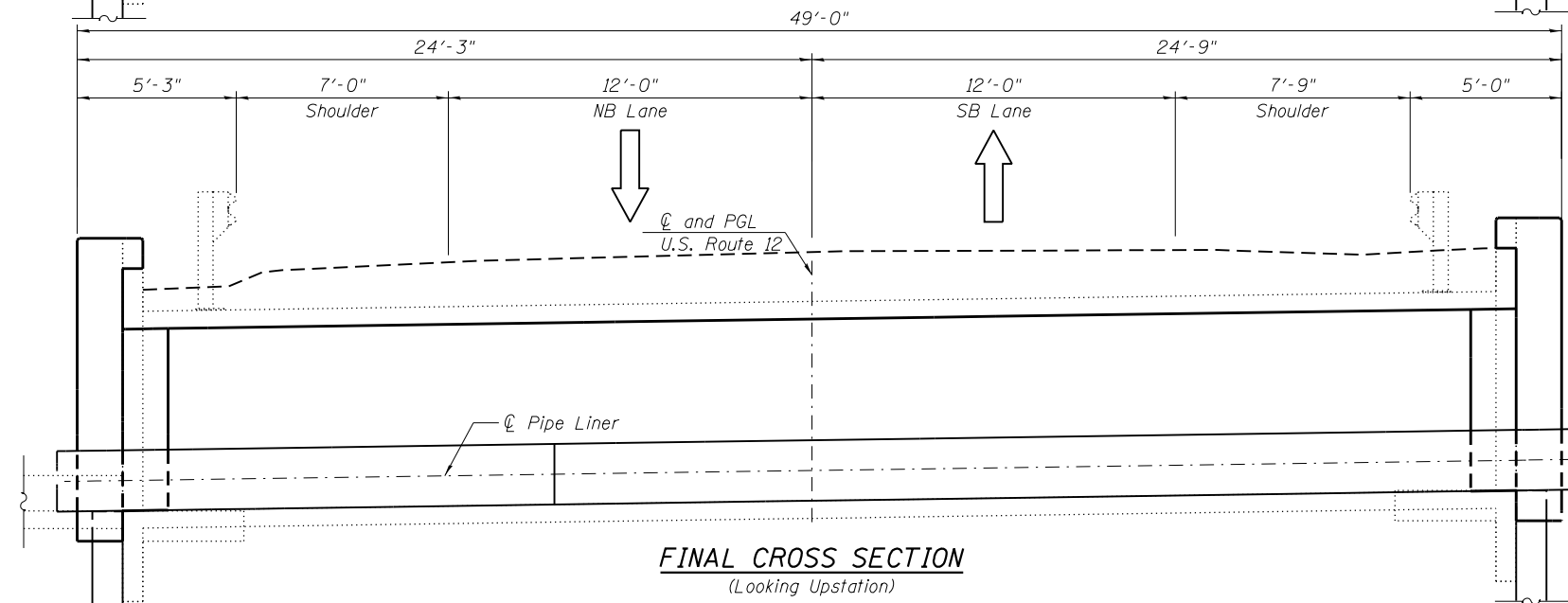
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STAGE I CONSTRUCTION
(Looking Upstation)



STAGE II CONSTRUCTION
(Looking Upstation)



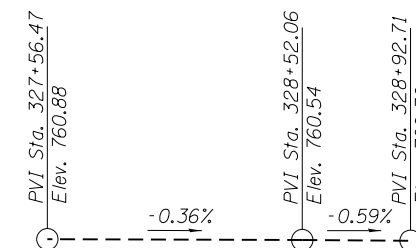
FINAL CROSS SECTION
(Looking Upstation)

STAGE I CONSTRUCTION:

1. Clean the inside of existing box culvert
2. Drive Sheet piling adjacent to the existing west headwall and wingwalls
3. Perform concrete removal of top portion of existing west headwall and wingwalls
4. Perform structural repair of concrete at west barrel to headwall and wingwalls connections
5. Insert, brace and connect the west portion of the liner to the east portion
6. Pour concrete for the west concrete facing, bulkhead and structural repair of concrete

STAGE II CONSTRUCTION:

1. Remove east concrete spillway
2. Drive Sheet piling adjacent to the existing east headwall and wingwalls
3. Perform concrete removal of top portion of existing east headwall and wingwalls connections
4. Perform structural repair of concrete at east barrel to headwall and wingwalls connections
5. Insert and brace the east portion of the liner
6. Pour concrete for the east concrete facing, bulkhead and structural repair of concrete
7. Fill the void around the liner with CLSM



PROFILE GRADE
(Along CL and PGL US 12)

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Varioual)\056-0283 S4-02 Staging.dgn



056-0283 S4-02 Staging.dgn
USER NAME = Ken.drobant
PLOT SCALE =
PLOT DATE = 3/28/2017

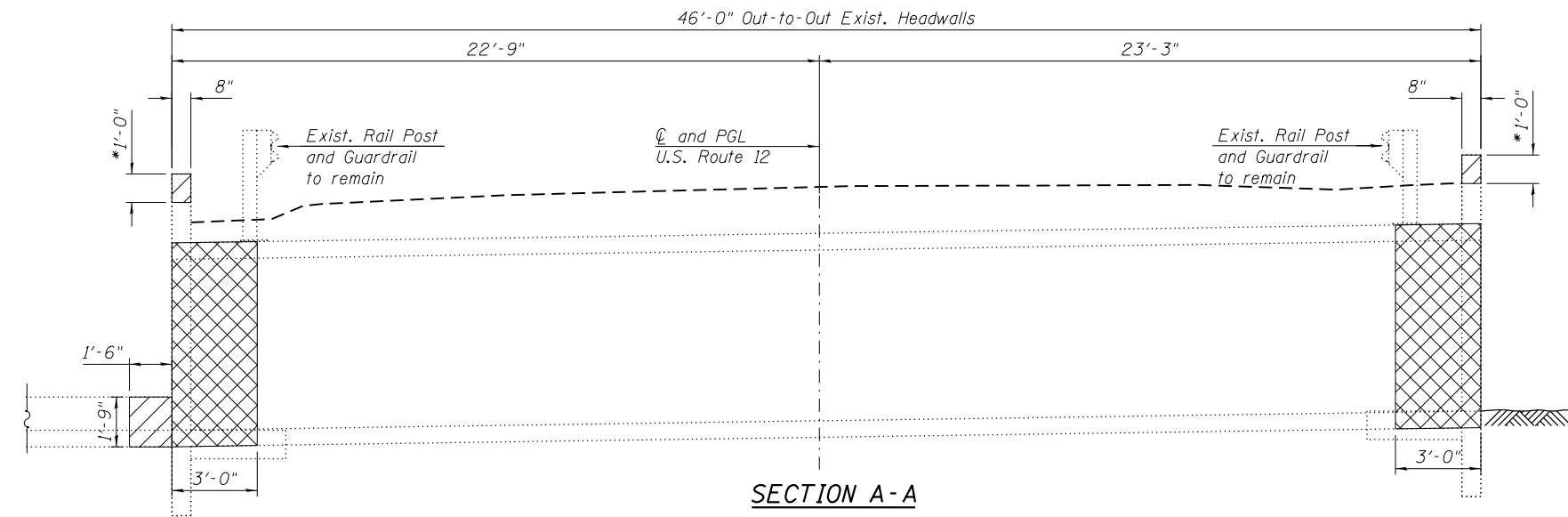
DESIGNED - KJD
DRAWN - SK
CHECKED - MI, LAB
DATE - 03/24/2017

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION
S.N. 056-0283 (LOCATION 3)**
SCALE: SHEET S4-02 OF S4-08 SHEETS STA. TO STA.

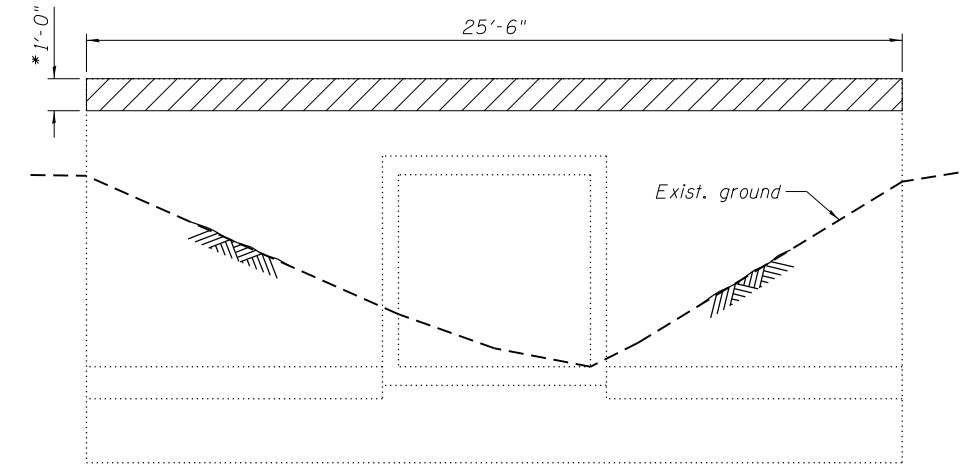
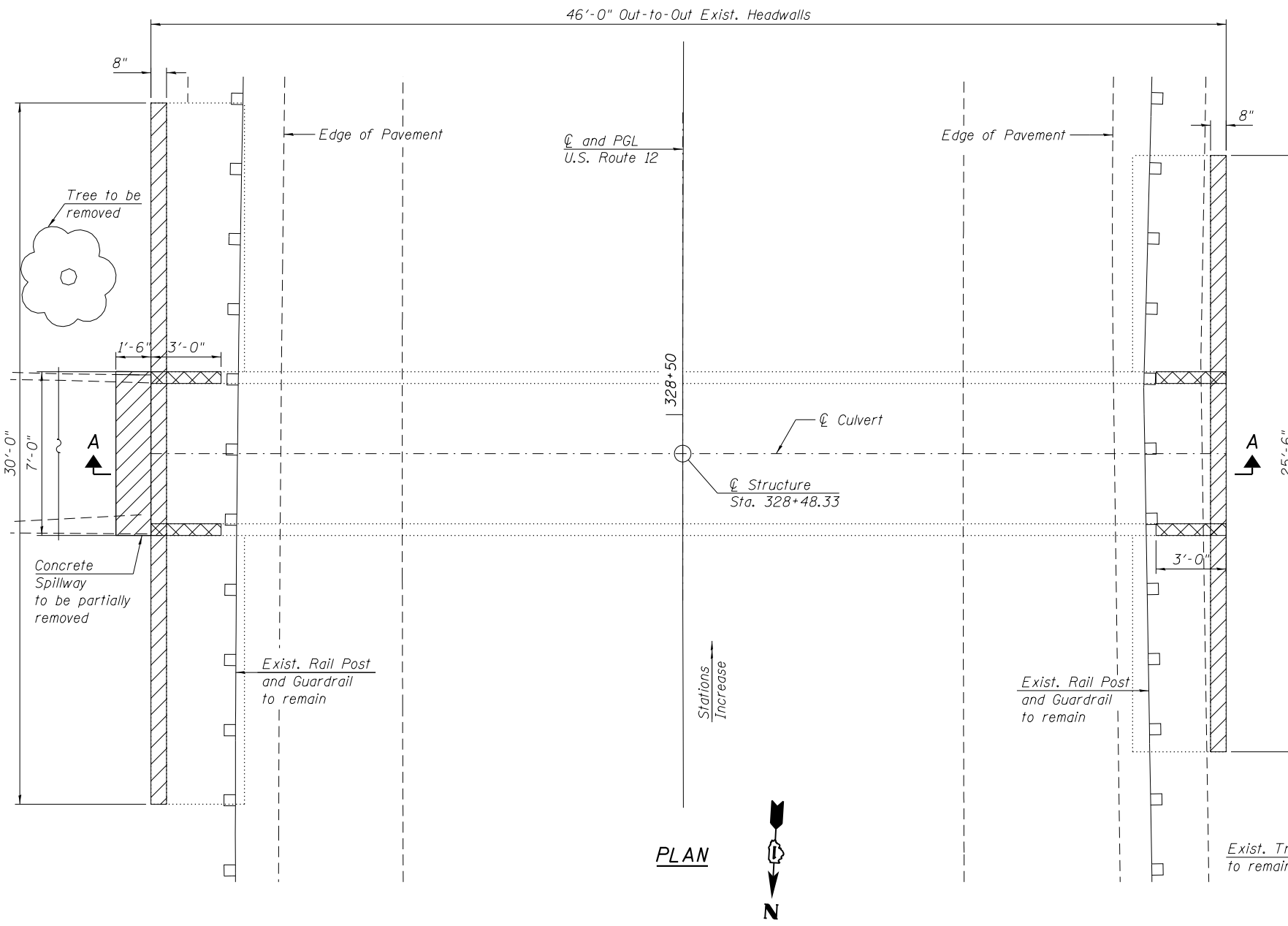
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	51
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



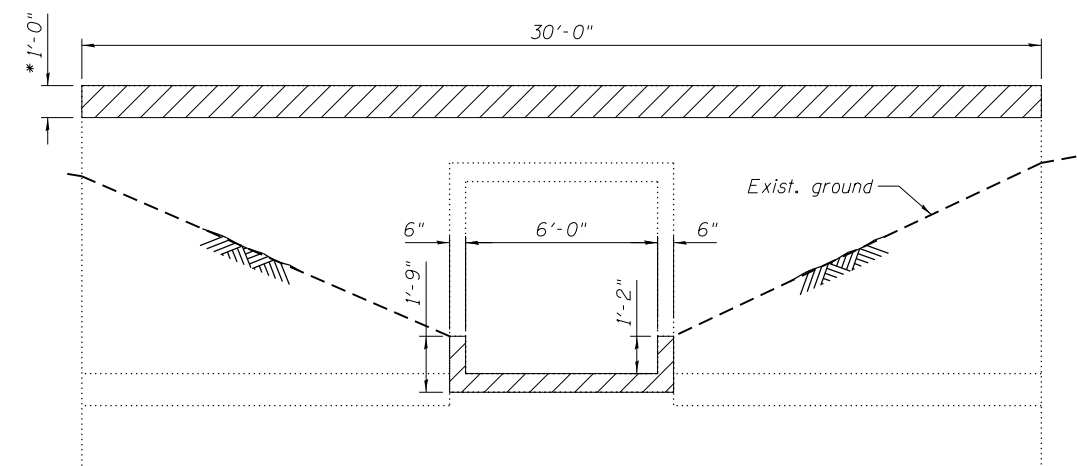
* Additional loose or deteriorated concrete below the removal area shall also be removed and shall be paid for as Concrete Removal.

NOTES:

1. Dimensions shown have been taken from historical design drawings 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.
2. The Contractor shall field verify exact location of all existing utilities prior to construction and take precautions not to damage existing utilities during construction or other underground work. Any such damage shall be repaired by the Contractor at no additional cost.
3. Existing reinforcement shall be cleaned 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.
4. Structural excavation and backfill required to construct the concrete facing, structural repair of concrete and concrete removal will not be paid separately and will be included with concrete structures.



END VIEW
(West Headwall shown)
(Looking East)



END VIEW
(East Headwall shown)
(Looking West)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	1.7
Structural Repair of Concrete (Depth Greater than 5")	Sq Ft	86

LEGEND:

- Concrete Removal
- Structural Repair of Concrete (Depth Greater than 5 inches)

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Varioual)\012 US 12 Culverts\Sheet Files\Structural\056-0283 S4-03 Removal.dgn



056-0283 S4-03 Removal.dgn
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PLOT SCALE =
PLOT DATE = 3/28/2017

DESIGNED - KJD, SK
DRAWN - SK
CHECKED - MI, LAB
DATE - 03/24/2017

REVISED -
REVISED -
REVISED -
REVISED -

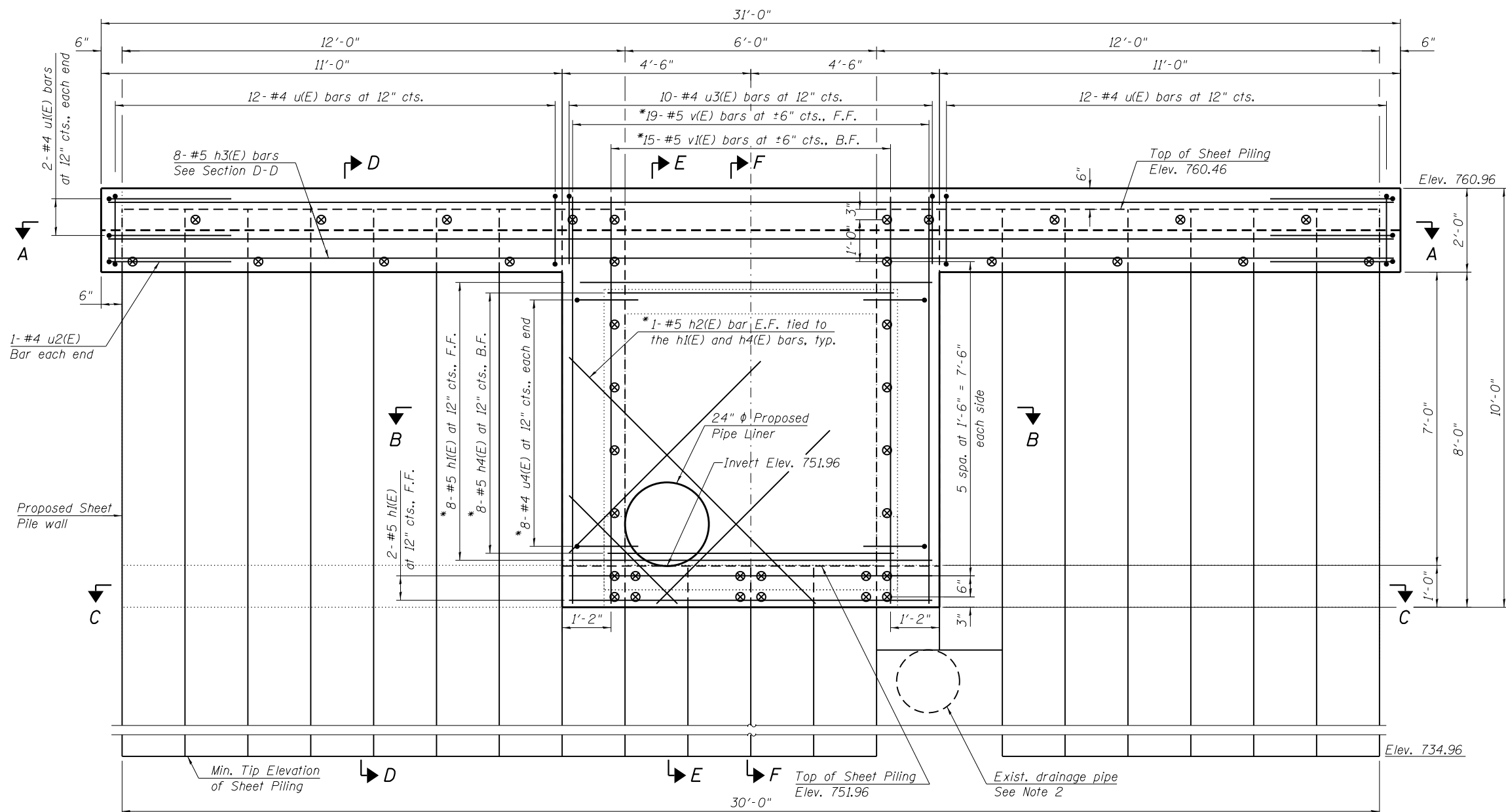
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXISTING STRUCTURE REMOVAL
S.N. 056-0283 (LOCATION 3)**

SCALE: SHEET S4-03 OF S4-08 SHEETS STA. TO STA.

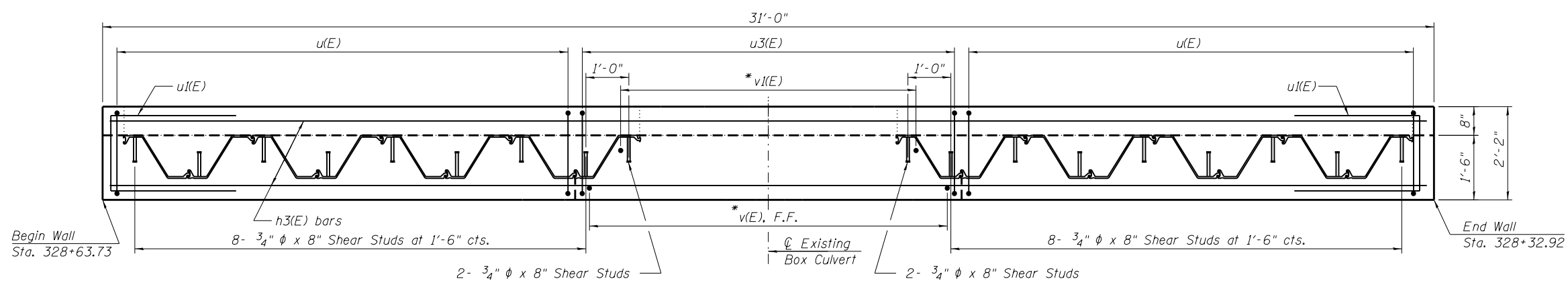
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	52
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Varioual)\056-0283 54-08 EastSheetPileWall.dgn



Minimum Effective Section Modulus = 30.2 in³/ft

ELEVATION
(Looking West)



SECTION A-A

NOTE:
 1. For Bill of Material, bar diagrams, notes and Sections D-D, E-E and F-F, see Sheet S4-07.
 2. Prior to installing permanent steel sheet piling the contractor shall field verify the location of the existing drainage pipe by hand excavation. Permanent steel sheet piling shall be terminated at the top of pipe. Cost of hand excavation shall be included with cost of Permanent steel sheet piling. Any damage to the pipe shall be repaired at no additional cost to the Department.

* Cut to fit in field

LEGEND
 ⊗ Shear Studs



056-0283 S4-08 EastSheetPileWall.dgn
 USER NAME = Ken.drobant
 PLOT SCALE =
 PLOT DATE = 3/28/2017

DESIGNED - KJD, SK
 DRAWN - SK
 CHECKED - MI, LAB
 DATE - 03/24/2017

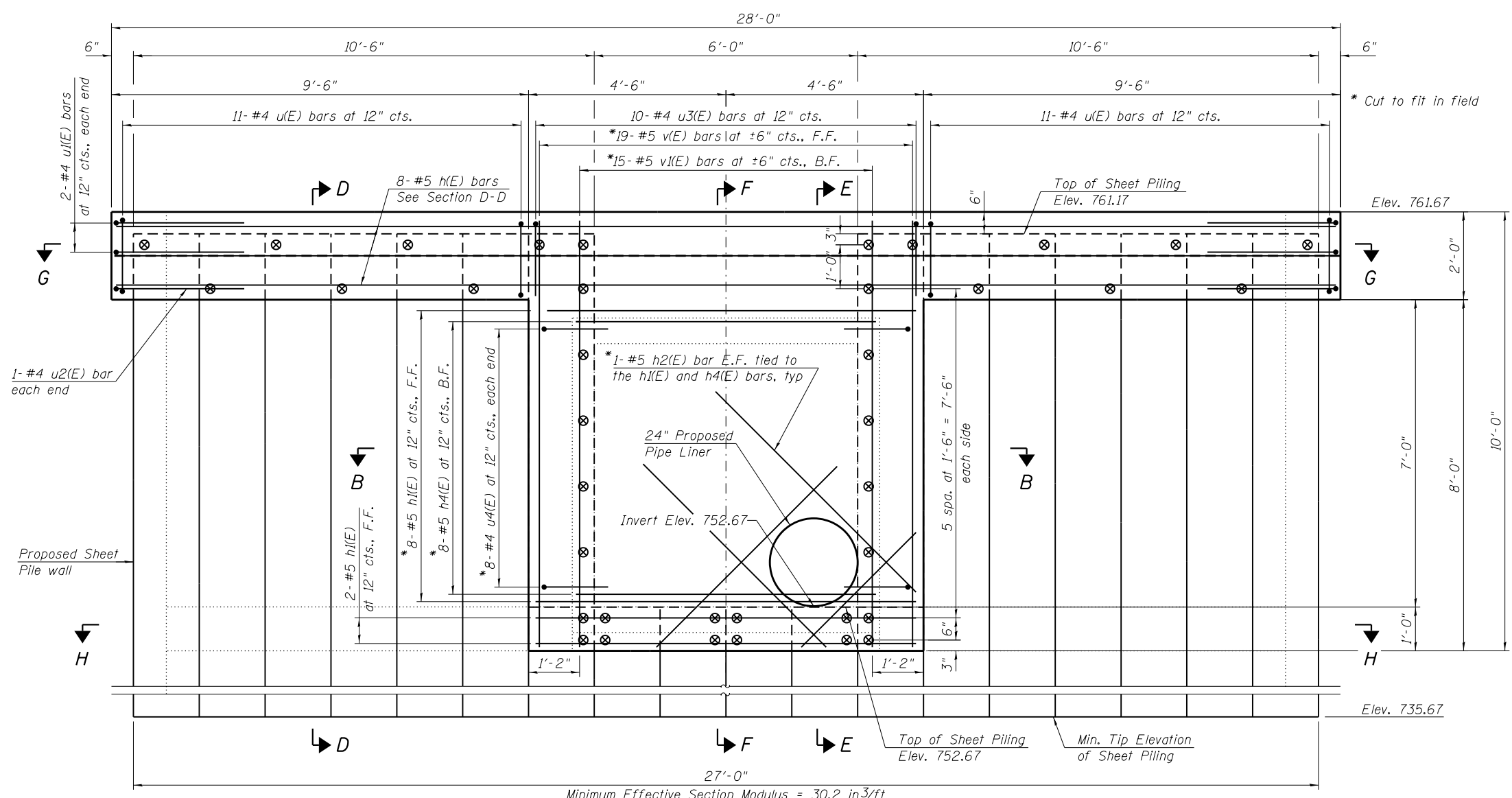
REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST SHEET PILE WALL SECTION AND ELEVATION
S.N. 056-0283 (LOCATION 3)

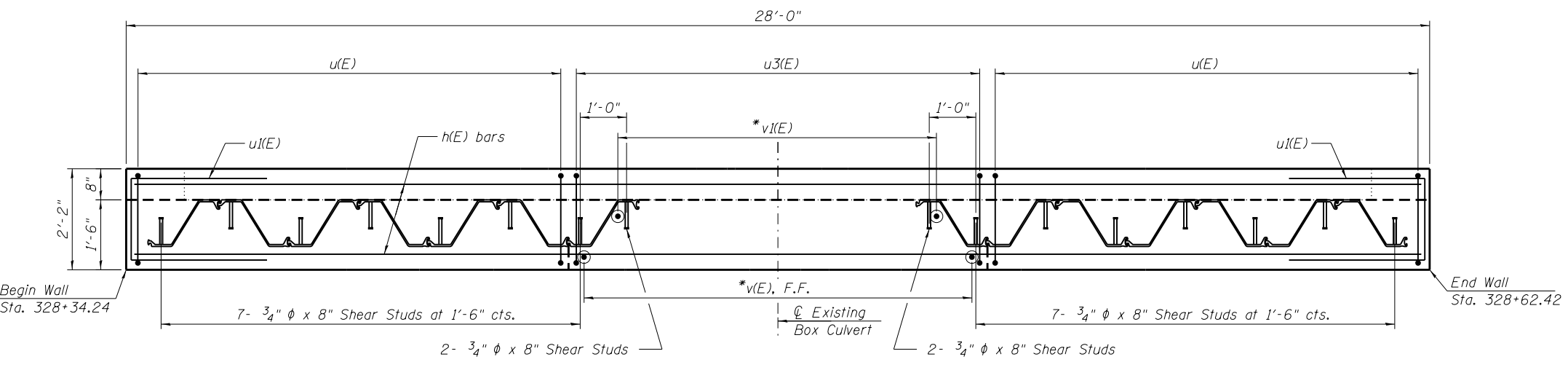
SCALE: SHEET S4-04 OF S4-08 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	53
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



Minimum Effective Section Modulus = 30.2 in³/ft

ELEVATION
(Looking East)



SECTION G-G

NOTE:
1. For Bill of Material, bar diagrams, notes and Sections D-D, E-E and F-F, see Sheet S4-07.

LEGEND
⊗ Shear Studs

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Various)\0112 US 12 Culverts\Sheet Files\Structural\056-0283 S4-04 WestSheetPileWall.dgn



056-0283 S4-04 WestSheetPileWall.dgn
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PLOT SCALE =
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CHECKED - MI, LAB
DATE - 03/24/2017

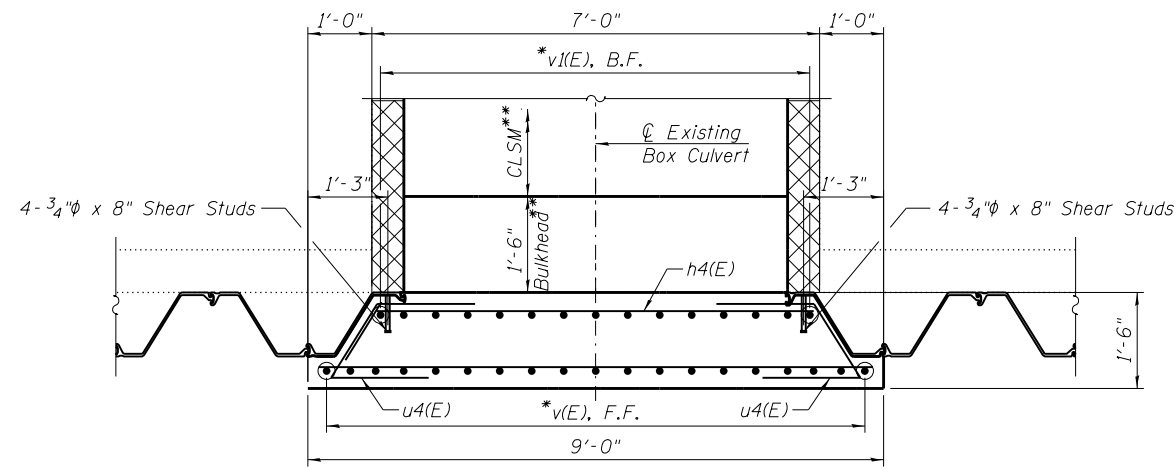
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST SHEET PILE WALL SECTION AND ELEVATION
S.N. 056-0283 (LOCATION 3)

SCALE: SHEET S4-05 OF S4-08 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	54
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				



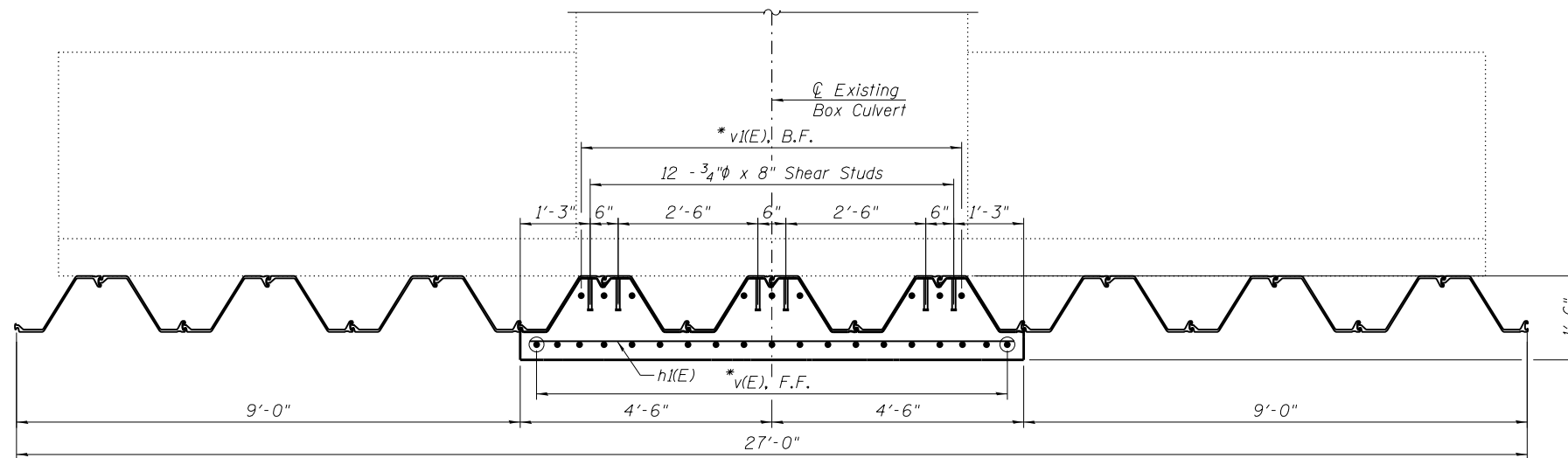
SECTION B-B

NOTE:

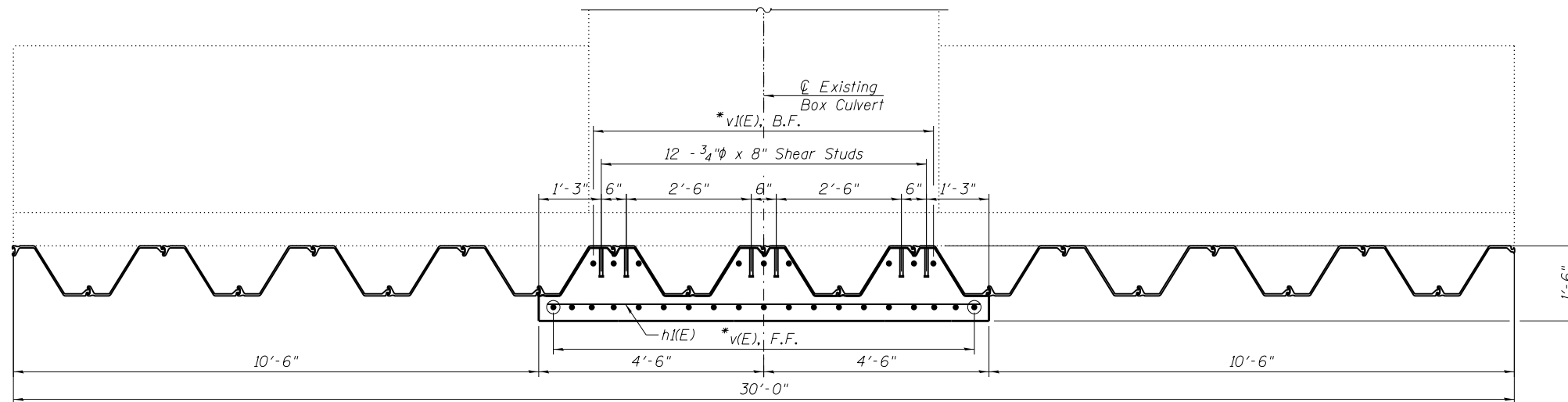
1. For Bill of Material, bar diagrams, notes and Sections D-D, E-E and F-F, see Sheet S4-07.

* Cut to fit in field

** Bulkhead and CLSM shall not be paid for separately and shall be included in the cost of Insertion Culvert Liner (Special) 24".




SECTION H-H



SECTION C-C

LEGEND:

 Structural Repair of Concrete (Depth Greater than 5 inches)

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Varioual)\0112 US 12 Culverts\Sheet Files\Structural\056-0283 S4-06 SheetPileWallSecDet1.dgn



056-0283 S4-06 SheetPileWallSecDet1.dgn
 USER NAME = Ken.drobant
 PLOT SCALE =
 PLOT DATE = 3/28/2017

DESIGNED - KJD
 DRAWN - KJD
 CHECKED - MI, LAB
 DATE - 03/24/2017

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

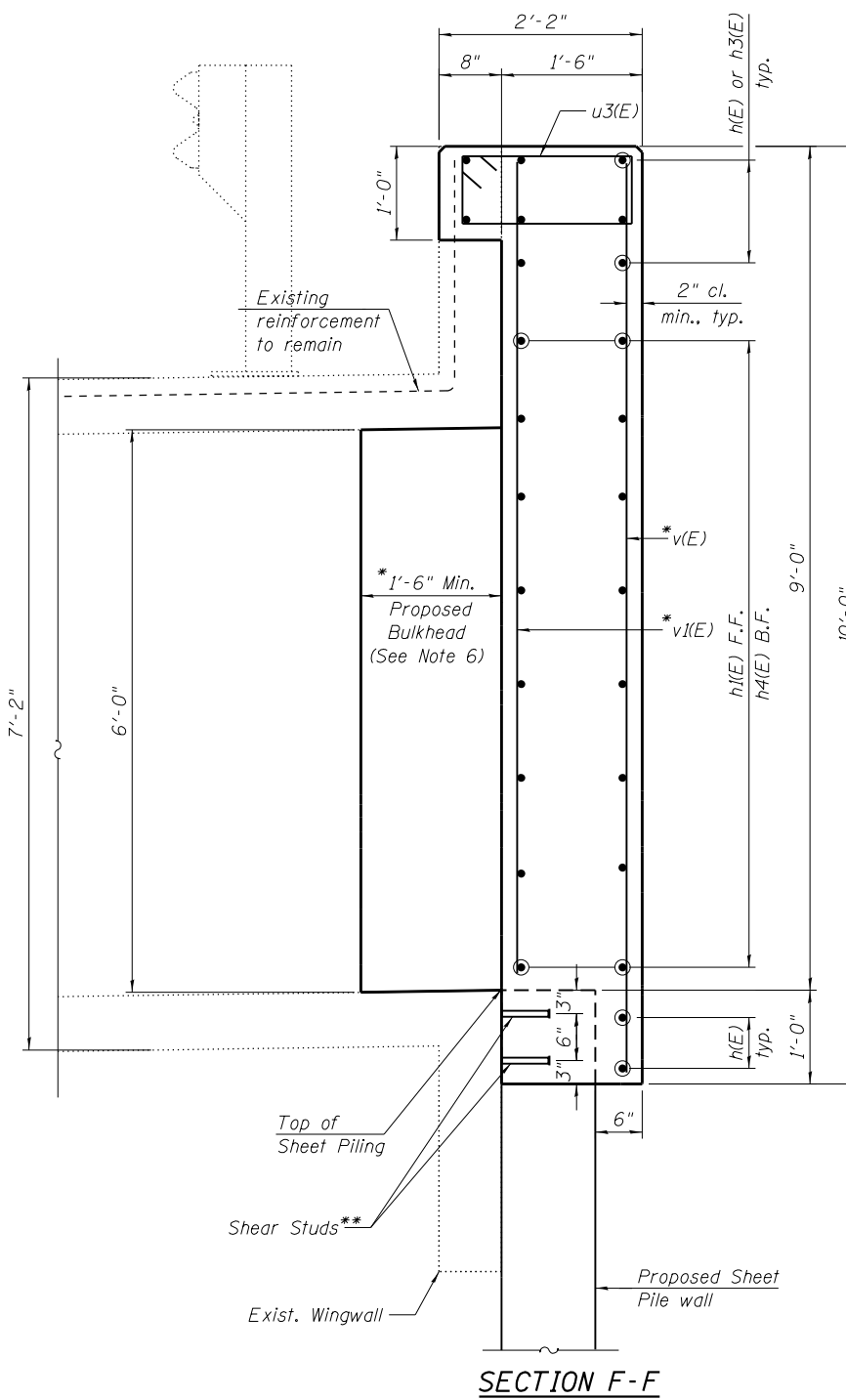
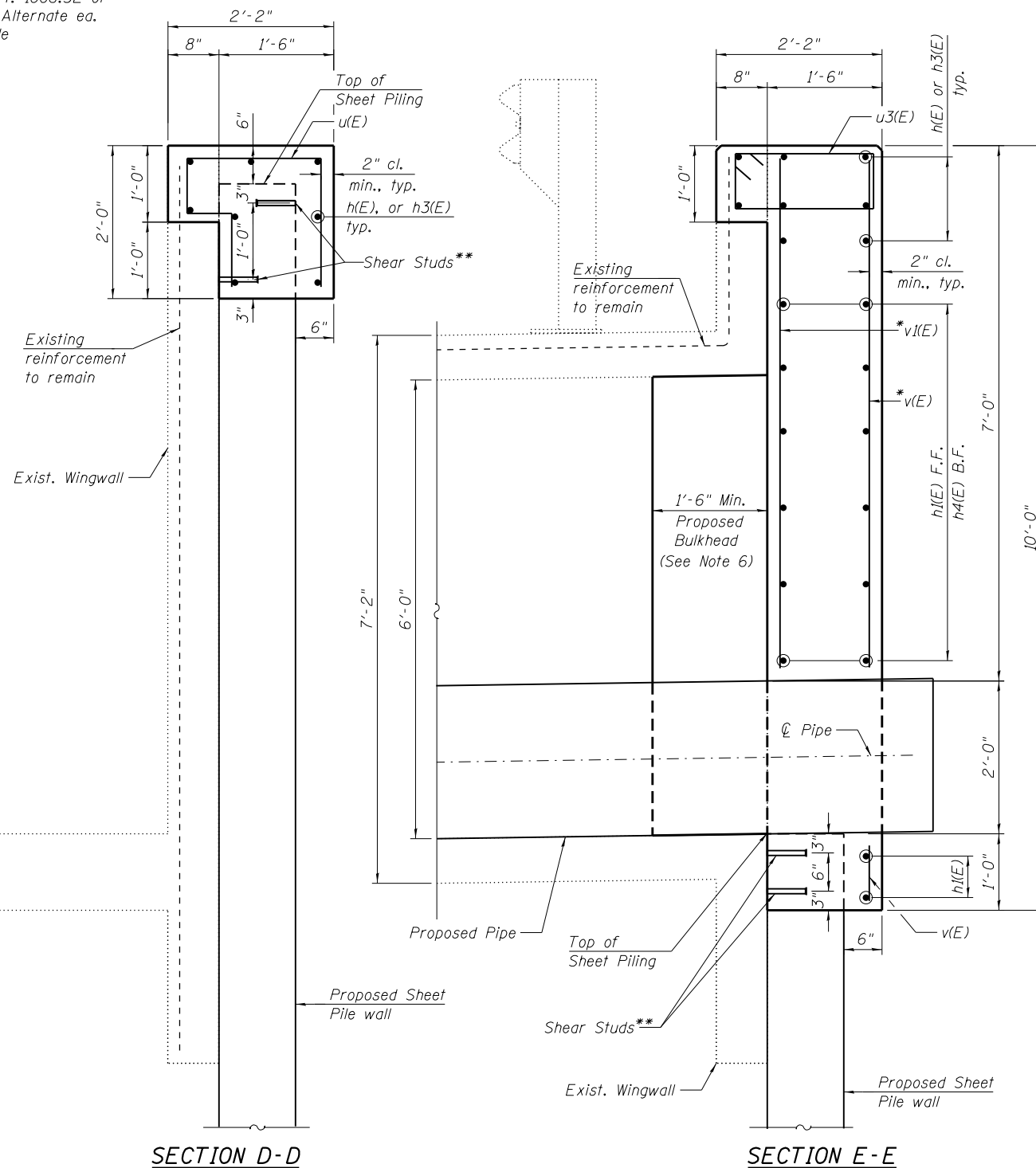
SHEET PILE WALL SECTIONS AND DETAILS (SHEET 1 OF 2)
 S.N. 056-0283 (LOCATION 3)

SCALE: SHEET S4-06 OF S4-08 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	55
CONTRACT NO. 62B92				
ILLINOIS FED. AID PROJECT				

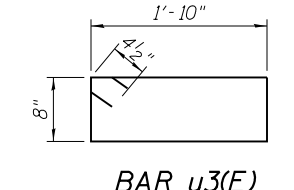
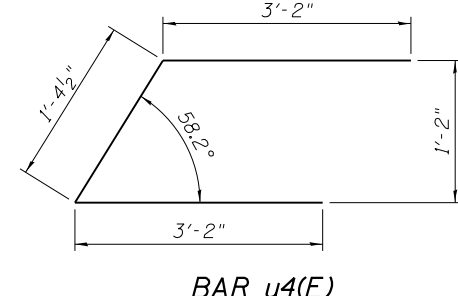
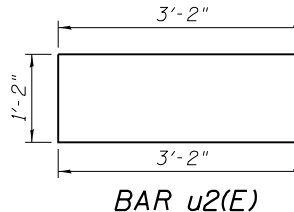
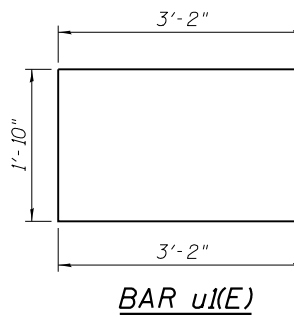
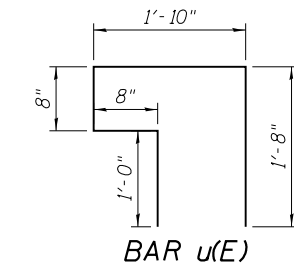
* Cut to fit in field

** 3/4" φ x 8" Granular or solid flux filled headed studs conforming to Art. 1006.32 of the Std. Specs. Alternate ea. side of sheet pile



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	8	#5	27'-8"	▬
h2(E)	16	#5	8'-8"	▬
h3(E)	8	#5	30'-8"	▬
h4(E)	16	#5	6'-8"	▬
u(E)	46	#4	5'-10"	⊏
u1(E)	8	#4	8'-2"	⊏
u2(E)	4	#4	7'-6"	⊏
u3(E)	20	#4	5'-9"	⊏
u4(E)	32	#4	7'-9"	⊏
v(E)	38	#5	9'-8"	▬
v1(E)	30	#5	9'-8"	▬
Concrete Structures			Cu Yd	15.2
Stud Shear Connectors			Each	78
Reinforcement Bars, Epoxy Coated			Pound	2,090
Permanent Sheet Piling			Sq Ft	1,380
Insertion Culvert Liner (Special) 24"			Foot	51



NOTES:

- Due to the deteriorated condition of the existing wingwalls, Permanent Sheet Piling shall be installed prior to any concrete Removal operations. Existing wingwalls that do not interfere with the construction of the new pipe culvert may be left in place.
- Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
- Cost of Proposed 18" Bulkhead is included in Insertion Culvert Liner (Special) 24".
- Reinforcement bars designed (E) shall be epoxy coated.
- All edges shall have standard 3/4" chamfer.
- The Concrete for the Bulkhead and the "Structural Repair of Concrete" shall use the same material and be poured at the same time as the Concrete Structures.



056-0283 S4-07 SheetPileWall1SecDet2.dgn
 USER NAME = Ken.drobant
 PLOT SCALE =
 PLOT DATE = 3/28/2017

DESIGNED - KJD, SK
 DRAWN - SK
 CHECKED - MI, LAB
 DATE - 03/24/2017

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SHEET PILE WALL SECTIONS AND DETAILS (SHEET 2 OF 2)
 S.N. 056-0283 (LOCATION 3)

SCALE: SHEET S4-07 OF S4-08 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY	64	56
				CONTRACT NO. 62B92
ILLINOIS FED. AID PROJECT				

FILE PATH = P:\1501-638 IDOT PTB 172 Item 10 (Various-Various)\056-0283 S4-07 SheetPileWall1SecDet2.dgn

SEECO CONSULTANTS, INC.		SOIL BORING LOG										Page 1 Of 1								
ROUTE FAP 334 (US Rte. 12)		DESCRIPTION Culverts at Various Locations										Date 11/11/16								
SECTION _____		LOCATION US Rte. 12, McHenry County, IL										Logged By DK								
COUNTY McHenry		STRUCTURE NO. 056-0283 (Exist.)										(Prop.) _____								
Boring No. B-1		Drilling Method AASHTO T 206-09										Hammer Type Automatic Hammer								
Station 331+21		Surf. Wat. El. _____										E L E V. _____								
Offset 14' from SB Lane		Groundwater Elev.: _____										D E P T H _____								
Ground Surface El. +760.04 +/- M.S.L.		When Drilling 14'										S P T _____								
		at Completion _____										U C S _____								
		After _____										M O I S T _____								
		Hrs _____																		
10" BITUMINOUS CONCRETE PAVEMENT	759.2											23.0								
4.5" SAND AND GRAVEL BASE COURSE, Dark Brown	758.8	1.0										736.5								
CLAY (TOPSOIL), Dark Brown and Dark Gray, Some Organics, Medium Stiff, Moist (A-6)		2.0	4		1.00	29.4						735.0	25.0	21		53				
		3.0											26.0							
CLAY LOAM, Brown, Stiff, Moist (A-6)	756.5	4.0	3										27.0	30						
		5.0	4		1.81	19.5							28.0	47						
		6.0											29.0	50						
SANDY CLAY LOAM, Brown, Trace Gravel, Medium Stiff, Moist (A-6)	754.0	7.0	4									731.0	30.0	28						
		8.0	6		0.75	26.9							31.0	37		10.30	15.4			
		9.0	6										32.0	45						
CLAY, Brown, Very Stiff, Moist (A-6)	751.5	10.0	5										33.0							
		11.0	5		2.14	23.2							34.0	5						
		12.0	6										35.0	6	2.50	14.5				
		13.0	6		3.13	23.6							36.0	6						
		14.0	8										37.0	15						
SAND, Brown, Fine, Medium Dense, Saturated (A-3)	746.0	15.0	8		2.00	17.8							38.0							
	745.7	16.0	13										39.0	23						
SANDY LOAM, Dark Brown, Extremely Dense to Very Dense, Saturated (A-2-4)		17.0	45										40.0	32	2.72	13.7				
		18.0	34										41.0	27						
		19.0	26										42.0							
SANDY LOAM, Brown, Dense to Medium Dense, Saturated (A-2-4)	741.5	20.0											43.0							
		21.0	8										44.0							
		22.0	16										45.0							
			17																	
			8																	
			10																	
			10																	

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
 Split Spoon Sampler 24" with 140lb hammer falling 30"
 4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.
 DRILL RIG: D-50

SEECO Job No. 10612G-12

SEECO CONSULTANTS, INC.		SOIL BORING LOG										Page 1 Of 1								
ROUTE FAP 334 (US Rte. 12)		DESCRIPTION Culverts at Various Locations										Date 11/11/16								
SECTION _____		LOCATION US Rte. 12, McHenry County, IL										Logged By DK								
COUNTY McHenry		STRUCTURE NO. 056-0283 (Exist.)										(Prop.) _____								
Boring No. B-2		Drilling Method AASHTO T 206-09										Hammer Type Automatic Hammer								
Station 331+45		Surf. Wat. El. _____										E L E V. _____								
Offset 13.17' from NB Lane		Groundwater Elev.: _____										D E P T H _____								
Ground Surface El. +760.68 +/- M.S.L.		When Drilling 17'										S P T _____								
		at Completion _____										U C S _____								
		After _____										M O I S T _____								
		Hrs _____																		
6" BITUMINOUS CONCRETE PAVEMENT	760.2											23.0								
6" SAND AND GRAVEL BASE COURSE, Brown	759.7	1.0											24.0	12						
FILL: SANDY CLAY LOAM, Reddish Brown, Trace Gravel, Loose, Moist (A-2-6)		2.0	4										25.0	17						
		3.0	3										26.0	42						
		4.0											27.0							
FILL: CLAY, Reddish Brown, Medium Stiff, Moist (A-6)	757.2	5.0	2										28.0	17						
		6.0	2		0.75	17.1							29.0	21						
		7.0	3										30.0	23	4.50	15.0				
SILTY LOAM (TOPSOIL), Black, Trace Roots, Loose, Wet (A-4)	754.7	8.0	4										31.0	38						
		9.0	4										32.0							
CLAY, Brown and Gray, Trace Fine Sand Lenses, Very Stiff to Stiff, Moist (A-6)	752.2	10.0	2										33.0							
		11.0	4		2.39	29.8							34.0	16	4.50	16.2				
		12.0	6										35.0	29						
		13.0	7		1.98	27.8							36.0	47						
		14.0											37.0							
SILTY CLAY LOAM, Light Brown, Trace Sand, Stiff, Moist (A-6)	747.2	15.0	3										38.0							
		16.0	5		1.75	22.1							39.0	17						
		17.0	6										40.0	37						
		18.0	7		1.73	20.6							41.0	48						
		19.0	9										42.0							
		20.0	11										43.0							
SAND AND GRAVEL, Brown and Gray, Medium Dense to Dense to Very Dense, Saturated (A-1-b)	743.7	21.0											44.0							
		22.0	9										45.0							
			17																	
			18																	

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
 Split Spoon Sampler 24" with 140lb hammer falling 30"
 4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.
 DRILL RIG: D-50

SEECO Job No. 10612G-12

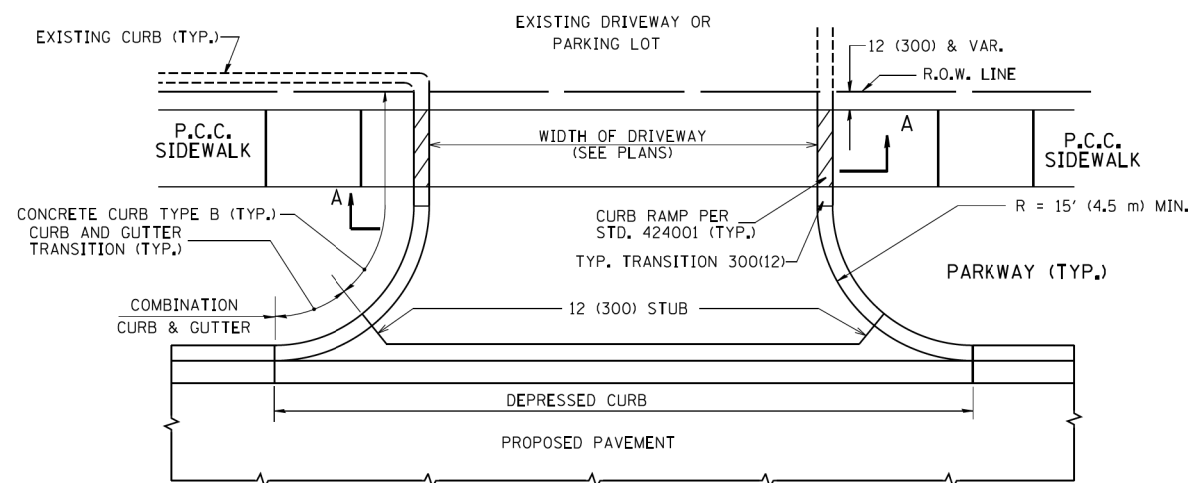
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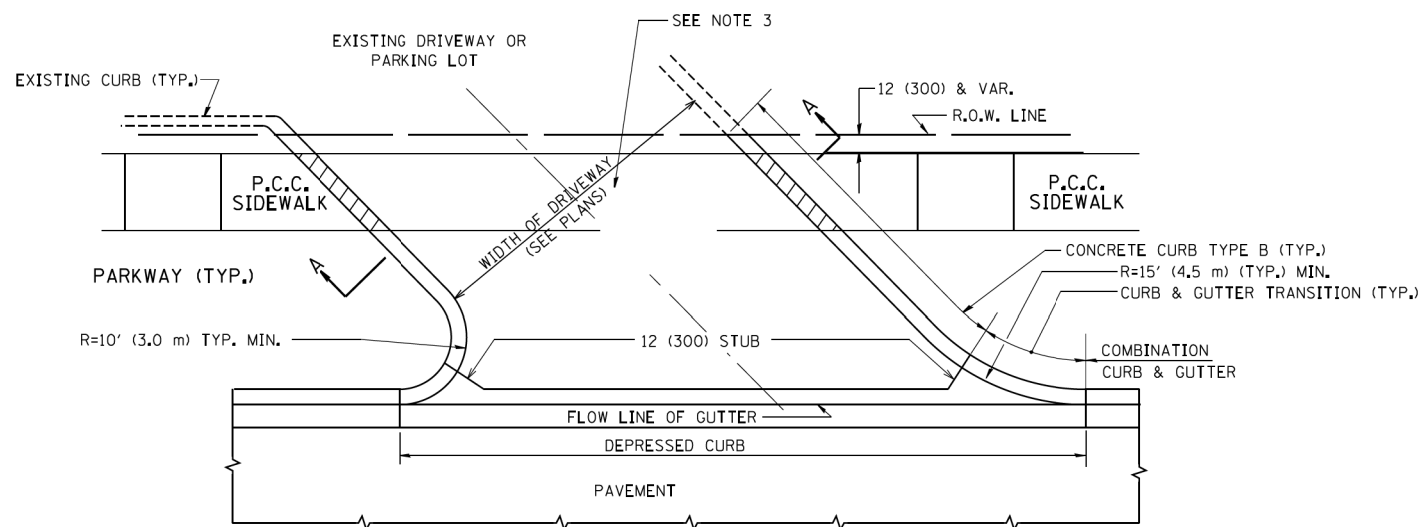
056-0283 54-08 Boring Log.dgn	DESIGNED - SK	REVISED -
USER NAME = Ken.drabant	DRAWN - SK	REVISED -
PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE = 3/28/2017	DATE - 03/24/2017	REVISED -

STATE OF ILLINOIS	BORING LOGS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DEPARTMENT OF TRANSPORTATION	S.N. 056-0283 (LOCATION 3)	334	2015-087B	MCHENRY	64	57
SCALE:		SHEET 54-08 OF 54-08 SHEETS		STA.	TO STA.	
ILLINOIS FED. AID PROJECT						

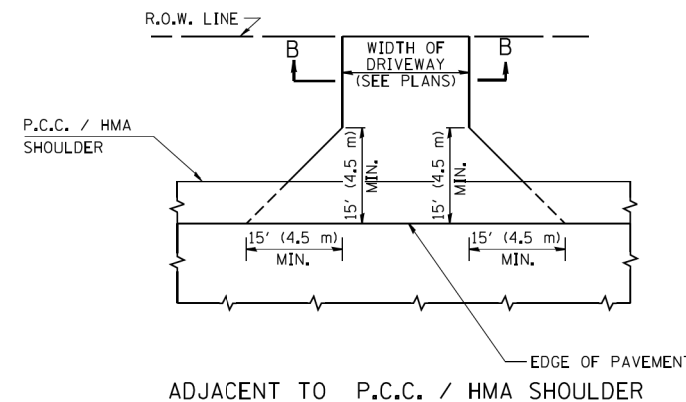
CONTRACT NO. 62B92



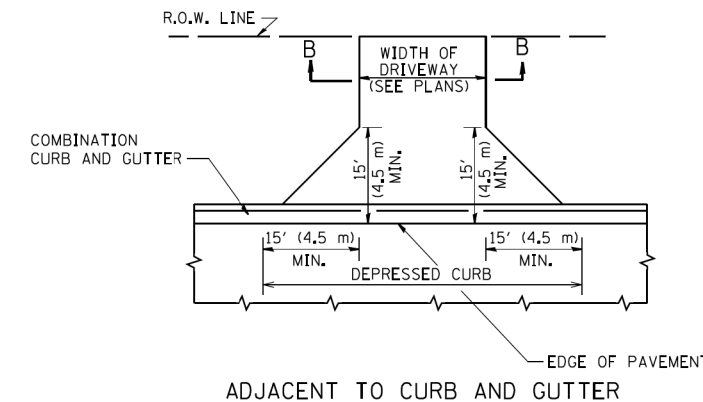
WITH CONCRETE CURB, TYPE B



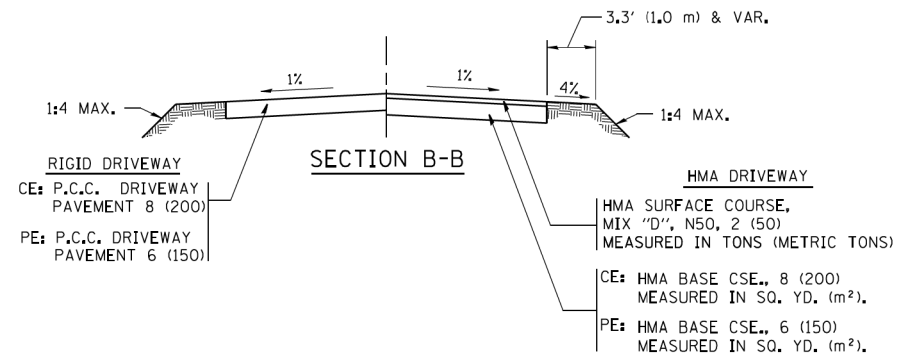
WITH CONCRETE CURB, TYPE B



ADJACENT TO P.C.C. / HMA SHOULDER



ADJACENT TO CURB AND GUTTER



SECTION B-B

RURAL FIELD ENTRANCE (FE)

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.

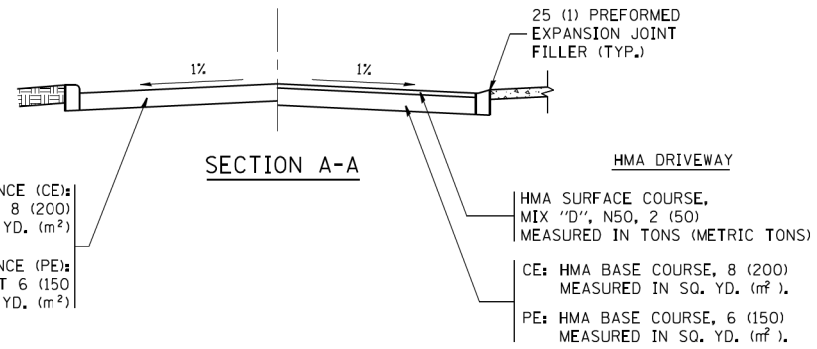
COMMERCIAL DRIVEWAYS SHALL BE CONSTRUCTED WITH CONCRETE CURB, TYPE B RETURNS EXCEPT WHEN THE SIDEWALK EDGE IS 4 FEET (1.2 METERS) OR LESS FROM THE BACK OF CURB, CONSTRUCT A FLARE DRIVEWAY WITHOUT CURB.

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.



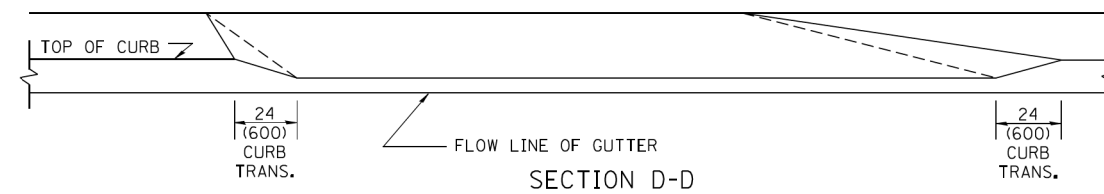
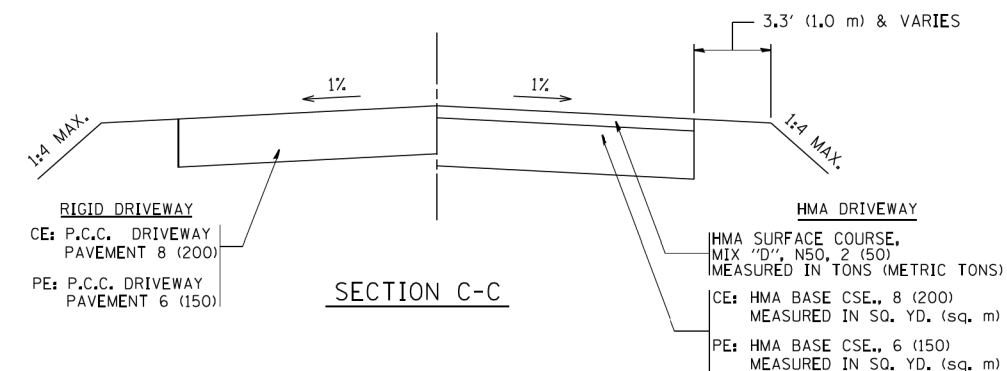
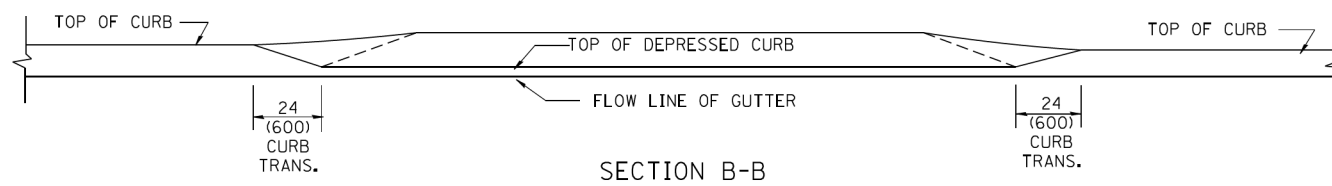
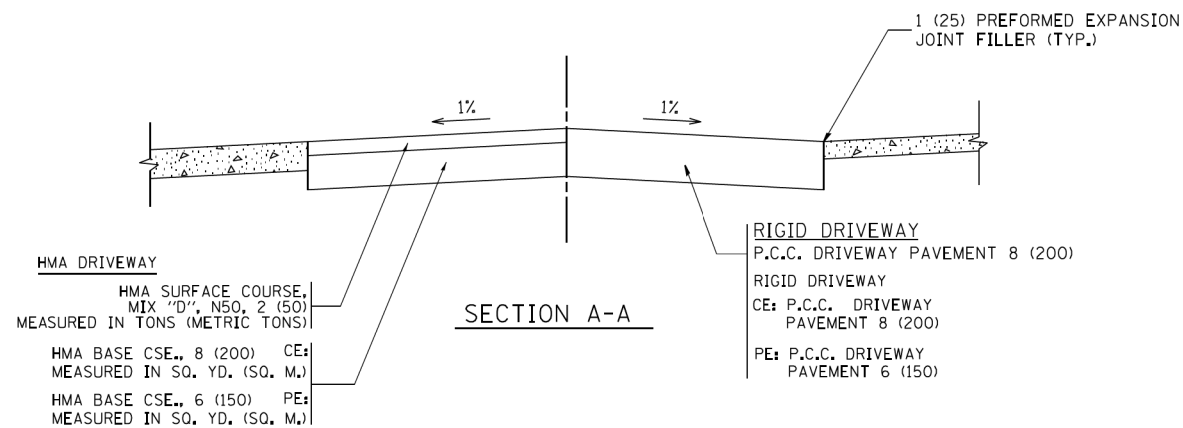
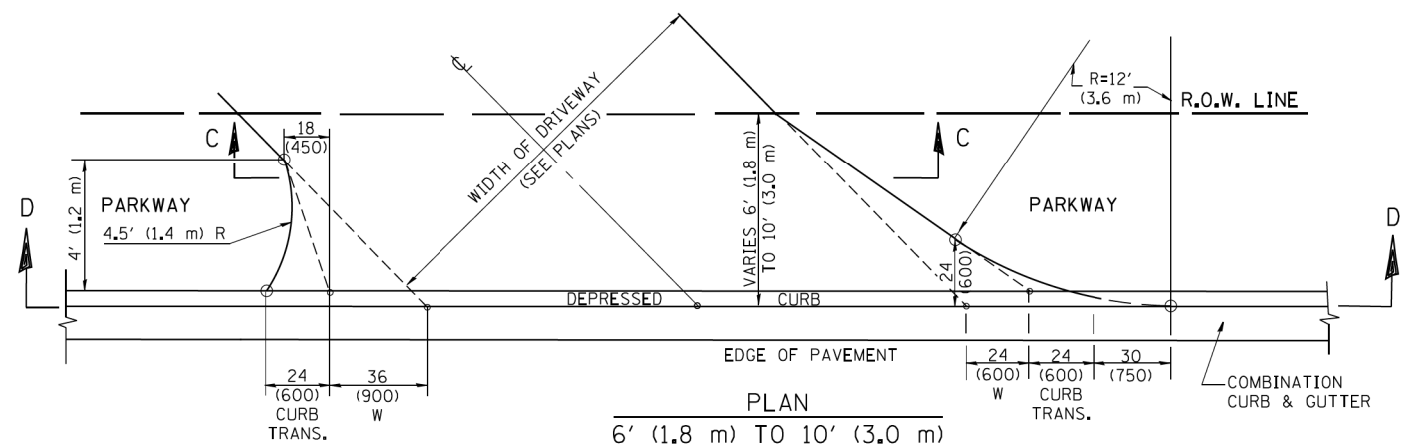
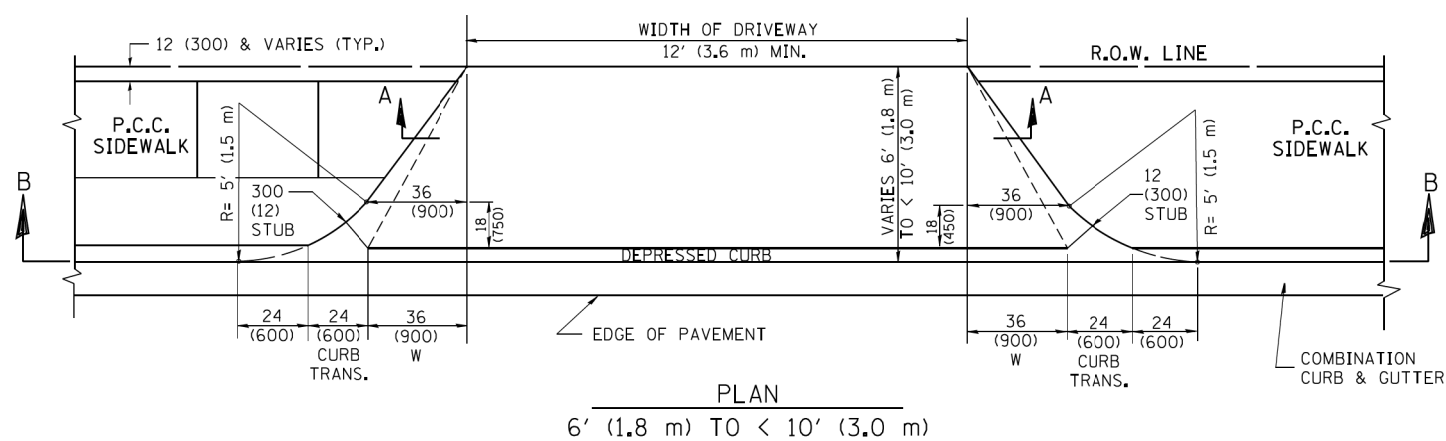
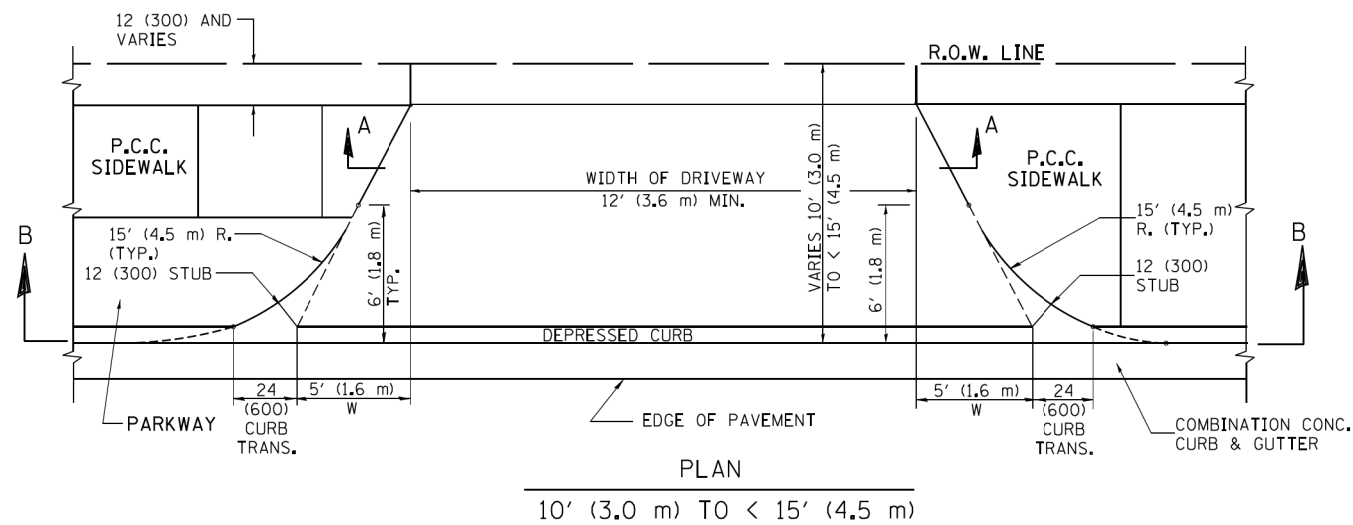
SECTION A-A

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ca:\pwork\pwork\lcyss\d0108315\bd01.dgn		DRAWN - KJD	REVISED - R. BORO 01-01-07
		CHECKED - RTB, MI	REVISED - R. BORO 06-11-08
		DATE - 03/24/2017	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)	
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS
STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY/LAKE	64	58
BD0156-07 (BD-01)			CONTRACT NO. 62B92	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



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 ILLUSTRATION 10 IN THE PERMIT HANDBOOK. WHERE SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED WITH RIGID PAVEMENT. WHERE NO SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED IN KIND. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

WHEN THE DISTANCE BETWEEN R.O.W. AND THE BACK OF CURB IS EQUAL TO OR LESS THAN 8' (2.4 m), THE P.C.C. SIDEWALK SHALL EXTEND TO THE BACK OF 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.

THE 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.

"W" VARIES FROM 36 (900) TO 5' (1.5 m) PROPORTIONAL TO THE LENGTH (L), FROM 6' (1.8 m) TO 10' (3 m).

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

FILE NAME =	USER NAME = lrysa	DESIGNED - RTB	REVISED - M. GOMEZ 04-05-01
ca:\pwork\pwork\lrysa\d0108315\bd02.dgn		DRAWN - KJD	REVISED - P. LOFLEUR 04-15-03
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	PLOT DATE = 10/28/2011	DATE - 03/24/2017	REVISED - R. BORO 09-06-11

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DRIVEWAY DETAILS
DISTANCE BETWEEN ROW AND FACE OF CURB < 15' (4.5 m)

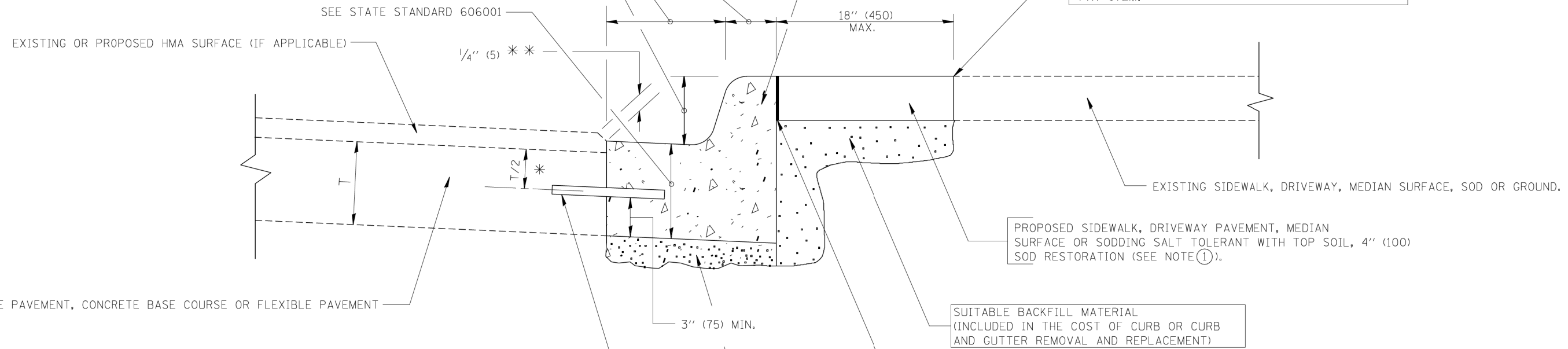
SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY/LAKE	64	59
BD400-02 (BD-02)			CONTRACT NO. 62B92	
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.



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

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

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

② FERTILIZER FOR THE PLACEMENT OF THE SOD IS NOT REQUIRED

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

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

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

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

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

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

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.)

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

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

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

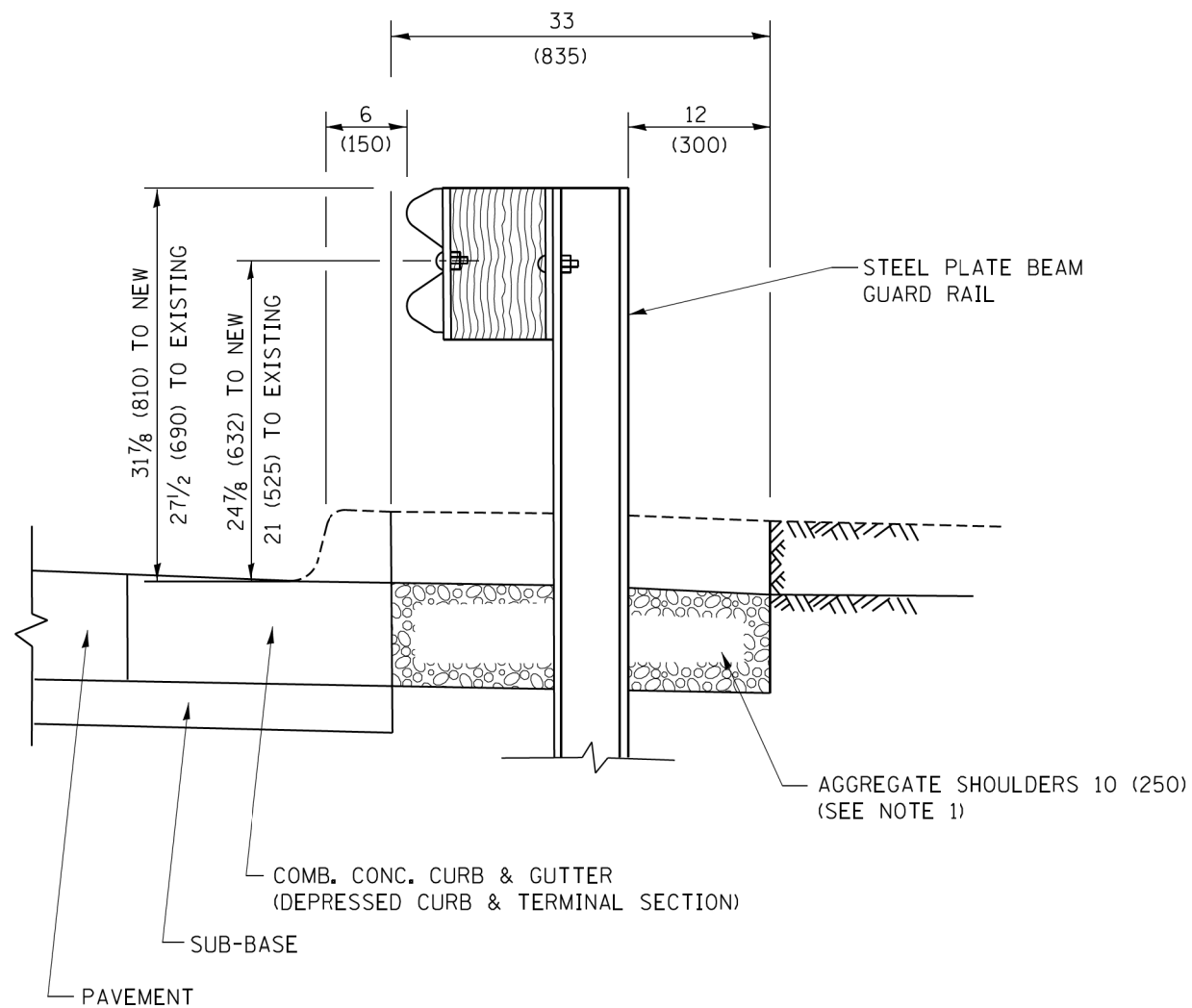
PROPOSED #6 (20) EPOXY COATED TIE BARS 24" (600) LONG AT 24" (600) CENTERS WILL NOT BE PAID FOR SEPARATELY. DELETE EPOXY COATED TIE BARS IF EXISTING TIE BARS ARE USABLE AS DETERMINED BY THE ENGINEER. (SEE NOTE ③).

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

CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

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

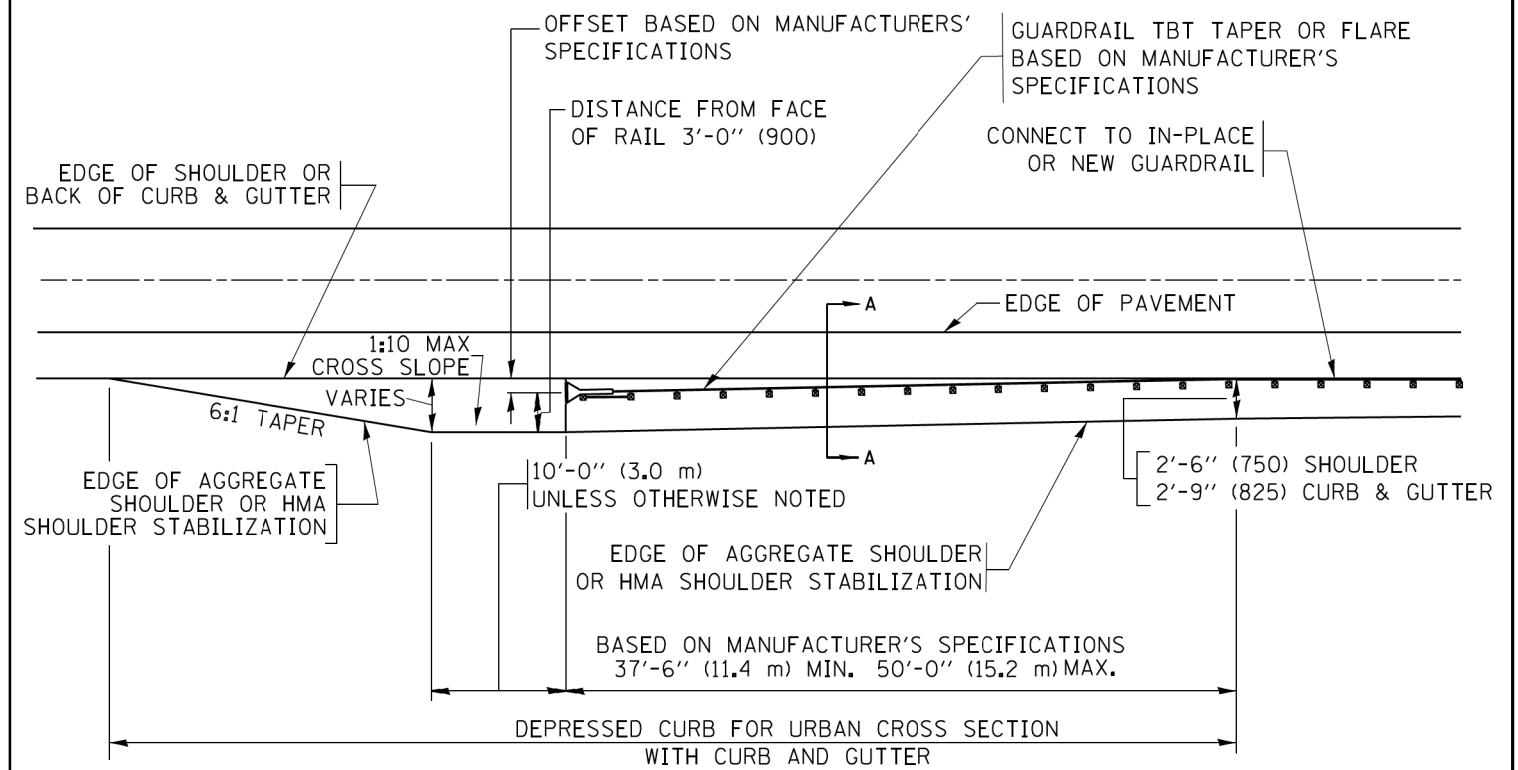
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ca:\p\work\p\dot\drivakosgn\d0108315\bd24.dgn	DRAWN - KJD	REVISED - A. ABBAS 03-21-97	334			2015-087B	MCHENRY/LAKE	64	60	
PLOT SCALE = 50.000' / 1"	CHECKED - RTB, MI	REVISED - M. GOMEZ 01-22-01	BD600-06 (BD-24)			CONTRACT NO. 62B92				
PLOT DATE = 12/15/2009	DATE - 03/24/2017	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	



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.

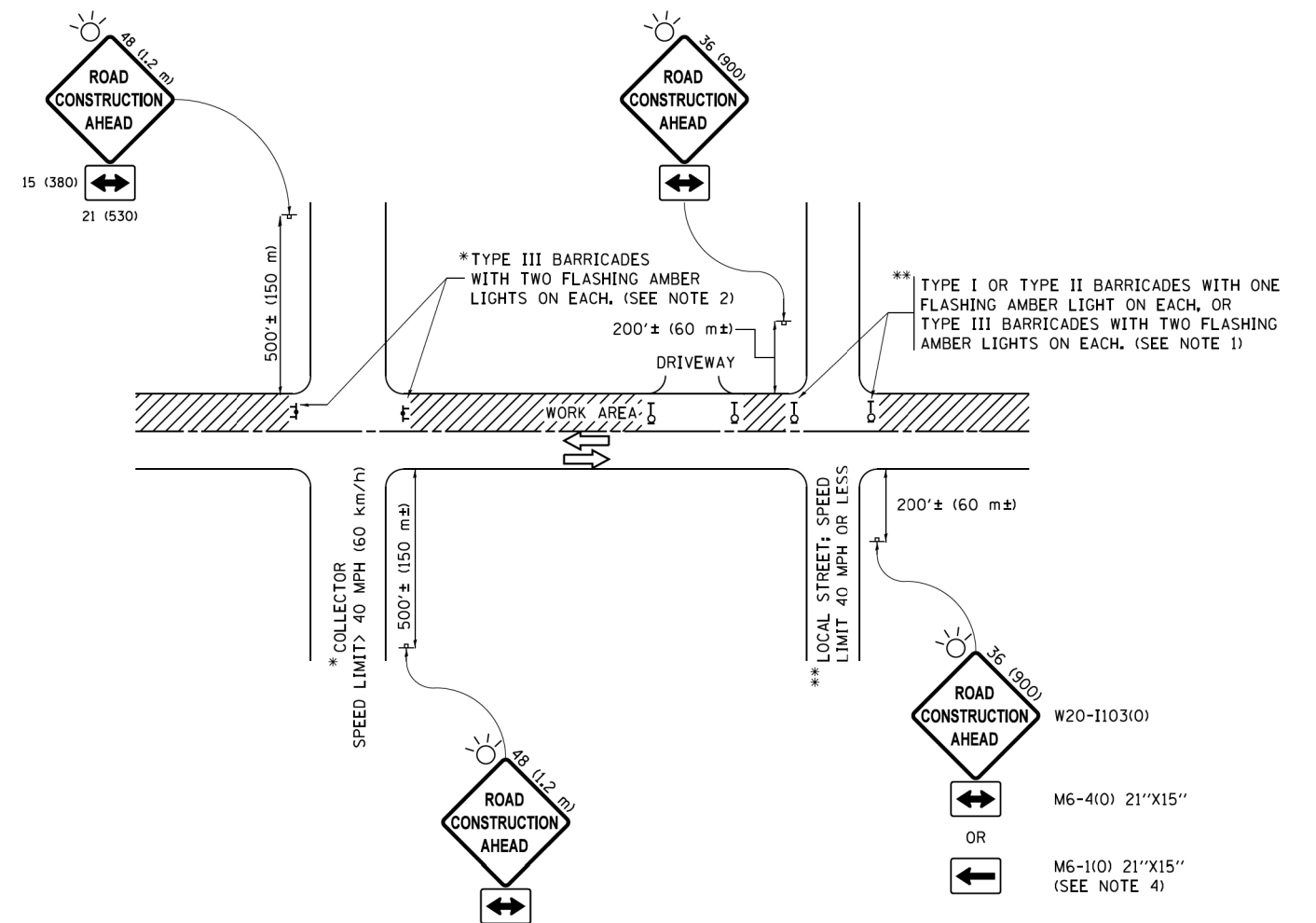
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pw\1\084EBID\INTEG\illinois.gov\PWIDOT\Documents\DOT Offices\District 1\Projects\Dist 1\Projects\CADD\KJD		DRAWN - CADD\KJD	REVISED - R. BORO 09-14-2009
	PLOT SCALE = 50,0000' / 1m	CHECKED - RTB, MI	REVISED - R. BORO 08-06-2012
Default	PLOT DATE = 12/21/2015	DATE - 03/24/2017	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.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY/LAKE	64	61
BD600-10 (BD 34)			CONTRACT NO. 62B92	
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.

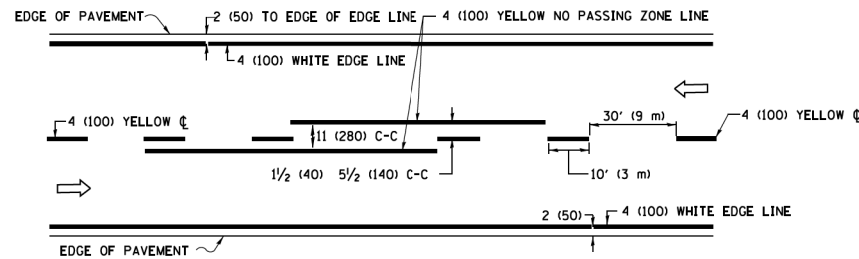
FILE NAME =	USER NAME = footemj	DESIGNED - RTB	REVISED - A. HOUSEH 10-15-96
pw\1\084EBID\INTEG\illinois.gov\FWIDOT\Documents\IDOT Offices\District 1\Projects\Dist 1\CADD\eta\KJD		DRAWN - KJD	REVISED - T. RAMMACHER 01-06-00
Default	PLOT SCALE = 50,000' / 1" =	CHECKED - RTB, MI	REVISED - A. SCHUETZE 07-01-13
	PLOT DATE = 9/15/2016	DATE - 03/24/2017	REVISED - A. SCHUETZE 09-15-16

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

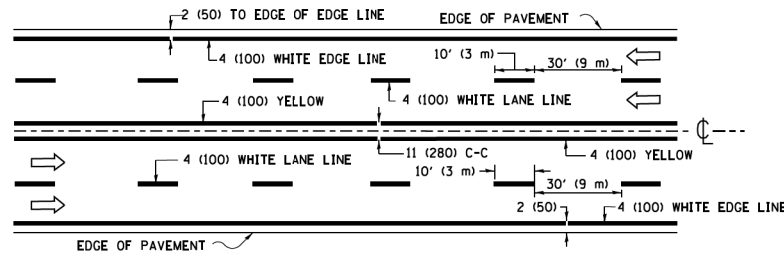
**TRAFFIC CONTROL AND PROTECTION FOR
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS**

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

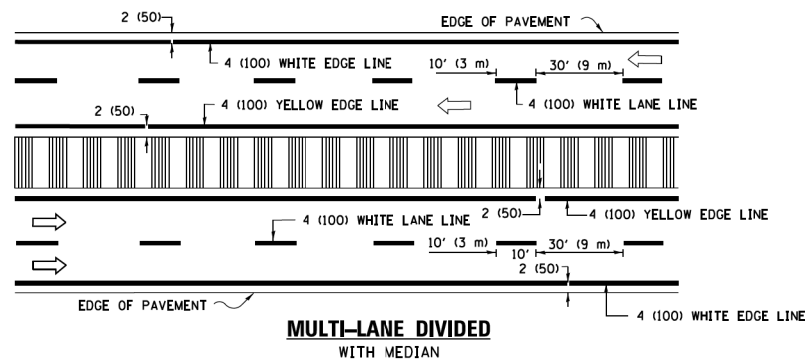
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY/LAKE	64	62
TC-10			CONTRACT NO. 62B92	
ILLINOIS FED. AID PROJECT				



2-LANE ROADWAY

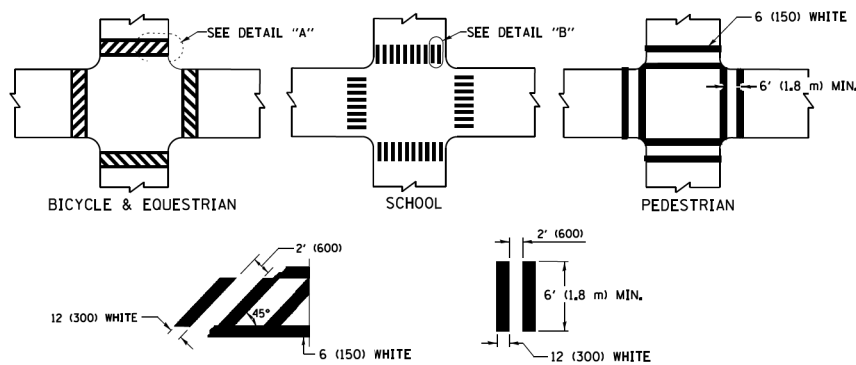


MULTI-LANE UNDIVIDED



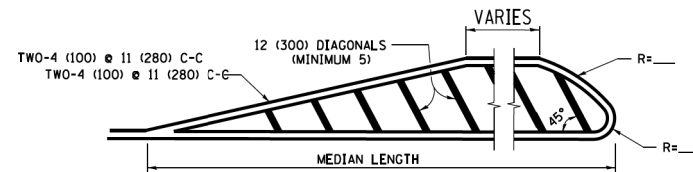
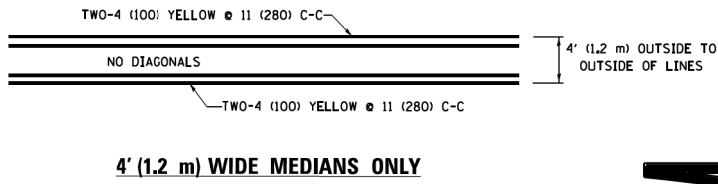
MULTI-LANE DIVIDED WITH MEDIAN

TYPICAL LANE AND EDGE LINE MARKING

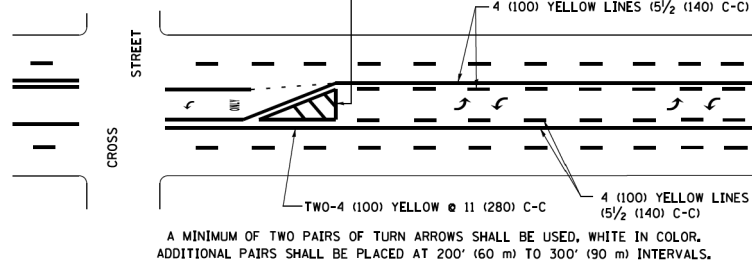


TYPICAL CROSSWALK MARKING

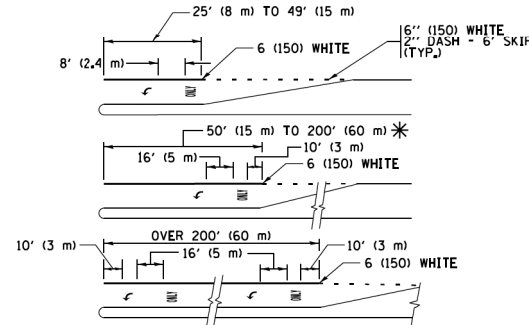
* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES



MEDIANS OVER 4' (1.2 m) WIDE



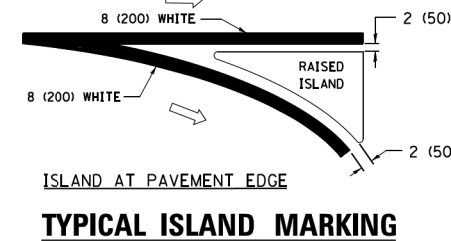
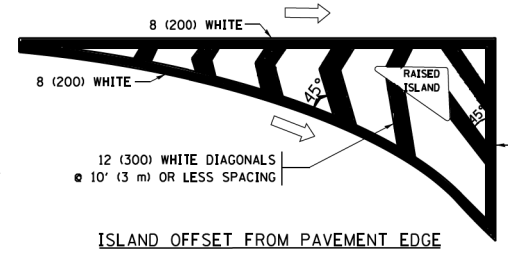
MEDIAN WITH TWO-WAY LEFT TURN LANE TYPICAL PAINTED MEDIAN MARKING



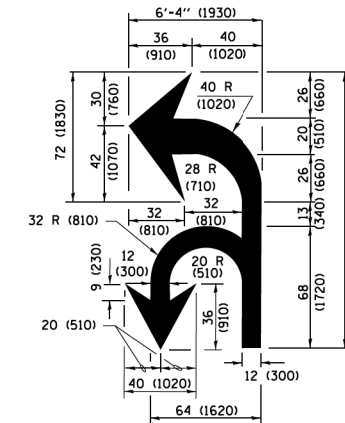
FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.6 SQ. FT. (1.5 m²) ONLY AREA = 20.8 SQ. FT. (1.9 m²)

* 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".

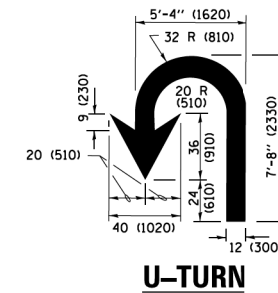
TYPICAL LEFT (OR RIGHT) TURN LANE TYPICAL TURN LANE MARKING



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.
CORE 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 (30 MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE AREA OF "RR" IS 6' (1.8 m) LETTERS: 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF "RR" IS 6' (1.8 m) LETTERS: 16 (400) LINE FOR "X"
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

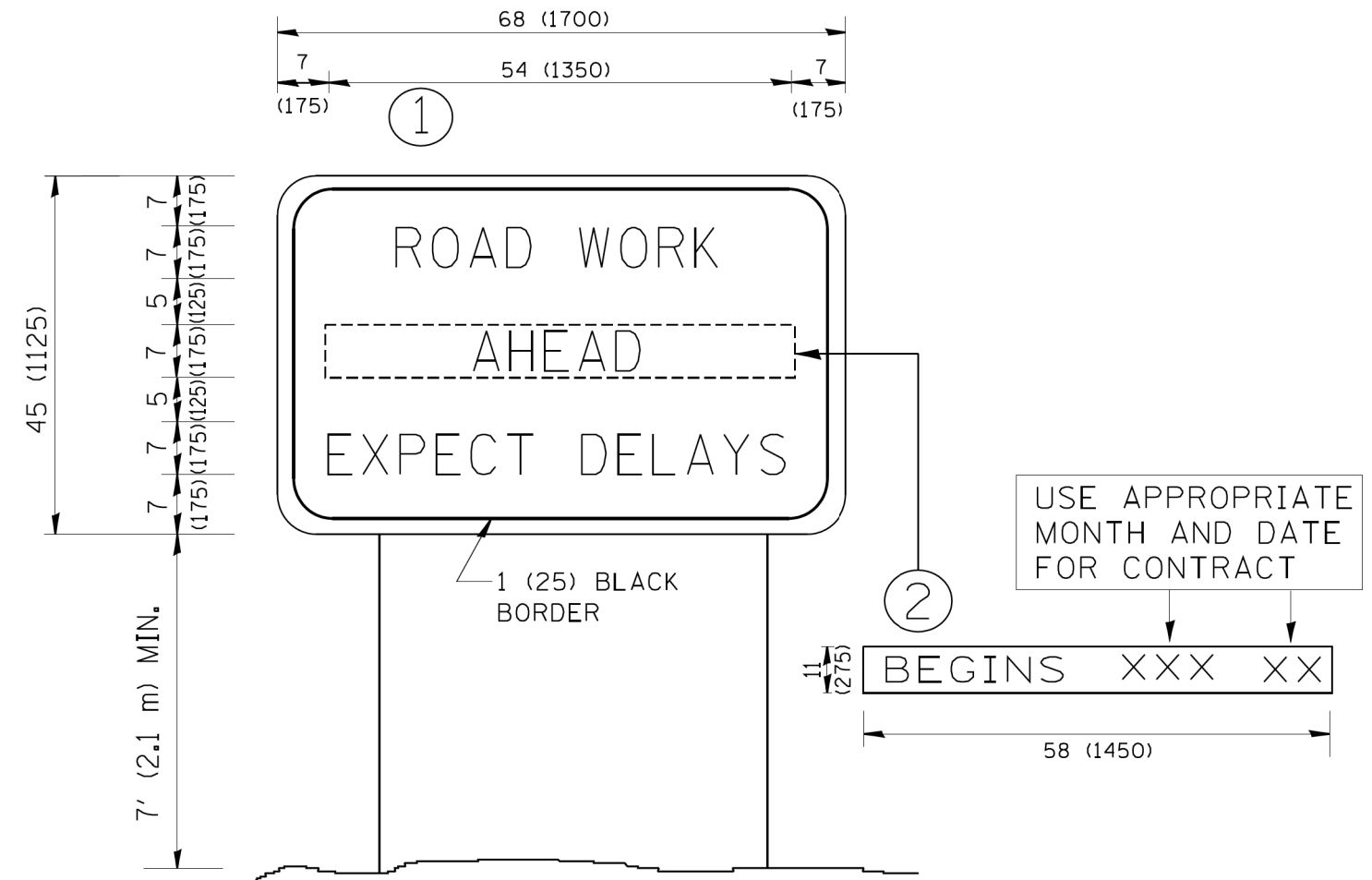
FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

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

FILE NAME =	USER NAME = footemj	DESIGNED - RTB	REVISED - C. JUCIUS 09-09-09
pw\1\084E81D\INTEG\illinois.gov\PIWIDOT\Documents\DOT Offices\District 1\Projects\Dist	DRAWN\CAD\ete KJD	CHECKED - RTB, MI	REVISED - C. JUCIUS 07-01-13
Default	PLOT SCALE = 50,000' / in	DATE - 03/24/2017	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				F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TYPICAL PAVEMENT MARKINGS				334	2015-087B	MCHENRY/LAKE	64	63
SCALE: NONE				TC-13		CONTRACT NO. 62B92		
SHEET 1 OF 1 SHEETS				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 = W:\diststd\22x34\tc22.dgn	USER NAME = gegl.enobt	DESIGNED - RTB	REVISED - R. MIRS 09-15-97
		DRAWN - KJD	REVISED - R. MIRS 12-11-97
	PLOT SCALE = 50.000' / IN.	CHECKED - RTB, MI	REVISED - T. RAMMACHER 02-02-99
	PLOT DATE = 1/4/2008	DATE - 03/24/2017	REVISED - C. JUCIUS 01-31-07

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ARTERIAL ROAD
INFORMATION SIGN**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	2015-087B	MCHENRY/LAKE	64	64
TC-22			CONTRACT NO. 62B92	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				