11-04-2016 LETTING ITEM 061

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	*	147	1
	ILLINOIS	CONTRACT NO. 74439		

* CLAY & RICHLAND

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

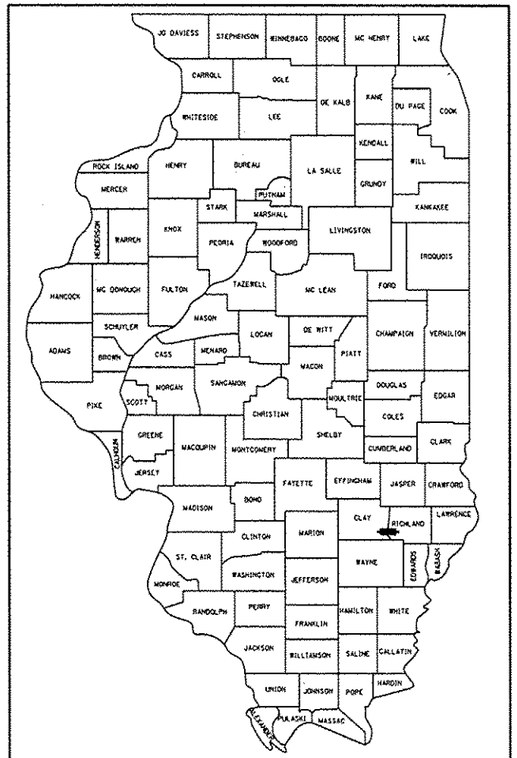
F.A.P. ROUTE 327 (US RTE. 50)
SECTION (7-2B, 7-2BF)B-1
PROJECT : ACNHPP-0327(062)
BRIDGE REPLACEMENT
CLAY & RICHLAND COUNTIES

C-97-042-10

FOR INDEX OF SHEETS, SEE SHEET NO. 2

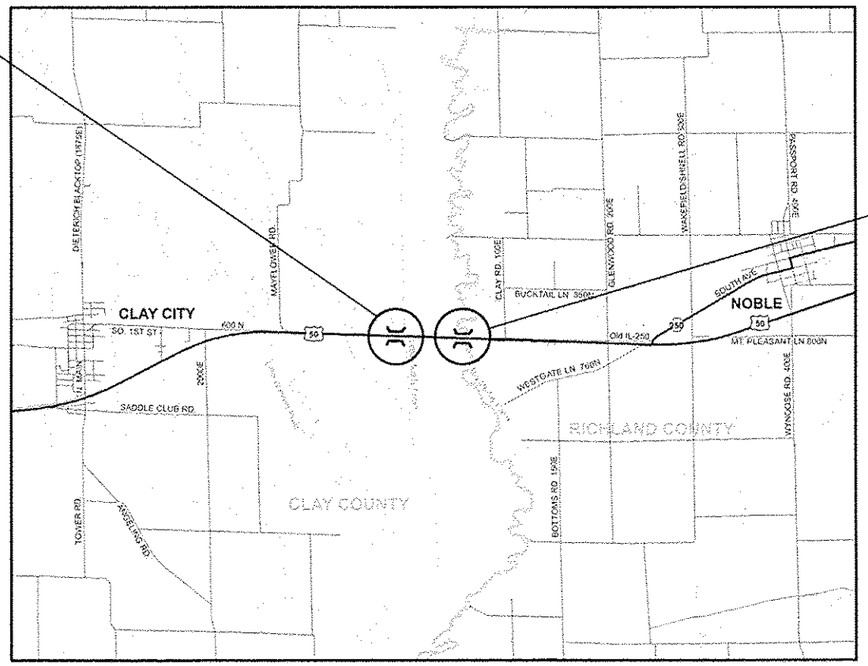
ADT = 4500 (2015)

D-97-019-10

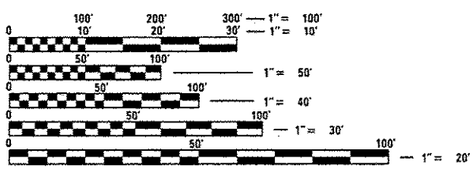


LOCATION OF SECTION INDICATED THUS: –

F.A.P. RTE. 327 (US RTE. 50)
SECTION (7-2B, 7-2BF)B-1
CLAY COUNTY
STRUCTURE 013-0042
STATION 1291 + 82.5



F.A.P. RTE. 327 (US RTE. 50)
SECTION (7-2B, 7-2BF)B-1
RICHLAND COUNTY
STRUCTURE 080-0025
STATION 1324 + 30.0



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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 2 2016
REGIONAL ENGINEER
Sept 30 2016
ENGINEER OF DESIGN AND ENVIRONMENT
Sept 30 2016
DIRECTOR OF PROGRAM DEVELOPMENT

PROJECT ENGINEER: TOM RONAN
PROJECT MANAGER: JENNIFER SHULL
PHONE: (217)-342-8361

CONTRACT NO. 74439

GROSS LENGTH = 1128.05 FT. = 0.21 MILE
NET LENGTH = 1128.05 FT. = 0.21 MILE

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

INDEX OF SHEETS

LIST OF STANDARDS

STD NO.	DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420406	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB
515001-03	NAME PLATE FOR BRIDGES
601101-02	CONCRETE HEADWALL FOR PIPE UNDERDRAINS
630001-10	STEEL PLATE BEAM GUARDRAIL
630201-06	PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-06	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-14	TRAFFIC BARRIER TERMINAL, TYPE 6
667101-02	PERMANENT SURVEY MARKERS
668001-01	US GEOLOGICAL SURVEY AND NATIONAL GEODETIC SURVEY BENCHMARKS, RESETTING METHOD
701001-02	OFF ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF ROAD OPERATIONS, 2L, 2W, 15' TO EDGE OF PAVEMENT
701011-04	OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
701301-04	LANE CLOSURE - SHORT TERM OPERATIONS
701306-03	LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS > 45 MPH
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701321-15	LANE CLOSURE 2L, 2W BRIDGE REPAIR WITH BARRIER
701326-04	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS > 45 MPH
701901-05	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
780001-05	TYPICAL PAVEMENT MARKINGS
781001-04	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
782006	GUARDRAIL AND BARRIER WALLO REFLECTOR MOUNTING DETAILS

GENERAL NOTES

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS; THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED APRIL 1, 2016; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" ADOPTED APRIL 1, 2016; AND THE SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

THE WORK INCLUDED IN SECTION (7-2B, 7-2BF)B-1 CONSISTS OF THE COMPLETE REMOVAL AND REPLACEMENT OF EXISTING STRUCTURE NUMBERS 080-0001 AND 013-0005 WITH NEW STRUCTURES, BRIDGE APPROACH PAVEMENTS, HOT-MIX ASPHALT RESURFACING, RIP RAP, GUARDRAIL, PAVEMENT MARKING AND ANY OTHER WORK NECESSARY TO COMPLETE THIS SECTION. THE WORK SHALL BE COMPLETED UTILIZING STAGE CONSTRUCTION.

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO THE CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK. THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

PAINT PAVEMENT MARKING LINE - 4" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS, AS SHOWN IN THE PLANS, AND AS DETERMINED BY THE ENGINEER.

RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 781 OF THE STANDARD SPECIFICATIONS.

THE RESIDENT ENGINEER SHALL BE THE SOLE JUDGE CONCERNING THE CURING TIME FOR ALL HOT-MIX ASPHALT.

THE MATERIAL USED FOR AGGREGATE SHOULDERS, TYPE B, 6 INCH SHALL BE CRUSHED STONE, CRUSHED CONCRETE.

THE THICKNESS OF THE APPROACH SLAB REMOVAL AND PAVED SHOULDER REMOVAL IS AS FOLLOWS:

SN 013-0005	SN 080-0001
APP. SLAB = 12.5" NOMINAL	APP. SLAB = 1.5" NOMINAL
PAVED SHLD REM. = 5.5" NOMINAL	PAVED SHLD REM. = 5.5" NOMINAL

GENERAL NOTES

THE CONTRACTOR SHALL PROVIDE INTERNET ACCESSIBILITY TO THE HOT-MIX ASPHALT PLANT QUALITY CONTROL LAB SO THAT HOT-MIX ASPHALT PLANT REPORTS CAN BE E-MAILED TO THE DISTRICT HEADQUARTERS. THIS WORK SHALL BE INCLUDED IN THE COST OF ALL HOT-MIX ASPHALT PAY ITEMS AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS TO ANY DAMAGED UTILITIES AS A RESULT OF WORK IN THE AREA.

THE LOCATIONS AND/OR DEPTHS OF UNDERGROUND UTILITIES SHOWN HAVE BEEN TAKEN FROM INFORMATION FURNISHED BY THE UTILITY OWNERS AND MUST BE CONSIDERED APPROXIMATE. FIELD MARKINGS OF FACILITIES IN CRITICAL AREAS MAY BE OBTAINED BY PROVIDING A MINIMUM OF 48 HOURS ADVANCE NOTICE THROUGH THE J.U.L.I.E. SYSTEM BY CALLING 800-892-0123.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

SURFACE COURSE (2")

APPLICATION:	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N90
PG GRADE:	PG 70-22
DESIGN AIR VOIDS:	4.0% @ NDESIGN = 90
MIXTURE COMPOSITION:	IL-9.5
FRICTION AGGREGATE:	MIXTURE D

BINDER COURSE (4" MAX. LIFT AS PER SEC. 407.06(c))

APPLICATION:	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70
PG GRADE:	PG 64-22
DESIGN AIR VOIDS:	4.0% @ NDESIGN = 70
MIXTURE COMPOSITION:	IL-19.0
FRICTION AGGREGATE:	N/A

HMA SHOULDERS (4" MAX. BOTTOM LIFTS)

APPLICATION:	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70
PG GRADE:	PG 64-22
DESIGN AIR VOIDS:	4.0% @ NDESIGN = 70
MIXTURE COMPOSITION:	IL-19.0
FRICTION AGGREGATE:	N/A

HMA SHOULDERS (TOP LIFT)

APPLICATION:	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N70
PG GRADE:	PG 64-22
DESIGN AIR VOIDS:	4.0% @ NDESIGN = 70
MIXTURE COMPOSITION:	IL-9.5
FRICTION AGGREGATE:	MIXTURE C

HMA BASE COURSE WIDENING & HMA FLEXIBLE CONNECTOR

APPLICATION:	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70
PG GRADE:	PG 64-22
DESIGN AIR VOIDS:	4.0% @ NDESIGN = 70
MIXTURE COMPOSITION:	IL-19.0
FRICTION AGGREGATE:	N/A

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

AGGREGATE SHOULDERS	2.05 TONS/CU. YD.
BITUMINOUS MATERIALS (TACK COAT)	0.05 LBS./SQ. FT.
HOT-MIX ASPHALT	112 LBS./SQ. YD/INCH

ALL WORK NECESSARY TO ATTACH THE 4" PIPE DRAINS TO THE ABUTMENT DRAIN PIPES, TRENCHING IN THE PIPE DRAINS, AND INSTALLING THE PIPE INTO THE CONCRETE HEADWALLS IS INCLUDED IN THE CONTRACT UNIT PRICE PER FOOT FOR PIPE DRAIN 4". THE ESTIMATED QUANTITY OF 300' WAS CALCULATED BY TAKING THE DIFFERENCE BETWEEN THE STRUCTURE PIPE UNDERDRAIN ELEVATIONS, DITCH ELEVATIONS AND ROW ELEVATIONS.

A TYPE I CAST IN PLACE PERMANENT SURVEY MARKER SHALL BE PLACED ON THE SOUTHWEST WINGWALL OF EACH STRUCTURE. THE TABLET STYLE SHALL CONFORM TO THE STANDARD 667101-01 AND THE CAST IN PLACE BASE WILL CONFORM TO STANDARD 668001-01 THE LOCATION OF THE SURVEY MARKER SHALL BE DETERMINED BY THE ENGINEER AND THE CHIEF OF SURVEYS. THE SURVEY MARKER LOCATION WILL ALSO BE CROSS TIED AND ELEVATED

THE RESIDENT ENGINEER WILL VERIFY AND MARK ALL TREES REQUIRED TO BE REMOVED. TREES OUTSIDE THE LIMITS OF CONSTRUCTION SHALL NOT BE DISTURBED UNLESS DESIGNATION BY THE ENGINEER. THE RESIDENT ENGINEER SHALL CONTACT PHIL NOSBISCH, THE DISTRICT ROADSIDE MAINTENANCE TECHNICIAN, AT (217) 342-8276 A MINIMUM OF SEVEN DAYS PRIOR TO DELIVERY OF THE TREES SO HE CAN INSPECT THEM FOR ACCEPTANCE AND DETERMINE THE LOCATIONS TO PLANT THE NEW TREES.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX, STANDARDS & GENERAL NOTES

SCALE: N/A | SHEET OF SHEETS | STA. | TO STA.

* CLAY & RICHLAND

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	*	147	2
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 0011 S.N. 013-0042 CLAY CO.	CONSTRUCTION TYPE CODE 0011 S.N. 080-0025 RICHLAND CO.
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	213	55	158
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	19	19	
20200100	EARTH EXCAVATION	CU YD	185	80.1	104.9
20400800	FURNISHED EXCAVATION	CU YD	1592	93	1499
20600200	GRANULAR EMBANKMENT, SPECIAL	CU YD	70		70
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	61.5	16.5	45
28000400	PERIMETER EROSION BARRIER	FOOT	350	100	250
28100109	STONE RIPRAP, CLASS A5	SQ YD	5109	3949	1160
28200200	FILTER FABRIC	SQ YD	4899	3949	950
35600716	HOT-MIX ASPHALT BASE COURSE WIDENING, 10"	SQ YD	1134	386	748
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	2494	732	1762
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	1670	876	794
40600990	TEMPORARY RAMP	SQ YD	187	93.5	93.5
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	534	44	490

14

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 0011 S.N. 013-0042 CLAY CO.	CONSTRUCTION TYPE CODE 0011 S.N. 080-0025 RICHLAND CO.
40603345	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90	TON	378	134	244
40701901	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 11"	SQ YD	295		295
42000070	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB	SQ YD	264	122	142
44000100	PAVEMENT REMOVAL	SQ YD	73	73	
48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	1641	626	1015
48203100	HOT-MIX ASPHALT SHOULDERS	TON	202	39	163
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1	1	
50100400	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1		1
50200100	STRUCTURE EXCAVATION	CU YD	1282	478	804
50200300	COFFERDAM EXCAVATION	CU YD	3116.3	1138.3	1978
50201121	COFFERDAM (TYPE 2) (LOCATION - 1)	EACH	1	1	
50201122	COFFERDAM (TYPE 2) (LOCATION - 2)	EACH	1	1	
50201123	COFFERDAM (TYPE 2) (LOCATION - 3)	EACH	1		1
50201124	COFFERDAM (TYPE 2) (LOCATION - 4)	EACH	1		1
50300100	FLOOR DRAINS	EACH	58	30	28

13

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 0011 S.N. 013-0042 CLAY CO.	CONSTRUCTION TYPE CODE 0011 S.N. 080-0025 RICHLAND CO.	
50300225	CONCRETE STRUCTURES	CU YD	1374	502.6	871.4	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	1708.9	736.9	972	
50300260	BRIDGE DECK GROOVING	SQ YD	5845	2407	3438	
50300265	SEAL COAT CONCRETE	CU YD	563.4	195.4	368	
50300280	CONCRETE ENCASEMENT	CU YD	14.2		14.2	
50300300	PROTECTIVE COAT	SQ YD	7053	2988	4065	
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	248.1	123.1	125	
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	LSUM	1	0.35	0.65	
50500505	STUD SHEAR CONNECTORS	EACH	21594	10746	10848	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	710630	296250	414380	
50800515	BAR SPLICERS	EACH	5269	2288	2981	
50800530	MECHANICAL SPLICERS	EACH	1198	416	782	
51201610	FURNISHING STEEL PILES HP12X63	FOOT	2100	2100		
51201710	FURNISHING STEEL PILES HP12X84	FOOT	1045	1045		

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 0011 S.N. 013-0042 CLAY CO.	CONSTRUCTION TYPE CODE 0011 S.N. 080-0025 RICHLAND CO.	
51201800	FURNISHING STEEL PILES HP14X73	FOOT	2426	2426		
51201900	FURNISHING STEEL PILES HP14X89	FOOT	1074	1074		
51202100	FURNISHING STEEL PILES HP14X117	FOOT	13368		13368	
51202305	DRIVING PILES	FOOT	20013	6645	13368	
51203710	TEST PILE STEEL HP12X84	EACH	1	1		
51203800	TEST PILE STEEL HP14X73	EACH	1	1		
51204100	TEST PILE STEEL HP14X117	EACH	6		6	
51204650	PILE SHOES	EACH	156		156	
51500100	NAME PLATES	EACH	2	1	1	
52000212	FINGER PLATE EXPANSION JOINT, 4"	FOOT	80		80	
52000600	FABRIC REINFORCED ELASTOMERIC TROUGH	FOOT	93		93	
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	24		24	
52100510	ANCHOR BOLTS, 3/4"	EACH	24		24	
52100520	ANCHOR BOLTS, 1"	EACH	72	72		
52100530	ANCHOR BOLTS, 1 1/4"	EACH	48		48	

14

14

*CLAY & RICHLAND

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		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: N/A | SHEET 2 OF 4 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	*	147	4

CONTRACT NO. 74439

ILLINOIS FED. AID PROJECT

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 0011 S.N. 013-0042 CLAY CO.	0011 S.N. 080-0025 RICHLAND CO.	
52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	1307	1047	260	
58700300	CONCRETE SEALER	SQ FT	972		972	
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	203.9	97	106.9	
60100060	CONCRETE HEADWALLS FOR PIPE DRAINS	EACH	8	4	4	
60107600	PIPE UNDERDRAINS 4"	FOOT	300	150	150	
*63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	200	100	100	
*63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	8	4	4	
*63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	8	4	4	
63200310	GUARDRAIL REMOVAL	FOOT	1472	738	734	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	22	10	12	
67100100	MOBILIZATION	LSUM	1	0.5	0.5	
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2	1	1	

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 0011 S.N. 013-0042 CLAY CO.	0011 S.N. 080-0025 RICHLAND CO.	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	LSUM	1	0.5	0.5	
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	LSUM	1	0.5	0.5	
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	LSUM	1	0.5	0.5	
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	8	4	4	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2	1	1	
70300100	SHORT TERM PAVEMENT MARKING	FOOT	322	129	193	
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	107.2	42.8	64.4	
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	7236	2889	4347	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	3937.5	937.5	3000.0	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1112.5	937.5	175.0	
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	2	2	

12

*Specialty Items

11

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	5
CONTRACT NO. 74439				
ILLINOIS FED. AID PROJECT				

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 0011 S.N. 013-0042 CLAY CO.	CONSTRUCTION TYPE CODE 0011 S.N. 080-0025 RICHLAND CO.	
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	2	2	
*72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	8	4	4	
*78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	7236	2889	4347	
*78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	22	8	14	
*78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	16	7	9	
*78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	8	4	4	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	38	15	23	
*A2001020	TREE, ACER RUBRUM (RED MAPLE), 2-1/2" CALIPER, BALLED AND BURLAPPED	EACH	7	2	5	
*A2002314	TREE, BETULA NIGRA (RIVER BIRCH), 1-3/4" CALIPER, BALLED AND BURLAPPED	EACH	6	1	5	
*A2002920	TREE, CELTIS OCCIDENTALIS (COMMON HACKBERRY), 2-1/2" CALIPER, BALLED AND BURLAPPED	EACH	7	1	6	
*A2005416	TREE, LIRIODENDRON TULIPIFERA (TULIP TREE), 2" CALIPER, BALLED AND BURLAPPED	EACH	7	1	6	

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 0011 S.N. 013-0042 CLAY CO.	CONSTRUCTION TYPE CODE 0011 S.N. 080-0025 RICHLAND CO.	
X0327980	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	4824	1926	2898	
*X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.75	0.25	0.5	
X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	1485	284	1201	
X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	501.1	188.9	312.2	
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	28	14	14	
X7040125	PINNING TEMPORARY CONCRETE BARRIER	EACH	809	273	536	
Z0004552	APPROACH SLAB REMOVAL	SQ YD	427	213.5	213.5	
Z0004638	PAVEMENT BREAKING	SQ YD	295		295	
Z0005010	HOT-MIX ASPHALT FOR PATCHING POTHOLES (COLD MIX)	TON	6	3	3	
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	298	158	140	
Ø Z0076600	TRAINEES	HOUR	1000	500	500	
Ø Z0076604	TRAINEES-TRAINING PROGRAM GRADUATE	HOUR	1000	500	500	

Ø 0042
* Specialty Items

Rev.

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		DRAWN -	REVISED -
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Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

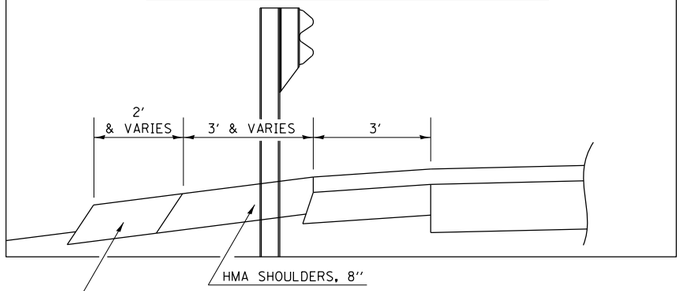
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: N/A | SHEET 4 OF 4 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	-	147	6
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

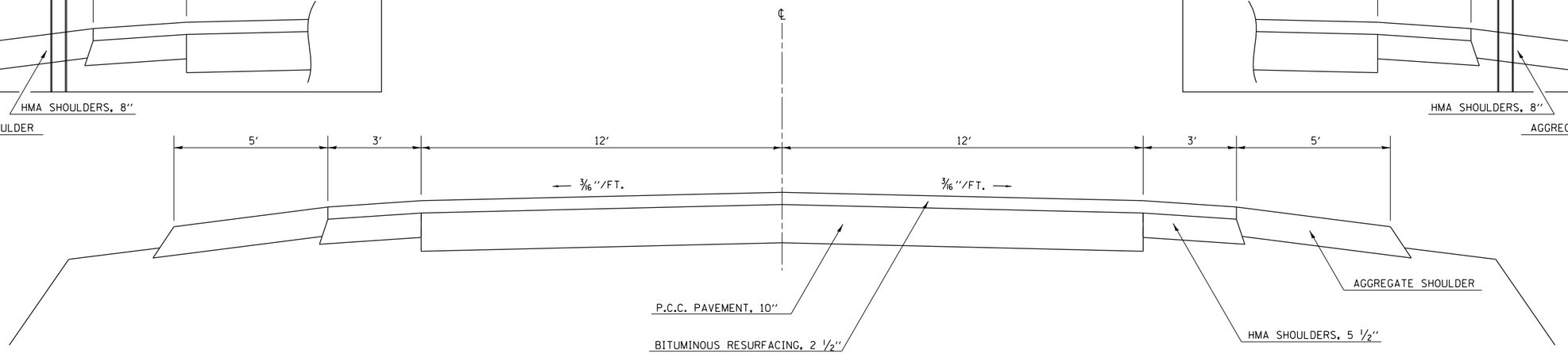
TYPICAL LT. SHOULDER SECTION AT EXISTING GUARDRAIL



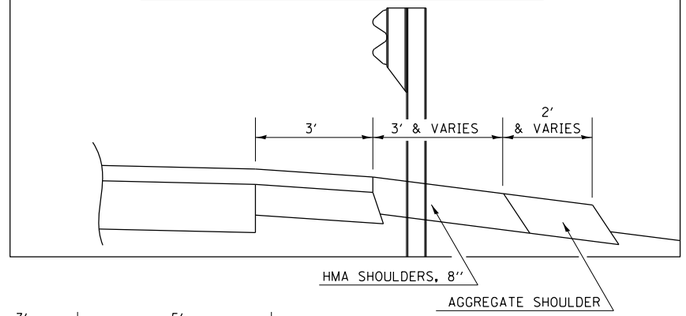
EXISTING TYPICAL CROSS SECTION ①

F.A.P. 327 (US 50)

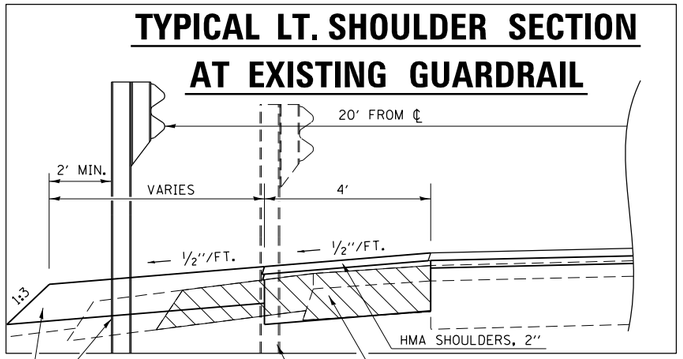
	STATION	TO	STATION	
①	1287+08.50		1288+87.00	②
②	1294+78.00		1296+58.50	①



TYPICAL RT. SHOULDER SECTION AT EXISTING GUARDRAIL



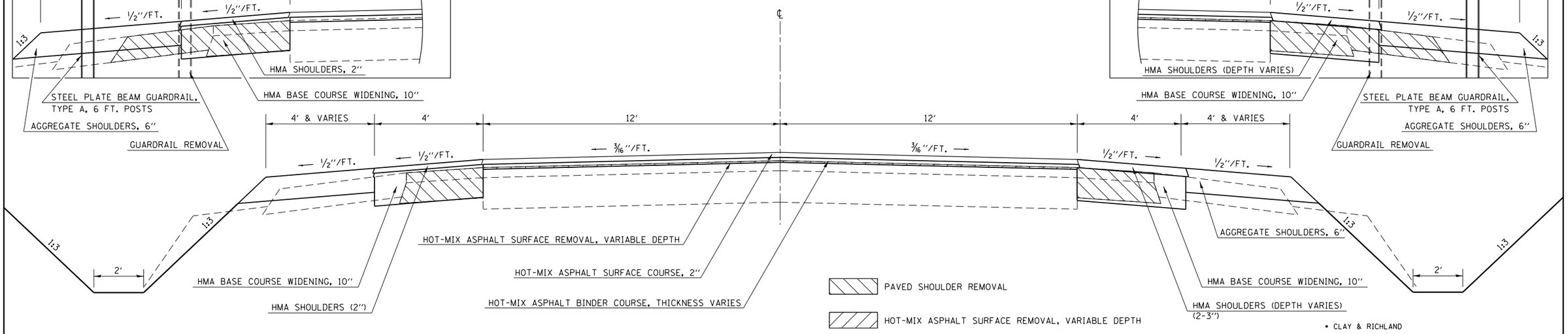
TYPICAL LT. SHOULDER SECTION AT EXISTING GUARDRAIL



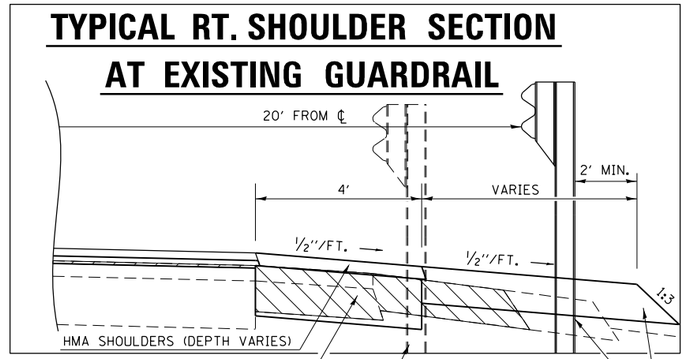
PROPOSED TYPICAL CROSS SECTION ①

F.A.P. 327 (US 50)

	STATION	TO	STATION	
①	1287+08.50		1288+87.00	②
②	1294+78.00		1296+58.50	①



TYPICAL RT. SHOULDER SECTION AT EXISTING GUARDRAIL



• CLAY & RICHLAND

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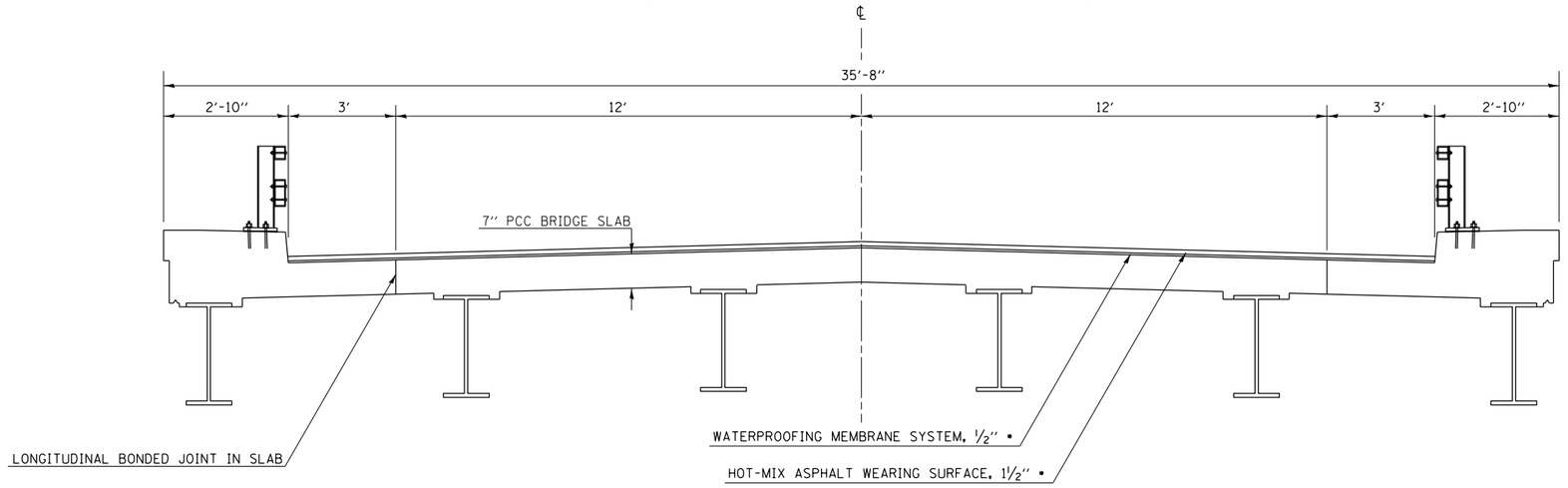
		DRAWN -	REVISED -			327	(7-2B, 7-2BF)B-1	•	147	7
Default	PLOT SCALE = 100.0000 ′ / in.	CHECKED -	REVISED -						CONTRACT NO. 74439	
	PLOT DATE = 8/3/2016	DATE -	REVISED -		SCALE: N/A SHEET 1 OF 3 SHEETS STA. TO STA.			ILLINOIS	FED. AID PROJECT	

EXISTING TYPICAL CROSS SECTION ②

F.A.P. 327 (US 50)

STATION		TO	STATION	
①	1288+87.00		1294+78.00	①
①	1320+32.00		1328+28.00	①



• EXISTING S.N. 080-8001 (STA. 1320+32.00 - STA. 1328+28.00) HAS AN EXISTING HOT-MIX ASPHALT WEARING SURFACE OF 1¼″

NOTE:

APPROACH SLAB PAVEMENT CONNECTOR (STANDARD 420401):
STA. 1288+80.75 - STA. 1288+97.00
STA. 1294+68.00 - STA. 1294+78.00
STA. 1320+26.70 - STA. 1320+42.00
STA. 1328+18.00 - STA. 1328+33.25

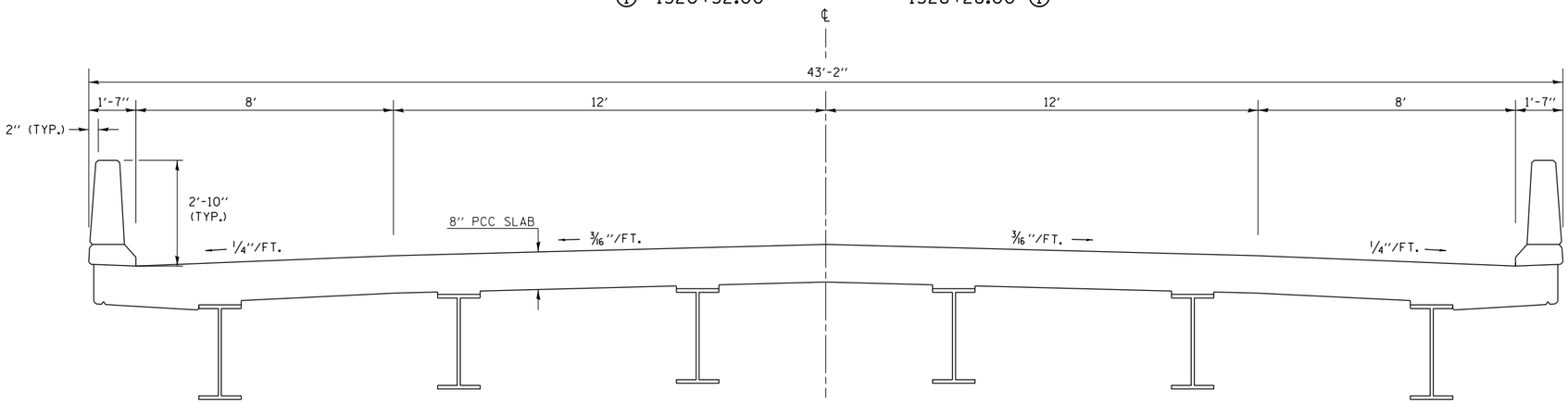
BRIDGE APPROACH PAVEMENT:
STA. 1288+97.00 - STA. 1289+27.00
STA. 1294+38.00 - STA. 1294+68.00
STA. 1320+42.00 - STA. 1320+72.00
STA. 1327+88.00 - STA. 1328+18.00

PARAPET WALL:
STA. 1289+12.00 - STA. 1294+53.00
STA. 1320+57.00 - STA. 1328+03.00

PROPOSED TYPICAL CROSS SECTION ②

F.A.P. 327 (US 50)

STATION		TO	STATION	
①	1288+87.00		1294+78.00	①
①	1320+32.00		1328+28.00	①



• CLAY & RICHLAND

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Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS

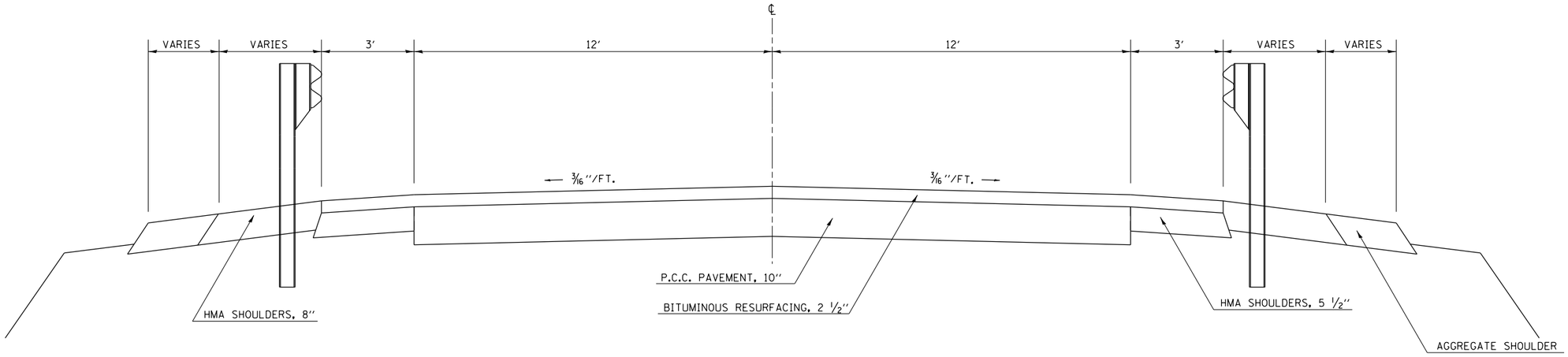
SCALE: N/A | SHEET 2 OF 3 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	8
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

EXISTING TYPICAL CROSS SECTION ③

F.A.P. 327 (US 50)

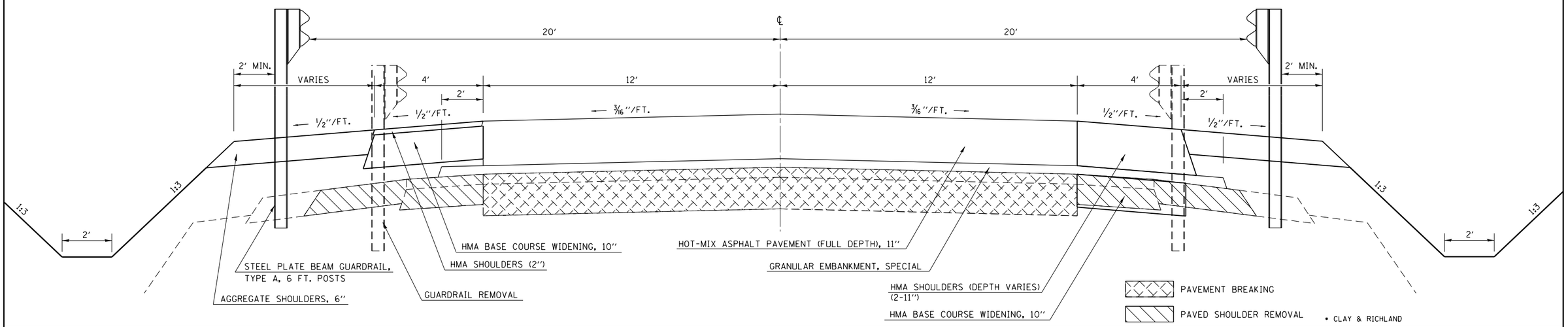
	STATION	TO	STATION	
①	1319+88.06		1320+32.00	②
②	1328+28.00		1328+89.47	②



PROPOSED TYPICAL CROSS SECTION ③

F.A.P. 327 (US 50)

	STATION	TO	STATION	
①	1319+88.06		1320+32.00	②
②	1328+28.00		1328+89.47	②



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		DRAWN -	REVISED -
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Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS

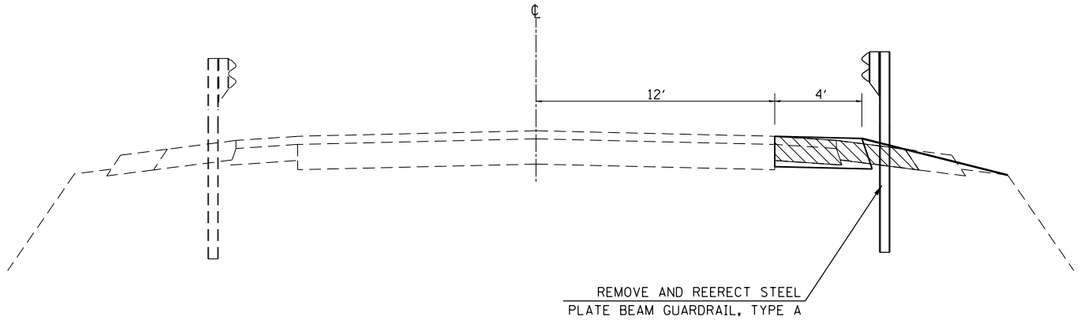
SCALE: N/A | SHEET 3 OF 3 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	9
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

STAGING TYPICALS
ROADWAY APPROACHES NEAR LITTLE MUDDY CREEK

PRE–STAGE CONSTRUCTION

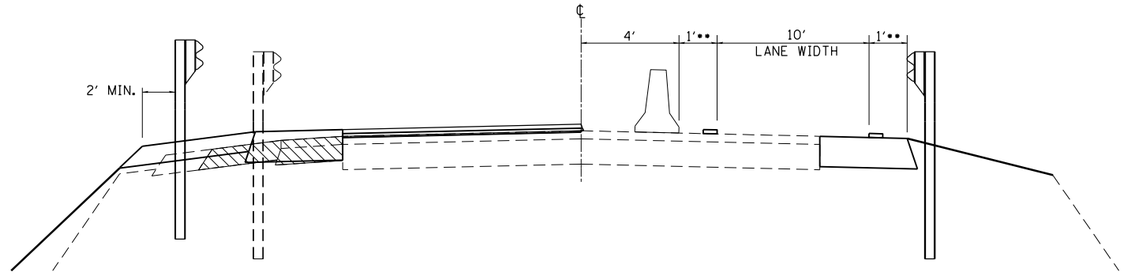
STATION	TO	STATION
1286+90.52		1289+22.07
1294+09.86		1296+72.75



PAVED SHOULDER REMOVAL

STAGE I CONSTRUCTION

STATION	TO	STATION
1286+96.25		1287+80.75
1294+78.00		1296+78.75

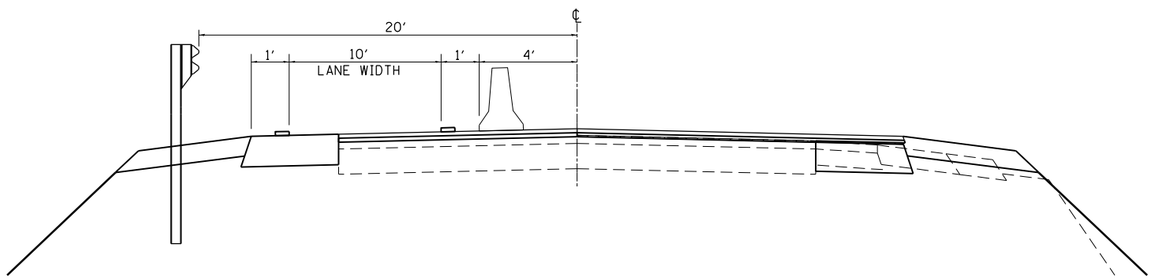


••SHOULDER WIDTH SHALL NARROW TO 6″ ON EXISTING BRIDGE DECK AND APPROACHES

PAVED SHOULDER REMOVAL

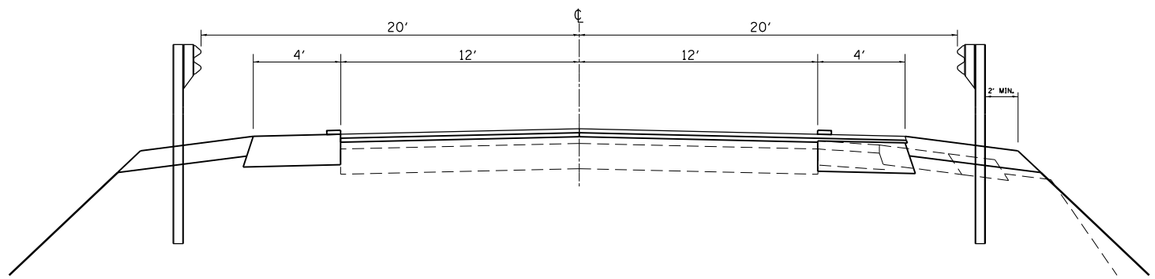
STAGE II CONSTRUCTION

STATION	TO	STATION
1287+08.05		1287+80.75
1294+78.00		1296+58.50



FINAL STAGE CONSTRUCTION

STATION	TO	STATION
1287+08.05		1287+80.75
1294+78.00		1296+58.50



•CLAY & RICHLAND

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	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGING TYPICAL SECTIONS
LITTLE MUDDY CREEK

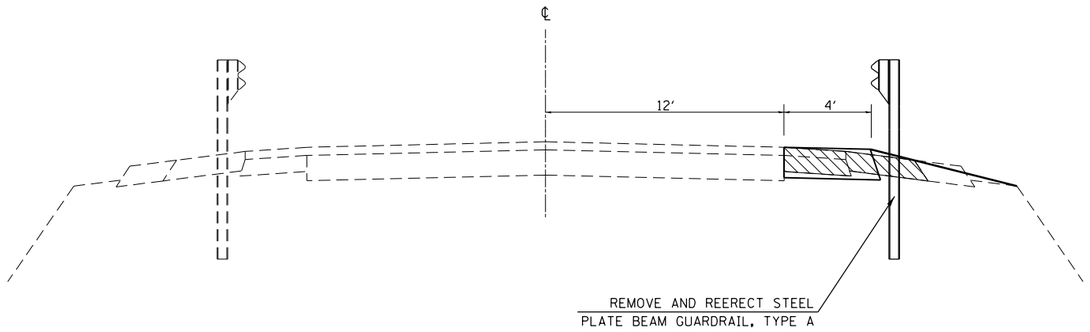
SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	10
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

STAGING DETAILS
ROADWAY APPROACHES NEAR BIG MUDDY CREEK

PRE–STAGE CONSTRUCTION

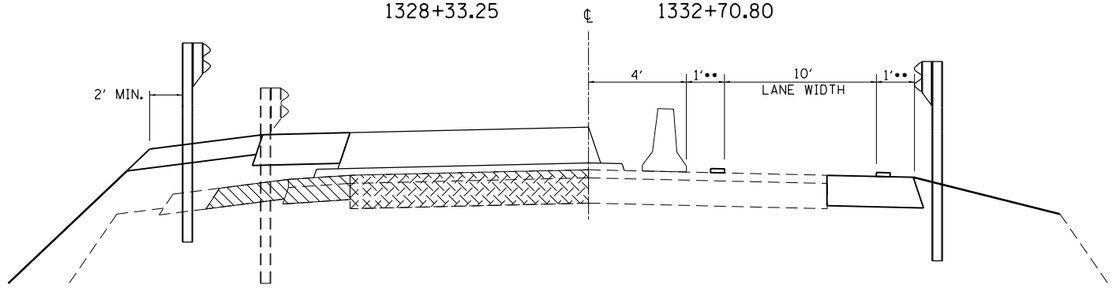
STATION	TO	STATION
1316+44.25		1320+44.25
1327+93.82		1332+64.72



PAVED SHOULDER REMOVAL

STAGE I CONSTRUCTION

STATION	TO	STATION
1316+38.25		1320+26.70
1328+33.25		1332+70.80



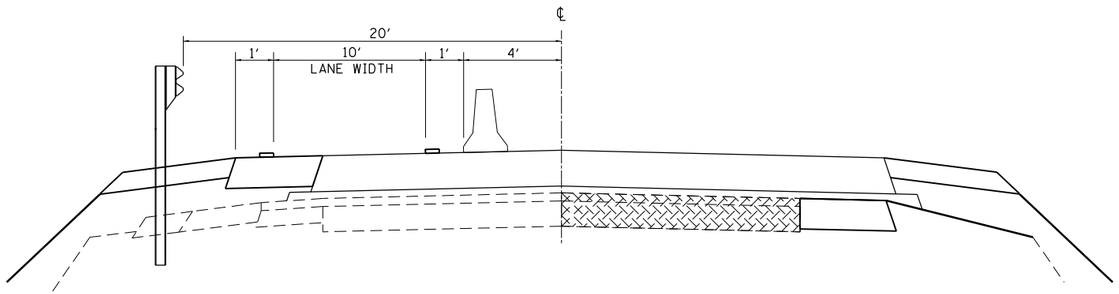
••SHOULDER WIDTH SHALL NARROW TO 6″ ON EXISTING BRIDGE DECK AND APPROACHES

PAVEMENT BREAKING

PAVED SHOULDER REMOVAL

STAGE II CONSTRUCTION

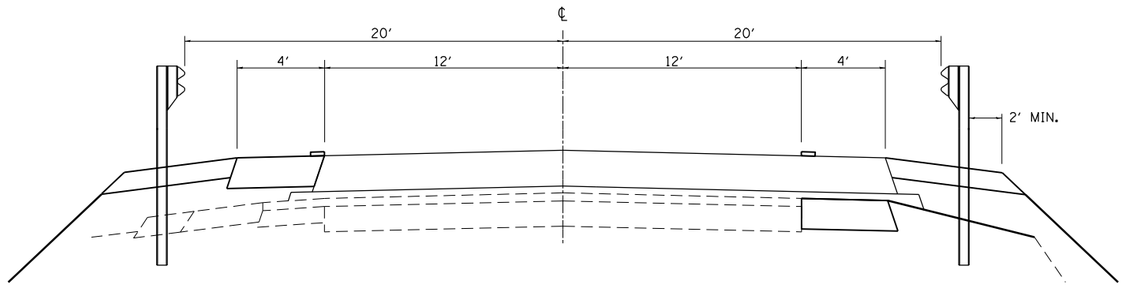
STATION	TO	STATION
1316+50.00		1320+26.70
1328+33.25		1332+25.00



PAVEMENT BREAKING

FINAL STAGE CONSTRUCTION

STATION	TO	STATION
1316+50.00		1320+26.70
1328+33.25		1332+25.00



•CLAY & RICHLAND

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Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGING TYPICAL SECTIONS
BIG MUDDY CREEK

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	11
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

RESURFACING SCHEDULE

LOCATION	LENGTH	PAVEMENT BREAKING	GRANULAR EMBANKMENT, SPECIAL	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 11"	BITUMINOUS MATERIALS (TACK COAT)	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT
	FOOT	SQ YD	CU YD	SQ YD	POUND	TON	TON	SQ YD	SQ YD	SQ YD
SN 013-0042										
1287+08.50 TO 1288+35.39	126.9	0.0	0.0	0.0	203.0	0.0	49.7	0.0	0.0	451.2
1288+35.39 TO 1288+80.75	45.4	0.0	0.0	0.0	108.9	15.8	15.8	0.0	121.0	0.0
1288+80.75 TO 1288+97.00	16.3	0.0	0.0	0.0	51.2	0.0	0.0	75.5	0.0	0.0
1288+97.00 TO 1289+27.00	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1289+27.00 TO 1294+38.00	511.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1294+38.00 TO 1294+68.00	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1294+68.00 TO 1294+78.00	10.0	0.0	0.0	0.0	31.5	0.0	0.0	46.5	0.0	0.0
1294+78.00 TO 1295+39.14	61.1	0.0	0.0	0.0	146.7	28.0	21.3	0.0	163.0	0.0
1295+39.14 TO 1296+58.50	119.4	0.0	0.0	0.0	191.0	0.0	46.8	0.0	0.0	424.4
SN 080-0025										
1316+50.00 TO 1317+78.89	128.9	0.0	0.0	0.0	206.2	0.0	50.5	0.0	0.0	458.3
1317+78.89 TO 1319+88.06	209.2	0.0	0.0	0.0	502.0	227.8	72.9	0.0	557.8	0.0
1319+88.06 TO 1320+26.70	38.6	120.2	16.8	120.2	92.7	0.0	0.0	0.0	0.0	0.0
1320+26.70 TO 1320+42.00	15.3	0.0	12.8	0.0	48.2	0.0	0.0	71.1	0.0	0.0
1320+42.00 TO 1320+72.00	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1320+72.00 TO 1327+88.00	716.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1327+88.00 TO 1328+18.00	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1328+18.00 TO 1328+33.25	15.3	0.0	12.7	0.0	48.0	0.0	0.0	70.9	0.0	0.0
1328+33.25 TO 1328+89.47	56.2	174.9	27.6	174.9	134.9	0.0	0.0	0.0	0.0	0.0
1328+89.47 TO 1331+30.54	241.1	0.0	0.0	0.0	578.6	262.5	84.0	0.0	642.9	0.0
1331+30.54 TO 1332+25.00	94.5	0.0	0.0	0.0	151.1	0.0	37.0	0.0	0.0	335.9
TOTALS		295.0	70.0	295.0	2494.0	534.0	378.0	264.0	1485.0	1670.0

HOT-MIX ASPHALT SHOULDERS

LOCATION				LENGTH (FOOT)	SHOULDER WIDTH (FOOT)	AREA (SQ FT)	AREA (SQ YD)	QTY (TON)	
		SN 013-0042							
LT.	1287+08.50	TO	1288+80.75	172.25	4.0	689.00	76.6	8.6	@2"
RT.	1287+08.50	TO	1288+80.75	172.25	4.0	689.00	76.6	10.7	@2.5"
LT.	1294+78.00	TO	1296+58.50	180.50	4.0	722.00	80.2	9.0	@2"
RT.	1294+78.00	TO	1296+58.50	180.50	4.0	722.00	80.2	11.2	@2.5"
		SN 080-0025							
LT.	1316+50.00	TO	1320+26.70	376.70	4.0	1506.80	167.4	18.8	@2"
RT.	1316+50.00	TO	1320+26.70	376.70	4.0	1506.80	167.4	60.9	@6.5"
LT.	1328+33.25	TO	1332+25.00	391.75	4.0	1567.00	174.1	19.5	@2"
RT.	1328+33.25	TO	1332+25.00	391.75	4.0	1567.00	174.1	63.4	@6.5"
							TOTAL =	202	

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	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: N/A | SHEET 1 OF 3 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	12
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

PAVEMENT MARKING SCHEDULE

LOCATION			LENGTH	SHORT TERM PAVEMENT MARKING	SHORT TERM PAVEMENT MARKING REMOVAL	TEMPORARY PAVEMENT MARKING-LINE 4 INCH	PAINT PAVEMENT MARKING -LINE 4 INCH	PAVEMENT MARKING REMOVAL-WATER BLASTING	RAISED REFLECTIVE PAVEMENT MARKERS	RAISED REFLECTIVE PAVEMENT MARKERS (BRIDGE)	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL
			FOOT	FOOT	SQ. FT.	FOOT	FOOT	SQ. FT.	EACH	EACH	EACH
1285+42.25	TO	1288+97.00	354.75	35.5	11.8	798.2	798.2	532.1	4	0	4
1288+97.00	TO	1294+68.00	571.00	57.1	19.0	1,284.8	1,284.8	856.4	0	7	7
1294+68.00	TO	1298+26.32	358.32	35.8	11.9	806.2	806.2	537.4	4	0	4
1314+84.25	TO	1320+72.00	587.75	58.8	19.6	1,322.4	1,322.4	881.5	7	0	7
1320+72.00	TO	1328+18.00	746.00	74.6	24.9	1,678.5	1,678.5	1,118.9	0	9	9
1328+18.00	TO	1334+16.30	598.30	59.8	19.9	1,346.2	1,346.2	897.4	7	0	7
TOTALS=			2861.0	322.0	107.2	7236	7236	4,824	22.0	16.0	38.0

AGGREGATE SHOULDER, TYPE B

LOCATION			LENGTH (FOOT)	SHOULDER WIDTH (FOOT)	AREA (SQ YD)
SN 013-0042					
1287+08.50	TO	1287+29.48	21.0	8.0	18.6
1287+29.48	TO	1287+58.26	28.8	10.4	33.2
1287+58.26	TO	1287+78.84	20.6	12.8	29.2
1287+78.84	TO	1288+07.75	28.9	15.2	48.7
1288+07.75	TO	1288+80.75	73.0	17.6	142.8
1288+80.75	TO	1289+12.00	31.3	8.0	27.8
1289+12.00	TO	1294+53.00	541.0	0.0	0.0
1294+53.00	TO	1294+78.00	25.0	8.0	22.2
1294+78.00	TO	1295+56.75	78.8	17.8	155.8
1295+56.75	TO	1295+88.42	31.7	15.2	53.3
1295+88.42	TO	1296+06.75	18.3	12.6	25.6
1296+06.75	TO	1296+35.64	28.9	10.3	33.0
1296+35.64	TO	1296+72.75	37.1	8.0	33.0
1296+72.75	TO	1296+78.75	6.0	4.0	2.7
SN 080-0025					
1316+38.25	TO	1316+44.25	6.0	4.0	2.7
1316+44.25	TO	1318+72.78	228.5	8.0	203.1
1318+72.78	TO	1319+03.26	30.5	10.6	35.9
1319+03.26	TO	1319+23.67	20.4	13.2	29.9
1319+23.67	TO	1319+53.26	29.6	15.7	51.5
1319+53.26	TO	1320+26.70	73.4	18.1	147.7
1320+26.70	TO	1328+03.00	776.3	0.0	0.0
1328+03.00	TO	1328+33.25	30.3	8.0	26.9
1328+33.25	TO	1329+06.75	73.5	18.5	151.1
1329+06.75	TO	1329+41.18	34.4	15.7	59.9
1329+41.18	TO	1329+56.75	15.6	12.8	22.1
1329+56.74	TO	1329+85.59	28.9	10.4	33.3
1329+85.59	TO	1332+64.72	279.1	8.0	248.1
1332+64.72	TO	1332+70.80	6.1	4.0	2.7
PROJECT TOTAL =					1,641.0
CLAY COUNTY TOTAL =					626.0
RICHLAND COUNTY TOTAL =					1,015.0

LOCATION	EARTH EXCAVATION 20200100 CU YD	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE CU YD	EMBANKMENT CU YD	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) CU YD	FURNISHED EXCAVATION 20400800 CU YD
Little Muddy Cr. - Lt.	46.4	34.8	96.8	-62.0	62.0
Little Muddy Cr. - Rt.	33.7	25.3	55.8	-30.5	30.5
Big Muddy Cr. - Lt.	53.7	40.3	293.7	-253.4	253.4
Big Muddy Cr. - Rt.	51.2	38.4	1,283.9	-1,245.6	1,245.6
SUB-TOTAL	185.0	138.8	1,730.3	-1,591.5	1,591.5
TOTAL	190.0				1,600.0

• CLAY & RICHLAND

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Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: N/A | SHEET 2 OF 3 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	13
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

GUARDRAIL SCHEDULE

LOCATION	GUARDRAIL REMOVAL	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	TRAFFIC BARRIER TERMINAL, TYPE 6	GUARDRAIL REFLECTORS, TYPE A	LINEAR DELINIATOR PANELS, 6 INCH	TERMINAL MARKERS - DIRECT APPLIED
	FOOT	EACH	FOOT	EACH	EACH	EACH	EACH
SN 013-0042							
NORTHWEST CORNER	155.0	1.0	0.0	1.0	1.0		1.0
SOUTHWEST CORNER	217.0	1.0	50.0	1.0	1.0		1.0
BRIDGE						8.0	
NORTHEAST CORNER	214.0	1.0	50.0	1.0	1.0		1.0
SOUTHEAST CORNER	152.0	1.0	0.0	1.0	1.0		1.0
SN 080-0025							
NORTHWEST CORNER	153.0	1.0	0.0	1.0	1.0		1.0
SOUTHWEST CORNER	215.0	1.0	50.0	1.0	1.0		1.0
BRIDGE						10.0	
NORTHEAST CORNER	214.0	1.0	50.0	1.0	1.0		1.0
SOUTHEAST CORNER	152.0	1.0	0.0	1.0	1.0		1.0
TOTALS=	1472.0	8.0	200.0	8.0	8.0	18.0	8.0

TEMPORARY BRIDGE TRAFFIC SIGNALS

LOCATION	QTY	
S.N. 013-0042	1.0	EACH
TOTAL =	1.0	EACH

TEMPORARY BRIDGE TRAFFIC SIGNALS

LOCATION	QTY	
S.N. 080-0025	1.0	EACH
TOTAL =	1.0	EACH

APPROACH SLAB REMOVAL

LOCATION			QTY	
1288+80.75	TO	1289+20.75	106.7	SQ YD
1294+10.75	TO	1294+50.75	106.7	SQ YD
TOTAL =			213.0	SQ YD

APPROACH SLAB REMOVAL

LOCATION			QTY	
1320+26.70	TO	1320+66.70	106.7	SQ YD
1327+93.25	TO	1328+33.25	106.7	SQ YD
TOTAL =			213.0	SQ YD

HOT-MIX ASPHALT BASE COURSE WIDENING, 10"

LOCATION			QTY	
1287+02.25	TO	1289+22.07	97.7	SQ YD
1294+09.86	TO	1296+72.75	116.8	SQ YD
1286+96.25	TO	1288+80.75	184.5	SQ YD
1294+78.00	TO	1294+50.75	200.8	SQ YD
TOTAL =			599.8	SQ YD

HOT-MIX ASPHALT BASE COURSE WIDENING, 10"

LOCATION			QTY	
1316+44.25	TO	1320+44.25	177.8	SQ YD
1327+93.82	TO	1332+64.72	209.3	SQ YD
1316+38.25	TO	1320+26.70	172.6	SQ YD
1328+33.25	TO	1332+56.93	188.3	SQ YD
TOTAL =			748.0	SQ YD

• CLAY & RICHLAND

CLAY CO. SN 013-0042

TEMPORARY CONCRETE BARRIER

LOCATION			QTY	
1287+19.05	TO	1288+06.25	87.5	FOOT
1288+06.25	TO	1295+68.75	762.5	FOOT
1295+68.75	TO	1296+55.95	87.5	FOOT
TOTAL =			937.5	FOOT

PINNING TEMPORARY CONCRETE BARRIER (STG I)

LOCATION			QTY	
1287+31.55	TO	1287+56.55	0	EACH
1288+06.25	TO	1288+31.25	3	EACH
1288+31.25	TO	1295+43.75	171	EACH
1295+43.75	TO	1295+68.75	3	EACH
1296+18.45	TO	1296+43.45	0	EACH
TOTAL =			177	EACH

RELOCATE TEMPORARY CONCRETE BARRIER

LOCATION			QTY	
1287+19.05	TO	1288+06.25	87.5	FOOT
1288+06.25	TO	1295+68.75	762.5	FOOT
1295+68.75	TO	1296+55.95	87.5	FOOT
TOTAL =			937.5	FOOT

PINNING TEMPORARY CONCRETE BARRIER (STG II)

LOCATION			QTY	
1287+31.55	TO	1288+06.25	18	EACH
1288+06.25	TO	1289+27.00	29	EACH
1289+27.00	TO	1294+38.00	0	EACH
1294+38.00	TO	1295+68.75	31	EACH
1295+68.75	TO	1296+43.45	18	EACH
TOTAL =			96	EACH

IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3

LOCATION	QTY	
1287+12.50	1.0	EACH
1296+62.50	1.0	EACH
TOTAL =	2.0	EACH

IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3

LOCATION	QTY	
1287+12.50	1.0	EACH
1296+62.50	1.0	EACH
TOTAL =	2.0	EACH

REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL, TYPE A

LOCATION			QTY		
1287+04.87	TO	1289+19.96	215.0	FOOT	RT.
1294+11.86	TO	1295+61.55	150.0	FOOT	RT.
TOTAL =			365.0	FOOT	

RICHLAND CO. SN 080-0025

TEMPORARY CONCRETE BARRIER

LOCATION			QTY	
1316+61.05	TO	1317+48.25	87.5	FOOT
1317+48.25	TO	1331+60.75	2825.0	FOOT
1331+60.75	TO	1332+47.95	87.5	FOOT
TOTAL =			3000.0	FOOT

PINNING TEMPORARY CONCRETE BARRIER (STG I)

LOCATION			QTY	
1316+73.55	TO	1316+98.55	0	EACH
1317+48.25	TO	1317+73.25	3	EACH
1317+73.25	TO	1331+35.75	327	EACH
1331+35.75	TO	1331+60.75	3	EACH
1332+10.45	TO	1332+35.45	0	EACH
TOTAL =			333	EACH

RELOCATE TEMPORARY CONCRETE BARRIER

LOCATION			QTY	
1316+61.05	TO	1317+48.25	87.5	FOOT
1317+48.25	TO	1331+60.75	0.0	FOOT
1331+60.75	TO	1332+47.95	87.5	FOOT
TOTAL =			175.0	FOOT

PINNING TEMPORARY CONCRETE BARRIER (STG II)

LOCATION			QTY	
1316+73.55	TO	1317+48.25	18	EACH
1317+48.25	TO	1320+71.42	78	EACH
1320+71.42	TO	1327+88.58	0	EACH
1327+88.58	TO	1331+60.75	89	EACH
1331+60.75	TO	1332+35.45	18	EACH
TOTAL =			203	EACH

IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3

LOCATION	QTY	
1316+55.00	1.0	EACH
1332+55.00	1.0	EACH
TOTAL =	2.0	EACH

IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3

LOCATION	QTY	
1316+55.00	1.0	EACH
1332+55.00	1.0	EACH
TOTAL =	2.0	EACH

REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL, TYPE A

LOCATION			QTY		
1318+49.48	TO	1320+64.58	215.0	FOOT	RT.
1327+96.49	TO	1329+48.08	151.5	FOOT	RT.
TOTAL =			366.5	FOOT	

• CLAY & RICHLAND

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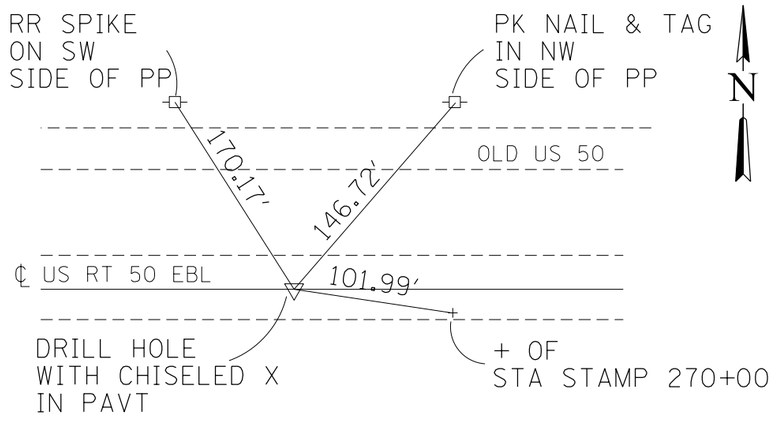
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: N/A | SHEET 3 OF 3 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	14
			CONTRACT NO. 74439	
		ILLINOIS	FED. AID PROJECT	

POT STA 1269+00



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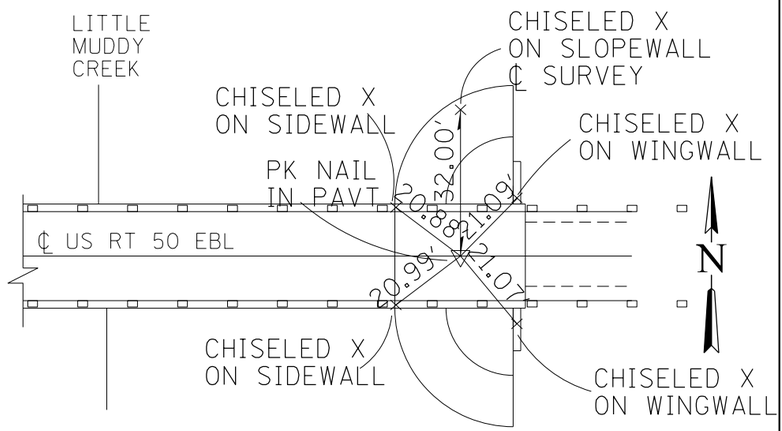

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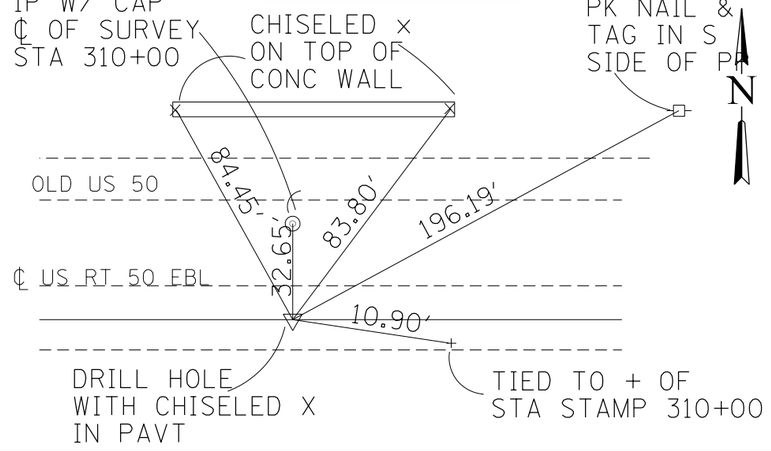

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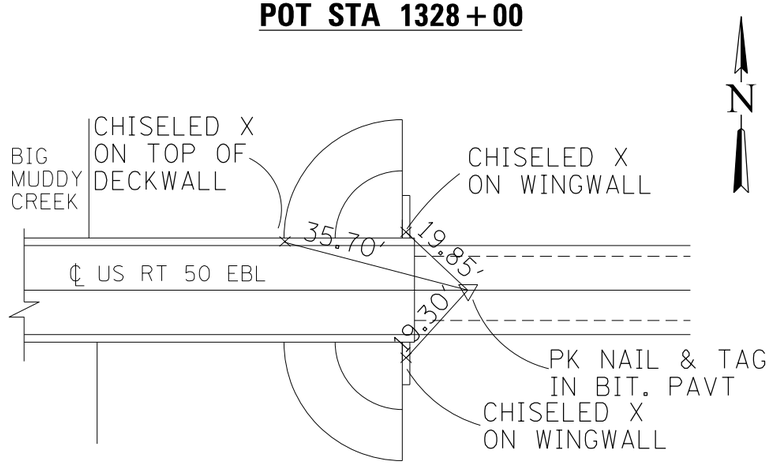
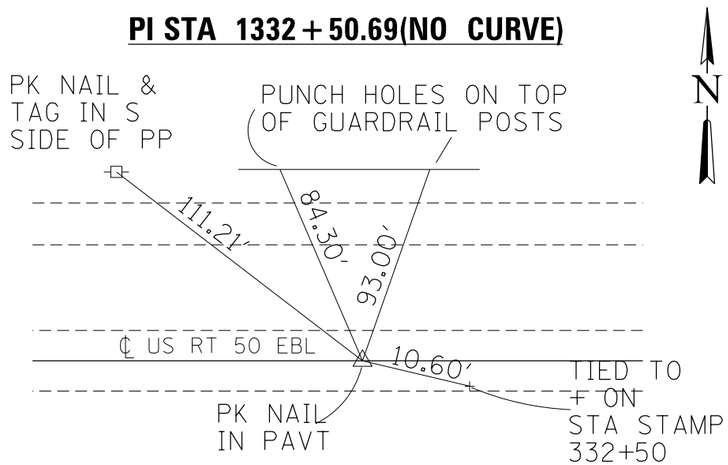


PI STA 1332+50.69(NO CURVE)



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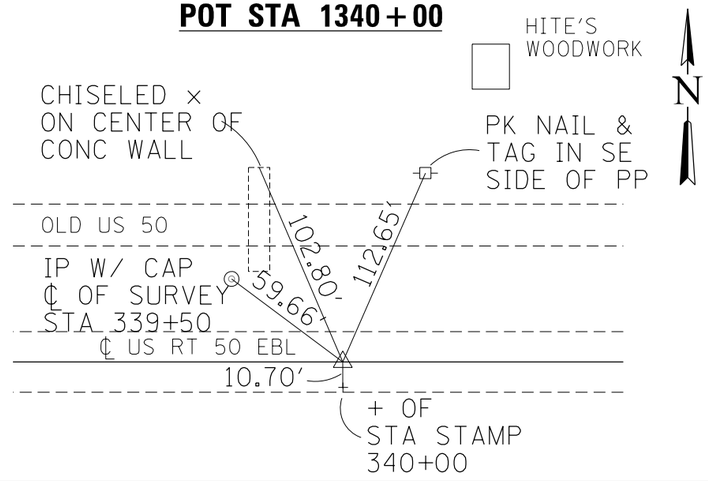

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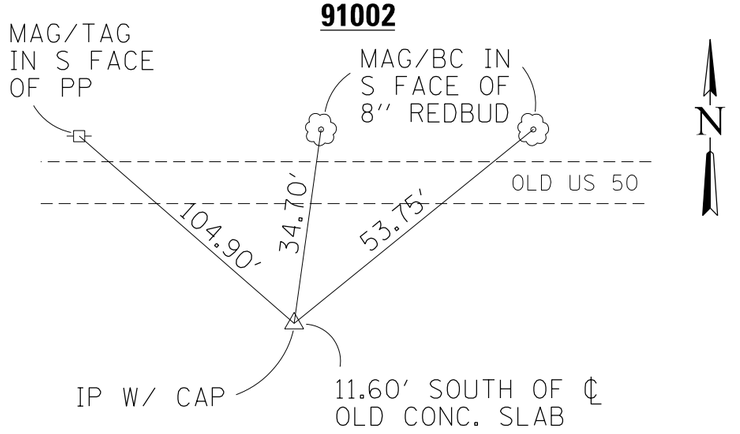

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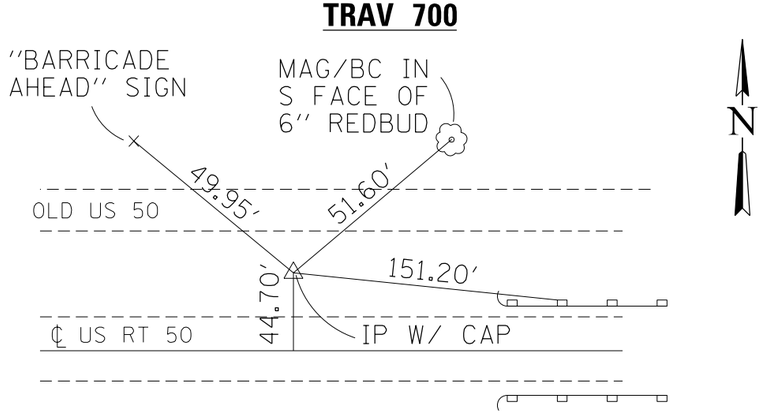

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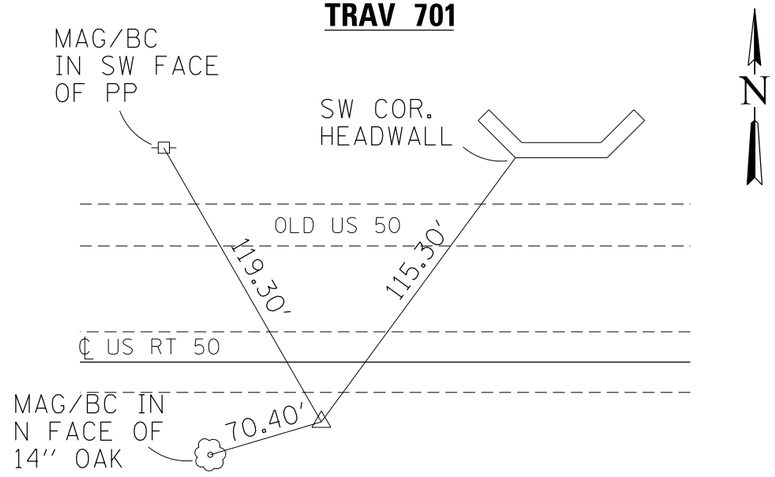

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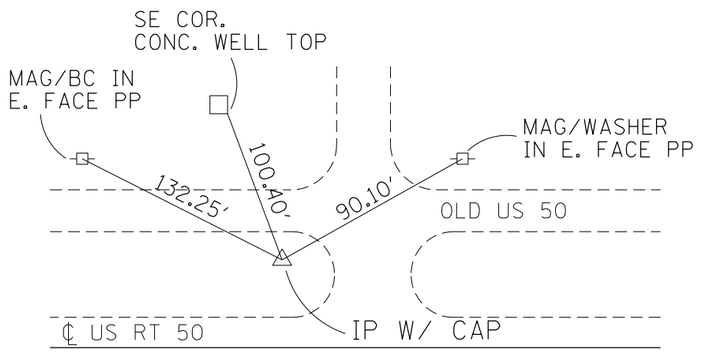
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TIE POINTS AND BENCHMARKS

SCALE: N/A | SHEET 1 OF 3 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	15
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

91007



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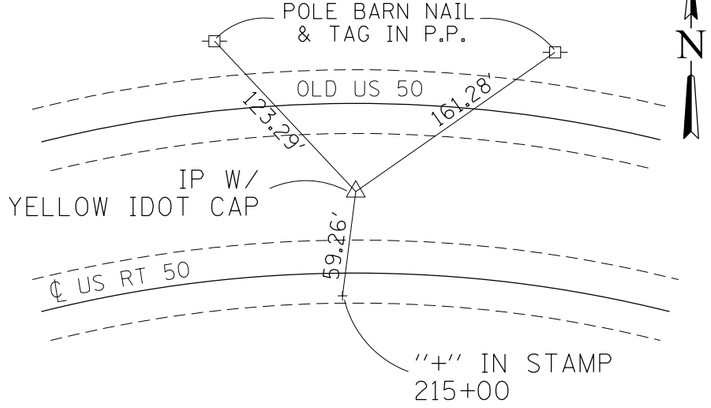

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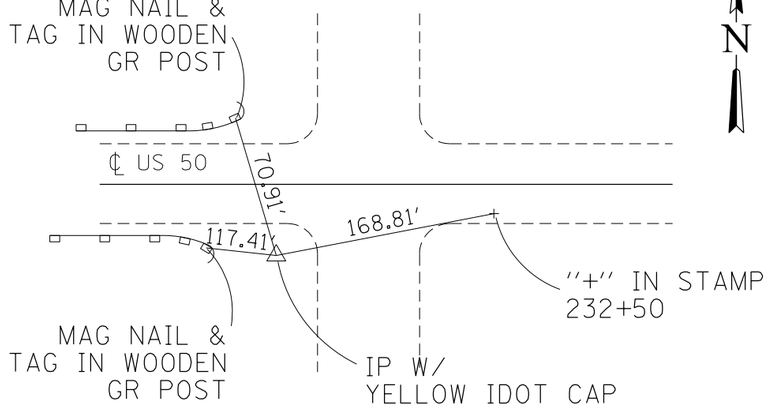

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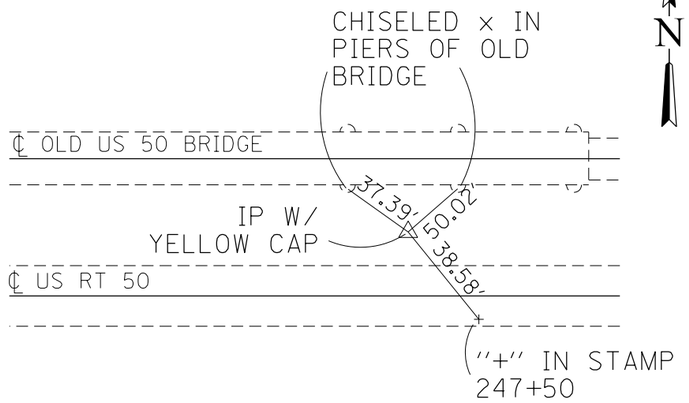

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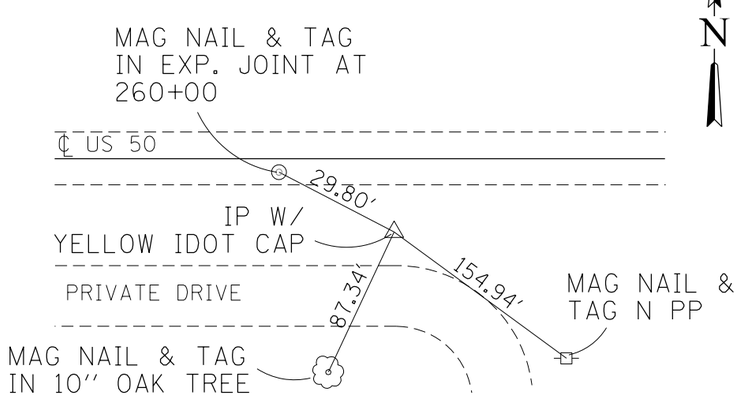

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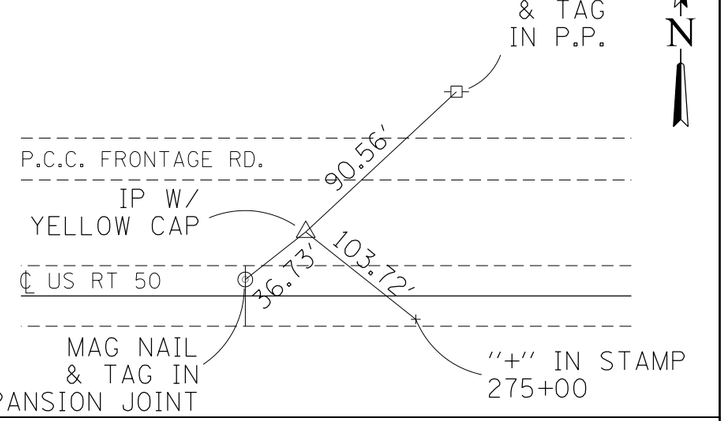

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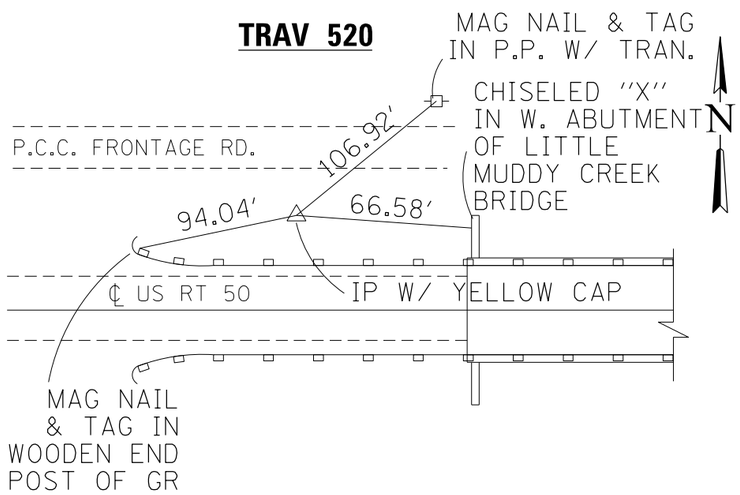

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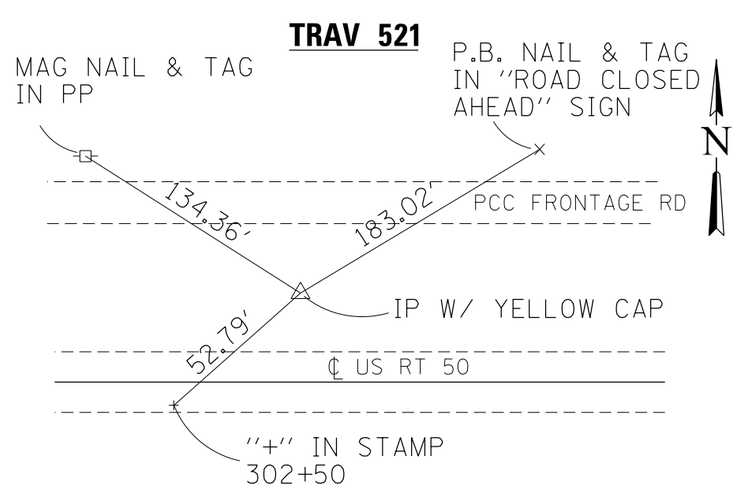

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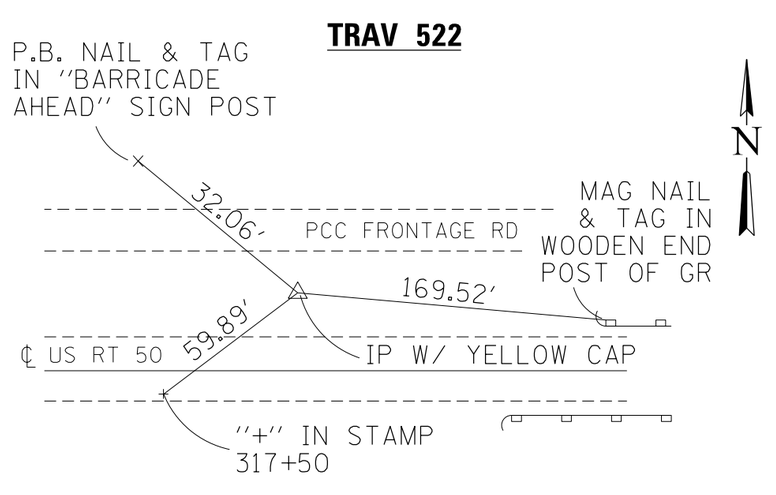

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Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TIE POINTS AND BENCHMARKS

SCALE: N/A | SHEET 2 OF 3 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	16
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

BENCHMARKS

N 295	STA. 822 + 63, 190.0' RT. NGS B.M., STEEL ROD W/ACCESS COVER ELEV. = 449.769
BM 100	STA. 851 + 18, 43.5' RT. CHISELED "□" IN HEADWALL OF 3' X 3' BOX CULVERT ELEV. = 450.09
BM 101	STA. 899 + 98, 87.0' LT. CHISELED "□" IN HEADWALL OF 3' X 5' BOX CULVERT ELEV. = 478.29

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	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE: N/A | SHEET 3 OF 3 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	17
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

OLD US 50 CONC

1285+00 ℄ US 50

N

APPROACH SLAB REMOVAL
PAVED SHOULDER REMOVAL
HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH
HOT-MIX ASPHALT SURFACE REMOVAL, BUTT-JOINT

TEMPORARY DITCH CHECK

AGGREGATE SHOULDERS, 6"
HMA SHOULDERS, 2"
HMA BASE COURSE WIDENING, 10"
FLEXIBLE CONNECTOR
STD. 420401
AGGREGATE SHOULDERS, 6"
CONSTRUCTION LIMITS
HMA BASE COURSE WIDENING, 10"
HMA SHOULDERS (DEPTH VARIES)
MATCH LINE STATION 1289+00.00

+96.25 +90.52 +02.25 +08.50 +29.48 +58.26 +78.84 +07.75 +35.39 +80.75 +97.00

4.0' 4.0' 4.0' 4.0' 4.0' 4.0' 10' 16.25'

PROFILE
SURVEYED
PLOTTED
CROSS SECTIONS CHECKED
BM. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

200.00' V.C.
+08.50 EL. 428.07
VPI STA. 1288+08.50
ELEVATION 428.20
+0.13%
+1.27%
429.36

435 430 425 420 415 410 405

426.81 426.88 426.96 427.04 427.11 427.19 427.26 427.34 427.41 427.50 427.60 427.69 427.78 427.84 427.91 427.98 428.04 428.12 428.10 428.21 428.17 428.29 428.28 428.37 428.43 428.48 428.61 428.59 428.82 428.70 429.07 428.81 429.36

1283+00 1283+50 1284+00 1284+50 1285+00 1285+50 1286+00 1286+50 1287+00 1287+50 1288+00 1288+50 1289+00

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	PLOT DATE = 8/3/2016	DATE -	REVISED -

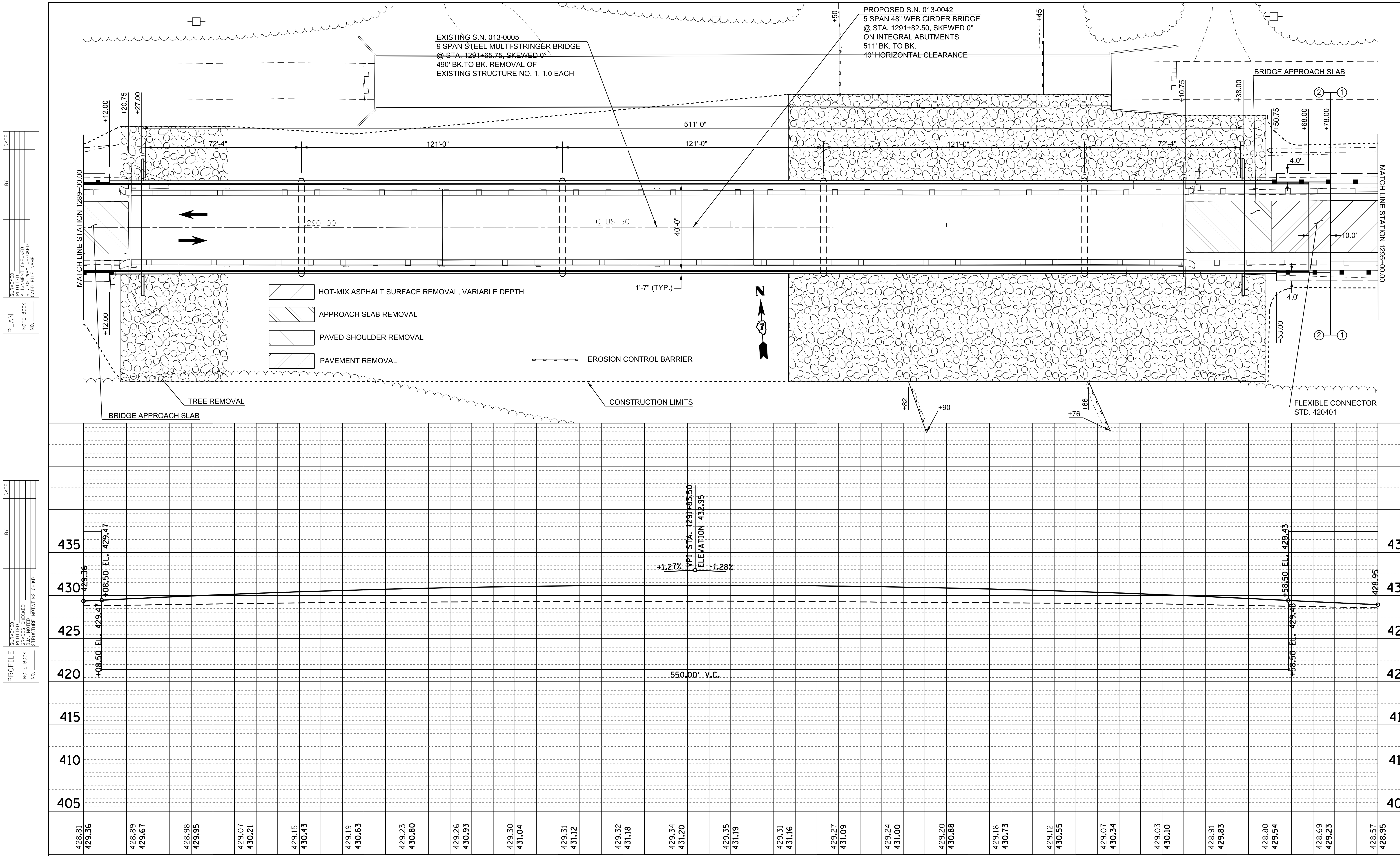
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LITTLE MUDDY CREEK
PLAN AND PROFILE

SCALE: 20 | SHEET 1 OF 3 SHEETS | STA. 1287+08.00 | TO STA. 1289+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	18
	•CLAY/RICHLAND	CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

• CLAY & RICHLAND



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Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

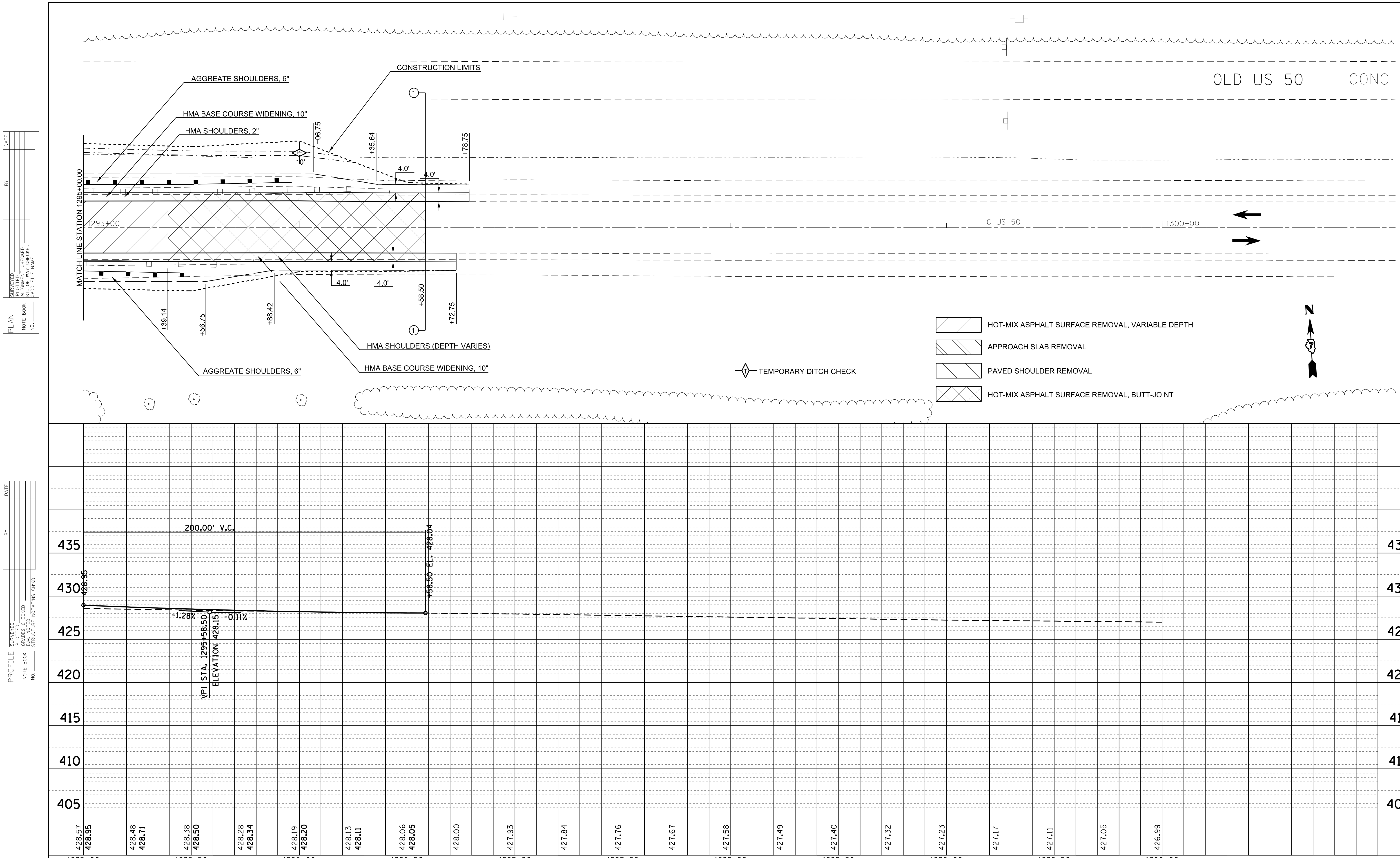
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LITTLE MUDDY CREEK
PLAN AND PROFILE

SCALE: 20 | SHEET 2 OF 3 SHEETS | STA. 1289+00.00 TO STA. 1295+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	*	147	19
	*CLAY/RICHLAND	CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

* CLAY & RICHLAND



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Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LITTLE MUDDY CREEK
PLAN AND PROFILE

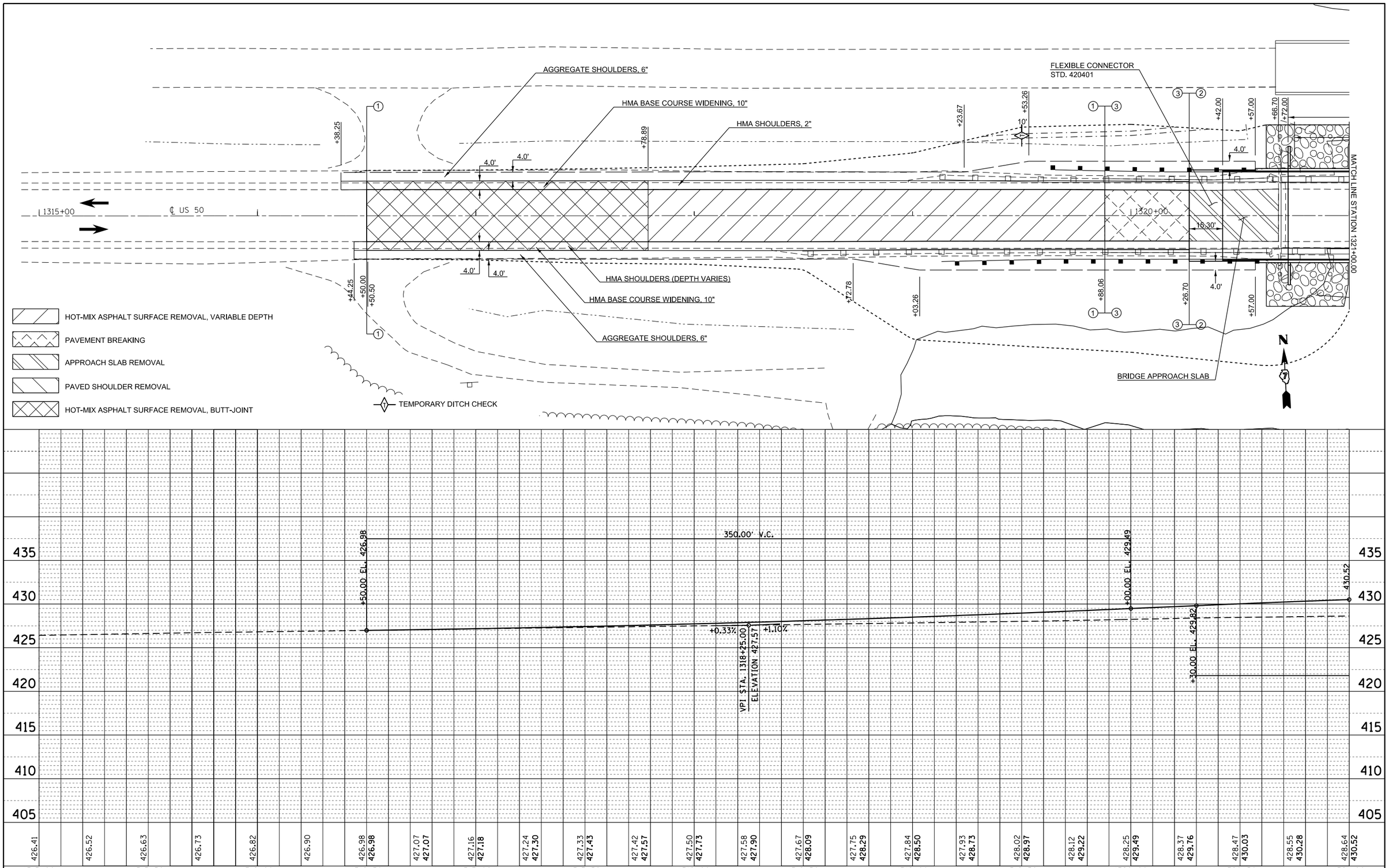
SCALE: 20 | SHEET 3 OF 3 SHEETS | STA. 1295+00.00 TO STA. 1296+58.50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	20
	•CLAY/RICHLAND		CONTRACT NO. 74439	
		ILLINOIS	FED. AID PROJECT	

• CLAY & RICHLAND

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
PROFILE CHECKED
ELM. NOTED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO.
BY
DATE



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	PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BIG MUDDY CREEK
PLAN AND PROFILE

SCALE: 20 | SHEET 1 OF 3 SHEETS | STA. 1316+50.00 TO STA. 1321+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	21

CONTRACT NO. 74439

ILLINOIS FED. AID PROJECT

PLAN
SURVEYED
PLOTTED
AUTOMATICALLY CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

+70
+66
+67
+50

EROSION CONTROL BARRIER, 25.0'

716'-0"

116'-7" | 159'-0" | 159'-0" | 159'-0"

MATCH LINE STATION 1321+00.00

MATCH LINE STATION 1327+00.00

40'-0"

℄ US 50

1324+00

1'-7" (TYP.)

EXISTING S.N. 080-0001
15 SPAN NON-COMPOSITE STEEL ROLLED BRIDGE
@ STA. 1324+30.00, SKEWED 0°
726'-6" BK.TO BK. REMOVAL OF
EXISTING STRUCTURE NO. 2, 1.0 EACH

PROPOSED S.N. 080-0025
5 SPAN 72" WEB GIRDER BRIDGE
@ STA. 1324+30.00, SKEWED 0°
ON PILE SUPPORTED STUB ABUTMENTS
716' BK. TO BK., 40' HORIZONTAL CLEARANCE

EROSION CONTROL BARRIER, 25'

N

EROSION CONTROL BARRIER

PROFILE
SURVEYED
PLOTTED
GRADE CHECKED
BKM. NOTED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO.
BY
DATE

VPI STA. 1324+30.00
ELEVATION 434.20
+1.10%
-1.09%
800.00' V.C.

435
430
425
420
415
410
405

430.52
431.02

428.64	428.72	428.79	428.83	428.86	428.93	429.00	429.07	429.08	429.10	429.12	429.18	429.24	429.30	429.32	429.30	429.28	429.26	429.23	429.22	429.18	429.09	429.01	428.97	428.94
430.52	**430.73**	**430.93**	**431.12**	**431.28**	**431.43**	**431.57**	**431.68**	**431.78**	**431.86**	**431.92**	**431.97**	**432.00**	**432.01**	**432.01**	**431.99**	**431.95**	**431.89**	**431.82**	**431.73**	**431.62**	**431.50**	**431.36**	**431.20**	**431.02**

1321+00 | 1321+50 | 1322+00 | 1322+50 | 1323+00 | 1323+50 | 1324+00 | 1324+50 | 1325+00 | 1325+50 | 1326+00 | 1326+50 | 1327+00

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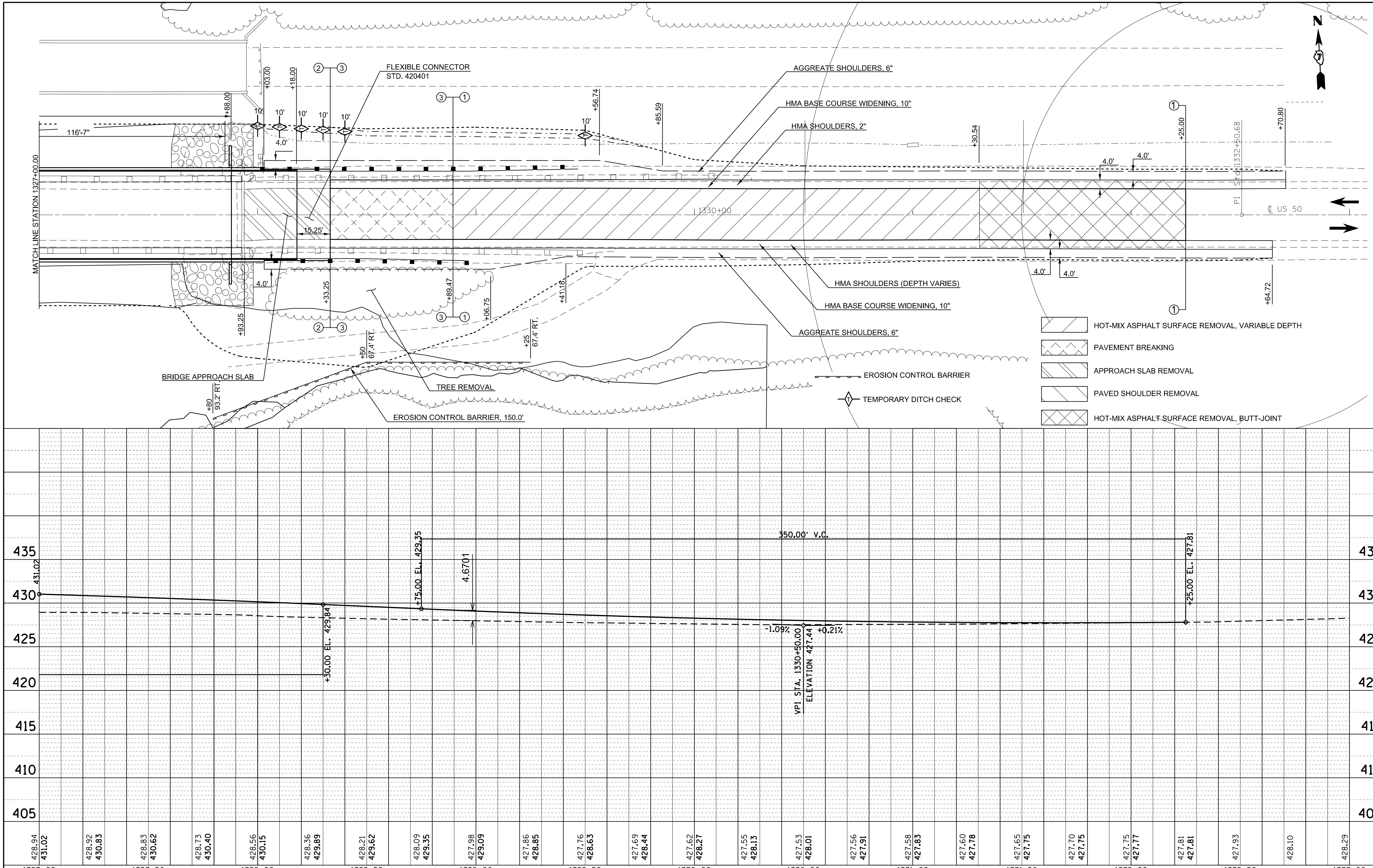
	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BIG MUDDY CREEK
PLAN AND PROFILE

SCALE: 20 | SHEET 2 OF 3 SHEETS | STA. 1321+00.00 TO STA. 1327+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	22
	•CLAY/RICHLAND		CONTRACT NO. 74439	
		ILLINOIS FED. AID PROJECT		



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Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

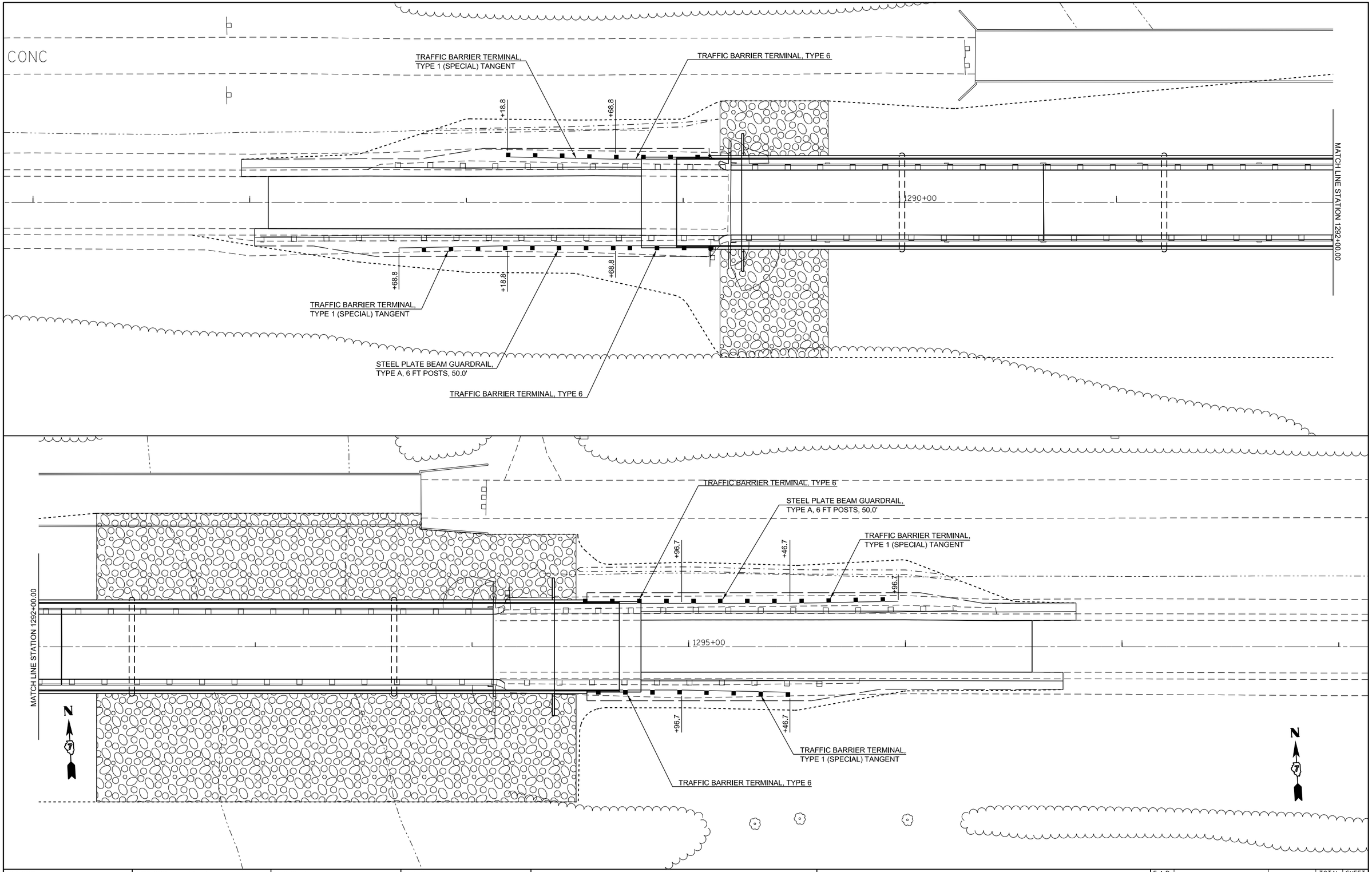
BIG MUDDY CREEK
PLAN AND PROFILE

SCALE: 20 | SHEET 3 OF 3 SHEETS | STA. 1327+00.00 TO STA. 1332+25.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	23
•CLAY & RICHLAND		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		

PLAN | NOTE BOOK NO. | SURVEYED | PLOTTED | ALIGNMENT CHECKED | RT. OF WAY CHECKED | CADD FILE NAME | BY | DATE

PROFILE | NOTE BOOK NO. | SURVEYED | PLOTTED | GRADES CHECKED | B.M. NOTED | STRUCTURE NOTATNS CHK'D | BY | DATE



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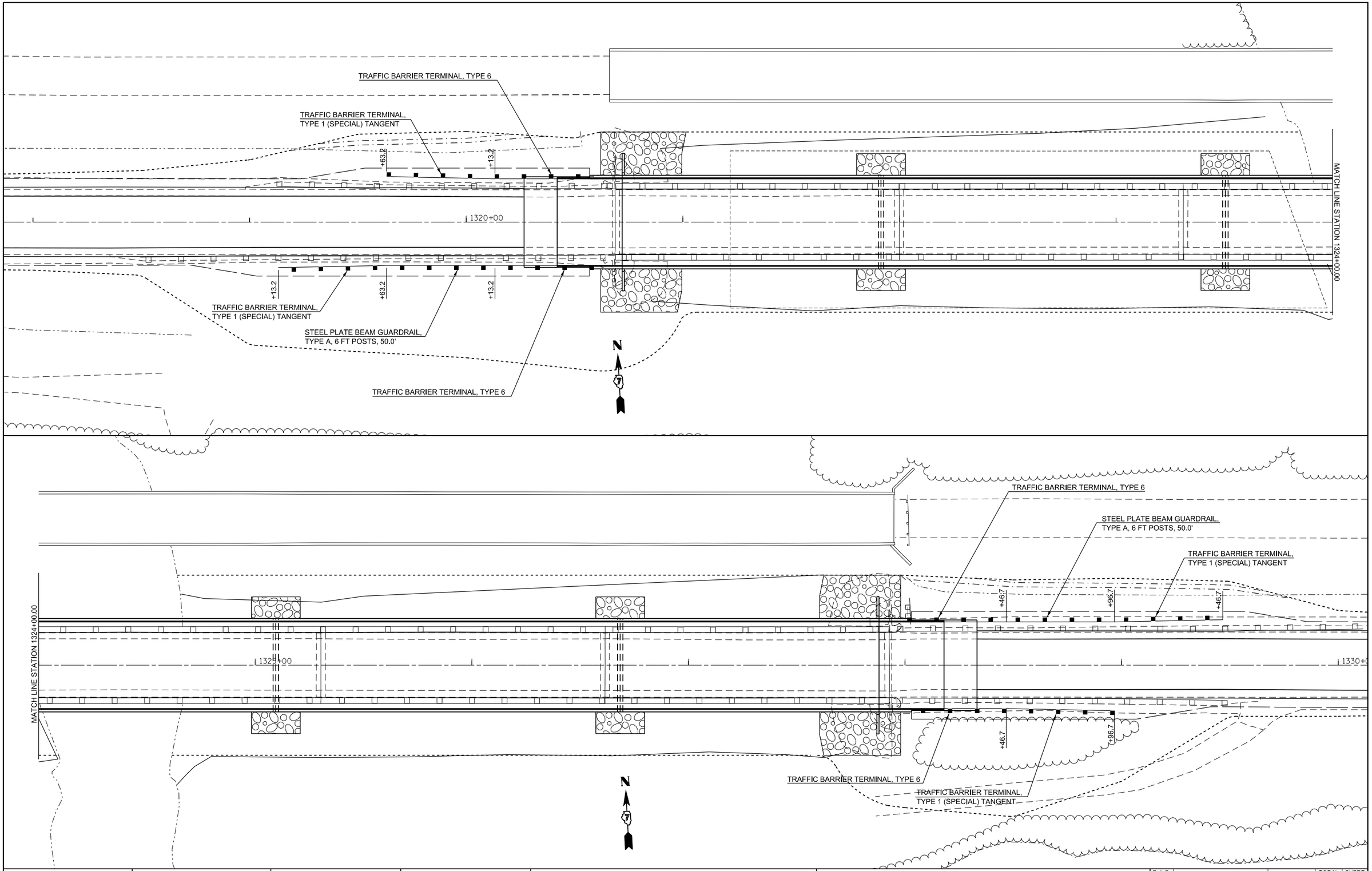
Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GUARDRAIL PLAN SHEET
S.N. 013–0042

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B,7-2BF)B-1	•	147	24
	•CLAY/RICHLAND	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



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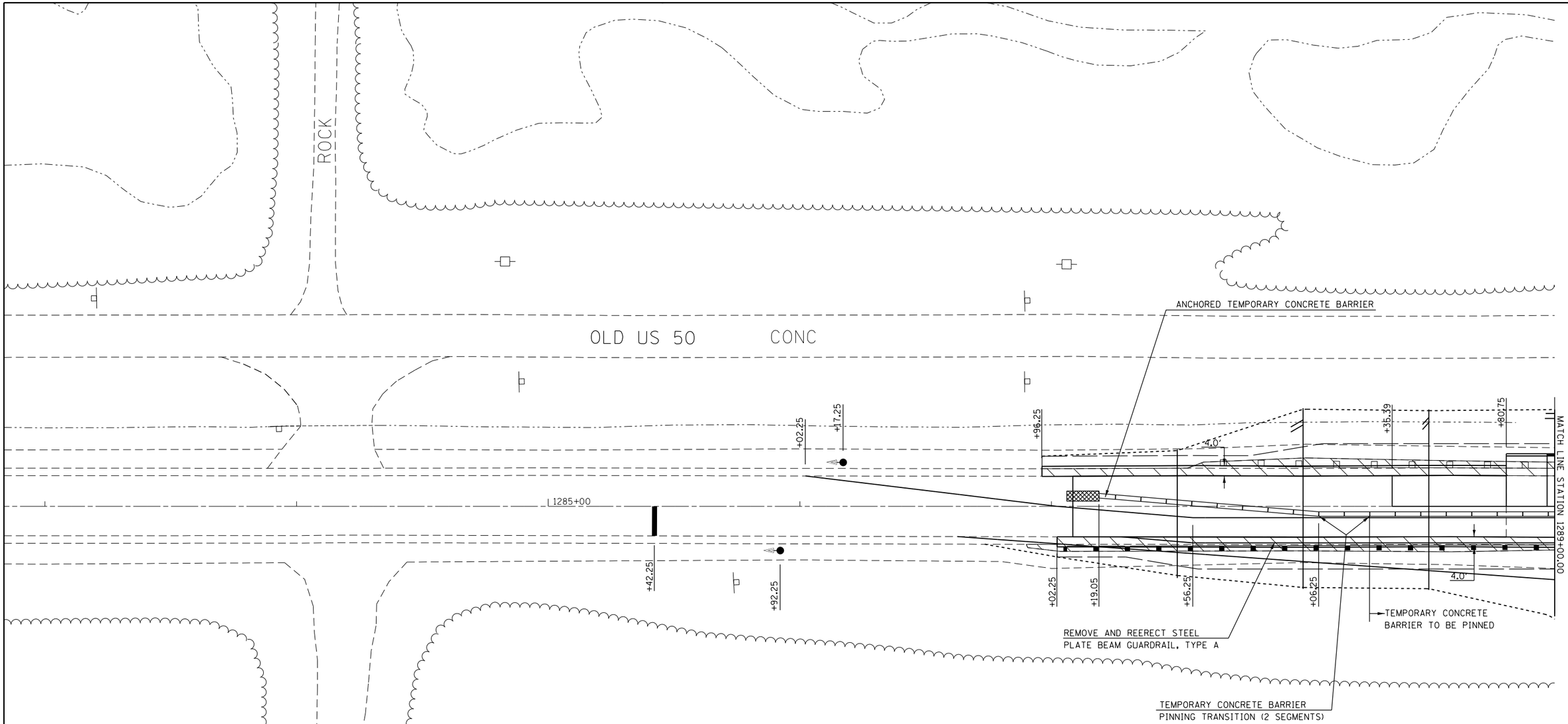
Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GUARDRAIL PLAN SHEET
S.N. 080-0025

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B,7-2BF)B-1	•	147	25
	•CLAY/RICHLAND	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



PRE STAGE 1 SEQUENCE OF OPERATIONS

1. SET UP TRAFFIC CONTROL PER STANDARD 701201.
2. REMOVE RIGHT EXISTING PAVED SHOULDERS AND CONSTRUCT BASE COURSE WIDENING FOR STAGE I TRAFFIC.
3. REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL, TYPE A ALONG RIGHT SHOULDER.

STAGE I SEQUENCE OF OPERATIONS

1. TEMPORARY CONCRETE BARRIER SHALL NOT BE PLACED FOR STAGE I TRAFFIC BEFORE MARCH 15, 2017
2. ERECT SIGNS, TRAFFIC SIGNALS, TEMPORARY BARRIERS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARD 701321 AND THE DETAILS IN THE PLANS.
3. REMOVE THE STAGE I PORTION OF THE EXISTING STRUCTURE, BRIDGE APRROACH, PAVEMENT, SHOULDERS, AND GUARDRAIL.
4. CONSTRUCT THE STAGE I PORTION OF THE PROPOSED STRUCTURE, BRIDGE APPROACH, PAVEMENT CONNECTOR, HMA BINDER COURSE, RIP RAP, AND NEW GUARDRAIL.
5. CONSTRUCT BASE COURSE WIDENEING FOR STAGE II TRAFFIC.

STOP BAR

TEMPORARY BRIDGE TRAFFIC SIGNALS

IMPACT ATTENUATORS, TEMPORARY (NON-DIRECTIVE) TEST LEVEL 3

TEMPORARY CONCRETE BARRIER

PAVED SHOULDER REMOVAL

•CLAY & RICHLAND

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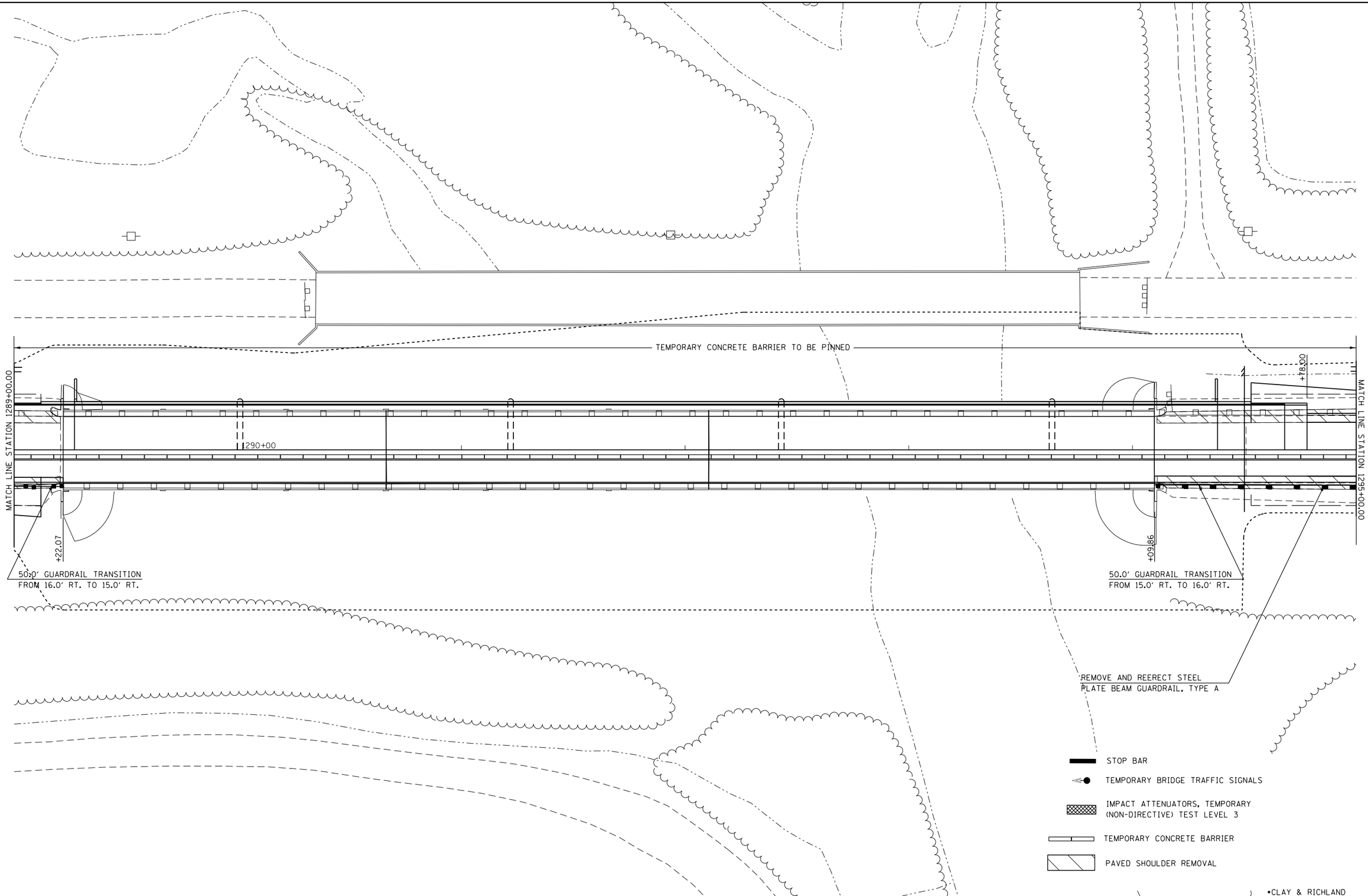
Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION STAGE I
US 50 OVER LITTLE MUDDY CREEK

SCALE: | SHEET 1 OF 3 SHEETS | STA. | TO STA.1289+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	26
			CONTRACT NO. 74439	
		ILLINOIS	FED. AID PROJECT	



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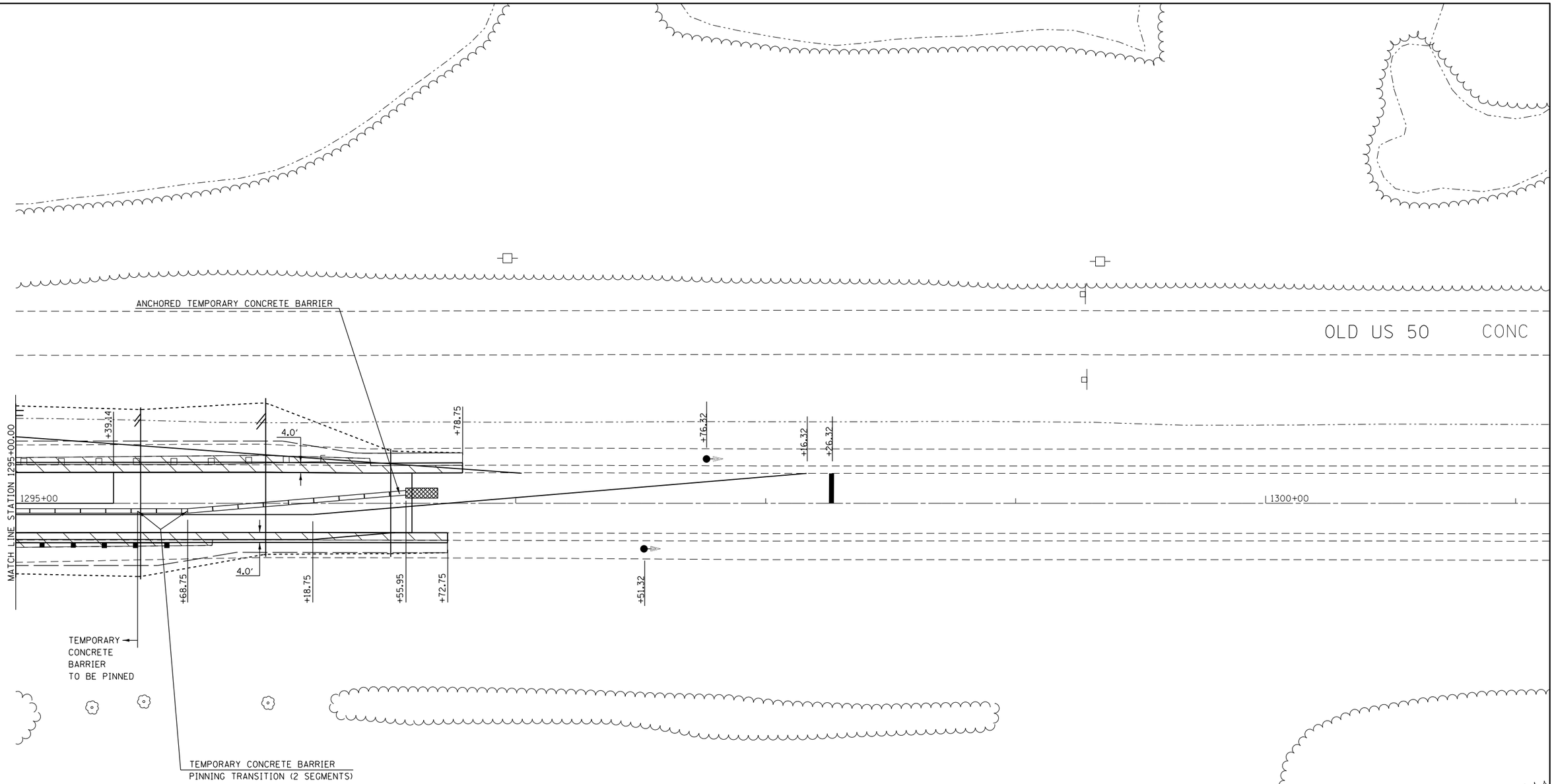
Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION STAGE I
US 50 OVER LITTLE MUDDY CREEK

SCALE: | SHEET 2 OF 3 SHEETS | STA. 1289+00.00 TO STA. 1295+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	27
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			



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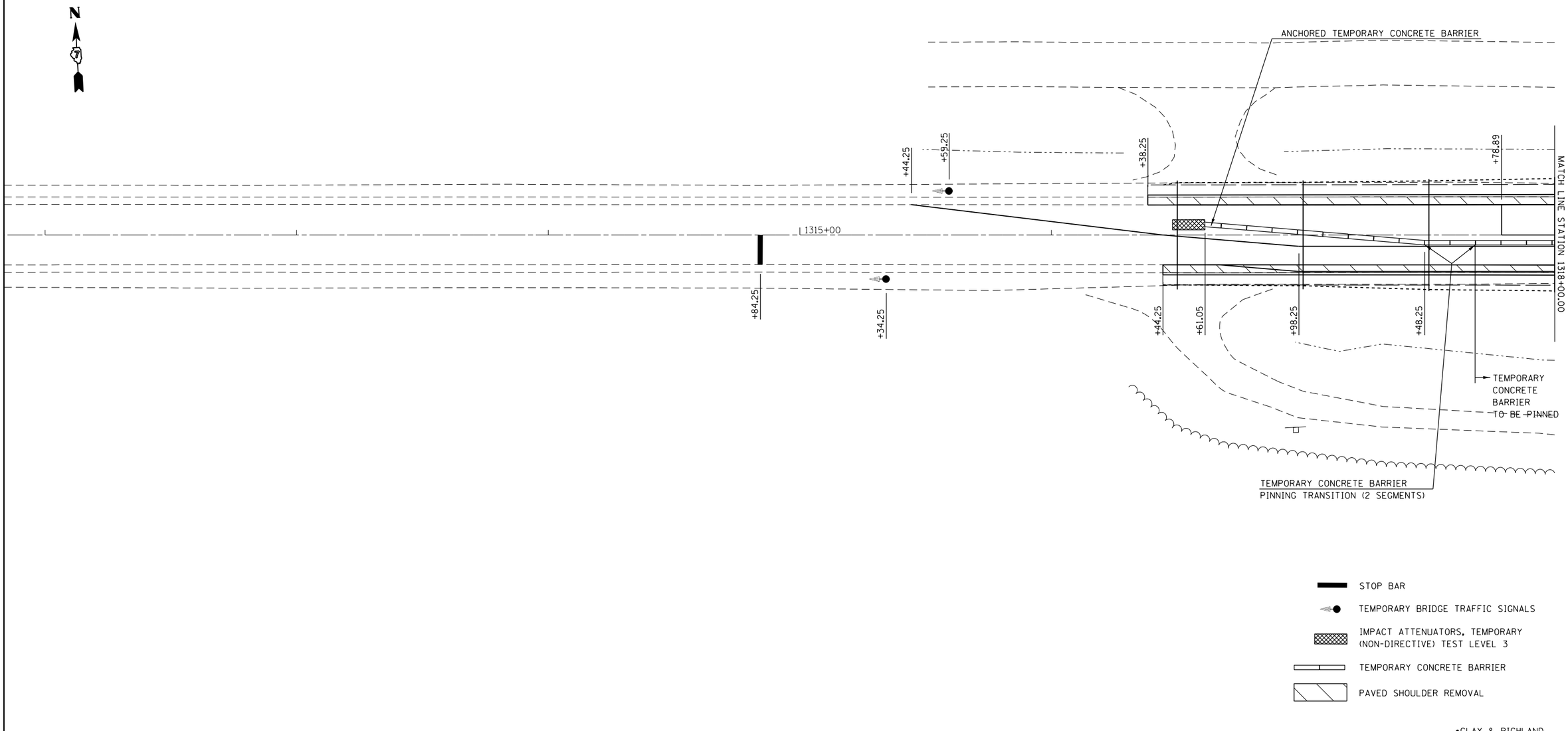
Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION STAGE I
US 50 OVER LITTLE MUDDY CREEK

SCALE: | SHEET 3 OF 3 SHEETS | STA. 1295+00.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	28
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		



•CLAY & RICHLAND

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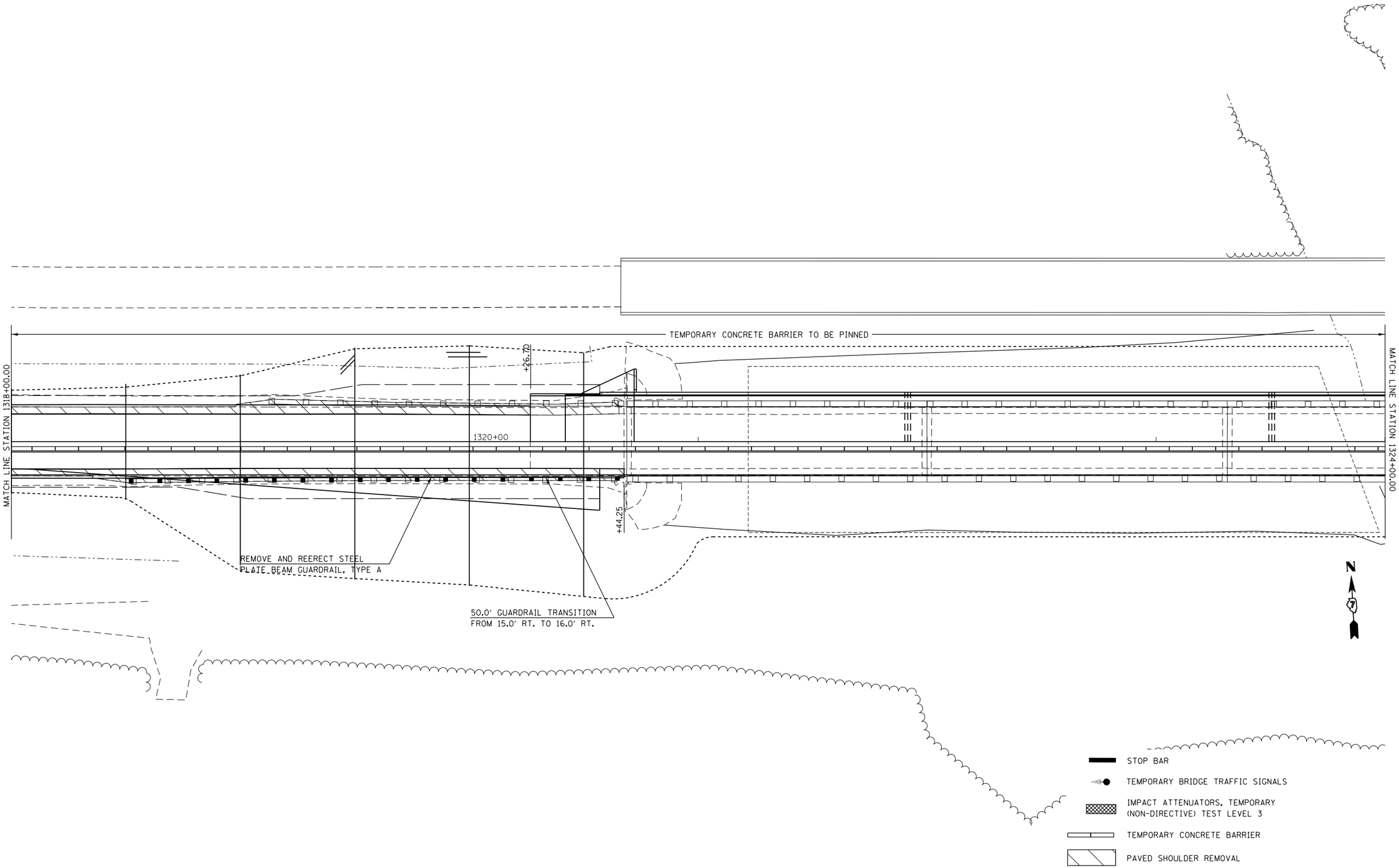
	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION STAGE I
US 50 OVER BIG MUDDY CREEK

SCALE: | SHEET 1 OF 4 SHEETS | STA. | TO STA.1318+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	29
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		



•CLAY & RICHLAND

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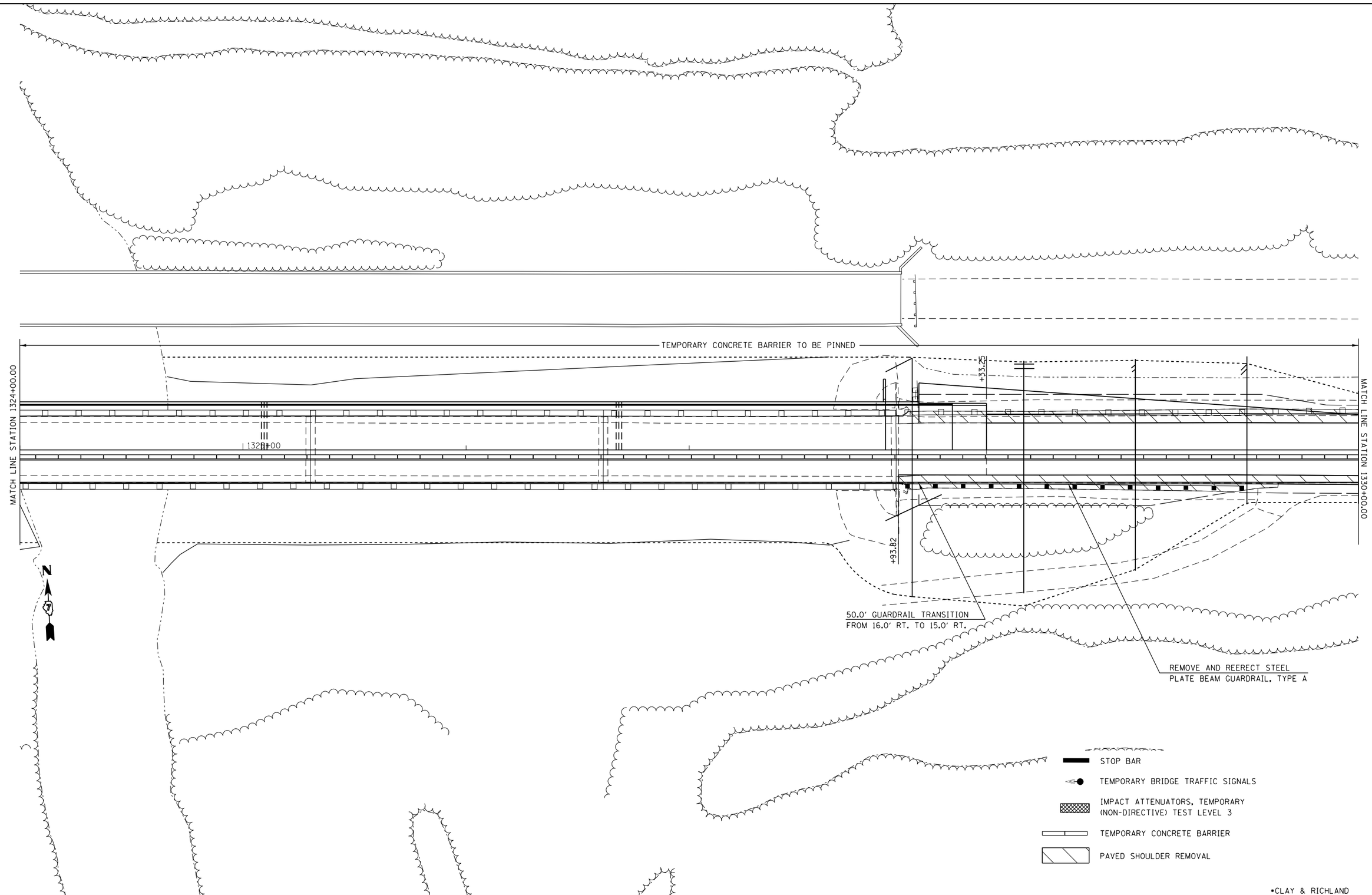
Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION STAGE I
US 50 OVER BIG MUDDY CREEK

SCALE: | SHEET 2 OF 4 SHEETS | STA. 1318+00.00 | TO STA. 1324+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	30
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			



•CLAY & RICHLAND

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Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION STAGE I
US 50 OVER BIG MUDDY CREEK

SCALE: | SHEET 3 OF 4 SHEETS | STA. 1324+00.00 | TO STA. 1330+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	31
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

ANCHORED TEMPORARY CONCRETE BARRIER

MATCH LINE STATION 1330+00.00

1330+00

+30.54

+56.93

1332+50.68

+66.30

+06.30

+16.30

1335+00

+60.75

+10.65

+47.95

+64.72

+41.30

TEMPORARY
CONCRETE
BARRIER
TO BE PINNED

TEMPORARY CONCRETE BARRIER
PINNING TRANSITION (2 SEGMENTS)

N

STOP BAR

TEMPORARY BRIDGE TRAFFIC SIGNALS

IMPACT ATTENUATORS, TEMPORARY
(NON-DIRECTIVE) TEST LEVEL 3

TEMPORARY CONCRETE BARRIER

PAVED SHOULDER REMOVAL

•CLAY & RICHLAND

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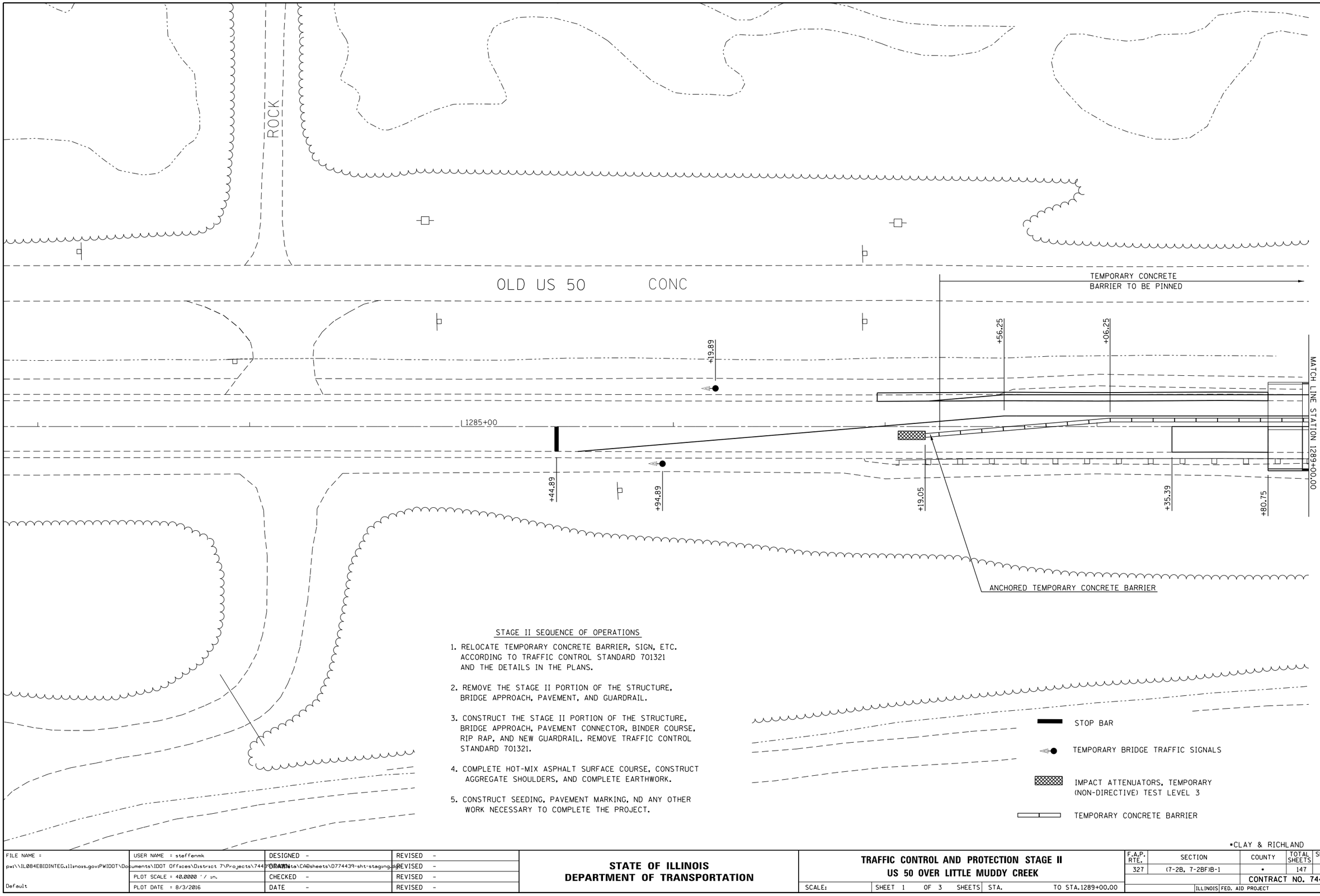
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION STAGE I
US 50 OVER BIG MUDDY CREEK

SCALE: | SHEET 4 OF 4 SHEETS | STA. 1330+00.00 | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	32
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		



STAGE II SEQUENCE OF OPERATIONS

1. RELOCATE TEMPORARY CONCRETE BARRIER, SIGN, ETC. ACCORDING TO TRAFFIC CONTROL STANDARD 701321 AND THE DETAILS IN THE PLANS.
2. REMOVE THE STAGE II PORTION OF THE STRUCTURE, BRIDGE APPROACH, PAVEMENT, AND GUARDRAIL.
3. CONSTRUCT THE STAGE II PORTION OF THE STRUCTURE, BRIDGE APPROACH, PAVEMENT CONNECTOR, BINDER COURSE, RIP RAP, AND NEW GUARDRAIL. REMOVE TRAFFIC CONTROL STANDARD 701321.
4. COMPLETE HOT-MIX ASPHALT SURFACE COURSE, CONSTRUCT AGGREGATE SHOULDERS, AND COMPLETE EARTHWORK.
5. CONSTRUCT SEEDING, PAVEMENT MARKING, ND ANY OTHER WORK NECESSARY TO COMPLETE THE PROJECT.

STOP BAR

TEMPORARY BRIDGE TRAFFIC SIGNALS

IMPACT ATTENUATORS, TEMPORARY (NON-DIRECTIVE) TEST LEVEL 3

TEMPORARY CONCRETE BARRIER

•CLAY & RICHLAND

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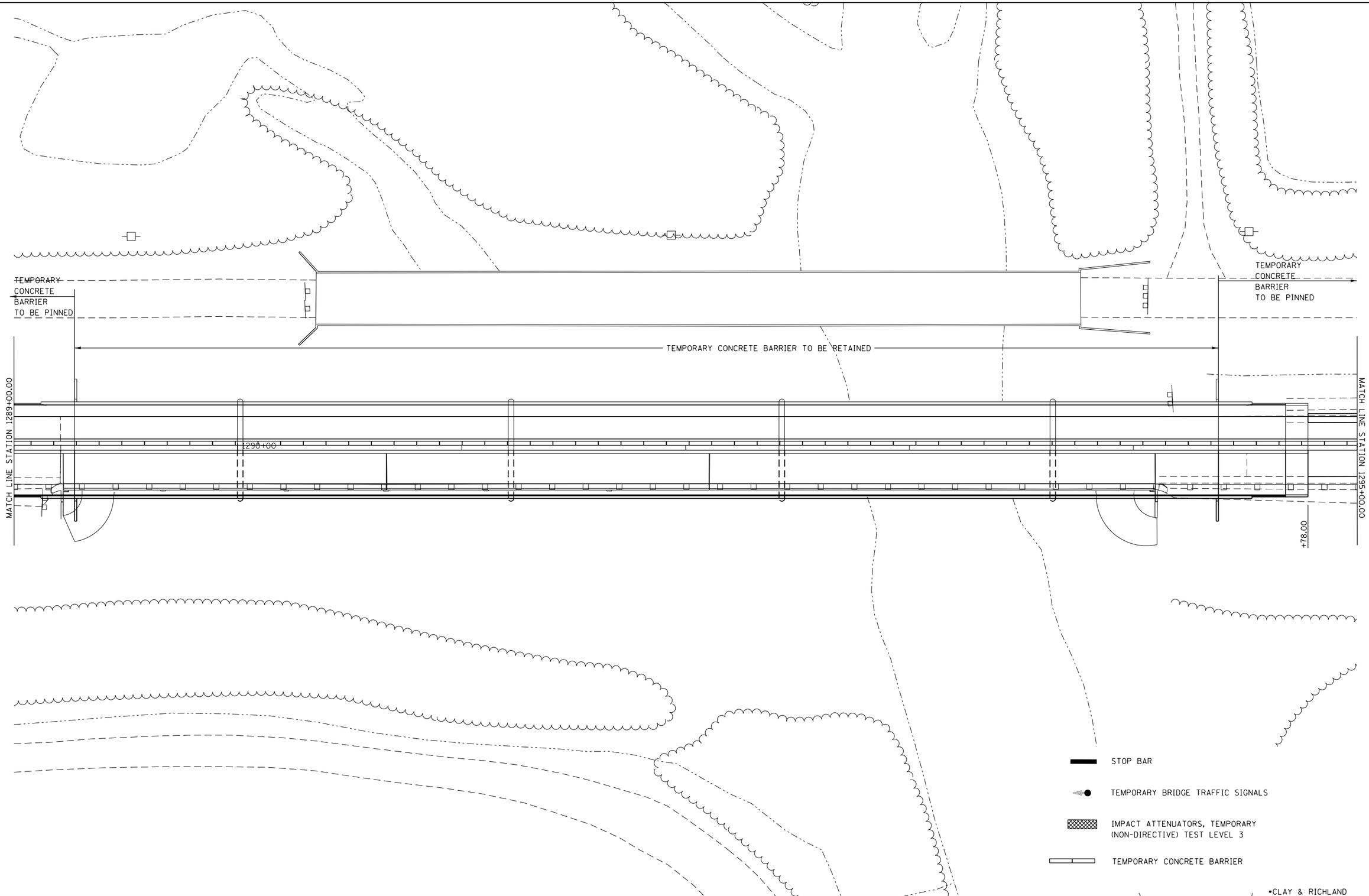
Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION STAGE II
US 50 OVER LITTLE MUDDY CREEK

SCALE: | SHEET 1 OF 3 SHEETS | STA. | TO STA.1289+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	33
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			



•CLAY & RICHLAND

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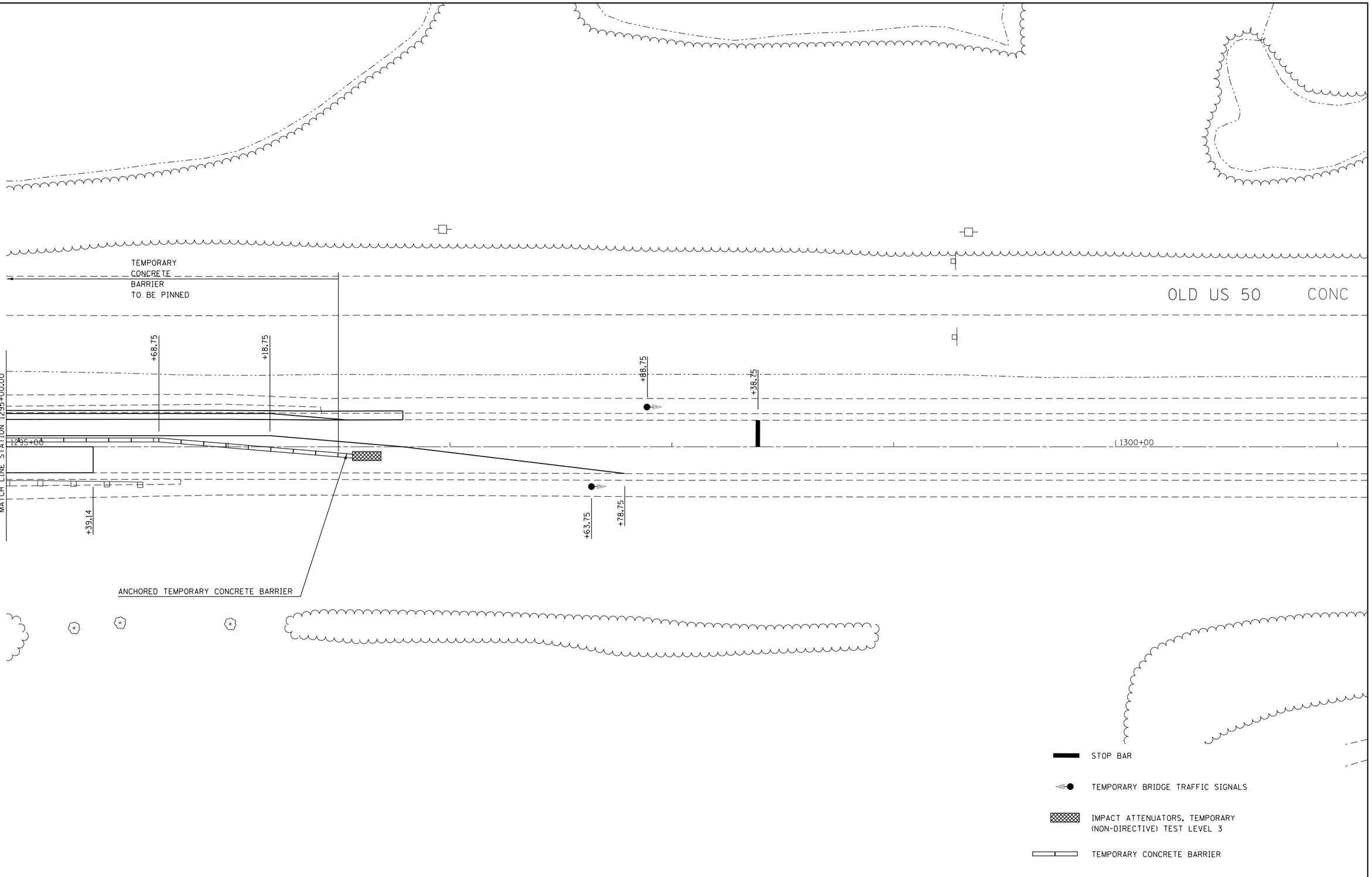
	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION STAGE II
US 50 OVER LITTLE MUDDY CREEK

SCALE: | SHEET 2 OF 3 SHEETS | STA. 1289+00.00 TO STA. 1295+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	34
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			



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Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

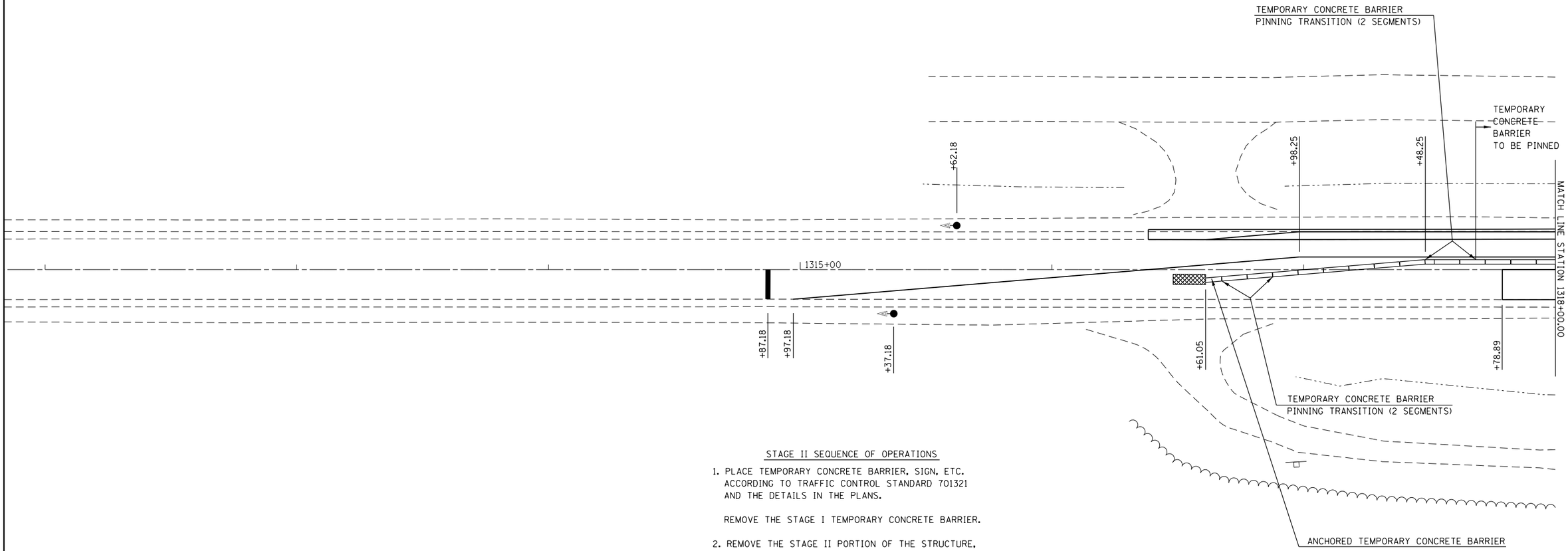
TRAFFIC CONTROL AND PROTECTION STAGE II
US 50 OVER LITTLE MUDDY CREEK

SCALE: | SHEET 3 OF 3 SHEETS | STA. 1295+00.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	35

CONTRACT NO. 74439

ILLINOIS | FED. AID PROJECT



STAGE II SEQUENCE OF OPERATIONS

1. PLACE TEMPORARY CONCRETE BARRIER, SIGN, ETC. ACCORDING TO TRAFFIC CONTROL STANDARD 701321 AND THE DETAILS IN THE PLANS.

   REMOVE THE STAGE I TEMPORARY CONCRETE BARRIER.

2. REMOVE THE STAGE II PORTION OF THE STRUCTURE, BRIDGE APPROACH, PAVEMENT, AND GUARDRAIL.

3. CONSTRUCT THE STAGE II PORTION OF THE STRUCTURE, BRIDGE APPROACH, PAVEMENT CONNECTOR, BASE COURSE, RIP RAP, AND NEW GUARDRAIL. REMOVE TRAFFIC CONTROL STANDARD 701321.

4. COMPLETE HOT-MIX ASPHALT SURFACE COURSE, CONSTRUCT AGGREGATE SHOULDERS, AND COMPLETE EARTHWORK.

5. CONSTRUCT SEEDING, PAVEMENT MARKING, ND ANY OTHER WORK NECESSARY TO COMPLETE THE PROJECT.

STOP BAR

TEMPORARY BRIDGE TRAFFIC SIGNALS

IMPACT ATTENUATORS, TEMPORARY (NON-DIRECTIVE) TEST LEVEL 3

TEMPORARY CONCRETE BARRIER

•CLAY & RICHLAND

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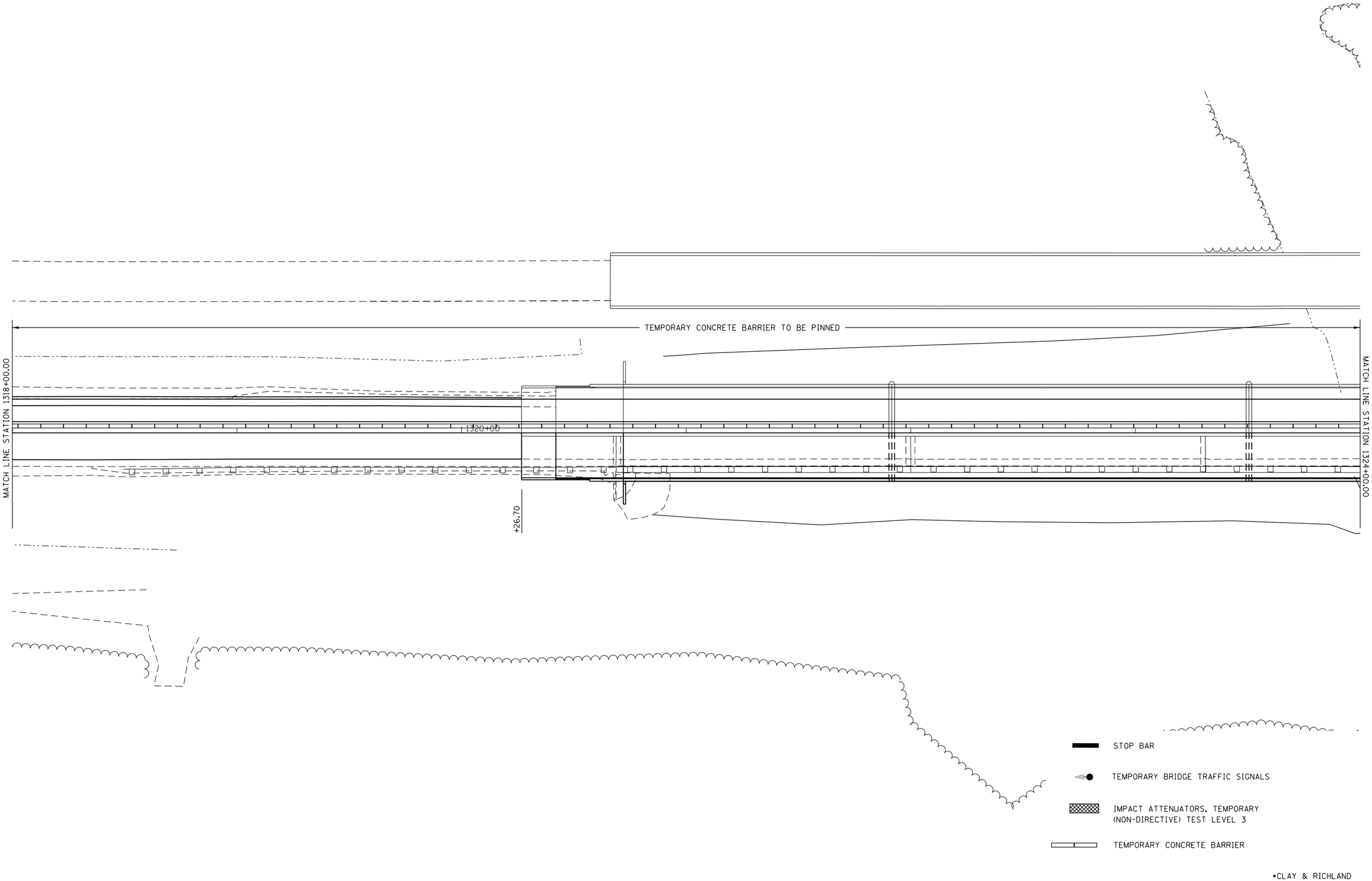
Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION STAGE II
US 50 OVER BIG MUDDY CREEK

SCALE: | SHEET 1 OF 4 SHEETS | STA. | TO STA.1318+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	36
			CONTRACT NO. 74439	
		ILLINOIS	FED. AID PROJECT	



•CLAY & RICHLAND

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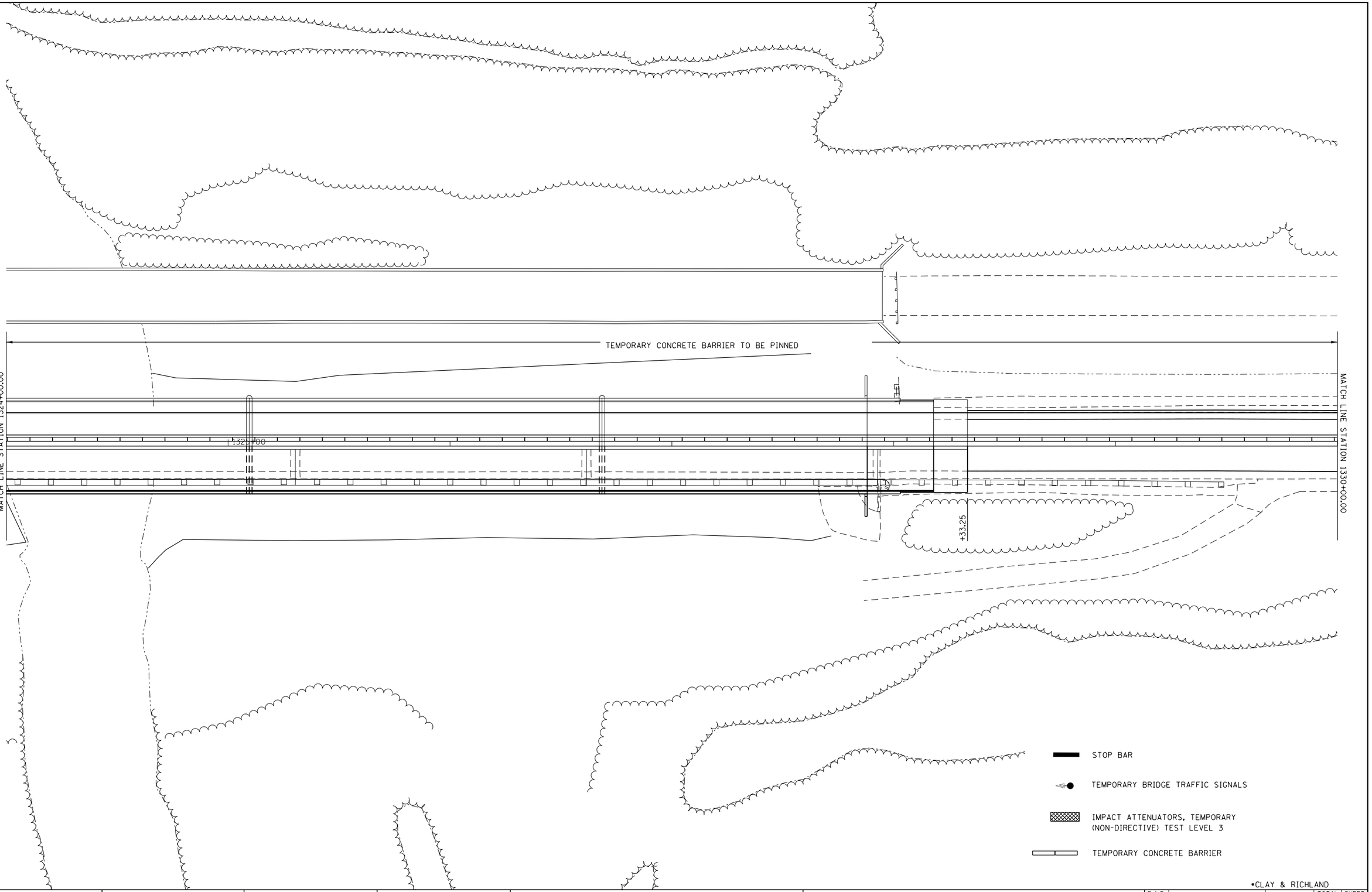
Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION STAGE II
US 50 OVER BIG MUDDY CREEK

SCALE: | SHEET 2 OF 4 SHEETS | STA. 1318+00.00 | TO STA. 1324+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	37
			CONTRACT NO. 74439	
		ILLINOIS	FED. AID PROJECT	



•CLAY & RICHLAND

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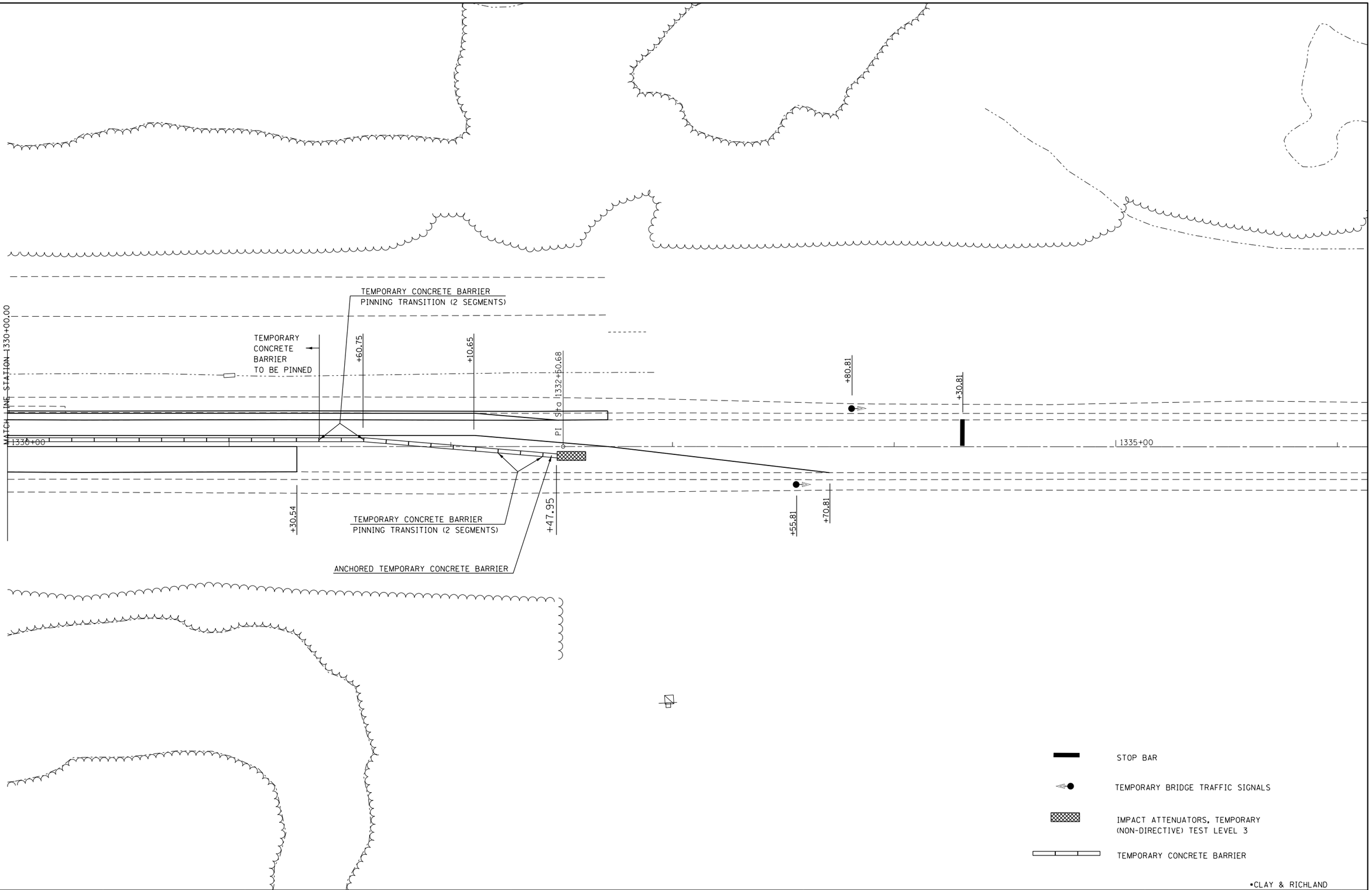
		DRAWN -	REVISED -
Default	PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION STAGE II
US 50 OVER BIG MUDDY CREEK

SCALE: | SHEET 3 OF 4 SHEETS | STA. 1324+00.00 TO STA. 1330+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	38
		CONTRACT NO. 74439		
		ILLINOIS	FED. AID PROJECT	



•CLAY & RICHLAND

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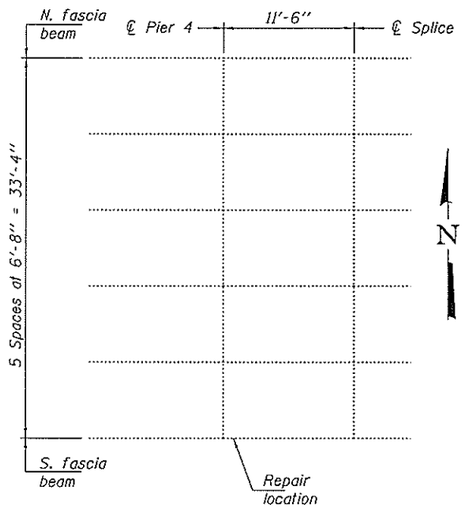
Default	PLOT DATE = 8/3/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION STAGE II
US 50 OVER BIG MUDDY CREEK

SCALE: | SHEET 4 OF 4 SHEETS | STA. 1330+00.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B, 7-2BF)B-1	•	147	39
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			



LOCATION PLAN

GENERAL NOTES

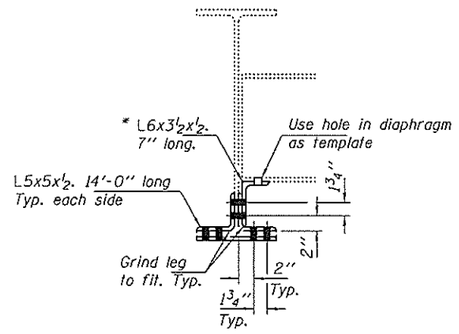
All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

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.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

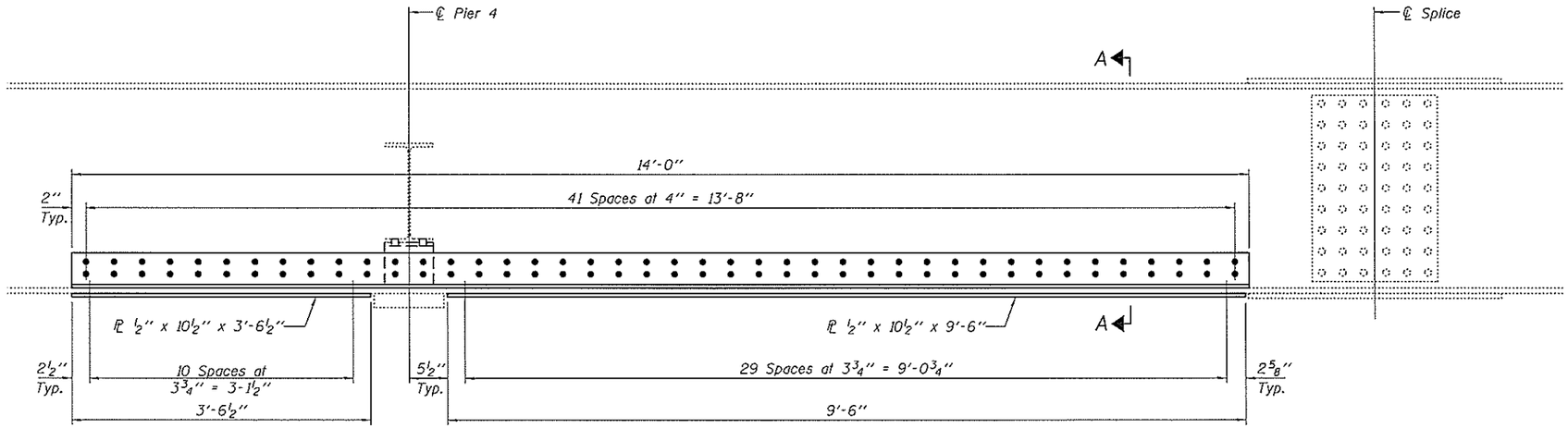
All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type I. Cost included with Structural Steel Repair.

Fasteners shall be high strength bolts. Bolts $^{7}/_{8}$"Φ, open holes $^{15}/_{16}$"Φ, unless otherwise noted.



SECTION A-A

* Field drill holes using holes in L5x5x½ as template.



PARTIAL ELEVATION

(Looking North)

FOR INFORMATION ONLY

Note:
Work completed under separate contract.

TOTAL BILL OF MATERIAL

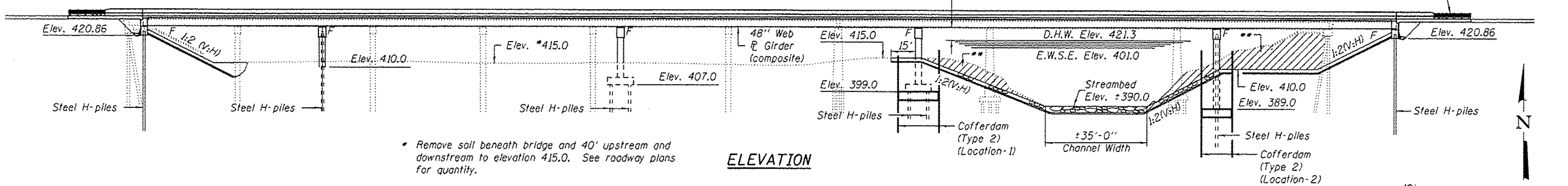
ITEM	UNIT	TOTAL
Structural Steel Repair	Pound	740

EXPIRES 11-30-2016

DESIGNED VHV		DATE - JULY 29, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REPAIR DETAILS FAP 327 (US 50) OVER LITTLE MUDDY CREEK SN 013-0005	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED DAB					327		CLAY	147	40
DRAWN baliva	PASSED	REVISED					CONTRACT NO. 74439		
CHECKED VHV DAB	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 1 OF 1 SHEETS			ILLINOIS FED. AID PROJECT		

Bench Mark: N.G.S. plaque in southeast abutment of S.N. 013-0005 Station 1294+09, 17.5 ft. Right at Elev. 424.02
Existing Structure: S.N. 013-0005 Built in 1952 as F.A.P.-13, Sec. 7.2BF, 7-2B-I-1 at Station 1291+65.75 as a 9 span wide flange beam structure 490'-0" Bk.-to Bk. of abutments. Substructure supported on untreated timber piles. Bridge rail replacement in 1985 with 2" bituminous overlay. Existing bridge to be removed and replaced. Traffic to be maintained utilizing stage construction.

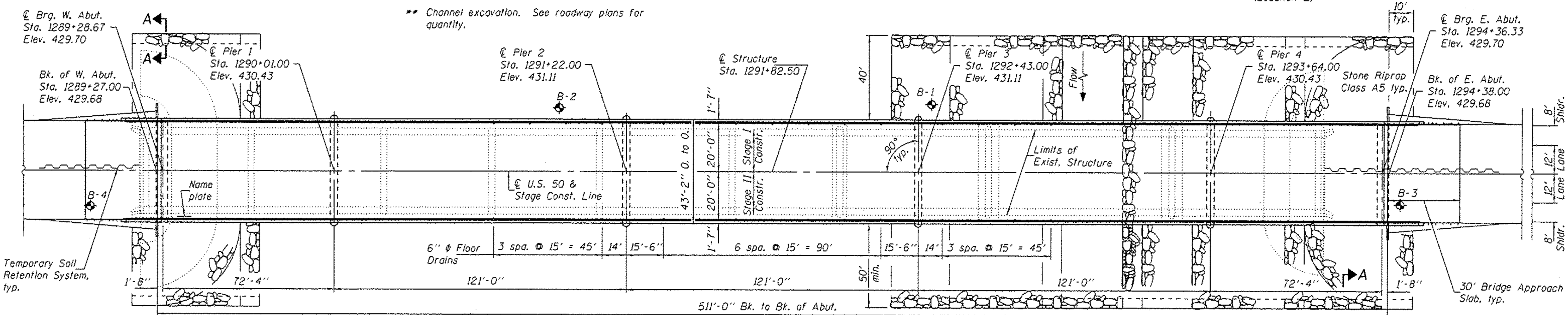
No salvage.



* Remove soil beneath bridge and 40' upstream and downstream to elevation 415.0. See roadway plans for quantity.

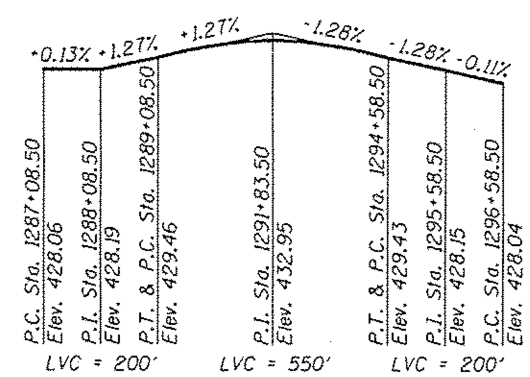
** Channel excavation. See roadway plans for quantity.

ELEVATION



PLAN

Note: For Section A-A, see sheet 2 of 34.



PROFILE GRADE
(F.A.P. Rte. 327)

EXPIRES 11-30-2016

WATERWAY INFORMATION

Exist. Overtopping Elev. 425.7 @ Sta. 1310+00

Drainage Area = 1112.15 mi.² Prop. Overtopping Elev. 425.7 @ Sta. 1310+00											
Flood Frequency		Discharge (cfs)		Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.		
		Exist.	Prop.	Exist.	Prop.		Exist.	Prop.	Exist.	Prop.	
10 Yr.	Little Wabash	4718	4415	906	896	419.4	0.2	0.1	419.6	419.5	
	Little Muddy	11058	11152	2284	4363						
	Big Muddy	15374	15583	4269	4331						
	Total	31150	31150	7459	9590						
50 Yr.	Little Wabash	7176	6512	1237	1237	421.3	0.3	0.2	421.6	421.5	
	Little Muddy	19216	20076	3115	5273						
	Big Muddy	23858	23662	5540	5615						
	Total	50250	50250	9892	12125						
100 Yr.	Little Wabash	8834	7714	1368	1376	422.0	0.4	0.2	422.4	422.2	
	Little Muddy	21044	23500	3425	5611						
	Big Muddy	29222	27886	6013	6091						
	Total	59100	59100	10806	13078						
500 Yr.	Little Wabash	12233	10859	1657	1680	423.5	0.8	0.2	424.3	423.7	
	Little Muddy	29359	32340	4092	6339						
	Big Muddy	40208	38601	7028	7114						
	Total	81800	81800	12777	15133						

10 yr. velocity through proposed bridge = 5.3 ft/s

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (feet)	West Abut.	Pier 1	Pier 2	Pier 3	Pier 4	East Abut.
	420.86	407.0	407.0	399.3	394.3	420.86

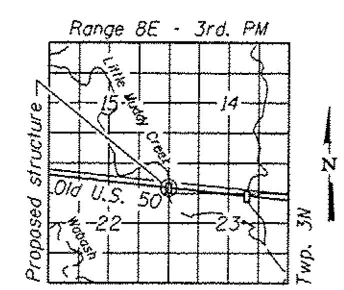
LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
2007 AASHTO LRFD Bridge Design Specifications, 4th. Edition

DESIGN STRESSES
FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)
f_y = 50,000 psi (structural steel)

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 0.09g
Site Coefficient (S) = 1.5



LOCATION SKETCH

STATION 1291+82.50
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 327 SEC. (7-2B)B-1
LOADING HL-93
STRUCTURE NO. 013-0042

NAME PLATE
See Std. 515001

GENERAL PLAN & ELEVATION
F.A.P. ROUTE 327 OVER
LITTLE MUDDY CREEK
U.S. RTE. 50 - SEC. (7-2B)B-1
CLAY COUNTY
STATION 1291+82.50
STRUCTURE NO. 013-0042

DESIGNED - Fessolan TEK	EXAMINED [signature] ENGINEER OF BRIDGE DESIGN	DATE - 10/6/16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - [signature]		REVISED	
DRAWN - h.t. dyong	PASSED [signature] ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
CHECKED - ET / NRB / GRA			

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	41
		CONTRACT NO. 74439		

ILLINOIS FED. AID PROJECT

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$'' ϕ, holes $\frac{15}{16}$'' ϕ, unless otherwise noted.

Calculated weight of Structural Steel = 60,260 (M270 Gr. 36)

Calculated weight of Structural Steel = 694,510 (M270 Gr. 50)

No field welding is permitted except as specified in the contract documents.

Reinforcement bars designated (E) shall be epoxy coated.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8.

Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

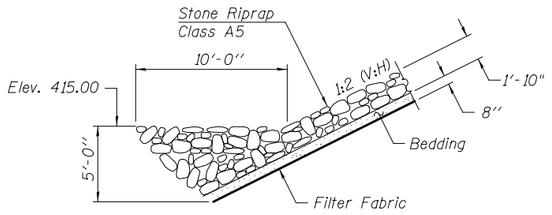
If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

Seal coat thickness design is based on the Cofferdam Design Water Elevation (CDWE). Cofferdam design details and proposed changes in seal coat thickness shall be submitted to the Engineer for approval with the cofferdam design.

TOTAL BILL OF MATERIAL

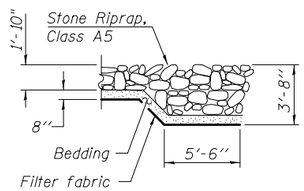
ITEM	UNIT	SUPER	SUB	TOTAL
Granular Backfill for Structures	Cu. Yd.		188.9	188.9
Stone Riprap, Class A5	Sq. Yd.		3,949	3,949
Filter Fabric	Sq. Yd.		3,949	3,949
Removal of Existing Structures No. 1	Each	1		1
Structure Excavation	Cu. Yd.		478	478
Cofferdam Excavation	Cu. Yd.		1,138.3	1,138.3
Cofferdam (Type 2) (Location-1)	Each		1	1
Cofferdam (Type 2) (Location-2)	Each		1	1
Floor Drains	Each	30		30
Concrete Structures	Cu. Yd.		502.6	502.6
Concrete Superstructure	Cu. Yd.	736.9		736.9
Concrete Superstructure (Approach Slab)	Cu. Yd.	123.1		123.1
Bridge Deck Grooving	Sq. Yd.	2,407		2,407
Seal Coat Concrete	Cu. Yd.		195.4	195.4
Protective Coat	Sq. Yd.	2,988		2,988
Furnishing and Erecting Structural Steel	L.Sum	.35		.35
Stud Shear Connectors	Each	10,746		10,746
Anchor Bolts 1"	Each	72		72
Reinforcement Bars, Epoxy Coated	Pound	230,040	66,210	296,250
Bar Splicers	Each	1,950	338	2,288
Mechanical Splicers	Each		416	416
Furnishing Steel Piles HP12X63	Foot		2,100	2,100
Furnishing Steel Piles HP14X73	Foot		2,426	2,426
Furnishing Steel Piles HP12X84	Foot		1,045	1,045
Furnishing Steel Piles HP14X89	Foot		1,074	1,074
Test Piles Steel HP12X84	Each		1	1
Test Piles Steel HP14X73	Each		1	1
Driving Piles	Foot		6,645	6,645
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		97	97
Pipe Underdrains for Structures, 4"	Foot		158	158
Temporary Soil Retention System	Sq. Ft.		1,047	1,047

INDEX OF SHEETS

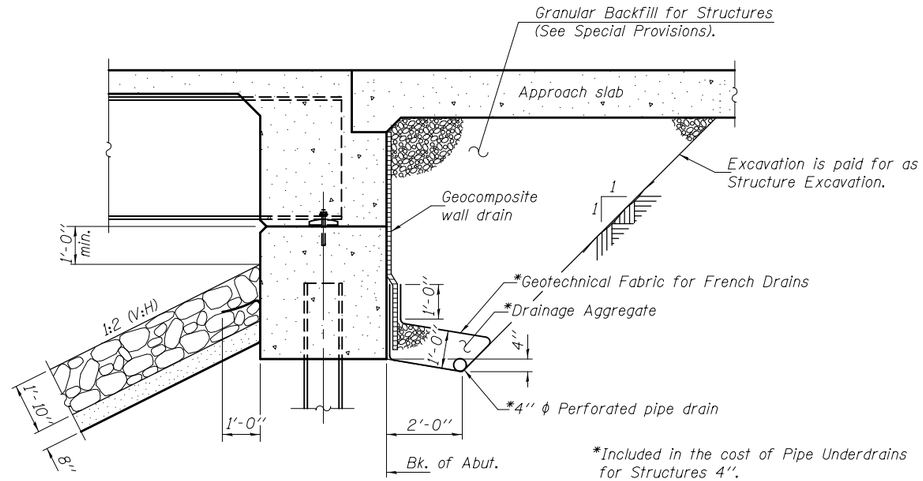


STONE RIPRAP ANCHOR DETAIL

(West Abutment)



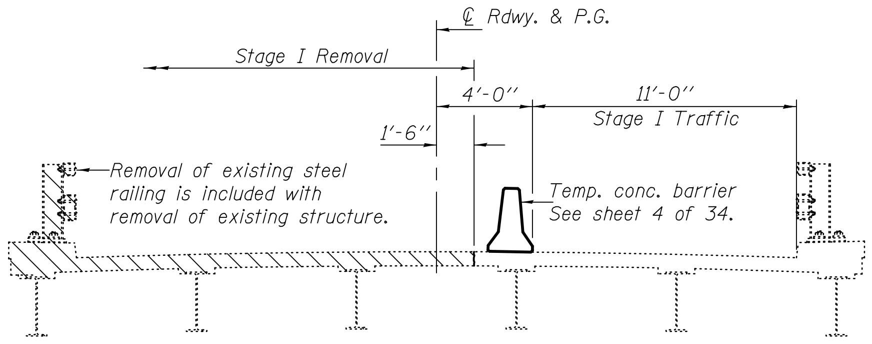
SECTION A-A



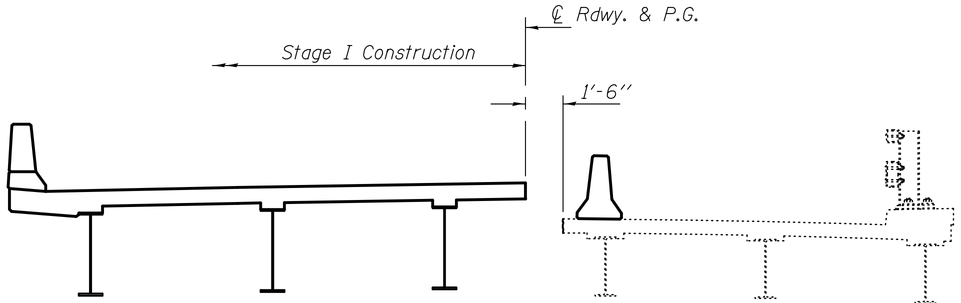
SECTION THRU INTEGRAL ABUTMENT

Note: All drainage system components shall extend to 2'-0'' from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

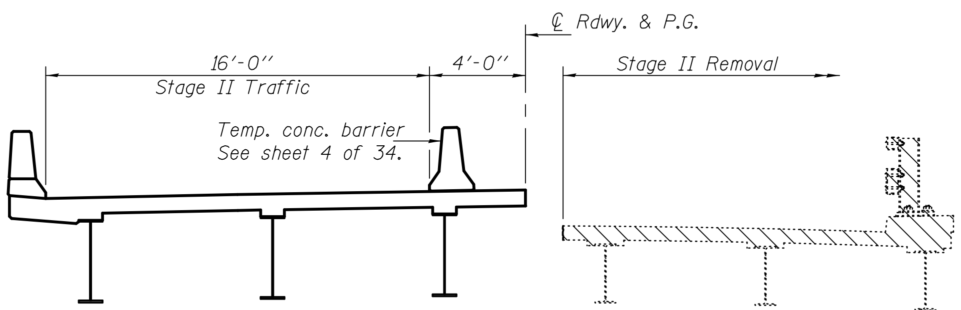
DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL DATA STRUCTURE NO. 013-0042	F.A.P. RTE. 327 | SECTION (7-2B)B-1 | COUNTY CLAY | TOTAL SHEETS 147 | SHEET NO. 42
CHECKED - Nicholas R. Barnett					CONTRACT NO. 74439
DRAWN - h.t. duong	PASSED	REVISED		SHEET NO. 2 OF 34 SHEETS	ILLINOIS FED. AID PROJECT
CHECKED - F.T. / N.R.B. / G.R.A.	ENGINEER OF BRIDGE DESIGN ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			



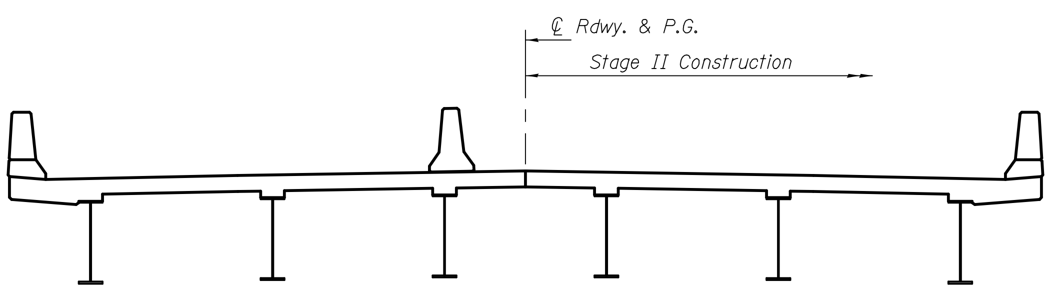
STAGE I REMOVAL



STAGE I CONSTRUCTION

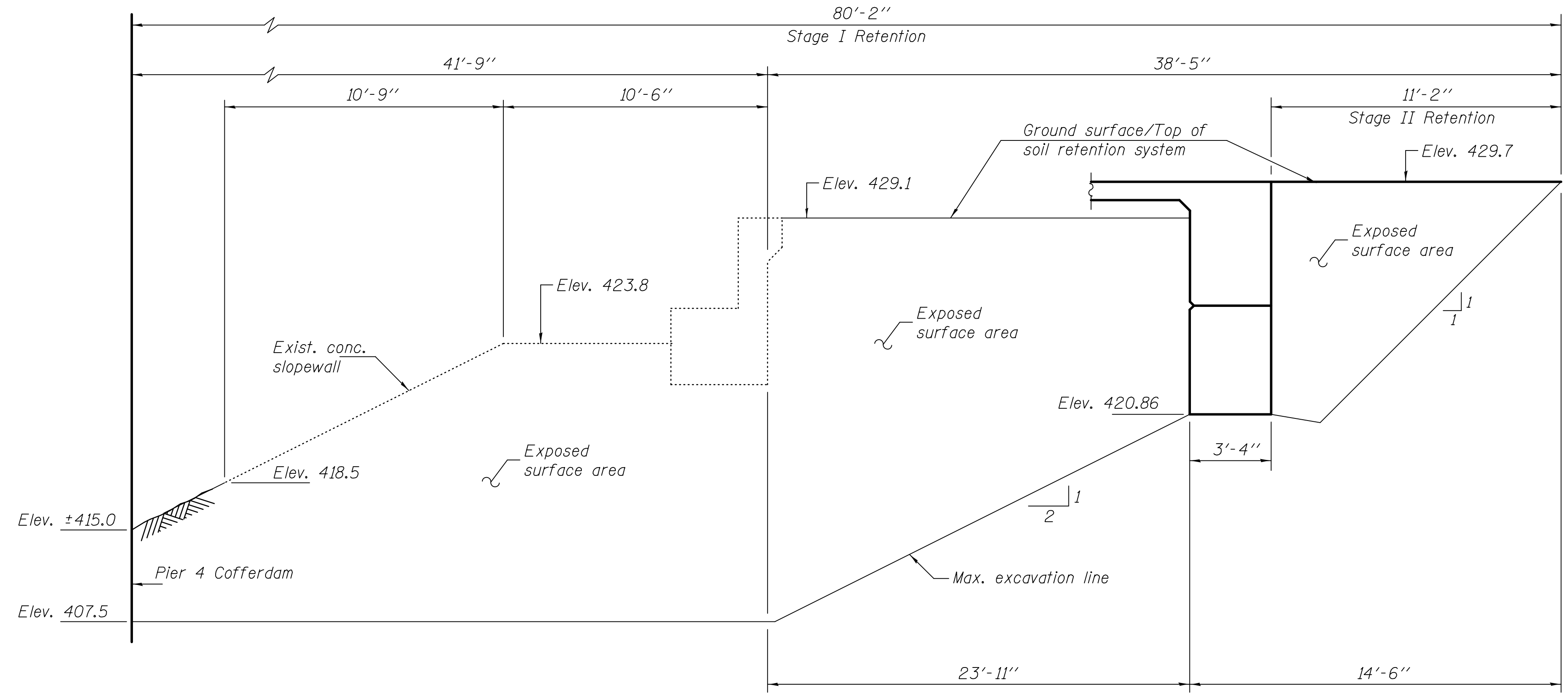


STAGE II REMOVAL



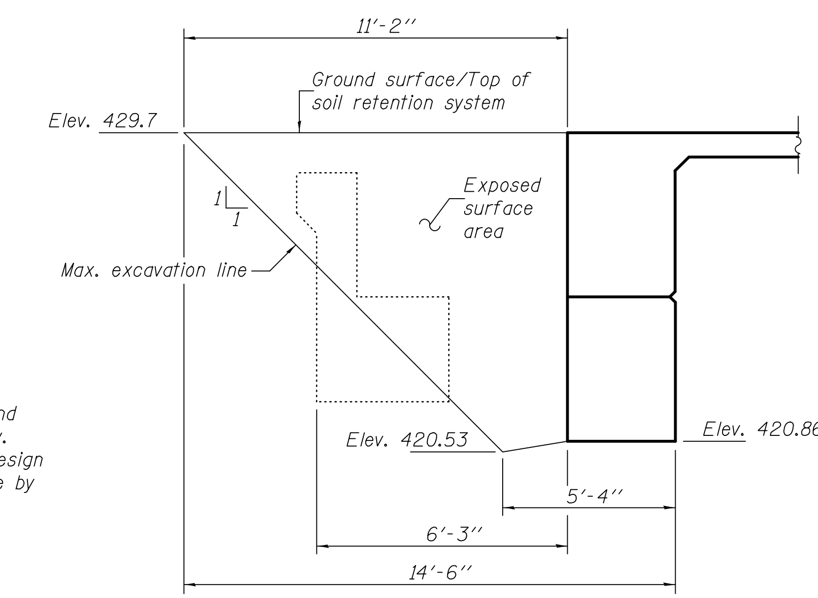
STAGE II CONSTRUCTION

Notes: Hatched areas indicate removal of existing structures.
For quantity of temporary concrete barrier, see Roadway Plans.
All cross sections are looking east.



TEMPORARY SOIL RETENTION SYSTEM
AT EAST ABUTMENT

Note: A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.



TEMPORARY SOIL RETENTION SYSTEM
AT WEST ABUTMENT

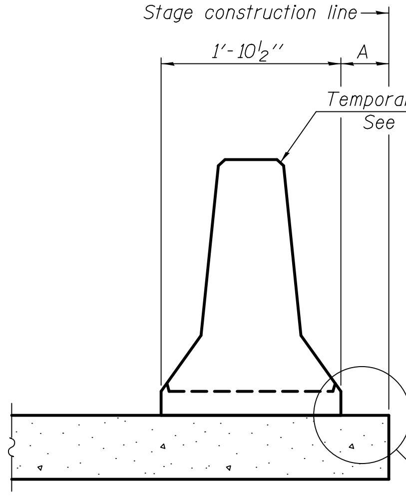
DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - Nicholas R. Barnett	ENGINEER OF BRIDGE DESIGN	REVISED	
DRAWN - h.t. duong	PASSED	REVISED	
CHECKED - F.T. / N.R.B. / G.R.A.	ACTING ENGINEER OF BRIDGES AND STRUCTURES		

STAGE CONSTRUCTION & TEMPORARY SOIL RETENTION SYSTEM DETAILS
STRUCTURE NO. 013-0042
SHEET NO. 3 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	43
CONTRACT NO. 74439				
ILLINOIS FED. AID PROJECT				

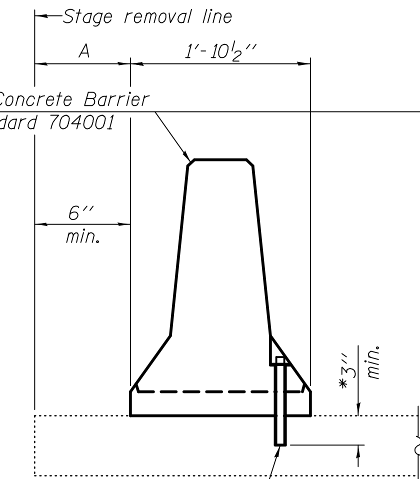
* Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



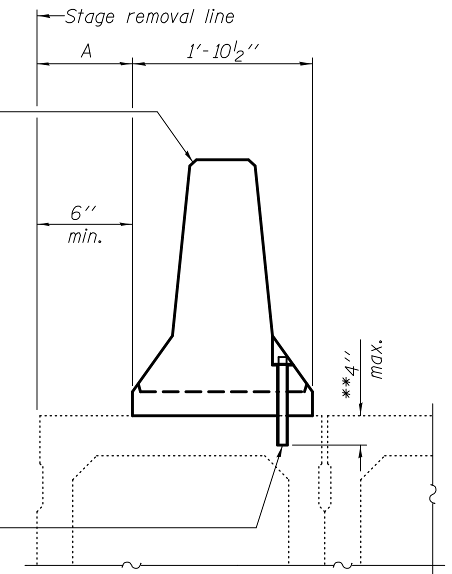
When "A" is 3'-1'' or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I or Detail II. No restraint is required when "A" is greater than 3'-1''.

NEW SLAB



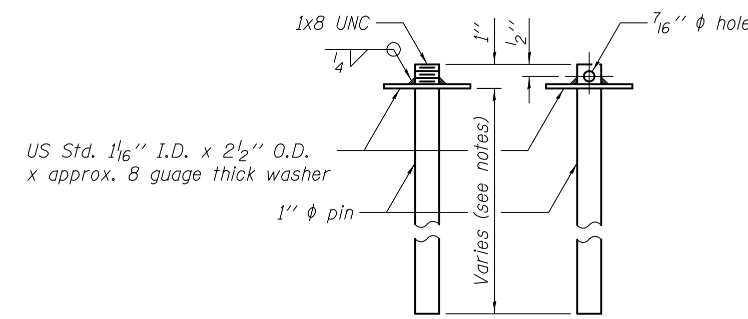
Drill 3-1¼'' ϕ Holes in existing slab for 1'' ϕ restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when ''A'' is greater than 3'-1''.

EXISTING SLAB

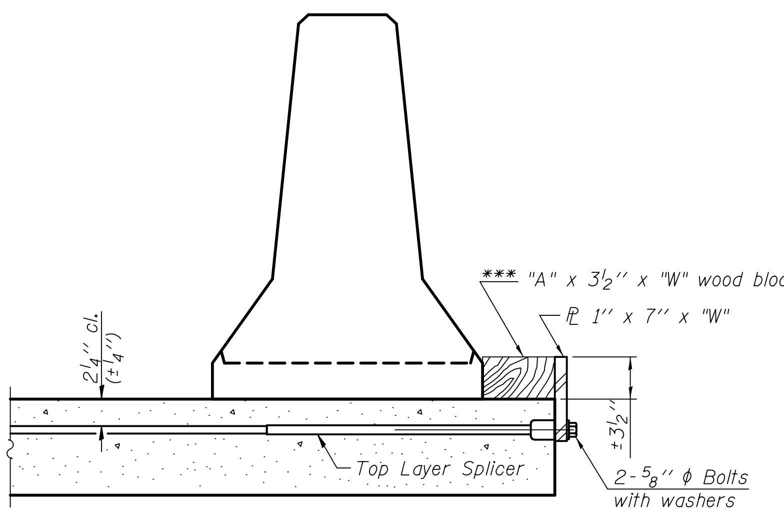


EXISTING DECK BEAM

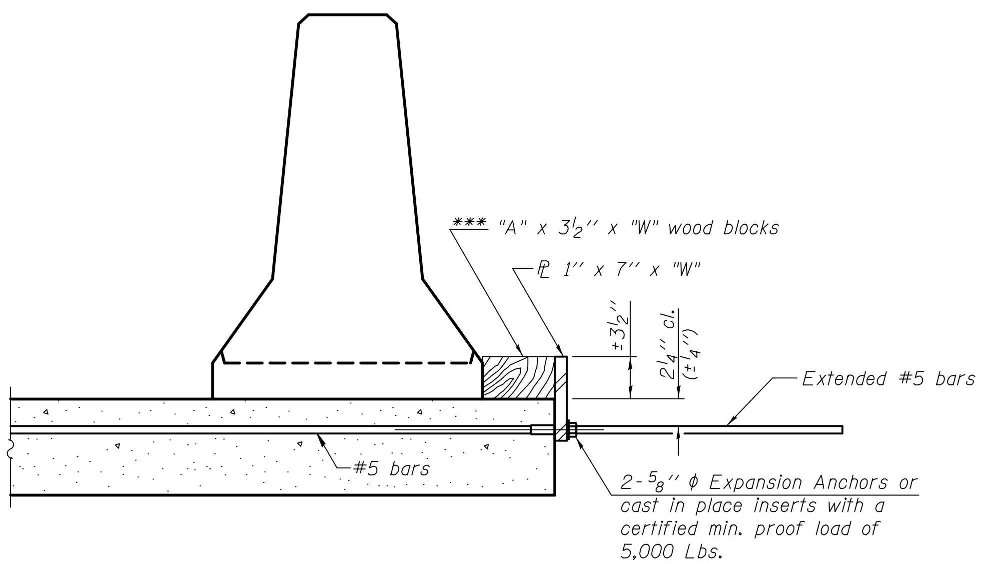
SECTIONS THRU SLAB OR DECK BEAM



RESTRAINING PIN



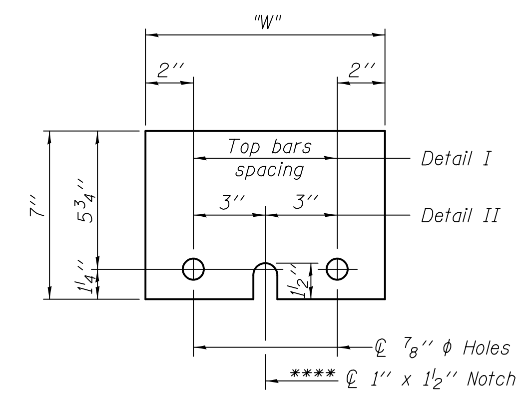
DETAIL I



DETAIL II

RETAINER ASSEMBLY

*** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.



STEEL RETAINER PL 1'' x 7'' x ''W''

**** Required only with Detail II

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1'' x 7' 'x ''W'' steel PL to the top layer of couplers with 2-⅝'' ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1'' x 7'' x ''W'' steel PL to the concrete slab or concrete wearing surface with 2-⅝'' ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of retainer assembly is included with Temporary Concrete Barrier.

The 1'' x 7'' x ''W'' plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

R-27 2-19-16

DESIGNED - Fesseha Teklehaimanot	EXAMINED	ENGINEER OF BRIDGE DESIGN	DATE - OCTOBER 6, 2016
CHECKED - Nicholas R. Barnett			
DRAWN - h.t. duong	PASSED		REVISED
CHECKED - F.T. / N.R.B. / G.R.A.		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

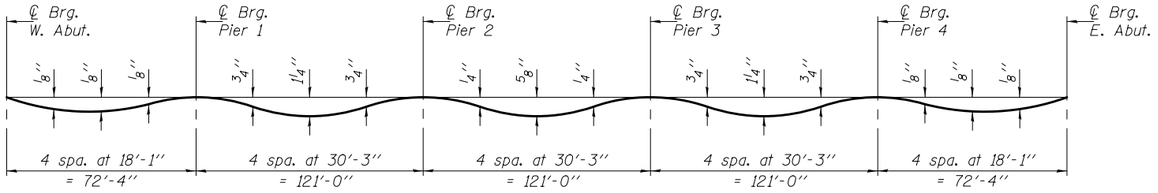
TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 013-0042

SHEET NO. 4 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	44

CONTRACT NO. 74439

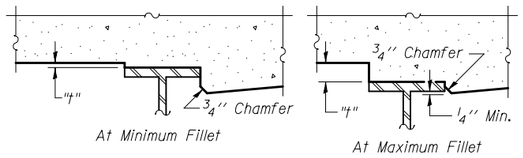
ILLINOIS FED. AID PROJECT



DEAD LOAD DEFLECTION DIAGRAM

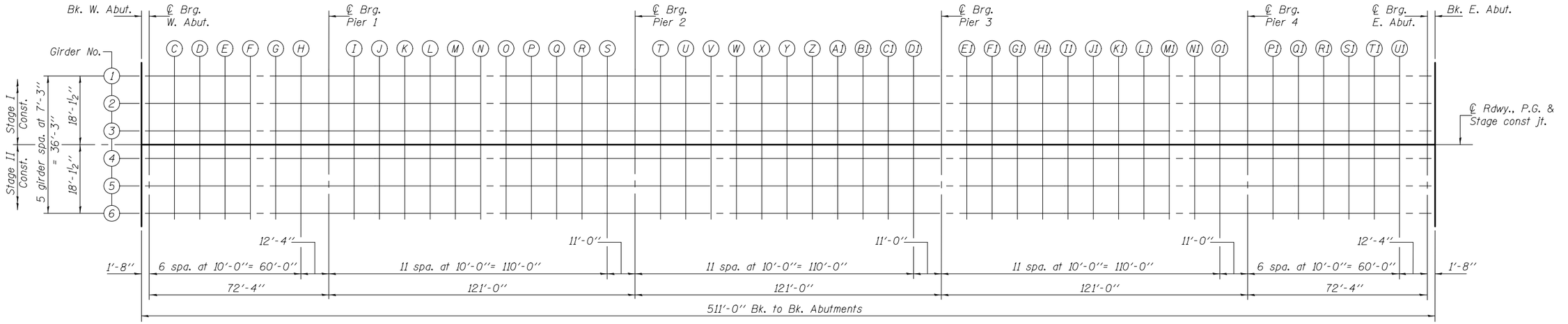
(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 6, 7 & 8 of 34.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 6, 7 & 8 of 34, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS



PLAN

DESIGNED - Fesseha Teklehalmanot	EXAMINED		DATE - OCTOBER 6, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**TOP OF SLAB ELEVATIONS STRUCTURE NO. 013-0042**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett	PASSED		REVISED		SHEET NO. 5 OF 34 SHEETS	327	(7-2B)B-1	CLAY	147	45
DRAWN - h.t. duong		ENGINEER OF BRIDGE DESIGN	REVISED					CONTRACT NO. 74439		
CHECKED - F.T. / N.R.B. / G.R.A.		ACTING ENGINEER OF BRIDGES AND STRUCTURES						ILLINOIS FED. AID PROJECT		

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1289+27.00	-18.13	429.37	429.37
CL Brg. W. Abut.	1289+28.67	-18.13	429.39	429.39
C	1289+38.67	-18.13	429.50	429.51
D	1289+48.67	-18.13	429.62	429.63
E	1289+58.67	-18.13	429.72	429.73
F	1289+68.67	-18.13	429.82	429.83
G	1289+78.67	-18.13	429.92	429.92
H	1289+88.67	-18.13	430.01	430.01
CL Pier 1	1290+01.00	-18.13	430.12	430.12
I	1290+11.00	-18.13	430.20	430.22
J	1290+21.00	-18.13	430.28	430.32
K	1290+31.00	-18.13	430.35	430.42
L	1290+41.00	-18.13	430.42	430.50
M	1290+51.00	-18.13	430.48	430.58
N	1290+61.00	-18.13	430.54	430.64
O	1290+71.00	-18.13	430.59	430.69
P	1290+81.00	-18.13	430.64	430.72
Q	1290+91.00	-18.13	430.69	430.74
R	1291+01.00	-18.13	430.73	430.76
S	1291+11.00	-18.13	430.76	430.78
CL Pier 2	1291+22.00	-18.13	430.80	430.80
T	1291+32.00	-18.13	430.82	430.82
U	1291+42.00	-18.13	430.84	430.85
V	1291+52.00	-18.13	430.86	430.88
W	1291+62.00	-18.13	430.87	430.91
X	1291+72.00	-18.13	430.88	430.93
Y	1291+82.00	-18.13	430.88	430.94
Z	1291+92.00	-18.13	430.88	430.93
A1	1292+02.00	-18.13	430.87	430.91
B1	1292+12.00	-18.13	430.86	430.89
C1	1292+22.00	-18.13	430.85	430.86
D1	1292+32.00	-18.13	430.82	430.83
CL Pier 3	1292+43.00	-18.13	430.80	430.80
E1	1292+53.00	-18.13	430.77	430.78
F1	1292+63.00	-18.13	430.73	430.76
G1	1292+73.00	-18.13	430.69	430.75
H1	1292+83.00	-18.13	430.65	430.72
I1	1292+93.00	-18.13	430.60	430.69
J1	1293+03.00	-18.13	430.54	430.65
K1	1293+13.00	-18.13	430.49	430.59
L1	1293+23.00	-18.13	430.42	430.51
M1	1293+33.00	-18.13	430.36	430.42
N1	1293+43.00	-18.13	430.28	430.33
O1	1293+53.00	-18.13	430.21	430.23
CL Pier 4	1293+64.00	-18.13	430.12	430.12
P1	1293+74.00	-18.13	430.03	430.03
Q1	1293+84.00	-18.13	429.94	429.94
R1	1293+94.00	-18.13	429.84	429.85
S1	1294+04.00	-18.13	429.74	429.75
T1	1294+14.00	-18.13	429.64	429.65
U1	1294+24.00	-18.13	429.53	429.54
CL Brg. E. Abut.	1294+36.33	-18.13	429.39	429.39
Bk. of E. Abut.	1294+38.00	-18.13	429.37	429.37

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1289+27.00	-10.88	429.51	429.51
CL Brg. W. Abut.	1289+28.67	-10.88	429.53	429.53
C	1289+38.67	-10.88	429.65	429.66
D	1289+48.67	-10.88	429.76	429.77
E	1289+58.67	-10.88	429.87	429.88
F	1289+68.67	-10.88	429.97	429.97
G	1289+78.67	-10.88	430.06	430.06
H	1289+88.67	-10.88	430.16	430.15
CL Pier 1	1290+01.00	-10.88	430.26	430.26
I	1290+11.00	-10.88	430.35	430.36
J	1290+21.00	-10.88	430.42	430.46
K	1290+31.00	-10.88	430.50	430.56
L	1290+41.00	-10.88	430.56	430.65
M	1290+51.00	-10.88	430.63	430.73
N	1290+61.00	-10.88	430.69	430.79
O	1290+71.00	-10.88	430.74	430.84
P	1290+81.00	-10.88	430.79	430.87
Q	1290+91.00	-10.88	430.83	430.89
R	1291+01.00	-10.88	430.87	430.91
S	1291+11.00	-10.88	430.91	430.92
CL Pier 2	1291+22.00	-10.88	430.94	430.94
T	1291+32.00	-10.88	430.97	430.97
U	1291+42.00	-10.88	430.99	431.00
V	1291+52.00	-10.88	431.01	431.03
W	1291+62.00	-10.88	431.02	431.06
X	1291+72.00	-10.88	431.02	431.07
Y	1291+82.00	-10.88	431.03	431.08
Z	1291+92.00	-10.88	431.02	431.07
A1	1292+02.00	-10.88	431.02	431.06
B1	1292+12.00	-10.88	431.01	431.03
C1	1292+22.00	-10.88	430.99	431.00
D1	1292+32.00	-10.88	430.97	430.97
CL Pier 3	1292+43.00	-10.88	430.94	430.94
E1	1292+53.00	-10.88	430.91	430.92
F1	1292+63.00	-10.88	430.88	430.91
G1	1292+73.00	-10.88	430.84	430.89
H1	1292+83.00	-10.88	430.79	430.87
I1	1292+93.00	-10.88	430.74	430.84
J1	1293+03.00	-10.88	430.69	430.79
K1	1293+13.00	-10.88	430.63	430.73
L1	1293+23.00	-10.88	430.57	430.66
M1	1293+33.00	-10.88	430.50	430.57
N1	1293+43.00	-10.88	430.43	430.47
O1	1293+53.00	-10.88	430.35	430.37
CL Pier 4	1293+64.00	-10.88	430.26	430.26
P1	1293+74.00	-10.88	430.18	430.17
Q1	1293+84.00	-10.88	430.09	430.08
R1	1293+94.00	-10.88	429.99	429.99
S1	1294+04.00	-10.88	429.89	429.90
T1	1294+14.00	-10.88	429.78	429.80
U1	1294+24.00	-10.88	429.67	429.68
CL Brg. E. Abut.	1294+36.33	-10.88	429.53	429.53
Bk. of E. Abut.	1294+38.00	-10.88	429.51	429.51

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1289+27.00	-3.63	429.63	429.63
CL Brg. W. Abut.	1289+28.67	-3.63	429.65	429.65
C	1289+38.67	-3.63	429.76	429.77
D	1289+48.67	-3.63	429.87	429.88
E	1289+58.67	-3.63	429.98	429.99
F	1289+68.67	-3.63	430.08	430.09
G	1289+78.67	-3.63	430.18	430.18
H	1289+88.67	-3.63	430.27	430.26
CL Pier 1	1290+01.00	-3.63	430.38	430.38
I	1290+11.00	-3.63	430.46	430.47
J	1290+21.00	-3.63	430.54	430.58
K	1290+31.00	-3.63	430.61	430.67
L	1290+41.00	-3.63	430.68	430.76
M	1290+51.00	-3.63	430.74	430.84
N	1290+61.00	-3.63	430.80	430.90
O	1290+71.00	-3.63	430.85	430.95
P	1290+81.00	-3.63	430.90	430.98
Q	1290+91.00	-3.63	430.95	431.00
R	1291+01.00	-3.63	430.99	431.02
S	1291+11.00	-3.63	431.02	431.04
CL Pier 2	1291+22.00	-3.63	431.06	431.06
T	1291+32.00	-3.63	431.08	431.08
U	1291+42.00	-3.63	431.10	431.11
V	1291+52.00	-3.63	431.12	431.14
W	1291+62.00	-3.63	431.13	431.17
X	1291+72.00	-3.63	431.14	431.19
Y	1291+82.00	-3.63	431.14	431.19
Z	1291+92.00	-3.63	431.14	431.19
A1	1292+02.00	-3.63	431.13	431.17
B1	1292+12.00	-3.63	431.12	431.14
C1	1292+22.00	-3.63	431.10	431.11
D1	1292+32.00	-3.63	431.08	431.08
CL Pier 3	1292+43.00	-3.63	431.06	431.06
E1	1292+53.00	-3.63	431.02	431.04
F1	1292+63.00	-3.63	430.99	431.02
G1	1292+73.00	-3.63	430.95	431.01
H1	1292+83.00	-3.63	430.91	430.98
I1	1292+93.00	-3.63	430.86	430.95
J1	1293+03.00	-3.63	430.80	430.91
K1	1293+13.00	-3.63	430.74	430.85
L1	1293+23.00	-3.63	430.68	430.77
M1	1293+33.00	-3.63	430.61	430.68
N1	1293+43.00	-3.63	430.54	430.59
O1	1293+53.00	-3.63	430.47	430.48
CL Pier 4	1293+64.00	-3.63	430.38	430.38
P1	1293+74.00	-3.63	430.29	430.28
Q1	1293+84.00	-3.63	430.20	430.20
R1	1293+94.00	-3.63	430.10	430.11
S1	1294+04.00	-3.63	430.00	430.01
T1	1294+14.00	-3.63	429.90	429.91
U1	1294+24.00	-3.63	429.79	429.80
CL Brg. E. Abut.	1294+36.33	-3.63	429.65	429.65
Bk. of E. Abut.	1294+38.00	-3.63	429.63	429.63

DESIGNED - Fesseha Teklehalmanot
CHECKED - Nicholas R. Barnett
DRAWN - h.t. duong
CHECKED - F.T. / N.R.B. / G.R.A.

EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - OCTOBER 6, 2016
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 013-0042
SHEET NO. 6 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	46
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

℄ RDWY., PROFILE GRADE & STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1289+27.00	0.00	429.68	429.68
CL Brg. W. Abut.	1289+28.67	0.00	429.70	429.70
C	1289+38.67	0.00	429.82	429.83
D	1289+48.67	0.00	429.93	429.94
E	1289+58.67	0.00	430.04	430.05
F	1289+68.67	0.00	430.14	430.14
G	1289+78.67	0.00	430.23	430.23
H	1289+88.67	0.00	430.33	430.32
CL Pier 1	1290+01.00	0.00	430.43	430.43
I	1290+11.00	0.00	430.52	430.53
J	1290+21.00	0.00	430.59	430.63
K	1290+31.00	0.00	430.67	430.73
L	1290+41.00	0.00	430.73	430.82
M	1290+51.00	0.00	430.80	430.90
N	1290+61.00	0.00	430.86	430.96
O	1290+71.00	0.00	430.91	431.00
P	1290+81.00	0.00	430.96	431.04
Q	1290+91.00	0.00	431.00	431.06
R	1291+01.00	0.00	431.04	431.08
S	1291+11.00	0.00	431.08	431.09
CL Pier 2	1291+22.00	0.00	431.11	431.11
T	1291+32.00	0.00	431.14	431.14
U	1291+42.00	0.00	431.16	431.17
V	1291+52.00	0.00	431.18	431.20
W	1291+62.00	0.00	431.19	431.23
X	1291+72.00	0.00	431.19	431.24
Y	1291+82.00	0.00	431.20	431.25
Z	1291+92.00	0.00	431.19	431.24
A1	1292+02.00	0.00	431.19	431.23
B1	1292+12.00	0.00	431.18	431.20
C1	1292+22.00	0.00	431.16	431.17
D1	1292+32.00	0.00	431.14	431.14
CL Pier 3	1292+43.00	0.00	431.11	431.11
E1	1292+53.00	0.00	431.08	431.09
F1	1292+63.00	0.00	431.05	431.08
G1	1292+73.00	0.00	431.01	431.06
H1	1292+83.00	0.00	430.96	431.04
I1	1292+93.00	0.00	430.91	431.01
J1	1293+03.00	0.00	430.86	430.96
K1	1293+13.00	0.00	430.80	430.90
L1	1293+23.00	0.00	430.74	430.83
M1	1293+33.00	0.00	430.67	430.74
N1	1293+43.00	0.00	430.60	430.64
O1	1293+53.00	0.00	430.52	430.54
CL Pier 4	1293+64.00	0.00	430.43	430.43
P1	1293+74.00	0.00	430.35	430.34
Q1	1293+84.00	0.00	430.25	430.25
R1	1293+94.00	0.00	430.16	430.16
S1	1294+04.00	0.00	430.06	430.07
T1	1294+14.00	0.00	429.95	429.97
U1	1294+24.00	0.00	429.84	429.85
CL Brg. E. Abut.	1294+36.33	0.00	429.70	429.70
Bk. of E. Abut.	1294+38.00	0.00	429.68	429.68

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1289+27.00	3.63	429.63	429.63
CL Brg. W. Abut.	1289+28.67	3.63	429.65	429.65
C	1289+38.67	3.63	429.76	429.77
D	1289+48.67	3.63	429.87	429.88
E	1289+58.67	3.63	429.98	429.99
F	1289+68.67	3.63	430.08	430.09
G	1289+78.67	3.63	430.18	430.18
H	1289+88.67	3.63	430.27	430.26
CL Pier 1	1290+01.00	3.63	430.38	430.38
I	1290+11.00	3.63	430.46	430.47
J	1290+21.00	3.63	430.54	430.58
K	1290+31.00	3.63	430.61	430.67
L	1290+41.00	3.63	430.68	430.76
M	1290+51.00	3.63	430.74	430.84
N	1290+61.00	3.63	430.80	430.90
O	1290+71.00	3.63	430.85	430.95
P	1290+81.00	3.63	430.90	430.98
Q	1290+91.00	3.63	430.95	431.00
R	1291+01.00	3.63	430.99	431.02
S	1291+11.00	3.63	431.02	431.04
CL Pier 2	1291+22.00	3.63	431.06	431.06
T	1291+32.00	3.63	431.08	431.08
U	1291+42.00	3.63	431.10	431.11
V	1291+52.00	3.63	431.12	431.14
W	1291+62.00	3.63	431.13	431.17
X	1291+72.00	3.63	431.14	431.19
Y	1291+82.00	3.63	431.14	431.19
Z	1291+92.00	3.63	431.14	431.19
A1	1292+02.00	3.63	431.13	431.17
B1	1292+12.00	3.63	431.12	431.14
C1	1292+22.00	3.63	431.10	431.11
D1	1292+32.00	3.63	431.08	431.08
CL Pier 3	1292+43.00	3.63	431.06	431.06
E1	1292+53.00	3.63	431.02	431.04
F1	1292+63.00	3.63	430.99	431.02
G1	1292+73.00	3.63	430.95	431.01
H1	1292+83.00	3.63	430.91	430.98
I1	1292+93.00	3.63	430.86	430.95
J1	1293+03.00	3.63	430.80	430.91
K1	1293+13.00	3.63	430.74	430.85
L1	1293+23.00	3.63	430.68	430.77
M1	1293+33.00	3.63	430.61	430.68
N1	1293+43.00	3.63	430.54	430.59
O1	1293+53.00	3.63	430.47	430.48
CL Pier 4	1293+64.00	3.63	430.38	430.38
P1	1293+74.00	3.63	430.29	430.28
Q1	1293+84.00	3.63	430.20	430.20
R1	1293+94.00	3.63	430.10	430.11
S1	1294+04.00	3.63	430.00	430.01
T1	1294+14.00	3.63	429.90	429.91
U1	1294+24.00	3.63	429.79	429.80
CL Brg. E. Abut.	1294+36.33	3.63	429.65	429.65
Bk. of E. Abut.	1294+38.00	3.63	429.63	429.63

DESIGNED - Fesseha Teklehalmanot
CHECKED - Nicholas R. Barnett
DRAWN - h.t. duong
CHECKED - F.T. / N.R.B. / G.R.A.

EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - OCTOBER 6, 2016
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 013-0042
SHEET NO. 7 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	47
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1289+27.00	10.88	429.51	429.51
CL Brg. W. Abut.	1289+28.67	10.88	429.53	429.53
C	1289+38.67	10.88	429.65	429.66
D	1289+48.67	10.88	429.76	429.77
E	1289+58.67	10.88	429.87	429.88
F	1289+68.67	10.88	429.97	429.97
G	1289+78.67	10.88	430.06	430.06
H	1289+88.67	10.88	430.16	430.15
CL Pier 1	1290+01.00	10.88	430.26	430.26
I	1290+11.00	10.88	430.35	430.36
J	1290+21.00	10.88	430.42	430.46
K	1290+31.00	10.88	430.50	430.56
L	1290+41.00	10.88	430.56	430.65
M	1290+51.00	10.88	430.63	430.73
N	1290+61.00	10.88	430.69	430.79
O	1290+71.00	10.88	430.74	430.84
P	1290+81.00	10.88	430.79	430.87
Q	1290+91.00	10.88	430.83	430.89
R	1291+01.00	10.88	430.87	430.91
S	1291+11.00	10.88	430.91	430.92
CL Pier 2	1291+22.00	10.88	430.94	430.94
T	1291+32.00	10.88	430.97	430.97
U	1291+42.00	10.88	430.99	431.00
V	1291+52.00	10.88	431.01	431.03
W	1291+62.00	10.88	431.02	431.06
X	1291+72.00	10.88	431.02	431.07
Y	1291+82.00	10.88	431.03	431.08
Z	1291+92.00	10.88	431.02	431.07
A1	1292+02.00	10.88	431.02	431.06
B1	1292+12.00	10.88	431.01	431.03
C1	1292+22.00	10.88	430.99	431.00
D1	1292+32.00	10.88	430.97	430.97
CL Pier 3	1292+43.00	10.88	430.94	430.94
E1	1292+53.00	10.88	430.91	430.92
F1	1292+63.00	10.88	430.88	430.91
G1	1292+73.00	10.88	430.84	430.89
H1	1292+83.00	10.88	430.79	430.87
I1	1292+93.00	10.88	430.74	430.84
J1	1293+03.00	10.88	430.69	430.79
K1	1293+13.00	10.88	430.63	430.73
L1	1293+23.00	10.88	430.57	430.66
M1	1293+33.00	10.88	430.50	430.57
N1	1293+43.00	10.88	430.43	430.47
O1	1293+53.00	10.88	430.35	430.37
CL Pier 4	1293+64.00	10.88	430.26	430.26
P1	1293+74.00	10.88	430.18	430.17
Q1	1293+84.00	10.88	430.09	430.08
R1	1293+94.00	10.88	429.99	429.99
S1	1294+04.00	10.88	429.89	429.90
T1	1294+14.00	10.88	429.78	429.80
U1	1294+24.00	10.88	429.67	429.68
CL Brg. E. Abut.	1294+36.33	10.88	429.53	429.53
Bk. of E. Abut.	1294+38.00	10.88	429.51	429.51

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1289+27.00	18.13	429.37	429.37
CL Brg. W. Abut.	1289+28.67	18.13	429.39	429.39
C	1289+38.67	18.13	429.50	429.51
D	1289+48.67	18.13	429.62	429.63
E	1289+58.67	18.13	429.72	429.73
F	1289+68.67	18.13	429.82	429.83
G	1289+78.67	18.13	429.92	429.92
H	1289+88.67	18.13	430.01	430.01
CL Pier 1	1290+01.00	18.13	430.12	430.12
I	1290+11.00	18.13	430.20	430.22
J	1290+21.00	18.13	430.28	430.32
K	1290+31.00	18.13	430.35	430.42
L	1290+41.00	18.13	430.42	430.50
M	1290+51.00	18.13	430.48	430.58
N	1290+61.00	18.13	430.54	430.64
O	1290+71.00	18.13	430.59	430.69
P	1290+81.00	18.13	430.64	430.72
Q	1290+91.00	18.13	430.69	430.74
R	1291+01.00	18.13	430.73	430.76
S	1291+11.00	18.13	430.76	430.78
CL Pier 2	1291+22.00	18.13	430.80	430.80
T	1291+32.00	18.13	430.82	430.82
U	1291+42.00	18.13	430.84	430.85
V	1291+52.00	18.13	430.86	430.88
W	1291+62.00	18.13	430.87	430.91
X	1291+72.00	18.13	430.88	430.93
Y	1291+82.00	18.13	430.88	430.94
Z	1291+92.00	18.13	430.88	430.93
A1	1292+02.00	18.13	430.87	430.91
B1	1292+12.00	18.13	430.86	430.89
C1	1292+22.00	18.13	430.85	430.86
D1	1292+32.00	18.13	430.82	430.83
CL Pier 3	1292+43.00	18.13	430.80	430.80
E1	1292+53.00	18.13	430.77	430.78
F1	1292+63.00	18.13	430.73	430.76
G1	1292+73.00	18.13	430.69	430.75
H1	1292+83.00	18.13	430.65	430.72
I1	1292+93.00	18.13	430.60	430.69
J1	1293+03.00	18.13	430.54	430.65
K1	1293+13.00	18.13	430.49	430.59
L1	1293+23.00	18.13	430.42	430.51
M1	1293+33.00	18.13	430.36	430.42
N1	1293+43.00	18.13	430.28	430.33
O1	1293+53.00	18.13	430.21	430.23
CL Pier 4	1293+64.00	18.13	430.12	430.12
P1	1293+74.00	18.13	430.03	430.03
Q1	1293+84.00	18.13	429.94	429.94
R1	1293+94.00	18.13	429.84	429.85
S1	1294+04.00	18.13	429.74	429.75
T1	1294+14.00	18.13	429.64	429.65
U1	1294+24.00	18.13	429.53	429.54
CL Brg. E. Abut.	1294+36.33	18.13	429.39	429.39
Bk. of E. Abut.	1294+38.00	18.13	429.37	429.37

DESIGNED - Fesseha Teklehalmanot
CHECKED - Nicholas R. Barnett
DRAWN - h.t. duong
CHECKED - F.T. / N.R.B. / G.R.A.

EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - OCTOBER 6, 2016
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 013-0042
SHEET NO. 8 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	48
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

NORTH EDGE OF SHOULDER

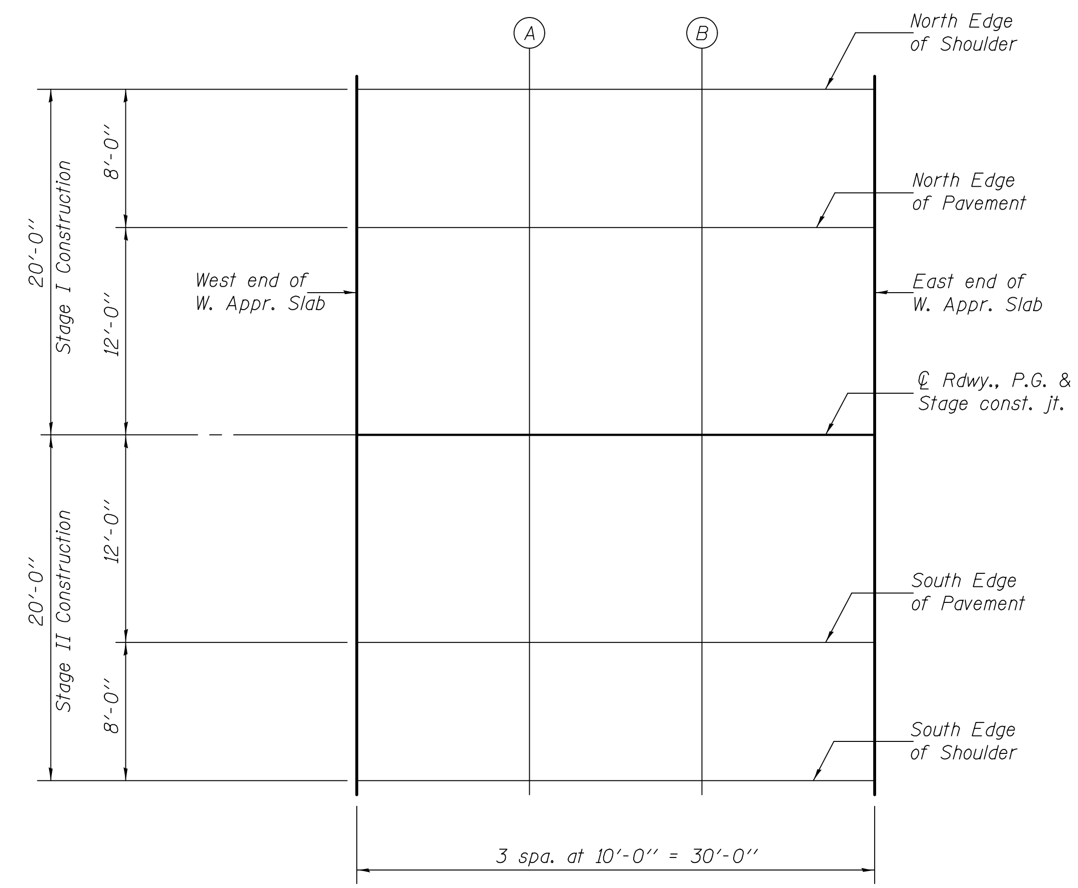
Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	1288+98.00	-20.00	428.99
A	1289+08.00	-20.00	429.11
B	1289+18.00	-20.00	429.22
East end of W. Appr. Slab	1289+28.00	-20.00	429.34

NORTH EDGE OF PAVEMENT

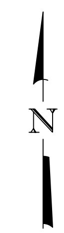
Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	1288+98.00	-12.00	429.15
A	1289+08.00	-12.00	429.28
B	1289+18.00	-12.00	429.39
East end of W. Appr. Slab	1289+28.00	-12.00	429.51

℄ ROADWAY, P.G. & STAGE CONST. JT.

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	1288+98.00	0.00	429.34
A	1289+08.00	0.00	429.46
B	1289+18.00	0.00	429.58
East end of W. Appr. Slab	1289+28.00	0.00	429.70



PLAN



SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	1288+98.00	12.00	429.15
A	1289+08.00	12.00	429.28
B	1289+18.00	12.00	429.39
East end of W. Appr. Slab	1289+28.00	12.00	429.51

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	1288+98.00	20.00	428.99
A	1289+08.00	20.00	429.11
B	1289+18.00	20.00	429.22
East end of W. Appr. Slab	1289+28.00	20.00	429.34

DESIGNED - Fesseha Teklehaimanot
CHECKED - Nicholas R. Barnett
DRAWN - h.t. duong
CHECKED - F.T. / N.R.B. / G.R.A.

EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - OCTOBER 6, 2016
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 013-0042
SHEET NO. 9 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	49

CONTRACT NO. 74439
ILLINOIS FED. AID PROJECT

NORTH EDGE OF SHOULDER

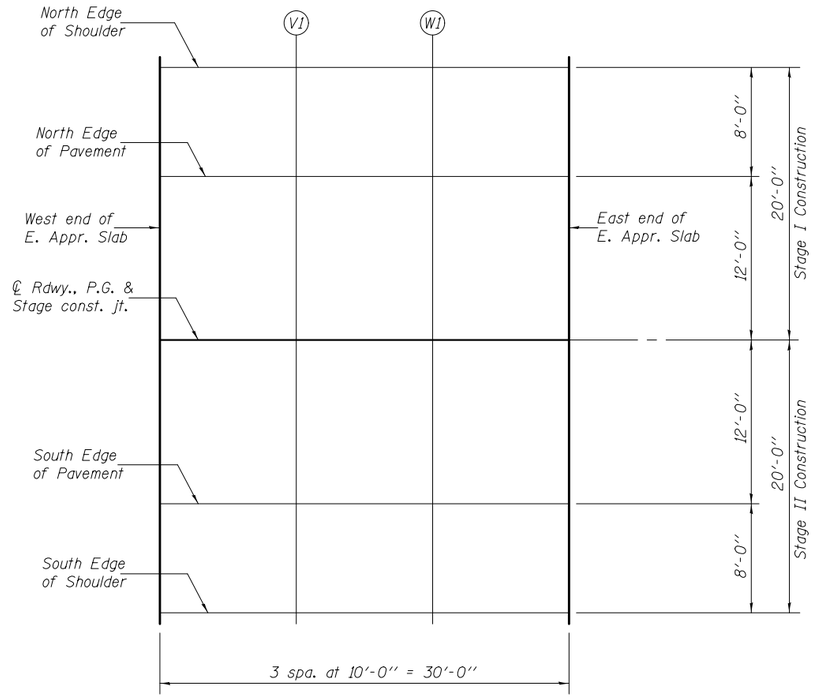
Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	1294+37.00	-20.00	429.34
V1	1294+47.00	-20.00	429.22
W1	1294+57.00	-20.00	429.10
East end of E. Appr. Slab	1294+67.00	-20.00	428.97

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	1294+37.00	-12.00	429.51
V1	1294+47.00	-12.00	429.39
W1	1294+57.00	-12.00	429.26
East end of E. Appr. Slab	1294+67.00	-12.00	429.14

℄ ROADWAY, P.G. & STAGE CONST. JT.

Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	1294+37.00	0.00	429.69
V1	1294+47.00	0.00	429.57
W1	1294+57.00	0.00	429.45
East end of E. Appr. Slab	1294+67.00	0.00	429.32



PLAN

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	1294+37.00	12.00	429.51
V1	1294+47.00	12.00	429.39
W1	1294+57.00	12.00	429.26
East end of E. Appr. Slab	1294+67.00	12.00	429.14

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	1294+37.00	20.00	429.34
V1	1294+47.00	20.00	429.22
W1	1294+57.00	20.00	429.10
East end of E. Appr. Slab	1294+67.00	20.00	428.97

DESIGNED -	Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016
CHECKED -	Nicholas R. Barnett		
DRAWN -	h.t. duong	PASSED	REVISED
CHECKED -	F.T. / N.R.B. / G.R.A.		REVISED

ENGINEER OF BRIDGE DESIGN

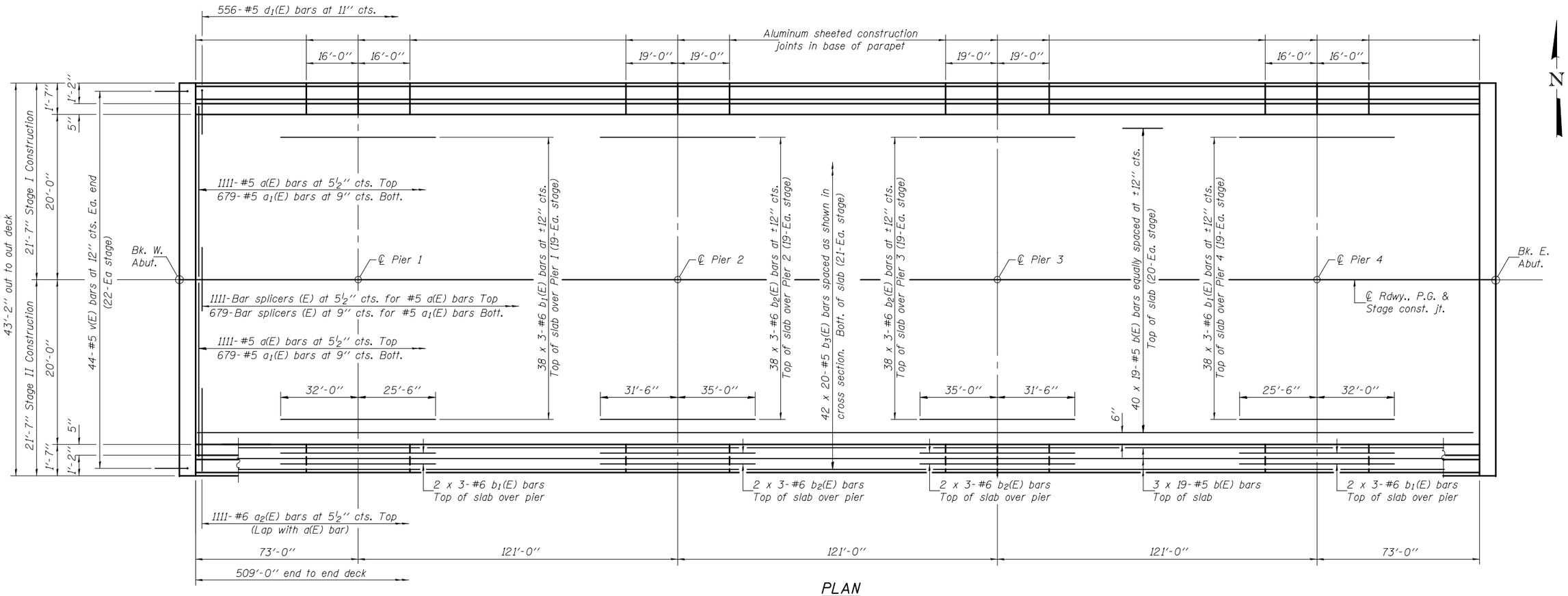
ACTING ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

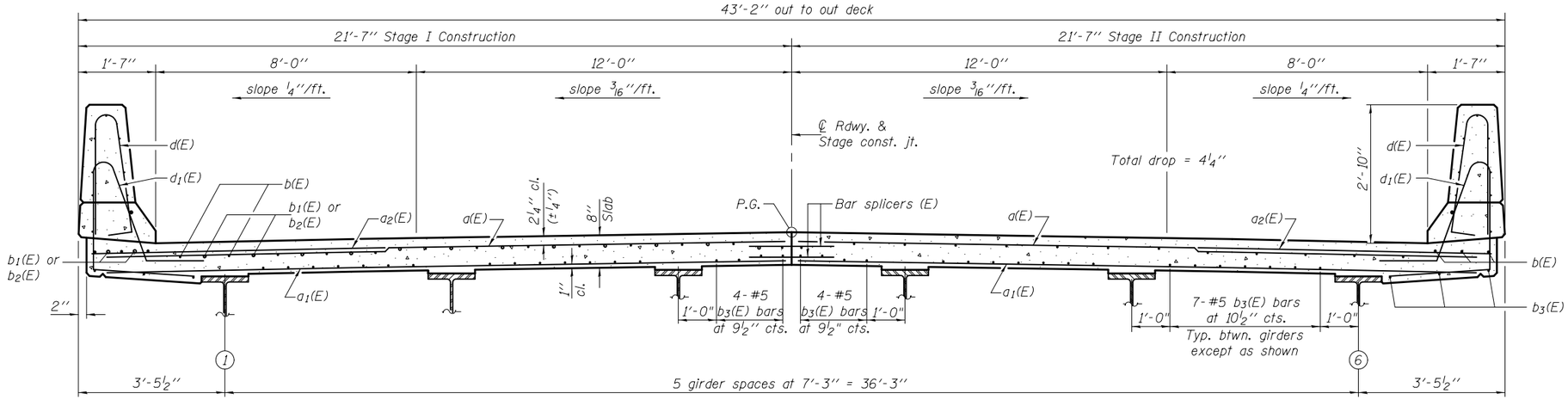
TOP OF EAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 013-0042

SHEET NO. 10 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	50
		CONTRACT NO. 74439		
	ILLINOIS	FED. AID PROJECT		



PLAN



NEAR PIER NEAR MIDSPAN

CROSS SECTION

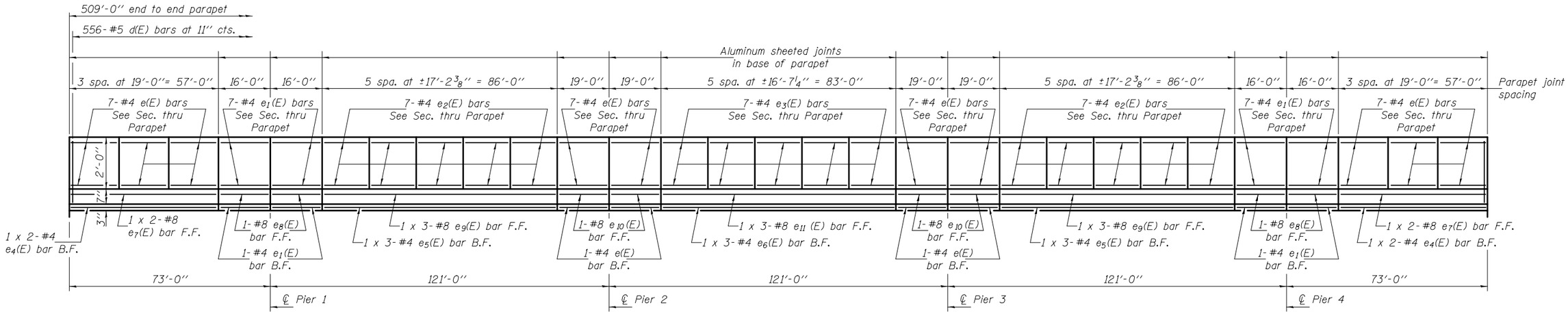
(Looking east)

Notes:
See sheet 12 of 34 for superstructure details and Bill of Material.
Bars indicated thus 38 x 3-#5 etc. indicates 38 lines of bars with 3 lengths per line.
See sheet 12 of 34 for parapet reinforcement.
See sheet 28 of 34 for bar splicer details.

MIN. BAR LAPS

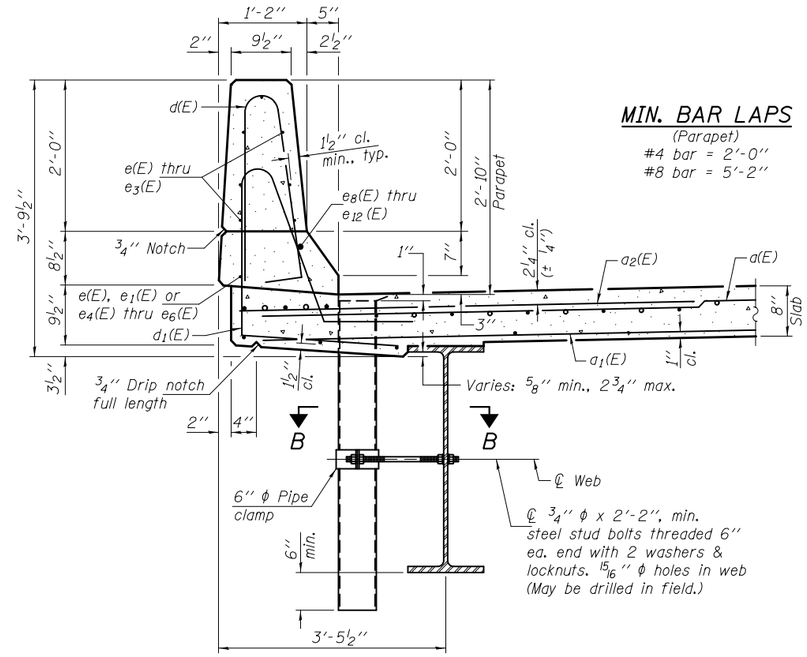
#5 bar = 3'-3"
#6 bar = 3'-10"

DESIGNED - Fesseha Teklehalmanot	EXAMINED		DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE STRUCTURE NO. 013-0042	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett	PASSED	ENGINEER OF BRIDGE DESIGN	REVISED		SHEET NO. 11 OF 34 SHEETS	327	(7-2B)B-1	CLAY	147	51
DRAWN - h.t. duong		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED						CONTRACT NO. 74439	
CHECKED - F.T. / N.R.B. / G.R.A.								ILLINOIS	FED. AID PROJECT	



INSIDE ELEVATION OF NORTH PARAPET

(Looking North - South parapet similar



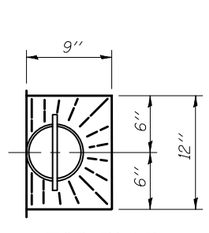
MIN. BAR LAPS

(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"

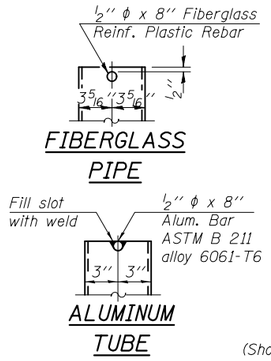
SECTION THRU PARAPET

SECTION B-B

*Dimension as required by Pipe Clamp

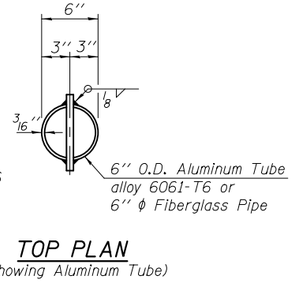


TOP PLAN



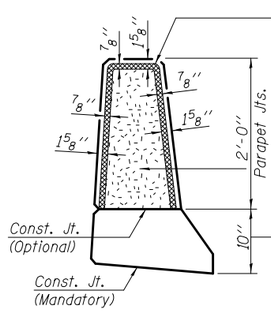
FIBERGLASS PIPE

ALUMINUM TUBE



TOP PLAN

(Showing Aluminum Tube)

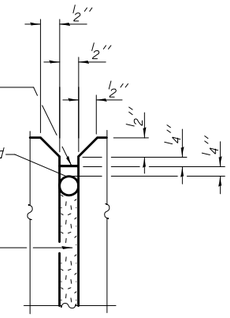


Non-staining gray one component non-sag elastomeric gun grade polyurethane sealant meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25, use T with a 5/8" backer rod.

1/2" Preformed Self-Expanding Cork Joint Filler according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.

Const. Jts. 1/8" Aluminum sheet ASTM B 209 alloy 3003-H14 coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure

PARAPET JOINT DETAILS



Notes:

Drains shall be located clear of all diaphragms.

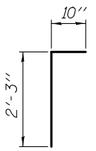
The exterior surfaces of the floor drains shall be painted according to Article 506 with the finish coat as specified. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coating's Spec. SSPC-SP1 prior to painting.

Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

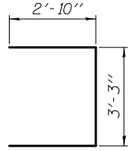
Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.

BAR d(E)

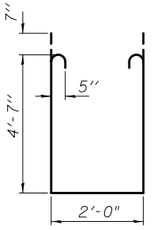
BAR d1(E)



BAR v(E)



BAR s(E)



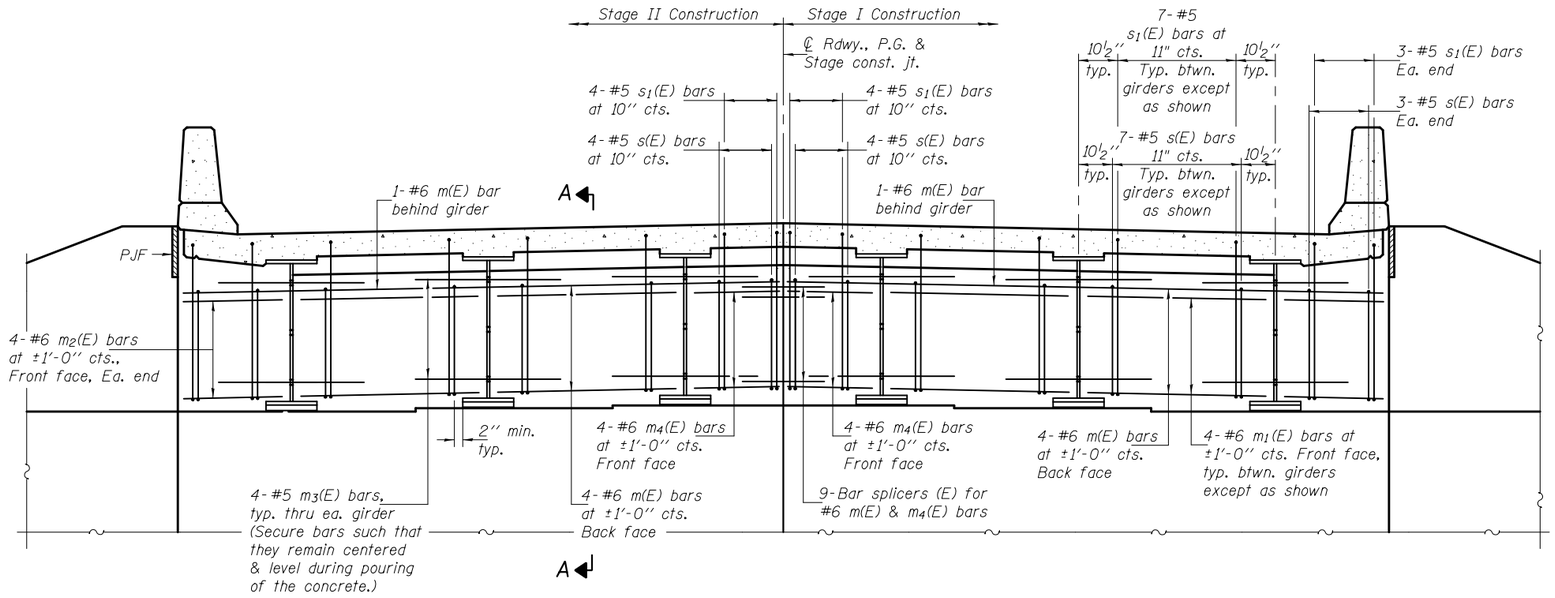
BAR s1(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	2222	#5	21'-1"	
a1(E)	1358	#5	20'-3"	
a2(E)	2222	#6	6'-6"	
b(E)	874	#5	29'-11"	
b1(E)	252	#6	21'-9"	
b2(E)	252	#6	24'-9"	
b3(E)	840	#5	28'-7"	
d(E)	1112	#5	5'-7"	
d1(E)	1112	#5	7'-11"	
e(E)	148	#4	18'-9"	
e1(E)	64	#4	15'-9"	
e2(E)	140	#4	16'-11"	
e3(E)	70	#4	16'-4"	
e4(E)	8	#4	29'-5"	
e5(E)	12	#4	29'-11"	
e6(E)	6	#4	28'-11"	
e7(E)	8	#8	31'-0"	
e8(E)	8	#8	15'-9"	
e9(E)	12	#8	32'-1"	
e10 (E)	8	#8	18'-9"	
e11 (E)	6	#8	31'-1"	
m(E)	20	#6	21'-3"	
m1(E)	32	#6	6'-11"	
m2(E)	16	#6	3'-2"	
m3(E)	48	#5	4'-0"	
m4(E)	16	#6	3'-3"	
s(E)	84	#5	8'-11"	
s1(E)	84	#5	12'-4"	
v(E)	88	#5	3'-1"	
Reinforcement Bars, Epoxy Coated		Pound	196,590	
Concrete Superstructure		Cu. Yds.	730.0	

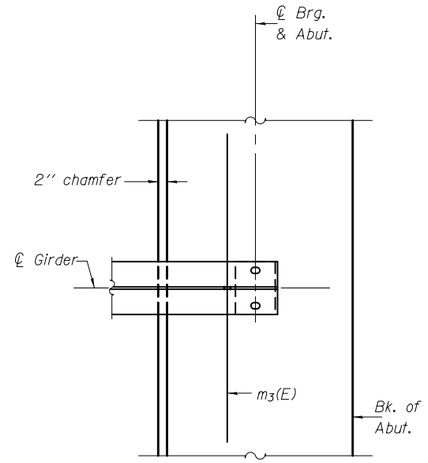
Bars indicated thus 1 x 3-#5 etc. indicates 1 line of bars with 3 lengths per line.

DESIGNED - Fesseha Teklehalmanot	EXAMINED		DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS STRUCTURE NO. 013-0042	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett	PASSED	ENGINEER OF BRIDGE DESIGN	REVISED		SHEET NO. 12 OF 34 SHEETS	327	(7-2B)B-1	CLAY	147	52
DRAWN - h.t. duong		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED					CONTRACT NO. 74439		
CHECKED - F.T. / N.R.B. / G.R.A.								ILLINOIS FED. AID PROJECT		



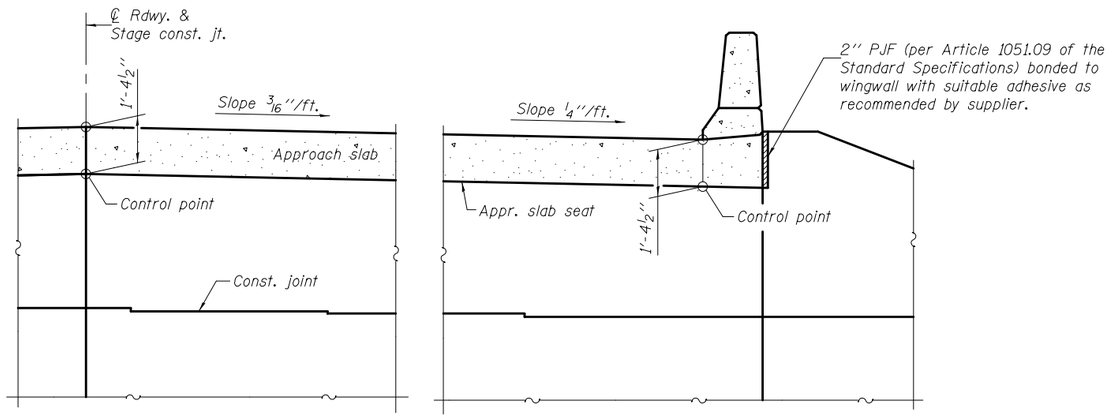
DIAPHRAGM ELEVATION AT WEST ABUTMENT

(Looking West)
(East Abutment similar)

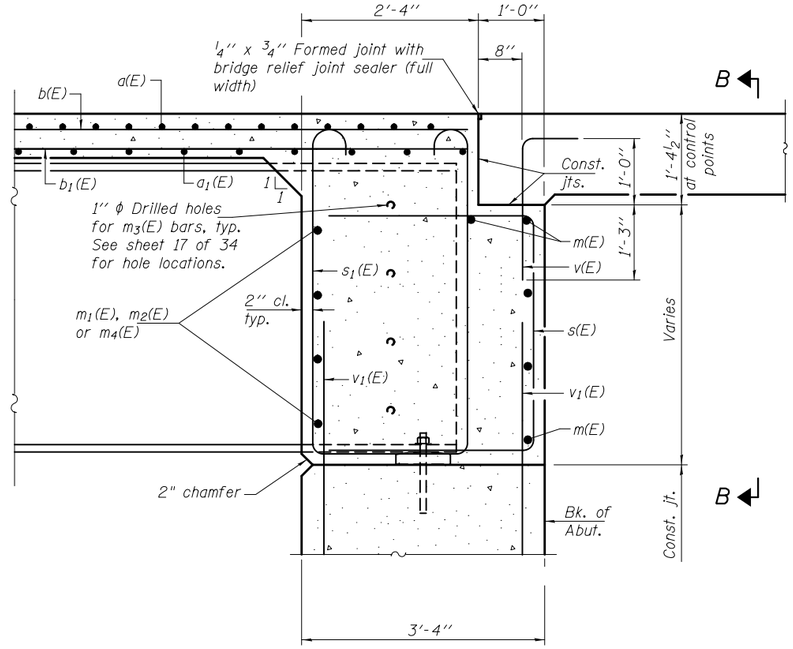


PARTIAL PLAN AT ABUTMENT

(Showing bottom flange of beam)



SECTION B-B



SECTION A-A

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 12 of 34.

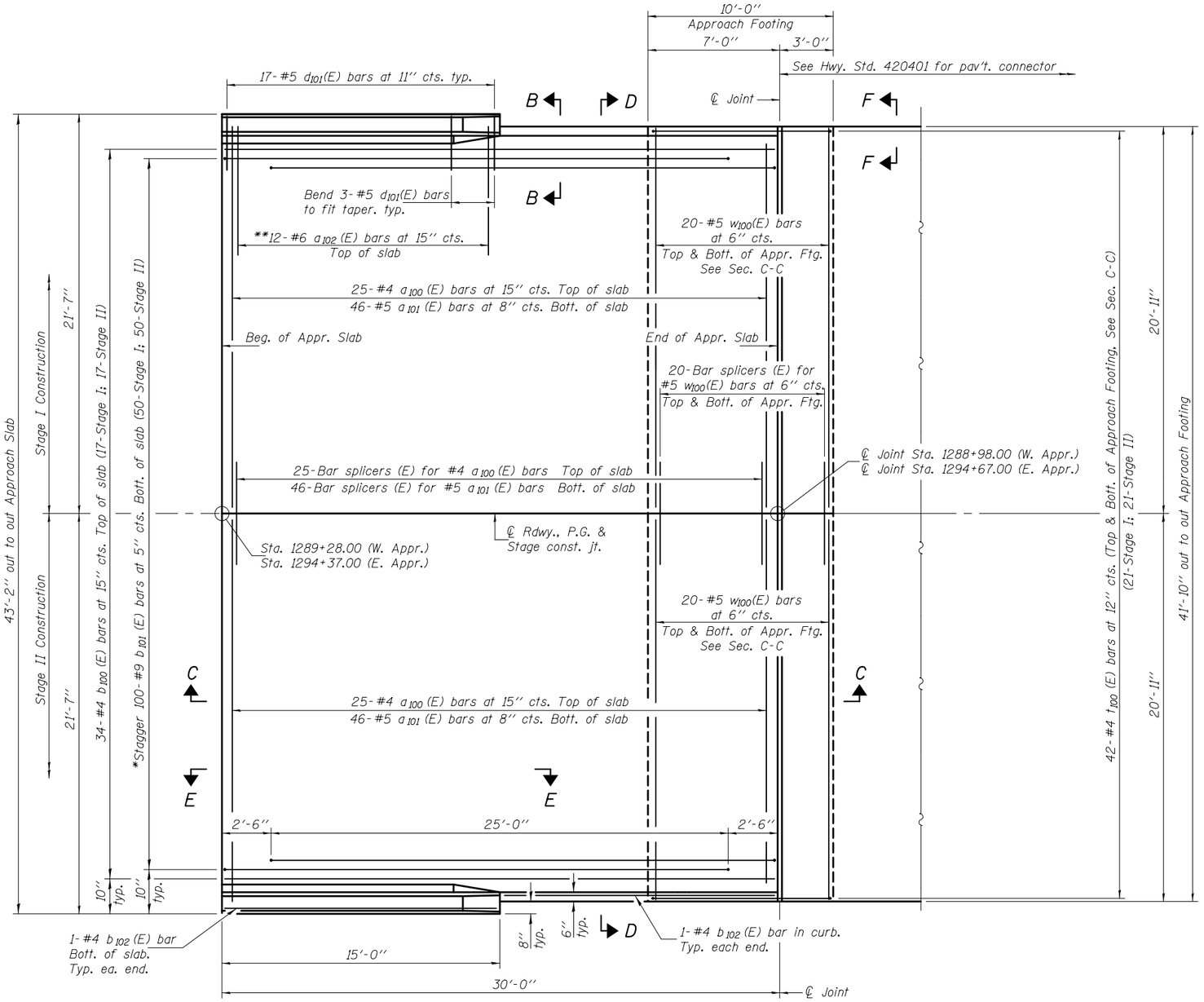
Concrete in diaphragm is included with Concrete Superstructure on sheet 12 of 34.

For details of bars s(E), s1(E) and v(E) see sheet 12 of 34.

The approach slab seat shall have a constant slope determined from the control points shown.

For bearing details see sheet 19 of 34.

DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**DIAPHRAGM DETAILS STRUCTURE NO. 013-0042**	F.A.P. RTE. 327 / SECTION (7-2B)B-1 / COUNTY CLAY / TOTAL SHEETS 147 / SHEET NO. 53
CHECKED - Nicholas R. Barnett	PASSED	REVISED		SHEET NO. 13 OF 34 SHEETS	CONTRACT NO. 74439
DRAWN - h.t. duong	ENGINEER OF BRIDGE DESIGN	REVISED			ILLINOIS FED. AID PROJECT
CHECKED - F.T. / N.R.B. / G.R.A.	ACTING ENGINEER OF BRIDGES AND STRUCTURES				



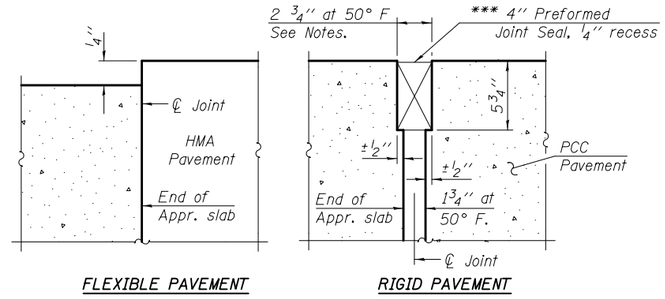
PLAN

(East Approach shown - West Approach similar by 180° rotation)

*Tilt #9 b_{101}(E) bars as required to maintain clearance.
**Spaced between a_{100}(E) bars, typ. ea. parapet.

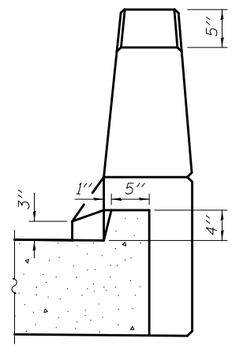
Notes:
See sheet 15 of 34 for Sections C-C & D-D and View E-E.
The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1½" for installation purposes.

*** Cost included with Concrete Superstructure (Approach Slab).

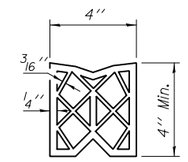


FLEXIBLE PAVEMENT — RIGID PAVEMENT

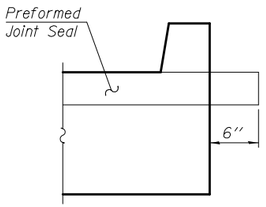
DETAIL A



VIEW B-B

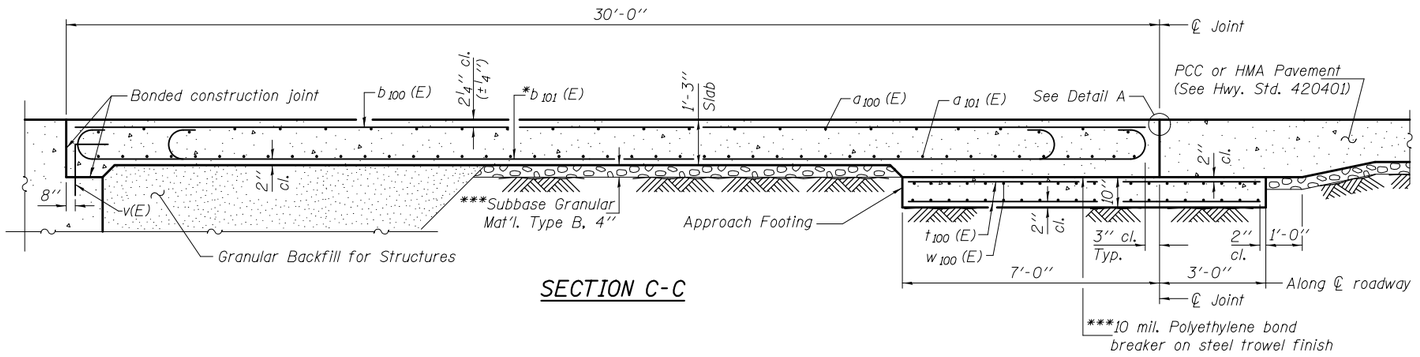


PREFORMED JOINT SEAL

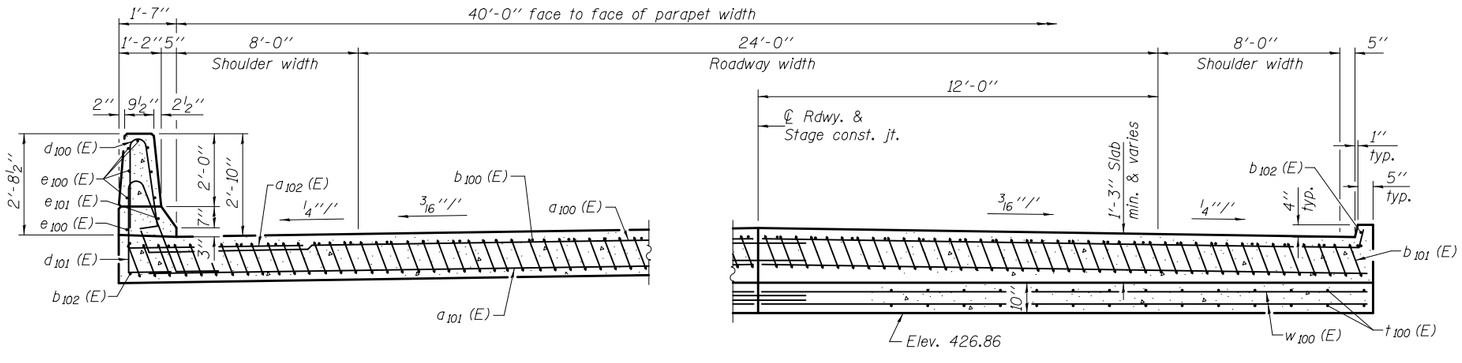


VIEW F-F

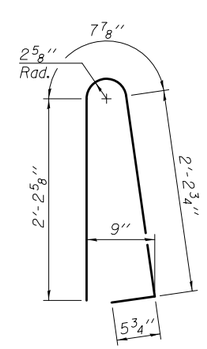
DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 013-0042	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett	PASSED	REVISED			327	(7-2B)B-1	CLAY	147	54
DRAWN - h.t. duong	ENGINEER OF BRIDGE DESIGN	REVISED						CONTRACT NO. 74439	
CHECKED - F.T. / N.R.B. / G.R.A.	ACTING ENGINEER OF BRIDGES AND STRUCTURES			SHEET NO. 14 OF 34 SHEETS			ILLINOIS	FED. AID PROJECT	



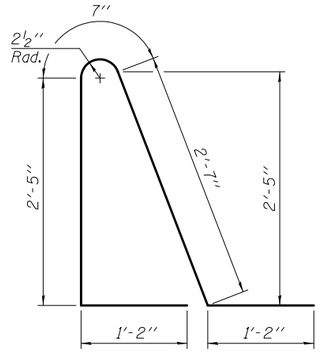
SECTION C-C



Notes:
- See sheet 14 of 34 for Detail A and View B-B.
- Parapet concrete shall be paid for as Concrete Superstructure.
- Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
- Approach footing concrete shall be paid for as Concrete Structures.
- Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
- For v(E) bar details, see sheet 12 of 34.
- The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
- For bar splicer details, see sheet 28 of 34.
- Cost of excavation for approach footing included with Concrete Structures.
- For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 34.
- For additional parapet details, see sheet 12 of 34.



BAR d_{100} (E)

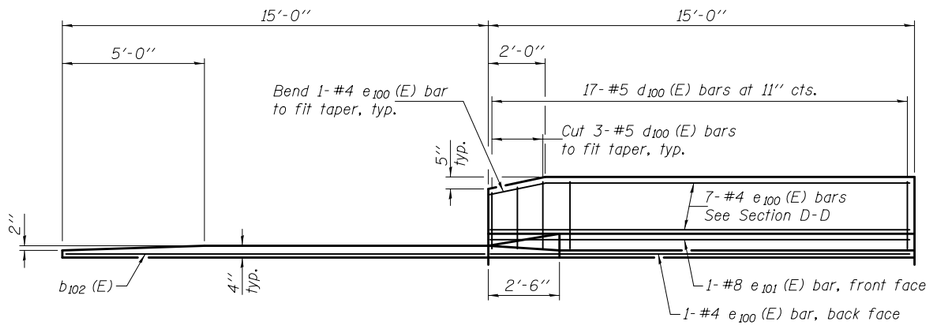


BAR d_{101} (E)

NEAR ABUTMENT

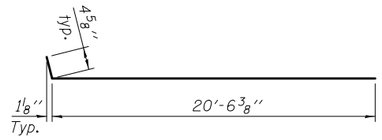
SECTION D-D

(See Plan for dimensions not shown)

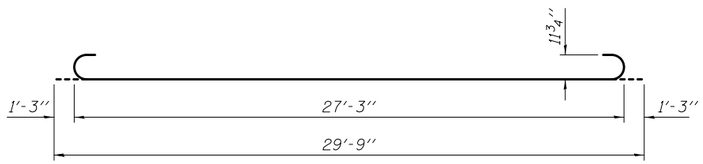


VIEW E-E

AT APPROACH FOOTING



BAR a_{100} (E)



BAR b_{101} (E)

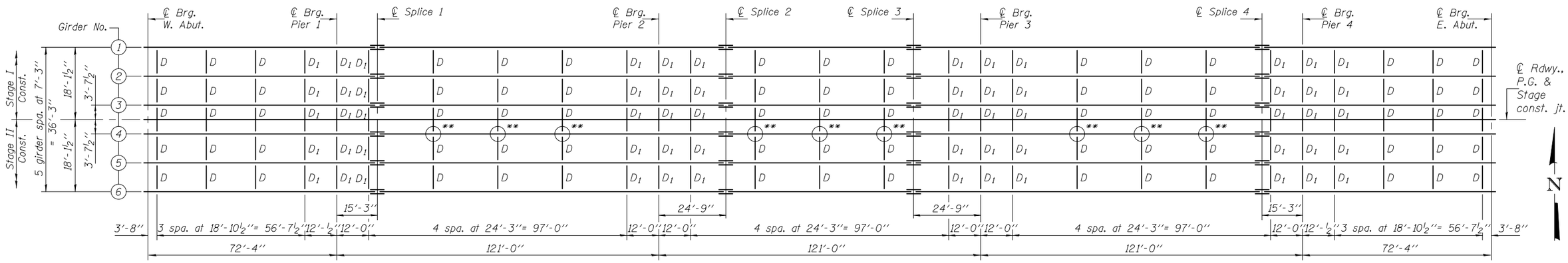
* Tilt #9 b_{101} (E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure (Approach Slab).

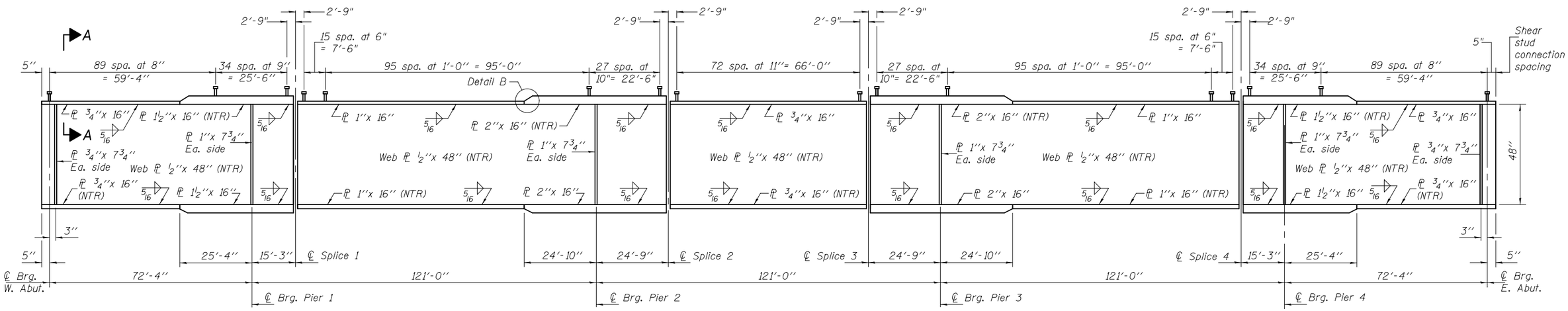
TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{100} (E)	100	#4	20'-11"	
a_{101} (E)	184	#5	20'-8"	
a_{102} (E)	48	#6	6'-6"	
b_{100} (E)	68	#4	29'-8"	
b_{101} (E)	200	#9	29'-9"	
b_{102} (E)	8	#4	14'-7"	
d_{100} (E)	68	#5	5'-7"	
d_{101} (E)	68	#5	7'-11"	
e_{100} (E)	32	#4	14'-8"	
e_{101} (E)	4	#8	14'-8"	
t_{100} (E)	168	#4	9'-8"	
w_{100} (E)	160	#5	20'-8"	
Concrete Superstructure			Cu. Yd.	6.9
Concrete Superstructure (Approach Slab)			Cu. Yd.	123.1
Concrete Structures			Cu. Yd.	25.8
Reinforcement Bars, Epoxy Coated			Pound	33,450

DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 013-0042	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett		REVISED			327	(7-2B)B-1	CLAY	147	55
DRAWN - h.t. duong	PASSED	REVISED						CONTRACT NO. 74439	
CHECKED - F.T. / N.R.B. / G.R.A.	ENGINEER OF BRIDGE DESIGN ACTING ENGINEER OF BRIDGES AND STRUCTURES			SHEET NO. 15 OF 34 SHEETS			ILLINOIS	FED. AID PROJECT	



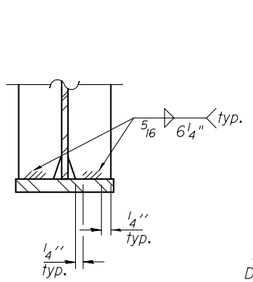
PLAN



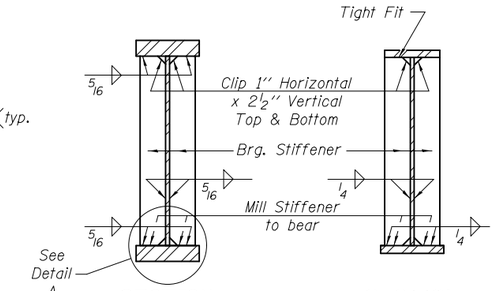
GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable. All plate girder flanges, webs, and bearing stiffeners shall be M270 Grade 50 steel.

**Use $^{13}/_{16}$" x $1^{7}/_{8}$" vertical slotted holes in $^{1}/_{2}$" PL at the north side of Girder 4 only. Provide $^{5}/_{16}$" PL washers for slotted holes. Bolts for slotted holes shall be finger tightened prior to the deck pour for Stage II Construction, and then be fully tightened after completion of the deck pour for Stage II Construction. Position slots so bolts start at one end with no concrete load and finish near the opposite end under deck load.

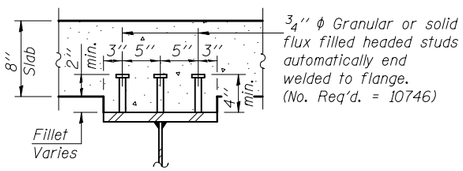


DETAIL A



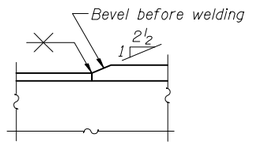
SECTION AT PIER

SECTION AT ABUTMENT



¾" ϕ Granular or solid flux filled headed studs automatically end welded to flange. (No. Req'd. = 10746)

SECTION A-A



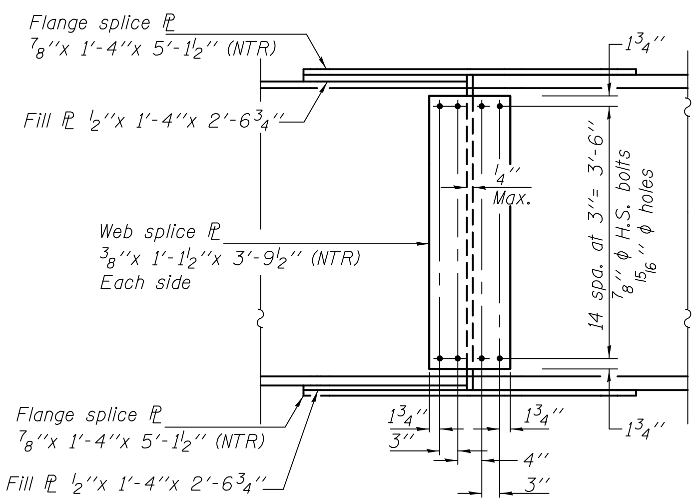
DETAIL B

*TOP OF GIRDER WEB ELEVATIONS

Location	℄ Brg. W. Abut.	℄ Brg. Pier 1	℄ Splice 1	℄ Brg. Pier 2	℄ Splice 2	℄ Splice 3	℄ Brg. Pier 3	℄ Splice 4	℄ Brg. Pier 4	℄ Brg. E. Abut.
Girder 1	428.60	429.21	429.34	429.89	429.92	429.92	429.89	429.34	429.21	428.60
Girder 2	428.74	429.36	429.49	430.04	430.07	430.07	430.04	429.48	429.35	428.74
Girder 3	428.86	429.47	429.60	430.15	430.18	430.18	430.15	429.60	429.47	428.86
Girder 4	428.86	429.47	429.60	430.15	430.18	430.18	430.15	429.60	429.47	428.86
Girder 5	428.74	429.35	429.48	430.04	430.07	430.07	430.05	429.48	429.35	428.74
Girder 6	428.60	429.21	429.34	429.89	429.92	429.92	429.89	429.34	429.21	428.60

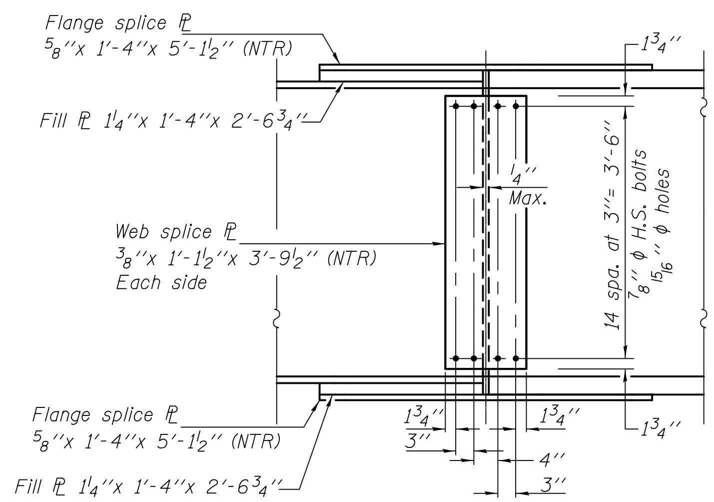
*For fabrication use only.

DESIGNED - Fesseha Teklehalmanot	EXAMINED		DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL STRUCTURE NO. 013-0042	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett		ENGINEER OF BRIDGE DESIGN				327	(7-2B)B-1	CLAY	147	56
DRAWN - h.t. duong	PASSED		REVISED		SHEET NO. 16 OF 34 SHEETS			CONTRACT NO. 74439		
CHECKED - F.T. / N.R.B. / G.R.A.		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED					ILLINOIS	FED. AID PROJECT	



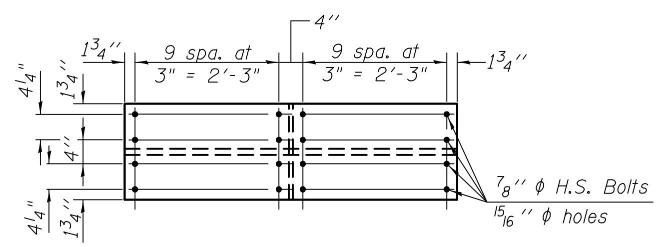
ELEVATION

SPLICES 1 & 4



ELEVATION

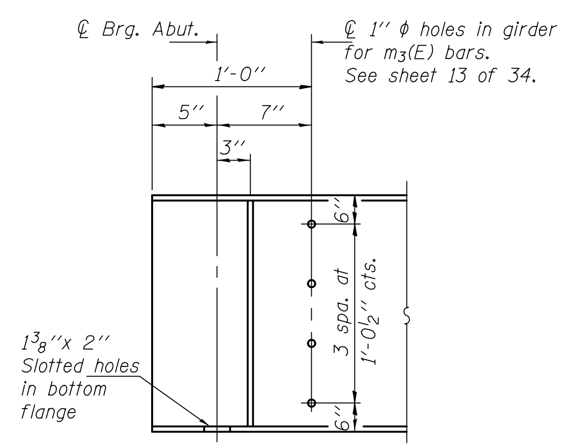
SPLICES 2 & 3



PLAN - TOP & BOTTOM FLANGE

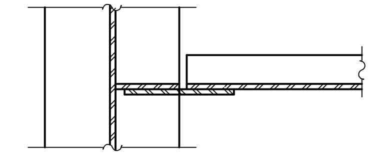
SPLICES 1, 2, 3, & 4

*Alternate channels C15x50 are permitted to facilitate material aquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized shall be provided at no extra cost to the Department.

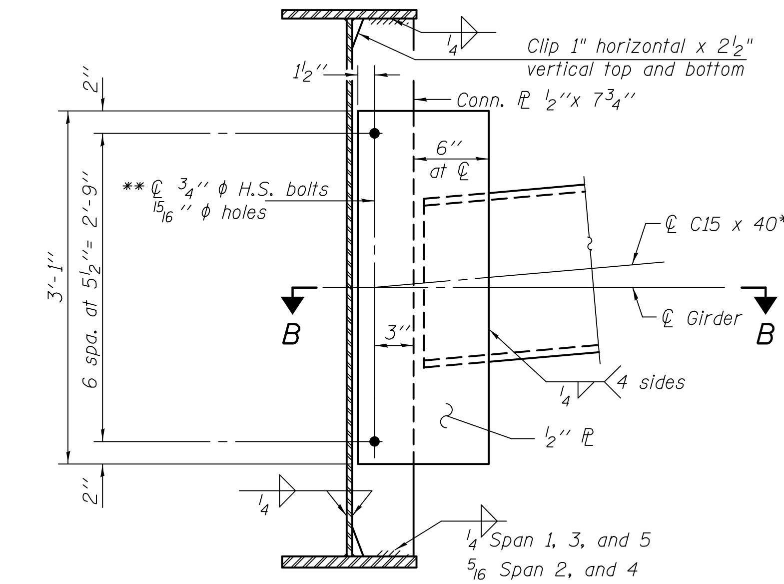


END OF GIRDER ELEVATION

Notes: Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
Two hardened washers shall be required for all oversized holes in diaphragms.
Omit connecting plates on exterior side of exterior girder.
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
All splice plate material shall be AASHTO M 270 Gr. 50 except fill plates.

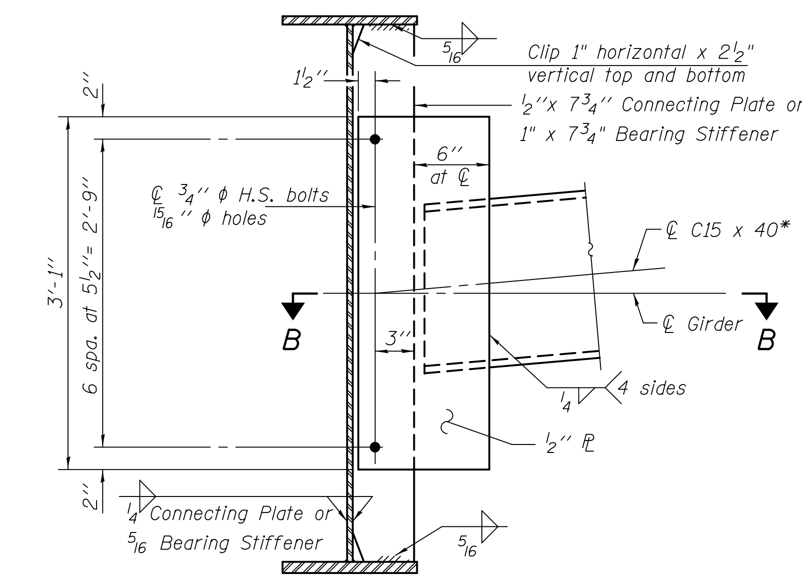


SECTION B-B



DIAPHRAGM D

(75 Required)



DIAPHRAGM D1

(60 Required)

DESIGNED - Fesseha Teklehaimanot	EXAMINED	DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - Nicholas R. Barnett	ENGINEER OF BRIDGE DESIGN		
DRAWN - h.t. duong	PASSED	REVISED	
CHECKED - F.T. / N.R.B. / G.R.A.	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED	

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 013-0042
SHEET NO. 17 OF 34 SHEETS

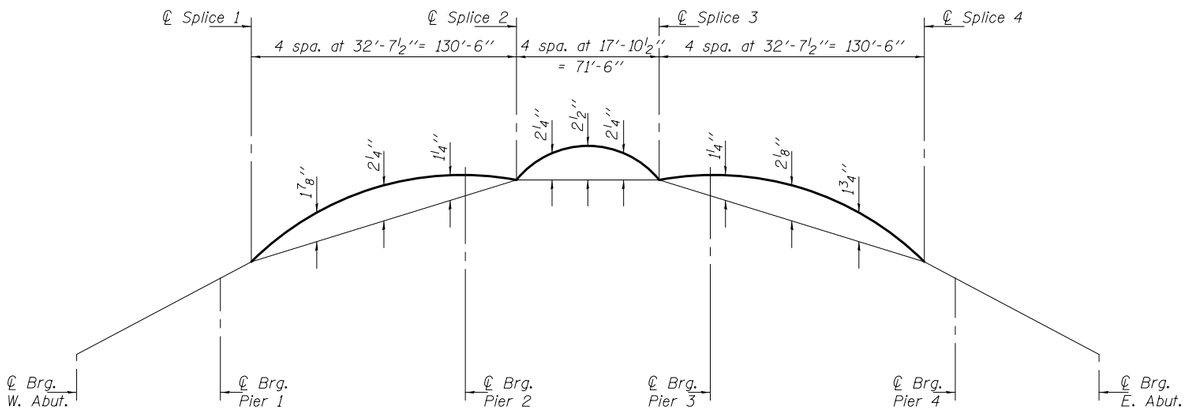
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	57

CONTRACT NO. 74439

ILLINOIS FED. AID PROJECT

INTERIOR GIRDER MOMENT TABLE - 5 SPAN SYMMETRICAL						
		0.4 Sp. 1 & 0.6 Sp. 5	Pier 1 & Pier 4	0.5 Sp. 2 & 0.5 Sp. 4	Pier 2 & Pier 3	0.5 Sp. 3
I_s	(in^4)	18869	34020	23819	44629	18869
$I_c(n)$	(in^4)	45055	68551	52978	83962	45055
$I_c(3n)$	(in^4)	33601	51527	39579	63619	33601
$I_c(cr)$	(in^4)	-	-	-	-	-
S_s	(in^3)	762	1334	953	1717	762
$S_c(n)$	(in^3)	1049	1665	1254	2079	1049
$S_c(3n)$	(in^3)	958	1539	1151	1930	958
$S_c(cr)$	(in^3)	-	-	-	-	-
DC1	(k/')	0.925	1.019	0.956	1.081	0.925
M_{DC1}	('k)	176	1043	551	1401	340
DC2	(k/')	0.150	0.150	0.150	0.150	0.150
M_{DC2}	('k)	32	156	92	210	64
DW	(k/')	0.363	0.363	0.363	0.363	0.363
M_{DW}	('k)	77	378	222	509	156
M_{L+IM}	('k)	965	1416	1210	1680	1154
M_u (Strength I)	('k)	2072	4525	3237	5707	2767
$\phi_f M_n$	('k)	5535	6725	4081	8412	5535
f_s DC1	(ksi)	2.8	9.4	6.9	9.8	5.4
f_s DC2	(ksi)	0.4	1.2	1.0	1.3	0.8
f_s DW	(ksi)	1.0	2.9	2.3	3.2	2.0
f_s (L+IM)	(ksi)	11.0	10.2	11.6	9.7	13.2
f_s (Service II)	(ksi)	18.5	26.8	25.3	26.9	25.3
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-	35.5	-	35.6	-
Vr	(k)	29.0	33.6	33.5	33	29.2

INTERIOR GIRDER REACTION TABLE - HL93 LOADING					
		W. Abut.	Pier 1 & Pier 4	Pier 2 & Pier 3	E. Abut.
R_{DC1}	(k)	19.5	105.9	123.5	19.5
R_{DC2}	(k)	3.3	16.2	18.6	3.3
R_{DW}	(k)	7.9	39.2	45.0	7.9
R_{L+IM}	(k)	79.1	155.6	169.7	79.1
R_{Total}	(k)	109.8	316.9	356.8	109.8



CAMBER DIAGRAM

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads ($in.^4$ and $in.^3$).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
$M_{L+IM} / S_c(n)$ or $M_{L+I} / S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

$0.95R_hF_yf$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s(L+IM)$

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

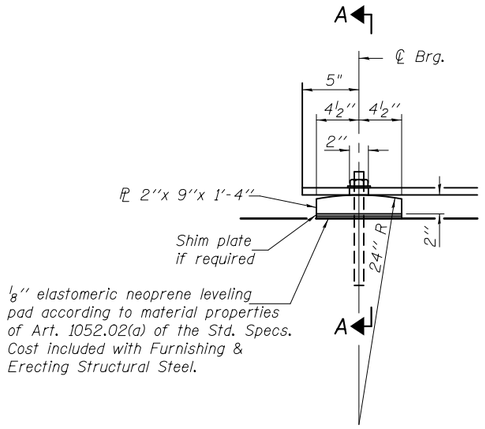
Vr: Maximum factored shear range in span computed according to Article 6.10.10.

DESIGNED -	Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016
CHECKED -	Nicholas R. Barnett		REVISED
DRAWN -	h.t. duong	PASSED	REVISED
CHECKED -	F.T. / N.R.B. / G.R.A.	ENGINEER OF BRIDGE DESIGN; ACTING ENGINEER OF BRIDGES AND STRUCTURES	

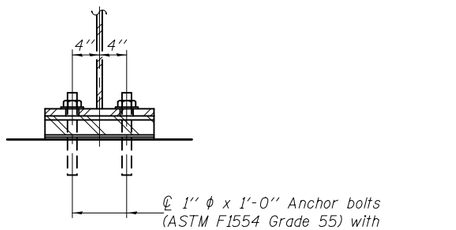
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 013-0042
SHEET NO. 18 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	58
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

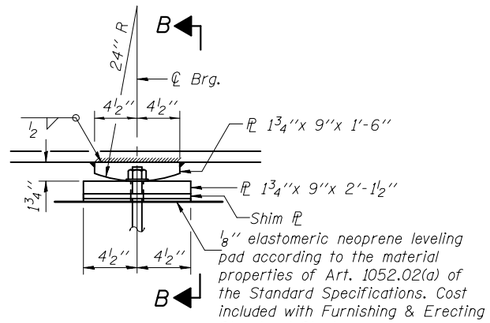


ELEVATION AT ABUTMENTS

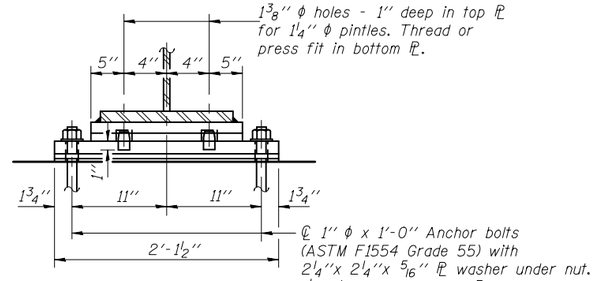


SECTION A-A

FIXED BEARING



ELEVATION AT PIERS 1 & 4



SECTION B-B

FIXED BEARING

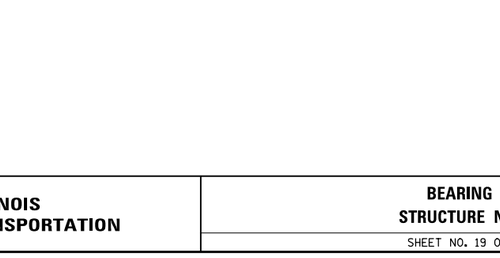
Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Art. 521.06 of the Standard Specifications.

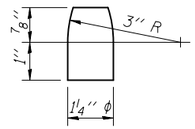
All bearing plates and pintles shall be M270 Grade 50 steel.



ELEVATION AT PIERS 2 & 3

SECTION B-B

FIXED BEARING



PINTLE

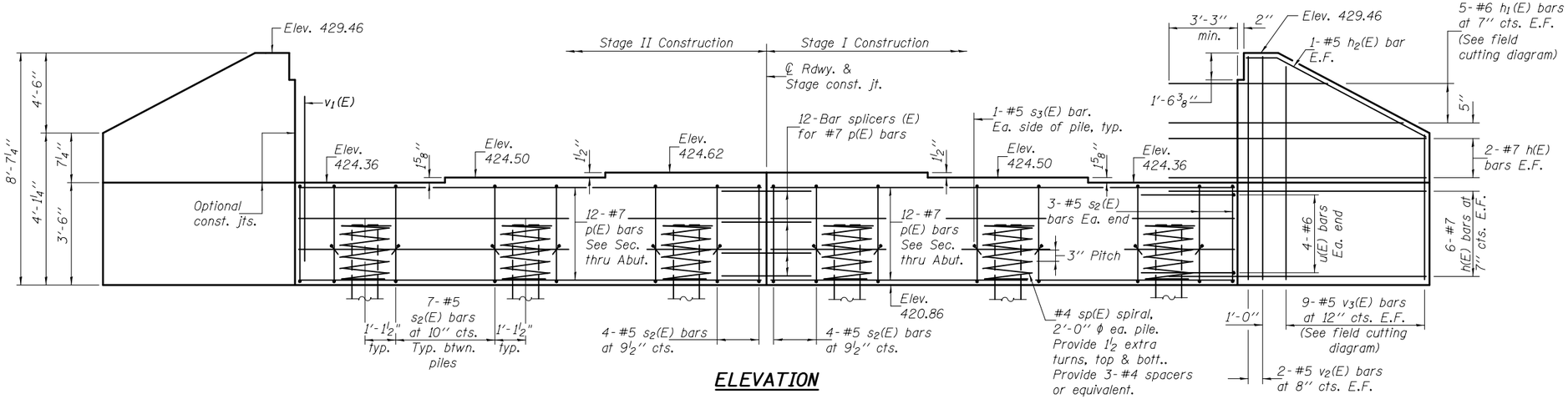
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Anchor Bolts 1"	Each	72

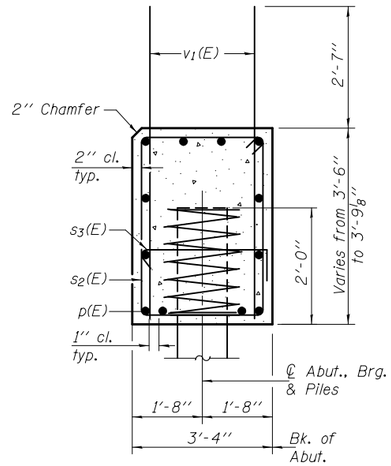
DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARING DETAILS STRUCTURE NO. 013-0042
CHECKED - Nicholas R. Barnett	PASSED	REVISED		SHEET NO. 19 OF 34 SHEETS
DRAWN - h.t. duong	ENGINEER OF BRIDGE DESIGN	REVISED		
CHECKED - F.T. / N.R.B. / G.R.A.	ACTING ENGINEER OF BRIDGES AND STRUCTURES			

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	59
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

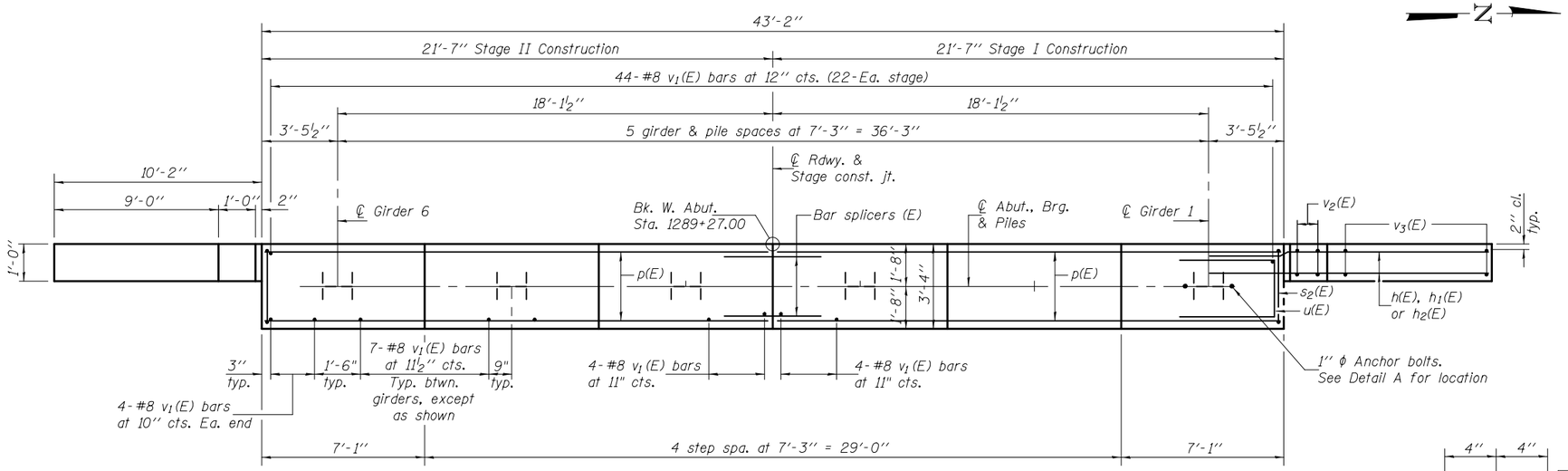
Notes:
Pour steps monolithically with cap.



ELEVATION



SEC. THRU ABUT.



PLAN

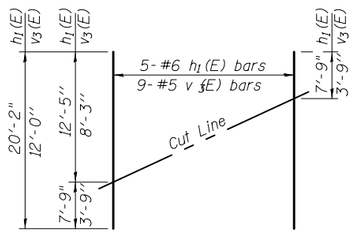
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#7	13'-3"	
h_1(E)	10	#6	20'-2"	
h_2(E)	4	#5	10'-7"	
p(E)	24	#7	21'-3"	
s_2(E)	42	#5	13'-3"	
s_3(E)	12	#5	4'-0"	
* sp(E)	6	#4	2'-0"	
u(E)	8	#6	10'-7"	
v_1(E)	88	#8	5'-11"	
v_2(E)	8	#5	8'-4"	
v_3(E)	18	#5	12'-0"	
Structure Excavation		Cu. Yd.	112.5	
Concrete Structures		Cu. Yd.	24.3	
Reinforcement Bars, Epoxy Coated		Pound	4,930	
Furnishing Steel Piles, HP14x89		Foot	492	
Driving Piles		Foot	492	

*Length is height of spiral.
For details of piles, see sheet 26 of 34.

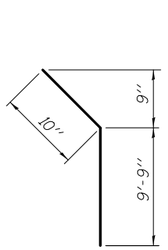
PILE DATA

Type: Steel Piles HP14x89
Nominal Required Bearing: 705 Kips
Factored Resistance Available: 388 Kips
Est. Length: 82'
No. Production Piles: 6
No. Test Piles: 0

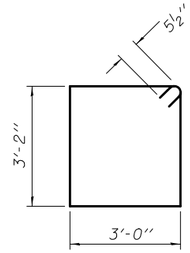


FIELD CUTTING DIAGRAM

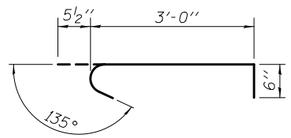
Order h_1(E) and v_3(E) full length. Cut as shown and use remainder of bars in opposite face.



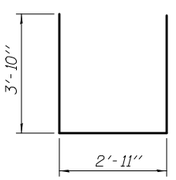
BAR h_2(E)



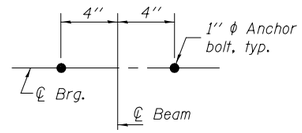
BAR s_2(E)



BAR s_3(E)



BAR u(E)

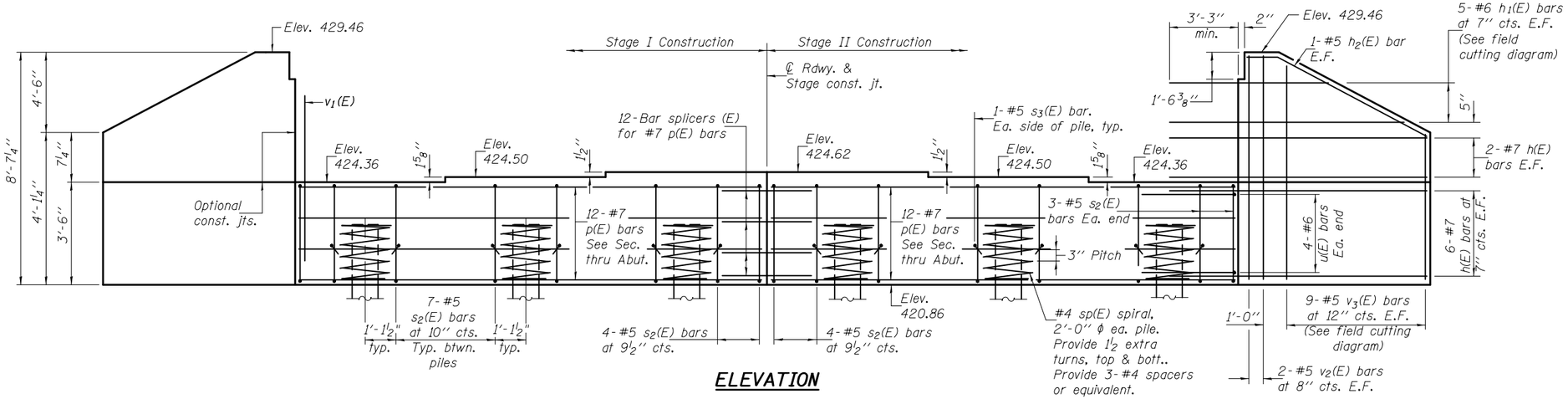


DETAIL A

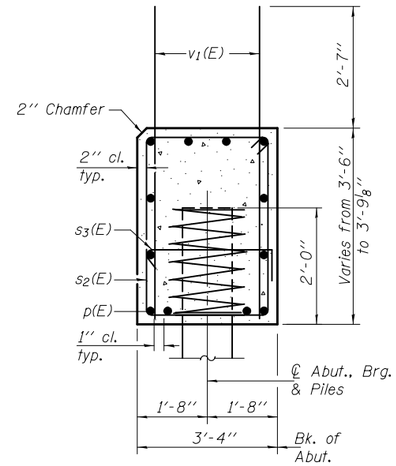
DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WEST ABUTMENT STRUCTURE NO. 013-0042
CHECKED - Nicholas R. Barnett	PASSED	REVISED		SHEET NO. 20 OF 34 SHEETS
DRAWN - h.t. duong	ENGINEER OF BRIDGE DESIGN	REVISED		
CHECKED - F.T. / N.R.B. / G.R.A.	ACTING ENGINEER OF BRIDGES AND STRUCTURES			

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	60
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		

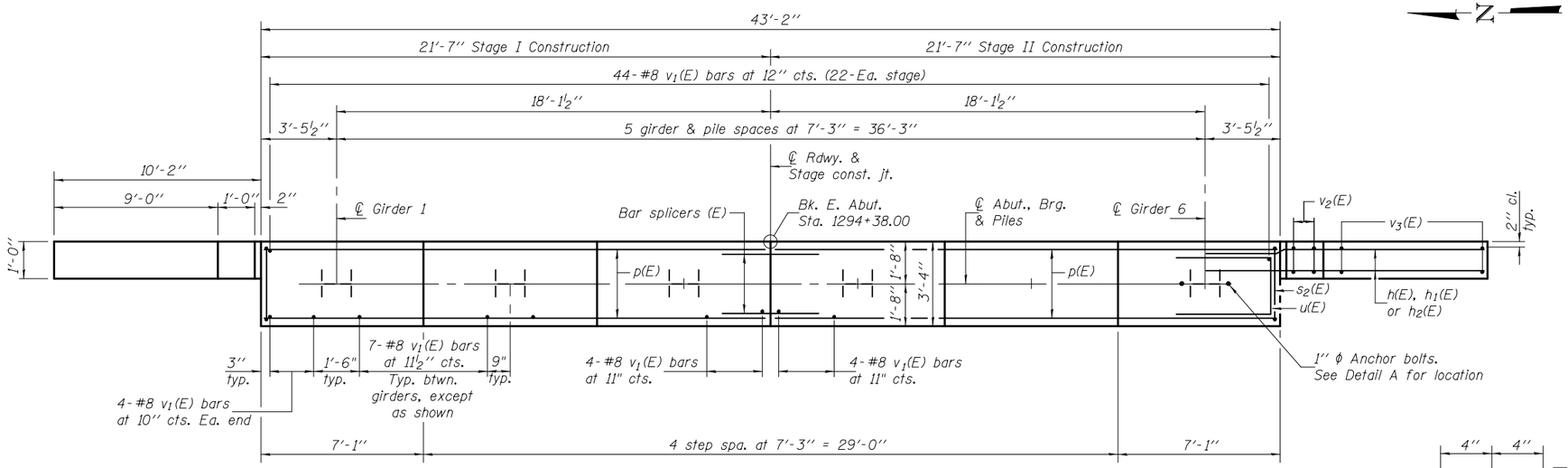
Notes:
Pour steps monolithically with cap.



ELEVATION



SEC. THRU ABUT.



PLAN

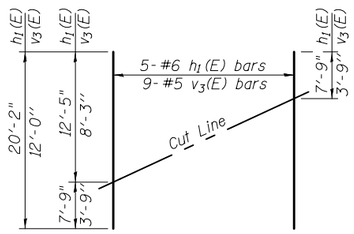
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#7	13'-3"	
h_1(E)	10	#6	20'-2"	
h_2(E)	4	#5	10'-7"	
p(E)	24	#7	21'-3"	
s_2(E)	42	#5	13'-3"	
s_3(E)	12	#5	4'-0"	
* sp(E)	6	#4	2'-0"	
u(E)	8	#6	10'-7"	
v_1(E)	88	#8	5'-11"	
v_2(E)	8	#5	8'-4"	
v_3(E)	18	#5	12'-0"	
Structure Excavation		Cu. Yd.	112.5	
Concrete Structures		Cu. Yd.	24.3	
Reinforcement Bars, Epoxy Coated		Pound	4,930	
Furnishing Steel Piles, HP14x89		Foot	582	
Driving Piles		Foot	582	

*Length is height of spiral.
For details of piles, see sheet 26 of 34.

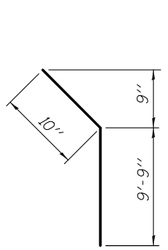
PILE DATA

Type: Steel Piles HP14x89
Nominal Required Bearing: 705 Kips
Factored Resistance Available: 388 Kips
Est. Length: 97'
No. Production Piles: 6
No. Test Piles: 0

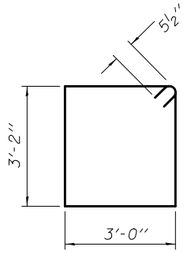


FIELD CUTTING DIAGRAM

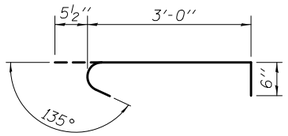
Order h_1(E) and v_3(E) full length. Cut as shown and use remainder of bars in opposite face.



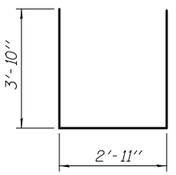
BAR h_2(E)



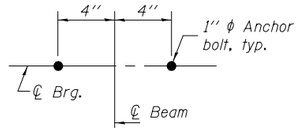
BAR s_2(E)



BAR s_3(E)



BAR u(E)



DETAIL A

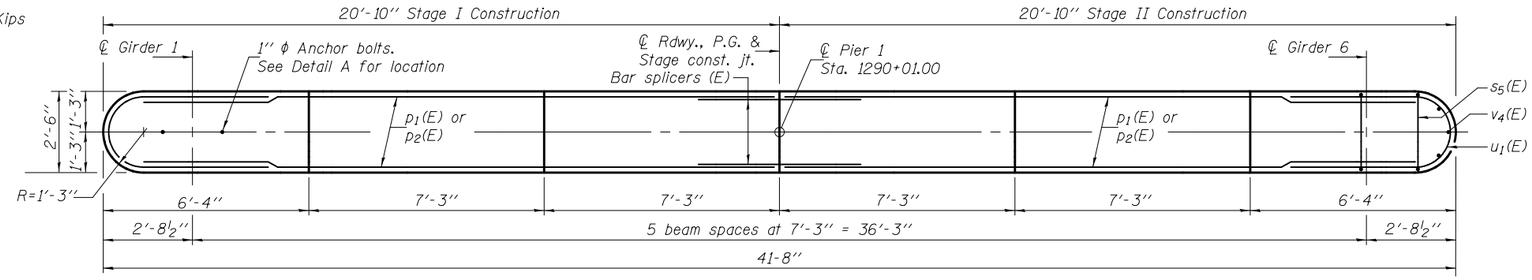
DESIGNED - Fesseha Teklehaimanot	EXAMINED	DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EAST ABUTMENT STRUCTURE NO. 013-0042
CHECKED - Nicholas R. Barnett	PASSED	REVISED		SHEET NO. 21 OF 34 SHEETS
DRAWN - h.t. duong	ENGINEER OF BRIDGE DESIGN	REVISED		
CHECKED - F.T. / N.R.B. / G.R.A.	ACTING ENGINEER OF BRIDGES AND STRUCTURES			

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	61
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		

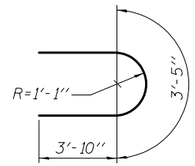
PILE DATA

Type: Steel HP 14x73
Nominal Required Bearing: 578 Kips
Factored Resistance Available: 318 Kips
Est. Length: 86'
No. Production Piles: 7
No. Test Piles: 1

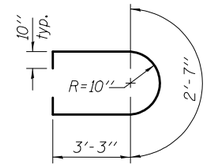
Notes:
Pour steps monolithically with cap.
For bar splicer details, see sheet 28 of 34.



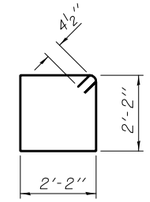
TOP PLAN



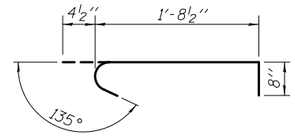
BAR u_1(E)



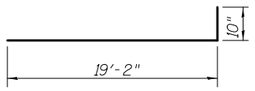
BAR u_2(E)



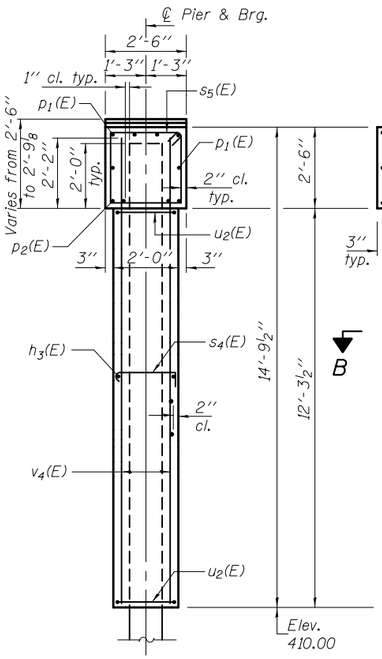
BAR s_5(E)



BAR s_4(E)

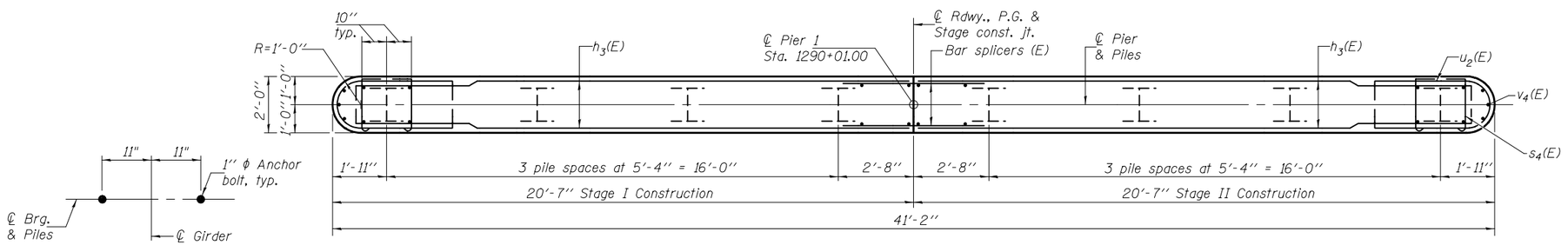


BAR h_3(E)



END VIEW

ELEVATION
(Looking East)



SECTION B-B

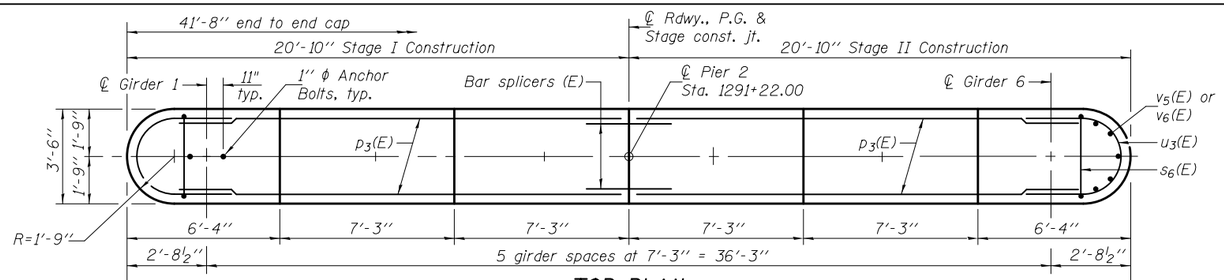
DETAIL A

BILL OF MATERIAL

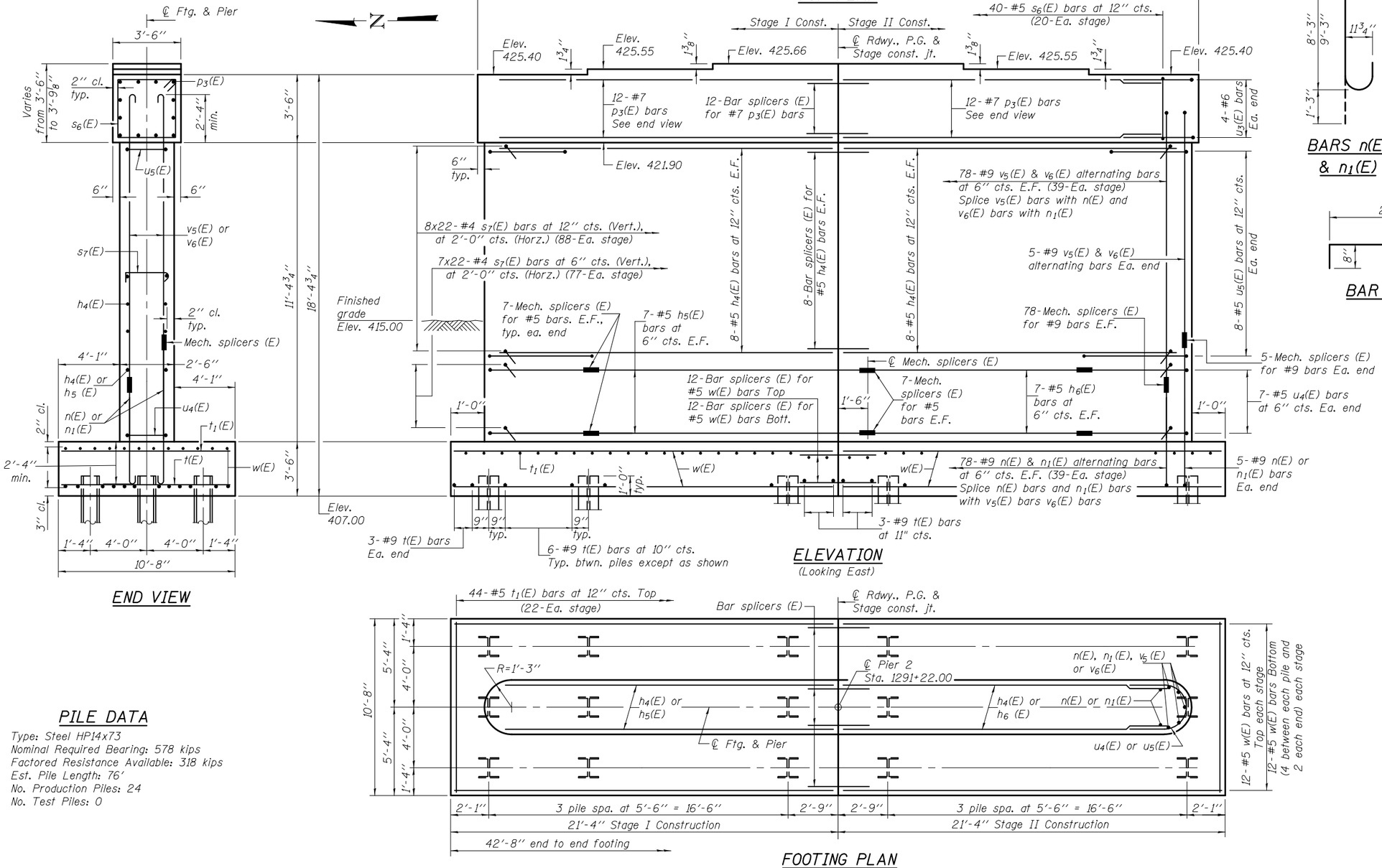
Bar	No.	Size	Length	Shape
h_3(E)	52	#5	20'-0"	
p_1(E)	12	#8	19'-5"	
p_2(E)	8	#9	19'-5"	
s_4(E)	208	#4	2'-9"	
s_5(E)	38	#4	9'-5"	
u_1(E)	6	#6	11'-1"	
u_2(E)	26	#5	10'-9"	
v_4(E)	98	#5	14'-4"	
Structure Excavation		Cu. Yd.	50.2	
Concrete Structures		Cu. Yd.	47.1	
Reinforcement Bars, Epoxy Coated		Pound	4,710	
Furnishing Steel Piles HP14x73		Foot	602	
Driving Piles		Foot	602	
Test Piles Steel HP14x73		Each	1	

DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 1 STRUCTURE NO. 013-0042	F.A.P. RTE. 327 / SECTION (7-2B)B-1 / COUNTY CLAY / TOTAL SHEETS 147 / SHEET NO. 62
CHECKED - Nicholas R. Barnett	ENGINEER OF BRIDGE DESIGN				CONTRACT NO. 74439
DRAWN - h.t. duong	PASSED	REVISED		SHEET NO. 22 OF 34 SHEETS	ILLINOIS FED. AID PROJECT
CHECKED - F.T. / N.R.B. / G.R.A.	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			

Notes: Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For bar splicer details, see sheet 28 of 34.
For details of piles, see sheet 26 of 34.



TOP PLAN



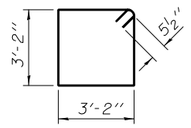
END VIEW

ELEVATION
(Looking East)

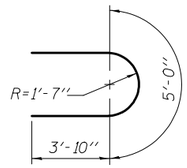
FOOTING PLAN

PILE DATA

Type: Steel HP14x73
Nominal Required Bearing: 578 kips
Factored Resistance Available: 318 kips
Est. Pile Length: 76'
No. Production Piles: 24
No. Test Piles: 0

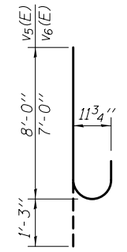


BAR s6(E)

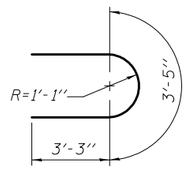


BAR u3(E)

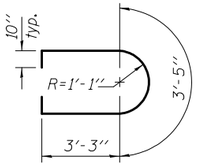
BARS n(E) & n1(E)



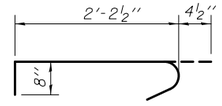
BARS v5(E) & v6(E)



BAR u4(E)



BAR u5(E)



BAR s7(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h4(E)	32	#5	18'-11"	—
h5(E)	14	#5	17'-4"	—
h6(E)	14	#5	14'-4"	—
n(E)	83	#9	9'-6"	⊐
n1(E)	83	#9	10'-6"	⊐
p3(E)	24	#7	18'-11"	—
s6(E)	40	#5	13'-7"	⊓
s7(E)	330	#4	3'-3"	⊓
t(E)	48	#9	10'-4"	—
t1(E)	44	#5	10'-4"	—
u3(E)	8	#6	12'-8"	⊐⊐
u4(E)	14	#5	9'-11"	⊐⊐
u5(E)	16	#5	11'-7"	⊐⊐
v5(E)	83	#9	9'-3"	⊐
v6(E)	83	#9	8'-3"	⊐
w(E)	48	#5	21'-0"	—
Structure Excavation		Cu. Yd.	202.8	
Concrete Structures		Cu. Yd.	120.6	
Reinforcement Bars, Epoxy Coated		Pound	17,590	
Furnishing Steel Piles HP14x73		Foot	1,824	
Driving Piles		Foot	1,824	
Mechanical Splicers		Each	208	

DESIGNED -	Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016
CHECKED -	Nicholas R. Barnett		ENGINEER OF BRIDGE DESIGN
DRAWN -	h.t. duong	PASSED	ACTING ENGINEER OF BRIDGES AND STRUCTURES
CHECKED -	F.T. / N.R.B. / G.R.A.		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

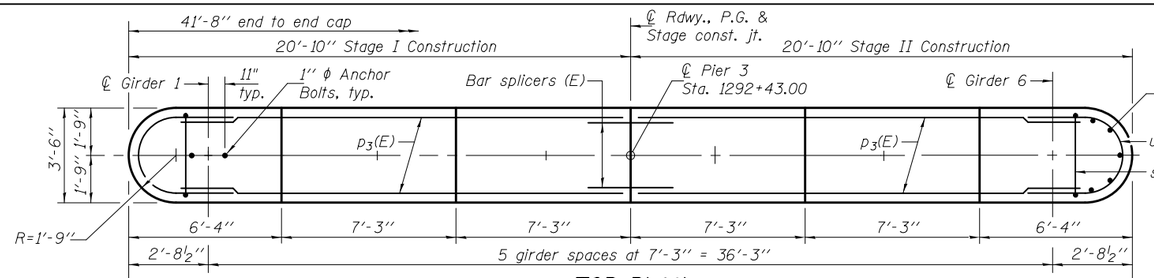
PIER 2
STRUCTURE NO. 013-0042
SHEET NO. 23 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	63
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		

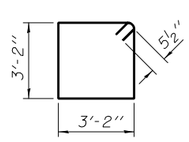
Notes: Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For bar splicer details, see sheet 28 of 34.
For details of piles, see sheet 26 of 34.

PILE DATA

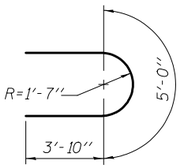
Type: Steel HP12x63
Nominal Required Bearing: 497 kips
Factored Resistance Available: 273 kips
Est. Pile Length: 70'
No. Production Piles: 30
No. Test Piles: 0



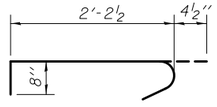
TOP PLAN



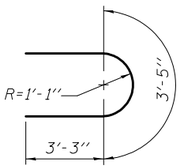
BAR $s_6(E)$



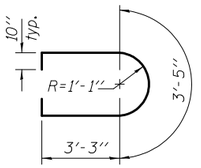
BAR $u_3(E)$



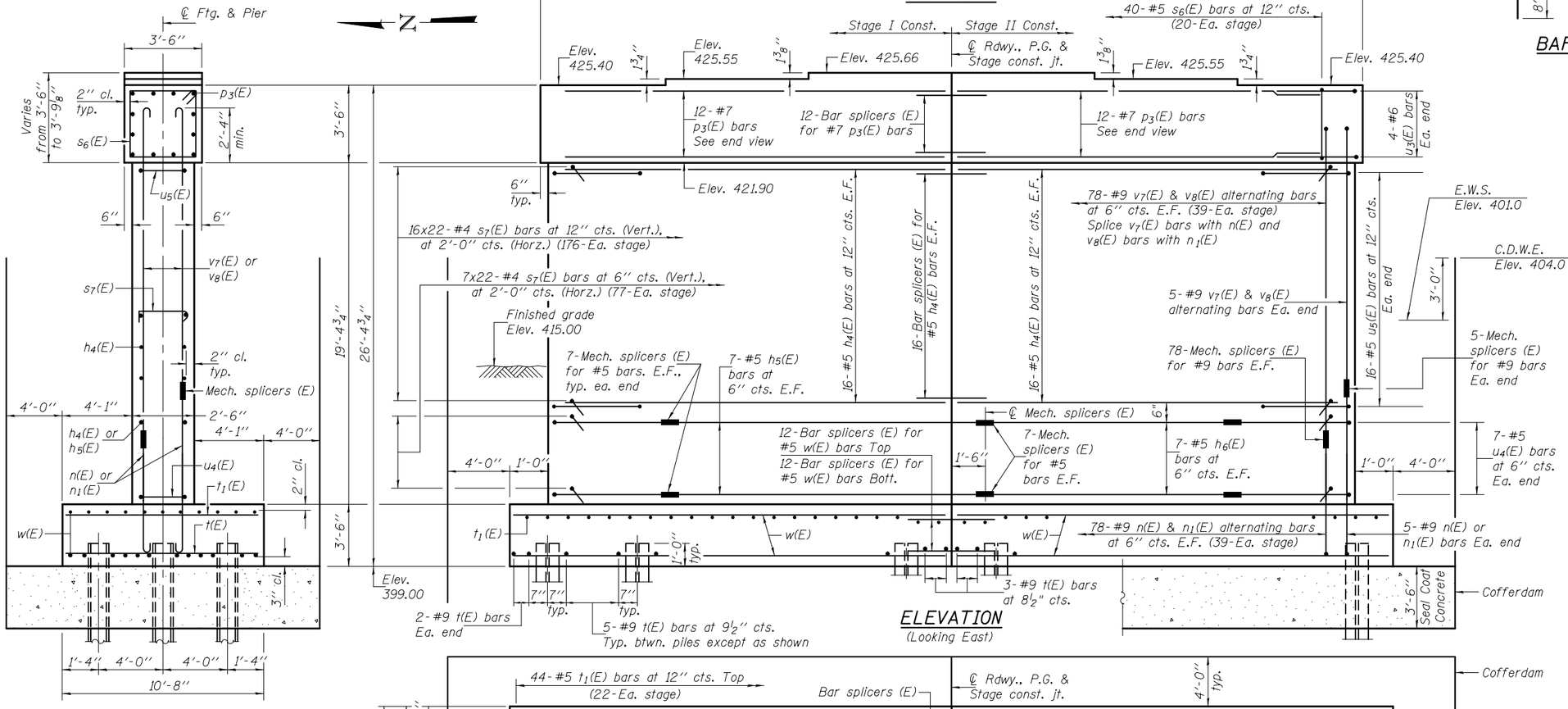
BAR $s_7(E)$



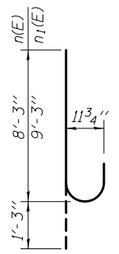
BAR $u_4(E)$



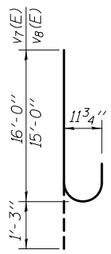
BAR $u_5(E)$



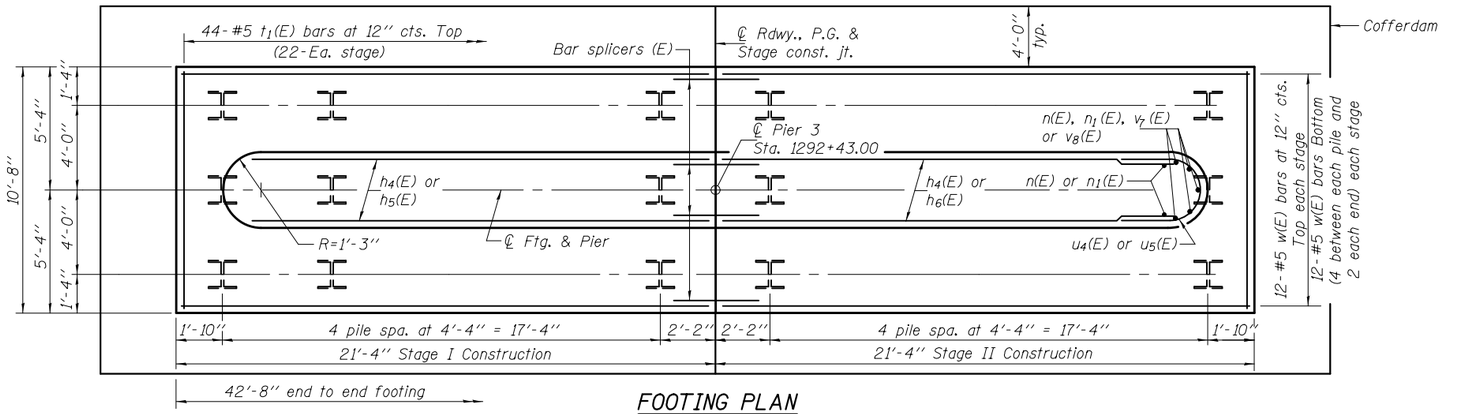
END VIEW



BARS $n(E)$ & $n_1(E)$



BARS $v_7(E)$ & $v_8(E)$



FOOTING PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_4(E)$	64	#5	18'-11"	—
$h_5(E)$	14	#5	17'-4"	—
$h_6(E)$	14	#5	14'-4"	—
$n(E)$	83	#9	9'-6"	⊔
$n_1(E)$	83	#9	10'-6"	⊔
$p_3(E)$	24	#7	18'-11"	—
$s_6(E)$	40	#5	13'-7"	⊓
$s_7(E)$	506	#4	3'-3"	⊓
$t(E)$	50	#9	10'-4"	—
$t_1(E)$	44	#5	10'-4"	—
$u_3(E)$	8	#6	12'-8"	⊔⊔
$u_4(E)$	14	#5	9'-11"	⊔
$u_5(E)$	32	#5	11'-7"	⊔⊔
$v_7(E)$	83	#9	17'-3"	⊔
$v_8(E)$	83	#9	16'-3"	⊔
$w(E)$	48	#5	21'-0"	—
Concrete Structures		Cu. Yd.	150.4	
Reinforcement Bars, Epoxy Coated		Pound	23,380	
Furnishing Steel Piles HP12x63		Foot	2,100	
Driving Piles		Foot	2,100	
Cofferdam Excavation		Cu. Yd.	683.1	
Cofferdam, Location 1		Each	1	
Mechanical Splicers		Each	208	
Seal Coat Concrete		Cu. Yd.	122.6	

DESIGNED -	Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016
CHECKED -	Nicholas R. Barnett	PASSED	REVISED
DRAWN -	h.t. duong		REVISED
CHECKED -	F.T. / N.R.B. / G.R.A.		

ENGINEER OF BRIDGE DESIGN
ACTING ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

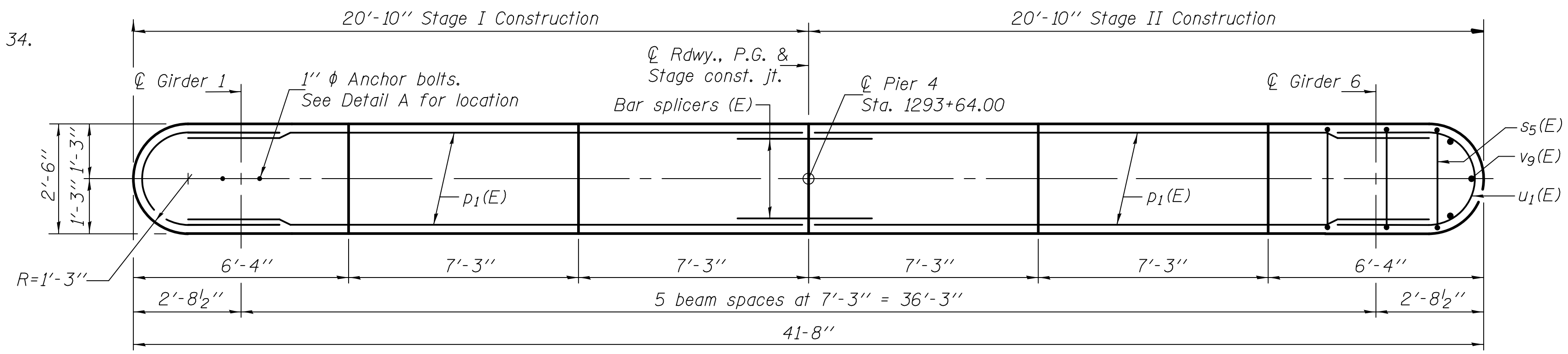
PIER 3
STRUCTURE NO. 013-0042
SHEET NO. 24 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	64
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		

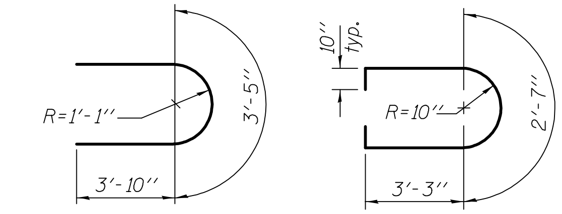
Notes: Pour steps monolithically with cap.
For bar splicer details, see sheet 28 of 34.

PILE DATA

Type: Steel HP 12x84
Nominal Required Bearing: 664 Kips
Factored Resistance Available: 365 Kips
Est. Length: 95'
No. Production Piles: 11
No. Test Piles: 1

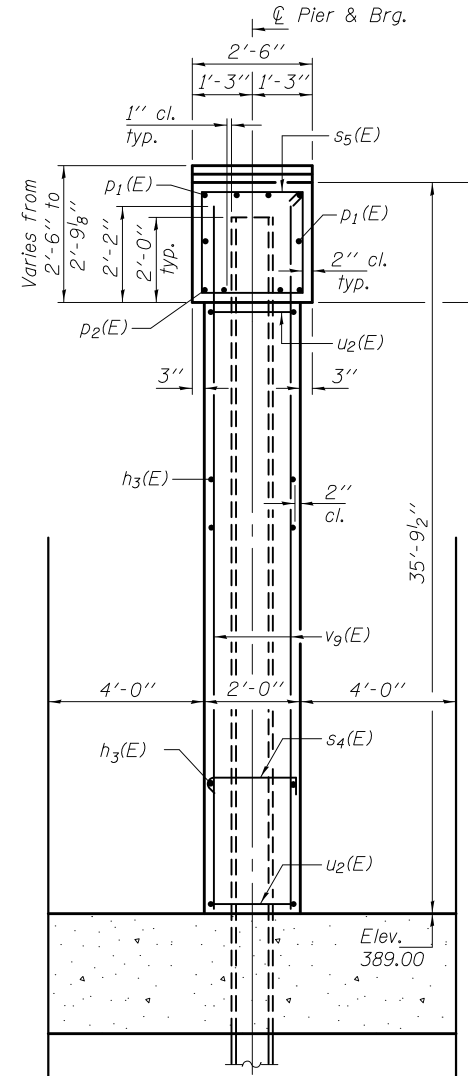


TOP PLAN

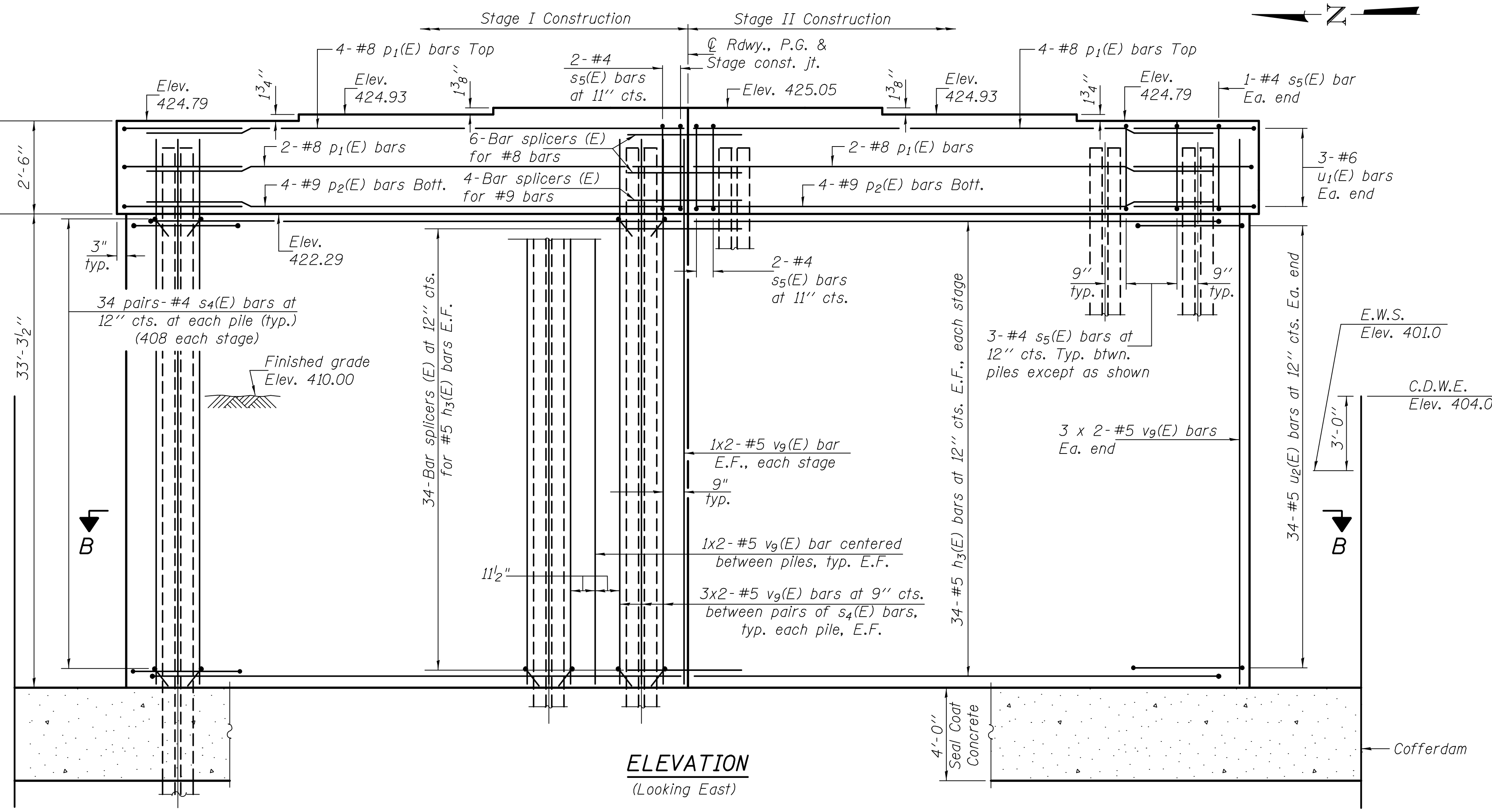


BAR u_1(E)

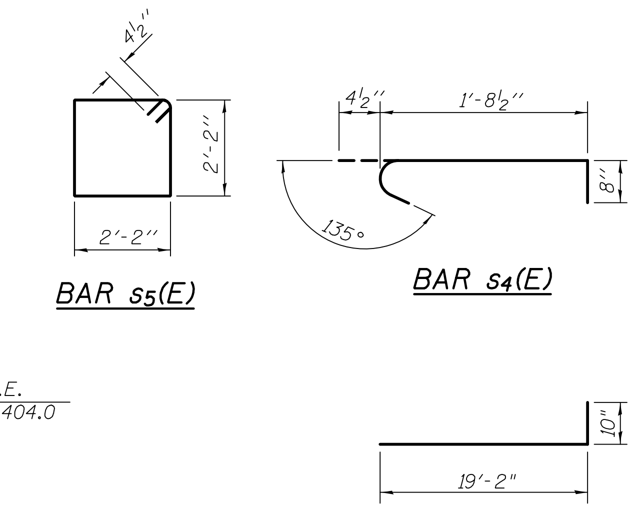
BAR u_2(E)



END VIEW



ELEVATION
(Looking East)



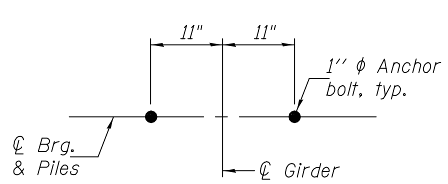
BAR s_5(E)

BAR s_4(E)

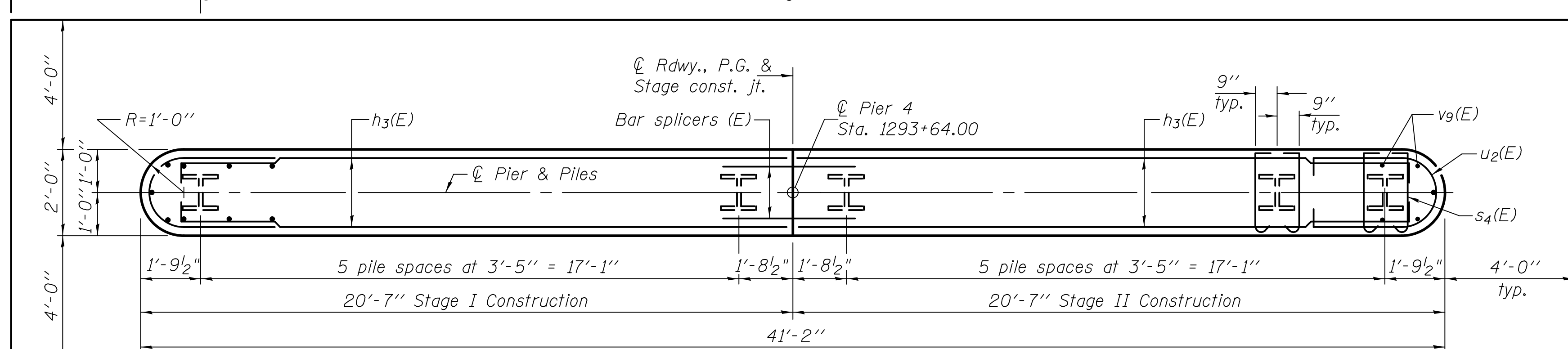
BAR h_3(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_3(E)	136	#5	20'-0"	
p_1(E)	12	#8	19'-5"	
p_2(E)	8	#9	19'-5"	
s_4(E)	816	#4	2'-9"	
s_5(E)	36	#4	9'-5"	
u_1(E)	6	#6	11'-1"	
u_2(E)	68	#5	10'-9"	
v_9(E)	204	#5	19'-3"	
Concrete Structures			Cu. Yd.	110.1
Reinforcement Bars, Epoxy Coated			Pound	10,670
Furnishing Steel Piles HP12x84			Foot	1,045
Driving Piles			Foot	1,045
Test Piles Steel HP12x84			Each	1
Cofferdam Excavation			Cu. Yd.	455.2
Cofferdam, Location 2			Each	1
Seal Coat Concrete			Cu. Yd.	72.8



DETAIL A



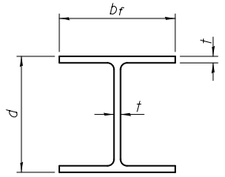
SECTION B-B

DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 4 STRUCTURE NO. 013-0042
CHECKED - Nicholas R. Barnett	ENGINEER OF BRIDGE DESIGN	REVISED		
DRAWN - h.t. duong	PASSED	REVISED		
CHECKED - F.T. / N.R.B. / G.R.A.	ACTING ENGINEER OF BRIDGES AND STRUCTURES			SHEET NO. 25 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	65

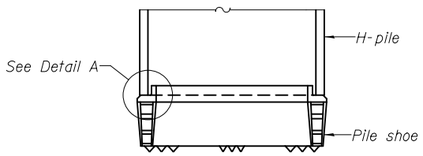
CONTRACT NO. 74439

ILLINOIS FED. AID PROJECT

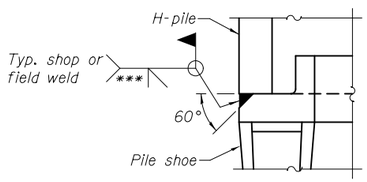


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"

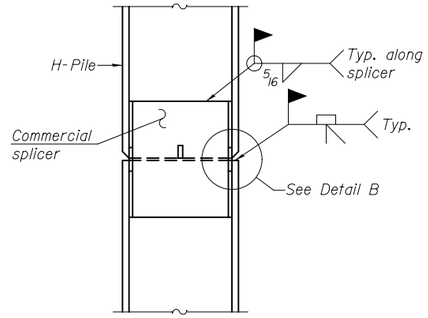


ELEVATION

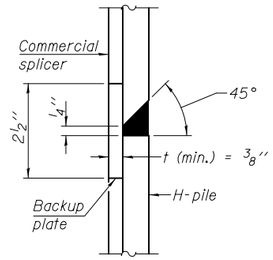


DETAIL A

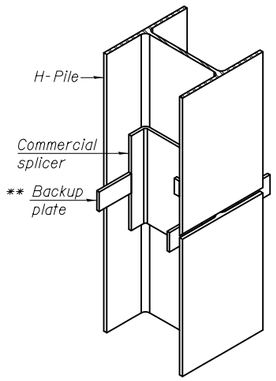
H-PILE SHOE ATTACHMENT



ELEVATION

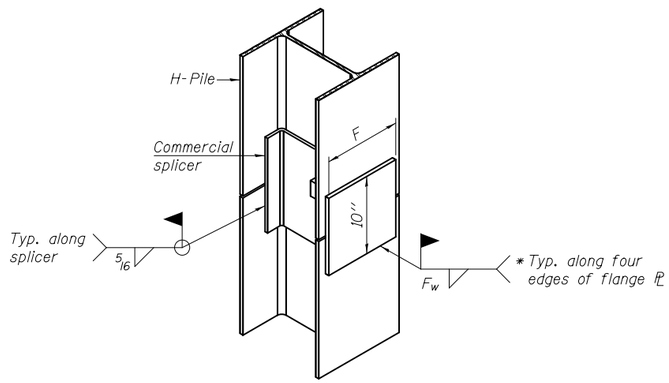


DETAIL "B"

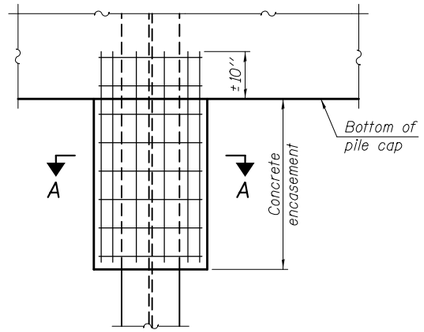


ISOMETRIC VIEW

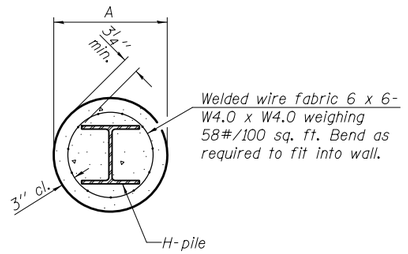
WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW



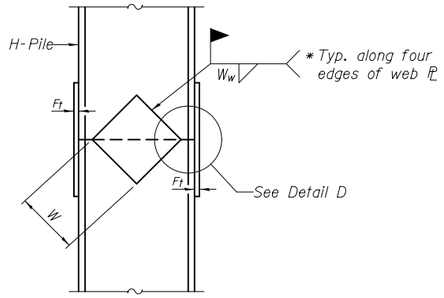
ELEVATION



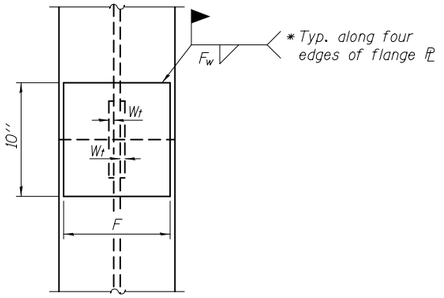
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

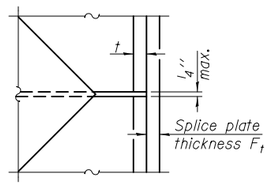
PILE ENCASEMENT



ELEVATION



END VIEW



DETAIL D

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds 1/4" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

F-HP 1-27-12

DESIGNED	-	Fesseha Teklehalmanot
CHECKED	-	Nicholas R. Barnett
DRAWN	-	h.t. duong
CHECKED	-	F.T. / N.R.B. / G.R.A.

EXAMINED

PASSED

Joyce F. Hibbs
ENGINEER OF BRIDGE DESIGN
A. Carl Preuss II
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - OCTOBER 6, 2016

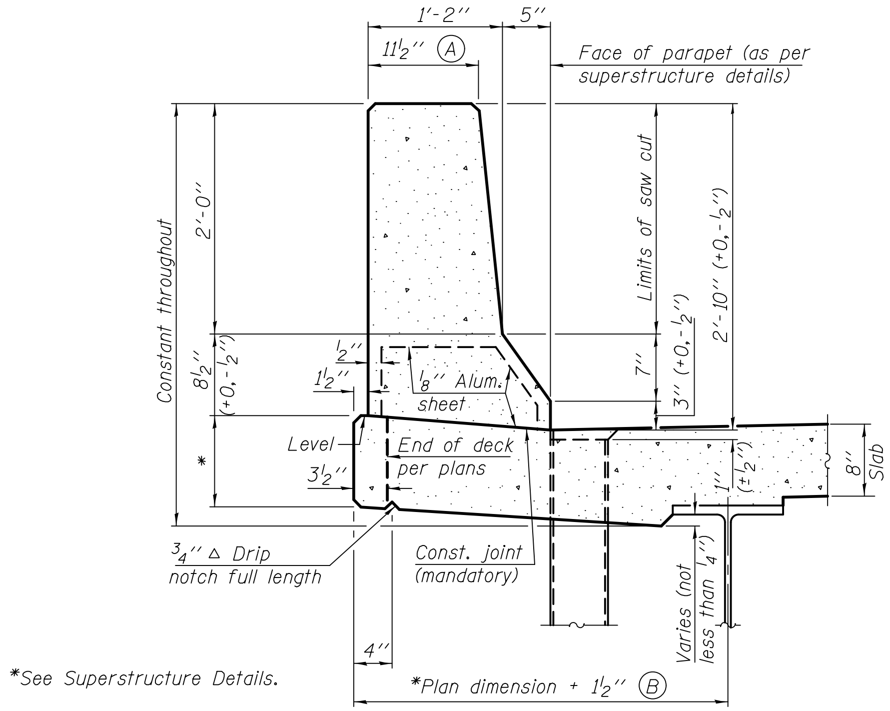
REVISED

REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 013 - 0042
SHEET NO. 26 OF 34 SHEETS

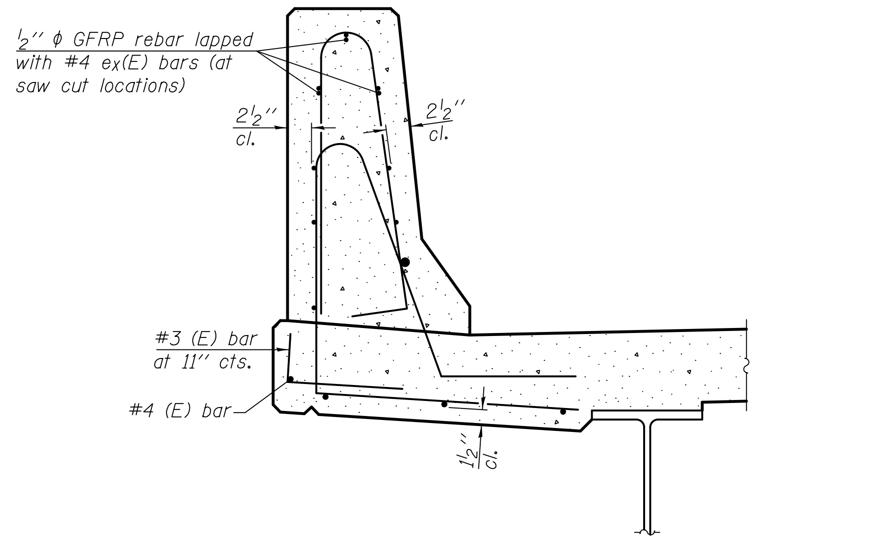
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	66
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		



*See Superstructure Details.

34'' F SHAPE PARAPET SECTION

(Showing dimensions)



SECTION

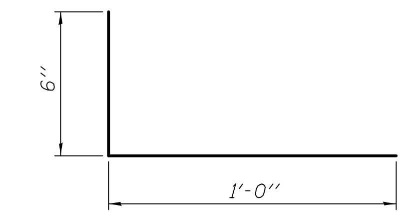
(34'' parapet shown - 42'' parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)

GENERAL NOTES

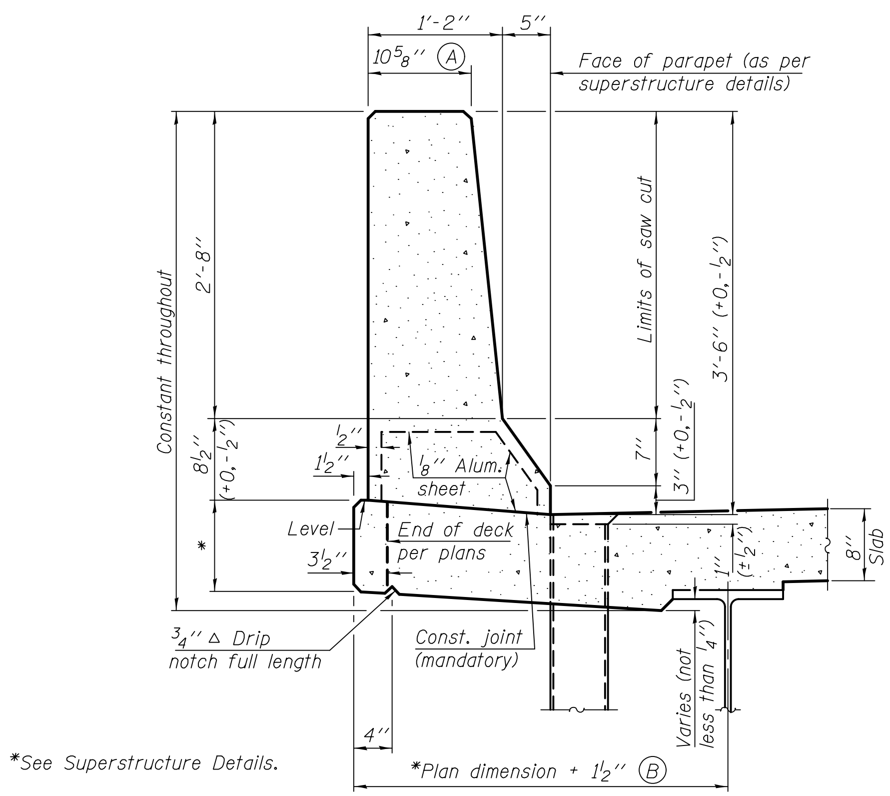
All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34'' parapet or = 0.0223 cu. yds./ft. for 42'' parapet.

Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.

Steel superstructure shown. Other superstructure types similar.



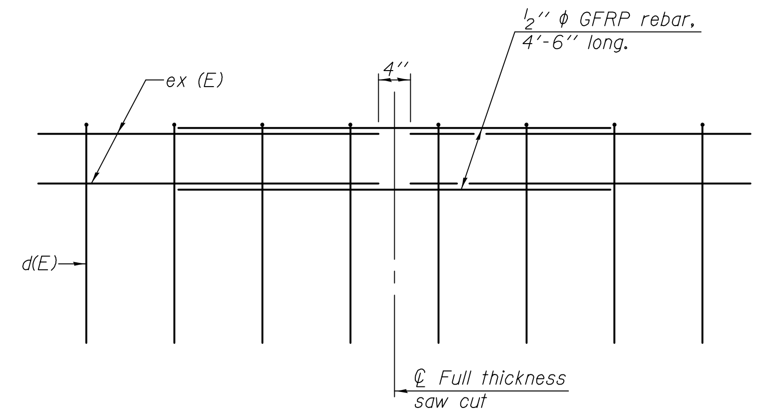
#3 (E) BAR



*See Superstructure Details.

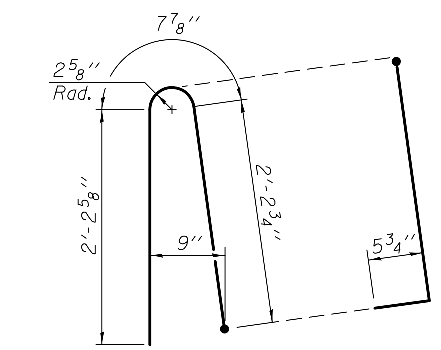
42'' F SHAPE PARAPET SECTION

(Showing dimensions)



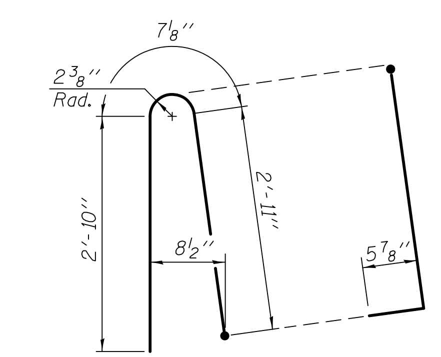
GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)



ALTERNATE BAR d(E)

(For 34'' parapet when conduit is present)



ALTERNATE BAR d(E)

(For 42'' parapet when conduit is present)

SFP 34-42 8-16-12

DESIGNED - Fesseha Teklehaimanot	EXAMINED	ENGINEER OF BRIDGE DESIGN	DATE - OCTOBER 6, 2016
CHECKED - Nicholas R. Barnett			
DRAWN - h.t. duong	PASSED	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED - F.T. / N.R.B. / G.R.A.			REVISED

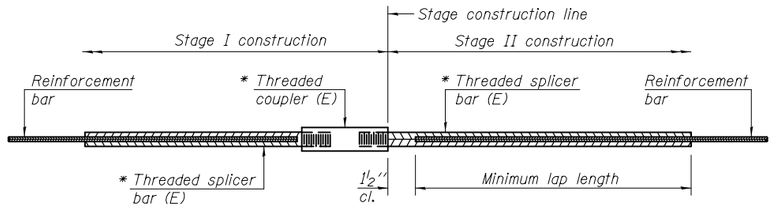
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 013 – 0042

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	67

CONTRACT NO. 74439

ILLINOIS FED. AID PROJECT

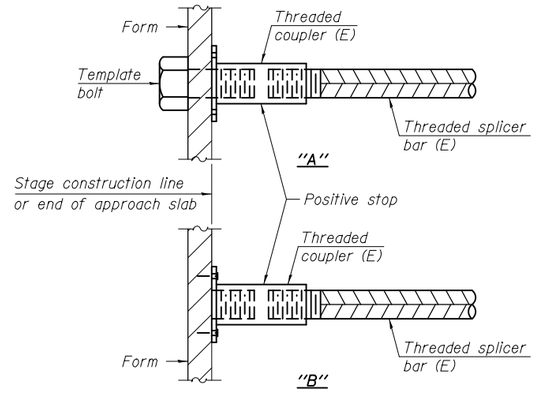


STANDARD BAR SPLICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1½" + thread length

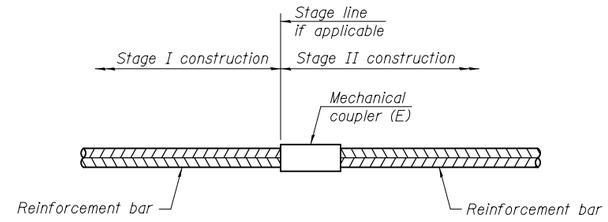
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Appr. Slab	#4	50	2'-4"
Deck, Appr. Slab, Appr. Footing, Pier Wall, & Pier Footing	#5	2,152	3'-3"
Diaphragm	#6	18	3'-6"
Abut. & Pier Cap	#7	48	4'-8"
Pier Caps	#8	12	6'-2"
Pier Caps	#9	8	7'-9"



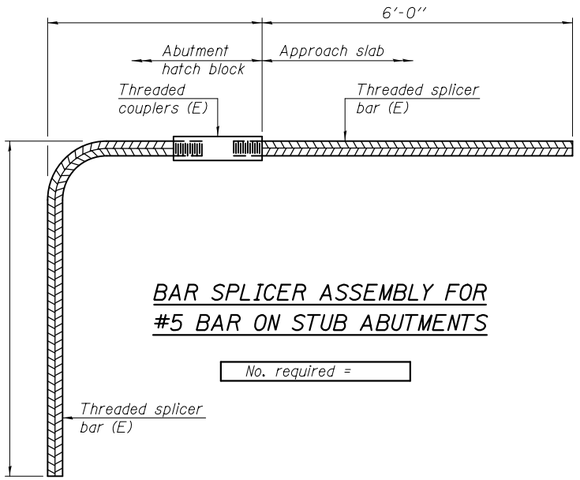
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Pier 2	#5	42
Pier 2	#9	166
Pier 3	#5	42
Pier 3	#9	166



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 6-8-15

DESIGNED - Fesseha Teklehalmanot	EXAMINED	Joyne F. Hebb ENGINEER OF BRIDGE DESIGN	DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS STRUCTURE NO. 013-0042
CHECKED - Nicholas R. Barnett	PASSED	A. Carl Provo ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 28 OF 34 SHEETS
DRAWN - h.t. duong			REVISED		
CHECKED - F.T. / N.R.B. / G.R.A.					

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	68
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

SOIL BORING LOG

Date 7/27/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION SW 1/4, SEC. 14 , TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0005
Station 1291+66

BORING NO. 1
Station 1292+47
Offset 24.40ft Lt
Ground Surface Elev. 415.0 ft

Surface Water Elev. 403.0 ft
Stream Bed Elev. 391.4 ft

Groundwater Elev.:
First Encounter 395.5 ft
Upon Completion 403.0 ft
After 24 Hrs. 405.0 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Very soft, very damp, brown to gray, SILTY LOAM.
	4			
	5	1.0	19	
	6	PP		
-5	3			
	3	0.6	23	
	3	B		
	0			
	0	0.3	23	
	1	B		
-10	0			
	0	0.1	29	
	0	B		
	0			
	0	0.1	29	
	0	B		
400.5				
-15	0			Very soft, wet, gray, SANDY LOAM w/ several wood chunks.
	1	0.1	33	
	1	B		
	0			
	1	0.1	119	
396.7	1	B		
				Very loose, wet, gray, fine grained, SAND.
395.0 -20	0			
				Very loose, wet, gray, fine grained, SAND. 9% passing #200 sieve.
	3		22	
	3			
	0			
	0		23	
	0			7% passing #200 sieve.
-25	0			
	0		22	
	0			4% passing #200 sieve.
389.2				
				Gray, SILTY LOAM.
388.0				
	6			Very loose, wet, gray, fine grained, SAND. 6% passing #200 sieve.
	11		20	
	13			
-30	9			
	12		17	
	11			4% passing #200 sieve.
-35	6			
	5		19	
	10			6% passing #200 sieve.
375.5				
-40	3			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

SOIL BORING LOG

Date 7/27/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION SW 1/4, SEC. 14 , TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0005
Station 1291+66

BORING NO. 1
Station 1292+47
Offset 24.40ft Lt
Ground Surface Elev. 415.0 ft

Surface Water Elev. 403.0 ft
Stream Bed Elev. 391.4 ft

Groundwater Elev.:
First Encounter 395.5 ft
Upon Completion 403.0 ft
After 24 Hrs. 405.0 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	3	0.1	12	Very soft, wet, gray, SANDY LOAM w/ fine gravel. (continued)
	4	S		
370.5				
-45	9			Very stiff, damp, gray, CLAY TILL.
	12	3.9	10	
	16	B		
-50	10			
	17	4.8	9	
	21	B		
-55				
-60	5			
				Very stiff, damp, gray, CLAY TILL. (continued)
	8	2.1	10	
	11	B		
-65				
-70	6			
	11	4.5	10	
	17	B		
-75				
-80	48			
335.5				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOIL BORING LOGS STRUCTURE NO. 013–0042	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett					327	(7-2B)B-1	CLAY	147	69
DRAWN - h.t. duong	PASSED	REVISED						CONTRACT NO. 74439	
CHECKED - F.T. / N.R.B. / G.R.A.	ENGINEER OF BRIDGE DESIGN ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 29 OF 34 SHEETS			ILLINOIS	FED. AID PROJECT	

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

SOIL BORING LOG

Date 7/27/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION SW 1/4, SEC. 14 , TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0005
Station 1291+66

BORING NO. 1
Station 1292+47
Offset 24.40ft Lt
Ground Surface Elev. 415.0 ft

Surface Water Elev. 403.0 ft
Stream Bed Elev. 391.4 ft

Groundwater Elev.:
First Encounter 395.5 ft
Upon Completion 403.0 ft
After 24 Hrs. 405.0 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
Very dense, moist, gray, SANDY CLAY SHALE, (continued) 334.9	50/1"			
Borehole continued with rock coring.	50/0"			
-85				
-90				
-95				
-100				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

ROCK BORING LOG

Date 7/27/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION SW 1/4, SEC. 14 , TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. 013-0005
Station 1291+66

CORING BARREL TYPE & SIZE NW, conv dbl bbl, split inner
Core Diameter 2.06 in
Top of Rock Elev. 334.9 ft
Begin Core Elev. 334.9 ft

BORING NO. 1
Station 1292+47
Offset 24.40ft Lt
Ground Surface Elev. 415.0 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	
Gray, slightly weathered, SANDSTONE. 334.9		80	45	0.5		
Unconfined Compressive Strength = 418 tsf (depth 83.0' to 83.4')						
Gas forced fine sand into augers, drill pipe and core barrel. Unable to advance core barrel into borehole for another sample. 329.9 -85						
Extent of exploration.						
Benchmark: National Geodetic Survey Vertical Control Mark (Brass Tablet) Q294 = 424.02'. Provided by Program Development. Located on SE corner of existing bridge, on the bearing seat area of the East abutment.						
-90						
-95						
-100						

Color pictures of the cores
Cores will be stored for examination until
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
CHECKED - Nicholas R. Barnett			
DRAWN - h.t. duong	PASSED	REVISED	
CHECKED - F.T. / N.R.B. / G.R.A.	ENGINEER OF BRIDGE DESIGN ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED	

SOIL BORING LOGS
STRUCTURE NO. 013-0042
SHEET NO. 30 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	70

CONTRACT NO. 74439
ILLINOIS FED. AID PROJECT

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

SOIL BORING LOG

Date 8/4/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION SE 1/4, SEC. 15, TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0005
Station 1291+66

BORING NO. 2
Station 1290+97
Offset 22.30ft Lt
Ground Surface Elev. 416.8 ft

Surface Water Elev. 403.0 ft
Stream Bed Elev. 391.4 ft

Groundwater Elev.:
First Encounter 399.8 ft
Upon Completion Washed ft
After ____ Hrs. N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				Medium, damp, brown mottled gray, SILTY CLAY.
	1			
	2	0.6	23	
	3	B		
-5	2			
	3	0.8	23	
	4	B		
409.8				
	0			Soft, damp, brown, SILTY LOAM.
	0	0.4	25	
	2	B		
407.3				
-10	0			Very soft, wet, brown mottled gray, SANDY LOAM.
	1	0.3	25	
	1	B		
	0			
	0	0.1	23	
	0	B		
-15	0			
	1	0.1	23	
	1	B		
	0			
	0	0.1		
	0	B		
397.3				
-20	0			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	0		19	Very loose, wet, gray, fine grained, SAND. 6% passing #200 sieve.
	0			
	0			
	0		22	7% passing #200 sieve. (continued)
393.5				
				Gray, SILTY LOAM.
392.3				
-25	1			Loose, wet, gray, fine grained, SAND. 11% passing #200 sieve.
	3		23	
	3			
	5			
	6		25	7% passing #200 sieve.
	7			
-30	6			
	7		17	5% passing #200 sieve.
	7			
-35	8			
	7		14	10% passing #200 sieve.
	10			
377.3				
-40	42			Soft, gray, SANDY LOAM w/ fine ~~377.1~~

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

SOIL BORING LOG

Date 8/4/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION SE 1/4, SEC. 15, TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0005
Station 1291+66

BORING NO. 2
Station 1290+97
Offset 22.30ft Lt
Ground Surface Elev. 416.8 ft

Surface Water Elev. 403.0 ft
Stream Bed Elev. 391.4 ft

Groundwater Elev.:
First Encounter 399.8 ft
Upon Completion Washed ft
After ____ Hrs. N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	18	3.1	10	gravel.
	14	B		Very stiff, damp, gray, CLAY TILL. (continued)
-45	9			
	12	2.5	9	
	17	B		
-50	4			
	9	2.4	11	
	13	B		
-55				
357.3				
-60	5			Stiff, damp, gray, SILTY LOAM.

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	10	1.5	17	Stiff, damp, gray, SILTY LOAM. (continued)
	15	S		
-65				
347.3				
-70	19			Very dense, damp, gray, CLAY TILL.
	21			
	31			
-75				
				* Hard. moist, gray, SANDY CLAY SHALE.
337.3				
-80	50/2"			* ~~337.1~~

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

ROCK BORING LOG

Date 8/4/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION SE 1/4, SEC. 15, TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. 013-0005
Station 1291+66

CORING BARREL TYPE & SIZE NW, conv dbl bbl, split inner

Core Diameter 2.06 in

BORING NO. 2
Station 1290+97
Offset 22.30ft Lt
Ground Surface Elev. 416.8 ft

Top of Rock Elev. 337.1 ft
Begin Core Elev. 337.1 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	
337.1						Gray, slightly weathered, SANDY CLAY SHALE.
-80		100	79	0.6		
						Unconfined Compressive Strength = 169 tsf (depth 83.0' to 83.4')
332.1						
-85		100	82	0.5		Gray, SANDY CLAY SHALE w/ thin black layering.
						Unconfined Compressive Strength = 256 tsf (depth 88.3' to 88.7')
327.1						
-90						Extent of exploration.
						Benchmark: National Geodetic Survey Vertical Control Mark (Brass Tablet) Q294 = 424.02'. Provided by Program Development. Located on SE corner of existing bridge, on the bearing seat area of the East abutment.
-95						

Color pictures of the cores _____
Cores will be stored for examination until _____
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**SOIL BORING LOGS STRUCTURE NO. 013-0042**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett					327	(7-2B)B-1	CLAY	147	71
DRAWN - h.t. duong	PASSED	REVISED					CONTRACT NO. 74439		
CHECKED - F.T. / N.R.B. / G.R.A.	ENGINEER OF BRIDGE DESIGN	REVISED		SHEET NO. 31 OF 34 SHEETS			ILLINOIS FED. AID PROJECT		
	ACTING ENGINEER OF BRIDGES AND STRUCTURES								

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

SOIL BORING LOG

Date 8/7/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION NW 1/4, SEC. 23, TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0005
Station 1291+66

BORING NO. 3
Station 1294+40
Offset 9.00ft Rt
Ground Surface Elev. 428.8 ft

Surface Water Elev. 403.0 ft
Stream Bed Elev. 391.4 ft

Groundwater Elev.:
First Encounter 393.8 ft
Upon Completion 413.8 ft
After 168 Hrs. 419.3 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
2 1/4" asphalt on 10" concrete pavement. 427.8			
Medium to stiff, damp, brown, CLAY w/ trace sand and fine gravel.	3		
	3 4	1.0 B	18
-5	1		
	3 4	1.0 B	17
	1		
	3 4	1.0 B	18
419.3			
Stiff, damp, gray, SANDY CLAY LOAM. -10	3		
	4 5	1.7 B	13
416.8			
Medium to stiff, damp, brown/red/gray, CLAY.	2		
	3 4	1.0 B	18
414.3			
Medium to stiff, damp, gray, SILTY CLAY. -15	2		
	2 4	0.7 B	23
	2		
	3 4	1.6 B	23
409.3			
-20	1		
Soft to very soft, very damp, brown marbled gray, SILTY LOAM. (continued)			
	2 3	0.5 B	25
	0		
	0 0	0.1 B	27
-25	0		
	0 0	0.1 B	28
	0		
	0 0	0.4 B	22
-30	0		
	0 0	0.4 B	26
394.3			
Very loose, wet, gray, fine grained, SAND. 5 % passing #200 sieve. -35	0		
	0 0		23
388.8 -40	3		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

SOIL BORING LOG

Date 8/7/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION NW 1/4, SEC. 23, TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0005
Station 1291+66

BORING NO. 3
Station 1294+40
Offset 9.00ft Rt
Ground Surface Elev. 428.8 ft

Surface Water Elev. 403.0 ft
Stream Bed Elev. 391.4 ft

Groundwater Elev.:
First Encounter 393.8 ft
Upon Completion 413.8 ft
After 168 Hrs. 419.3 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium, wet, gray, fine grained, SAND. 9% passing #200 sieve.	7 10		21
-45	10		
3% passing #200 sieve.	20 23		15
-50	7		
6% passing #200 sieve.	10 9		18
-55			
368.8 -60	5		
Medium, wet, gray, fine grained, SAND. 6% passing #200 sieve.	6 10		16
-65			
-70			
354.3			
Very stiff, damp, gray, CLAY TILL to SANDY CLAY TILL. -75	7		
	13 19	4.0 B	10
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**SOIL BORING LOGS STRUCTURE NO. 013–0042**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett					327	(7-2B)B-1	CLAY	147	72
DRAWN - h.t. duong	PASSED	REVISED							CONTRACT NO. 74439
CHECKED - F.T. / N.R.B. / G.R.A.	ENGINEER OF BRIDGE DESIGN ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 32 OF 34 SHEETS			ILLINOIS	FED. AID PROJECT	

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

SOIL BORING LOG

Date 8/7/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION NW 1/4, SEC. 23, TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0005
Station 1291+66

BORING NO. 3
Station 1294+40
Offset 9.00ft Rt
Ground Surface Elev. 428.8 ft

Surface Water Elev. 403.0 ft
Stream Bed Elev. 391.4 ft

Groundwater Elev.:
First Encounter 393.8 ft
Upon Completion 413.8 ft
After 168 Hrs. 419.3 ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very stiff, damp, gray, CLAY TILL to SANDY CLAY TILL. (continued)				
	-85	4		
		8	1.9	11
		11	B	
	-90			
	-95			
	333.0	20		
Wet, gray, fine grained, SAND.		40		19
	332.1	50/2"		
Very dense, moist, gray, SANDY CLAY SHALE.				
	328.96 -100	50/2"		8

Borehole continued with rock coring.
The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

ROCK BORING LOG

Date 8/7/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION NW 1/4, SEC. 23, TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. 013-0005
Station 1291+66

CORING BARREL TYPE & SIZE NW, conv dbl bbl, split inner
Core Diameter 2.06 in
Top of Rock Elev. 328.96 ft
Begin Core Elev. 328.96 ft

BORING NO. 3
Station 1294+40
Offset 9.00ft Rt
Ground Surface Elev. 428.8 ft

	DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Gray, SANDY CLAY SHALE.	329.0		100	60	0.7	
Unconfined Compressive Strength = 76 tsf (depth 102.5' to 102.9')						
Gray, moderately weathered, SANDSTONE.	325.0					
	-105					
Unconfined Compressive Strength = 258 tsf (depth 104.8' to 105.2')	323.3		100	75	0.8	
Gray, moderately weathered, SANDY CLAY SHALE.						
Extent of exploration.	319.0 -110					
Benchmark: National Geodetic Survey Vertical Control Mark (Brass Tablet) Q294 = 424.02'. Provided by Program Development. Located on SE corner of existing bridge, on the bearing seat area of the East abutment.						
	-115					

Color pictures of the cores _____
Cores will be stored for examination until _____
The "Strength" column represents the unlaxial compressive strength of the core sample (ASTM D-2938)

DESIGNED - Fesseha Teklehalmanot	EXAMINED	DATE - OCTOBER 6, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
CHECKED - Nicholas R. Barnett		REVISED	
DRAWN - h.t. duong	PASSED	REVISED	
CHECKED - F.T. / N.R.B. / G.R.A.	ENGINEER OF BRIDGE DESIGN / ACTING ENGINEER OF BRIDGES AND STRUCTURES		

SOIL BORING LOGS
STRUCTURE NO. 013-0042
SHEET NO. 33 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	73
		CONTRACT NO. 74439		
	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

SOIL BORING LOG

Date 8/22/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION NE 1/4, SEC. 22, TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0005
Station 1291+66

BORING NO. 4
Station 1289+13
Offset 8.00ft Rt
Ground Surface Elev. 428.9 ft

Surface Water Elev. 403.0 ft
Stream Bed Elev. 391.4 ft

Groundwater Elev.:
First Encounter 384.4 ft
Upon Completion Washed ft
After 24 Hrs. 418.0 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
0	2 3	0.4 B	25
427.9			
2 3/4" asphalt on 10" concrete pavement.			
426.9			
Brown, SILTY CLAY.			
0	0		
Very soft, very damp, brown, SILTY LOAM.	0 2	0.2 B	21
424.4			
-5 Medium to stiff, damp, brown, SILTY CLAY.	3 4	1.0 B	17
	1		
	3 4	1.0 B	18
419.4			
-10 Medium to stiff, brown mottled gray, CLAY w/ trace Silt.	2 3 4	0.8 B	21
	3		
	4 5	1.1 B	20
414.4			
-15 Stiff, damp, gray marbled red, SILTY CLAY w/ hair roots.	2 3 4	1.2 B	22
	3		
	3 5	1.8 S	22
409.4			
-20	1		
-25	0		
	0	0.3 B	24
	0		
-30	0		
	0 0	0.3 B	25
	0	0.5 B	24
-35	0		
Soft to very soft, very damp, gray/brown/red, SILTY LOAM. (continued)	0 1	0.1 B	22
394.4			
Very soft, damp, gray, SANDY LOAM.			
-40	0		
-45	0		
	0 0	0.1 B	25
-50	0		
	0 0	0.5 B	24
-55	0		
	0 1	0.1 B	22
-60	0		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

SOIL BORING LOG

Date 8/22/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION NE 1/4, SEC. 22, TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0005
Station 1291+66

BORING NO. 4
Station 1289+13
Offset 8.00ft Rt
Ground Surface Elev. 428.9 ft

Surface Water Elev. 403.0 ft
Stream Bed Elev. 391.4 ft

Groundwater Elev.:
First Encounter 384.4 ft
Upon Completion Washed ft
After 24 Hrs. 418.0 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
388.4	2 5	0.1 B	21
Medium, wet, fine grained, SAND w/ Gravel.			
-45	7		
	9 15		15
8% passing #200 sieve.			
-50	4		
	7 9		20
4% passing #200 sieve.			
-55			
369.4			
Very stiff, damp, gray, CLAY TILL.	-60 7		
Very stiff, damp, gray, CLAY TILL. (continued)			
-65			
	10 16	2.3 B	11
-70	8		
	12 17	2.1 B	10
-75			
348.9	-80 28		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
District 7 /Region 4

SOIL BORING LOG

Date 8/22/06

ROUTE FAP 327 (US 50) DESCRIPTION Little Muddy River LOGGED BY E. Sandschafer

SECTION (7-2B)B-1 LOCATION NE 1/4, SEC. 22, TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0005
Station 1291+66

BORING NO. 4
Station 1289+13
Offset 8.00ft Rt
Ground Surface Elev. 428.9 ft

Surface Water Elev. 403.0 ft
Stream Bed Elev. 391.4 ft

Groundwater Elev.:
First Encounter 384.4 ft
Upon Completion Washed ft
After 24 Hrs. 418.0 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
348.3 Very dense, moist, gray, SANDY CLAY SHALE.	50/5" 50/2"		
Extent of exploration.			
Benchmark: National Geodetic Survey Vertical Control Mark (Brass Tablet) Q294 = 424.02'. Provided by Program Development. Located on SE corner of existing bridge, on the bearing seat area of the East abutment.			
-85			
-90			
-95			
-100			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

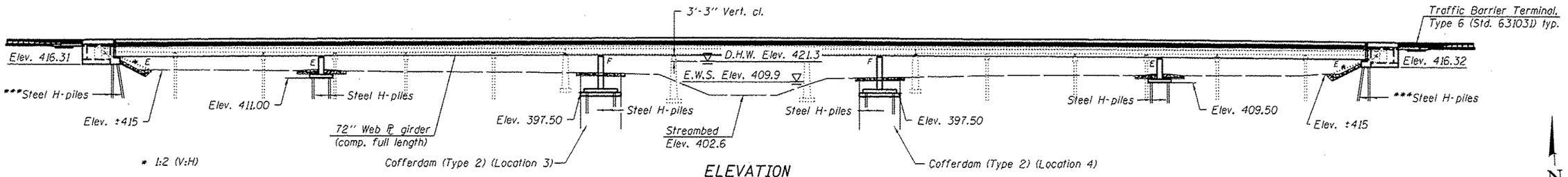
DESIGNED - Fesseha Teklehaimanot	EXAMINED	DATE - OCTOBER 6, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
CHECKED - Nicholas R. Barnett	PASSED	REVISED	**SOIL BORING LOGS STRUCTURE NO. 013–0042**
DRAWN - h.t. duong	ENGINEER OF BRIDGE DESIGN	REVISED	SHEET NO. 34 OF 34 SHEETS
CHECKED - F.T. / N.R.B. / G.R.A.	ACTING ENGINEER OF BRIDGES AND STRUCTURES		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2B)B-1	CLAY	147	74
		CONTRACT NO. 74439		
	ILLINOIS	FED. AID PROJECT		

Benchmark: NGS plaque in abutment at Sta. 1320+68, 18.0' Rt., Elev. 424.448
NGS plaque in abutment at Sta. 1327+91, 18.5' Rt., Elev. 424.455

Existing Structure: SN 080-0001 built in 1951 as F.A. Route 13, Section 7 at Sta. 324+30. The existing structure consists of a 15 span steel wide flange beam and concrete deck superstructure supported on pile bent abutments and pile bent and pile supported piers. Back-to-back of abutment length is 726'-6" and out-to-out width of deck is 35'-8". The existing structure is to be removed and replaced. Traffic is to be maintained using stage construction.

No Salvage.

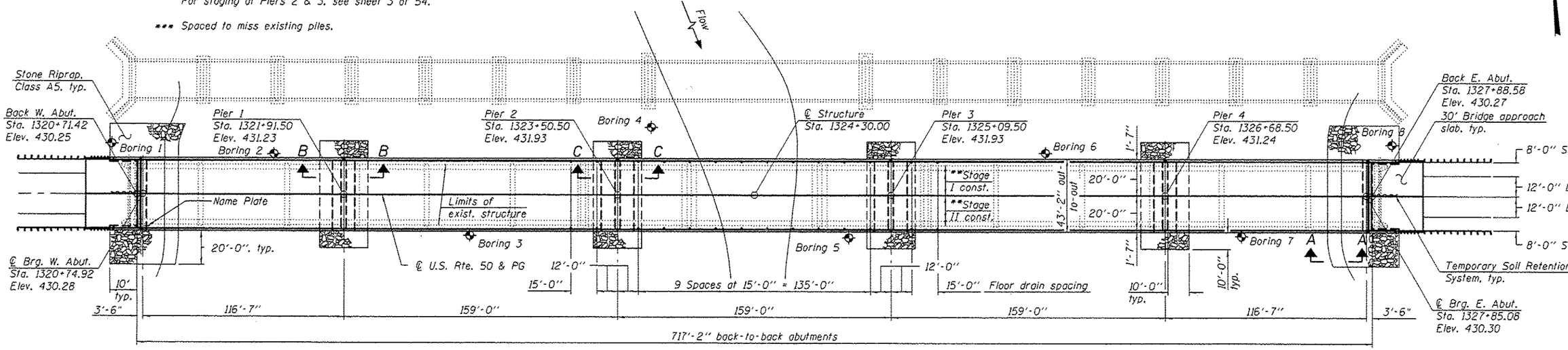


ELEVATION

* 1:2 (V:H)

** Staging shown is for Superstructure, Abutments and Piers 1 & 4. For staging at Piers 2 & 3, see sheet 3 of 54.

*** Spaced to miss existing piles.



LOADING HL-93

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

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi (Concrete Structures, unless otherwise noted)
f'c = 4,000 psi (Concrete Structures, Pier 3 Footing)
f'c = 4,000 psi (Superstructure concrete)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (Structural steel M270 Grade 50W)

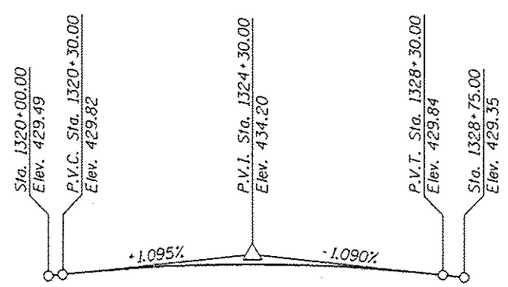
SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.253 g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.601 g
Soil Site Class = D

LICENSED STRUCTURAL ENGINEER — DAVID CARL PUZEY — 081-005470 — SPRINGFIELD ILLINOIS — STATE OF ILLINOIS

EXPIRES 11-30-2016

PLAN

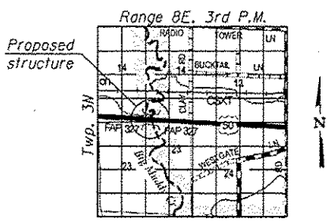


800' Vert. curve

PROFILE GRADE

(Along ℄ U.S. Rte. 50)

Notes:
For Sections A-A, B-B, and C-C see sheet 3 of 54.
Any stone from the existing A4 riprap that is disturbed shall be returned to its original location, as near as practical, after construction is complete. The work will not be measured for payment, but included in the cost of Removal of Existing Structures, No. 2.
Cost of removal of existing slopewall included in the cost of Removal of Existing Structures, No. 2.



LOCATION SKETCH

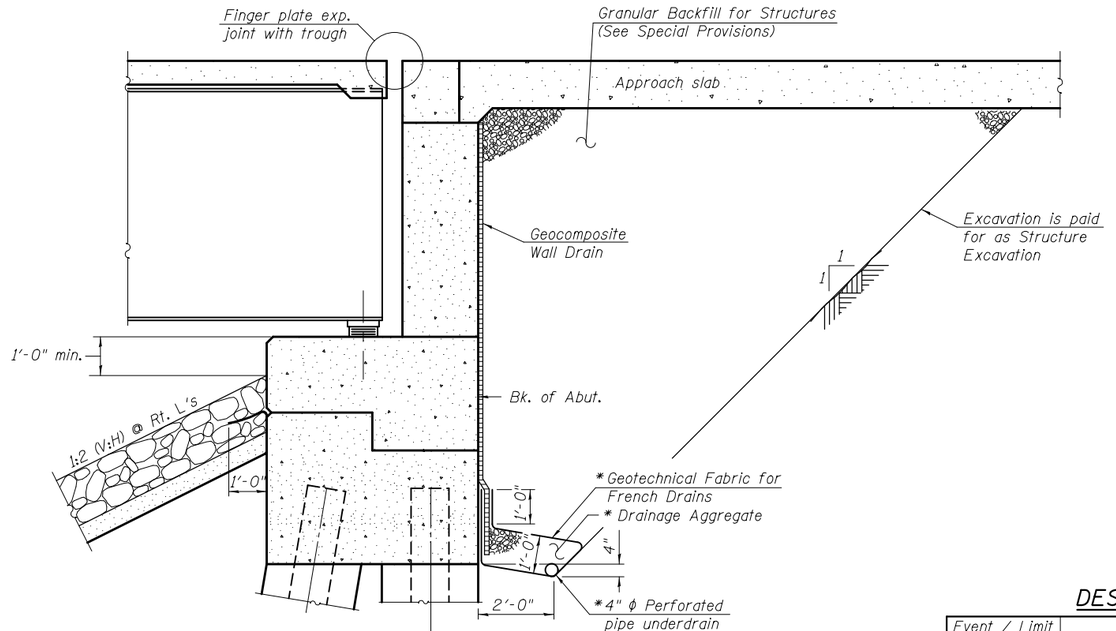
GENERAL PLAN & ELEVATION
U.S. RTE. 50 OVER BIG MUDDY CREEK
F.A.P. RTE. 327 - SEC. (7-2)BR
RICHLAND COUNTY
STATION 1324+30.00
STRUCTURE NO. 080-0025

2:19:04 PM
10/4/2016

DESIGNED - FWS / DHR / ADK	EXAMINED	DATE - Oct. 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	
CHECKED - FWS / DHR / JAK	PASSED	REVISED		
DRAWN - R. Laughlin	ENGINEER OF BRIDGE DESIGN	REVISED		
CHECKED - FWS / DHR / JAK	ACTING ENGINEER OF BRIDGES AND STRUCTURES			

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	75
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		

SHEET NO. 1 OF 54 SHEETS



SECTION THRU PILE SUPPORTED STUB ABUTMENT

(Horiz. dim. @ Rt. L's)

*Included in the cost of Pipe Underdrains for Structures 4". (See Special Provisions)

Note:
All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls or 2'-0" from the end of the wingwalls when the wings are parallel to the abutment. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

STATION 1324+30.00
BUILT BY
STATE OF ILLINOIS
F.A. RT. 327 SEC. (7-2)BR
LOADING HL-93
STRUCTURE NO. 080-0025

NAME PLATE

See Std. 515001

DESIGN SCOUR ELEVATION TABLE

Event / Limit State	Design Scour Elevations (ft.)						
	W. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	E. Abut.	Item 113
Q100	416.3	405.3	385.3	385.3	402.1	416.3	5
Q500	416.3	404.6	383.8	383.8	401.2	416.3	
Design	416.3	405.3	385.3	385.3	402.1	416.3	
Check	416.3	404.6	383.8	383.8	401.2	416.3	

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
STONE RIPRAP, CLASS A5	SQ YD	-	1,160	1,160
FILTER FABRIC	SQ YD	-	950	950
REMOVAL OF EXISTING STRUCTURES No. 2	EACH	-	-	1
STRUCTURE EXCAVATION	CU YD	-	804	804
COFFERDAM EXCAVATION	CU YD	-	1,978	1,978
COFFERDAM (TYPE 2) (LOCATION - 3)	EACH	-	1	1
COFFERDAM (TYPE 2) (LOCATION - 4)	EACH	-	1	1
FLOOR DRAINS	EACH	28	-	28
CONCRETE STRUCTURES	CU YD	-	871.1	871.1
CONCRETE SUPERSTRUCTURE	CU YD	972	-	972
BRIDGE DECK GROOVING	SQ YD	3,438	-	3,438
SEAL COAT CONCRETE	CU YD	-	368	368
CONCRETE ENCASEMENT	CU YD	-	14.2	14.2
PROTECTIVE COAT	SQ YD	4,065	-	4,065
CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	125	-	125
FURNISHING AND ERECTING STRUCTURAL STEEL	LSUM	0.65	-	0.65
STUD SHEAR CONNECTORS	EACH	10,848	-	10,848
REINFORCEMENT BARS, EPOXY COATED	POUND	281,070	133,310	414,380
BAR SPLICERS	EACH	2,418	563	2,981
MECHANICAL SPLICERS	EACH	-	782	782
FURNISHING STEEL PILES HP 14 X 117	FOOT	-	13,368	13,368
DRIVING PILES	FOOT	-	13,368	13,368
TEST PILE STEEL HP 14 X 117	EACH	-	6	6
PILE SHOES	EACH	-	156	156
NAME PLATES	EACH	1	-	1
FINGER PLATE EXPANSION JOINT, 4"	FOOT	80	-	80
FABRIC REINFORCED ELASTOMERIC TROUGH	FOOT	93	-	93
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	24	-	24
ANCHOR BOLTS, $\frac{3}{4}$"	EACH	24	-	24
ANCHOR BOLTS, $1\frac{1}{4}$"	EACH	48	-	48
TEMPORARY SOIL RETENTION SYSTEM	SQ FT	-	260	260
CONCRETE SEALER	SQ FT	-	972	972
GEOCOMPOSITE WALL DRAIN	SQ YD	-	106.9	106.9
PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	-	140	140
GRANULAR BACKFILL FOR STRUCTURES	CU YD	-	312.2	312.2

WATERWAY INFORMATION

Drainage Area = 1112.15 sq. mi.

Existing Overtopping Elev. 425.7 at Sta. 1310+00
Proposed Overtopping Elev. 425.7 at Sta. 1310+00

Flood		Discharge (cfs)		Waterway Opening (sq. ft.)		Nat. H.W.E.	Head		Headwater El.	
		Existing	Proposed	Existing	Proposed		Exist.	Prop.	Exist.	Prop.
10	Little Wabash	4718	4415	906	896	419.4	0.2	0.1	419.6	419.5
	Little Muddy	11058	11152	2284	4363					
	Big Muddy	15374	15583	4269	4331					
	Total	31150	31150	7459	9590					
50	Little Wabash	7176	6512	1237	1237	421.3	0.3	0.2	421.6	421.5
	Little Muddy	19216	20076	3115	5273					
	Big Muddy	23858	23662	5540	5615					
	Total	50250	50250	9892	12125					
100	Little Wabash	8834	7714	1368	1376	422.0	0.4	0.2	422.4	422.2
	Little Muddy	21044	23500	3425	5611					
	Big Muddy	29222	27886	6013	6091					
	Total	59100	59100	10806	13078					
Overtopping	Little Wabash									
	Little Muddy									
	Big Muddy									
	Total									
500	Little Wabash	12233	10859	1657	1680	423.5	0.8	0.2	424.3	423.7
	Little Muddy	29359	32340	4092	6339					
	Big Muddy	40208	38601	7028	7114					
	Total	81800	81800	12777	15133					

10 Year velocity through existing bridge = 5.3 ft./sec.
10 Year velocity through proposed bridge = 5.6 ft./sec.

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, hot-dipped galvanized bolts in metalized areas and ASTM A325 Type 3 in unpainted areas. Bolts $\frac{7}{8}$ in. ϕ, holes $\frac{15}{16}$ in. ϕ, unless otherwise noted.

Calculated weight of Structural Steel = 1,381,050 lbs. (Grade 50W).

All structural steel shall be AASHTO M 270 Grade 50W.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars designated (E) shall be epoxy coated.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

Concrete Sealer shall be applied to the designated areas of the abutments.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

All structural steel girders, cross frames and exposed surfaces of bearings within a distance of 10 ft. from the expansion joint shall be metalized. The metalized areas shall be painted with System 1. Exterior fascia and bottom of bottom flange areas of exterior girders within 10 ft. of expansion joints shall be metalized and shop painted (System 3). See Special Provisions.

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

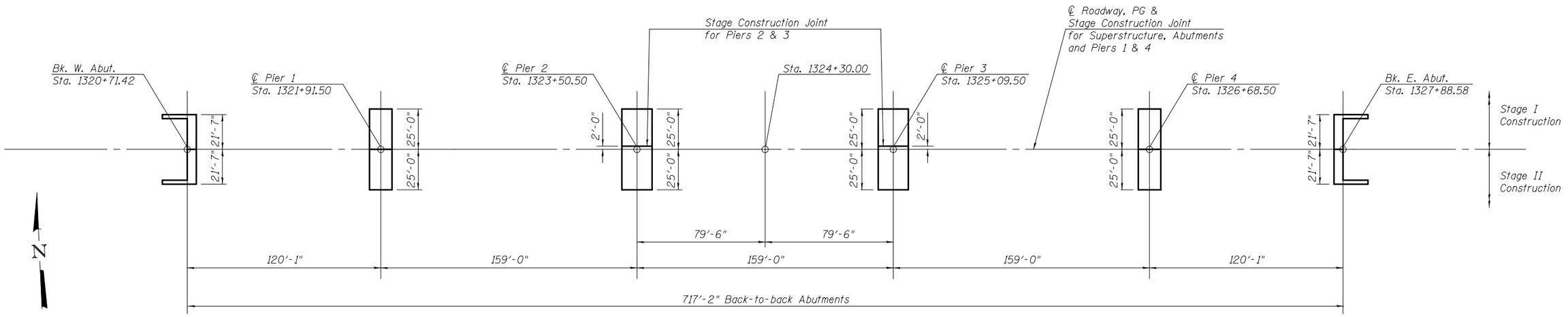
Seal coat thickness design is based on the Cofferdam Design Water Elevation (CDWE) at Pier 3, and assuming top of sheeting at the ground line at Pier 2. Cofferdam design details and proposed changes in seal coat thickness shall be submitted to the Engineer for approval with the cofferdam design.

INDEX OF SHEETS

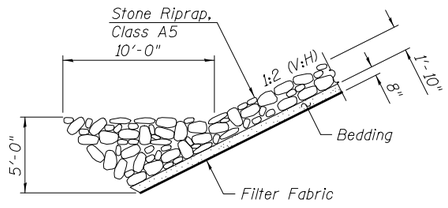
$TIME$
$DATE$

DESIGNED - Allysia D. Kelley	EXAMINED	Joyce F. Schiff, PIONEER OF BRIDGE DESIGN	DATE - Oct. 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL DATA STRUCTURE NO. 080-0025
CHECKED - Frank W. Sharpe	PASSED	A. Carl Prussog, ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 2 OF 54 SHEETS
DRAWN - R. Laughlin			REVISED		
CHECKED - F.W.S. / J.A.K. / D.H.R.					

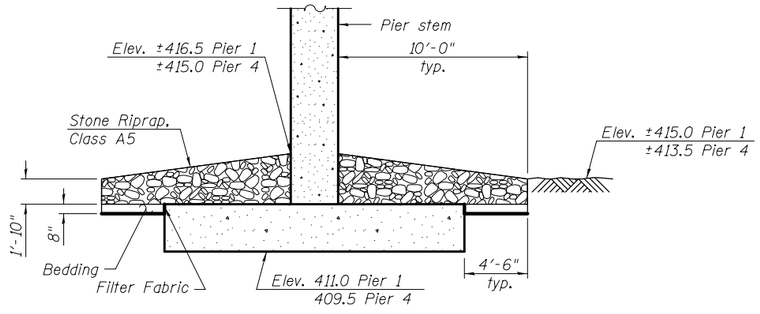
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	76
		CONTRACT NO. 74439		
	ILLINOIS	FED. AID PROJECT		



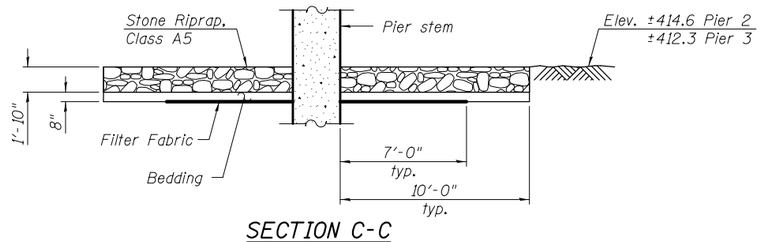
FOOTING LAYOUT



SECTION A-A



SECTION B-B
at Piers 1 and 4



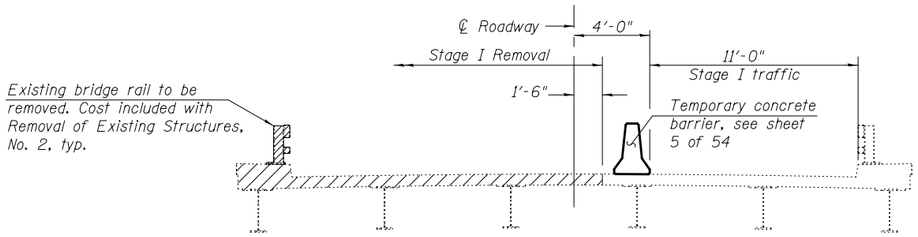
SECTION C-C
at Piers 2 and 4

$DATE$ $TIME$

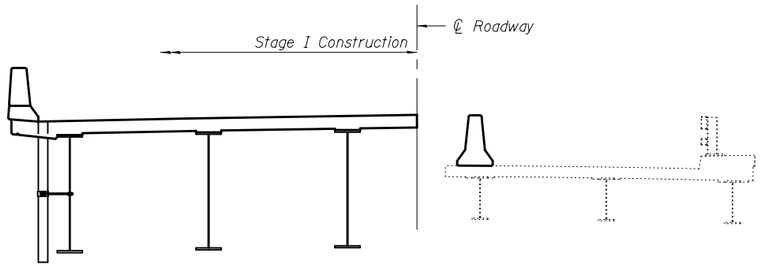
DESIGNED - A.D.K. / F.W.S.	EXAMINED	DATE - Oct. 3, 2016	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION**
CHECKED - F.W.S. / D.H.R.	PASSED	REVISED	
DRAWN - R. Laughlin	ENGINEER OF BRIDGE DESIGN	REVISED	
CHECKED - F.W.S. / J.A.K. / D.H.R.	ACTING ENGINEER OF BRIDGES AND STRUCTURES		

SUBSTRUCTURE LAYOUT & GENERAL DATA
STRUCTURE NO. 080-0025
SHEET NO. 3 OF 54 SHEETS

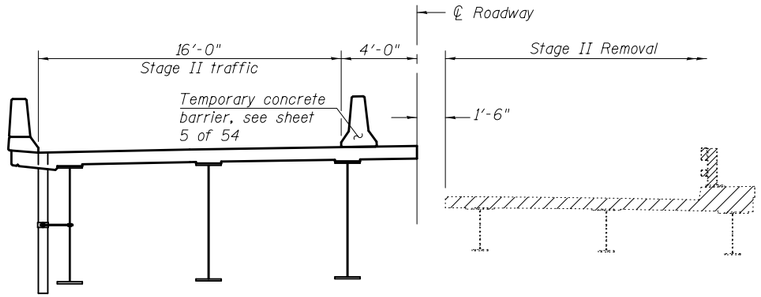
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	77
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			



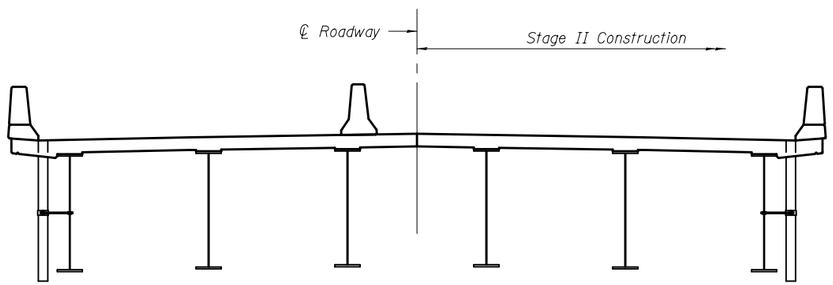
STAGE I REMOVAL



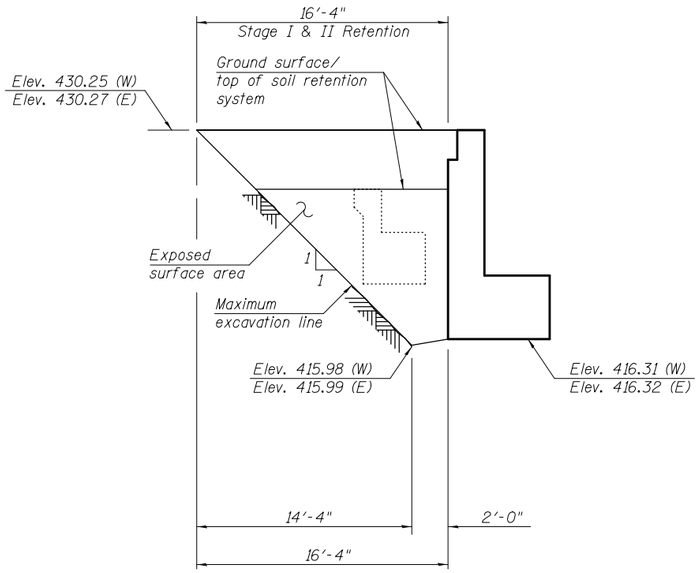
STAGE I CONSTRUCTION



STAGE II REMOVAL



STAGE II CONSTRUCTION



TEMPORARY SOIL RETENTION SYSTEM

A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

Notes:

Stage I and II Construction shown are for superstructure, abutments, and Piers 1 and 4.

Stage I and II Construction for Piers 2 and 3 are different. See sheets 36 thru 39 of 54.

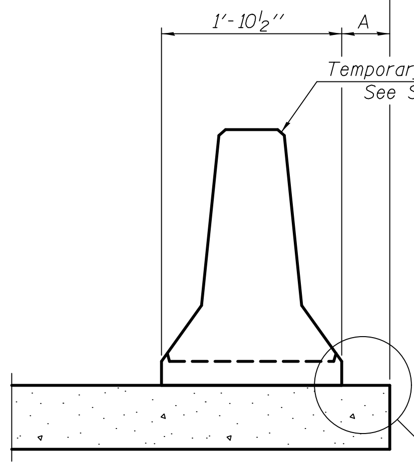
All staging cross sections are looking East.

For quantity of Temporary Concrete Barrier, see roadway plans.

Hatched area indicates Removal of Existing Structures, No. 2.

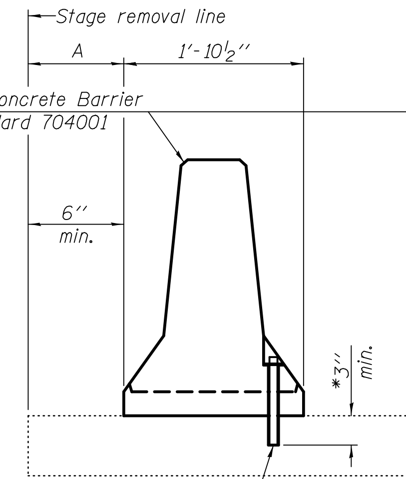
$DATE$ $TIME$

DESIGNED - A.D.K. / J.A.K.	EXAMINED	DATE - Oct. 3, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**STAGE CONSTRUCTION DETAILS STRUCTURE NO. 080-0025**	F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - F.W.S. / D.H.R.					327	(7-2)BR	RICHLAND	147	78
DRAWN - R. Laughlin	PASSED	REVISED						CONTRACT NO. 74439	
CHECKED - F.W.S. / J.A.K. / D.H.R.	ENGINEER OF BRIDGE DESIGN ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 4 OF 54 SHEETS			ILLINOIS	FED. AID PROJECT	



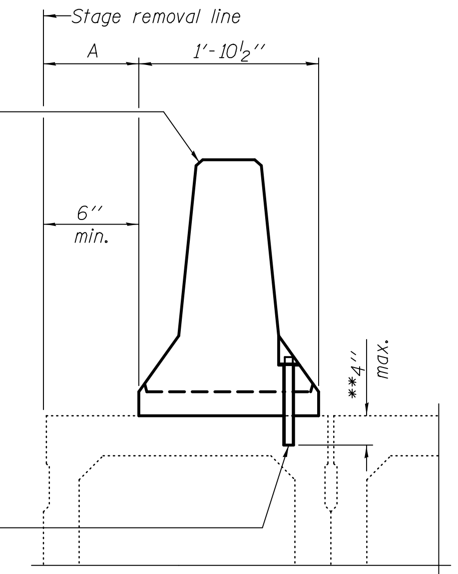
When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I or Detail II. No restraint is required when "A" is greater than 3'-1".

NEW SLAB



Drill 3-1¼" ϕ Holes in existing slab for 1" ϕ restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

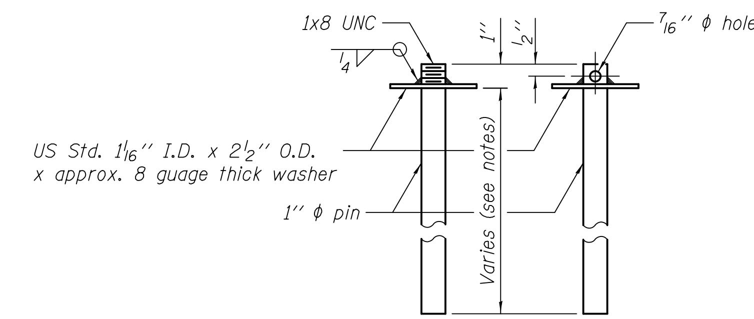


EXISTING DECK BEAM

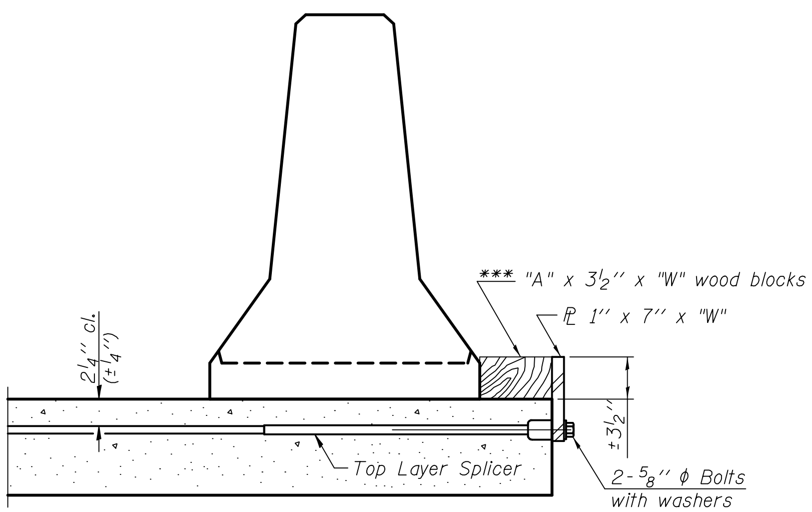
SECTIONS THRU SLAB OR DECK BEAM

* Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

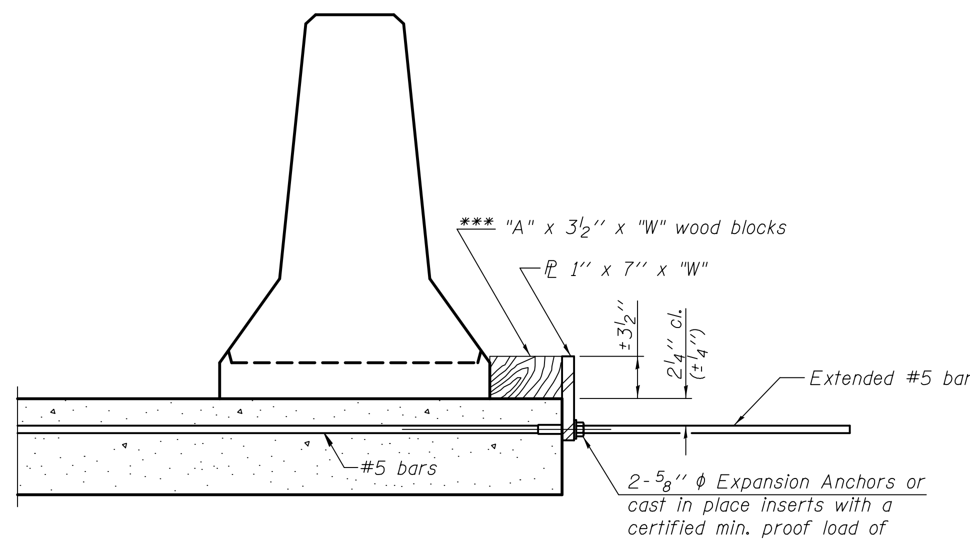
** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



RESTRAINING PIN



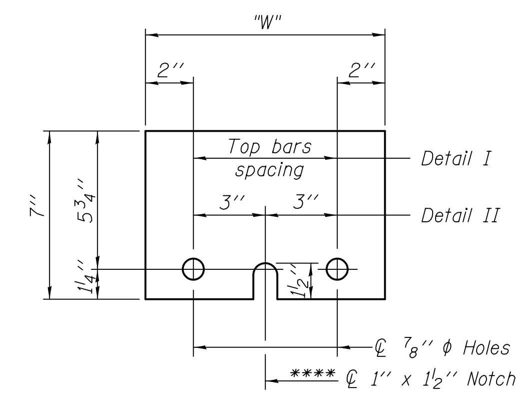
DETAIL I



DETAIL II

RETAINER ASSEMBLY

*** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.



STEEL RETAINER ℄ 1" x 7" x "W"

**** Required only with Detail II

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7' 'x "W" steel ℄ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel ℄ to the concrete slab or concrete wearing surface with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of retainer assembly is included with Temporary Concrete Barrier.

The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

$TIME$
$DATE$

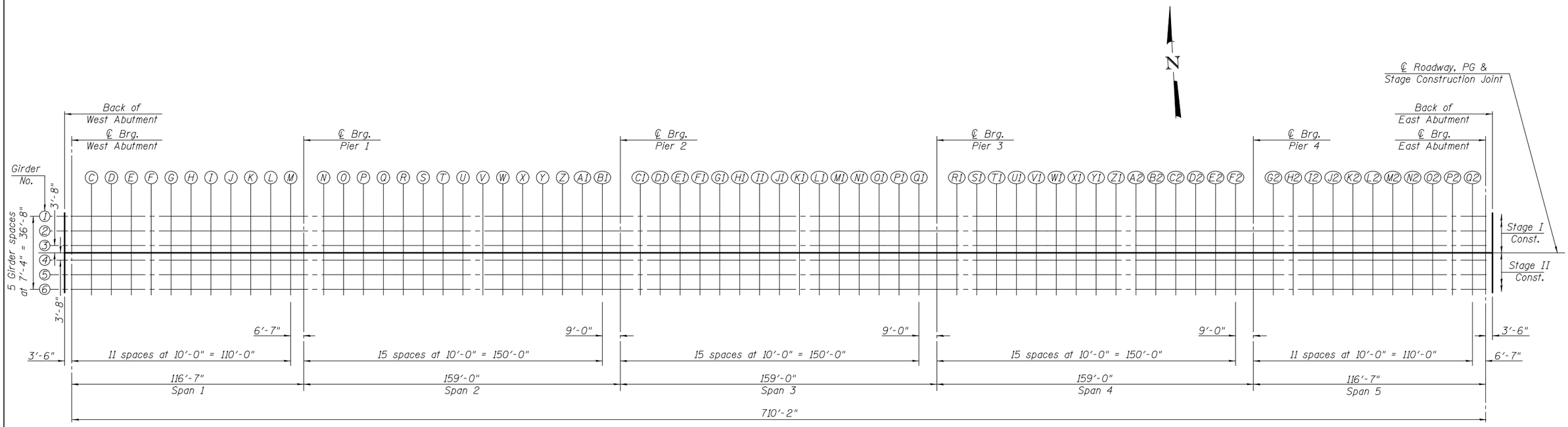
R-27   2-19-16

DESIGNED - Allysia D. Kelley	EXAMINED	ENGINEER OF BRIDGE DESIGN	DATE - Oct. 3, 2016
CHECKED - Frank W. Sharpe			
DRAWN - R. Laughlin	PASSED		REVISED
CHECKED - J.A.K.		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED

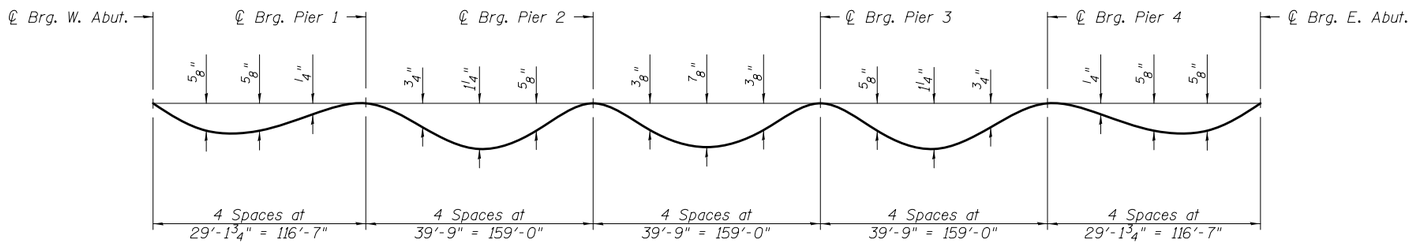
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 080-0025
SHEET NO. 5 OF 54 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	79
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		



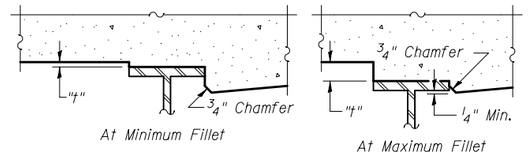
PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 7 thru 10 of 54.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 7 thru 10 of 54, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS

$TIME$
$DATE$

DESIGNED - A.D.K. / F.W.S	EXAMINED	Joyce F. Schiff ENGINEER OF BRIDGE DESIGN	DATE - Oct. 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS STRUCTURE NO. 080-0025	F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - F.W.S. / D.H.R.	PASSED	D. Carl Snyder ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			327	(7-2)BR	RICHLAND	147	80
DRAWN - R. Laughlin			REVISED					CONTRACT NO. 74439		
CHECKED - F.W.S. / D.H.R. / J.A.K.					SHEET NO. 6 OF 54 SHEETS			ILLINOIS FED. AID PROJECT		

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1320+71.42	-18.33	429.93	429.93
CL Brg. W. Abut.	1320+74.92	-18.33	429.97	429.97
C	1320+84.92	-18.33	430.06	430.08
D	1320+94.92	-18.33	430.15	430.19
E	1321+04.92	-18.33	430.24	430.29
F	1321+14.92	-18.33	430.33	430.38
G	1321+24.92	-18.33	430.42	430.47
H	1321+34.92	-18.33	430.50	430.55
I	1321+44.92	-18.33	430.58	430.62
J	1321+54.92	-18.33	430.66	430.68
K	1321+64.92	-18.33	430.73	430.75
L	1321+74.92	-18.33	430.80	430.81
M	1321+84.92	-18.33	430.87	430.87
CL Brg. Pier 1	1321+91.50	-18.33	430.91	430.91
N	1322+01.50	-18.33	430.98	430.99
O	1322+11.50	-18.33	431.04	431.07
P	1322+21.50	-18.33	431.10	431.14
Q	1322+31.50	-18.33	431.15	431.21
R	1322+41.50	-18.33	431.21	431.28
S	1322+51.50	-18.33	431.26	431.34
T	1322+61.50	-18.33	431.30	431.40
U	1322+71.50	-18.33	431.35	431.45
V	1322+81.50	-18.33	431.39	431.48
W	1322+91.50	-18.33	431.43	431.51
X	1323+01.50	-18.33	431.47	431.53
Y	1323+11.50	-18.33	431.50	431.55
Z	1323+21.50	-18.33	431.53	431.57
A1	1323+31.50	-18.33	431.56	431.59
B1	1323+41.50	-18.33	431.59	431.60
CL Brg. Pier 2	1323+50.50	-18.33	431.61	431.61
C1	1323+60.50	-18.33	431.63	431.64
D1	1323+70.50	-18.33	431.65	431.66
E1	1323+80.50	-18.33	431.66	431.69
F1	1323+90.50	-18.33	431.67	431.71
G1	1324+00.50	-18.33	431.68	431.73
H1	1324+10.50	-18.33	431.69	431.74
I1	1324+20.50	-18.33	431.69	431.76
J1	1324+30.50	-18.33	431.70	431.77
K1	1324+40.50	-18.33	431.69	431.76
L1	1324+50.50	-18.33	431.69	431.74
M1	1324+60.50	-18.33	431.68	431.73
N1	1324+70.50	-18.33	431.67	431.71
O1	1324+80.50	-18.33	431.66	431.69
P1	1324+90.50	-18.33	431.65	431.66
Q1	1325+00.50	-18.33	431.63	431.64
CL Brg. Pier 3	1325+09.50	-18.33	431.61	431.61
R1	1325+19.50	-18.33	431.59	431.60
S1	1325+29.50	-18.33	431.56	431.59
T1	1325+39.50	-18.33	431.53	431.58
U1	1325+49.50	-18.33	431.50	431.56
V1	1325+59.50	-18.33	431.47	431.54
W1	1325+69.50	-18.33	431.43	431.51
X1	1325+79.50	-18.33	431.39	431.49
Y1	1325+89.50	-18.33	431.35	431.46
Z1	1325+99.50	-18.33	431.31	431.40
A2	1326+09.50	-18.33	431.26	431.34
B2	1326+19.50	-18.33	431.21	431.28
C2	1326+29.50	-18.33	431.16	431.22
D2	1326+39.50	-18.33	431.10	431.15
E2	1326+49.50	-18.33	431.04	431.07
F2	1326+59.50	-18.33	430.98	431.00

GIRDER 1 (Continued)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Brg. Pier 4	1326+68.50	-18.33	430.92	430.92
G2	1326+78.50	-18.33	430.86	430.87
H2	1326+88.50	-18.33	430.79	430.80
I2	1326+98.50	-18.33	430.72	430.74
J2	1327+08.50	-18.33	430.64	430.68
K2	1327+18.50	-18.33	430.57	430.61
L2	1327+28.50	-18.33	430.49	430.54
M2	1327+38.50	-18.33	430.40	430.45
N2	1327+48.50	-18.33	430.32	430.37
O2	1327+58.50	-18.33	430.23	430.27
P2	1327+68.50	-18.33	430.14	430.17
Q2	1327+78.50	-18.33	430.05	430.06
CL Brg. E. Abut.	1327+85.08	-18.33	429.98	429.98
Bk. E. Abut.	1327+88.58	-18.33	429.95	429.95

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1320+71.42	-11.00	430.08	430.08
CL Brg. W. Abut.	1320+74.92	-11.00	430.11	430.11
C	1320+84.92	-11.00	430.21	430.22
D	1320+94.92	-11.00	430.30	430.33
E	1321+04.92	-11.00	430.39	430.44
F	1321+14.92	-11.00	430.48	430.53
G	1321+24.92	-11.00	430.56	430.62
H	1321+34.92	-11.00	430.65	430.70
I	1321+44.92	-11.00	430.73	430.77
J	1321+54.92	-11.00	430.80	430.83
K	1321+64.92	-11.00	430.88	430.89
L	1321+74.92	-11.00	430.95	430.96
M	1321+84.92	-11.00	431.02	431.02
CL Brg. Pier 1	1321+91.50	-11.00	431.06	431.06

GIRDER 2 (Continued)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
N	1322+01.50	-11.00	431.12	431.14
O	1322+11.50	-11.00	431.19	431.22
P	1322+21.50	-11.00	431.24	431.29
Q	1322+31.50	-11.00	431.30	431.36
R	1322+41.50	-11.00	431.35	431.42
S	1322+51.50	-11.00	431.40	431.49
T	1322+61.50	-11.00	431.45	431.54
U	1322+71.50	-11.00	431.50	431.60
V	1322+81.50	-11.00	431.54	431.63
W	1322+91.50	-11.00	431.58	431.66
X	1323+01.50	-11.00	431.61	431.68
Y	1323+11.50	-11.00	431.65	431.70
Z	1323+21.50	-11.00	431.68	431.72
A1	1323+31.50	-11.00	431.71	431.73
B1	1323+41.50	-11.00	431.73	431.75
CL Brg. Pier 2	1323+50.50	-11.00	431.75	431.75
C1	1323+60.50	-11.00	431.78	431.78
D1	1323+70.50	-11.00	431.79	431.81
E1	1323+80.50	-11.00	431.81	431.84
F1	1323+90.50	-11.00	431.82	431.86
G1	1324+00.50	-11.00	431.83	431.88
H1	1324+10.50	-11.00	431.84	431.89
I1	1324+20.50	-11.00	431.84	431.90
J1	1324+30.50	-11.00	431.84	431.91
K1	1324+40.50	-11.00	431.84	431.90
L1	1324+50.50	-11.00	431.84	431.89
M1	1324+60.50	-11.00	431.83	431.87
N1	1324+70.50	-11.00	431.82	431.86
O1	1324+80.50	-11.00	431.81	431.84
P1	1324+90.50	-11.00	431.79	431.81
Q1	1325+00.50	-11.00	431.78	431.78
CL Brg. Pier 3	1325+09.50	-11.00	431.76	431.76
R1	1325+19.50	-11.00	431.74	431.75
S1	1325+29.50	-11.00	431.71	431.74
T1	1325+39.50	-11.00	431.68	431.72
U1	1325+49.50	-11.00	431.65	431.71
V1	1325+59.50	-11.00	431.62	431.69
W1	1325+69.50	-11.00	431.58	431.66
X1	1325+79.50	-11.00	431.54	431.63
Y1	1325+89.50	-11.00	431.50	431.60
Z1	1325+99.50	-11.00	431.46	431.55
A2	1326+09.50	-11.00	431.41	431.49
B2	1326+19.50	-11.00	431.36	431.43
C2	1326+29.50	-11.00	431.30	431.36
D2	1326+39.50	-11.00	431.25	431.29
E2	1326+49.50	-11.00	431.19	431.22
F2	1326+59.50	-11.00	431.13	431.14
CL Brg. Pier 4	1326+68.50	-11.00	431.07	431.07
G2	1326+78.50	-11.00	431.01	431.01
H2	1326+88.50	-11.00	430.94	430.95
I2	1326+98.50	-11.00	430.87	430.89
J2	1327+08.50	-11.00	430.79	430.82
K2	1327+18.50	-11.00	430.71	430.76
L2	1327+28.50	-11.00	430.63	430.69
M2	1327+38.50	-11.00	430.55	430.60
N2	1327+48.50	-11.00	430.47	430.52
O2	1327+58.50	-11.00	430.38	430.42
P2	1327+68.50	-11.00	430.29	430.31
Q2	1327+78.50	-11.00	430.19	430.20
CL Brg. E. Abut.	1327+85.08	-11.00	430.13	430.13
Bk. E. Abut.	1327+88.58	-11.00	430.10	430.10

$TIMES

$DATES

DESIGNED - A.D.K. / F.W.S.
CHECKED - F.W.S. / D.H.R.
DRAWN - R. Laughlin
CHECKED - F.W.S. / D.H.R. / J.A.K.

EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - Oct. 3, 2016

REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 080-0025
SHEET NO. 7 OF 54 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	81
		CONTRACT NO. 74439		
		ILLINOIS	FED. AID PROJECT	

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1320+71.42	-3.67	430.19	430.19
CL Brg. W. Abut.	1320+74.92	-3.67	430.23	430.23
C	1320+84.92	-3.67	430.32	430.34
D	1320+94.92	-3.67	430.42	430.45
E	1321+04.92	-3.67	430.51	430.55
F	1321+14.92	-3.67	430.59	430.64
G	1321+24.92	-3.67	430.68	430.73
H	1321+34.92	-3.67	430.76	430.81
I	1321+44.92	-3.67	430.84	430.88
J	1321+54.92	-3.67	430.92	430.95
K	1321+64.92	-3.67	430.99	431.01
L	1321+74.92	-3.67	431.06	431.07
M	1321+84.92	-3.67	431.13	431.14
CL Brg. Pier 1	1321+91.50	-3.67	431.17	431.17
N	1322+01.50	-3.67	431.24	431.25
O	1322+11.50	-3.67	431.30	431.33
P	1322+21.50	-3.67	431.36	431.40
Q	1322+31.50	-3.67	431.41	431.48
R	1322+41.50	-3.67	431.47	431.54
S	1322+51.50	-3.67	431.52	431.60
T	1322+61.50	-3.67	431.57	431.66
U	1322+71.50	-3.67	431.61	431.71
V	1322+81.50	-3.67	431.65	431.74
W	1322+91.50	-3.67	431.69	431.77
X	1323+01.50	-3.67	431.73	431.80
Y	1323+11.50	-3.67	431.76	431.82
Z	1323+21.50	-3.67	431.79	431.83
A1	1323+31.50	-3.67	431.82	431.85
B1	1323+41.50	-3.67	431.85	431.86
CL Brg. Pier 2	1323+50.50	-3.67	431.87	431.87
C1	1323+60.50	-3.67	431.89	431.90
D1	1323+70.50	-3.67	431.91	431.93
E1	1323+80.50	-3.67	431.92	431.95
F1	1323+90.50	-3.67	431.94	431.97
G1	1324+00.50	-3.67	431.95	431.99
H1	1324+10.50	-3.67	431.95	432.01
I1	1324+20.50	-3.67	431.96	432.02
J1	1324+30.50	-3.67	431.96	432.03
K1	1324+40.50	-3.67	431.96	432.02
L1	1324+50.50	-3.67	431.95	432.01
M1	1324+60.50	-3.67	431.95	431.99
N1	1324+70.50	-3.67	431.94	431.97
O1	1324+80.50	-3.67	431.92	431.95
P1	1324+90.50	-3.67	431.91	431.93
Q1	1325+00.50	-3.67	431.89	431.90
CL Brg. Pier 3	1325+09.50	-3.67	431.87	431.87
R1	1325+19.50	-3.67	431.85	431.86
S1	1325+29.50	-3.67	431.82	431.85
T1	1325+39.50	-3.67	431.80	431.84
U1	1325+49.50	-3.67	431.77	431.82
V1	1325+59.50	-3.67	431.73	431.80
W1	1325+69.50	-3.67	431.70	431.78
X1	1325+79.50	-3.67	431.66	431.75
Y1	1325+89.50	-3.67	431.61	431.72
Z1	1325+99.50	-3.67	431.57	431.66
A2	1326+09.50	-3.67	431.52	431.60
B2	1326+19.50	-3.67	431.47	431.54
C2	1326+29.50	-3.67	431.42	431.48
D2	1326+39.50	-3.67	431.36	431.41
E2	1326+49.50	-3.67	431.31	431.33
F2	1326+59.50	-3.67	431.24	431.26

GIRDER 3 (Continued)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Brg. Pier 4	1326+68.50	-3.67	431.19	431.19
G2	1326+78.50	-3.67	431.12	431.13
H2	1326+88.50	-3.67	431.05	431.07
I2	1326+98.50	-3.67	430.98	431.00
J2	1327+08.50	-3.67	430.91	430.94
K2	1327+18.50	-3.67	430.83	430.87
L2	1327+28.50	-3.67	430.75	430.80
M2	1327+38.50	-3.67	430.67	430.72
N2	1327+48.50	-3.67	430.58	430.63
O2	1327+58.50	-3.67	430.49	430.54
P2	1327+68.50	-3.67	430.40	430.43
Q2	1327+78.50	-3.67	430.31	430.32
CL Brg. E. Abut.	1327+85.08	-3.67	430.24	430.24
Bk. E. Abut.	1327+88.58	-3.67	430.21	430.21

℄ ROADWAY, P.G. & STAGE CONST. JT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1320+71.42	0.00	430.25	430.25
CL Brg. W. Abut.	1320+74.92	0.00	430.28	430.28
C	1320+84.92	0.00	430.38	430.40
D	1320+94.92	0.00	430.47	430.51
E	1321+04.92	0.00	430.56	430.61
F	1321+14.92	0.00	430.65	430.70
G	1321+24.92	0.00	430.74	430.79
H	1321+34.92	0.00	430.82	430.87
I	1321+44.92	0.00	430.90	430.94
J	1321+54.92	0.00	430.97	431.00
K	1321+64.92	0.00	431.05	431.07
L	1321+74.92	0.00	431.12	431.13
M	1321+84.92	0.00	431.19	431.19
CL Brg. Pier 1	1321+91.50	0.00	431.23	431.23

℄ ROADWAY, P.G. & STAGE CONST. JT. (Continued)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
N	1322+01.50	0.00	431.30	431.31
O	1322+11.50	0.00	431.36	431.39
P	1322+21.50	0.00	431.42	431.46
Q	1322+31.50	0.00	431.47	431.53
R	1322+41.50	0.00	431.53	431.60
S	1322+51.50	0.00	431.58	431.66
T	1322+61.50	0.00	431.62	431.72
U	1322+71.50	0.00	431.67	431.77
V	1322+81.50	0.00	431.71	431.80
W	1322+91.50	0.00	431.75	431.83
X	1323+01.50	0.00	431.79	431.85
Y	1323+11.50	0.00	431.82	431.87
Z	1323+21.50	0.00	431.85	431.89
A1	1323+31.50	0.00	431.88	431.91
B1	1323+41.50	0.00	431.91	431.92
CL Brg. Pier 2	1323+50.50	0.00	431.93	431.93
C1	1323+60.50	0.00	431.95	431.96
D1	1323+70.50	0.00	431.97	431.98
E1	1323+80.50	0.00	431.98	432.01
F1	1323+90.50	0.00	431.99	432.03
G1	1324+00.50	0.00	432.00	432.05
H1	1324+10.50	0.00	432.01	432.06
I1	1324+20.50	0.00	432.01	432.08
J1	1324+30.50	0.00	432.02	432.09
K1	1324+40.50	0.00	432.01	432.08
L1	1324+50.50	0.00	432.01	432.06
M1	1324+60.50	0.00	432.00	432.05
N1	1324+70.50	0.00	431.99	432.03
O1	1324+80.50	0.00	431.98	432.01
P1	1324+90.50	0.00	431.97	431.98
Q1	1325+00.50	0.00	431.95	431.96
CL Brg. Pier 3	1325+09.50	0.00	431.93	431.93
R1	1325+19.50	0.00	431.91	431.92
S1	1325+29.50	0.00	431.88	431.91
T1	1325+39.50	0.00	431.85	431.90
U1	1325+49.50	0.00	431.82	431.88
V1	1325+59.50	0.00	431.79	431.86
W1	1325+69.50	0.00	431.75	431.83
X1	1325+79.50	0.00	431.71	431.81
Y1	1325+89.50	0.00	431.67	431.77
Z1	1325+99.50	0.00	431.63	431.72
A2	1326+09.50	0.00	431.58	431.66
B2	1326+19.50	0.00	431.53	431.60
C2	1326+29.50	0.00	431.48	431.54
D2	1326+39.50	0.00	431.42	431.47
E2	1326+49.50	0.00	431.36	431.39
F2	1326+59.50	0.00	431.30	431.32
CL Brg. Pier 4	1326+68.50	0.00	431.24	431.24
G2	1326+78.50	0.00	431.18	431.18
H2	1326+88.50	0.00	431.11	431.12
I2	1326+98.50	0.00	431.04	431.06
J2	1327+08.50	0.00	430.96	430.99
K2	1327+18.50	0.00	430.89	430.93
L2	1327+28.50	0.00	430.81	430.86
M2	1327+38.50	0.00	430.72	430.77
N2	1327+48.50	0.00	430.64	430.69
O2	1327+58.50	0.00	430.55	430.59
P2	1327+68.50	0.00	430.46	430.49
Q2	1327+78.50	0.00	430.37	430.38
CL Brg. E. Abut.	1327+85.08	0.00	430.30	430.30
Bk. E. Abut.	1327+88.58	0.00	430.27	430.27

$TIMES

$DATE

DESIGNED - A.D.K. / F.W.S.
CHECKED - F.W.S. / D.H.R.
DRAWN - R. Laughlin
CHECKED - F.W.S. / D.H.R. / J.A.K.

EXAMINED
PASSED
ENGINEER OF BRIDGE DESIGN
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - Oct. 3, 2016

REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 080-0025
SHEET NO. 8 OF 54 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	82
		CONTRACT NO. 74439		
		ILLINOIS	FED. AID PROJECT	

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1320+71.42	3.67	430.19	430.19
CL Brg. W. Abut.	1320+74.92	3.67	430.23	430.23
C	1320+84.92	3.67	430.32	430.34
D	1320+94.92	3.67	430.42	430.45
E	1321+04.92	3.67	430.51	430.55
F	1321+14.92	3.67	430.59	430.64
G	1321+24.92	3.67	430.68	430.73
H	1321+34.92	3.67	430.76	430.81
I	1321+44.92	3.67	430.84	430.88
J	1321+54.92	3.67	430.92	430.95
K	1321+64.92	3.67	430.99	431.01
L	1321+74.92	3.67	431.06	431.07
M	1321+84.92	3.67	431.13	431.14
CL Brg. Pier 1	1321+91.50	3.67	431.17	431.17
N	1322+01.50	3.67	431.24	431.25
O	1322+11.50	3.67	431.30	431.33
P	1322+21.50	3.67	431.36	431.40
Q	1322+31.50	3.67	431.41	431.48
R	1322+41.50	3.67	431.47	431.54
S	1322+51.50	3.67	431.52	431.60
T	1322+61.50	3.67	431.57	431.66
U	1322+71.50	3.67	431.61	431.71
V	1322+81.50	3.67	431.65	431.74
W	1322+91.50	3.67	431.69	431.77
X	1323+01.50	3.67	431.73	431.80
Y	1323+11.50	3.67	431.76	431.82
Z	1323+21.50	3.67	431.79	431.83
A1	1323+31.50	3.67	431.82	431.85
B1	1323+41.50	3.67	431.85	431.86
CL Brg. Pier 2	1323+50.50	3.67	431.87	431.87
C1	1323+60.50	3.67	431.89	431.90
D1	1323+70.50	3.67	431.91	431.93
E1	1323+80.50	3.67	431.92	431.95
F1	1323+90.50	3.67	431.94	431.97
G1	1324+00.50	3.67	431.95	431.99
H1	1324+10.50	3.67	431.95	432.01
I1	1324+20.50	3.67	431.96	432.02
J1	1324+30.50	3.67	431.96	432.03
K1	1324+40.50	3.67	431.96	432.02
L1	1324+50.50	3.67	431.95	432.01
M1	1324+60.50	3.67	431.95	431.99
N1	1324+70.50	3.67	431.94	431.97
O1	1324+80.50	3.67	431.92	431.95
P1	1324+90.50	3.67	431.91	431.93
Q1	1325+00.50	3.67	431.89	431.90
CL Brg. Pier 3	1325+09.50	3.67	431.87	431.87
R1	1325+19.50	3.67	431.85	431.86
S1	1325+29.50	3.67	431.82	431.85
T1	1325+39.50	3.67	431.80	431.84
U1	1325+49.50	3.67	431.77	431.82
V1	1325+59.50	3.67	431.73	431.80
W1	1325+69.50	3.67	431.70	431.78
X1	1325+79.50	3.67	431.66	431.75
Y1	1325+89.50	3.67	431.61	431.72
Z1	1325+99.50	3.67	431.57	431.66
A2	1326+09.50	3.67	431.52	431.60
B2	1326+19.50	3.67	431.47	431.54
C2	1326+29.50	3.67	431.42	431.48
D2	1326+39.50	3.67	431.36	431.41
E2	1326+49.50	3.67	431.31	431.33
F2	1326+59.50	3.67	431.24	431.26

GIRDER 4 (Continued)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Brg. Pier 4	1326+68.50	3.67	431.19	431.19
G2	1326+78.50	3.67	431.12	431.13
H2	1326+88.50	3.67	431.05	431.07
I2	1326+98.50	3.67	430.98	431.00
J2	1327+08.50	3.67	430.91	430.94
K2	1327+18.50	3.67	430.83	430.87
L2	1327+28.50	3.67	430.75	430.80
M2	1327+38.50	3.67	430.67	430.72
N2	1327+48.50	3.67	430.58	430.63
O2	1327+58.50	3.67	430.49	430.54
P2	1327+68.50	3.67	430.40	430.43
Q2	1327+78.50	3.67	430.31	430.32
CL Brg. E. Abut.	1327+85.08	3.67	430.24	430.24
Bk. E. Abut.	1327+88.58	3.67	430.21	430.21

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1320+71.42	11.00	430.08	430.08
CL Brg. W. Abut.	1320+74.92	11.00	430.11	430.11
C	1320+84.92	11.00	430.21	430.22
D	1320+94.92	11.00	430.30	430.33
E	1321+04.92	11.00	430.39	430.44
F	1321+14.92	11.00	430.48	430.53
G	1321+24.92	11.00	430.56	430.62
H	1321+34.92	11.00	430.65	430.70
I	1321+44.92	11.00	430.73	430.77
J	1321+54.92	11.00	430.80	430.83
K	1321+64.92	11.00	430.88	430.89
L	1321+74.92	11.00	430.95	430.96
M	1321+84.92	11.00	431.02	431.02
CL Brg. Pier 1	1321+91.50	11.00	431.06	431.06

GIRDER 5 (Continued)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
N	1322+01.50	11.00	431.12	431.14
O	1322+11.50	11.00	431.19	431.22
P	1322+21.50	11.00	431.24	431.29
Q	1322+31.50	11.00	431.30	431.36
R	1322+41.50	11.00	431.35	431.42
S	1322+51.50	11.00	431.40	431.49
T	1322+61.50	11.00	431.45	431.54
U	1322+71.50	11.00	431.50	431.60
V	1322+81.50	11.00	431.54	431.63
W	1322+91.50	11.00	431.58	431.66
X	1323+01.50	11.00	431.61	431.68
Y	1323+11.50	11.00	431.65	431.70
Z	1323+21.50	11.00	431.68	431.72
A1	1323+31.50	11.00	431.71	431.73
B1	1323+41.50	11.00	431.73	431.75
CL Brg. Pier 2	1323+50.50	11.00	431.75	431.75
C1	1323+60.50	11.00	431.78	431.78
D1	1323+70.50	11.00	431.79	431.81
E1	1323+80.50	11.00	431.81	431.84
F1	1323+90.50	11.00	431.82	431.86
G1	1324+00.50	11.00	431.83	431.88
H1	1324+10.50	11.00	431.84	431.89
I1	1324+20.50	11.00	431.84	431.90
J1	1324+30.50	11.00	431.84	431.91
K1	1324+40.50	11.00	431.84	431.90
L1	1324+50.50	11.00	431.84	431.89
M1	1324+60.50	11.00	431.83	431.87
N1	1324+70.50	11.00	431.82	431.86
O1	1324+80.50	11.00	431.81	431.84
P1	1324+90.50	11.00	431.79	431.81
Q1	1325+00.50	11.00	431.78	431.78
CL Brg. Pier 3	1325+09.50	11.00	431.76	431.76
R1	1325+19.50	11.00	431.74	431.75
S1	1325+29.50	11.00	431.71	431.74
T1	1325+39.50	11.00	431.68	431.72
U1	1325+49.50	11.00	431.65	431.71
V1	1325+59.50	11.00	431.62	431.69
W1	1325+69.50	11.00	431.58	431.66
X1	1325+79.50	11.00	431.54	431.63
Y1	1325+89.50	11.00	431.50	431.60
Z1	1325+99.50	11.00	431.46	431.55
A2	1326+09.50	11.00	431.41	431.49
B2	1326+19.50	11.00	431.36	431.43
C2	1326+29.50	11.00	431.30	431.36
D2	1326+39.50	11.00	431.25	431.29
E2	1326+49.50	11.00	431.19	431.22
F2	1326+59.50	11.00	431.13	431.14
CL Brg. Pier 4	1326+68.50	11.00	431.07	431.07
G2	1326+78.50	11.00	431.01	431.01
H2	1326+88.50	11.00	430.94	430.95
I2	1326+98.50	11.00	430.87	430.89
J2	1327+08.50	11.00	430.79	430.82
K2	1327+18.50	11.00	430.71	430.76
L2	1327+28.50	11.00	430.63	430.69
M2	1327+38.50	11.00	430.55	430.60
N2	1327+48.50	11.00	430.47	430.52
O2	1327+58.50	11.00	430.38	430.42
P2	1327+68.50	11.00	430.29	430.31
Q2	1327+78.50	11.00	430.19	430.20
CL Brg. E. Abut.	1327+85.08	11.00	430.13	430.13
Bk. E. Abut.	1327+88.58	11.00	430.10	430.10

$TIMES

$DATES

DESIGNED - A.D.K. / F.W.S.
CHECKED - F.W.S. / D.H.R.
DRAWN - R. Laughlin
CHECKED - F.W.S. / D.H.R. / J.A.K.

EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - Oct. 3, 2016

REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 080-0025
SHEET NO. 9 OF 54 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	83
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	1320+71.42	18.33	429.93	429.93
CL Brg. W. Abut.	1320+74.92	18.33	429.97	429.97
C	1320+84.92	18.33	430.06	430.08
D	1320+94.92	18.33	430.15	430.19
E	1321+04.92	18.33	430.24	430.29
F	1321+14.92	18.33	430.33	430.38
G	1321+24.92	18.33	430.42	430.47
H	1321+34.92	18.33	430.50	430.55
I	1321+44.92	18.33	430.58	430.62
J	1321+54.92	18.33	430.66	430.68
K	1321+64.92	18.33	430.73	430.75
L	1321+74.92	18.33	430.80	430.81
M	1321+84.92	18.33	430.87	430.87
CL Brg. Pier 1	1321+91.50	18.33	430.91	430.91
N	1322+01.50	18.33	430.98	430.99
O	1322+11.50	18.33	431.04	431.07
P	1322+21.50	18.33	431.10	431.14
Q	1322+31.50	18.33	431.15	431.21
R	1322+41.50	18.33	431.21	431.28
S	1322+51.50	18.33	431.26	431.34
T	1322+61.50	18.33	431.30	431.40
U	1322+71.50	18.33	431.35	431.45
V	1322+81.50	18.33	431.39	431.48
W	1322+91.50	18.33	431.43	431.51
X	1323+01.50	18.33	431.47	431.53
Y	1323+11.50	18.33	431.50	431.55
Z	1323+21.50	18.33	431.53	431.57
A1	1323+31.50	18.33	431.56	431.59
B1	1323+41.50	18.33	431.59	431.60
CL Brg. Pier 2	1323+50.50	18.33	431.61	431.61
C1	1323+60.50	18.33	431.63	431.64
D1	1323+70.50	18.33	431.65	431.66
E1	1323+80.50	18.33	431.66	431.69
F1	1323+90.50	18.33	431.67	431.71
G1	1324+00.50	18.33	431.68	431.73
H1	1324+10.50	18.33	431.69	431.74
I1	1324+20.50	18.33	431.69	431.76
J1	1324+30.50	18.33	431.70	431.77
K1	1324+40.50	18.33	431.69	431.76
L1	1324+50.50	18.33	431.69	431.74
M1	1324+60.50	18.33	431.68	431.73
N1	1324+70.50	18.33	431.67	431.71
O1	1324+80.50	18.33	431.66	431.69
P1	1324+90.50	18.33	431.65	431.66
Q1	1325+00.50	18.33	431.63	431.64
CL Brg. Pier 3	1325+09.50	18.33	431.61	431.61
R1	1325+19.50	18.33	431.59	431.60
S1	1325+29.50	18.33	431.56	431.59
T1	1325+39.50	18.33	431.53	431.58
U1	1325+49.50	18.33	431.50	431.56
V1	1325+59.50	18.33	431.47	431.54
W1	1325+69.50	18.33	431.43	431.51
X1	1325+79.50	18.33	431.39	431.49
Y1	1325+89.50	18.33	431.35	431.46
Z1	1325+99.50	18.33	431.31	431.40
A2	1326+09.50	18.33	431.26	431.34
B2	1326+19.50	18.33	431.21	431.28
C2	1326+29.50	18.33	431.16	431.22
D2	1326+39.50	18.33	431.10	431.15
E2	1326+49.50	18.33	431.04	431.07
F2	1326+59.50	18.33	430.98	431.00

GIRDER 6 (Continued)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Brg. Pier 4	1326+68.50	18.33	430.92	430.92
G2	1326+78.50	18.33	430.86	430.87
H2	1326+88.50	18.33	430.79	430.80
I2	1326+98.50	18.33	430.72	430.74
J2	1327+08.50	18.33	430.64	430.68
K2	1327+18.50	18.33	430.57	430.61
L2	1327+28.50	18.33	430.49	430.54
M2	1327+38.50	18.33	430.40	430.45
N2	1327+48.50	18.33	430.32	430.37
O2	1327+58.50	18.33	430.23	430.27
P2	1327+68.50	18.33	430.14	430.17
Q2	1327+78.50	18.33	430.05	430.06
CL Brg. E. Abut.	1327+85.08	18.33	429.98	429.98
Bk. E. Abut.	1327+88.58	18.33	429.95	429.95

$TIME$

$DATE$

DESIGNED - A.D.K. / F.W.S.
CHECKED - F.W.S. / D.H.R.
DRAWN - R. Laughlin
CHECKED - F.W.S. / D.H.R. / J.A.K.

EXAMINED
PASSED
ENGINEER OF BRIDGE DESIGN
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - Oct. 3, 2016

REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 080-0025
SHEET NO. 10 OF 54 SHEETS

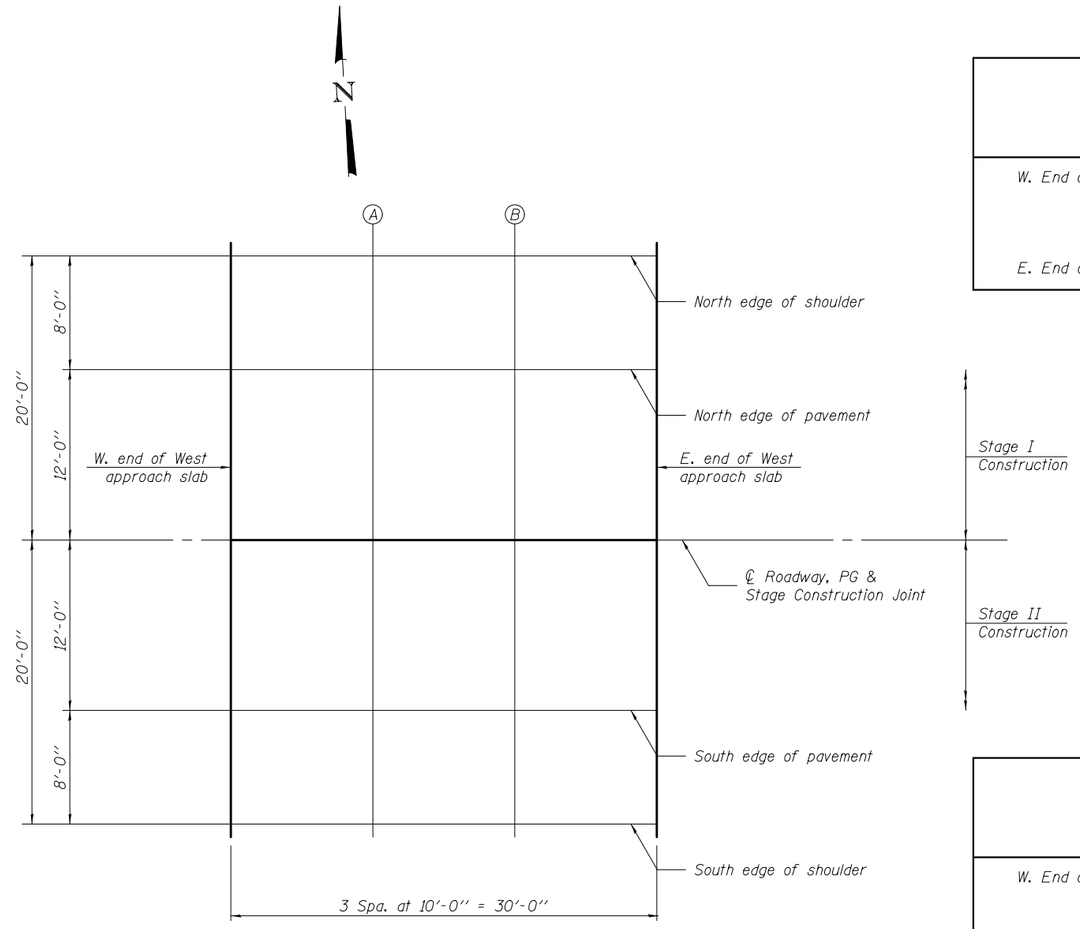
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	84
		CONTRACT NO. 74439		
	ILLINOIS	FED. AID PROJECT		

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr. Slab	1320+41.92	-20.00	429.59
A	1320+51.92	-20.00	429.70
B	1320+61.92	-20.00	429.80
E. End of W. Appr. Slab	1320+71.92	-20.00	429.90

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr. Slab	1320+41.92	12.00	429.76
A	1320+51.92	12.00	429.87
B	1320+61.92	12.00	429.97
E. End of W. Appr. Slab	1320+71.92	12.00	430.07



NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr. Slab	1320+41.92	-12.00	429.76
A	1320+51.92	-12.00	429.87
B	1320+61.92	-12.00	429.97
E. End of W. Appr. Slab	1320+71.92	-12.00	430.07

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr. Slab	1320+41.92	20.00	429.59
A	1320+51.92	20.00	429.70
B	1320+61.92	20.00	429.80
E. End of W. Appr. Slab	1320+71.92	20.00	429.90

PLAN

℄ ROADWAY, PG & STAGE CONST. JT.

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr. Slab	1320+41.92	0.00	429.95
A	1320+51.92	0.00	430.05
B	1320+61.92	0.00	430.16
E. End of W. Appr. Slab	1320+71.92	0.00	430.26

$TIME$

$DATE$

DESIGNED - Allysia D. Kelley
CHECKED - F.W.S. / D.H.R.
DRAWN - R. Laughlin
CHECKED - F.W.S. / D.H.R. / J.A.K.

EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - Oct. 3, 2016
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 080-0025
SHEET NO. 11 OF 54 SHEETS

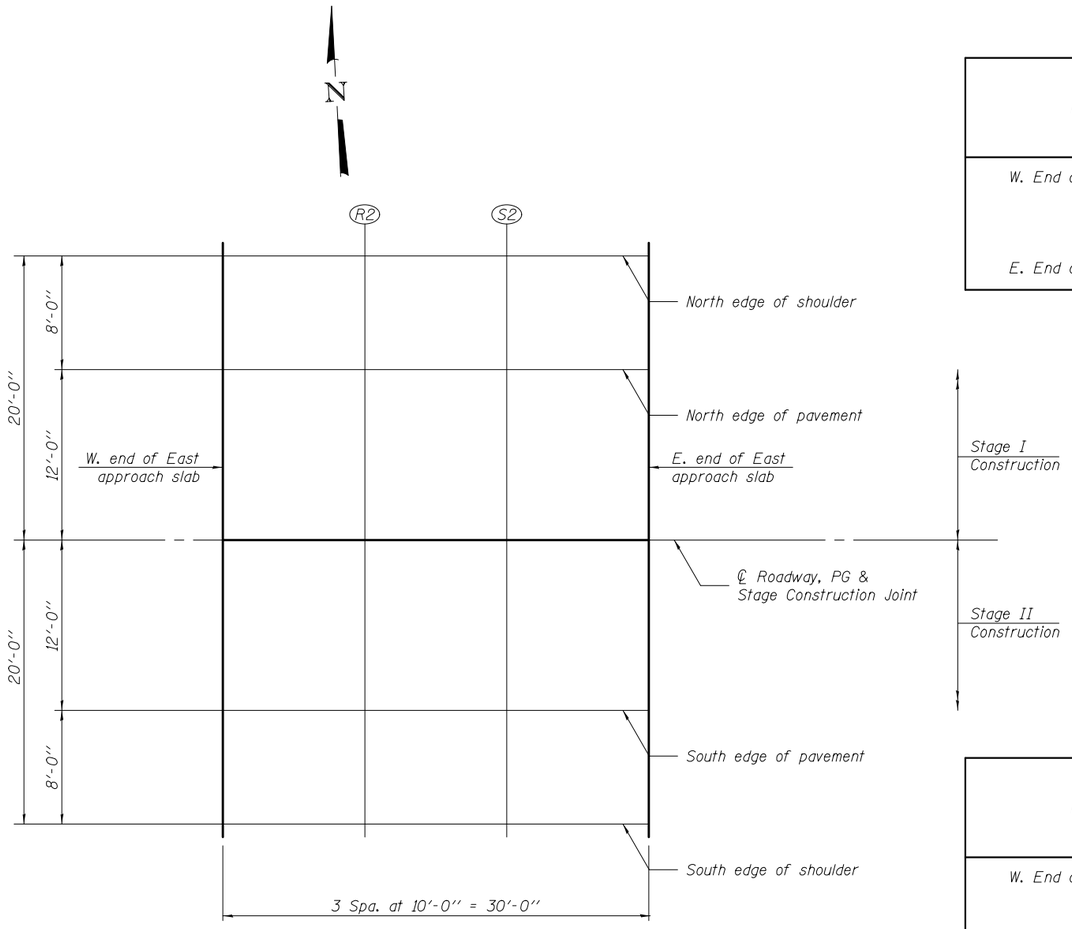
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	85
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr. Slab	1327+88.08	-20.00	429.92
R2	1327+98.08	-20.00	429.82
S2	1328+08.08	-20.00	429.72
E. End of E. Appr. Slab	1328+18.08	-20.00	429.61

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr. Slab	1327+88.08	12.00	430.09
R2	1327+98.08	12.00	429.99
S2	1328+08.08	12.00	429.88
E. End of E. Appr. Slab	1328+18.08	12.00	429.78



NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr. Slab	1327+88.08	-12.00	430.09
R2	1327+98.08	-12.00	429.99
S2	1328+08.08	-12.00	429.88
E. End of E. Appr. Slab	1328+18.08	-12.00	429.78

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr. Slab	1327+88.08	20.00	429.92
R2	1327+98.08	20.00	429.82
S2	1328+08.08	20.00	429.72
E. End of E. Appr. Slab	1328+18.08	20.00	429.61

PLAN

℄ ROADWAY, PG & STAGE CONST. JT.

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr. Slab	1327+88.08	0.00	430.27
R2	1327+98.08	0.00	430.17
S2	1328+08.08	0.00	430.07
E. End of E. Appr. Slab	1328+18.08	0.00	429.97

$TIME$

$DATE$

DESIGNED - Allysia D. Kelley
CHECKED - F.W.S. / D.H.R.
DRAWN - R. Laughlin
CHECKED - F.W.S. / D.H.R. / J.A.K.

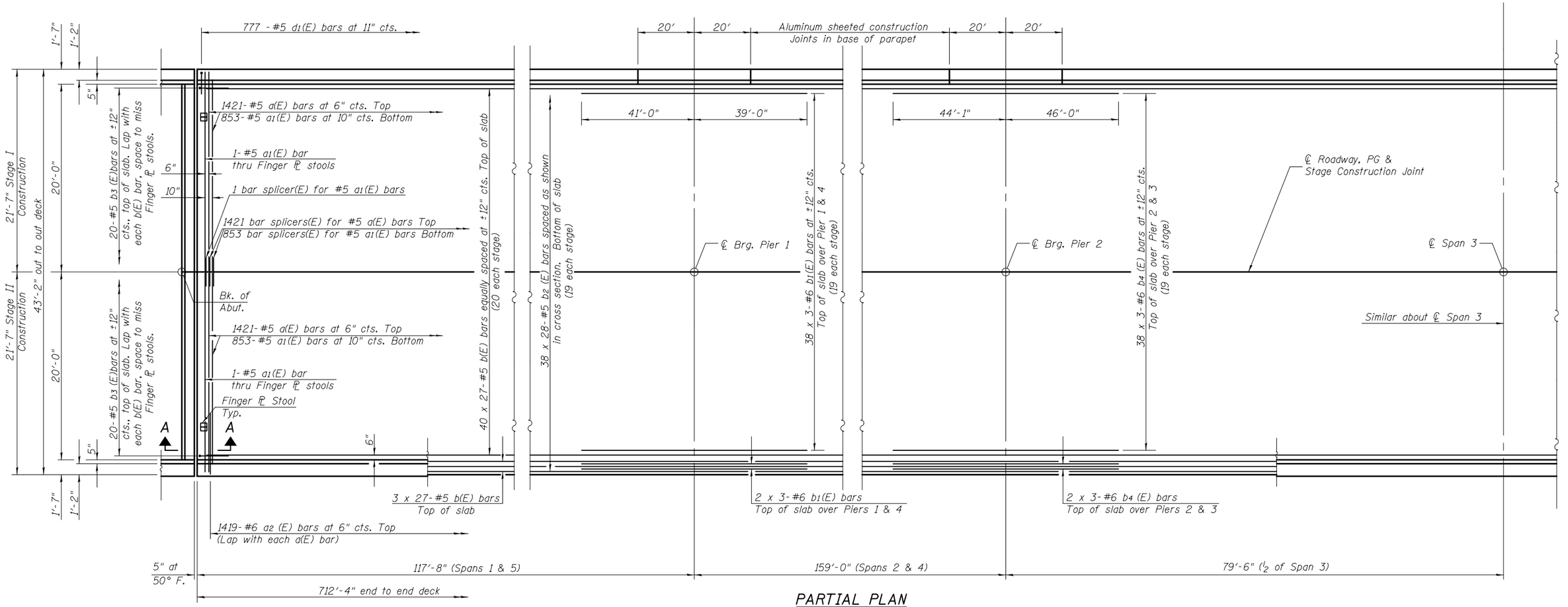
EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - Oct. 3, 2016
REVISED
REVISED

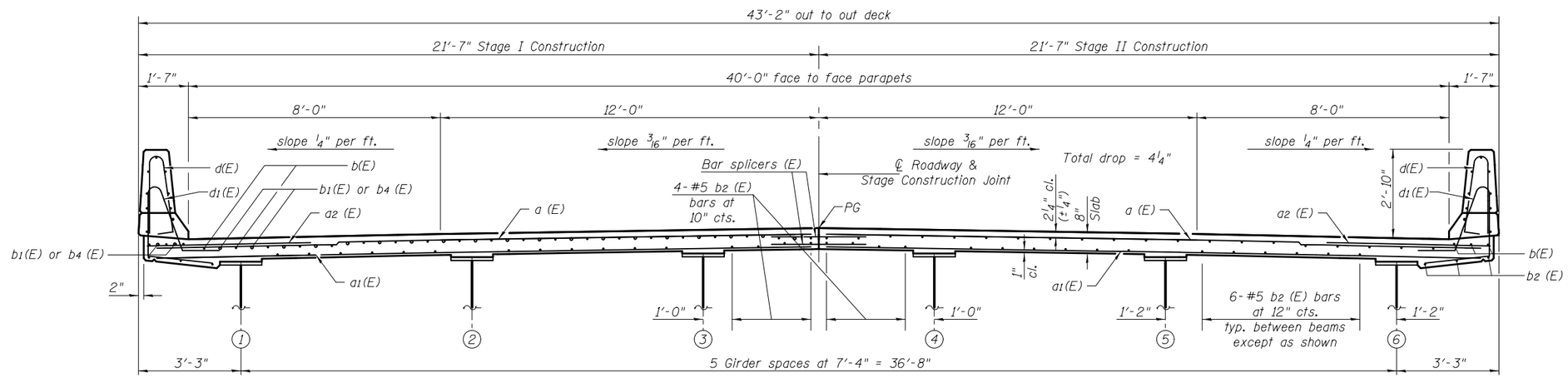
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF EAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 080-0025
SHEET NO. 12 OF 54 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	86
		CONTRACT NO. 74439		
	ILLINOIS	FED. AID PROJECT		



PARTIAL PLAN



NEAR PIER

NEAR MIDSPAN

CROSS SECTION

(Looking East)

MINIMUM BAR LAP

#5 bar = 3'-6"
#6 bar = 3'-7"

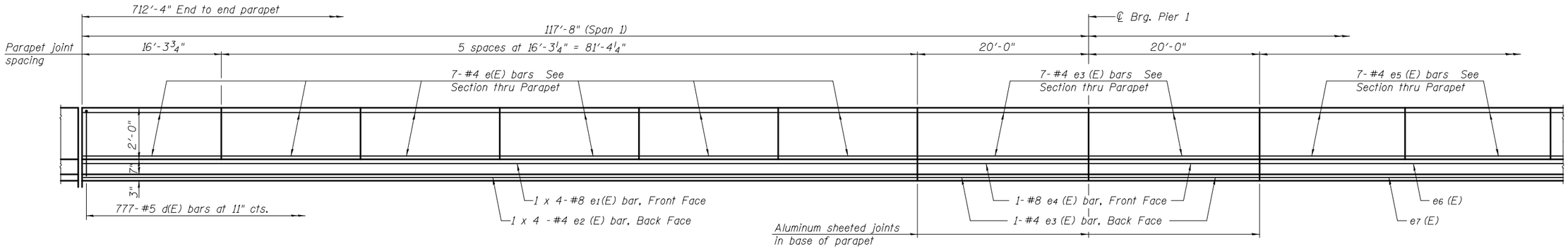
Notes:
See Sheet 15 of 54 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 14 of 54 for parapet reinforcement.

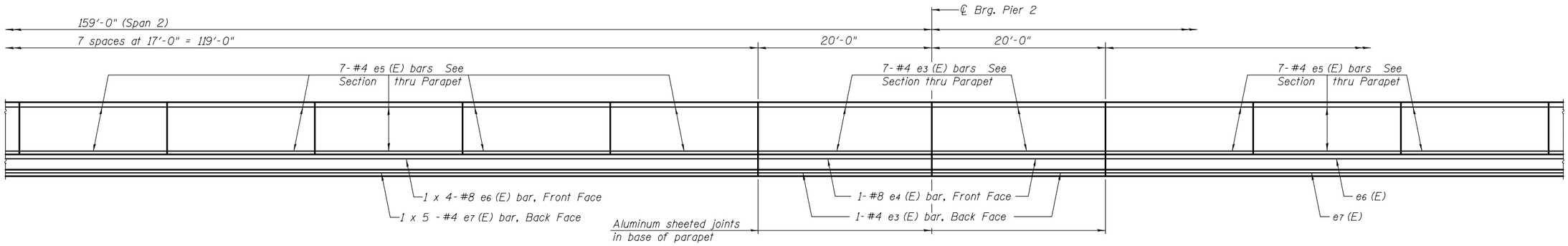
$TIME$
$DATE$

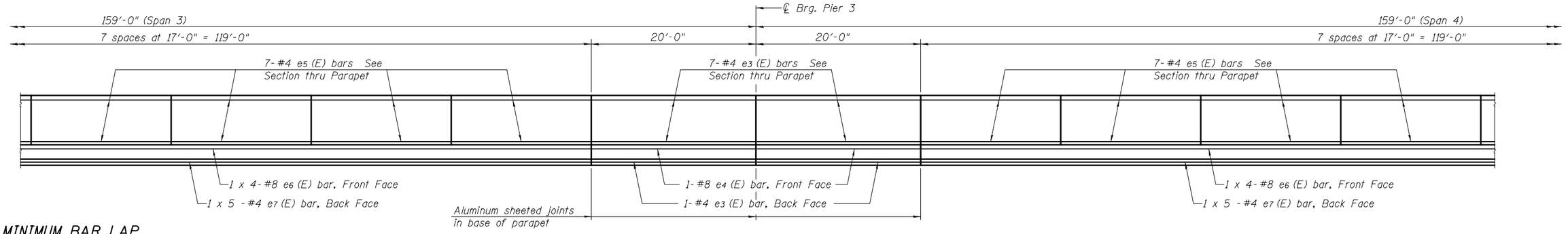
DESIGNED - Allysia D. Kelley	EXAMINED	DATE - Oct. 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - F.W.S. / D.H.R.			
DRAWN - R. Laughlin	PASSED	REVISED	
CHECKED - F.W.S. / J.A.K. / D.H.R.	ENGINEER OF BRIDGE DESIGN / ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED	

SUPERSTRUCTURE
STRUCTURE NO. 080-0025
SHEET NO. 13 OF 54 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	87
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			



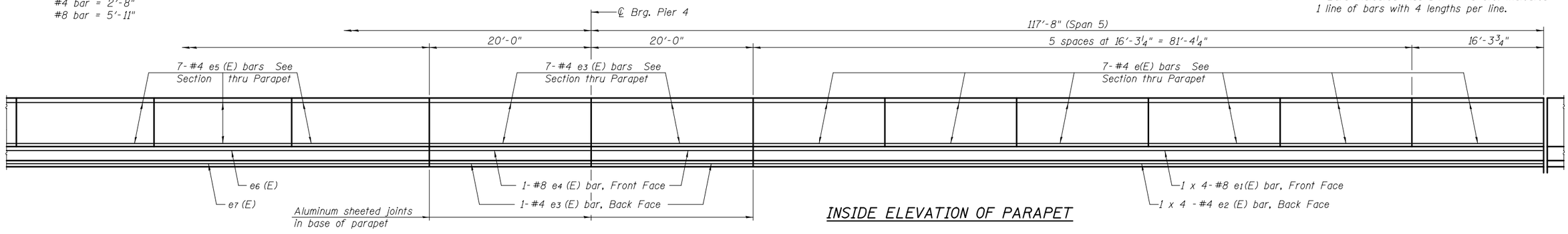




MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-8"
#8 bar = 5'-11"

Note:
Bars indicated thus 1 x 4-#8 etc. indicates 1 line of bars with 4 lengths per line.

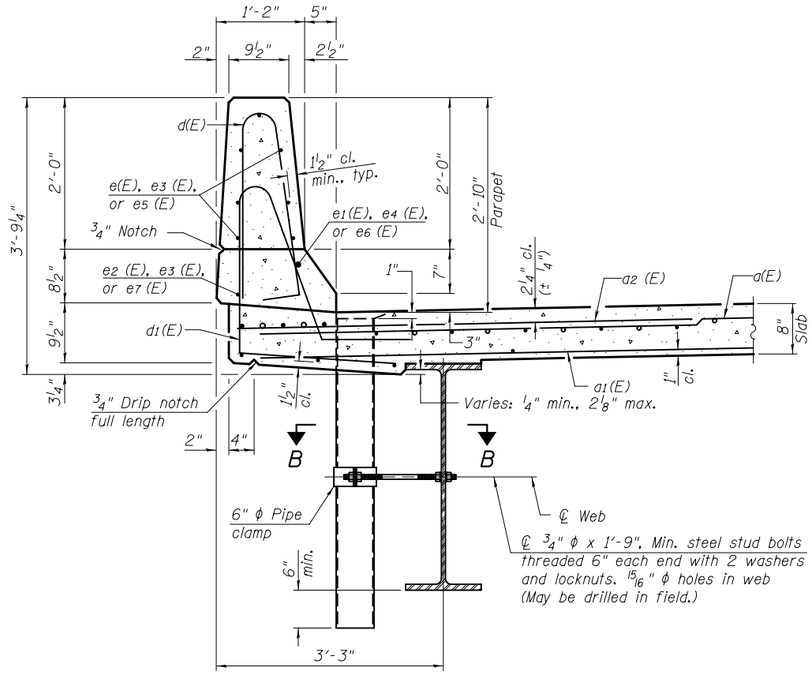


INSIDE ELEVATION OF PARAPET

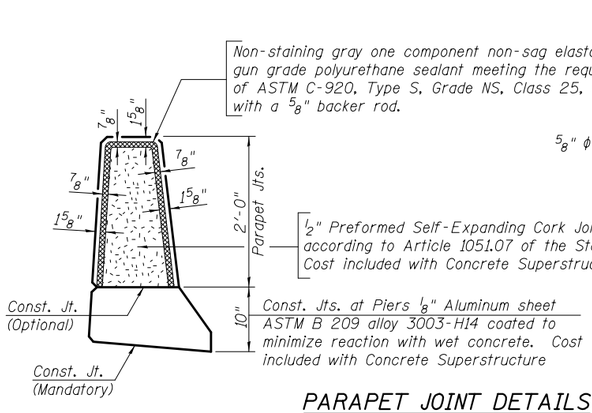
$TIME$
$DATE$

DESIGNED - Jason A. Kern	EXAMINED	DATE - Oct. 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS STRUCTURE NO. 080-0025	F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - David H. Richter					327	(7-2)BR	RICHLAND	147	88
DRAWN - R. Laughlin	PASSED	REVISED					CONTRACT NO. 74439		
CHECKED - J.A.K. / D.H.R.		REVISED		SHEET NO. 14 OF 54 SHEETS			ILLINOIS	FED. AID PROJECT	

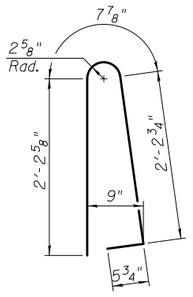
ENGINEER OF BRIDGE DESIGN
ACTING ENGINEER OF BRIDGES AND STRUCTURES



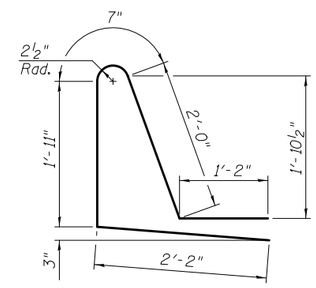
SECTION THRU PARAPET



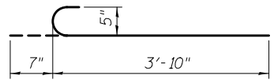
PARAPET JOINT DETAILS



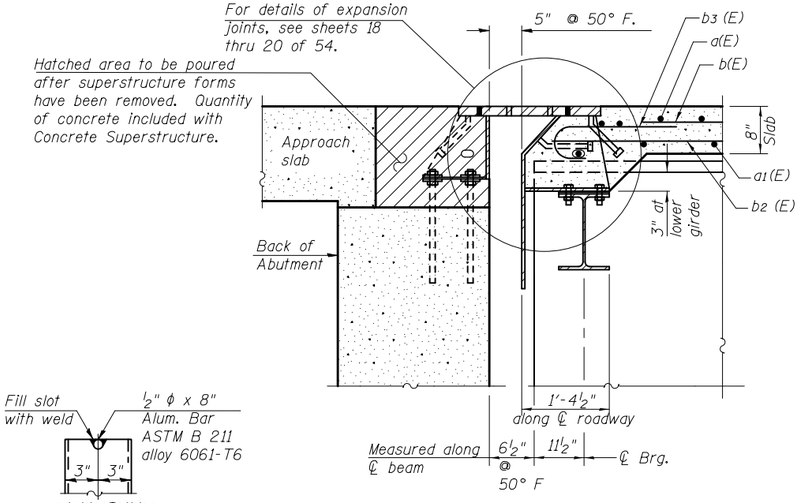
BAR d(E)



BAR d1(E)



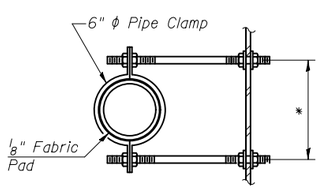
b3(E) BAR



SECTION A-A

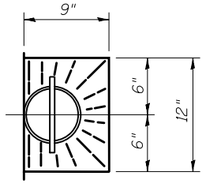
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a (E)	2,842	#5	21'-2"	—
a1(E)	1,710	#5	20'-4"	—
a2 (E)	2,838	#6	6'-6"	—
b (E)	1,242	#5	29'-9"	—
b1(E)	252	#6	29'-1"	—
b2 (E)	1,064	#5	28'-10"	—
b3 (E)	80	#5	4'-5"	⊂
b4 (E)	252	#6	32'-5"	—
d (E)	1554	#5	5'-7"	⌋
d1(E)	1554	#5	7'-10"	⌊
e (E)	168	#4	16'-0"	—
e1(E)	16	#8	28'-10"	—
e2 (E)	16	#4	26'-4"	—
e3 (E)	128	#4	19'-9"	—
e4 (E)	16	#8	19'-9"	—
e5 (E)	294	#4	16'-9"	—
e6 (E)	24	#8	34'-2"	—
e7 (E)	30	#4	25'-11"	—
Reinforcement Bars, Epoxy Coated		Pound	254,480	
Concrete Superstructure		Cu. Yds.	972	

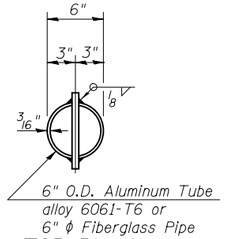


SECTION B-B

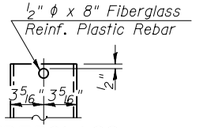
* Dimension as required by Pipe Clamp



TOP PLAN

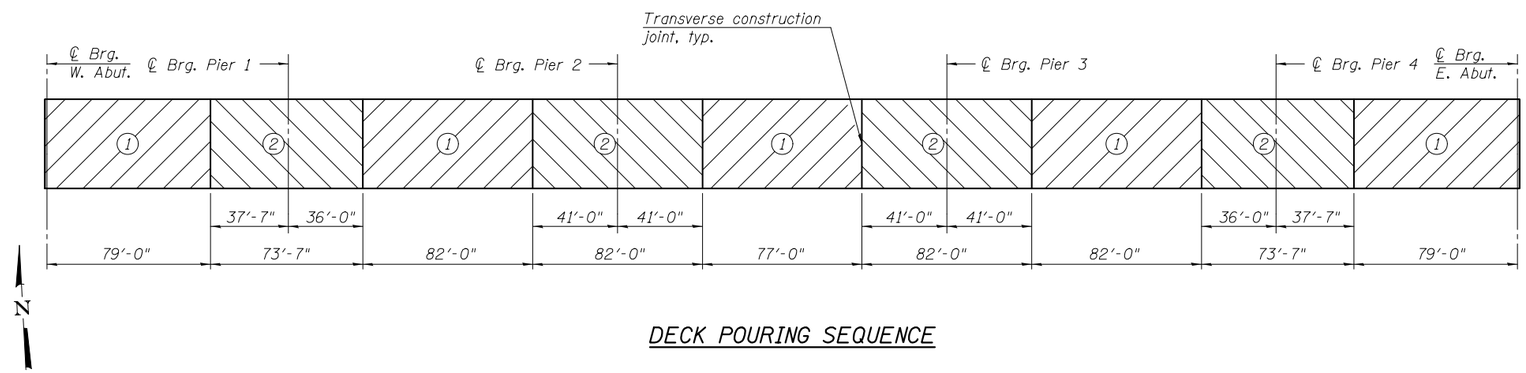


TOP PLAN
(Showing Aluminum Tube)



FIBERGLASS PIPE

ALUMINUM TUBE



DECK POURING SEQUENCE

Notes:

Drains shall be located clear of all cross frames.

The floor drains need not be painted.

Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.

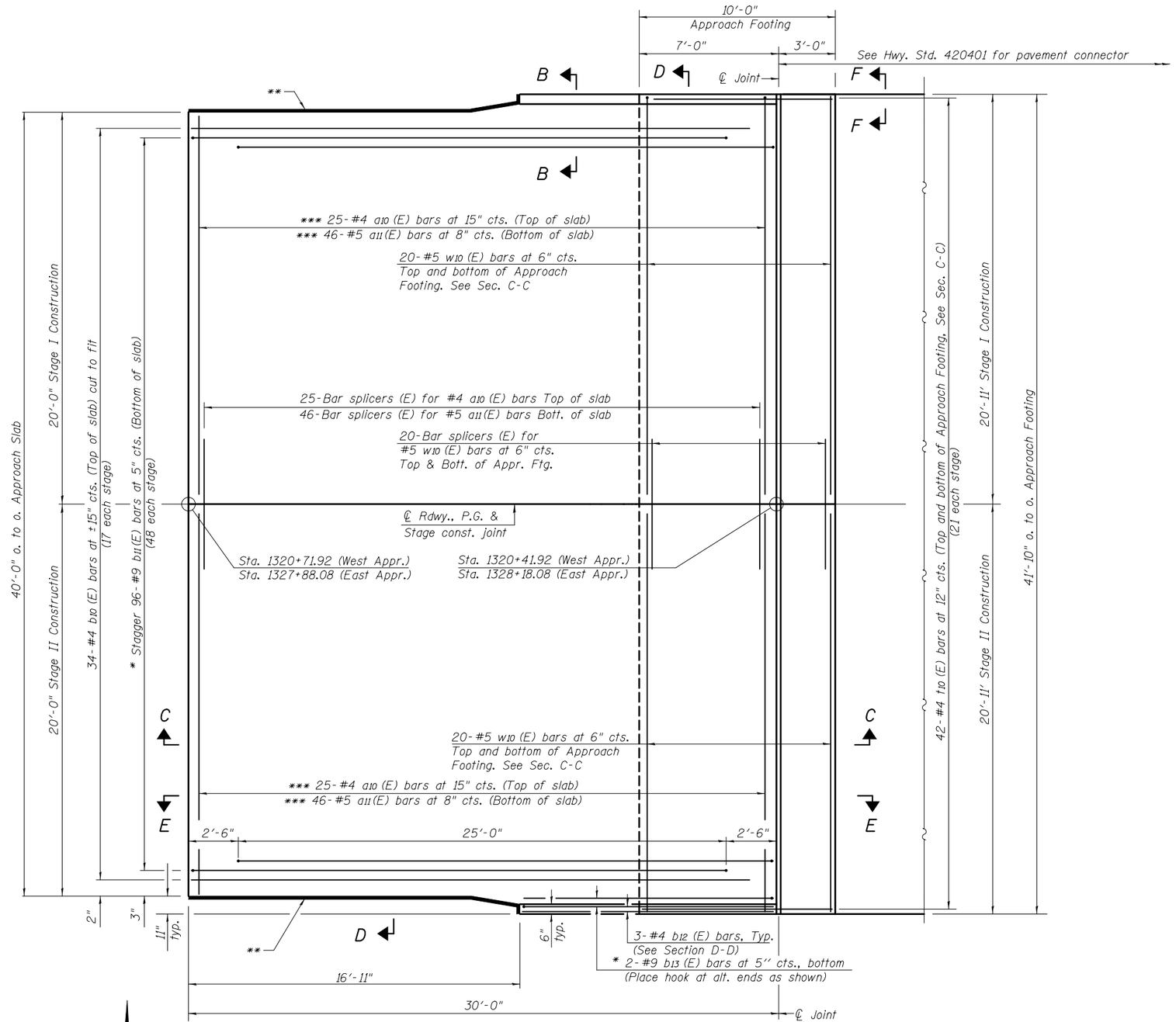
When the deck pour is stopped for the day at one or more of the transverse construction joints in the deck pouring sequence as shown, the next pour shall not be made until both of the following are met:

1) *At least 72 hours shall have elapsed from the end of the previous pour.*
2) *The concrete strength shall have attained a minimum flexural strength of 675 psi or a minimum compressive strength of 4000 psi.*

$TIME$
$DATE$

DESIGNED - J.A.K. / D.H.R.	EXAMINED		DATE - Oct. 3, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**SUPERSTRUCTURE DETAILS STRUCTURE NO. 080-0025**
CHECKED - D.H.R. / J.A.K.	PASSED	ENGINEER OF BRIDGE DESIGN	REVISED		SHEET NO. 15 OF 54 SHEETS
DRAWN - R. Laughlin		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		
CHECKED - J.A.K. / D.H.R.					

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	89
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		



PLAN

East Approach shown; West Approach similar.

* Tilt #9 b11 (E) and b13 (E) bars as required to maintain clearance.

** Preformed flexible foam expansion joint filler according to Article 1051.09 of the Standard Specifications; full depth of slab, full length of parapet. Cost included with Concrete Superstructure (Approach Slab), typical.

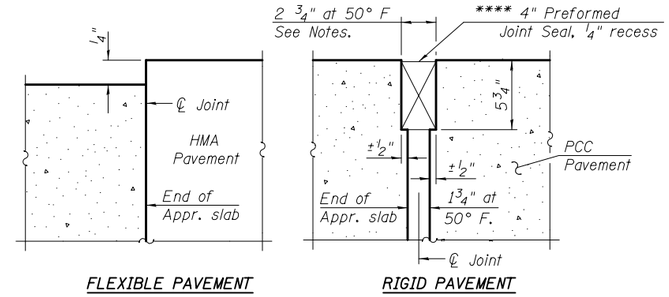
*** Cut bars to fit, as necessary.

Notes:

See sheet 17 of 54 for Sections C-C, D-D and E-E.

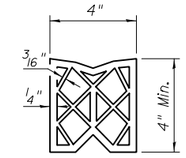
The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described by the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1½" for installation purposes.

**** Cost included with Concrete Superstructure (Approach Slab).

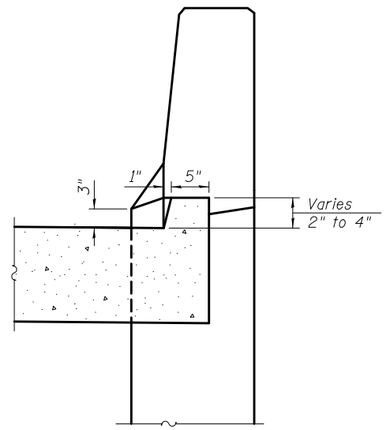


FLEXIBLE PAVEMENT — RIGID PAVEMENT

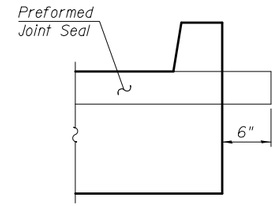
DETAIL A



PREFORMED JOINT SEAL



VIEW B-B



VIEW F-F

(Sheet 1 of 2)

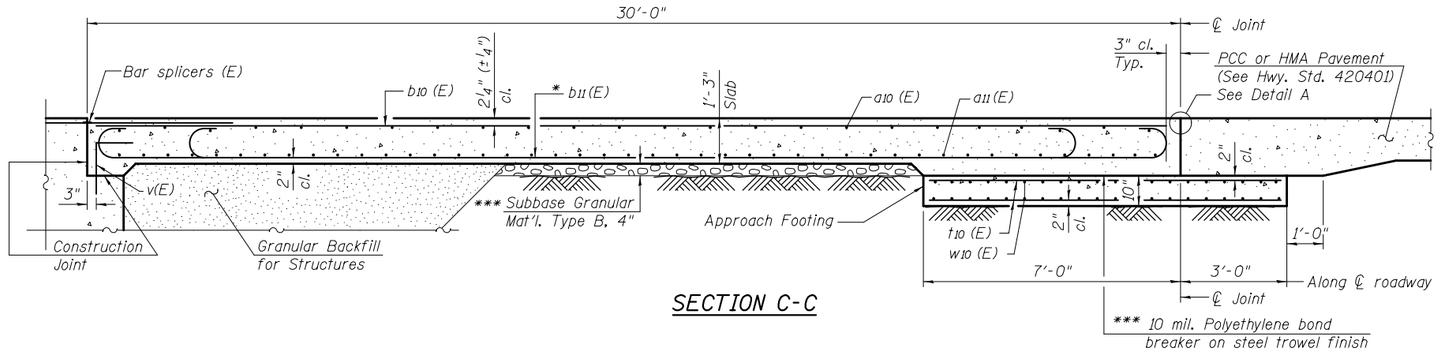
$TIME$

$DATE$

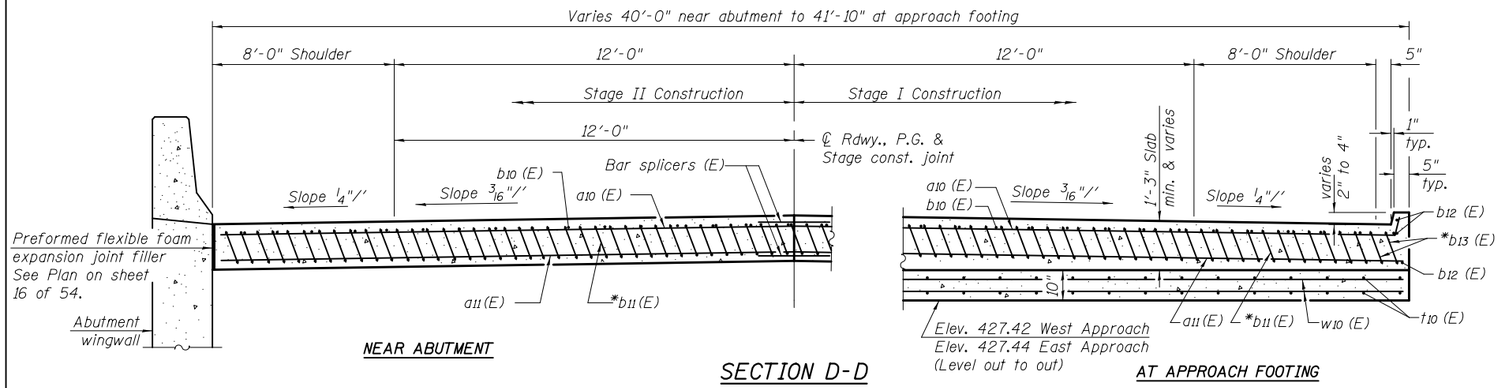
DESIGNED - Jason A. Kern	EXAMINED	DATE - Oct. 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - David H. Richter	PASSED	REVISED	
DRAWN - R. Laughlin	Joyce F. Schiff ENGINEER OF BRIDGE DESIGN A. Carl Preuss ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
CHECKED - J.A.K. / D.H.R.			

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 080-0025
SHEET NO. 16 OF 54 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	90
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			



SECTION C-C



NEAR ABUTMENT

AT APPROACH FOOTING

SECTION D-D

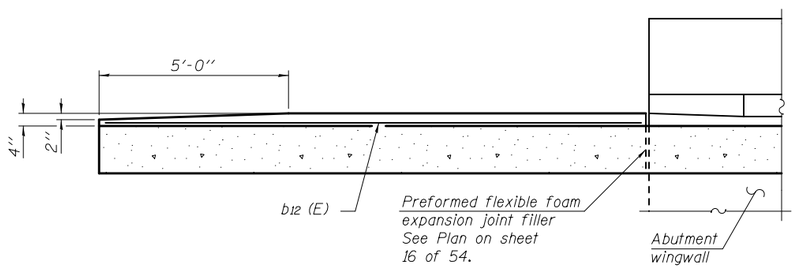
(See Plan for dimensions not shown)

Notes:

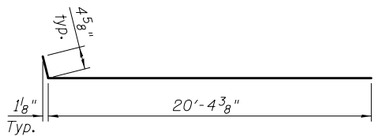
See sheet 16 of 54 for Detail A.
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet 31 of 54.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 42 of 54.
Cost of excavation for approach footing included with Concrete Structures.
For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 54.

* Tilt #9 b11(E) and b13 (E) bars as required to maintain clearance.

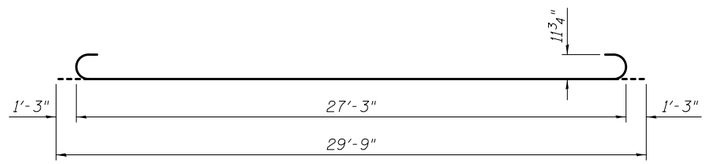
*** Cost included with Concrete Superstructure (Approach Slab).



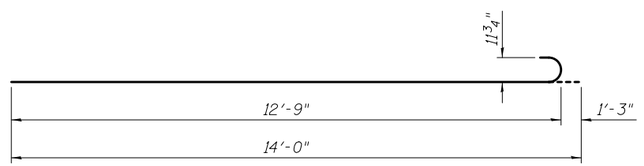
SECTION E-E



BAR a10 (E)



BAR b11(E)



BAR b13(E)

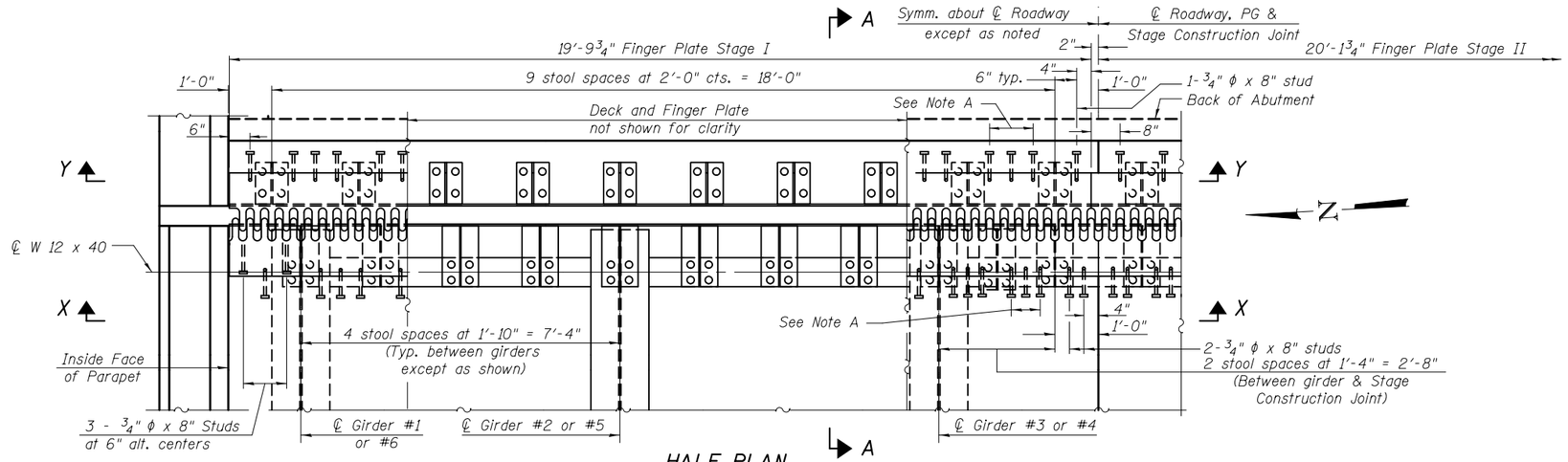
TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10 (E)	100	#4	20'-9"	
a11 (E)	184	#5	20'-7"	
b10 (E)	68	#4	29'-8"	
b11 (E)	192	#9	29'-9"	
b12 (E)	12	#4	12'-9"	
b13 (E)	8	#9	14'-0"	
t10 (E)	168	#4	9'-8"	
w10 (E)	160	#5	20'-7"	
Concrete Superstructure (Approach Slab)			Cu. Yd.	125.0
Concrete Structures			Cu. Yd.	18.5
Reinforcement Bars, Epoxy Coated			Pound	31,110

$TIME$
$DATE$

DESIGNED - Jason A. Kern	EXAMINED		DATE - Oct. 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 080-0025
CHECKED - David H. Richter	PASSED	ENGINEER OF BRIDGE DESIGN	REVISED		SHEET NO. 17 OF 54 SHEETS
DRAWN - R. Laughlin		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		
CHECKED - J.A.K. / D.H.R.					

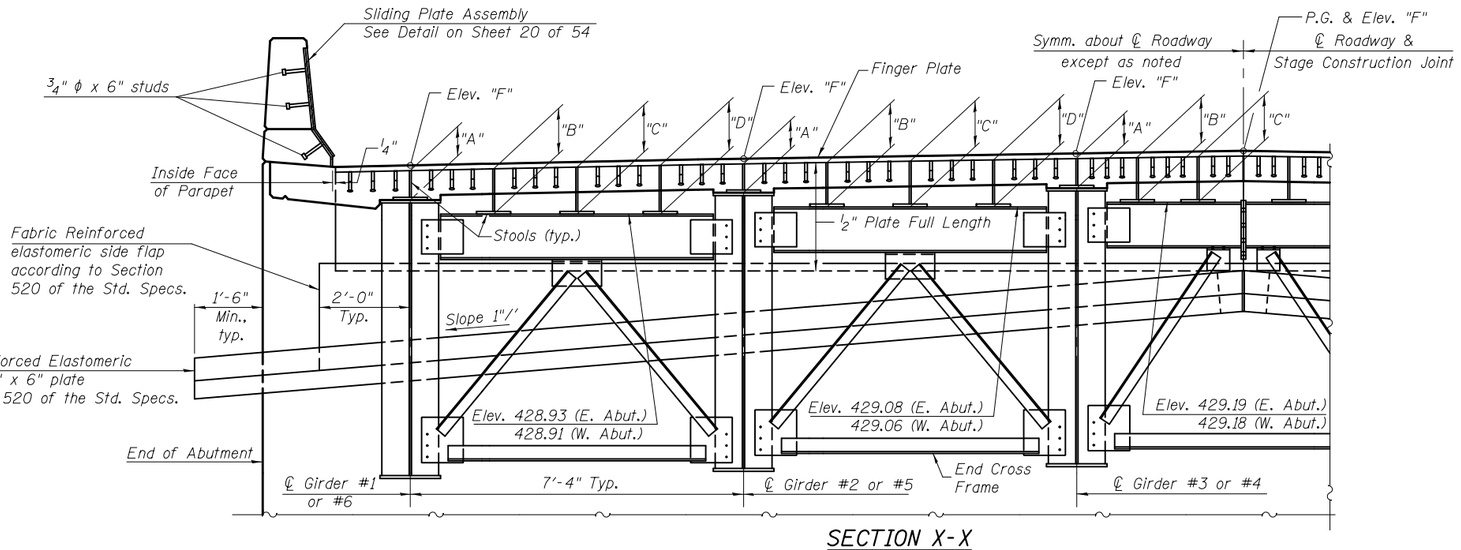
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	91
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			



HALF PLAN

(East Abutment shown; West Abutment similar)

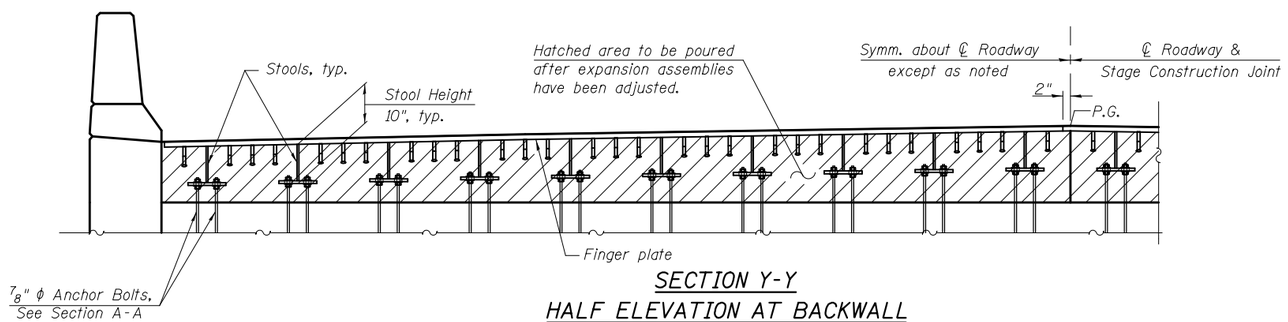
Note A:
3 - 3/4" ϕ x 8" Studs evenly spaced between stools (typ.)



SECTION X-X
PARTIAL ELEVATION AT GIRDERS

BILL OF MATERIAL

Item	Unit	Quantity
Finger Plate Expansion Joint, 4"	Foot	80
Fabric Reinforced Elastomeric Trough	Foot	93

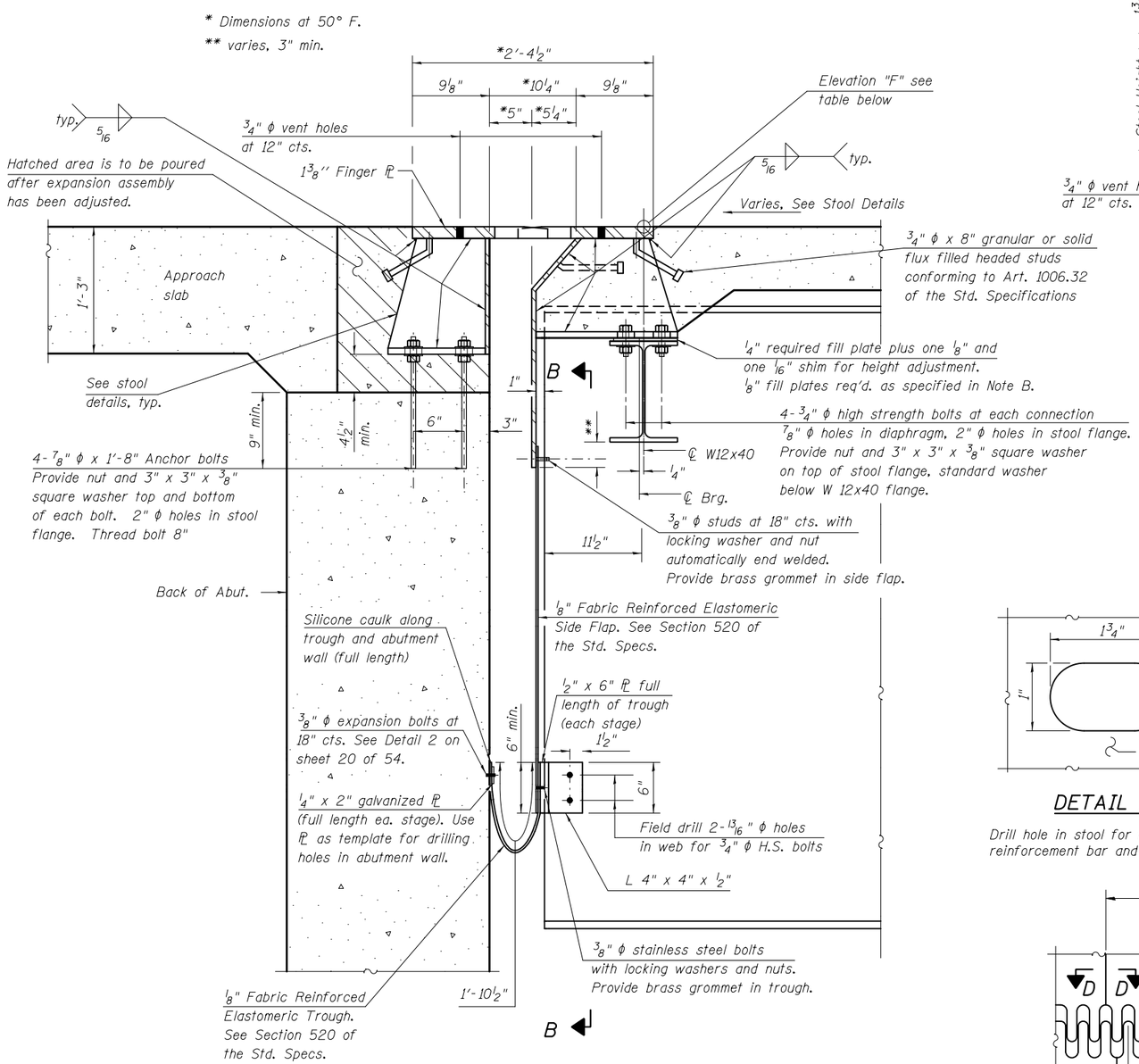


SECTION Y-Y
HALF ELEVATION AT BACKWALL

Notes: Finger Plates and stools shall conform to the requirements of AASHTO M270 Grade 50W.
Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
For Section A-A, see sheet 19 of 54.
Hatched area is abutment hatch block. See Abutment sheets 29 to 34 of 54.

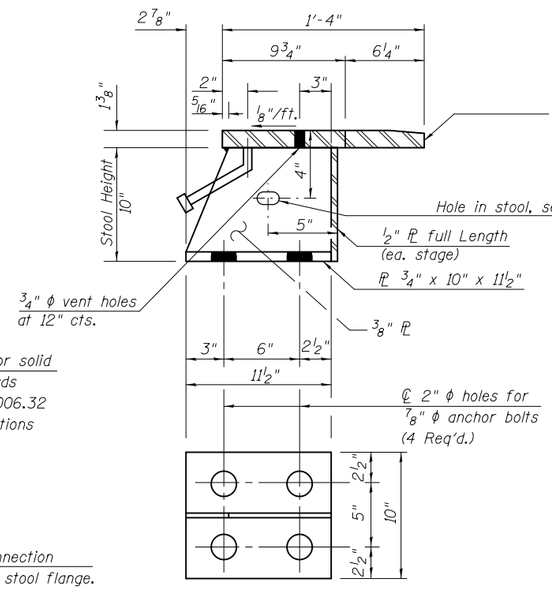
$DATE$ $TIME$

DESIGNED - Jason A. Kern	EXAMINED	DATE - Oct. 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FINGER PLATE EXPANSION JOINT DETAILS STRUCTURE NO. 080-0025	F.A.P RTE. 327 | SECTION (7-2)BR | COUNTY RICHLAND | TOTAL SHEETS 147 | SHEET NO. 92
CHECKED - David H. Richter	PASSED	REVISED		SHEET NO. 18 OF 54 SHEETS	CONTRACT NO. 74439
DRAWN - R. Laughlin	ENGINEER OF BRIDGE DESIGN	REVISED			ILLINOIS | FED. AID PROJECT
CHECKED - J.A.K. / D.H.R.	ACTING ENGINEER OF BRIDGES AND STRUCTURES				

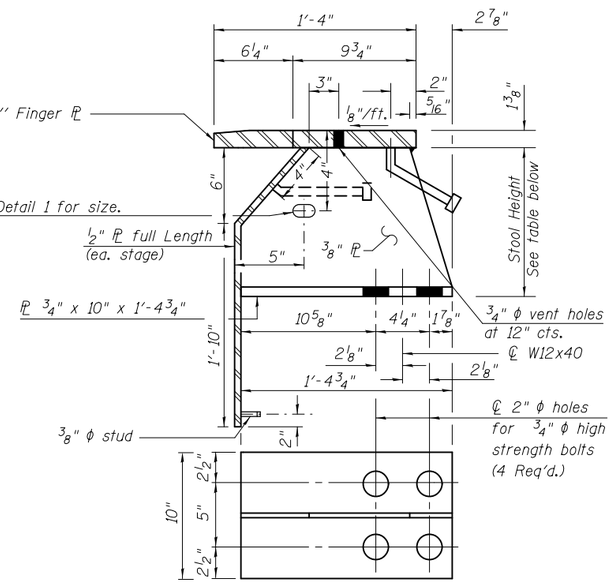


SECTION A-A THRU FINGER ℄

For Section B-B, see sheet 20 of 52.



BACKWALL FINGER PLATE STOOL DETAIL



DECK FINGER PLATE STOOL DETAIL

ELEVATION "F"

Location \ Abut.	Elev. West Abut	Elev. East Abut
℄ W 12x40, Girder #1 & #6	429.97	429.98
℄ W 12x40, Girder #2 & #5	430.11	430.13
℄ W 12x40, Girder #3 & #4	430.23	430.24
℄ Rdwy & P.G.	430.28	430.30

Elevation "F" is at top of Finger Plate at noted location.

STOOL HEIGHTS

Location / Between Girders	"A"	"B"	"C"	"D"
Girder #1 & #2	7 3/16"	11 7/16"	11 7/8"	12 5/16"
Girder #2 & #3	7 3/16"	11 1/4"	11 5/8"	11 15/16"
Girder #3 & #4	7 3/16"	11 1/8"	11 3/8"	-
Girder #4 & #5	7 3/16"	11 1/4"	11 5/8"	11 15/16"
Girder #5 & #6	7 3/16"	11 7/16"	11 7/8"	12 5/16"

Heights shown are at ℄ W 12x40.

Stool heights "A", "B", "C", and "D" are located in order as shown in Section X-X on Sheet 18 of 54.

Note B:

Additional 1/8" Fill Plate required at:

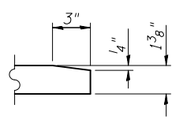
East Abutment: "A" stools on Girders 1 & 6.

West Abutment: "B" and "C" stools between Girders 3 & 4.

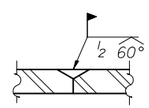
(6 total 1/8" Fill ℄ required)

DETAIL 1

Drill hole in stool for transverse deck reinforcement bar and bar splicer.

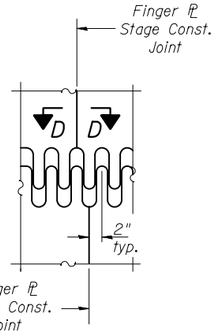


SECTION C-C

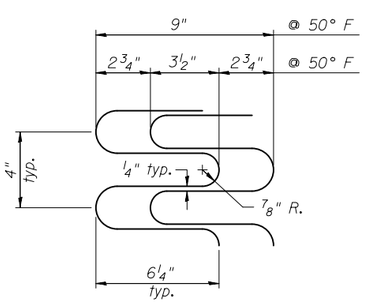


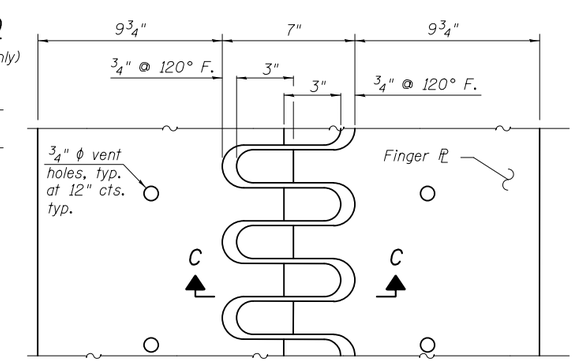
SECTION D-D

(For 1 3/8" Finger ℄ only)



FINGER ℄ STAGE CONSTRUCTION JOINT DETAIL





FINGER DETAILS

Notes:

Shop butt splices are required to be full penetration for all finger plates.

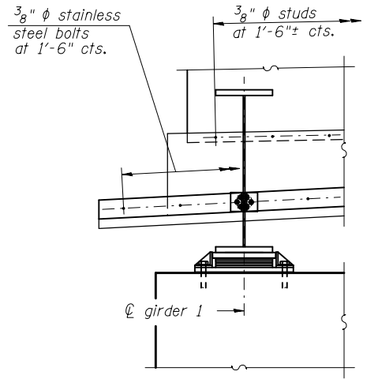
Space finger plate joints to miss stools.

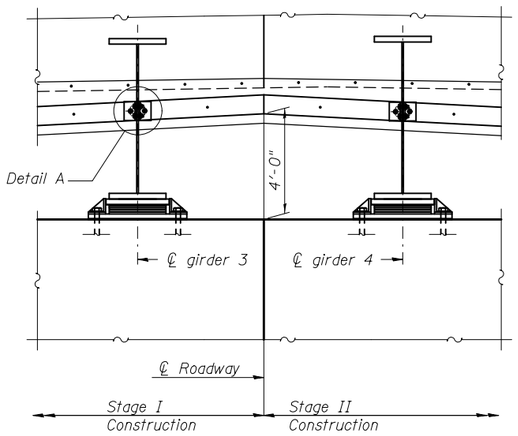
$TIME$

$DATE$

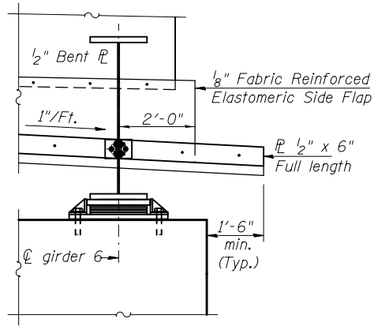
DESIGNED - Jason A. Kern	EXAMINED		DATE - Oct. 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FINGER PLATE EXPANSION JOINT DETAILS STRUCTURE NO. 080-0025
CHECKED - David H. Richter	PASSED	ENGINEER OF BRIDGE DESIGN	REVISED		SHEET NO. 19 OF 54 SHEETS
DRAWN - R. Laughlin		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		
CHECKED - J.A.K. / D.H.R.					

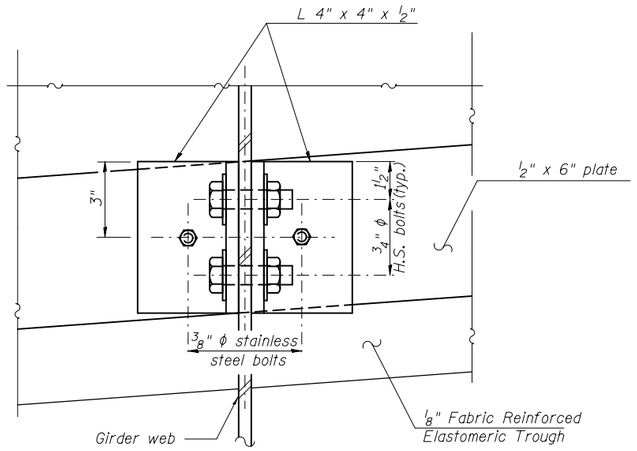
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	93
		CONTRACT NO. 74439		
	ILLINOIS FED. AID PROJECT			



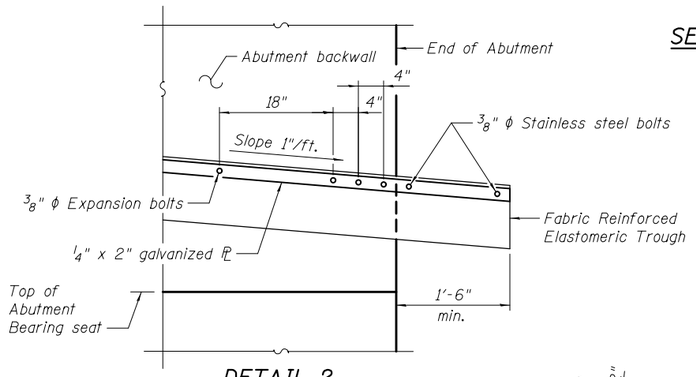


SECTION B-B

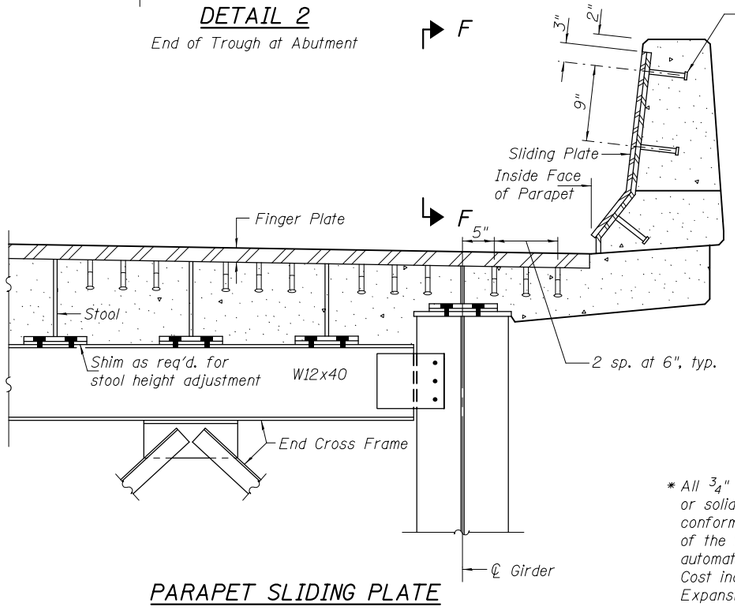




DETAIL A
(24 angles required)

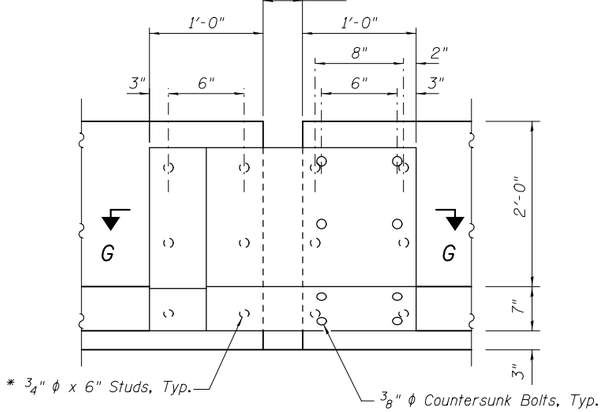


DETAIL 2
End of Trough at Abutment

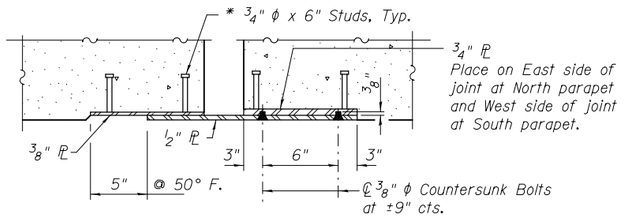


PARAPET SLIDING PLATE ASSEMBLY DETAIL

* All 3/4" ϕ Studs shall be granular or solid flux filled headed studs conforming to Art. 1006.32 of the Std. Specifications automatically end welded. Cost included in Finger Plate Expansion Joint, 4".

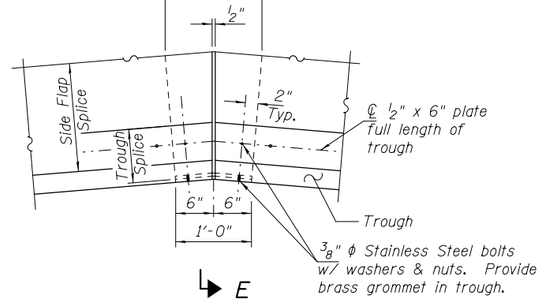


VIEW F-F
Inside Elevation of Parapet at Joint



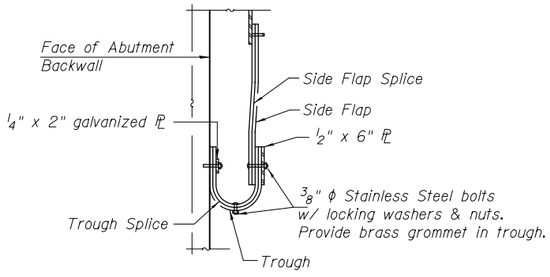
SECTION G-G

E



E

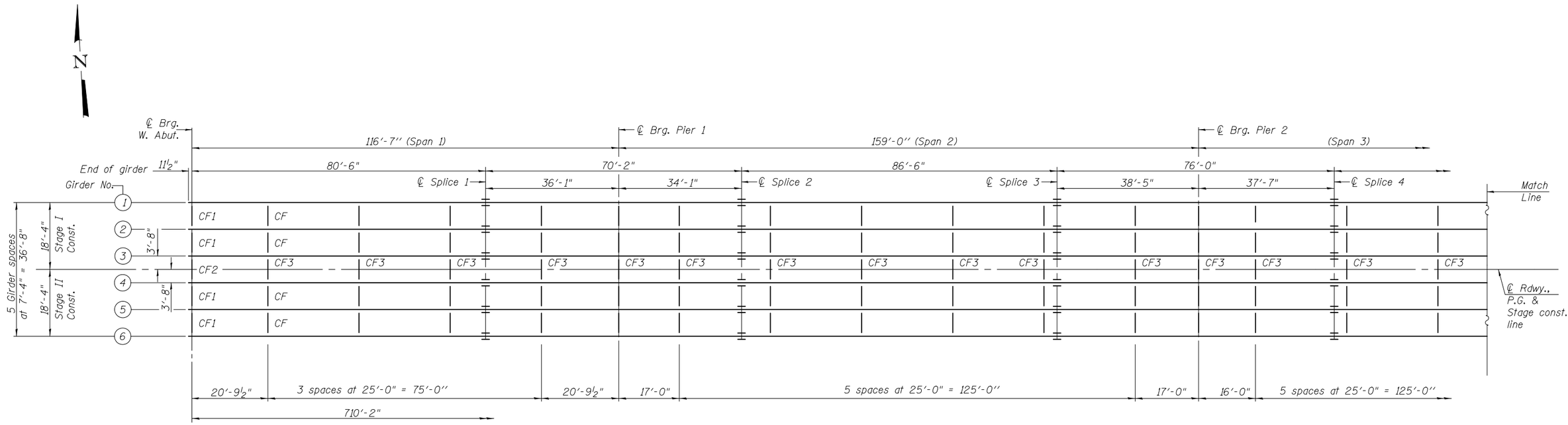
TROUGH & SIDE FLAP SPLICE DETAIL



SECTION E-E

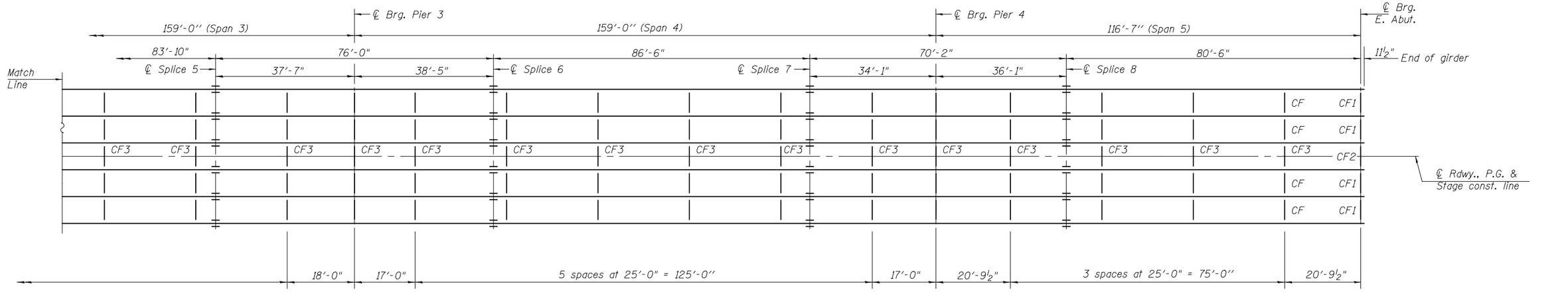
$TIME$
$DATE$

DESIGNED - Jason A. Kern	EXAMINED	DATE - Oct. 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FINGER PLATE EXPANSION JOINT DETAILS STRUCTURE NO. 080-0025	F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - David H. Richter					327	(7-2)BR	RICHLAND	147	94
DRAWN - R. Laughlin	PASSED	REVISED						CONTRACT NO. 74439	
CHECKED - J.A.K. / D.H.R.	ENGINEER OF BRIDGE DESIGN / ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 20 OF 54 SHEETS			ILLINOIS	FED. AID PROJECT	



Notes:

For Girder details, see sheet 22 of 54.
For Cross Frame details, see sheet 23 of 54.
For Splice details, see sheet 25 of 54..
All cross frames shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

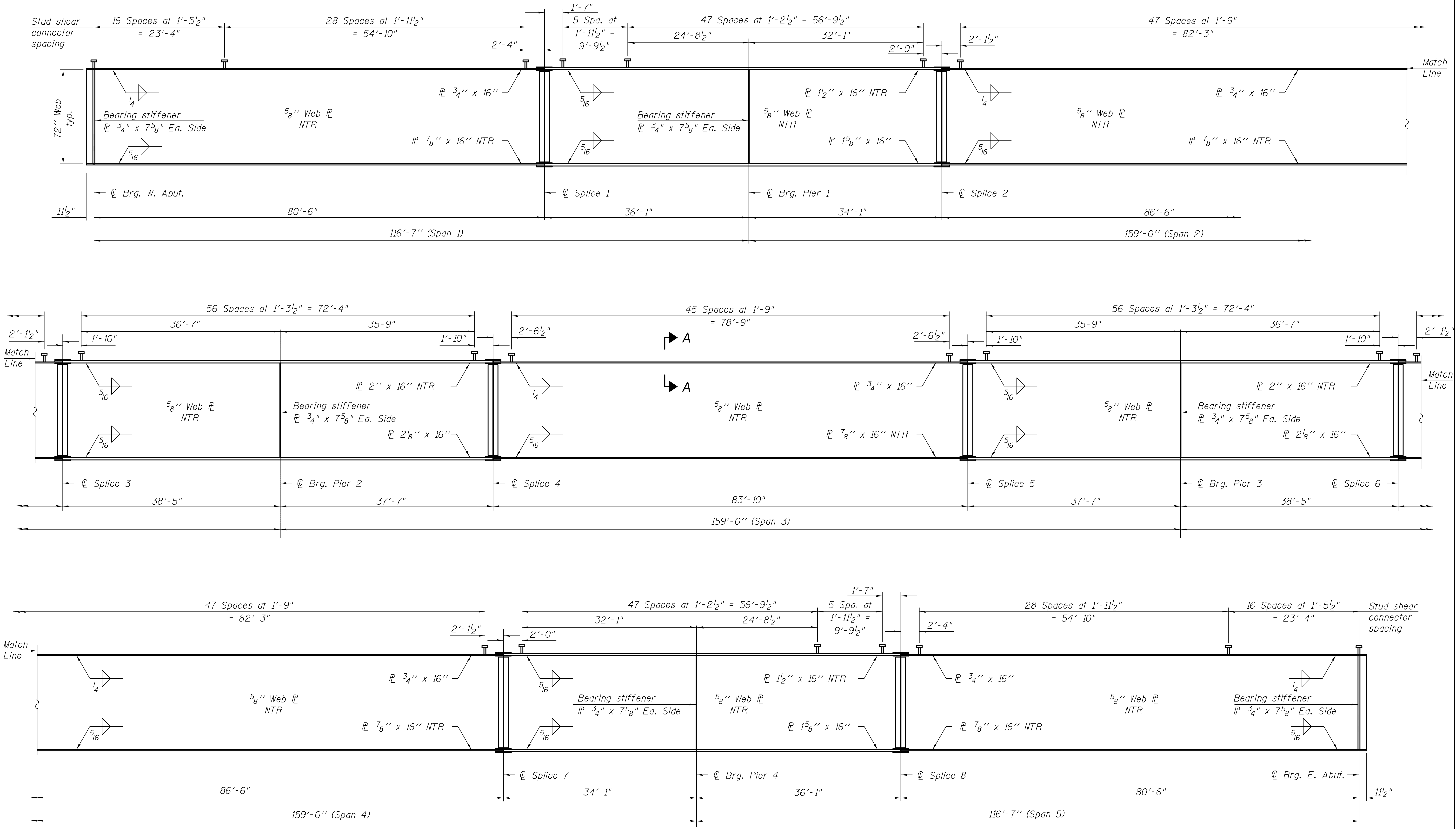


PLAN

All cross frames are "CF" unless otherwise noted.

$TIME$
$DATE$

DESIGNED - A.D.K. / D.H.R.	EXAMINED		DATE - Oct. 3, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**STRUCTURAL STEEL STRUCTURE NO. 080–0025**	F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - F.W.S. / J.A.K.		ENGINEER OF BRIDGE DESIGN				327	(7-2)BR	RICHLAND	147	95
DRAWN - R. Laughlin	PASSED		REVISED					CONTRACT NO. 74439		
CHECKED - F.W.S. / D.H.R. / J.A.K.		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 21 OF 54 SHEETS			ILLINOIS FED. AID PROJECT		



GIRDER ELEVATION

Notes:
See sheet 24 of 54 for Section A-A and for Bearing Stiffener Details.
Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
All structural steel shall be AASHTO M270 Gr. 50W.

DESIGNED - Allysia D. Kelley	EXAMINED	ENGINEER OF BRIDGE DESIGN	DATE - Oct. 3, 2016
CHECKED - Frank W. Sharpe			
DRAWN - R. Laughlin	PASSED	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED - F.W.S. / J.A.K. / D.H.R.			REVISED

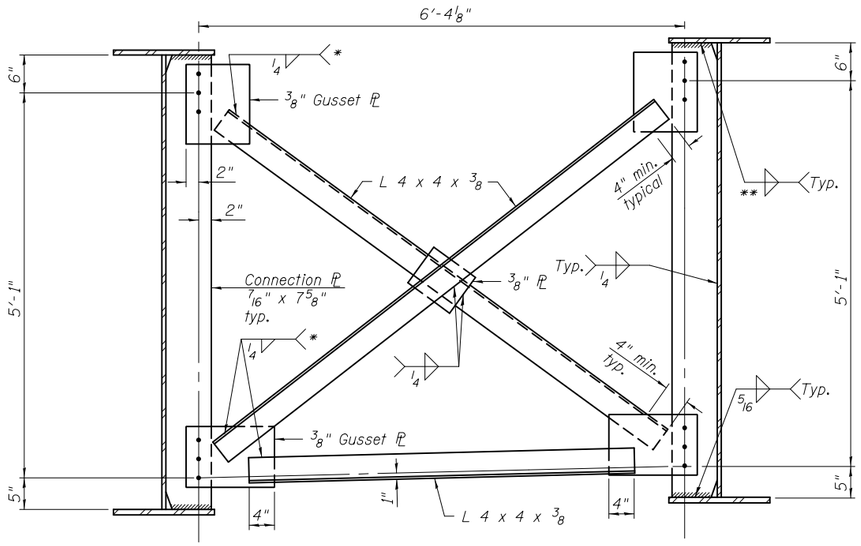
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 080-0025

SHEET NO. 22 OF 54 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	96
		CONTRACT NO. 74439		

ILLINOIS FED. AID PROJECT



CROSS FRAME CF

(120 Required)

* Fillet weld angles along 3 sides on one face of gusset plate.

** 1/4" weld for 3/4" top flange thickness (90 locations)
5/16" weld for all other top flange thicknesses (60 locations)

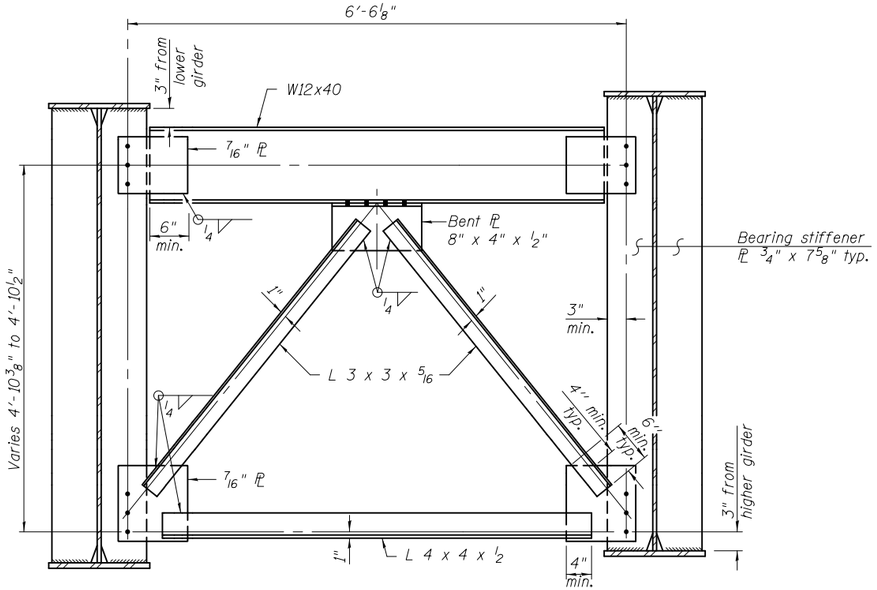
Notes:
Detail 15/16" ϕ holes for all 3/4" bolts. Two hardened washers required for each set of oversized holes.
All cross frames, bearing stiffeners, gusset plates, and connecting plates shall be AASHTO M270, Gr. 50W.
Horizontal and vertical clip dimensions for connection plate same as for bearing stiffener.

Cross Frame CF3 Stage Construction Sequence

1. Erect Cross Frame CF3 prior to pouring Stage 2 deck.
2. Gusset PL C and D shall not have a positive connection to the Girder 3 Connection PL until after the Stage II deck pour.
3. The following H.S. bolts shall be finger tightened until the completion of the Stage II deck pour.
   a. On Stage II Constr. side: all 6 H.S. bolts connecting 3/8" Gusset PL A & B to Connection PL.
   b. On Stage I Constr. side:
      i. Top H.S. bolt connecting upper Angle A to Connection PL, but not connecting Gusset PL C to Connection PL.
      ii. Bottom H.S. bolt connecting lower Angle A to Connection PL, but not connecting Gusset PL D to Connection PL.
4. After Stage II deck pour:
   a. On Stage I Constr. side, remove the 2 H.S. bolts and install all 6 H.S bolts, connecting through Gusset PL C and D, and Connection PL.
   b. Fully tighten all 6 H.S. bolts on both the Stage I and Stage II Constr. sides.

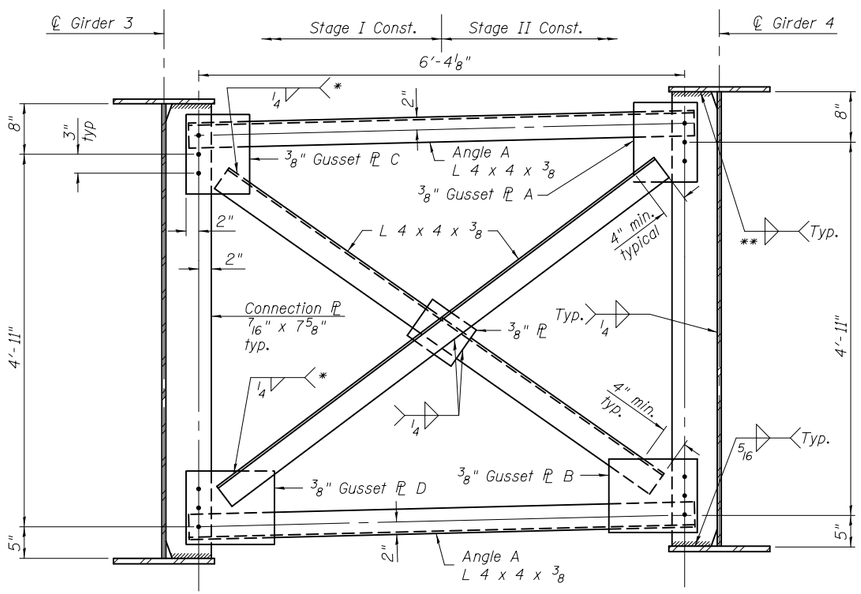
Cross Frame CF2 Stage Construction Sequence

1. Order cross frame in three sections.
2. Attach Section 1 of cross frame to Girder 3.
3. Place timber block post between Section 1 of cross frame and top of abutment cap to support Section 1 during Stage I Constr.
4. Attach Section 2 of cross frame to both Girder 4 and Section 1 during Stage II steel erection.
5. Remove the timber block post and install the lower portion (plates and angles) of the cross frame.



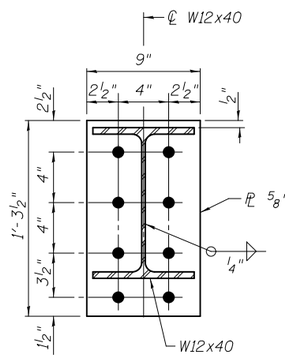
CROSS FRAME CF1

(Facing Abutment Backwall)
(8 Required)



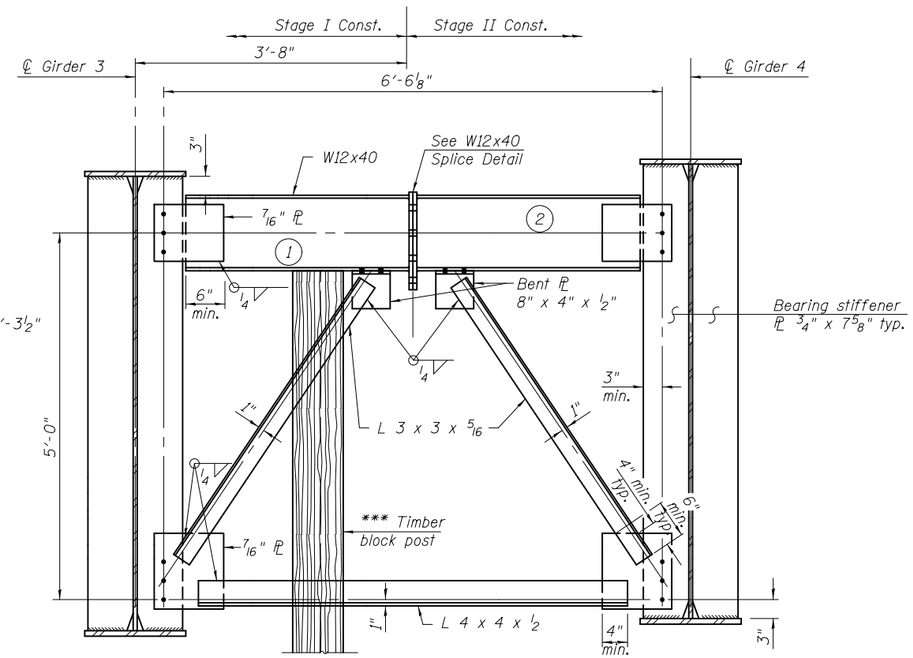
CROSS FRAME CF3

(30 Required)



W12x40 SPLICE DETAIL

(1 Required at West Abut.
1 Required at East Abut.)



CROSS FRAME CF2

(Facing Abutment Backwall)
(2 Required)

*** Cost of timber block post is included with Furnishing and Erecting Structural Steel.

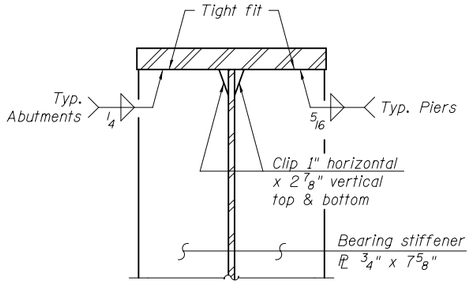
$TIME$
$DATE$

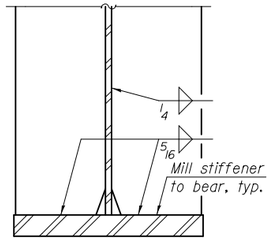
DESIGNED - David H. Richter	EXAMINED	DATE - Oct. 3, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
CHECKED - Jason A. Kern	PASSED	REVISED	**STRUCTURAL STEEL DETAILS STRUCTURE NO. 080-0025**
DRAWN - R. Laughlin	ENGINEER OF BRIDGE DESIGN	REVISED	SHEET NO. 23 OF 54 SHEETS
CHECKED - J.A.K. / D.H.R.	ACTING ENGINEER OF BRIDGES AND STRUCTURES		

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	97
		CONTRACT NO. 74439		
		ILLINOIS FED. AID PROJECT		

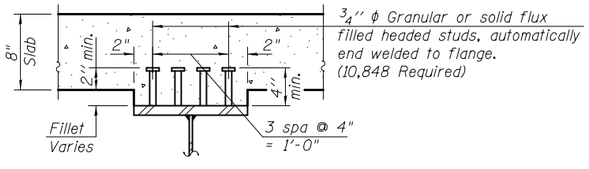
INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1 & 0.6 Sp. 5	Piers 1 & 4	0.5 Sp. 2 & 0.5 Sp. 4	Piers 2 & 3	0.5 sp. 3
I_s	(in^4)	53830	87038	53830	109923	53830
$I_c(n)$	(in^4)	125400	172134	125400	202998	125400
$I_c(3n)$	(in^4)	91544	128714	91544	153852	91544
$I_c(cr)$	(in^4)	-	99464	-	122702	-
S_s	(in^3)	1502	2363	1502	2936	1502
$S_c(n)$	(in^3)	2112	-	2112	-	2112
$S_c(3n)$	(in^3)	1896	-	1896	-	1896
$S_c(cr)$	(in^3)	-	2497	-	3063	-
DC1	(k/')	1.035	1.133	1.035	1.199	1.035
M_{DC1}	('k)	827	2238	954	2609	794
DC2	(k/')	0.15	0.15	0.15	0.15	0.15
M_{DC2}	('k)	121	309	143	353	120
DW	(k/')	0.367	0.367	0.367	0.367	0.367
M_{DW}	('k)	296	756	349	865	295
LLDF		0.6007	0.5936	0.5539	0.5816	0.5539
M_{L+IM}	('k)	1747	2222	1786	2534	1802
M_u (Strength I)	('k)	4686	8206	5020	9435	4739
$\phi_f M_n$	('k)	10849.3	10737.2	10748.4	13210.1	10871.9
f_s DC1	(ksi)	6.6	11.4	7.6	10.7	6.3
f_s DC2	(ksi)	0.8	1.5	0.9	1.4	0.8
f_s DW	(ksi)	1.9	3.6	2.2	3.4	1.9
f_s (L+IM)	(ksi)	9.9	10.7	10.1	9.9	10.2
f_s (Service II)	(ksi)	22.2	30.4	23.9	28.3	22.3
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	29.4	40.2	31.7	37.5	29.6
$\phi_f F_n$	(ksi)	-	-	-	-	-
V_f	(k)	31.6	34.8	25.6	34.6	25.6

GIRDER REACTION TABLE									
		West Abut.		Pier 1 & 4		Pier 2 & 3		East Abut.	
		Interior	Exterior	Interior	Exterior	Interior	Exterior	Interior	Exterior
LLDF		0.767	0.684	0.767	0.684	0.767	0.684	0.767	0.684
OCF		-	-	-	-	-	-	-	-
R_{DC1}	(k)	42.9	40.5	166.2	157.3	179.0	169.7	42.9	40.5
R_{DC2}	(k)	6.1	6.1	23.0	23.0	24.1	24.1	6.1	6.1
R_{DW}	(k)	14.9	10.9	56.3	41.0	59.0	43.0	14.9	10.9
R_{L}	(k)	76.8	68.5	162.9	145.2	171.4	152.9	76.8	68.5
R_{Im}	(k)	16.4	14.6	28.8	25.7	29.4	26.2	16.4	14.6
R_{Total}	(k)	157.1	140.6	437.2	392.2	462.9	415.9	157.1	140.6





BEARING STIFFENER AT ABUTMENTS & PIERS



SECTION A-A

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads ($in.^4$ and $in.^3$).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
$M_{L+IM} / S_c(n)$ or $M_{L+IM} / S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

$0.95R_hF_yf$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s(L+IM)$

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

V_f: Maximum factored shear range in span computed according to Article 6.10.10.

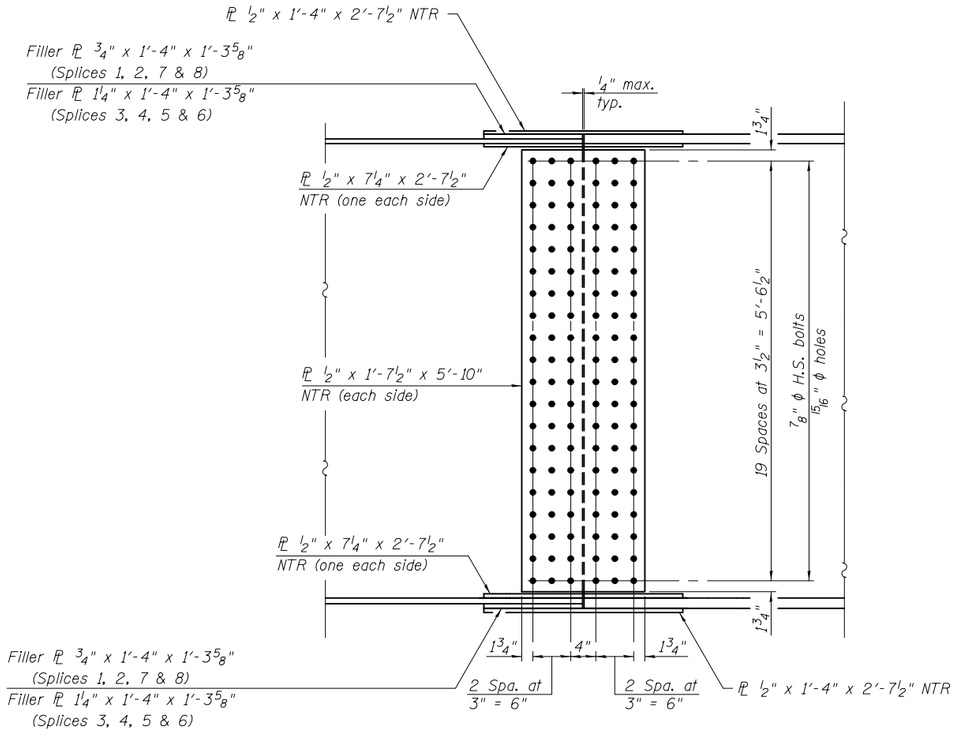
LLDF: Live load distribution factor for moment and shear

OCF: Obtuse correction factor

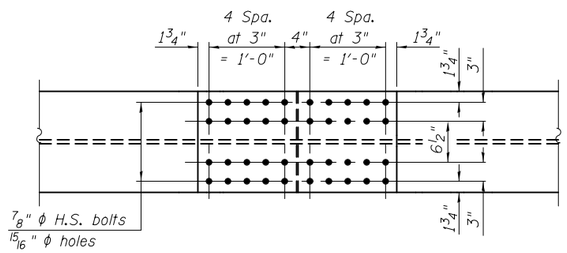
$TIME$
$DATE$

DESIGNED - A.D.K. / D.H.R.	EXAMINED	DATE - Oct. 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL DETAILS STRUCTURE NO. 080-0025
CHECKED - F.W.S. / J.A.K.		REVISED		
DRAWN - R. Laughlin	PASSED	REVISED		SHEET NO. 24 OF 54 SHEETS
CHECKED - F.W.S. / D.H.R. / J.A.K.	ENGINEER OF BRIDGE DESIGN / ACTING ENGINEER OF BRIDGES AND STRUCTURES			

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(7-2)BR	RICHLAND	147	98
		CONTRACT NO. 74439		
	ILLINOIS	FED. AID PROJECT		



SPLICES 1 THRU 8
ELEVATION



SPLICES 1 THRU 8
PLAN
(Top and bottom flange)

Notes:
Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
All splice plates, including filler plates, shall be AASHTO M270, Gr. 50W.

$TIME$
$DATE$

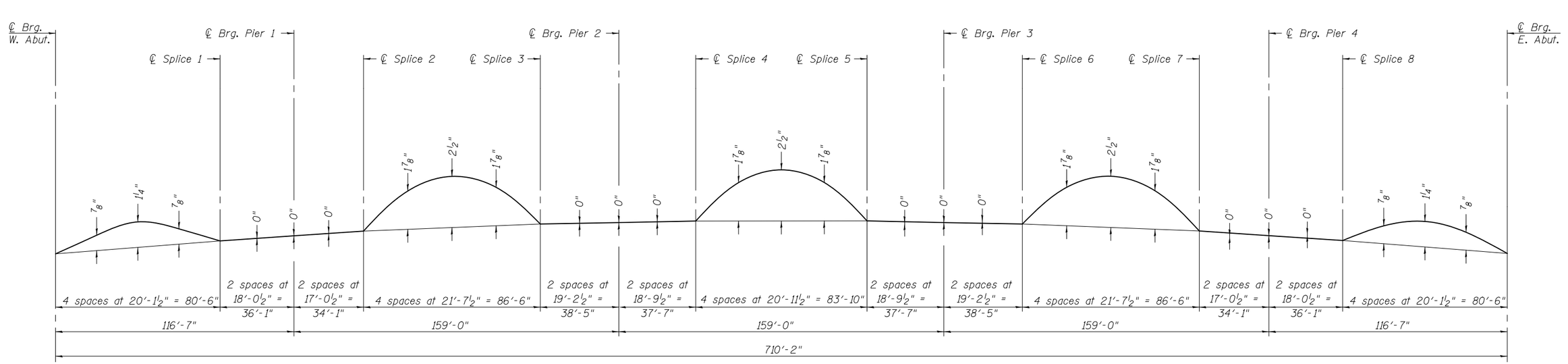
DESIGNED - David H. Richter	EXAMINED	DATE - Oct. 3, 2016	**STATE OF ILLINOIS**	**STRUCTURAL STEEL DETAILS**	F.A.P RTE. / SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
CHECKED - Jason A. Kern		ENGINEER OF BRIDGE DESIGN	**DEPARTMENT OF TRANSPORTATION**	**STRUCTURE NO. 080-0025**	327 / (7-2)BR / RICHLAND / 147 / 99
DRAWN - R. Laughlin	PASSED	REVISED			CONTRACT NO. 74439
CHECKED - D.H.R. / J.A.K.		REVISED		SHEET NO. 25 OF 54 SHEETS	ILLINOIS FED. AID PROJECT

ACTING ENGINEER OF BRIDGES AND STRUCTURES

* TOP OF WEB ELEVATIONS

Location	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6
℄ Brg. W. Abut.	429.16	429.31	429.43	429.43	429.31	429.16
℄ Splice 1	429.79	429.94	430.05	430.05	429.94	429.79
℄ Brg. Pier 1	430.04	430.19	430.30	430.30	430.19	430.04
℄ Splice 2	430.27	430.42	430.54	430.54	430.42	430.27
℄ Splice 3	430.62	430.77	430.88	430.88	430.77	430.62
℄ Brg. Pier 2	430.69	430.84	430.96	430.96	430.84	430.69
℄ Splice 4	430.76	430.91	431.03	431.03	430.91	430.76
℄ Splice 5	430.77	430.91	431.03	431.03	430.91	430.77
℄ Brg. Pier 3	430.69	430.84	430.96	430.96	430.84	430.69
℄ Splice 6	430.62	430.77	430.89	430.89	430.77	430.62
℄ Splice 7	430.28	430.43	430.55	430.55	430.43	430.28
℄ Brg. Pier 4	430.05	430.20	430.31	430.31	430.20	430.05
℄ Splice 8	429.81	429.95	430.06	430.06	429.95	429.81
℄ Brg. E. Abut.	429.18	429.33	429.44	429.44	429.33	429.18

* For fabrication only



CAMBER DIAGRAM

$DATE$ $TIME$

DESIGNED - F.W.S. / D.H.R.	EXAMINED	DATE - Oct. 3, 2016	**STATE OF ILLINOIS**	**STRUCTURAL STEEL DETAILS**	F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - D.H.R. / F.W.S.			**DEPARTMENT OF TRANSPORTATION**	**STRUCTURE NO. 080-0025**	327	(7-2)BR	RICHLAND	147	100
DRAWN - R. Laughlin	PASSED	REVISED						CONTRACT NO. 74439	
CHECKED - F.W.S. / D.H.R. / J.A.K.	ENGINEER OF BRIDGE DESIGN ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 26 OF 54 SHEETS			ILLINOIS	FED. AID PROJECT	