

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	13B-1 & 13B-2	MARION	78	1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAP ROUTE 327 (U.S. 50)

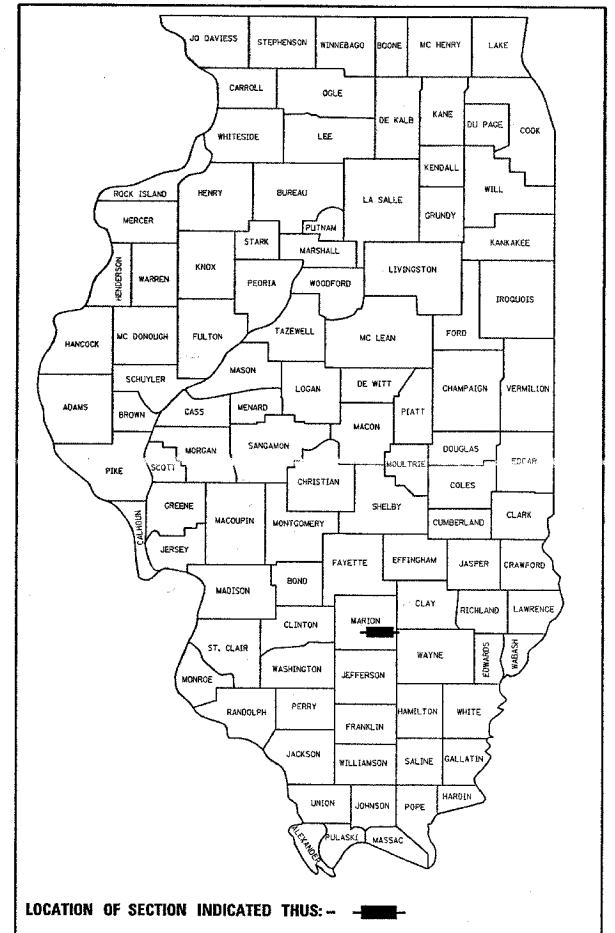
SECTION 13B-1 & 13B-2

PROJECT: BRF-0327(036)

**MARION COUNTY
BRIDGE REPLACEMENT**

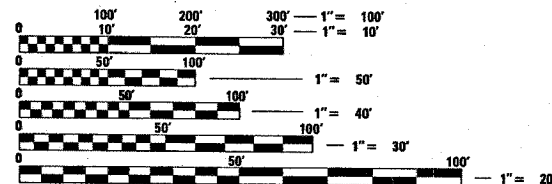
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D-97-035-02



FOR INDEX OF SHEETS, SEE SHEET NO. 2

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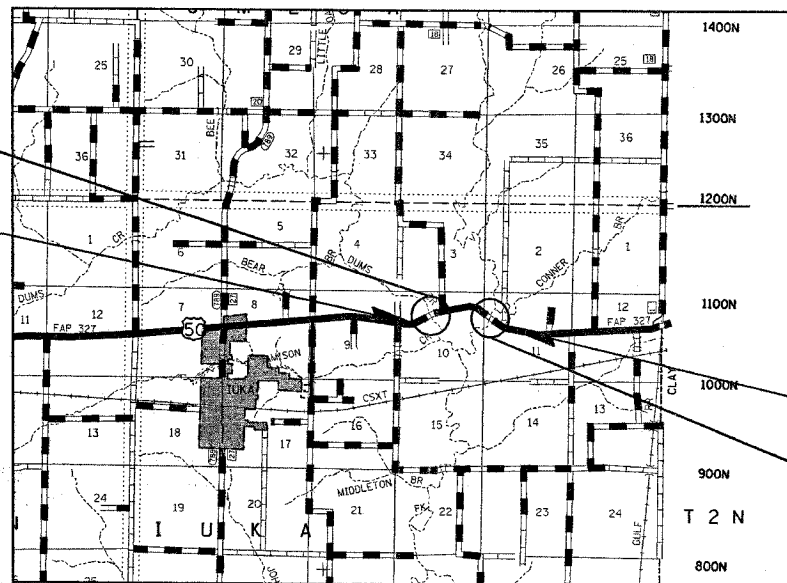


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

STRUCTURE
#061-0090 (PROP.)
041-004D (EXIST.)

PROJECT BEGINS
STA 331+00



PROJECT ENDS
STA 379+10

STRUCTURE
#061-0091 (PROP.)
041-0041 (EXIST.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Dec 22, 20 05
Christ H. Reed
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

February 3, 20 06
Mike Hine
ENGINEER OF DESIGN AND ENVIRONMENT

February 3, 20 06
Milton R. Sees P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS**

GROSS LENGTH = 4810.00 FEET = 0.91 MILES
NET LENGTH = 1380.00 FEET = 0.26 MILES

CONTRACT NO. 94964 TOWNSHIP : IUKA

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 2/22/2005
 District

PROJECT ENGINEER : MARK DAUGHERTY
 SQUAD LEADER : KRISTI SANDSCHAFER
 DESIGNER : KRISTI SANDSCHAFER
 TELEPHONE : 217/342-3951 EX 313

teasleuck
12/23/2005
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CONTRACT NO. 94964

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	13B-1&13B-2	MARION	78	2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

GENERAL NOTES

THE WORK INCLUDED IN THIS SECTION CONSISTS OF COMPLETE REMOVAL AND REPLACEMENT OF THE EXISTING STRUCTURE ON US 50 OVER DUMS CREEK WITH A NEW THREE SPAN CLOSED ABUTMENT STRUCTURE AND REMOVAL AND REPLACEMENT OF THE EXISTING STRUCTURE ON US 50 OVER SKILLET FORK CREEK WITH A NEW TWO SPAN CLOSED ABUTMENT STRUCTURE. THE WORK IN THIS SECTION ALSO CONSISTS OF APPROACH PAVEMENTS, EARTHWORK, BITUMINOUS RESURFACING, BITUMINOUS AND AGGREGATE SHOULDERS, GUARDRAIL, AND OTHER WORK NECESSARY TO COMPLETE THIS SECTION. THIS WORK SHALL BE DONE UTILIZING STAGE CONSTRUCTION AND TRAFFIC SIGNALS.

THE CONTRACTOR SHALL PROVIDE INTERNET ACCESS TO THE BITUMINOUS PLANT QUALITY CONTROL LAB SO THAT BITUMINOUS PLANT REPORTS CAN BE E-MAILED TO THE DISTRICT HEADQUARTERS. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICES FOR OTHER ITEMS IN THE CONTRACT.

BITUMINOUS MATERIALS (PRIME COAT) SHALL BE EITHER RC-70 OR SS-1HP.

THE COST OF REMOVAL OF THE TEMPORARY RAMP SHALL BE INCLUDED IN THE UNIT PRICE FOR TEMPORARY RAMP.

THE MATERIAL USED FOR AGGREGATE SHOULDERS, TYPE B SHALL BE CRUSHED STONE, CRUSHED CONCRETE, OR RAP.

EXCAVATION QUANTITIES FOR WIDENING SHALL NOT BE PAID FOR SEPARATELY, BUT HAVE BEEN INCLUDED IN THE QUANTITY FOR PAVED SHOULDER REMOVAL.

THE CONTRACTOR SHALL MAINTAIN ACCESS AT ALL TIME TO THE FIELD ENTRANCES WITHIN THE LIMITS OF THE PROJECT.

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 96 HOURS ADVANCE NOTICE THROUGH THE J.U.L.I.E. SYSTEM BY CALLING 800-892-0123.

QUANTITIES OF BITUMINOUS CONCRETE SURFACE COURSE WERE CALCULATED USING THE FACTOR 2.016 TON/CU YD.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE TO THIS PROJECT:

MIXTURE USE(S):	SURFACE COURSE	MIXTURE USE(S):	BINDER COURSE
AC/PG:	PG 64-22	AC/PG:	PG 64-22
RAP%: (MAX)	10%	RAP%: (MAX)	25%
DESIGN AIR VOIDS:	4.0% @ NDESIGN = 90	DESIGN AIR VOIDS:	4.0% @ NDESIGN = 70
MIXTURE COMPOSITION:		MIXTURE COMPOSITION:	
(GRADATION MIXTURE)	IL-9.5	(GRADATION MIXTURE)	IL-19.0
FRICTION AGGREGATE:	MIXTURE C	FRICTION AGGREGATE:	N/A

MIXTURE USE(S):	BASE COURSE WIDENING
AC/PG:	PG 64-22
RAP%: (MAX)	25%
DESIGN AIR VOIDS:	4.0% @ NDESIGN = 70
MIXTURE COMPOSITION:	
(GRADATION MIXTURE)	IL-19.0
FRICTION AGGREGATE:	N/A

MIXTURE USE(S):	BRIDGE APPROACH PAVEMENT CONNECTOR
AC/PG:	PG 64-22
RAP%: (MAX)	25%
DESIGN AIR VOIDS:	4.0% @ NDESIGN = 70
MIXTURE COMPOSITION:	
(GRADATION MIXTURE)	IL-19.0
FRICTION AGGREGATE:	N/A

MIXTURE USE(S):	BITUMINOUS SHOULDERS, BOTTOM LIFT
AC/PG:	PG 58-22
RAP%: (MAX)	25%
DESIGN AIR VOIDS:	2.0% @ NDESIGN = 30
MIXTURE COMPOSITION:	
(GRADATION MIXTURE)	N/A
FRICTION AGGREGATE:	N/A

MIXTURE USE(S):	BITUMINOUS SHOULDERS, TOP LIFT, 2"
AC/PG:	PG 64-22
RAP%: (MAX)	15%
DESIGN AIR VOIDS:	4.0% @ NDESIGN = 50
MIXTURE COMPOSITION:	
(GRADATION MIXTURE)	IL-9.5
FRICTION AGGREGATE:	MIXTURE C

INDEX OF SHEETS

SHEET NO	TITLE
1	COVER SHEET
2	GENERAL NOTES, INDEX OF SHEETS, LIST OF STANDARDS
3-5	SUMMARY OF QUANTITIES
6-8	TYPICAL SECTIONS
9	SCHEDULES & ALIGNMENT TIES
10-13	PLAN SHEETS
14-17	STAGE CONSTRUCTION SHEETS
18-34	DUMS CREEK BRIDGE PLANS
35-51	SKILLET FORK CREEK BRIDGE PLANS
52-66	CROSS SECTIONS FOR DUMS CREEK
67-78	CROSS SECTIONS FOR SKILLET FORK CREEK

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED FOLLOWING SHEET NUMBER 78:

000001-04	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-02	TEMPORARY EROSION CONTROL SYSTEMS
420401-05	BRIDGE APPROACH PAVEMENT
482001	BITUMINOUS SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
482006-01	BITUMINOUS SHOULDER ADJACENT TO RIGID PAVEMENT
515001-02	NAME PLATE FOR BRIDGES
630001-05	STEEL PLATE BEAM GUARDRAIL
630301-03	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-05	TRAFFIC BARRIER TERMINAL, TYPE 6
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-01	REFLECTOR MARKER AND MOUNTING DETAILS
667101	PERMANENT SURVEY MARKERS
701006-02	OFF-ROAD OPERATIONS, 2L, 2W, 4.5 M (15') TO 600 MM (24") FROM PAVEMENT EDGE
701301-02	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701306-01	LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS >= 45 MPH
701311-02	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS-DAY ONLY
701321-08	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-02	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS >= 45 MPH
702001-05	TRAFFIC CONTROL DEVICES
704001-02	TEMPORARY CONCRETE BARRIER
780001-01	TYPICAL PAVEMENT MARKINGS
781001-02	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

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**GENERAL NOTES
AND
INDEX OF SHEETS**

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SUMMARY OF QUANTITIES

CONTRACT NO. 94964				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	13B-1&13B-2	MARION	78	3
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES			80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE			
CODE NO	ITEM	UNIT		DUMS CREEK		SKILLET FORK CREEK	
				X071-2A	SFTY-3N	X071-2A	SFTY-3N
20200100	EARTH EXCAVATION	CU YD	840	390		450	
20400800	FURNISHED EXCAVATION	CU YD	1555	1060		495	
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	291.9	118		173.9	
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	1	0.6		0.4	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	100	60		40	
28000300	TEMPORARY DITCH CHECKS	EACH	8	4		4	
28000400	PERIMETER EROSION BARRIER	FOOT	1800	1000		800	
28100107	STONE RIPRAP, CLASS A4	SQ YD	2655	1563		1092	
28200200	FILTER FABRIC	SQ YD	2655	1563		1092	
35650500	BASE COURSE WIDENING 10"	SQ YD	1309	692		617	
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	549	326		223	
40600300	AGGREGATE (PRIME COAT)	TON	12	7		5	
40600980	BITUMINOUS SURFACE REMOVAL - BUTT JOINT	SQ YD	400	160		240	
40600990	TEMPORARY RAMP	SQ YD	126	63		63	
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	546	273		273	
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	110	55		55	
44000100	PAVEMENT REMOVAL	SQ YD	706	353		353	
44004250	PAVED SHOULDER REMOVAL	SQ YD	1193	640		553	
48101200	AGGREGATE SHOULDERS, TYPE B	TON	51	38		13	
48202000	BITUMINOUS SHOULDERS SUPERPAVE	TON	633	378		255	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	2	1		1	
50200100	STRUCTURE EXCAVATION	CU YD	586.3	374		212.3	
50300100	FLOOR DRAINS	EACH	34	14		20	
50300225	CONCRETE STRUCTURES	CU YD	235.4	136		99.4	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	507.1	219.7		287.4	
50300260	BRIDGE DECK GROOVING	SQ YD	1538.4	654		884.4	
50300300	PROTECTIVE COAT	SQ YD	1874.4	818		1056.4	
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	0.31		0.69	
50500505	STUD SHEAR CONNECTORS	EACH	6036	3012		3024	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	149,090	67270		81,820	
51201700	FURNISHING STEEL PILES HP12X74	FOOT	1218	1218			
51201710	FURNISHING STEEL PILES HP12X84	FOOT	1325			1325	

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CONTRACT NO. 94964

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	13B-1&13B-2	MARION	78	4
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES			80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE			
CODE NO	ITEM	UNIT		DUMS CREEK		SKILLET FORK CREEK	
				X071-2A	SFTY-3N	X071-2A	SFTY-3N
51202700	DRIVING STEEL PILES	FOOT	2543	1218		1325	
51203700	TEST PILE STEEL HP12X74	EACH	4	4			
51203710	TEST PILE STEEL HP12X84	EACH	3			3	
51500100	NAME PLATES	EACH	2	1		1	
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	164.7	72		92.7	
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	295.3	144		151.3	
* 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	700	350		350	
* 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	2046	1005		1041	
66700205	PERMANENT SURVEY MARKERS, TYPE I	EACH	1	1			
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	14	7		7	
67100100	MOBILIZATION	L SUM	1	0.5		0.5	
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2	1		1	
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	0.5		0.5	
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	0.5		0.5	
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	8	4		4	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2	1		1	
70106700	TEMPORARY RUMBLE STRIP	EACH	12	6		6	
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	777	415		362	
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	9493	5560		3933	
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	1997	1064		933	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1820	990		830	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1760	930		830	
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	9493	5560		3933	
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	13	8		5	
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	5	2		3	
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	12	6		6	
* 78200520	BARRIER WALL MARKERS, TYPE B	EACH	10	4		6	

* SPECIALTY ITEMS

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SUMMARY OF QUANTITIES

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SUMMARY OF QUANTITIES

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327	13B-1&13B-2	MARION	78	5
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES			80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE			
CODE NO	ITEM	UNIT		DUMS CREEK		SKILLET FORK CREEK	
				X071-2A	SFTY-3N	X071-2A	SFTY-3N
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	8	4		4	
78300100	PAVEMENT MARKING REMOVAL	SQ FT	1258	729		529	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	18	10		8	
X0323988	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	1240	625		615	
X4066418	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N90	TON	205	120		85	
X4066616	BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N70	TON	781	623		158	
X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1	1			
X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1	1			
X5020503	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 3	EACH	1			1	
Z0002600	BAR SPLICERS	EACH	1476	681		795	
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4		2		2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4		2		2

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* SPECIALTY ITEMS

Rev.

REVISIONS	
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ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

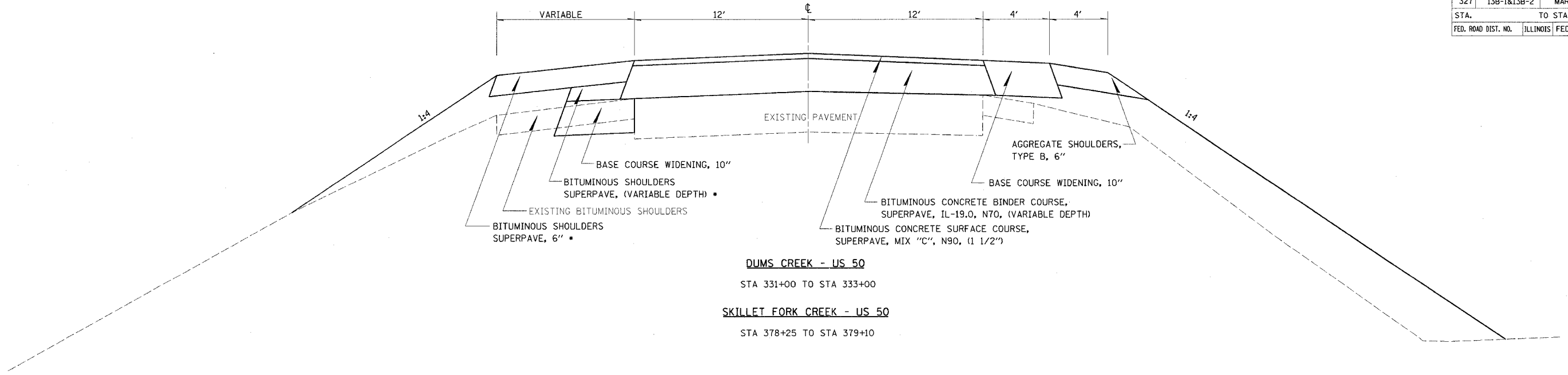
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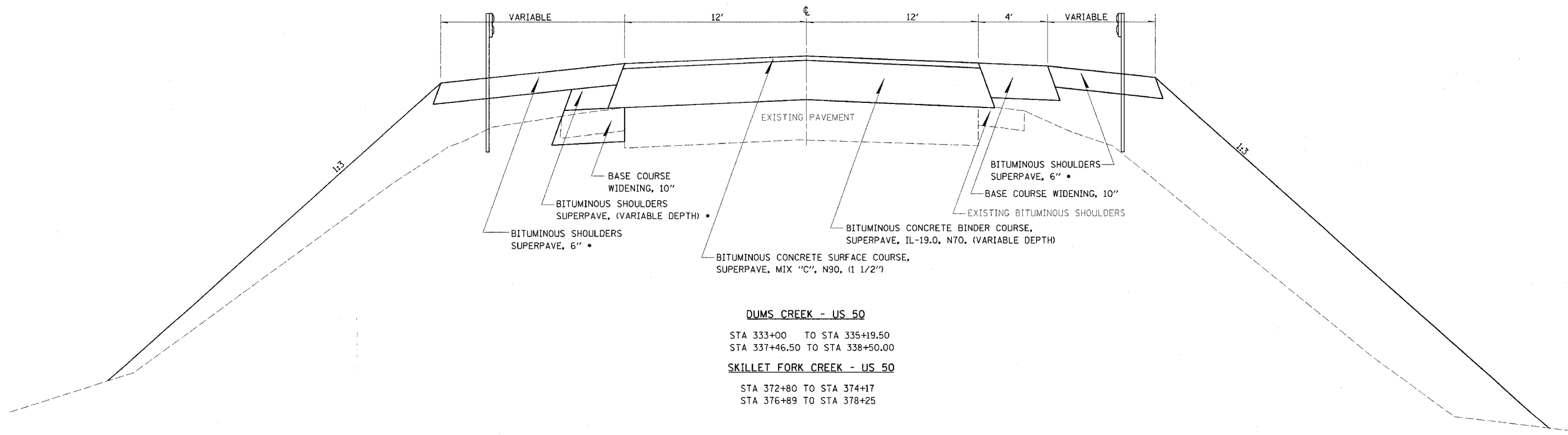
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	13B-1&13B-2	MARION	78	6
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



DUMS CREEK - US 50
STA 331+00 TO STA 333+00

SKILLET FORK CREEK - US 50
STA 378+25 TO STA 379+10



DUMS CREEK - US 50
STA 333+00 TO STA 335+19.50
STA 337+46.50 TO STA 338+50.00

SKILLET FORK CREEK - US 50
STA 372+80 TO STA 374+17
STA 376+89 TO STA 378+25

* PAY ITEM IS BITUMINOUS SHOULDERS SUPERPAVE

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ILLINOIS DEPARTMENT OF TRANSPORTATION

TYPICALS

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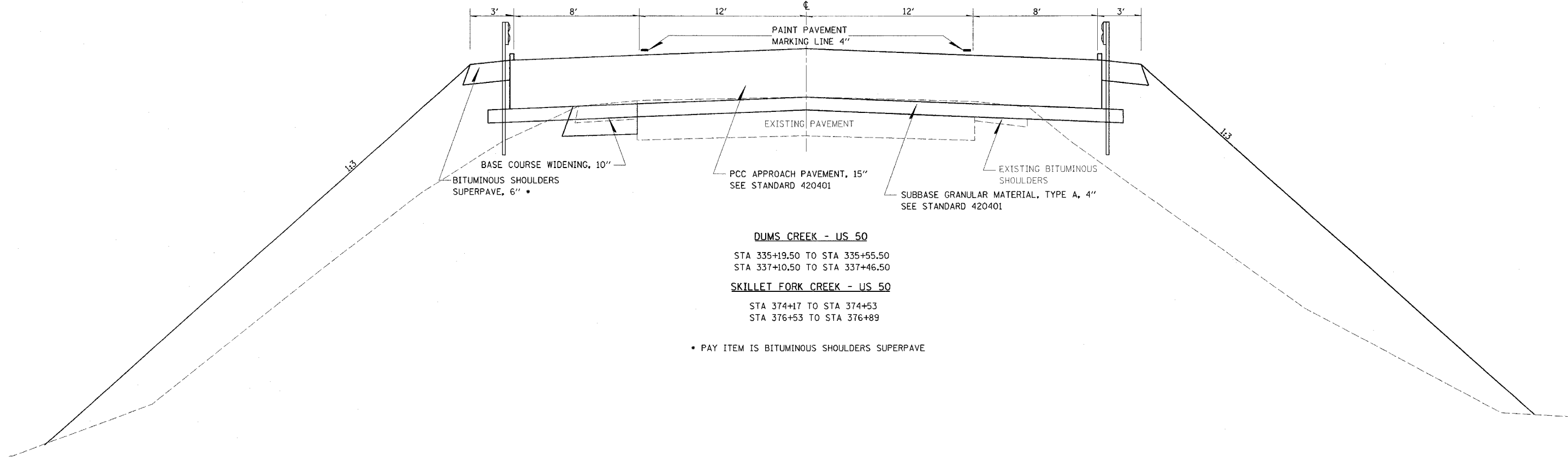
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	13B-1&13B-2	MARION	78	7
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



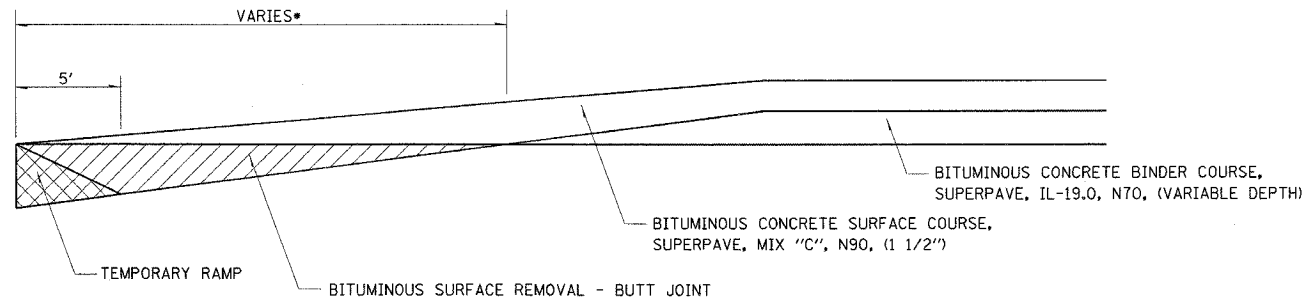
DUMS CREEK - US 50

STA 335+19.50 TO STA 335+55.50
 STA 337+10.50 TO STA 337+46.50

SKILLET FORK CREEK - US 50

STA 374+17 TO STA 374+53
 STA 376+53 TO STA 376+89

* PAY ITEM IS BITUMINOUS SHOULDERS SUPERPAVE



BUTT JOINT DETAIL

DUMS CREEK
 STA 331+00 to 331+30 *30 FT
 STA 338+20 to 338+50 *30 FT

SKILLET FORK CREEK
 STA 372+80 to 373+20 *40 FT
 STA 378+60 to 379+10 *50 FT

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ILLINOIS DEPARTMENT OF TRANSPORTATION

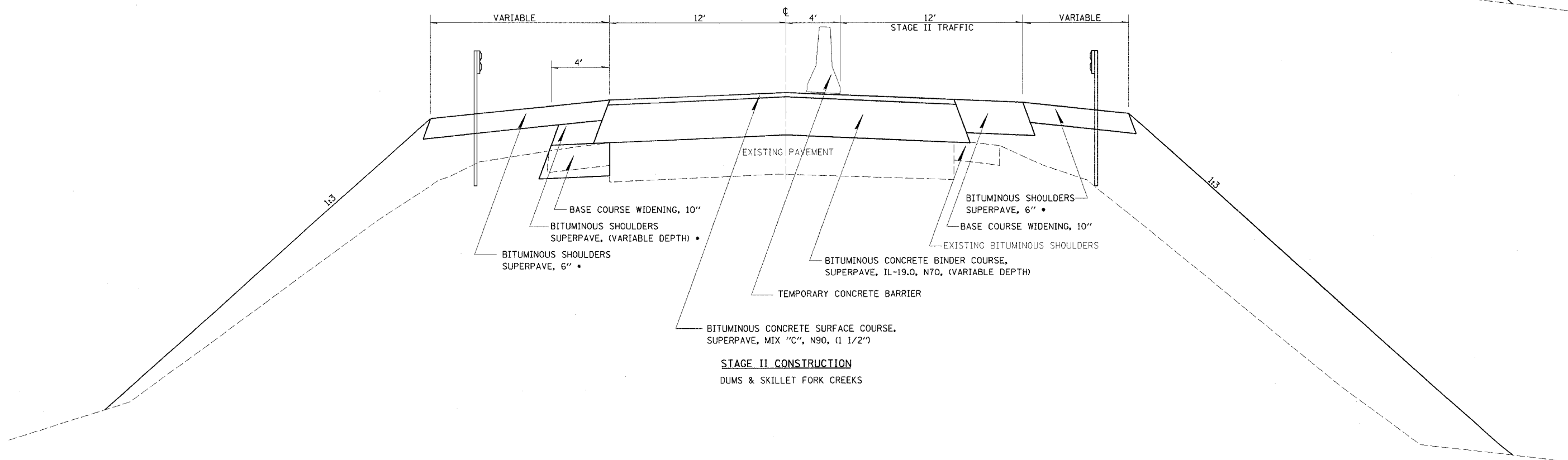
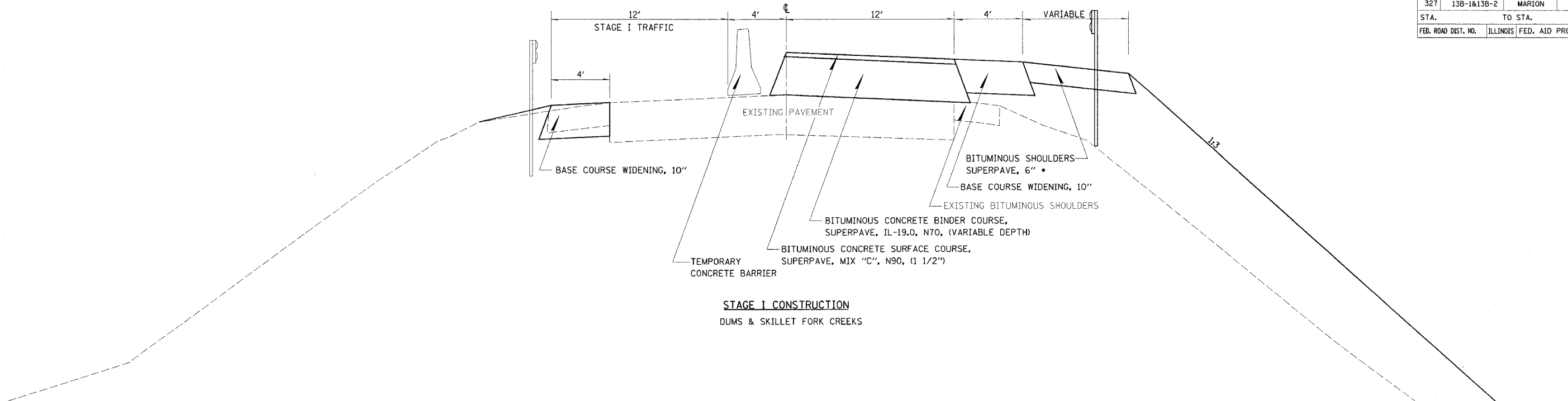
**TYPICALS
 &
 BUTT JOINT DETAIL**

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	13B-1&13B-2	MARION	78	8
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



• PAY ITEM IS BITUMINOUS SHOULDERS SUPERPAVE

REVISIONS	
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TYPICALS

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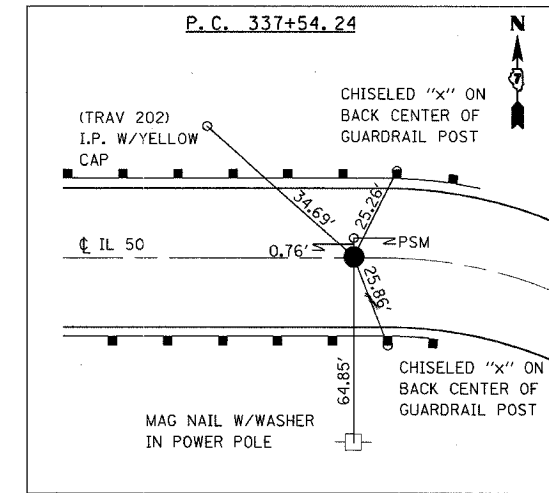
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327	13B-1&13B-2	MARION	78	9
STA. TO STA.				
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	

PAVING SCHEDULE

STATION TO STATION	LENGTH	EXISTING PAVEMENT WIDTH	AREA	PAVING SCHEDULE							MARKING					TEMPORARY RAMP	BITUMINOUS SURFACE REMOVAL - BUTT JOINT
				BITUMINOUS MATERIALS (PRIME COAT)	AGGREGATE (PRIME COAT)	BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, 1L-19.0, N70	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N90	BITUMINOUS SHOULDERS SUPERPAVE	AGGREGATE SHOULDERS, TYPE B	PAINT PAVEMENT MARKING - LINE 4"	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	RAISED REFLECTIVE PAVEMENT MARKER	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	EACH		
DUMS CREEK 331+00.00 TO 335+19.50 335+19.50 TO 337+46.50 337+46.50 TO 338+00.00 338+00.00 TO 338+50.00 DUMS CREEK TOTALS	419.5 APPROACH 53.50 50.00 523.00	24 PAVEMENT AND 24 28	10068 BRIDGE 1284 1400	261 31 34 326	5 1 1 7	575 28 20 623	94 12 14 120	246 44 88 378	38 0 0 38	2918 908 214 1520 5560	6 2 1 1 10	6 1 1 8	2 2 1 2	31.5 18 13.5 63	80		
SKILLET FORK CREEK 372+80.00 TO 373+25.00 373+25.00 TO 374+17.00 374+17.00 TO 376+89.00 376+89.00 TO 378+50.00 378+50.00 TO 379+10.00 SKILLET FORK CREEK TOTALS	45.00 92.00 APPROACH 161.00 60.00 358.00	28 24 PAVEMENT AND 24 28	1260 2208 BRIDGE 3864 1680	31 54 96 42 223	1 1 2 1 5	0 24 134 0 158	12 21 36 16 85	55 66 120 14 255	0 0 3 10 13	1089 299 884 523 1138 3933	1 1 3 2 1 8	1 1 1 2 1 5	3 3	13.5 18 18 13.5 63	107 240		
TOTAL QUANTITIES	881.00			549	12	781	205	633	51	9493	18	13	5	126	400		



STATION TO STATION	EARTH EXCAVATION		EMBANKMENT	EARTHWORK BALANCE WASTE (+) SHORTAGE (-)
	CU YD	CU YD		
DUMS CREEK STA 331+00 TO 338+50 EXCAV FROM EX BRIDGE STRUCTURE EXCAVATION DUMS CREEK TOTALS	97 293 374	74 220 281	1635	-1561 220 281 -1060
SKILLET FORK CREEK STA 372+80 TO 379+10 EXCAV FROM EX BRIDGE STRUCTURE EXCAVATION SKILLET FORK CREEK TOTALS	155 295 194	115 221 146	977	-862 221 146 -495
TOTAL QUANTITIES				-1555

SEEDING, CLASS 2 (SPECIAL)

STATION TO STATION	TOTAL
DUMS CREEK STA 331+00 TO 335+50 STA 337+21 TO 340+00	0.4 ACRE 0.2 ACRE
SKILLET FORK CREEK STA 372+00 TO 374+50 STA 376+63 TO 379+25	0.2 ACRE 0.2 ACRE
PROJECT TOTAL	1.0 ACRE

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULES & ALIGNMENT TIES
 SCALE: VERT. DATE
 HORIZ. DATE
 DRAWN BY
 CHECKED BY

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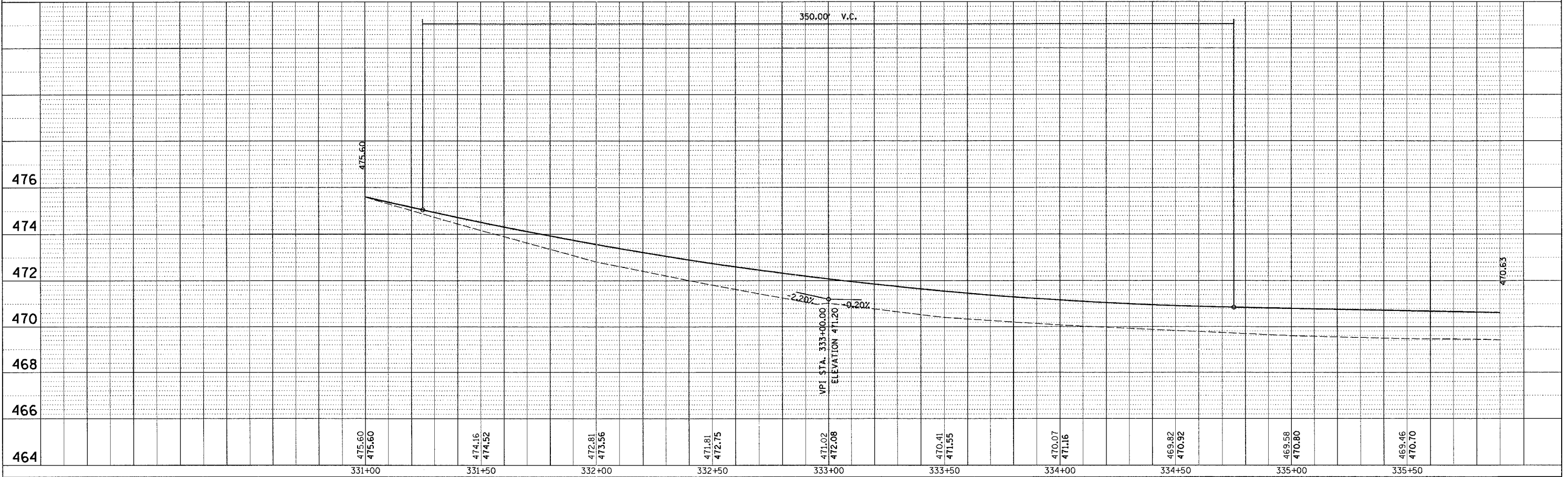
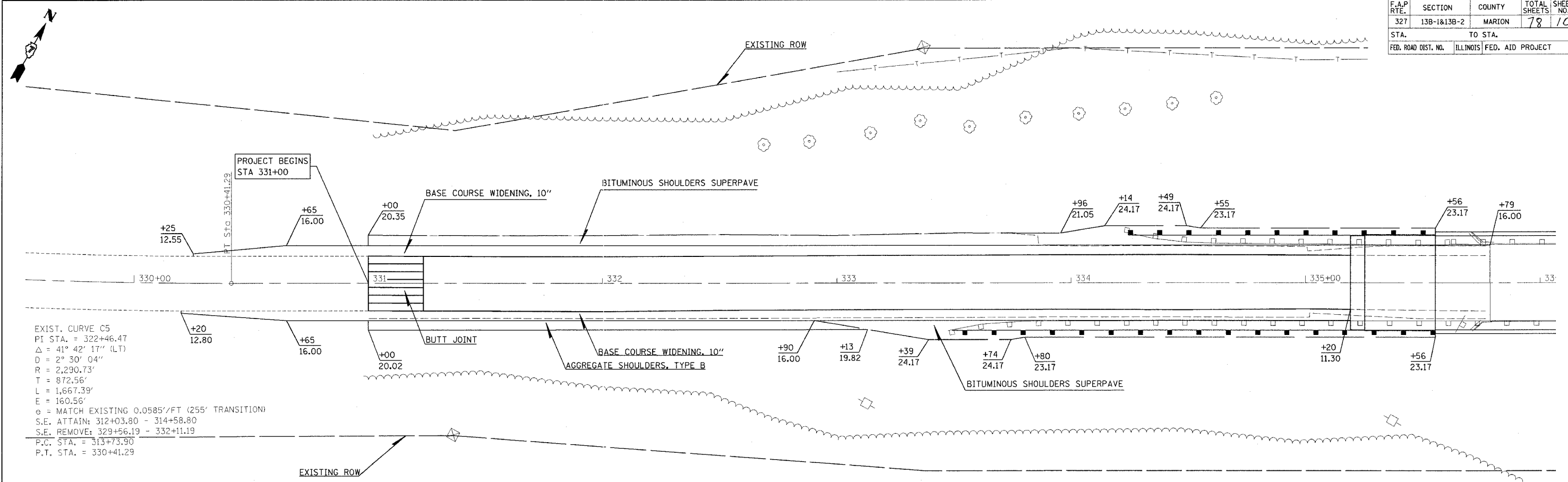
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	DATE		

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS
327	13B-1&13B-2	MARION	78
NO.			10
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	



DUMS CREEK STA 330+00 TO 335+00

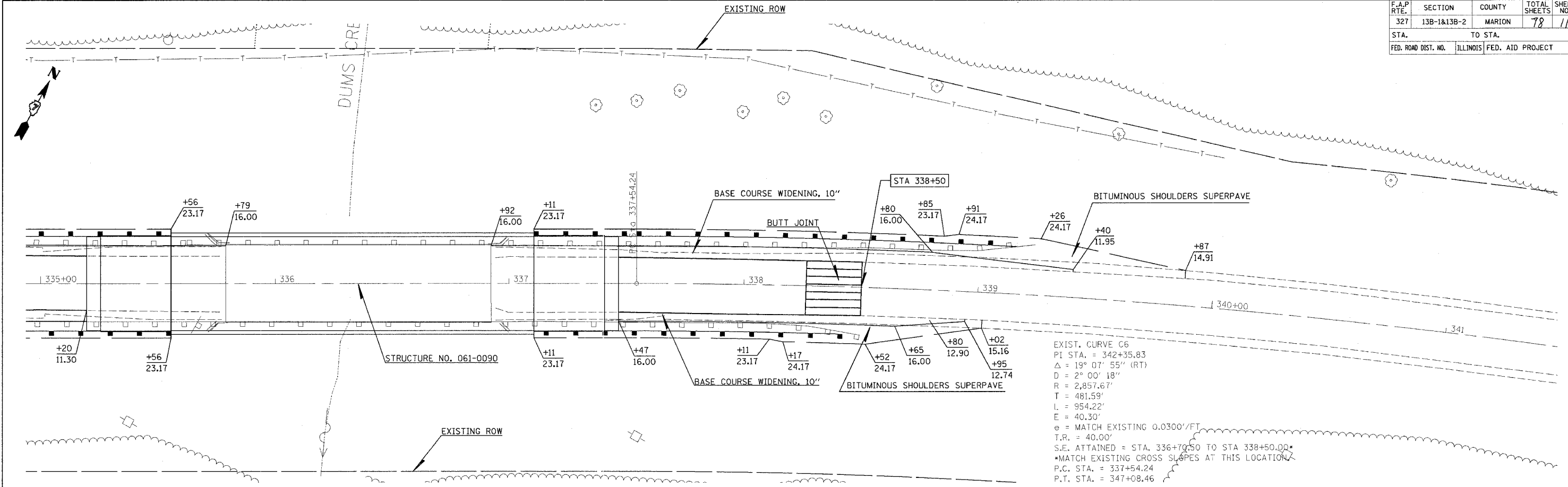
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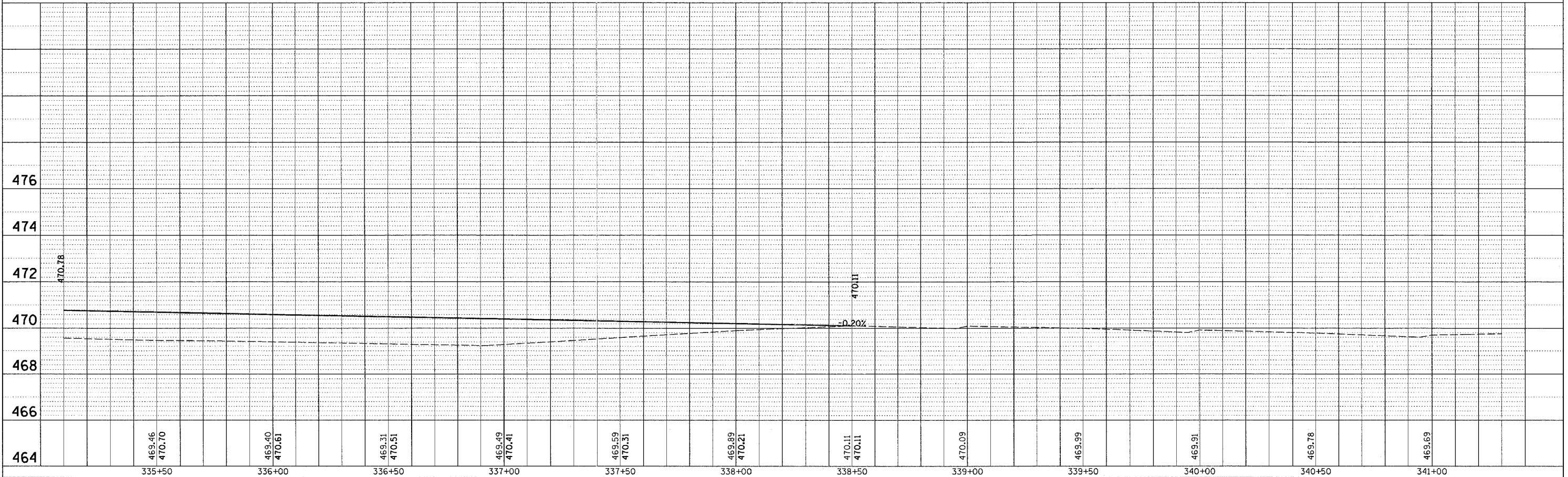
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NOTE BOOK
NO.

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CONTRACT NO. 94964				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	13B-1&13B-2	MARION	78	11
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



EXIST. CURVE G6
 PI STA. = 342+35.83
 $\Delta = 19^\circ 07' 55''$ (RT)
 $D = 2^\circ 00' 18''$
 $R = 2,857.67'$
 $T = 481.59'$
 $L = 954.22'$
 $E = 40.30'$
 $e = \text{MATCH EXISTING } 0.0300'/\text{FT}$
 $T.R. = 40.00'$
 S.E. ATTAINED = STA. 336+70.50 TO STA 338+50.00
 *MATCH EXISTING CROSS SLOPES AT THIS LOCATION
 P.C. STA. = 337+54.24
 P.T. STA. = 347+08.46



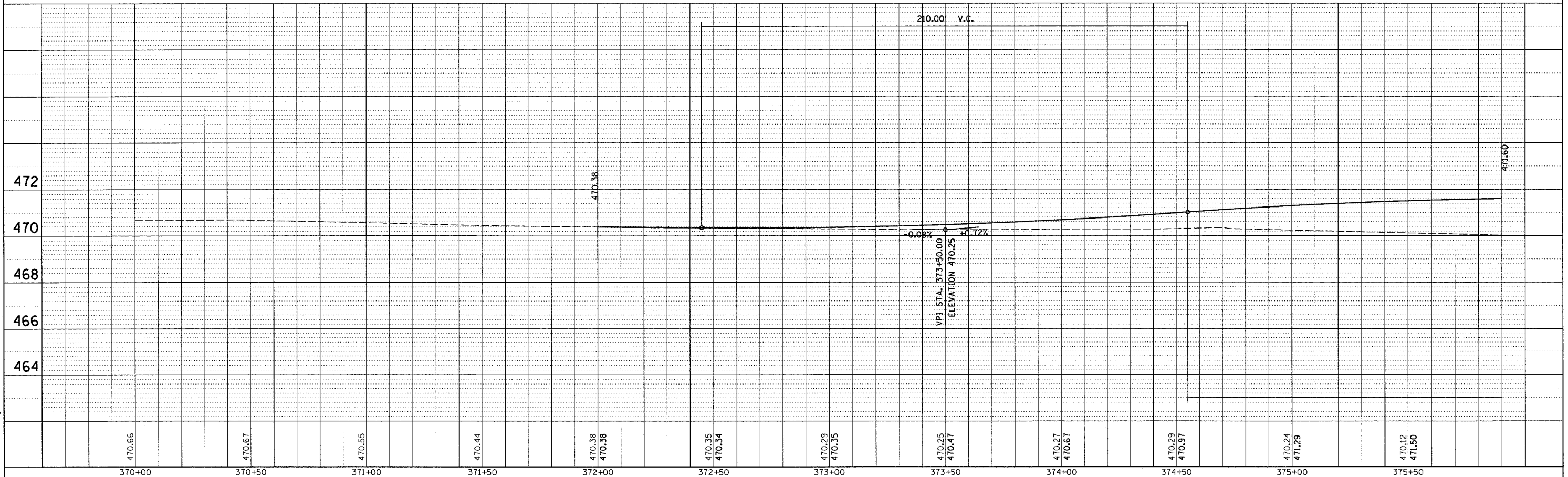
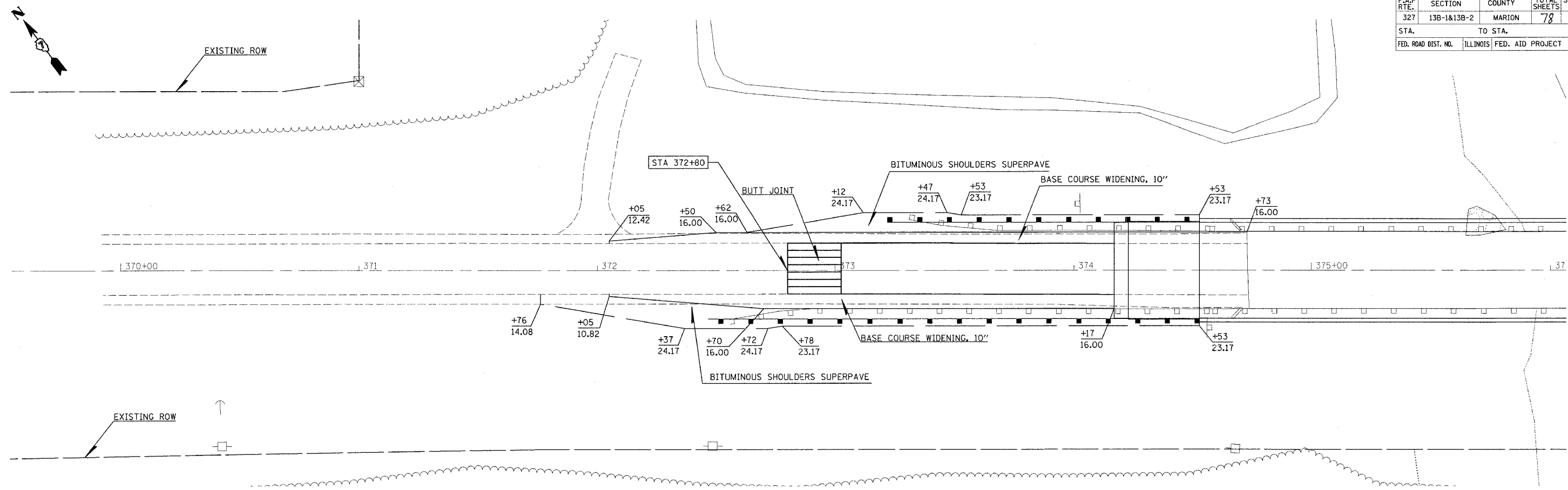
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USER NAME = teesleyck

CONTRACT NO. 94964				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	138-1&138-2	MARION	78	12
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



SKILLET FORK CREEK STA 370+00 TO 375+00

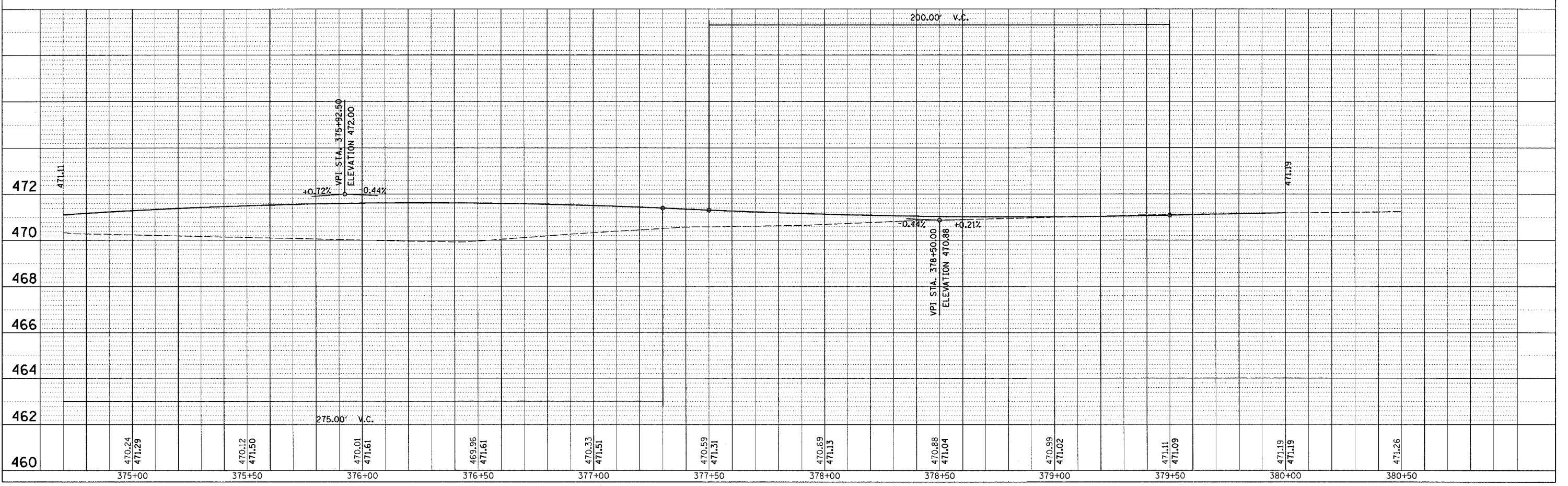
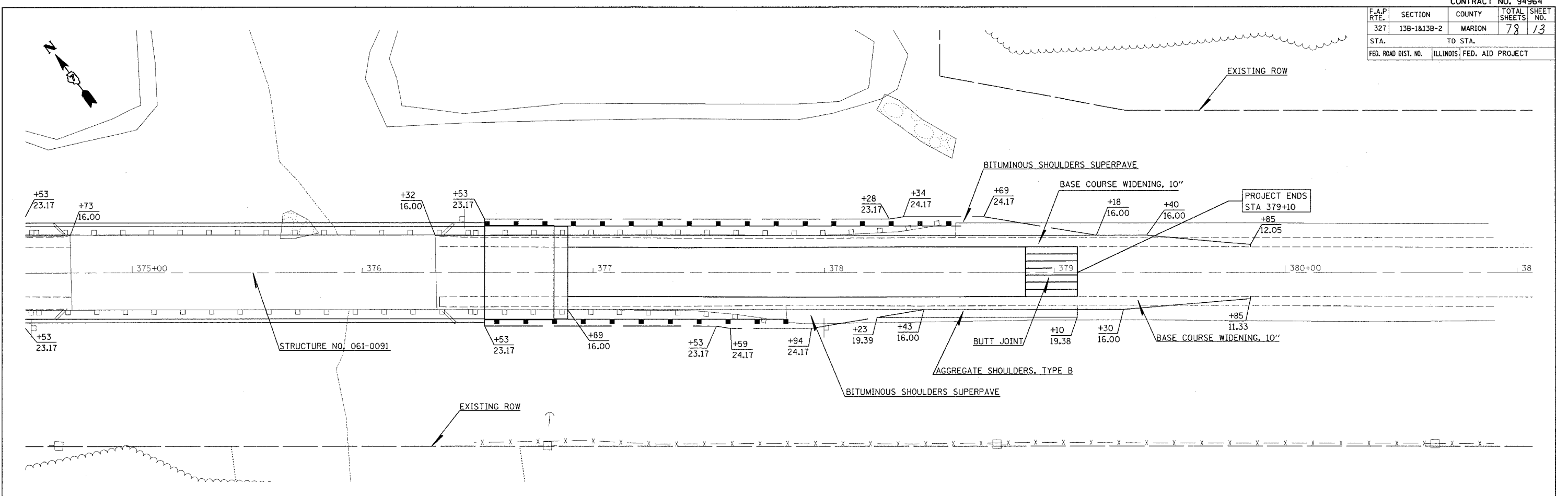
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	CHFD		

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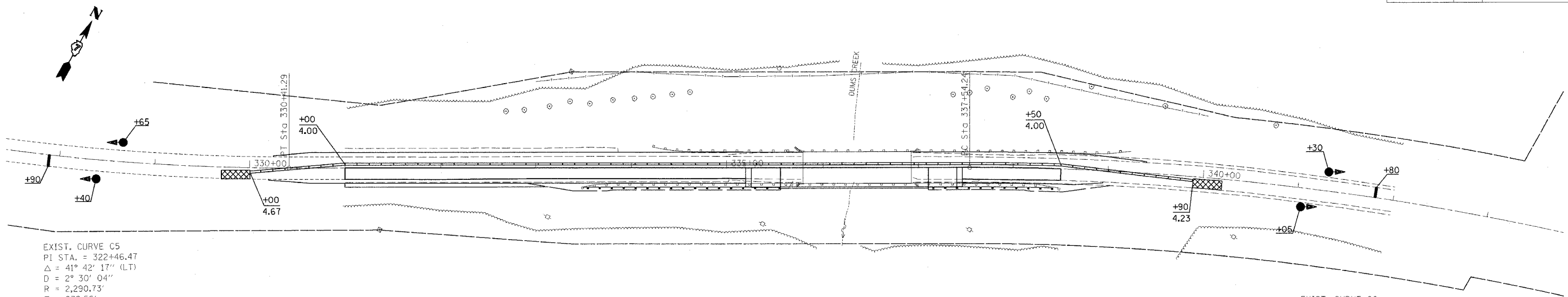
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	13B-1&13B-2	MARION	78	13
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SKILLET FORK CREEK STA 375+00 TO 380+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	13B-1813B-2	MARION	78	14
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

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EXIST. CURVE C5
 PI STA. = 322+46.47
 $\Delta = 41^\circ 42' 17''$ (LT)
 $D = 2^\circ 30' 04''$
 $R = 2,290.73'$
 $T = 872.56'$
 $L = 1,667.39'$
 $E = 160.56'$
 $e =$ MATCH EXISTING 0.0585'/FT (255' TRANSITION)
 S.E. ATTAIN: 312+03.80 - 314+58.80
 S.E. REMOVE: 329+56.19 - 332+11.19
 P.C. STA. = 313+73.90
 P.T. STA. = 330+41.29

EXIST. CURVE C6
 PI STA. = 342+35.83
 $\Delta = 19^\circ 07' 55''$ (RT)
 $D = 2^\circ 00' 18''$
 $R = 2,857.67'$
 $T = 481.59'$
 $L = 954.22'$
 $E = 40.30'$
 $e =$ MATCH EXISTING 0.0300'/FT
 $T.R. = 40.00'$
 S.E. RUN = STA. 336+70.50 TO STA. 338+50.00
 *MATCH EXISTING CROSS SLOPES AT THIS LOCATION.
 P.C. STA. = 337+54.24
 P.T. STA. = 347+08.46

PAVED SHOULDER REMOVAL

LT STA 330+25 to 335+79 = 269 SQ YD
 LT STA 336+92 to 339+40 = 98 SQ YD
 RT STA 330+20 to 335+79 = 201 SQ YD
 RT STA 336+92 to 338+95 = 72 SQ YD
 TOTAL = 640 SQ YD

BASE COURSE WIDENING 10"

LT STA 330+25 to 335+79 = 270 SQ YD
 LT STA 336+92 to 339+40 = 124 SQ YD
 RT STA 330+20 to 335+20 = 240 SQ YD
 RT STA 337+47 to 338+95 = 58 SQ YD
 TOTAL = 692 SQ YD

TEMPORARY CONCRETE BARRIER

STA 330+00 to 331+00 = 100 FT
 STA 331+00 to 338+50 = 750 FT
 STA 338+50 to 339+90 = 140 FT
 TOTAL = 990 FT

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

STA 330+00 = 1 EACH
 STA 339+90 = 1 EACH
 TOTAL = 2 EACH

GUARDRAIL REMOVAL

RT STA 333+47.40 to 338+49.78 = 502.5 FT

PAVEMENT REMOVAL

RT STA 335+19.50 to 335+79 = 79 SQ YD
 RT STA 336+92 to 337+46.50 = 72 SQ YD
 TOTAL = 151 SQ YD

BRIDGE APPROACH PAVEMENT

RT STA 335+25.50 to 335+55.50 = 68.25 SQ YD
 RT STA 337+10.50 to 337+40.50 = 68.25 SQ YD
 TOTAL = 136.50 SQ YD

BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)

RT STA 335+19.50 to 335+25.50 = 13.75 SQ YD
 RT STA 337+40.50 to 337+46.50 = 13.75 SQ YD
 TOTAL = 27.50 SQ YD

BITUMINOUS SHOULDERS SUPERPAVE

RT STA 332+90.25 to 335+55.50 = 60 TONS
 RT STA 337+10.50 to 339+02.00 = 45 TONS
 TOTAL = 105 TONS

TRAFFIC BARRIER TERMINAL, TYPE 6

EB APPROACH = 1 EACH
 EB DEPARTURE = 1 EACH
 TOTAL = 2 EACH

STEEL PLATE BEAM GUARD RAIL, TYPE A

EB APPROACH = 125 FT
 EB DEPARTURE = 50 FT
 TOTAL = 175 FT

TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)

EB APPROACH = 1 EACH
 EB DEPARTURE = 1 EACH
 TOTAL = 2 EACH

GUARDRAIL MARKERS, TYPE A

EB APPROACH = 2 EACH
 EB DEPARTURE = 1 EACH
 TOTAL = 3 EACH

BARRIER WALL MARKERS, TYPE B

SOUTH PARAPET WALL = 2 EACH

PERIMETER EROSION BARRIER

RT STA 331+50 to 335+50 = 400 FT
 RT STA 337+25 to 338+75 = 150 FT
 TOTAL = 550 FT

TEMPORARY EROSION CONTROL SEEDING

RT SIDE = 35 POUNDS

TEMPORARY DITCH CHECKS

SE QUADRANT = 1 EACH
 SW QUADRANT = 1 EACH
 TOTAL = 2 EACH

LEGEND

- TEMPORARY IMPACT ATTENUATORS
- TEMPORARY BRIDGE TRAFFIC SIGNALS

STAGE I NOTES

- CONSTRUCT BASE COURSE WIDENING FOR STAGE I TRAFFIC.
- INSTALL TRAFFIC CONTROL ACCORDING TO TRAFFIC CONTROL STANDARD 701321.
- REMOVE STAGE I PORTION OF EXISTING STRUCTURE AND GUARDRAIL.
- CONSTRUCT STAGE I PORTION OF NEW STRUCTURE.
- CONSTRUCT STAGE I EMBANKMENT, BRIDGE APPROACH PAVEMENT, AND BRIDGE APPROACH PAVEMENT CONNECTOR.
- CONSTRUCT STAGE I BINDER AND SURFACE. CONSTRUCT BASE COURSE WIDENING FOR STAGE II TRAFFIC. CONSTRUCT STAGE I BITUMINOUS SHOULDERS, AGGREGATE SHOULDERS, AND GUARDRAIL.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

STAGE I CONSTRUCTION DUMS CREEK

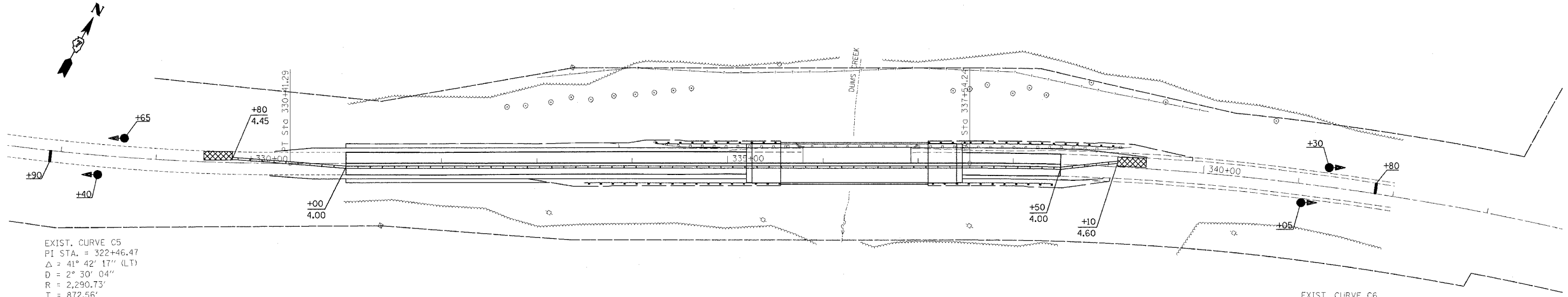
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	13B-1&13B-2	MARION	78	15
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

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EXIST. CURVE C5
 PI STA. = 322+46.47
 $\Delta = 41^\circ 42' 17''$ (LT)
 $D = 2^\circ 30' 04''$
 $R = 2,290.73'$
 $T = 872.56'$
 $L = 1,667.39'$
 $E = 160.56'$
 $e =$ MATCH EXISTING 0.0585'/FT (255' TRANSITION)
 S.E. ATTAIN: 312+03.80 - 314+58.80
 S.E. REMOVE: 329+56.19 - 332+11.19
 P.C. STA. = 313+73.90
 P.T. STA. = 330+41.29

EXIST. CURVE C6
 PI STA. = 342+35.83
 $\Delta = 19^\circ 07' 55''$ (RT)
 $D = 2^\circ 00' 18''$
 $R = 2,857.67'$
 $T = 481.59'$
 $L = 954.22'$
 $E = 40.30'$
 $e =$ MATCH EXISTING 0.0300'/FT
 $T.R. = 40.00'$
 S.E. RUN = STA. 336+70.50 TO STA. 338+50.00*
 *MATCH EXISTING CROSS SLOPES AT THIS LOCATION.
 P.C. STA. = 337+54.24
 P.T. STA. = 347+08.46

RELOCATE TEMPORARY CONCRETE BARRIER

STA 329+80 to 331+00 = 120 FT
 STA 331+00 to 338+50 = 750 FT
 STA 338+50 to 339+10 = 60 FT
 TOTAL = 930 FT

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

STA 329+80 = 1 EACH
 STA 339+10 = 1 EACH
 TOTAL = 2 EACH

GUARDRAIL REMOVAL

LT STA 334+22.54 to 339+23.15 = 502.5 FT

PAVEMENT REMOVAL

LT STA 335+19.50 to 335+79 = 106 SQ YD
 LT STA 336+92 to 337+46.50 = 96 SQ YD
 TOTAL = 202 SQ YD

BRIDGE APPROACH PAVEMENT

LT STA 335+25.50 to 335+55.50 = 68.25 SQ YD
 LT STA 337+10.50 to 337+40.50 = 68.25 SQ YD
 TOTAL = 136.50 SQ YD

BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)

LT STA 335+19.50 to 335+25.50 = 13.75 SQ YD
 LT STA 337+40.50 to 337+46.50 = 13.75 SQ YD
 TOTAL = 27.50 SQ YD

BITUMINOUS SHOULDERS SUPERPAVE

LT STA 331+00.00 TO 335+55.50 = 186 TONS
 LT STA 337+10.50 TO 339+87.00 = 87 TONS
 TOTAL = 273 TONS

TRAFFIC BARRIER TERMINAL, TYPE 6

WB APPROACH = 1 EACH
 WB DEPARTURE = 1 EACH
 TOTAL = 2 EACH

STEEL PLATE BEAM GUARD RAIL, TYPE A

WB APPROACH = 125 FT
 WB DEPARTURE = 50 FT
 TOTAL = 175 FT

TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)

WB APPROACH = 1 EACH
 WB DEPARTURE = 1 EACH
 TOTAL = 2 EACH

GUARDRAIL MARKERS, TYPE A

WB APPROACH = 2 EACH
 WB DEPARTURE = 1 EACH
 TOTAL = 3 EACH

BARRIER WALL MARKERS, TYPE B

NORTH PARAPET WALL = 2 EACH

PERIMETER EROSION BARRIER

LT STA 333+00 to 335+50 = 250 FT
 LT STA 337+25 to 339+25 = 200 FT
 TOTAL = 450 FT

TEMPORARY EROSION CONTROL SEEDING

LT SIDE = 25 POUNDS

TEMPORARY DITCH CHECKS

NE QUADRANT = 1 EACH
 NW QUADRANT = 1 EACH
 TOTAL = 2 EACH

LEGEND

- TEMPORARY IMPACT ATTENUATORS
- TEMPORARY BRIDGE TRAFFIC SIGNALS

STAGE II NOTES

- RELOCATE TEMPORARY CONCRETE BARRIER, IMPACT ATTENUATORS, ETC. ACCORDING TO TRAFFIC CONTROL PLAN.
- REMOVE STAGE II PORTION OF EXISTING STRUCTURE AND GUARDRAIL.
- CONSTRUCT STAGE II PORTION OF NEW STRUCTURE.
- CONSTRUCT STAGE II EMBANKMENT, BRIDGE APPROACH PAVEMENT, AND BRIDGE APPROACH PAVEMENT CONNECTOR.
- CONSTRUCT STAGE II BINDER AND SURFACE. CONSTRUCT STAGE II BITUMINOUS SHOULDERS, AGGREGATE SHOULDERS, AND GUARDRAIL.
- REMOVE TEMPORARY CONCRETE BARRIER AND IMPACT ATTENUATORS.
- PLACE FINAL PAVEMENT MARKINGS, SEEDING, AND PERFORM OTHER WORK NECESSARY TO COMPLETE THIS SECTION.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

STAGE II CONSTRUCTION DUMS CREEK

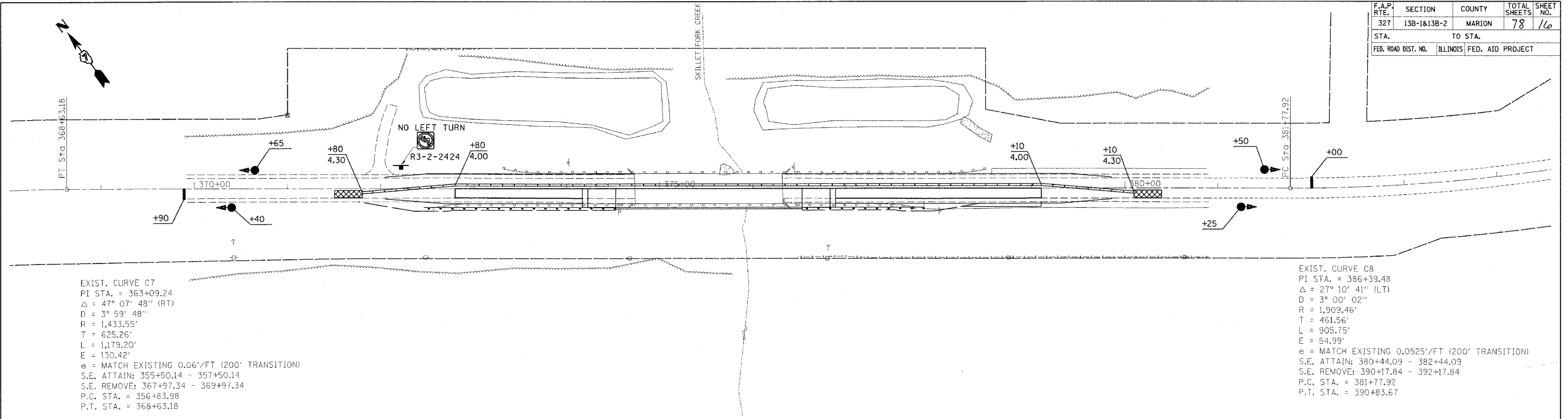
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	13B-1&13B-2	MARION	78	16
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

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EXIST. CURVE C7
 PI STA. = 363+09.24
 $\Delta = 47^\circ 07' 48''$ (RT)
 $D = 3^\circ 59' 48''$
 $R = 1,433.55'$
 $T = 625.26'$
 $L = 1,179.20'$
 $E = 130.42'$
 $e =$ MATCH EXISTING 0.06'/FT (200' TRANSITION)
 S.E. ATTAIN: 355+50.14 - 357+50.14
 S.E. REMOVE: 367+97.34 - 369+97.34
 P.C. STA. = 356+83.98
 P.T. STA. = 368+63.18

EXIST. CURVE C8
 PI STA. = 386+39.48
 $\Delta = 27^\circ 10' 41''$ (LT)
 $D = 3^\circ 00' 02''$
 $R = 1,909.46'$
 $T = 461.56'$
 $L = 905.75'$
 $E = 54.99'$
 $e =$ MATCH EXISTING 0.0525'/FT (200' TRANSITION)
 S.E. ATTAIN: 380+44.09 - 382+44.09
 S.E. REMOVE: 390+17.84 - 392+17.84
 P.C. STA. = 381+77.92
 P.T. STA. = 390+83.67

PAVED SHOULDER REMOVAL

LT STA 372+05 to 374+73 = 118 SQ YD
 LT STA 376+32 to 379+85 = 151 SQ YD
 RT STA 372+05 to 374+73 = 124 SQ YD
 RT STA 376+32 to 379+85 = 160 SQ YD
 TOTAL = 553 SQ YD

BASE COURSE WIDENING 10"

LT STA 372+05 to 374+73 = 130 SQ YD
 LT STA 376+32 to 379+85 = 186 SQ YD
 RT STA 372+05 to 374+17 = 128 SQ YD
 RT STA 376+89 to 379+85 = 173 SQ YD
 TOTAL = 617 SQ YD

TEMPORARY CONCRETE BARRIER

STA 371+80 to 372+80 = 100 FT
 STA 372+80 to 379+10 = 630 FT
 STA 379+10 to 380+10 = 100 FT
 TOTAL = 830 FT

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

STA 371+80 = 1 EACH
 STA 380+10 = 1 EACH
 TOTAL = 2 EACH

GUARDRAIL REMOVAL

RT STA 372+55.58 to 377+74.80 = 520 FT

PAVEMENT REMOVAL

RT STA 374+17 to 374+73 = 75 SQ YD
 RT STA 376+32 to 376+89 = 76 SQ YD
 TOTAL = 151 SQ YD

BRIDGE APPROACH PAVEMENT

RT STA 374+23.00 to 374+53.00 = 68.25 SQ YD
 RT STA 376+53.00 to 376+83.00 = 68.25 SQ YD
 TOTAL = 136.50 SQ YD

BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)

RT STA 374+17 to 374+23 = 13.75 SQ YD
 RT STA 376+83 to 376+89 = 13.75 SQ YD
 TOTAL = 27.50 SQ YD

BITUMINOUS SHOULDERS SUPERPAVE

RT STA 371+76 to 374+53 = 73 TONS
 RT STA 376+53 to 378+43 = 41 TONS
 TOTAL = 114 TONS

TRAFFIC BARRIER TERMINAL, TYPE 6

EB APPROACH = 1 EACH
 EB DEPARTURE = 1 EACH
 TOTAL = 2 EACH

STEEL PLATE BEAM GUARD RAIL, TYPE A

EB APPROACH = 125 FT
 EB DEPARTURE = 50 FT
 TOTAL = 175 FT

TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)

EB APPROACH = 1 EACH
 EB DEPARTURE = 1 EACH
 TOTAL = 2 EACH

GUARDRAIL MARKERS, TYPE A

EB APPROACH = 2 EACH
 EB DEPARTURE = 1 EACH
 TOTAL = 3 EACH

BARRIER WALL MARKERS, TYPE B

SOUTH PARAPET WALL = 3 EACH

PERIMETER EROSION BARRIER

RT STA 372+25 to 374+50 = 225 FT
 RT STA 376+50 to 378+00 = 150 FT
 TOTAL = 375 FT

TEMPORARY EROSION CONTROL SEEDING

RT SIDE = 25 POUNDS

TEMPORARY DITCH CHECKS

SE QUADRANT = 1 EACH
 SW QUADRANT = 1 EACH
 TOTAL = 2 EACH

LEGEND

- TEMPORARY IMPACT ATTENUATORS
- TEMPORARY BRIDGE TRAFFIC SIGNALS

STAGE I NOTES

- CONSTRUCT BASE COURSE WIDENING FOR STAGE I TRAFFIC.
- INSTALL TRAFFIC CONTROL ACCORDING TO TRAFFIC CONTROL STANDARD 701321.
- REMOVE STAGE I PORTION OF EXISTING STRUCTURE AND GUARDRAIL.
- CONSTRUCT STAGE I PORTION OF NEW STRUCTURE.
- CONSTRUCT STAGE I EMBANKMENT, BRIDGE APPROACH PAVEMENT, AND BRIDGE APPROACH PAVEMENT CONNECTOR.
- CONSTRUCT STAGE I BINDER AND SURFACE. CONSTRUCT BASE COURSE WIDENING FOR STAGE II TRAFFIC. CONSTRUCT STAGE I BITUMINOUS SHOULDERS, AGGREGATE SHOULDERS, AND GUARDRAIL.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**STAGE I
CONSTRUCTION
SKILLET FORK CREEK**

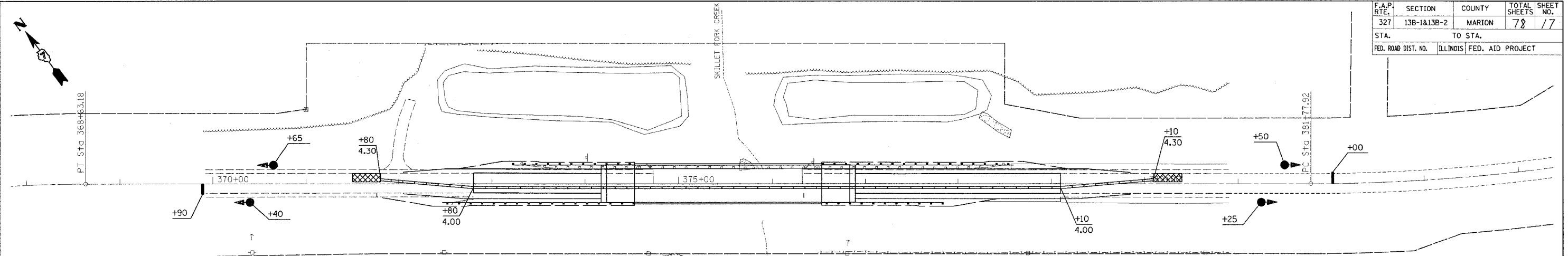
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 DATE / DRAWN BY / CHECKED BY

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 USER NAME = teesleuck

teesleyck
12/23/2005
c:\projects\94964d\03502pa.dgn

CONTRACT NO. 94964

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	13B-1&13B-2	MARION	78	17
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



EXIST. CURVE C7
PI STA. = 363+09.24
Δ = 47° 07' 48" (RT)
D = 3° 59' 48"
R = 1,433.55'
T = 625.26'
L = 1,179.20'
E = 130.42'
e = MATCH EXISTING 0.06'/FT (200' TRANSITION)
S.E. ATTAIN: 355+50.14 - 357+50.14
S.E. REMOVE: 367+97.34 - 369+97.34
P.C. STA. = 356+83.98
P.T. STA. = 368+63.18

EXIST. CURVE C8
PI STA. = 386+39.48
Δ = 27° 10' 41" (LT)
D = 3° 00' 02"
R = 1,909.46'
T = 461.56'
L = 905.75'
E = 54.99'
e = MATCH EXISTING 0.0525'/FT (200' TRANSITION)
S.E. ATTAIN: 380+44.09 - 382+44.09
S.E. REMOVE: 390+17.84 - 392+17.84
P.C. STA. = 381+77.92
P.T. STA. = 390+83.67

LEGEND

- TEMPORARY IMPACT ATTENUATORS
- TEMPORARY BRIDGE TRAFFIC SIGNALS

RELOCATE TEMPORARY CONCRETE BARRIER

STA 371+80 to 372+80 = 100 FT
STA 372+80 to 379+10 = 630 FT
STA 379+10 to 380+10 = 100 FT
TOTAL = 830 FT

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

STA 371+80 = 1 EACH
STA 380+10 = 1 EACH
TOTAL = 2 EACH

GUARDRAIL REMOVAL

LT STA 373+30.87 to 378+50.93 = 521 FT

PAVEMENT REMOVAL

LT STA 374+17 to 374+73 = 100 SQ YD
LT STA 376+32 to 376+89 = 102 SQ YD
TOTAL = 202 SQ YD

BRIDGE APPROACH PAVEMENT

LT STA 374+23.00 to 374+53.00 = 68.25 SQ YD
LT STA 376+53.00 to 376+83.00 = 68.25 SQ YD
TOTAL = 136.50 SQ YD

BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)

LT STA 374+17 to 374+23 = 13.75 SQ YD
LT STA 376+83 to 376+89 = 13.75 SQ YD
TOTAL = 27.50 SQ YD

BITUMINOUS SHOULDERS SUPERPAVE

LT STA 372+62 TO 374+53 = 48 TONS
LT STA 376+53 TO 379+18 = 93 TONS
TOTAL = 141 TONS

TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)

WB APPROACH = 1 EACH
WB DEPARTURE = 1 EACH
TOTAL = 2 EACH

TRAFFIC BARRIER TERMINAL, TYPE 6

WB APPROACH = 1 EACH
WB DEPARTURE = 1 EACH
TOTAL = 2 EACH

STEEL PLATE BEAM GUARD RAIL, TYPE A

WB APPROACH = 125 FT
WB DEPARTURE = 50 FT
TOTAL = 175 FT

GUARDRAIL MARKERS, TYPE A

WB APPROACH = 2 EACH
WB DEPARTURE = 1 EACH
TOTAL = 3 EACH

BARRIER WALL MARKERS, TYPE B

NORTH PARAPET WALL = 3 EACH

PERIMETER EROSION BARRIER

LT STA 373+00 to 375+00 = 200 FT
LT STA 376+50 to 378+75 = 225 FT
TOTAL = 425 FT

TEMPORARY EROSION CONTROL SEEDING

LT SIDE = 15 POUNDS

TEMPORARY DITCH CHECKS

NE QUADRANT = 1 EACH
NW QUADRANT = 1 EACH
TOTAL = 2 EACH

STAGE II NOTES

- RELOCATE TEMPORARY CONCRETE BARRIER, IMPACT ATTENUATORS, ETC. ACCORDING TO TRAFFIC CONTROL PLAN.
- REMOVE STAGE II PORTION OF EXISTING STRUCTURE AND GUARDRAIL.
- CONSTRUCT STAGE II PORTION OF NEW STRUCTURE.
- CONSTRUCT STAGE II EMBANKMENT, BRIDGE APPROACH PAVEMENT, AND BRIDGE APPROACH PAVEMENT CONNECTOR.
- CONSTRUCT STAGE II BINDER AND SURFACE. CONSTRUCT STAGE II BITUMINOUS SHOULDERS, AGGREGATE SHOULDERS, AND GUARDRAIL.
- REMOVE TEMPORARY CONCRETE BARRIER AND IMPACT ATTENUATORS.
- PLACE FINAL PAVEMENT MARKINGS, SEEDING, AND PERFORM OTHER WORK NECESSARY TO COMPLETE THIS SECTION.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**STAGE II
CONSTRUCTION
SKILLET FORK CREEK**
SCALE: VERT. / HORIZ. / DATE
DRAWN BY / CHECKED BY

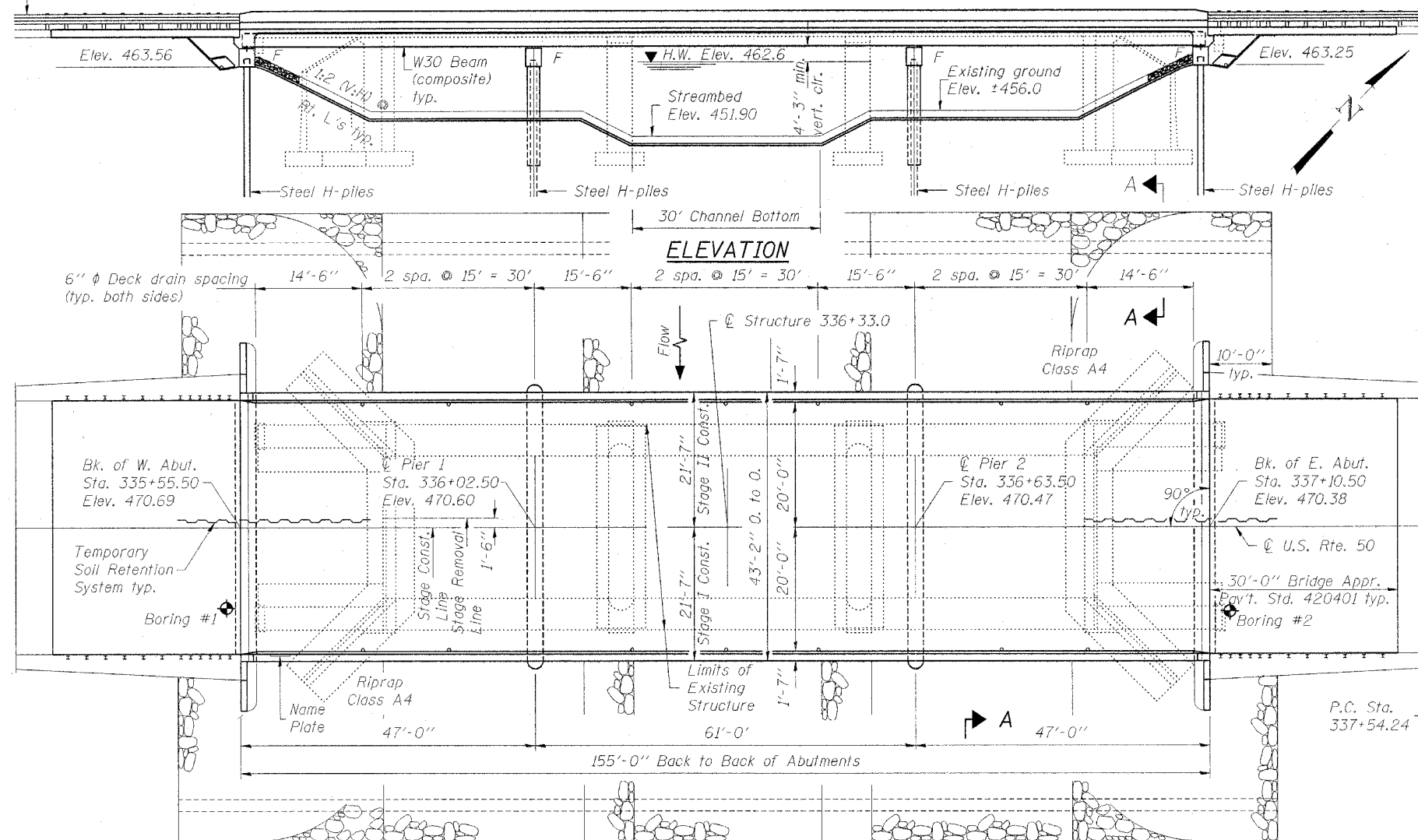
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FILE NAME = c:\projects\94964d\03502pa.dgn
PLOT SCALE = 1/8" = 1' IN.
USER NAME = teesleyck

Bench Mark: Chiseled "⊕" on top of box culvert, 29' Lt. of Station 347+71, Elevation 465.70.

Existing Structure: S.N. 061-0040 Built 1923 as S.B.I. Rt. 12 Sec. 13B at Station 719+00 as a three simple span 114'-0" Bk.-Bk. abutments, supported on timber piles. Bridge widening, and superstructure replacement with PPC deck beams in 1970. Existing bridge to be removed and replaced. Traffic maintained utilizing stage construction.

No salvage.

Traffic Barrier Terminal Std. 631031 Type 6 typ.



WATERWAY INFORMATION

Existing Low Grade Elev. 469.3 @ Sta. 337+00
 Drainage Area = 47.90 sq. mi. Proposed Low Grade Elev. 469.3 @ Sta. 337+00

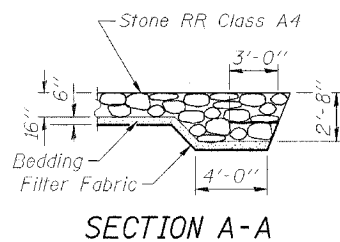
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	3813	711	794	462.2	1.6	1.5	463.8	463.7	
Base	100	6491	772	869	462.8	3.0	2.7	465.8	465.5	
Max. Calc.	500	8357	824	932	463.3	5.0	3.4	468.3	466.7	

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

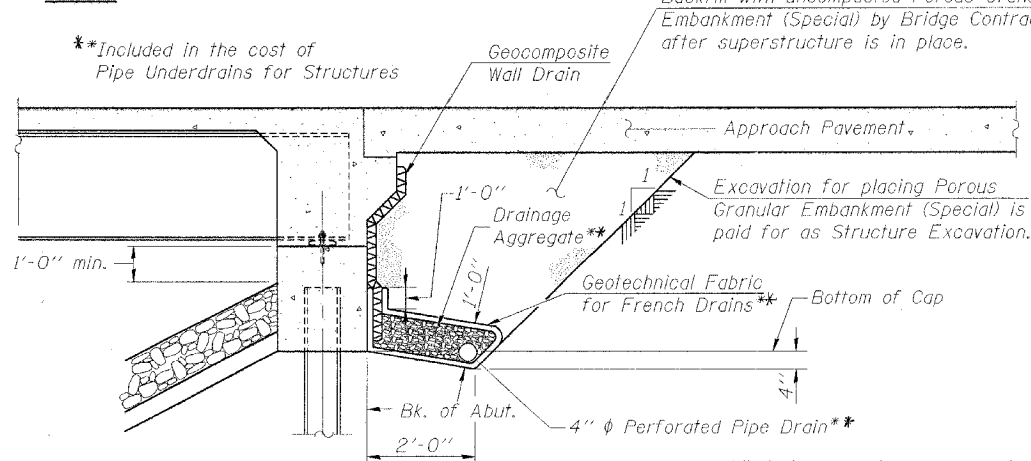
Paul E. Allen
ENGINEER OF BRIDGES AND STRUCTURES

DESIGNED	MAB
CHECKED	PRT
DRAWN	PRT
CHECKED	MAB

HORNER & SHIFRIN, INC.
ENGINEERS ■ ARCHITECTS ■ PLANNERS



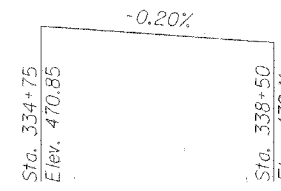
PLAN



SECTION THRU INTEGRAL ABUTMENT

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.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PROFILE GRADE
(along Center Roadway)

CURVE DATA

P.I. Sta. = 342+35.83
 $\Delta = 19^\circ 07' 55''$
 $D = 2^\circ 00' 18''$
 $R = 2857.67'$
 $T = 481.59'$
 $L = 954.22'$
 $E = 40.30'$
 P.C. Sta. = 337+54.24
 P.T. Sta. = 347+08.46
 S.E. = match existing 0.0300'/ft
 T.R. = 40'
 S.E. Attained: Sta. 336+70.50 to Sta. 338+50*

*Match existing cross slopes at this location.

STATION 336+33.00
 BUILT BY
 STATE OF ILLINOIS
 F.A.P. RTE. 327 SEC. 13B-2
 LOADING HL-93
 STR. NO. 061-0090

NAME PLATE
See Std. 515001

LOADING HL-93

Allow 50 psf for future wearing surface

DESIGN SPECIFICATIONS

A.A.S.H.T.O. LRFD Bridge Design Specifications
 U.S., 3rd. Edition - 2004

DESIGN STRESSES

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 50,000$ psi (structural steel M270, GR50)

SEISMIC DATA

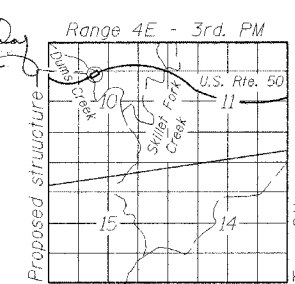
Seismic Performance Zone (SPZ) - 2
 Bedrock Acceleration Coefficient (A) - 9.0%
 Site Coefficient (S) - 1.5



Michael A. Banashek
 11-1-05
 license expires 11-30-2006
 Sheets 1 thru 5 and 11 thru 17



Marshall Edwards
 11-1-05
 license expires 11-30-2006
 Sheets 6 thru 10



LOCATION SKETCH

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
FAP Rte. 327	13B-2	Marion	78	18	17 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT				

Contract #94964

GENERAL NOTES

- Fasteners shall be high strength bolts. Bolts $\frac{7}{8}$ " ϕ , open holes $\frac{15}{16}$ " ϕ , unless otherwise noted.
- Calculated weight of Structural Steel = 95,910 lbs M270, Gr. 50; 12,590 lbs M270, Gr. 36.
- Field welding of construction accessories will not be permitted to beams.
- Anchor bolts shall be set before bolting diaphragms over supports.
- The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams and all splice plate material except fill plates.
- Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two $\frac{1}{8}$ " adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

The Contractor shall drive one (1) steel HP 12 x 74 test pile in a permanent location at each substructure as directed by the Engineer before ordering the remainder of piles.

All Construction joints shall be bonded.

In addition to all other requirements of section 512 of the Standard Specifications, splices for steel H-piles shall develop the full capacity of the steel's cross sectional area of the pile for tension, shear and bending forces. One approved method of achieving this requirement is full penetration butt welding of the entire cross section. Other types of splices meeting the full capacity requirement may be allowed subject to the approval of the Engineer. Any proposal by the Contractor to use an alternate splice method must include adequate documentation demonstrating that the full tension, shear and bending capacities will be met. Appropriate welder qualifications will be required for the positions and processes used in splicing all piles. Nondestructive testing of completed welds will be limited to visual inspection.

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. See Special Provision for "Cleaning and Painting New Metal Structures."

If the Contractor elects to use cantilever forming brackets on the exterior beams, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06 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.

Excavation behind the existing abutment wall shall be done before removing the existing superstructure. The Contractor shall saw cut the existing abutments at the stage removal line before Stage I removal.

For Index of Sheets and Total Bill of Material see Sheet 2 of 17.

GENERAL PLAN
U.S. RTE. 50 OVER
DUMS CREEK
F.A.P. RTE. 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2 17 SHEETS
FAP Rte. 327	13B-E	MARION	78	19	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

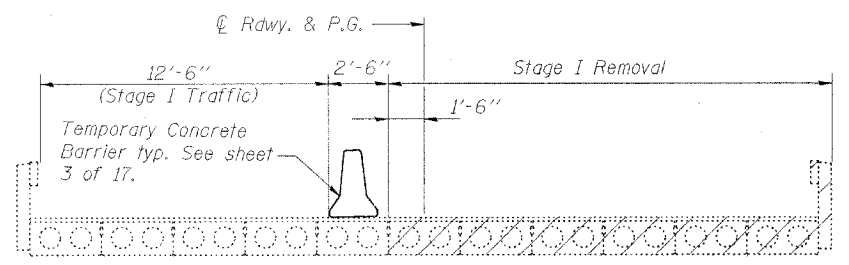
Contract #94964

INDEX OF SHEETS

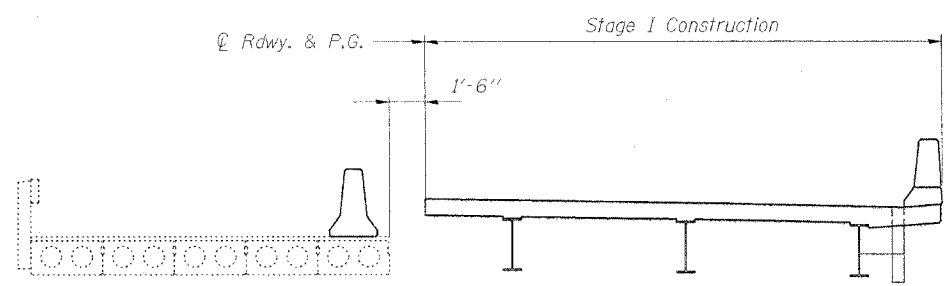
- 1 General Plan
- 2 Stage Construction Details
- 3 Temporary Concrete Barrier for Stage Construction
- 4-5 Top of Slab Elevations
- 6 Superstructure
- 7 Superstructure Details
- 8 Diaphragm Details
- 9 Steel Framing Plan
- 10 Structural Steel Details
- 11 Anchor Bolt Details for Bearings
- 12 West Abutment
- 13 East Abutment
- 14 Pier 1
- 15 Pier 2
- 16 Bar Splicer Assembly Details
- 17 Boring Logs

TOTAL BILL OF MATERIAL

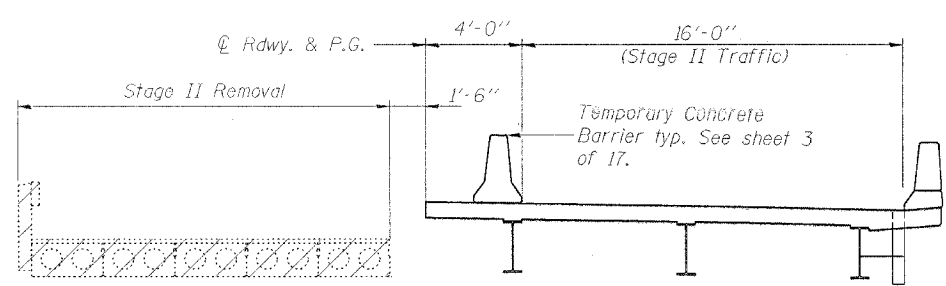
ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each			1
Porous Granular Embankment (Special)	Cu. Yd.		118	118
Structure Excavation	Cu. Yd.		374	374
Concrete Structures	Cu. Yd.		136.0	136.0
Concrete Superstructure	Cu. Yd.	219.7		219.7
Bridge Deck Grooving	Sq. Yd.	654		654
Protective Coat	Sq. Yd.	818		818
Name Plates	Each	1		1
Floor Drains	Each	14		14
Furnishing and Erecting Structural Steel	L. Sum	0.32		0.32
Stud Shear Connectors	Each	3012		3012
Reinforcement Bars, Epoxy Coated	Pound	55,740	11,530	67,270
Bar Splicers	Each	589	92	681
Furnishing Steel Piles HP (12x74)	Foot		1218	1218
Driving Steel Piles	Foot		1218	1218
Test Piles Steel HP (12x74)	Each		4	4
Temporary Soil Retention System	Sq. Ft.		625	625
Underwater Structure Excavation Protection, Location 1	Each		1	1
Underwater Structure Excavation Protection, Location 2	Each		1	1
Stone Riprap, Class A4	Sq. Yd.		1563	1563
Filter Fabric	Sq. Yd.		1563	1563
Pipe Underdrains for Structures 4"	Foot		144	144
Geocomposite Wall Drain	Sq. Yd.		72	72



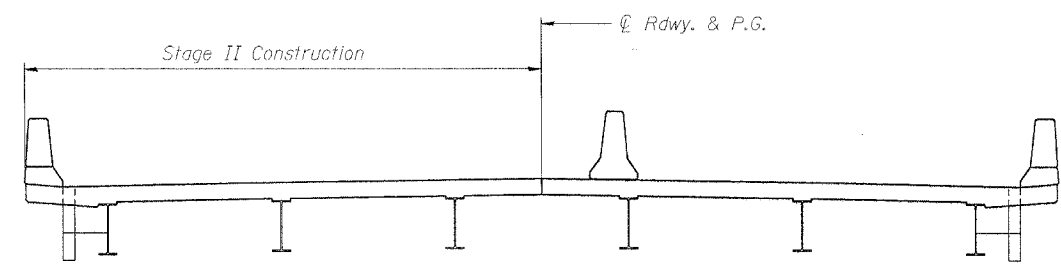
STAGE I REMOVAL



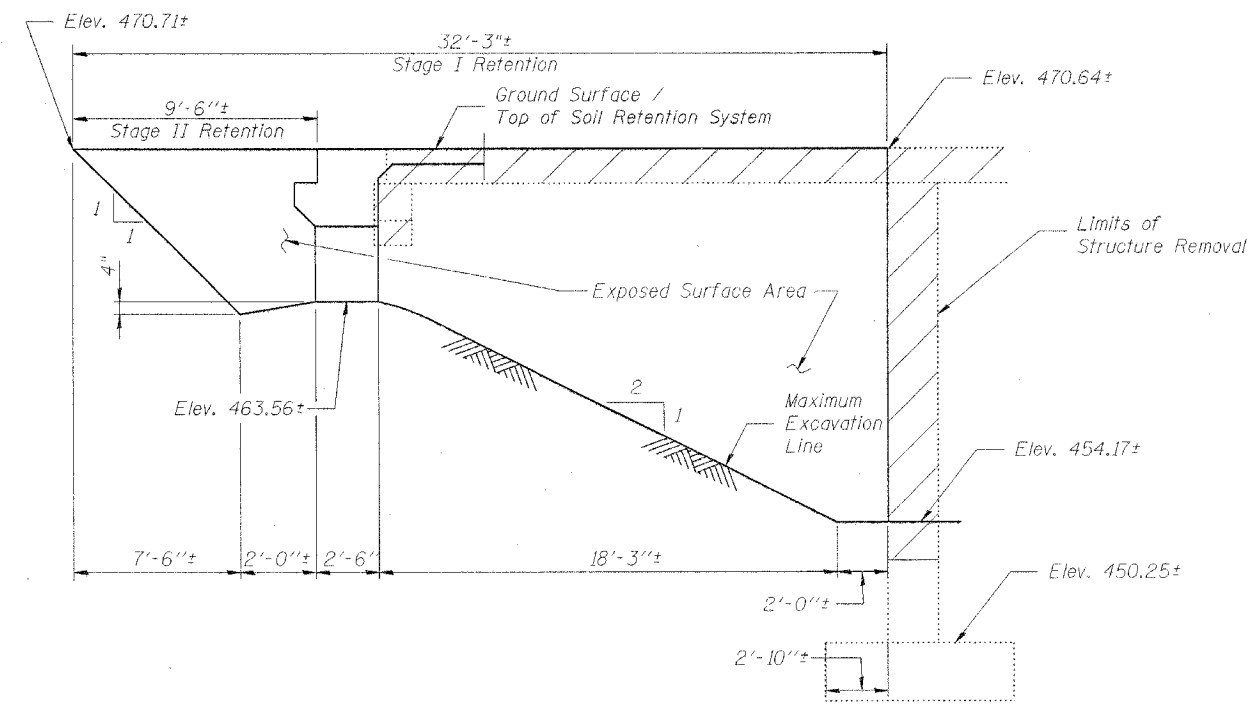
STAGE I CONSTRUCTION



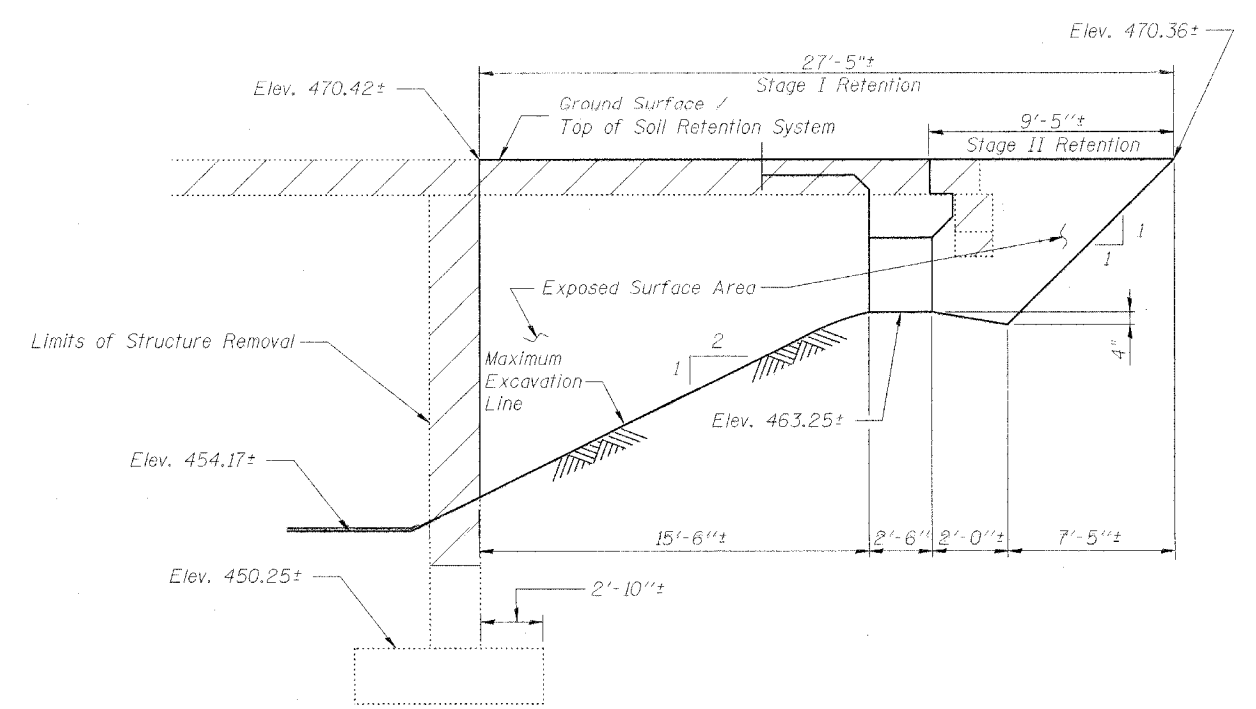
STAGE II REMOVAL



STAGE II CONSTRUCTION



TEMPORARY SOIL RETENTION SYSTEM AT W. ABUT



TEMPORARY SOIL RETENTION SYSTEM AT E. ABUT

DESIGNED	PRT
CHECKED	MAB
DRAWN	PRT
CHECKED	MAB

HORNER & SHIFRIN, INC.
ENGINEERS ■ ARCHITECTS ■ PLANNERS

Notes:
All staging sections are taken looking east.
For quantity of Temporary Concrete Barrier, see rdwy. plans
Hatched area indicates Removal of Existing Structures.

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.

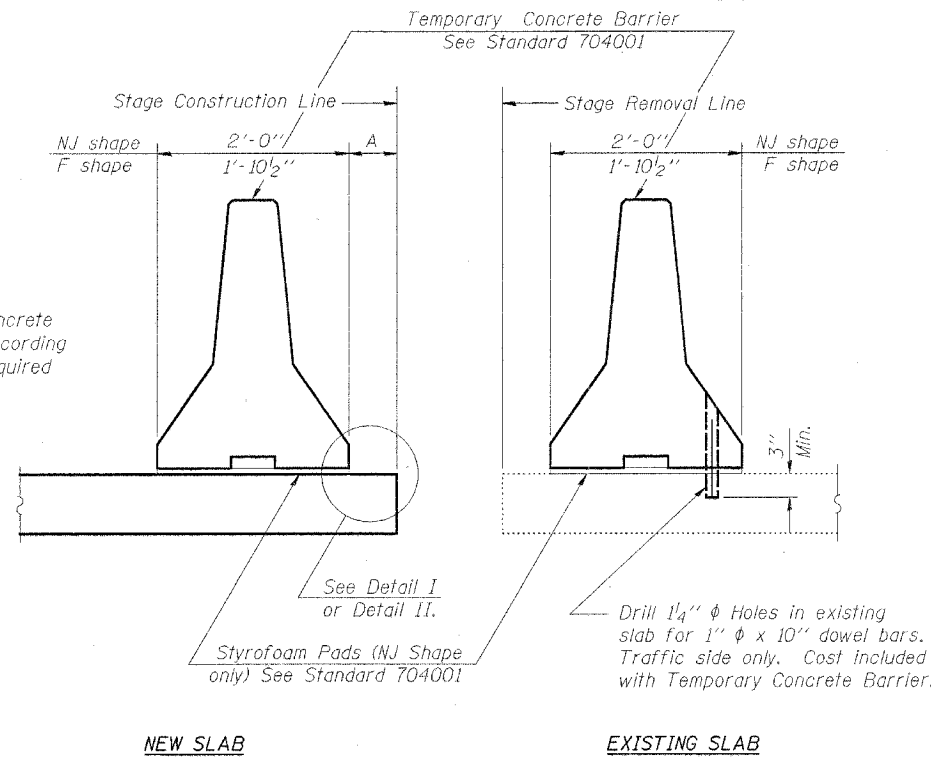
STAGE CONSTRUCTION DETAILS
F.A.P. ROUTE 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP Rte. 327	13B-2	Marion	78	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 3
17 SHEETS

Contract #94964

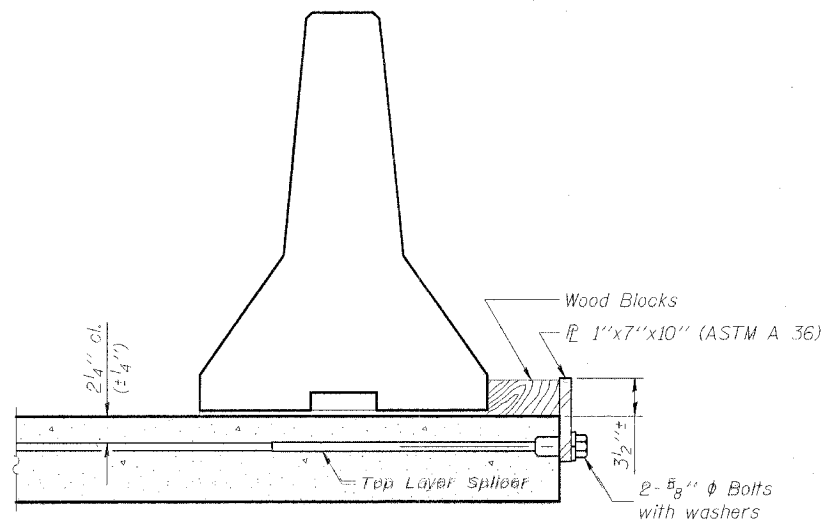


When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".

NOTES

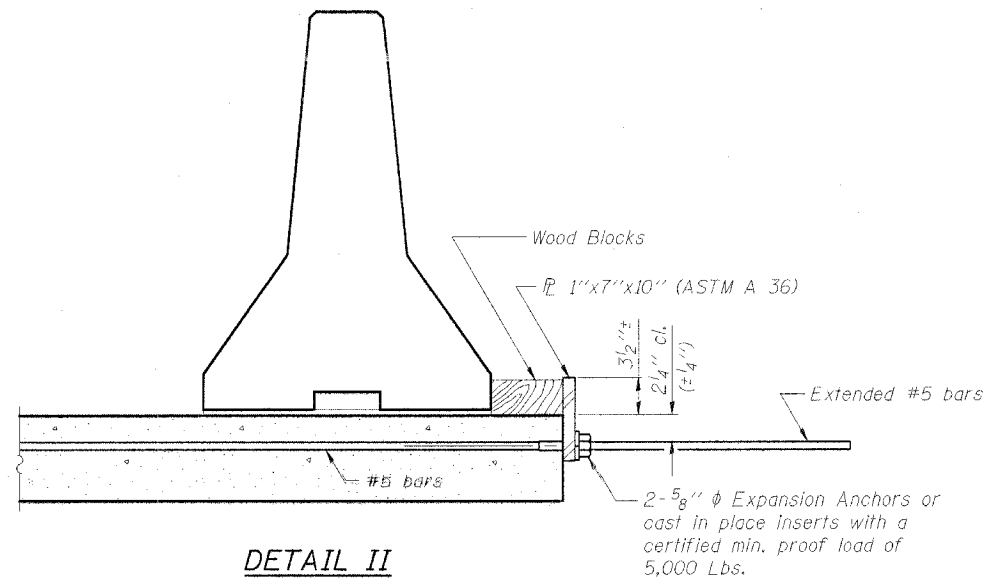
- Detail I - With Bar Splicer or Couplers:**
Connect one (1) 1"x7"x10" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.
- Detail II - With Extended Reinforcement Bars:**
Connect one (1) 1"x7"x10" steel \bar{L} to the concrete slab with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier.

SECTIONS THRU SLAB



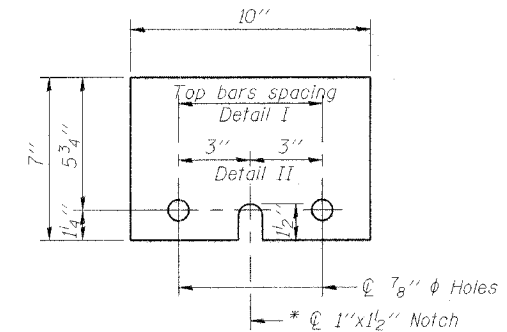
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" 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.



1"x7"x10"

* Required only with Detail II

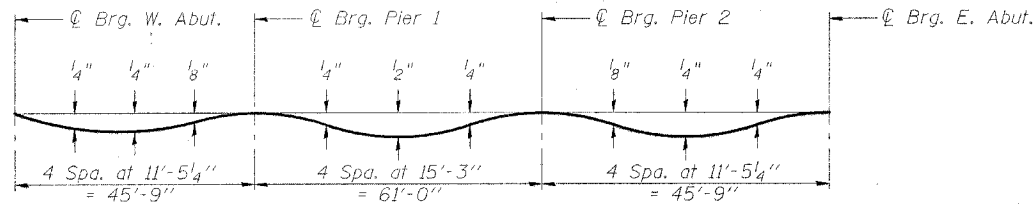
DESIGNED	
CHECKED	
DRAWN	PRT
CHECKED	MAB

R-27 9-01-03

HORNER & SHIFRIN, INC.
ENGINEERS ■ ARCHITECTS ■ PLANNERS

**TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
F.A.P. ROUTE 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090**

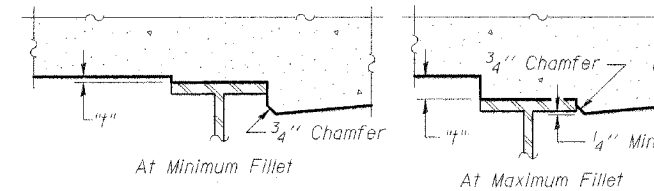
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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 below, and on sheet 5 of 17.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below and on sheet 5 of 17. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below and on sheet 5 of 17, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	335+55.50	-18.125	470.37	470.37
☉ Brg. W. Abut.	335+56.75	-18.125	470.37	470.37
A	335+66.75	-18.125	470.35	470.37
B	335+76.75	-18.125	470.33	470.35
C	335+86.75	-18.125	470.31	470.33
D	335+96.75	-18.125	470.29	470.30
☉ Pier #1	336+02.50	-18.125	470.28	470.28
E	336+12.50	-18.125	470.26	470.27
F	336+22.50	-18.125	470.24	470.27
G	336+32.50	-18.125	470.22	470.26
H	336+42.50	-18.125	470.20	470.23
I	336+52.50	-18.125	470.18	470.19
☉ Pier #2	336+63.50	-18.125	470.16	470.16
J	336+73.50	-18.125	470.15	470.16
K	336+83.50	-18.125	470.18	470.20
L	336+93.50	-18.125	470.21	470.23
M	337+03.50	-18.125	470.23	470.25
☉ Brg. E. Abut.	337+09.25	-18.125	470.25	470.25
Bk. E. Abut.	337+10.50	-18.125	470.25	470.25

BEAM 2

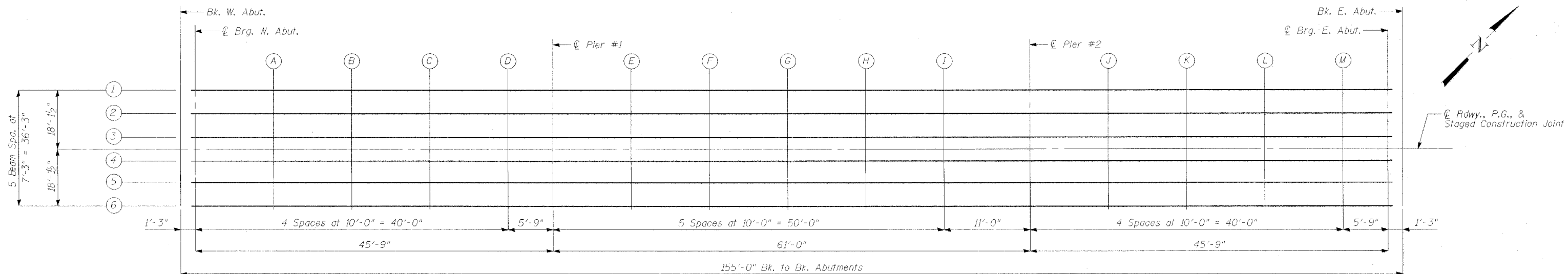
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	335+55.50	-10.875	470.52	470.52
☉ Brg. W. Abut.	335+56.75	-10.875	470.52	470.52
A	335+66.75	-10.875	470.50	470.52
B	335+76.75	-10.875	470.48	470.50
C	335+86.75	-10.875	470.46	470.47
D	335+96.75	-10.875	470.44	470.44
☉ Pier #1	336+02.50	-10.875	470.43	470.43
E	336+12.50	-10.875	470.41	470.41
F	336+22.50	-10.875	470.39	470.42
G	336+32.50	-10.875	470.37	470.41
H	336+42.50	-10.875	470.35	470.38
I	336+52.50	-10.875	470.33	470.34
☉ Pier #2	336+63.50	-10.875	470.30	470.30
J	336+73.50	-10.875	470.30	470.31
K	336+83.50	-10.875	470.32	470.34
L	336+93.50	-10.875	470.34	470.36
M	337+03.50	-10.875	470.36	470.38
☉ Brg. E. Abut.	337+09.25	-10.875	470.38	470.38
Bk. E. Abut.	337+10.50	-10.875	470.38	470.38

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	335+55.50	-3.625	470.63	470.63
☉ Brg. W. Abut.	335+56.75	-3.625	470.63	470.63
A	335+66.75	-3.625	470.61	470.63
B	335+76.75	-3.625	470.59	470.61
C	335+86.75	-3.625	470.57	470.59
D	335+96.75	-3.625	470.55	470.55
☉ Pier #1	336+02.50	-3.625	470.54	470.54
E	336+12.50	-3.625	470.52	470.53
F	336+22.50	-3.625	470.50	470.53
G	336+32.50	-3.625	470.48	470.52
H	336+42.50	-3.625	470.46	470.49
I	336+52.50	-3.625	470.44	470.45
☉ Pier #2	336+63.50	-3.625	470.42	470.42
J	336+73.50	-3.625	470.40	470.41
K	336+83.50	-3.625	470.40	470.41
L	336+93.50	-3.625	470.39	470.41
M	337+03.50	-3.625	470.38	470.40
☉ Brg. E. Abut.	337+09.25	-3.625	470.38	470.38
Bk. E. Abut.	337+10.50	-3.625	470.38	470.38

☉ ROADWAY, PROFILE GRADE & STAGED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	335+55.50	0.000	470.69	470.69
☉ Brg. W. Abut.	335+56.75	0.000	470.69	470.69
A	335+66.75	0.000	470.67	470.69
B	335+76.75	0.000	470.65	470.67
C	335+86.75	0.000	470.63	470.64
D	335+96.75	0.000	470.61	470.61
☉ Pier #1	336+02.50	0.000	470.60	470.60
E	336+12.50	0.000	470.58	470.58
F	336+22.50	0.000	470.56	470.59
G	336+32.50	0.000	470.54	470.58
H	336+42.50	0.000	470.52	470.55
I	336+52.50	0.000	470.50	470.51
☉ Pier #2	336+63.50	0.000	470.47	470.47
J	336+73.50	0.000	470.45	470.46
K	336+83.50	0.000	470.43	470.45
L	336+93.50	0.000	470.41	470.44
M	337+03.50	0.000	470.39	470.41
☉ Brg. E. Abut.	337+09.25	0.000	470.38	470.38
Bk. E. Abut.	337+10.50	0.000	470.38	470.38



PLAN

DESIGNED	PRT
CHECKED	MAB
DRAWN	PRT
CHECKED	MAB

HORNER & SHIFRIN, INC.
ENGINEERS ■ ARCHITECTS ■ PLANNERS

TOP OF SLAB ELEVATIONS
F.A.P. ROUTE 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
FAP No. 327	13B-2	Marion	78	22
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 5
17 SHEETS

Contract #94964

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	335+55.50	3.625	470.63	470.63
⊕ Brg. W. Abut.	335+56.75	3.625	470.63	470.63
A	335+66.75	3.625	470.61	470.63
B	335+76.75	3.625	470.59	470.61
C	335+86.75	3.625	470.57	470.59
D	335+96.75	3.625	470.55	470.55
⊕ Pier #1	336+02.50	3.625	470.54	470.54
E	336+12.50	3.625	470.52	470.53
F	336+22.50	3.625	470.50	470.53
G	336+32.50	3.625	470.48	470.52
H	336+42.50	3.625	470.46	470.49
I	336+52.50	3.625	470.44	470.45
⊕ Pier #2	336+63.50	3.625	470.42	470.42
J	336+73.50	3.625	470.40	470.41
K	336+83.50	3.625	470.39	470.40
L	336+93.50	3.625	470.36	470.36
M	337+03.50	3.625	470.34	470.35
⊕ Brg. E. Abut.	337+09.25	3.625	470.33	470.33
Bk. E. Abut.	337+10.50	3.625	470.32	470.32

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	335+55.50	10.875	470.52	470.52
⊕ Brg. W. Abut.	335+56.75	10.875	470.52	470.52
A	335+66.75	10.875	470.50	470.52
B	335+76.75	10.875	470.48	470.50
C	335+86.75	10.875	470.46	470.47
D	335+96.75	10.875	470.44	470.44
⊕ Pier #1	336+02.50	10.875	470.43	470.43
E	336+12.50	10.875	470.41	470.41
F	336+22.50	10.875	470.39	470.42
G	336+32.50	10.875	470.37	470.41
H	336+42.50	10.875	470.35	470.38
I	336+52.50	10.875	470.33	470.34
⊕ Pier #2	336+63.50	10.875	470.30	470.30
J	336+73.50	10.875	470.28	470.29
K	336+83.50	10.875	470.26	470.28
L	336+93.50	10.875	470.24	470.27
M	337+03.50	10.875	470.22	470.24
⊕ Brg. E. Abut.	337+09.25	10.875	470.21	470.21
Bk. E. Abut.	337+10.50	10.875	470.21	470.21

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	335+55.50	18.125	470.37	470.37
⊕ Brg. W. Abut.	335+56.75	18.125	470.37	470.37
A	335+66.75	18.125	470.35	470.37
B	335+76.75	18.125	470.33	470.35
C	335+86.75	18.125	470.31	470.33
D	335+96.75	18.125	470.29	470.30
⊕ Pier #1	336+02.50	18.125	470.28	470.28
E	336+12.50	18.125	470.26	470.27
F	336+22.50	18.125	470.24	470.27
G	336+32.50	18.125	470.22	470.26
H	336+42.50	18.125	470.20	470.23
I	336+52.50	18.125	470.18	470.19
⊕ Pier #2	336+63.50	18.125	470.16	470.16
J	336+73.50	18.125	470.14	470.15
K	336+83.50	18.125	470.12	470.14
L	336+93.50	18.125	470.10	470.12
M	337+03.50	18.125	470.08	470.09
⊕ Brg. E. Abut.	337+09.25	18.125	470.07	470.07
Bk. E. Abut.	337+10.50	18.125	470.06	470.06

DESIGNED	PRT
CHECKED	MAB
DRAWN	PRT
CHECKED	MAB

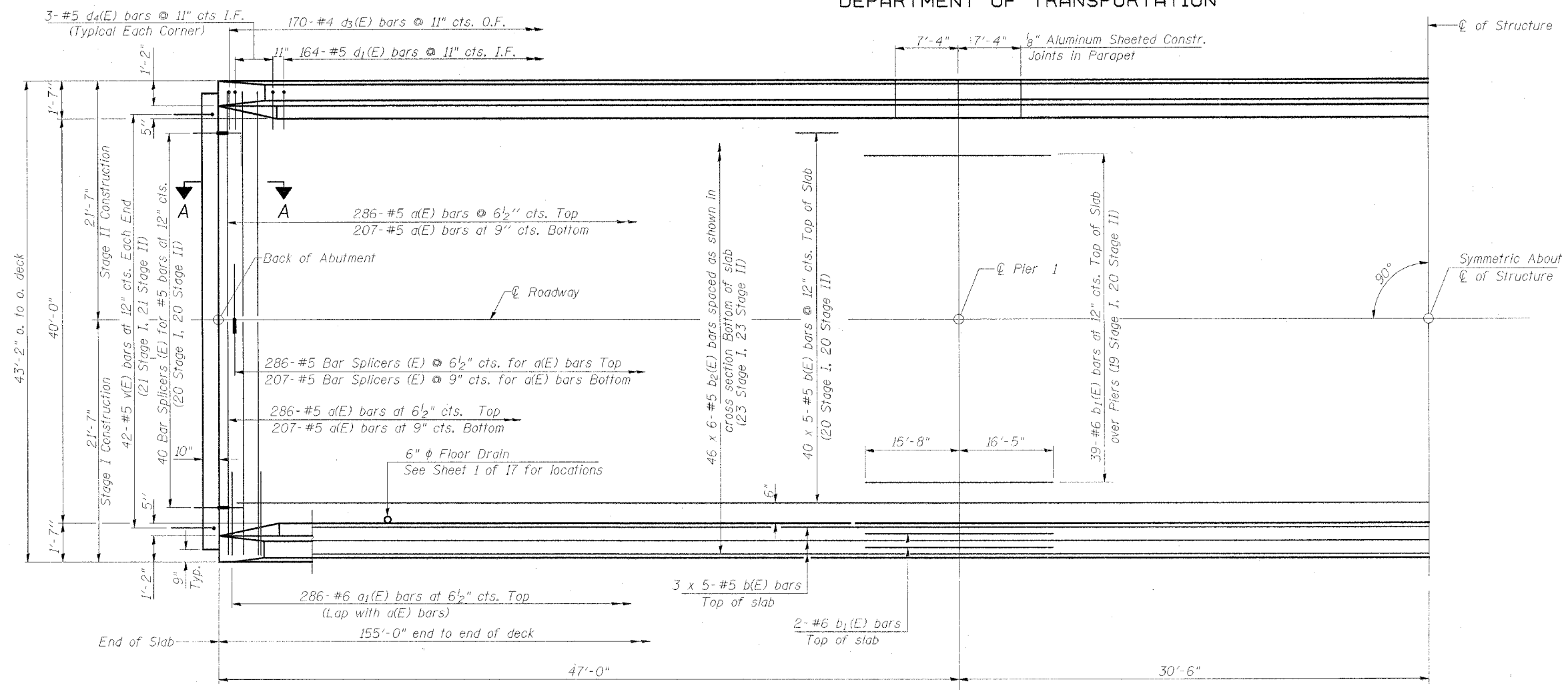
HORNER & SHIFRIN, INC.
ENGINEERS ■ ARCHITECTS ■ PLANNERS

TOP OF SLAB ELEVATIONS
F.A.P. ROUTE 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090

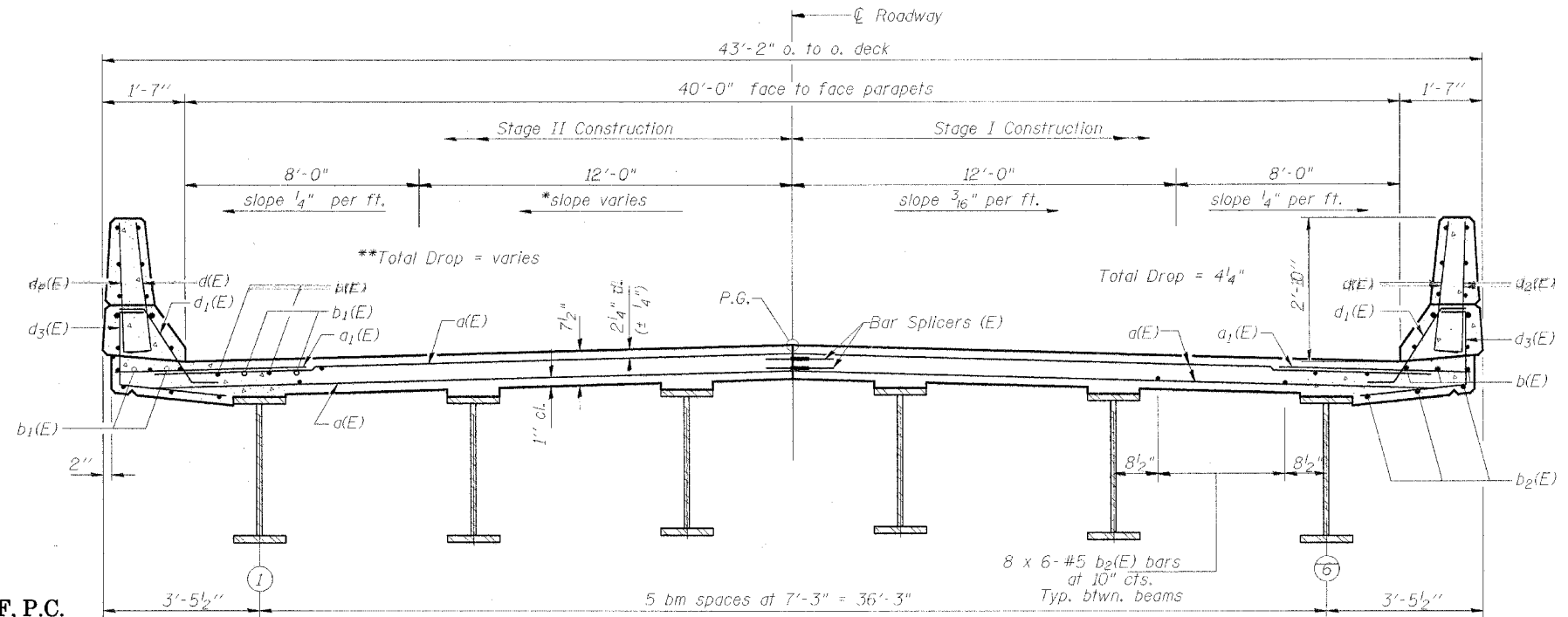
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6 17 SHEETS
FAP Rte. 327	13B-2	Marion	78	23	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #94964



HALF PLAN



CROSS SECTION
(Looking East)

NOTES

See sheet 7 of 17 for superstructure details, parapet reinforcement and Bill of Materials.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 40 x 5-#5 etc. indicates 40 lines of bars with 5 lengths per line.
See sheet 8 of 17 for abutment diaphragm details and Section A-A.

MIN. BAR LAP
#5 = 1'-8"

$\frac{3}{16}$ "/ft from Sta. 335+55.50 to Sta. 336+70.50. From Sta. 336+70.50 to Sta. 337+10.50 slope varies from $\frac{3}{16}$ "/ft to 0"/ft.
 $\frac{1}{4}$ " from Sta. 335+55.50 to Sta. 336+70.50. From Sta. 336+70.50 to Sta. 337+10.50 drop varies from $\frac{1}{4}$ " to 2".

DESIGNED	-
CHECKED	-
DRAWN	TFG
CHECKED	CME/BD/MCB

COOMBE-BLOXDORF, P.C.
Engineers/Land Surveyors
Springfield, Illinois
Design Firm License No. 184-002703

SUPERSTRUCTURE
F.A.P. ROUTE 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090

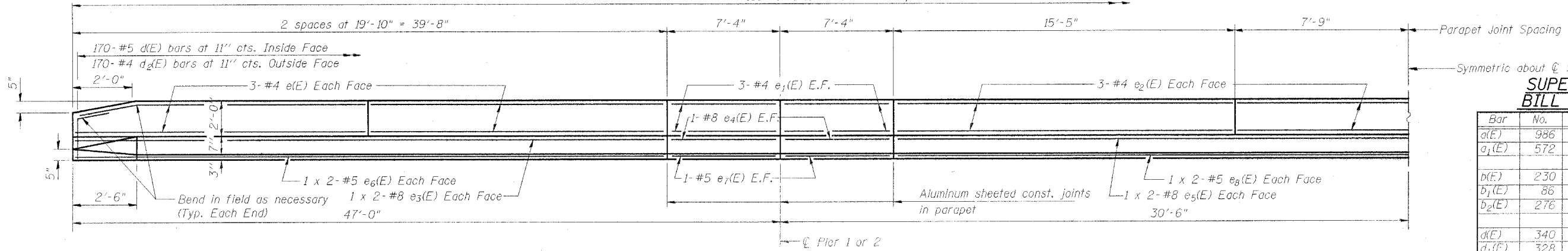
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP Rte. 327	13B-2	Marion	18	24
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract #94964

SHEET NO. 7
17 SHEETS

155'-0" End to End of Parapet

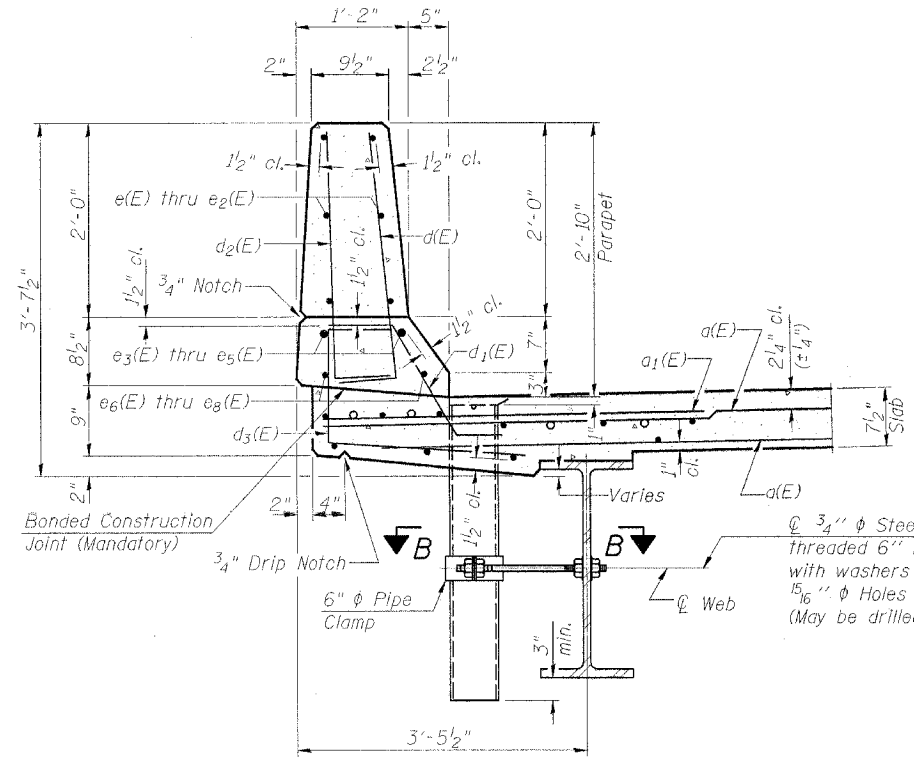


INSIDE ELEVATION OF PARAPET

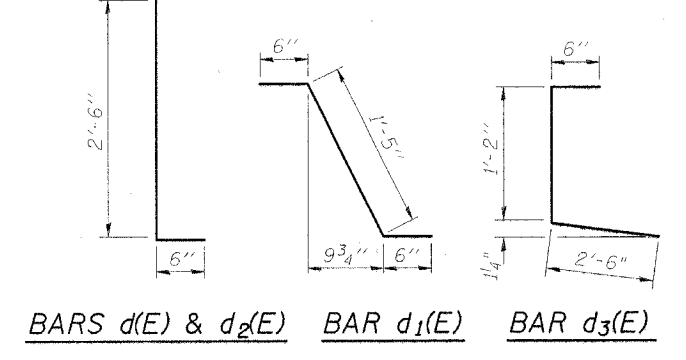
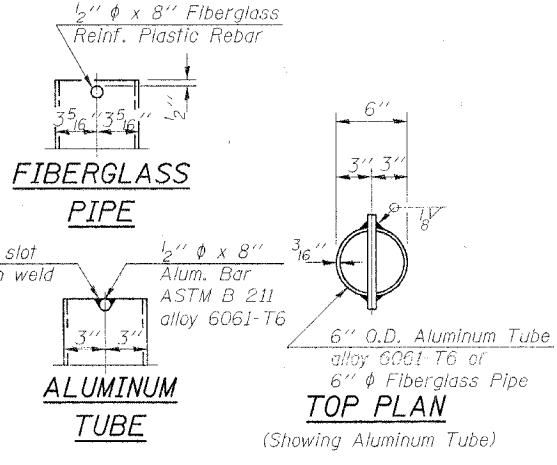
MIN BAR LAP
#5 = 2'-2"
#8 = 4'-6"

SUPERSTRUCTURE
BILL OF MATERIAL

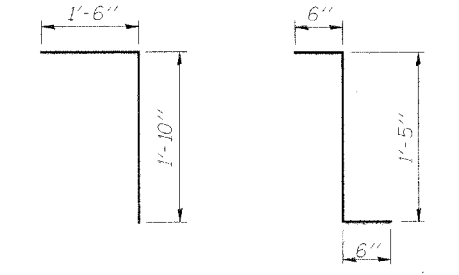
Bar	No.	Size	Length	Shape
a(E)	986	#5	20'-8"	—
a1(E)	572	#6	6'-0"	—
b(E)	230	#5	32'-3"	—
b1(E)	86	#6	32'-1"	—
b2(E)	276	#5	27'-2"	—
d(E)	340	#5	3'-0"	—
d1(E)	328	#5	2'-5"	—
d2(E)	340	#4	3'-0"	—
d3(E)	340	#4	4'-2"	—
d4(E)	12	#5	2'-5"	—
e(E)	48	#4	19'-6"	—
e1(E)	48	#4	7'-0"	—
e2(E)	36	#4	15'-1"	—
e3(E)	16	#8	22'-0"	—
e4(E)	16	#8	7'-0"	—
e5(E)	8	#8	25'-4"	—
e6(E)	16	#5	20'-10"	—
e7(E)	16	#5	7'-0"	—
e8(E)	8	#5	24'-2"	—
m(E)	8	#6	20'-7"	—
m1(E)	12	#6	21'-1"	—
m2(E)	24	#6	9'-0"	—
m3(E)	8	#6	6'-11"	—
m4(E)	4	#6	3'-1"	—
m5(E)	4	#6	3'-3"	—
s(E)	92	#5	5'-9"	7
s1(E)	92	#4	8'-2"	□
v(E)	84	#5	3'-4"	7
Reinforcement Bars, Epoxy Coated		Pound	55,740	
Concrete Superstructure		Cu. Yds.	219.7	
Bar Splicers		Each	589	



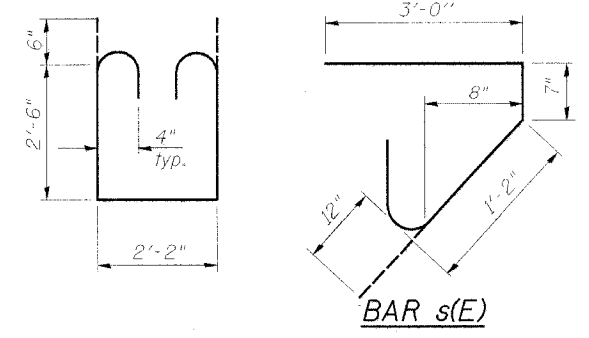
SECTION THRU PARAPET
(Showing 6" φ Drain)



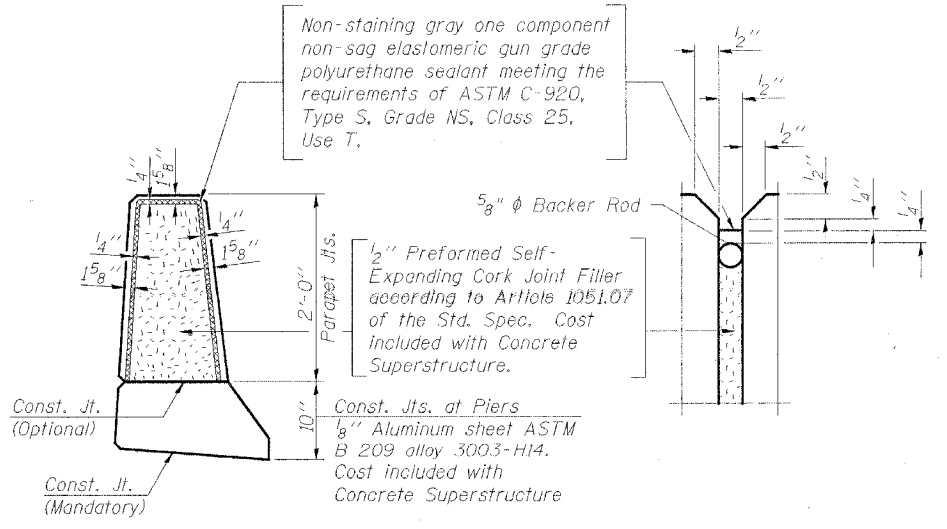
BARS d(E) & d2(E) BAR d1(E) BAR d3(E)



BAR v(E) BAR d4(E)

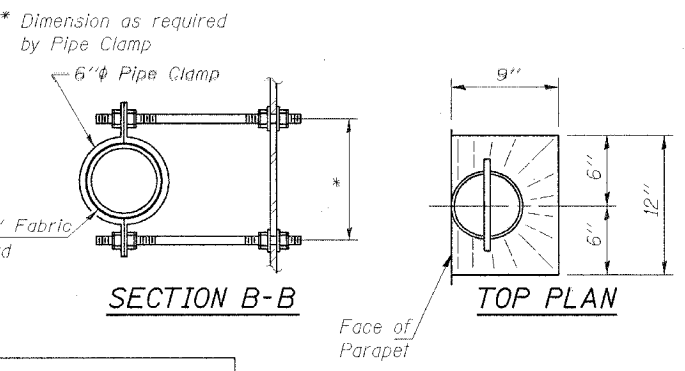


BAR s1(E)



PARAPET JOINT DETAILS

Notes:
The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Steel Structures Painting Council's Spec. SSPC-SPI 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.



SECTION B-B TOP PLAN

DESIGNED	-
CHECKED	-
DRAWN	TFG
CHECKED	CME/BD/MCB

COOMBE-BLOXDORF, P.C.
Engineers/Land Surveyors
Springfield, Illinois
Design Firm License No. 184-002703

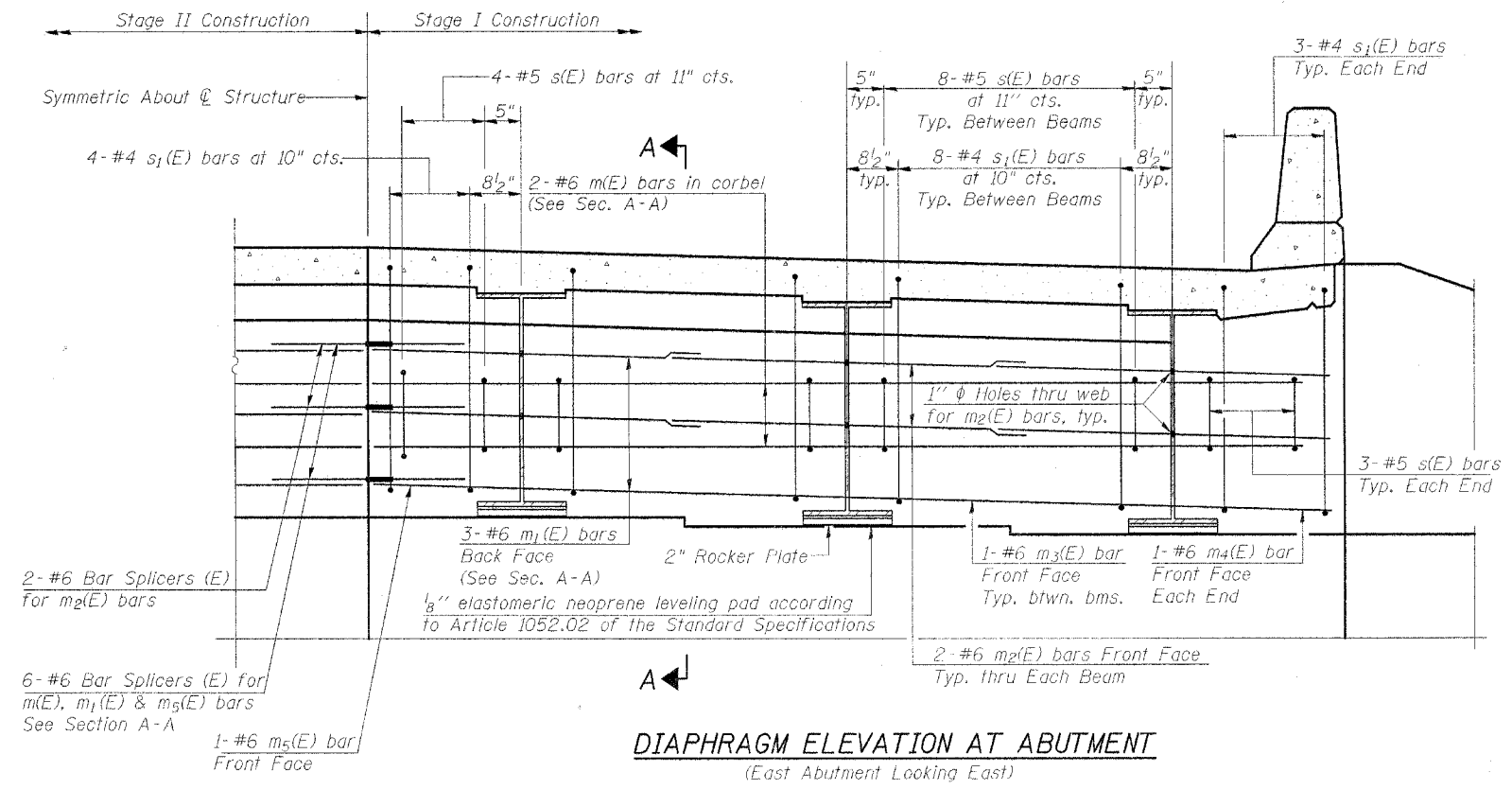
NOTES
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

SUPERSTRUCTURE DETAILS
F.A.P. ROUTE 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8
FAP Rte. 327	13B-2	Marion	78	25	17 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

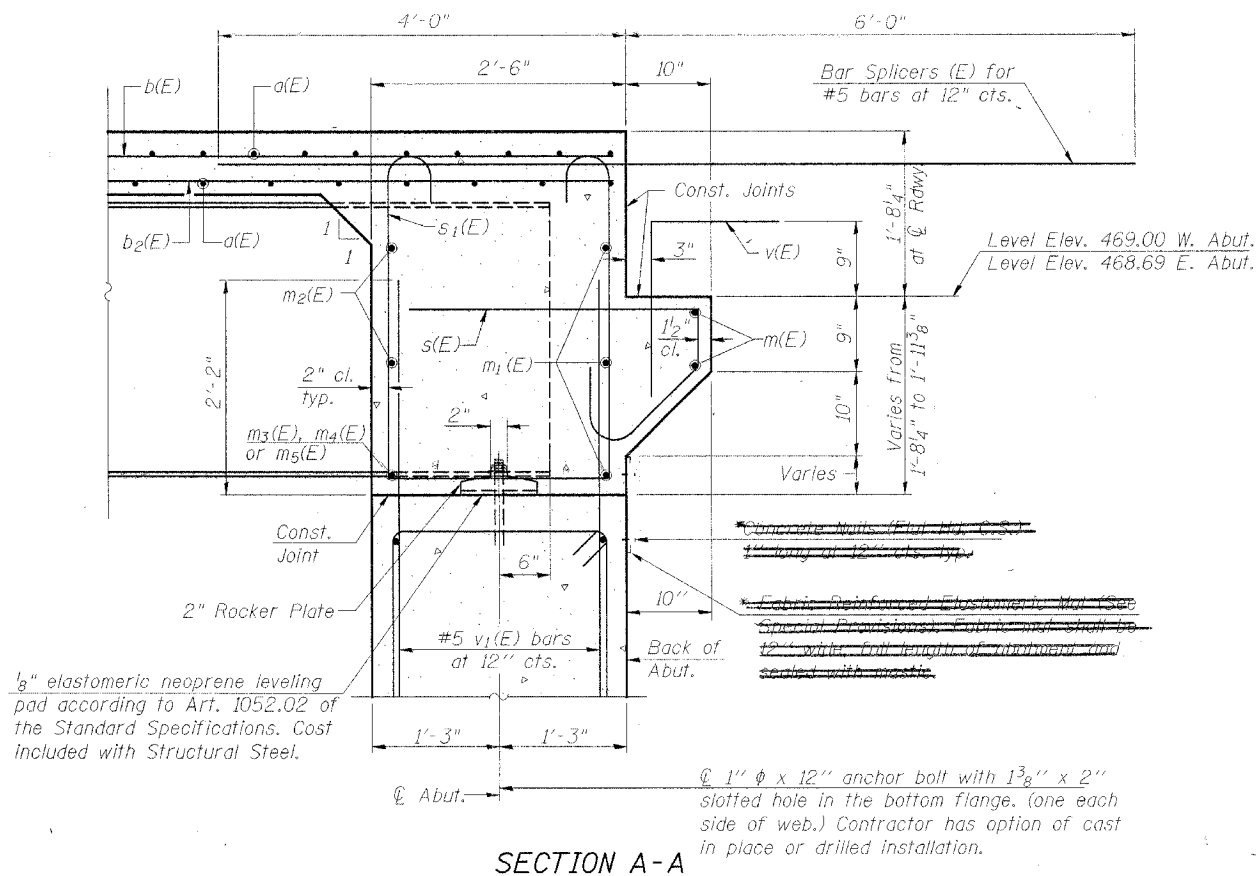
Contract #94964



DIAPHRAGM ELEVATION AT ABUTMENT
(East Abutment Looking East)

NOTES
Reinforcement bars in diaphragm are billed with superstructure on sheet 7 of 17.
Concrete in diaphragm is included with Concrete Superstructure on sheet 7 of 17.
For details of bars s(E) & s1(E) see sheet 7 of 17.
For anchor bolt details see sheet 11 of 17.

MIN. BAR LAP
#6 bar = 2'-9"



SECTION A-A

DESIGNED	-
CHECKED	-
DRAWN	TFG
CHECKED	CME/BD/MCB

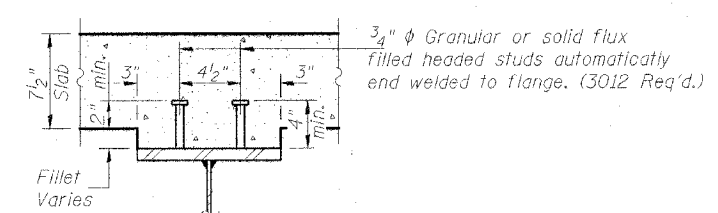
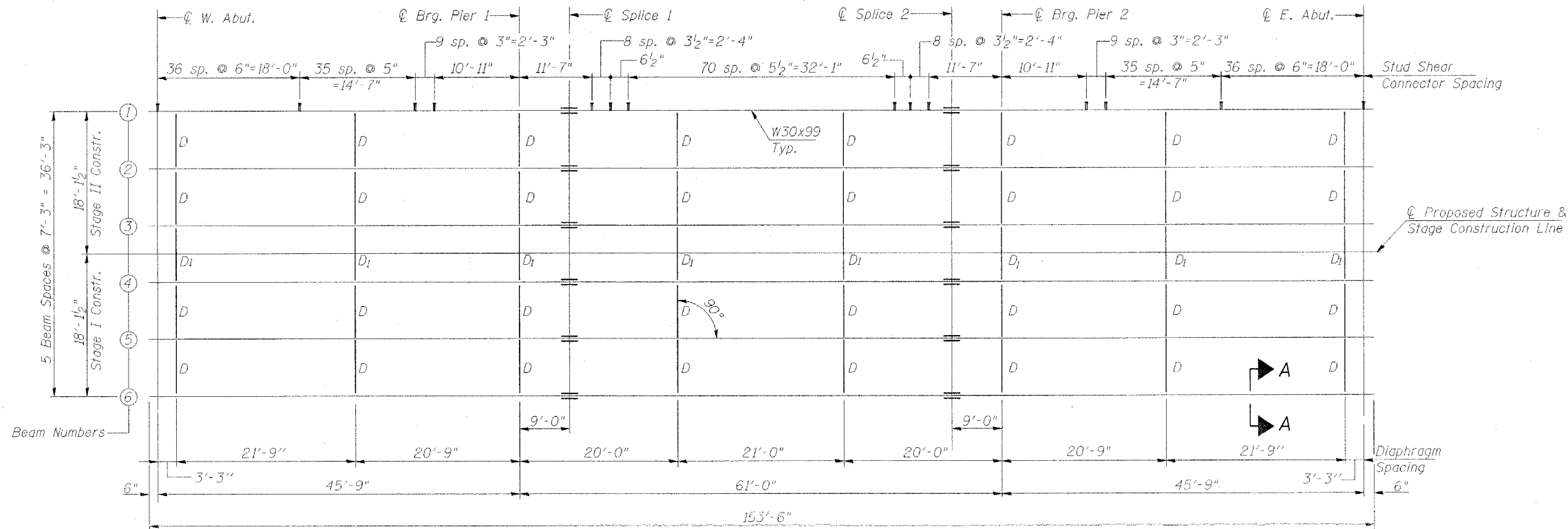
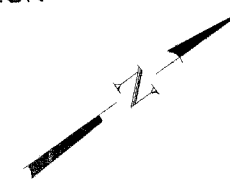
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Springfield, Illinois
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DIAPHRAGM DETAILS
F.A.P. ROUTE 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 9
FAP Rte. 327	13B-2	MARION	78	26	17 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

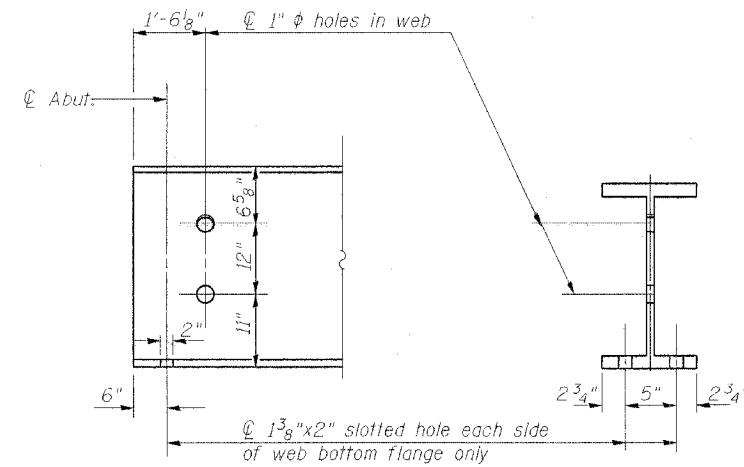
Contract #94964



SECTION A-A

FRAMING PLAN

All beams and splice material are M270 Grade 50 and shall meet Notch Toughness Requirements.



END OF BEAM DETAIL
(Stud shear connectors shown)

***TOP OF BEAM ELEVATIONS**

Location	Bm 1	Bm 2	Bm 3	Bm 4	Bm 5	Bm 6
W. Abutment	469.704	469.850	469.963	469.963	469.850	469.704
Brg. Pier 1	469.567	469.712	469.825	469.825	469.712	469.567
Splice 1	469.538	469.683	469.796	469.796	469.683	469.538
Splice 2	469.452	469.597	469.710	469.710	469.597	469.452
Brg. Pier 2	469.441	469.586	469.699	469.699	469.586	469.441
Brg. E. Abut.	469.399	469.545	469.658	469.658	469.545	469.399

*Elevations are for fabrication only and do not include Dead Load Deflections

Work this sheet with sheet 10 of 17.

DESIGNED	-
CHECKED	-
DRAWN	TFG
CHECKED	CME/BD/MCB

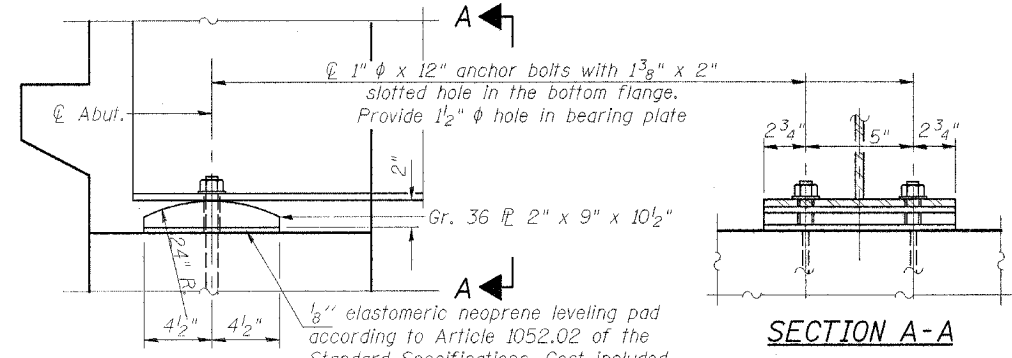
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Engineers/Land Surveyors
Springfield, Illinois
Design Firm License No. 184-002703

STEEL FRAMING PLAN
F.A.P. ROUTE 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 10 17 SHEETS
FAP Rte. 327	13B-2	Marion	18	21	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #94964



BEARING AT INTEGRAL ABUTMENTS

NOTE
Anchor bolts at abutments and piers may be built into the masonry.
See sheet 11 of 17 for Anchor Bolt installation.

INTERIOR GIRDER MOMENT TABLE-HL93 LOADING

		0.4Sp. 1 or 0.6Sp. 3	Pier 1 or Pier 2	0.5Sp. 2
I_s	in^4	3990	3990	3990
$I_c(n)$	in^4	11495	---	11495
$I_c(3n)$	in^4	8658	---	8658
S_s	in^3	269	269	269
$S_c(n)$	in^3	409	---	409
$S_c(3n)$	in^3	372	---	372
Z	in^3	---	---	---
DC1	k/ft	0.82	0.82	0.82
M DC1	$k-ft$	108.7	239.2	139.3
DC2	k/ft	0.15	0.15	0.15
M DC2	$k-ft$	23.0	36.6	33.2
DW	k/ft	0.36	0.36	0.36
M DW	$k-ft$	55.3	87.9	79.6
M LL+Imp	$k-ft$	522.7	329.1	627.2
M_a (Strength I)	$k-ft$	1162.3	1052.6	1432.6
M_r	$k-ft$	2280	---	2280
f_s DC1	ksi	4.9	10.7	6.2
f_s DC2	ksi	0.7	1.6	1.1
f_s DW	ksi	1.8	3.9	2.6
f_s 1.3(LL+I)	ksi	19.9	19.1	23.9
f_s (Ser II)	ksi	27.3	35.3	33.8
f_s (Total)(Strength I)	ksi	---	46.9	---
V_{sr}	k	25.5	---	24.0

Interior Girder Reaction Table-HL93 Loading

	Abutment	Pier
R DC1	13.7	48.5
R DC2+DW	8.6	30.1
R LL	49.8	72.9
R Imp	16.5	24.1
R Total	88.6	175.6

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s due to non-composite loads.

$I_c(n)$ and $S_c(n)$ are the moment of inertia and section modulus of the composite section used in computing f_s due to short-term composite loads.

$I_c(3n)$ and $S_c(3n)$ are the moment of inertia and section modulus of the composite section used in computing f_s due to long-term composite loads.

Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.

DC1 is the dead load acting on the non-composite section.

DC2 is the dead load acting on the long-term composite section.

DW is the dead load acting on the long-term composite section due to wearing surface.

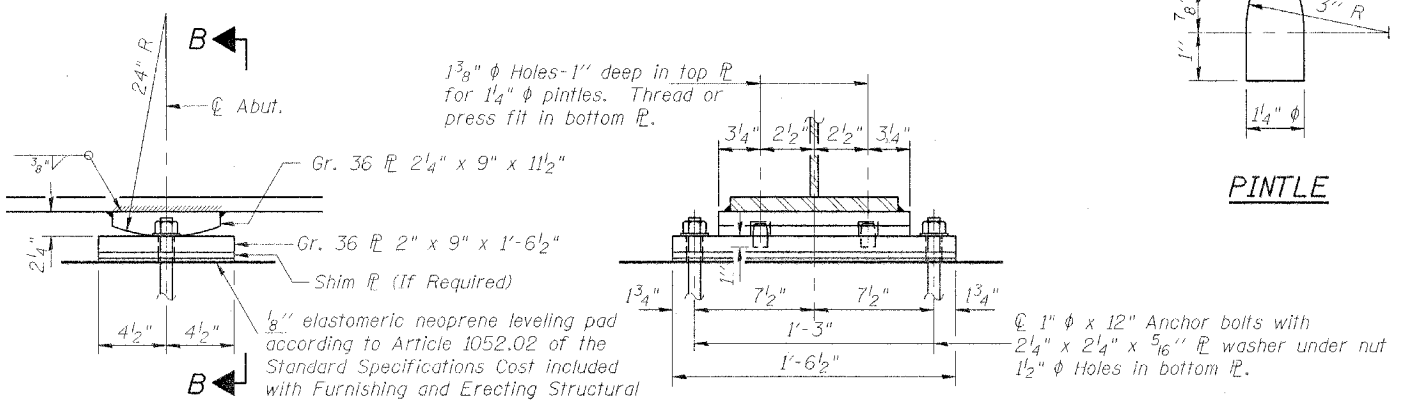
M_a (Strength I) = 1.25 M(DC1+DC2) + 1.5 M DW + 1.75 M(LL+Imp)

M_r is the full plastic moment capacity computed in accordance with 6.10.6.2.2 and 6.10.7.1.

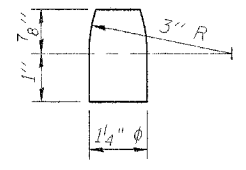
f_s (Service II) is the sum of the stresses due to DC1+DC2+DW+1.3(LL+Imp)

f_s (Total) (Strength I) (Non-Compact Section) is the sum of the stresses due to 1.25(DC1+DC2)+1.5DW+1.75(LL+Imp)

V_{sr} is the maximum shear range in the span due to truck load only (0.75LL+Imp)

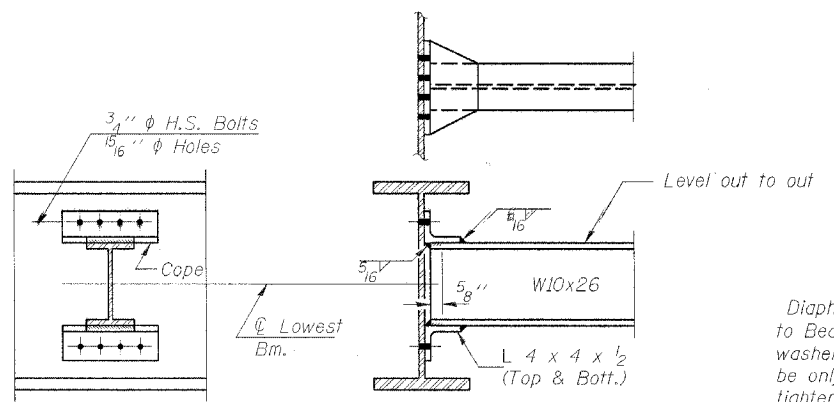


FIXED BEARING AT PIERS



PINTLE

ELEVATION AT PIER

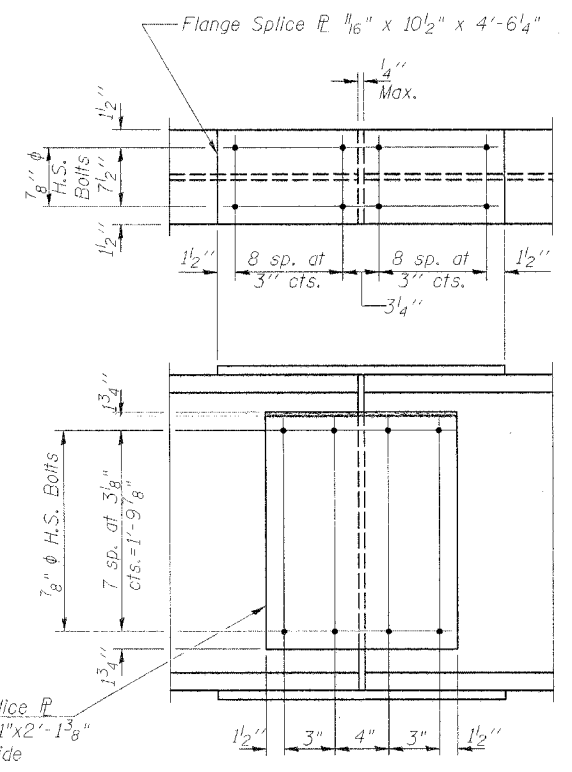


DIAPHRAGM D
32 Required

Note:
Two hardened washers shall be required over all oversize holes for diaphragms.

Diaphragm D_1 is similar to D except the connecting angles adjacent to Beam 3 shall have 7/8" (H) x 1 1/2" (V) slotted holes with 1/4" plate washers covering entire slot. The bolts for the slotted holes shall be only finger tightened prior to pouring the deck slab and then tightened after completion of the pour.

DIAPHRAGM D_1
8 Required



SPLICE

High Strength bolts shall conform to AASHTO M-164 specifications (ASTM A325). Bolts 7/8" ϕ , open holes 15/16" ϕ .

Work this sheet with 9 of 17.

DESIGNED	
CHECKED	
DRAWN	TFG
CHECKED	CME/BD/MCB

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Engineers/Land Surveyors
Springfield, Illinois
Design Firm License No. 184-002703

STRUCTURAL STEEL DETAILS
F.A.P. ROUTE 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090

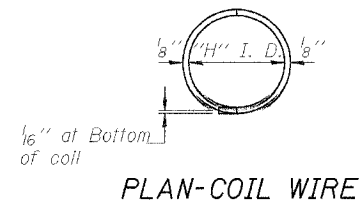
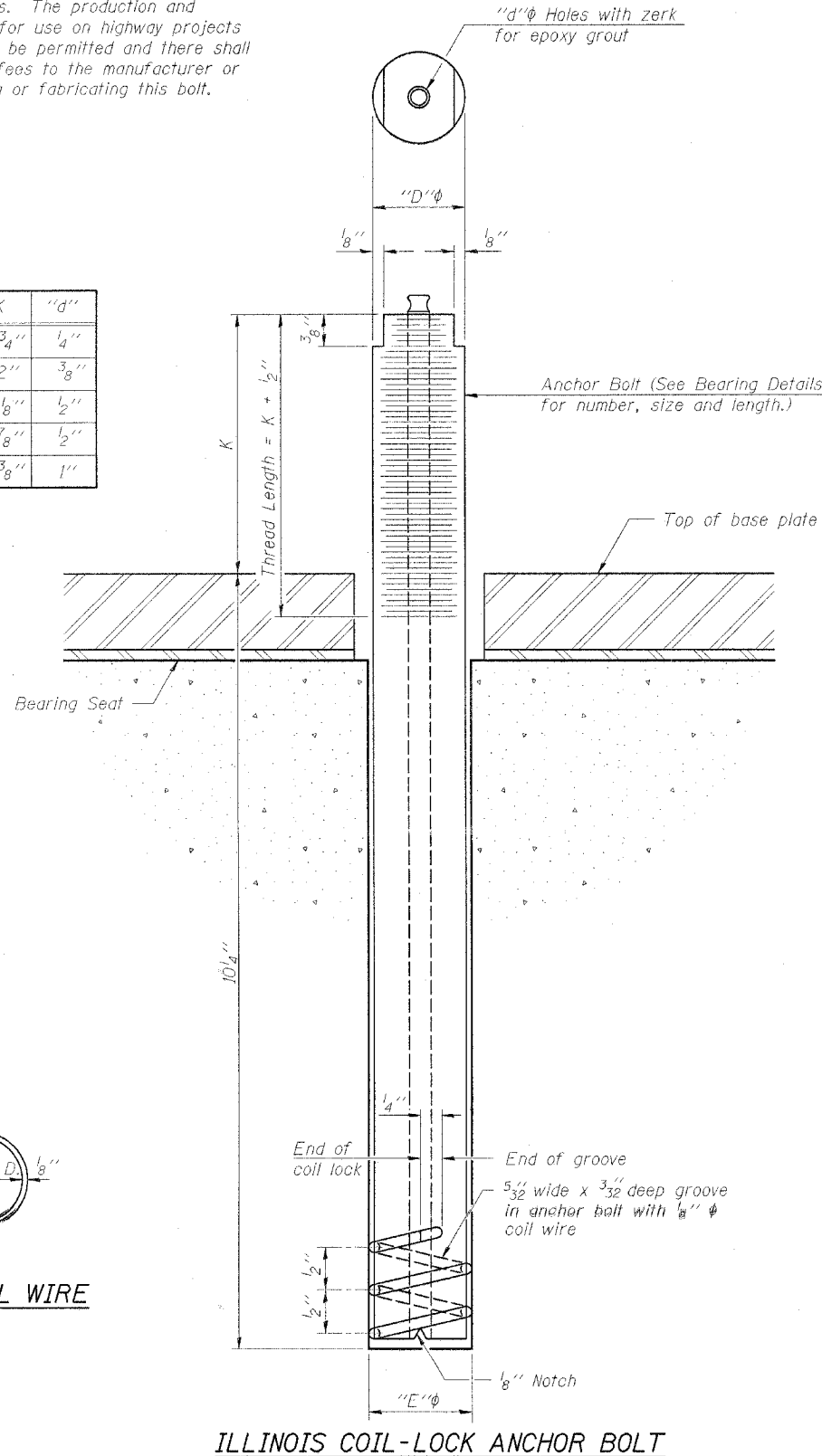
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 11
FAP Rte. 327	13B-2	Marion	78	28	17 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #94964

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
1"	1 1/8"	1 3/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 3/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.
The coil wire shall be made of any suitable soft steel wire.
The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.
The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.
Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.
The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.
The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:
1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Abuts.	A307
Piers	A307

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

DESIGNED	MAB
CHECKED	PRT
DRAWN	PRT
CHECKED	MAB

HORNER & SHIFRIN, INC.
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ABB-1 4-30-99

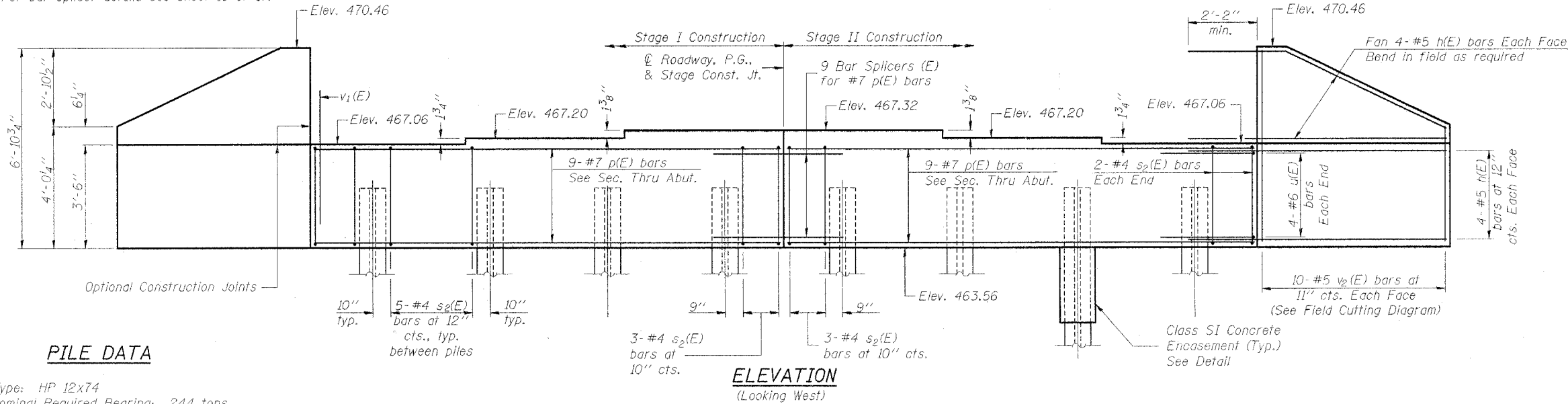
**ANCHOR BOLT DETAILS
FOR BEARINGS
F.A.P. ROUTE 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090**

Notes: Four steps monolithically with cap.
 Reinforcement bars designated (E)
 shall be epoxy coated.
 Space reinforcement in cap to miss anchor bolts.
 For anchor bolt installation details, see sheet II of 17.
 For bar splicer details see sheet 16 of 17.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

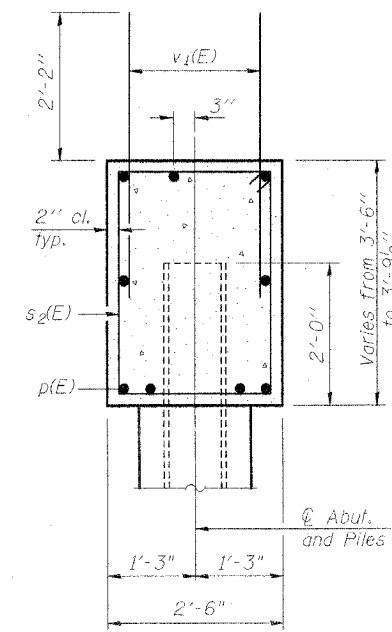
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 12 17 SHEETS
FAP Rte. 327	13B-2	Marion	78	29	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #94964

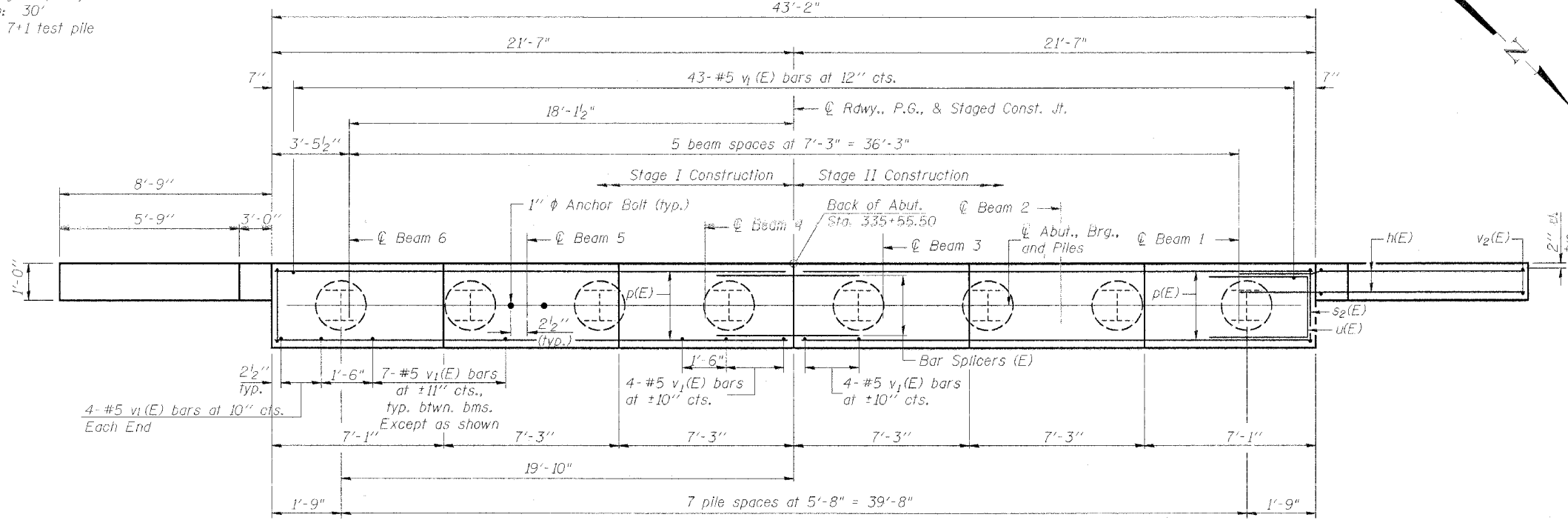


PILE DATA

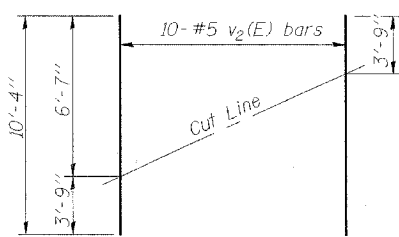
Type: HP 12x74
 Nominal Required Bearing: 244 tons
 Nominal Design Capacity: 110 tons
 Est. Length: 30'
 No. Req'd: 7+1 test pile



SEC. THRU ABUT.

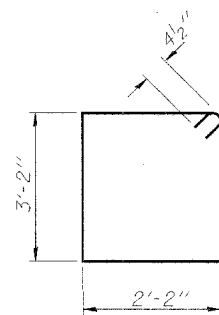


PLAN

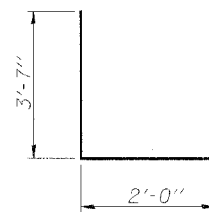


FIELD CUTTING DIAGRAM

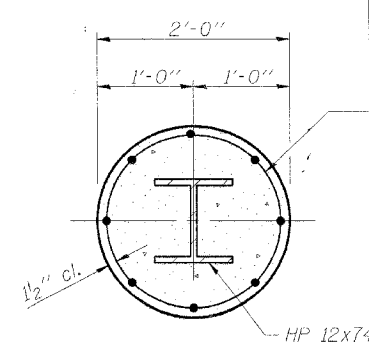
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)

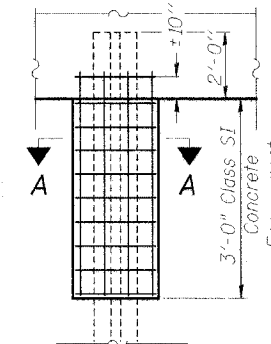


BAR u(E)



SECTION A-A

Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation, Concrete Encasement, and Reinforcement is included with Furnishing Piles. Forms for Encasement may be omitted when soil conditions permit.



PILE ENCASEMENT DETAIL

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#5	11'-4"	—
p(E)	18	#7	21'-4"	—
s2(E)	40	#4	11'-5"	□
u(E)	8	#6	9'-2"	—
v1(E)	87	#5	4'-4"	—
v2(E)	20	#5	10'-4"	—
Concrete Structures				
Concrete Structures	Cu. Yd.	18.4		
Reinforcement Bars, Epoxy Coated	Pound	2190		
Structure Excavation	Cu. Yd.	95		
Test Pile Steel HP12x74	Each	1		
Furnishing Steel Piles HP12x74	Foot	210		
Driving Steel Piles	Foot	210		

DESIGNED	PRT
CHECKED	MAB
DRAWN	PRT
CHECKED	MAB

HORNER & SHIFRIN, INC.
 ENGINEERS ■ ARCHITECTS ■ PLANNERS

WEST ABUTMENT
 F.A.P. ROUTE 327 - SEC. 13B-2
 MARION COUNTY
 STATION 336+33.00
 STRUCTURE NO. 061-0090

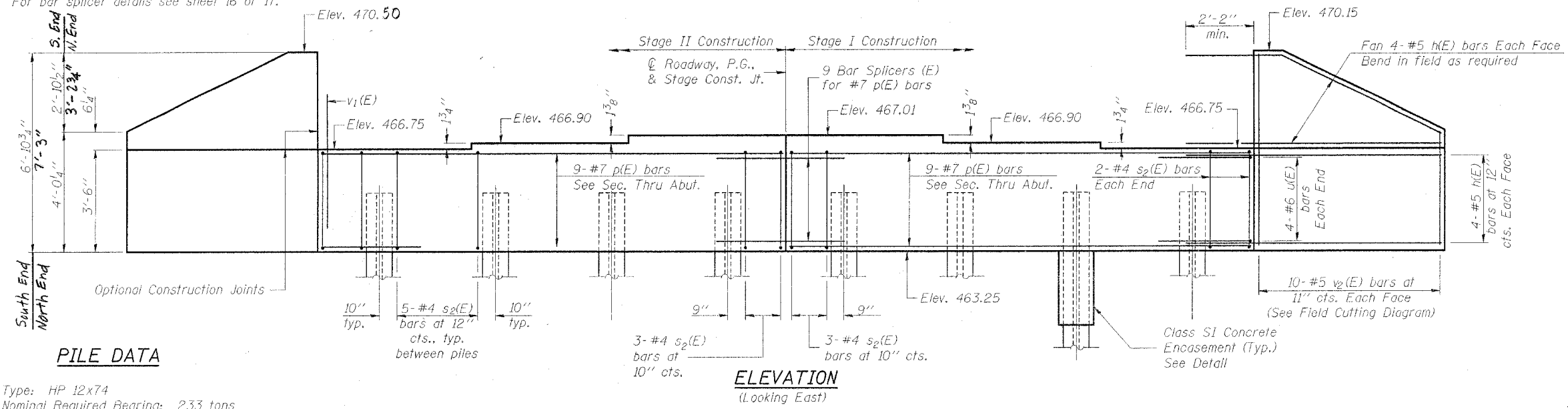
Notes: Four steps monolithically with cap.
 Reinforcement bars designated (E)
 shall be epoxy coated.
 Space reinforcement in cap to miss anchor bolts.
 For anchor bolt installation details, see sheet 11 of 17.
 For bar splicer details see sheet 16 of 17.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP Rte. 327	13B-2	MARION	18	30
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 13
 17 SHEETS

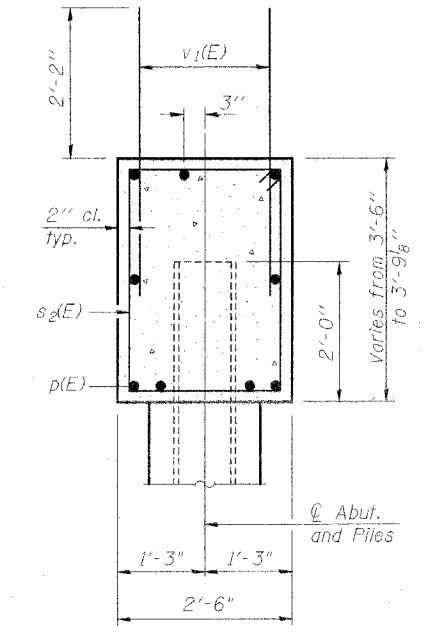
Contract #94964



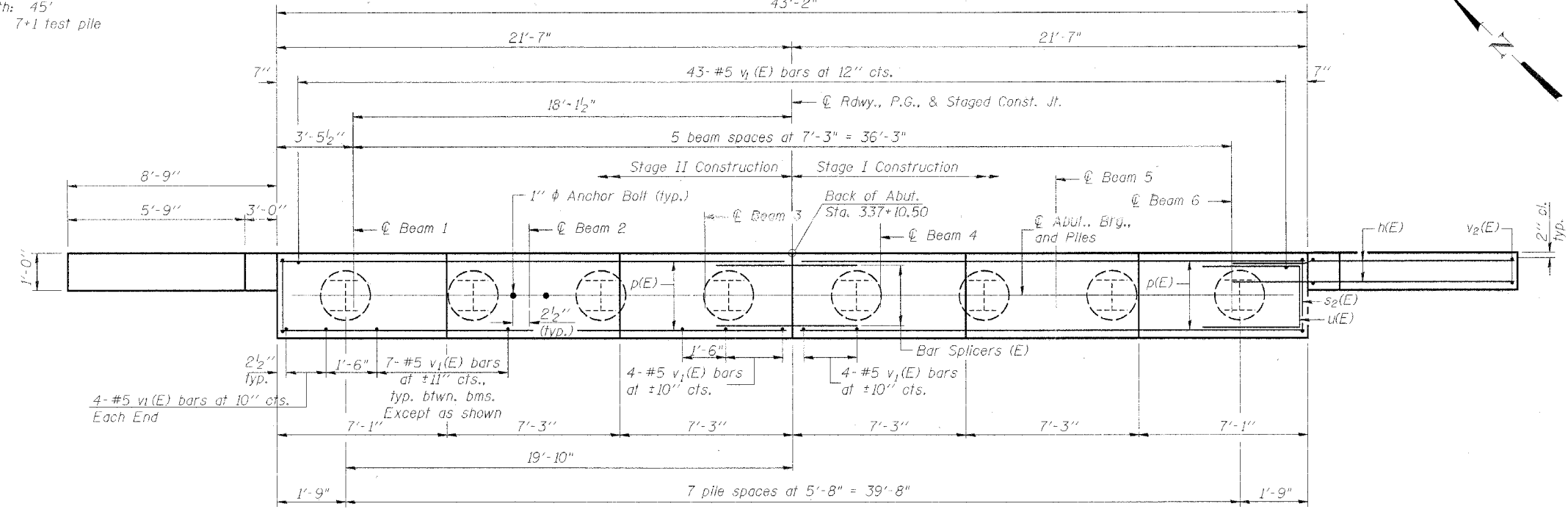
PILE DATA

Type: HP 12x74
 Nominal Required Bearing: 233 tons
 Nominal Design Capacity: 116 tons
 Est. Length: 45'
 No. Req'd: 7+1 test pile

ELEVATION
 (Looking East)



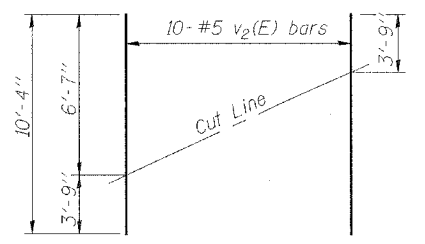
SEC. THRU ABUT.



PLAN

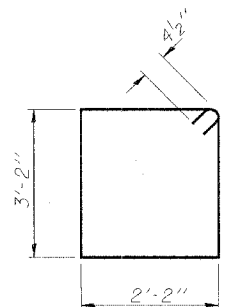
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#5	11'-4"	—
p(E)	18	#7	21'-4"	—
s2(E)	40	#4	11'-5"	□
u(E)	8	#6	9'-2"	—
v1(E)	87	#5	4'-4"	—
v2(E)	20	#5	10'-4"	—
Concrete Structures				
		Cu. Yd.	18.4	
Reinforcement Bars, Epoxy Coated				
		Pound	2190	
Structure Excavation				
		Cu. Yd.	95	
Test Pile Steel				
		Each	1	
Furnishing Steel Piles				
		Foot	315	
Driving Steel Piles				
		Foot	315	

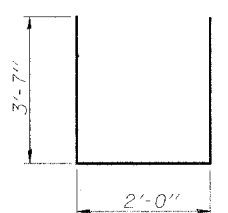


FIELD CUTTING DIAGRAM

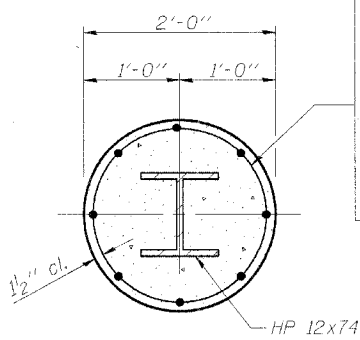
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)

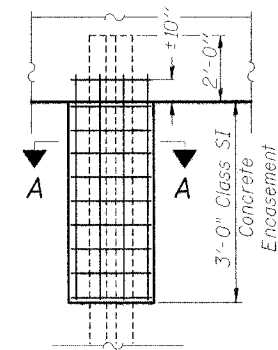


BAR u(E)



SECTION A-A

Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation, Concrete Encasement, and Reinforcement is included with Furnishing Piles. Forms for Encasement may be omitted when soil conditions permit.



PILE ENCASEMENT DETAIL

DESIGNED	PRT
CHECKED	MAB
DRAWN	PRT
CHECKED	MAB

HORNER & SHIFRIN, INC.
 ENGINEERS ■ ARCHITECTS ■ PLANNERS

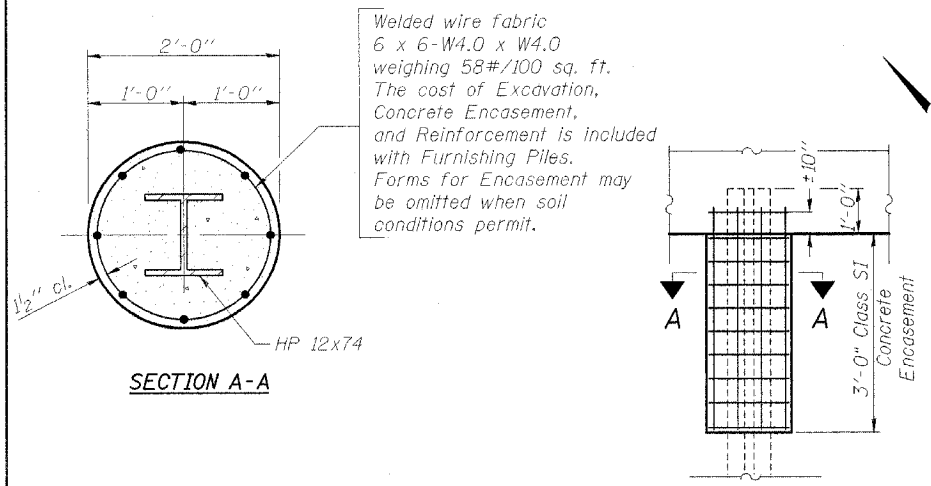
EAST ABUTMENT
 F.A.P. ROUTE 327 - SEC. 13B-2
 MARION COUNTY
 STATION 336+33.00
 STRUCTURE NO. 061-0090

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

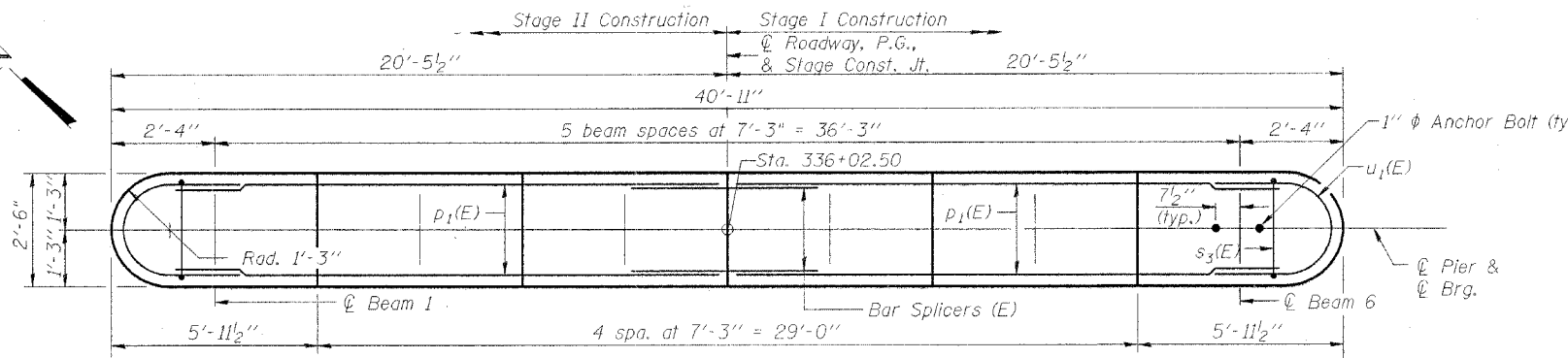
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAP Rte 327	13B-E	Marion	78	31
FED. ROAD DIST. NO. 7	ILLINOIS		FED. AID PROJECT-	

Contract #94964

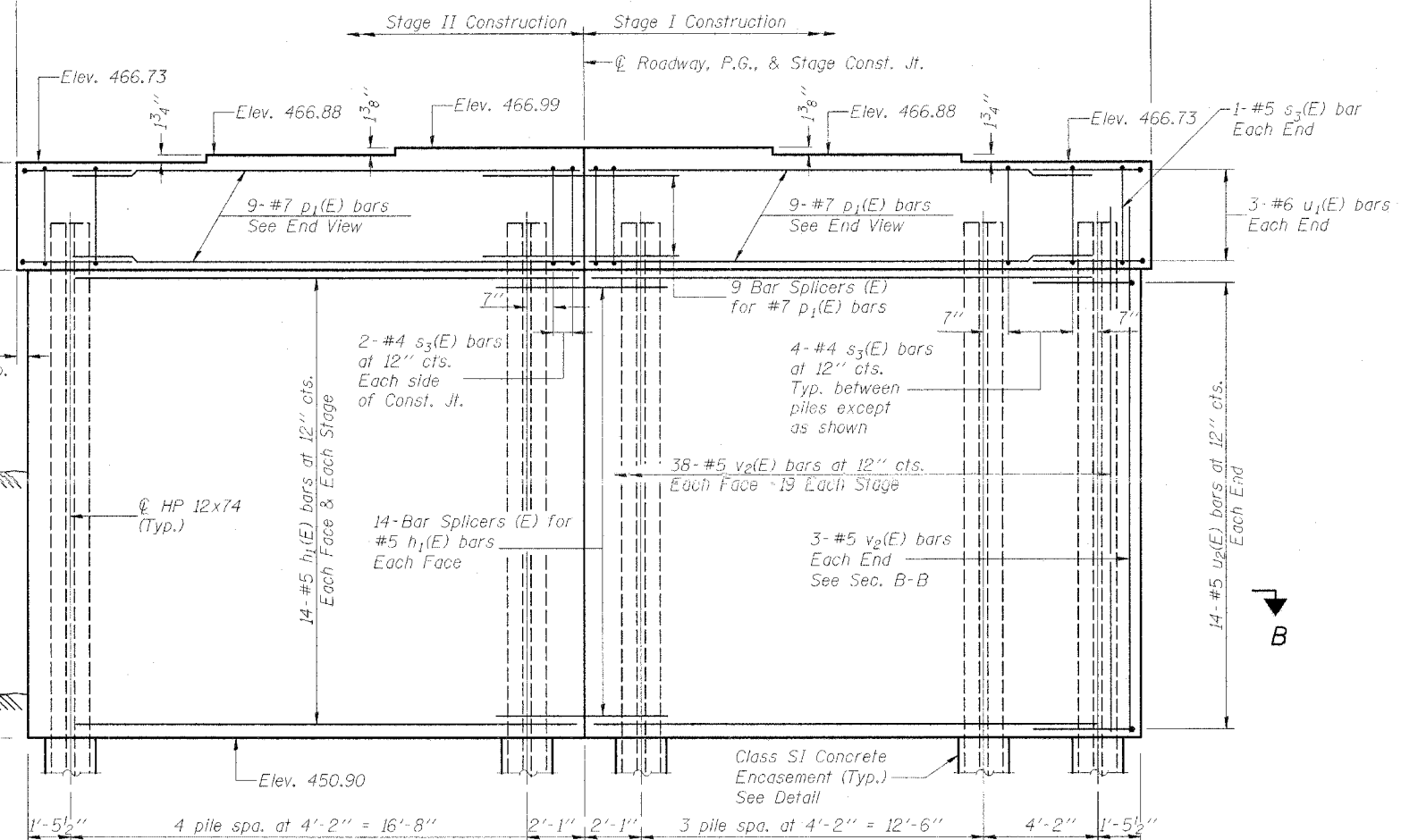
SHEET NO. 14
17 SHEETS



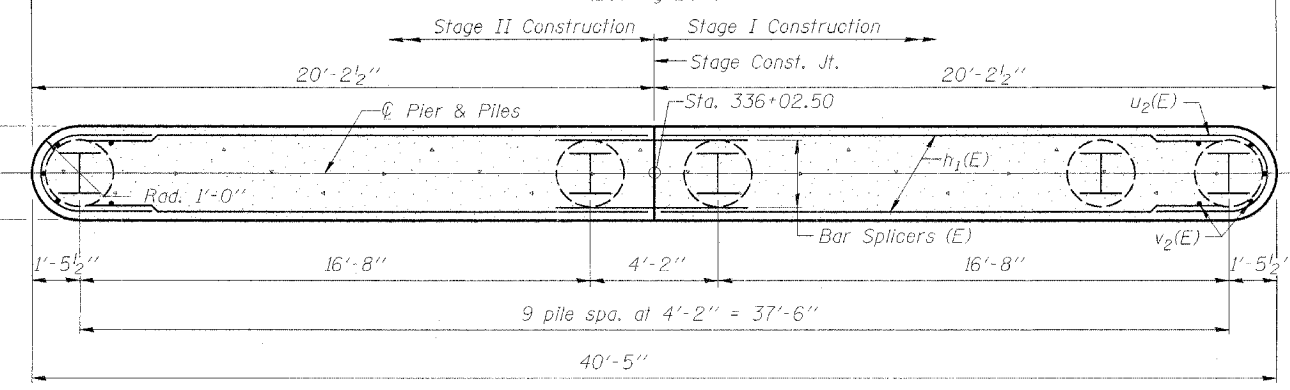
PILE ENCASEMENT DETAIL



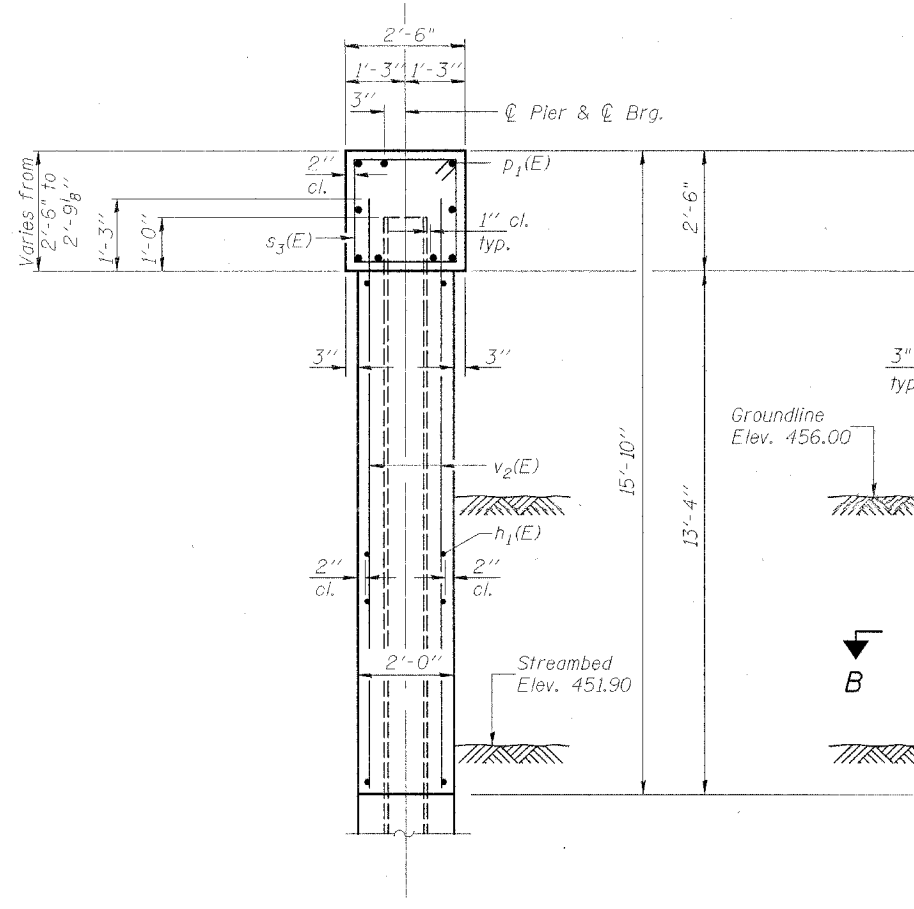
TOP PLAN



ELEVATION (Looking East)



SECTION B-B



END VIEW

Notes:

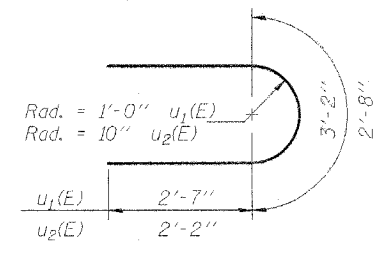
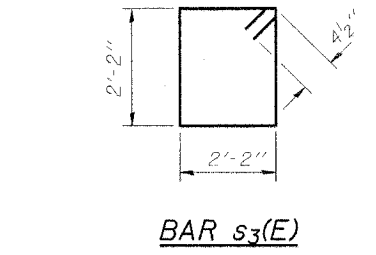
- Space reinforcement in cap to miss anchor bolts.
- Pour steps monolithically with cap.
- For anchor bolt installation details, see sheet 11 of 17.
- For bar splicer details see sheet 16 of 17.

PILE DATA

Type: HP 12x74
Nominal Required Bearing: 294 tons
Nominal Design Capacity: 180 tons
Est. Length: 36'
No. Req'd: 9+1 test pile

DESIGNED	MAB
CHECKED	PRT
DRAWN	PRT
CHECKED	MAB

HORNER & SHIFRIN, INC.
ENGINEERS ■ ARCHITECTS ■ PLANNERS



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h ₁ (E)	56	#5	19'-1"	—
p ₁ (E)	18	#7	19'-1"	—
s ₃ (E)	38	#4	9'-5"	□
u ₁ (E)	6	#6	8'-4"	⌒
u ₂ (E)	28	#5	7'-0"	⌒
v ₂ (E)	82	#5	14'-6"	—
<hr/>				
Concrete Structures	Cu. Yd.	49.8		
Reinforcement Bars, Epoxy Coated	Pound	3580		
Structure Excavation	Cu. Yd.	92		
Test Pile Steel HP12x74	Each	1		
Furnishing Steel Piles HP12x74	Foot	324		
Driving Steel Piles	Foot	324		
Underwater Structure Excavation Protection-Location 1	Each	1		

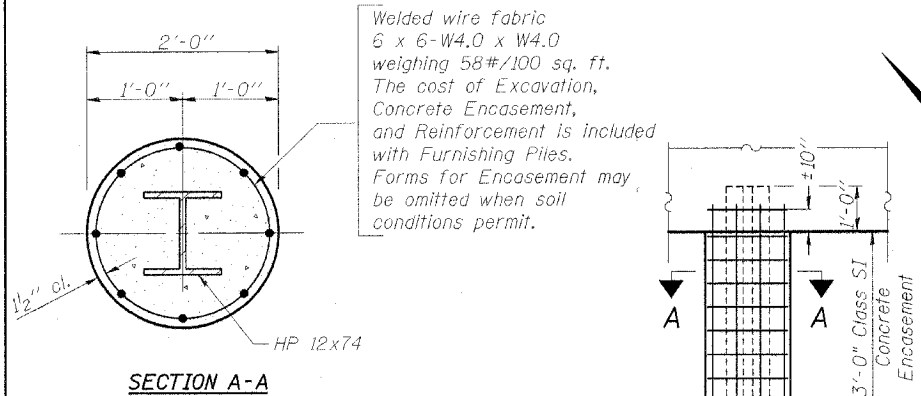
Reinforcement Bars designated (E) shall be epoxy coated.

PIER 1
F.A.P. ROUTE 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090

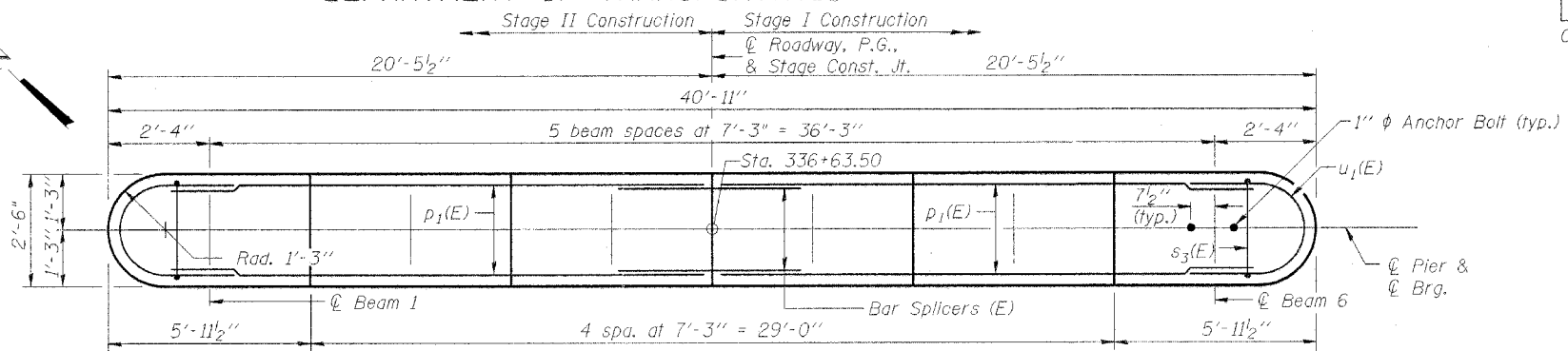
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 15
FAP Rte. 327	13B-2	Marion	78	32	17 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

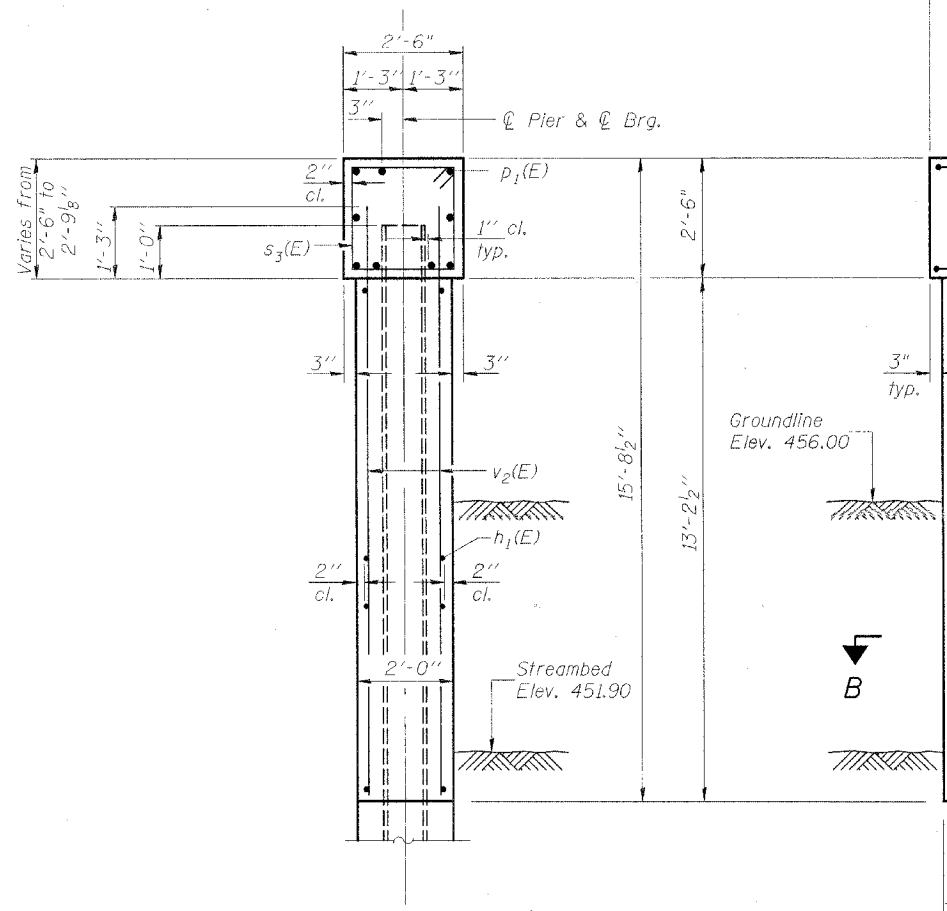
Contract #94964



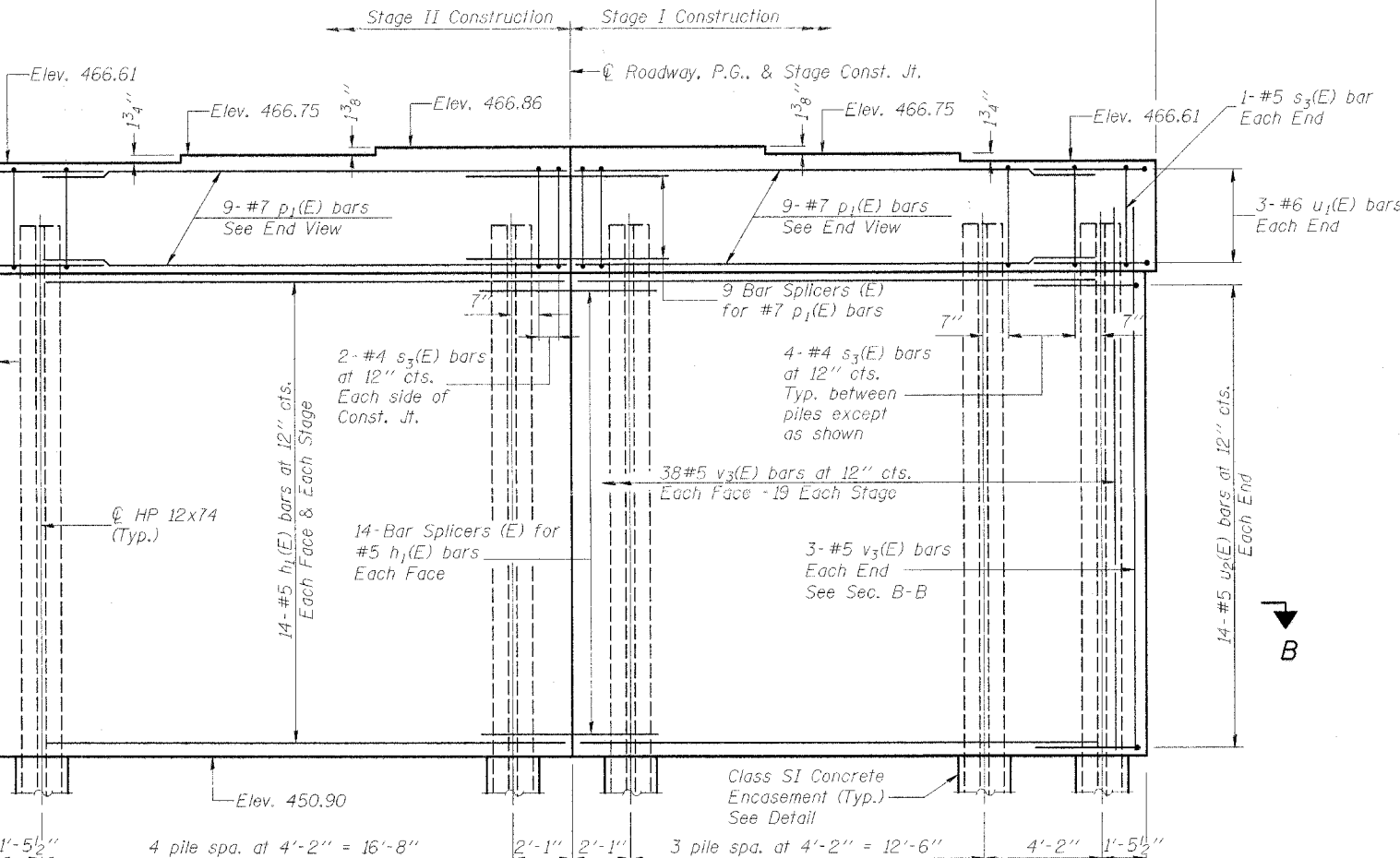
PILE ENCASEMENT DETAIL



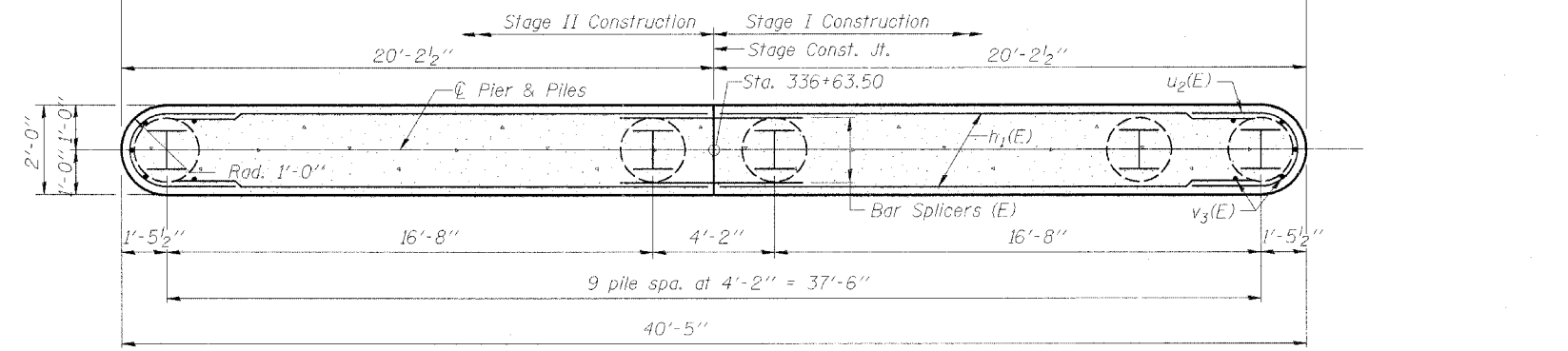
TOP PLAN



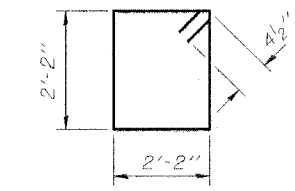
END VIEW



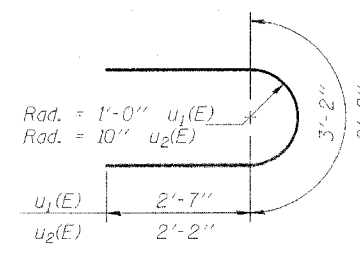
ELEVATION
(Looking East)



SECTION B-B



BAR s3(E)



BARS u1(E) & u2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1(E)	56	#5	19'-1"	—
p1(E)	18	#7	19'-1"	—
s3(E)	38	#4	9'-5"	□
u1(E)	6	#6	8'-4"	U
u2(E)	28	#5	7'-0"	U
v3(E)	82	#5	14'-5"	—
Concrete Structures		Cu. Yd.	49.4	
Reinforcement Bars, Epoxy Coated		Pound	3570	
Structure Excavation		Cu. Yd.	92	
Test Pile Steel HP12x74		Each	1	
Furnishing Steel Piles HP12x74		Foot	369	
Driving Steel Piles		Foot	369	
Underwater Structure Excavation Protection-Location 2		Each	1	

Reinforcement Bars designated (E) shall be epoxy coated.

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For anchor bolt installation details, see sheet 11 of 17.
For bar splicer details see sheet 16 of 17.

PILE DATA

Type: HP 12x74
Nominal Required Bearing: 290 tons
Nominal Design Capacity: 181 tons
Est. Length: 41'
No. Req'd: 9+1 test pile

DESIGNED	MAB
CHECKED	PRT
DRAWN	PRT
CHECKED	MAB

HORNER & SHIFRIN, INC.
ENGINEERS ■ ARCHITECTS ■ PLANNERS

PIER 2
F.A.P. ROUTE 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO. 16
FAP Rte. 327	13B-2	Marion	18	33
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		17 SHEETS

Contract #94964

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length. All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_1$
- ② Minimum *Pull-out Strength (Tension in kips) = $1.25 \times f_{s_{allow}} \times A_1$

Where f_y = Yield strength of lapped reinforcement bars in ksi.

$f_{s_{allow}}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)

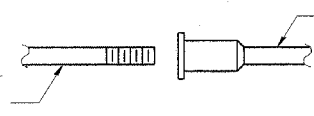
A_1 = Tensile stress area of lapped reinforcement bars.

* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

The diameter of this part is equal or larger than the diameter of bar spliced.



ROLLED THREAD DOWEL BAR



** ONE PIECE

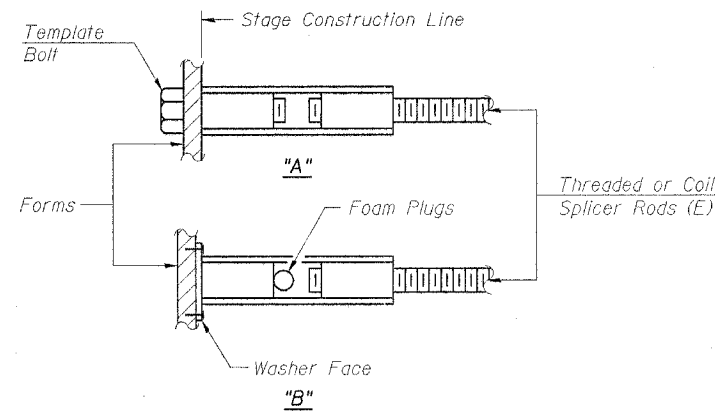
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.

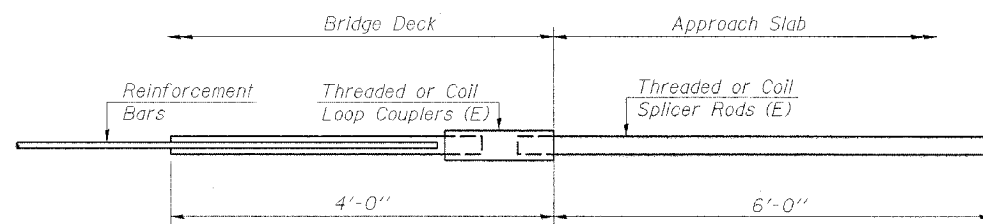


INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.

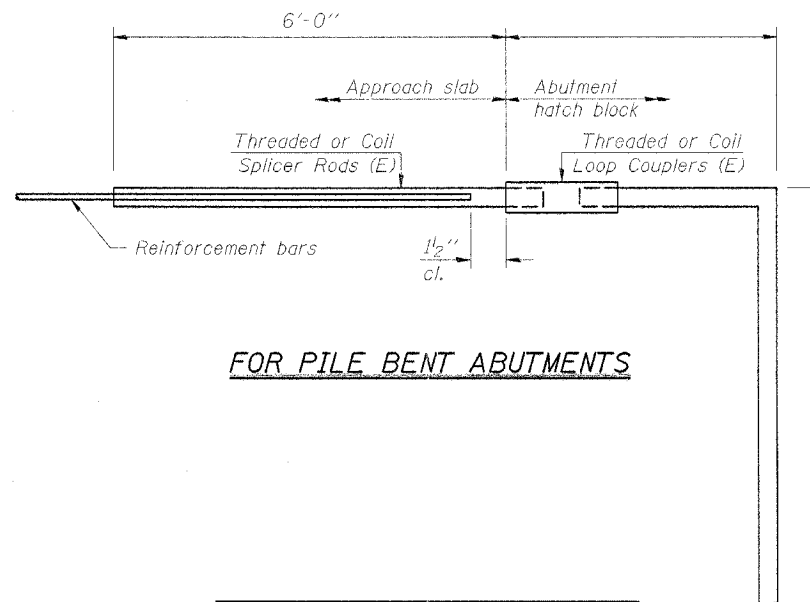
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



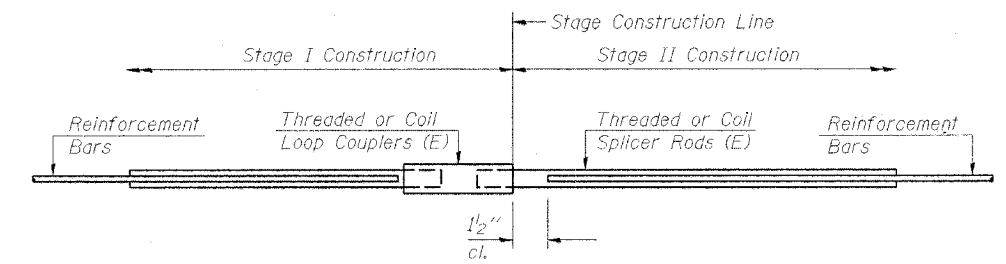
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 9.2 kips - tension	
No. Required = 80	



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 9.2 kips - tension	
No. Required =	



STANDARD

Bar Size	No. Assemblies Required	Location
#5	493	Deck
#6	16	Diaphragms
#7	18	Abutment Caps
#7	18	Pier Caps
#5	56	Pier Walls

DESIGNED	MAB
CHECKED	PRT
DRAWN	PRT
CHECKED	MAB

HORNER & SHIFRIN, INC.
ENGINEERS ■ ARCHITECTS ■ PLANNERS

BSD-1 9-01-03

BAR SPLICER ASSEMBLY DETAILS

F.A.P. ROUTE 327 - SEC. 13B-2

MARION COUNTY

STATION 336+33.00

STRUCTURE NO. 061-0090

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Contract #94964



SOIL BORING LOG

Date 10/20/04

ROUTE FAP 327 (US 50) DESCRIPTION Dums Creek LOGGED BY E. Sandschafer

SECTION 13B-2 LOCATION NW 1/4, SEC. 10, TWP. 2 N. RNG. 4 E. 3 PM

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

STRUCT. NO.	STATION	DESCRIPTION	DEPTH (ft)	BLOWS	REMARKS	DEPTH (ft)	BLOWS	REMARKS
061-0040	749+00	Surface Water Elev.	453.63					
		Stream Bed Elev.	452.39					
1 (W Abul)	749+00	Groundwater Elev.	444.9					
		First Encounter	444.9					
		Upon Completion	Washed					
		Offset	9.00 ft					
		Ground Surface Elev.	459.39					
		8.25" asphalt over 9.25" concrete pavement.						
		Stiff, damp, gray mottled red, SILTY CLAY.	467.89	2		2	0.8	23
				4		4	B	
		Medium, damp, brown mottled gray, SILTY LOAM.	447.39	1		1	0.5	26
				3		3	B	
		Medium to stiff, damp, brown mottled gray, SILTY CLAY	444.89	0		0	1.0	20
		Red marbled gray, SANDY LOAM.	444.39	2		2	B	
		Very soft, wet, gray, SILTY LOAM.	442.39	0		0	0.1	23
		Gray, SANDY LOAM.	441.59	1		1	0.1	23
				3		3	B	
		Estimated lower elevation of embankment	459.89					
		Medium, damp, gray, SILTY LOAM.	439.89	1		1	0.7	25
				2		2	B	
				3		3	B	
		Stiff to medium, damp, gray, SILTY CLAY.	457.39	3		3	1.3	23
				5		5	B	
				2		2	0.8	27
				4		4	B	
				1		1	0.3	27
		Soft, very damp, brown mottled gray, SILTY LOAM.	451.39	2		2	0.3	27
				3		3	B	
				2		2		

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)
BBS, from 137 (Rev. 8-99)



ROCK CORE LOG

Date 10/20/04

ROUTE FAP 327 (US 50) DESCRIPTION Dums Creek LOGGED BY E. Sandschafer

SECTION 13B-2 LOCATION NW 1/4, SEC. 10, TWP. 2 N. RNG. 4 E. 3 PM

COUNTY Marion CORING METHOD Rotary, surf set diamond bit

STRUCT. NO.	STATION	DESCRIPTION	DEPTH (ft)	RE	CO	Q	UNIT	STRENGTH
061-0040	749+00	Surface Water Elev.	453.63					
		Stream Bed Elev.	452.39					
1 (W Abul)	749+00	Groundwater Elev.	444.9					
		First Encounter	444.9					
		Upon Completion	Washed					
		Offset	9.00 ft					
		Ground Surface Elev.	459.39					
		Gray w thin black layering, soft to medium hardness, moderately weathered, SANDSTONE. Scratches easily.	439.19	87	57		0.5	
				100	35		0.5	
		Gray w few thin black layers, medium hardness, moderately weathered, SANDSTONE.	429.19	100	82		0.6	950
		**Two rock-core samples (41.5' to 42.0' & 43.5' to 44.0' depths) average strength = 950 tsi						
		Extent of exploration.	424.19					
		Benchmark: BM 100 RR spike in first PP SW of Dums Creek Bridge = 463.39', Station 335+37 RI 59', provided by IDOT Program Development.						

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)
BBS, form 138 (Rev. 8-99)



SOIL BORING LOG

Date 10/20/04

ROUTE FAP 327 (US 50) DESCRIPTION Dums Creek LOGGED BY E. Sandschafer

SECTION 13B-2 LOCATION NW 1/4, SEC. 10, TWP. 2 N. RNG. 4 E. 3 PM

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

STRUCT. NO.	STATION	DESCRIPTION	DEPTH (ft)	BL	UC	MS	REMARKS	DEPTH (ft)	BL	UC	MS	REMARKS
061-0040	749+00	Surface Water Elev.	453.63									
		Stream Bed Elev.	452.39									
2 (E Abul)	749+00	Groundwater Elev.	444.9									
		First Encounter	444.9									
		Upon Completion	Washed									
		Offset	10.00 ft									
		Ground Surface Elev.	459.39									
		8.75" asphalt over 11.25" concrete pavement.										
		Gravel C&G subbase.	497.89									
		Soft, very damp, gray w red specks, SILTY LOAM.	497.09	6					1	0.5		24
				4					2	B		
		Very soft, wet, red w gray layering, SANDY LOAM.	445.98									
				0					0	0.1		23
				1					1	B		
		Medium to stiff, damp, gray mottled olive, SILTY CLAY.	492.38	0					0	0.1		25
				1					1	B		
				2					2	B		
				0					0	0.1		22
				1					1	B		
				2					2	B		
		Very soft, wet, gray, SILTY LOAM w many wood pieces.	439.88	0					0	0.1		102
				1					1	B		
				3					3	B		
				0					0	0.2		29
				10					10	B		
				3					3	B		
				0					0	0.6		22
				2					2	B		
				3					3	B		
		Medium, damp, gray, SILTY CLAY w one wood piece and some black specks.	452.38	0					0	0.7		28
				0					0	B		
				2					2	B		

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)
BBS, from 137 (Rev. 8-99)



SOIL BORING LOG

Date 10/20/04

ROUTE FAP 327 (US 50) DESCRIPTION Dums Creek LOGGED BY E. Sandschafer

SECTION 13B-2 LOCATION NW 1/4, SEC. 10, TWP. 2 N. RNG. 4 E. 3 PM

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

STRUCT. NO.	STATION	DESCRIPTION	DEPTH (ft)	BL	UC	MS	REMARKS	DEPTH (ft)	BL	UC	MS	REMARKS
061-0040	749+00	Surface Water Elev.	453.63									
		Stream Bed Elev.	452.39									
2 (E Abul)	749+00	Groundwater Elev.	444.9									
		First Encounter	444.9									
		Upon Completion	Washed									
		Offset	10.00 ft									
		Ground Surface Elev.	459.39									
		Soft, very damp, gray, SILTY (continued)		0					0	0.3		31
				1					1	B		
		Medium, very damp, gray, SANDY LOAM w gravel.	424.88	5					5	0.7		17
				11					11	B		
		Soft to very dense, moist, gray, SANDSTONE.	423.88	29					29	B		
		Extent of exploration.	419.88	50/1"					50/1"			
				50/1"					50/1"			
		Benchmark: BM 100 RR spike in first PP SW of Dums Creek Bridge = 463.39', Station 335+37 RI 59', provided by IDOT Program Development.										

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)
BBS, from 137 (Rev. 8-99)

DESIGNED	
CHECKED	
DRAWN	PRT
CHECKED	MAB



BORING LOGS
F.A.P. ROUTE 327 - SEC. 13B-2
MARION COUNTY
STATION 336+33.00
STRUCTURE NO. 061-0090

Bench Mark: Chiseled "□" on top of box culvert, 39' Rt. of Station 366+80, Elevation 462.94.

Existing Structure: S.M. 061-0041 Built in 1923 as S.B.I. Rt. 12 Sec. 13B at Station 679+43 as a three simple span 159'-0" Bk.-Bk. abutments, supported on timber piles. Bridge widening, and superstructure replacement with PPC deck beams in 1970. Existing bridge to be removed and replaced. Traffic maintained utilizing stage construction.

No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STATION 375+53.00
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RT. 327 - SEC. 13B-1 & 13B-2
LOADING HL-93
STRUCTURE NO. 061-0091

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAP 327	13B-1 & 13B-2	MARION	78	35
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

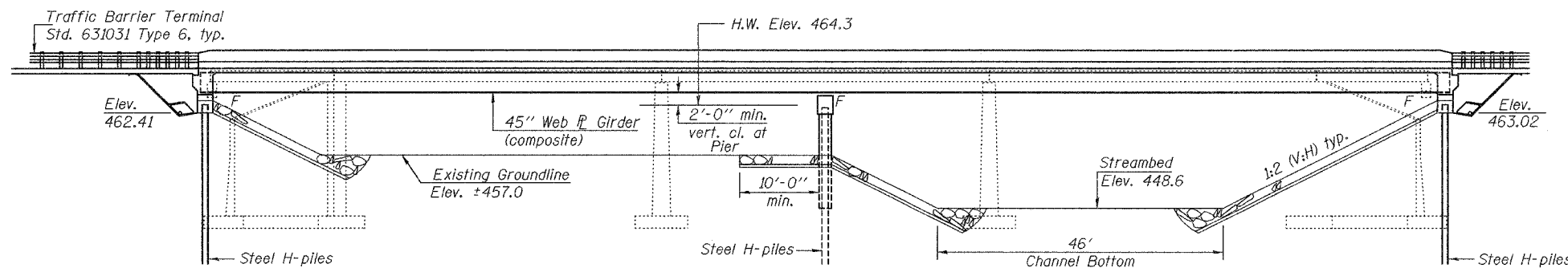
SHEET NO. 1
17 SHEETS

Contract No. 94964

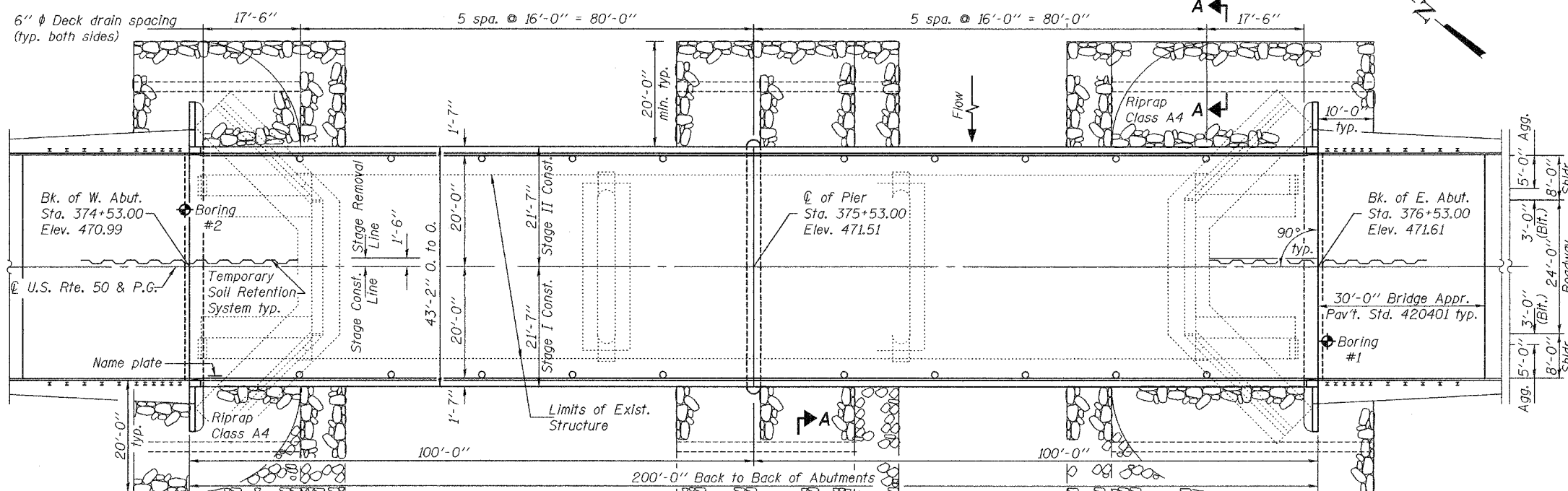
INDEX OF SHEETS

- 1 General Plan
- 2 General Data & Stage Construction Details
- 3 Temporary Concrete Barrier for Stage Construction
- 4-5 Top of Slab Elevations
- 6 Superstructure
- 7 Superstructure Details
- 8 Diaphragm Details
- 9 Structural Steel
- 10 Structural Steel Details
- 11 Anchor Bolt Details
- 12 West Abutment
- 13 East Abutment
- 14 Pier
- 15 Bar Splicer Assembly Details
- 16-17 Boring Logs

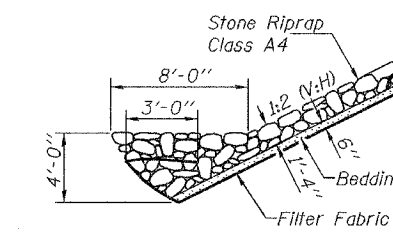
NAME PLATE
See Std. 515001



ELEVATION



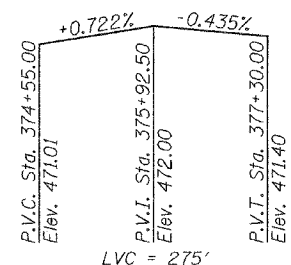
PLAN



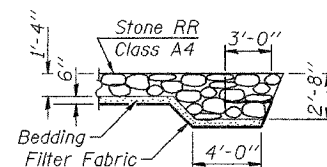
STONE RIPRAP ANCHOR DETAIL

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		173.9	173.9
Stone Riprap, Class A4	Sq. Yd.		1092	1092
Filter Fabric	Sq. Yd.		1092	1092
Removal of Existing Structures	Each		1	1
Structure Excavation	Cu. Yd.		212.3	212.3
Driving Steel Piles	Foot		1325	1325
Floor Drains	Each	20		20
Concrete Structures	Cu. Yd.		99.4	99.4
Concrete Superstructure	Cu. Yd.		287.4	287.4
Bridge Deck Grooving	Sq. Yd.		884.4	884.4
Protective Coat	Sq. Yd.		1056.4	1056.4
Furnishing and Erecting Structural Steel	L. Sum	0.69		0.69
Stud Shear Connectors	Each	3024		3024
Reinforcement Bars, Epoxy Coated	Pound	70380	11440	81820
Furnishing Steel Piles HP12x84	Foot		1325	1325
Test Pile Steel HP12x84	Each		3	3
Temporary Soil Retention System	Sq. Ft.		615.0	615.0
Name Plates	Each		1	1
Bar Splicers	Each	734	61	795
Underwater Structure Excavation	Each		1	1
Protection Location 3				
Geocomposite Wall Drain	Sq. Yd.		92.7	92.7
Pipe Underdrains for Structures, 4"	Foot		151.3	151.3



PROFILE GRADE
(along Q Roadway)



SECTION A-A

WATERWAY INFORMATION

Existing Low Grade Elev. 470.0 @ Sta. 376+00
Proposed Low Grade Elev. 470.0 @ Sta. 376+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.	
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.
Design	50	9194	1372	1397	464.3	1.9	466.2	466.2
Base	100	10461	1432	1464	464.7	2.1	466.8	466.8
Overtopping	500	13458	1581	1633	465.7	2.9	468.6	468.5

LOADING HL-93

Allow 50 psf for future wearing surface

DESIGN SPECIFICATIONS

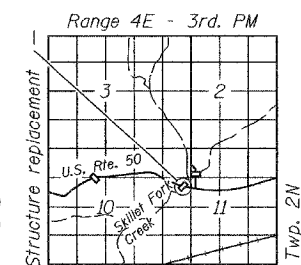
A.A.S.H.T.O. LRFD Bridge Design Specifications
U.S., 3rd. Edition - 2004

DESIGN STRESSES

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 50,000$ psi (structural steel M270, GR50)
 $f_y = 36,000$ psi (structural steel M270, GR36)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Bedrock Acceleration Coefficient (A) = 9.0%
Site Coefficient (S) = 1.5



LOCATION SKETCH

GENERAL PLAN
U.S. RTE. 50 OVER
SKILLET FORK CREEK
F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
MARION COUNTY
STATION 375+53.00
STRUCTURE NO. 061-0091

DESIGNED	Robert J. Mitchell
CHECKED	h.f. duong
DRAWN	h.f. duong
CHECKED	h.f. duong

EXAMINED
PASSED
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

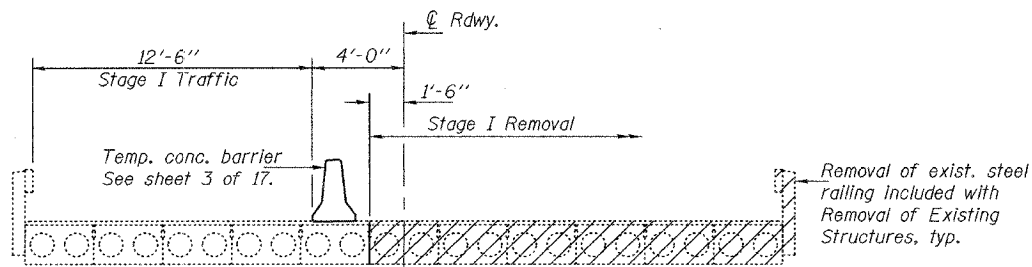


EXPIRES 11-30-2006

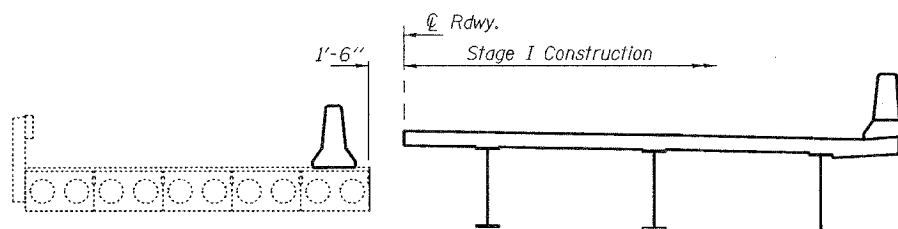
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 2 17 SHEETS
FAP 327	13B-1 & 13B-2	MARION	78	36	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

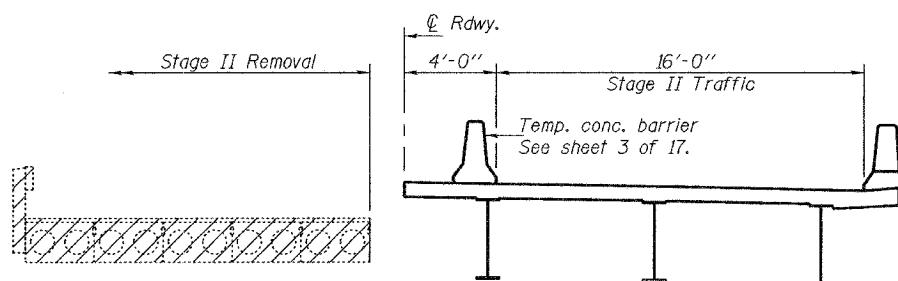
Contract No. 94964



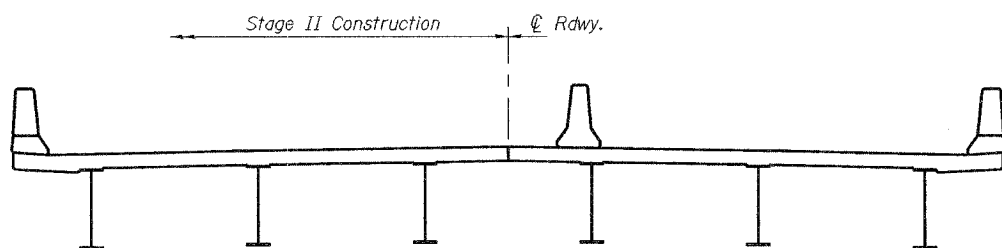
STAGE I REMOVAL



STAGE I CONSTRUCTION

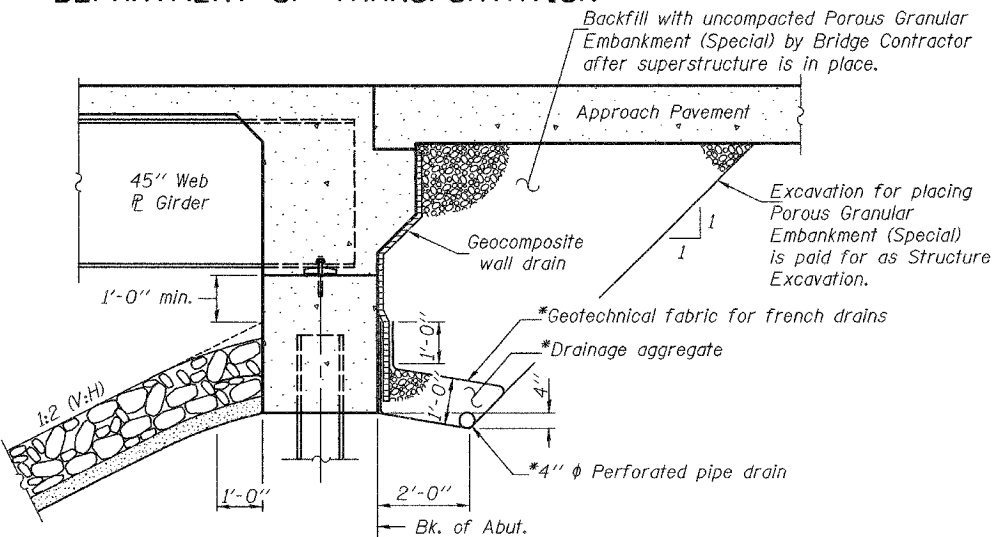


STAGE II REMOVAL



STAGE II CONSTRUCTION

Notes: All staging sections are looking east.
For quantity of temporary concrete barrier, see roadway plans.
Hatched areas indicate removal of existing structures.



SECTION THRU INTEGRAL ABUTMENT

*Included in the cost of Pipe Underdrains for Structures, 4".

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 Art. 601.05 of the Standard Specifications and Highway Standard 601101).

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts 7/8" ϕ , open holes 15/16" ϕ , unless otherwise noted.

Calculated weight of Structural Steel = 216,950 lb. (AASHTO M270, Gr. 50)
= 20,660 lb. (AASHTO M270, Gr. 36)

Field welding of construction accessories will not be permitted to girders. Anchor bolts shall be set before bolting diaphragms over supports. The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the tension flanges, webs and all splice plate material except fill plates. Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.

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

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/8" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

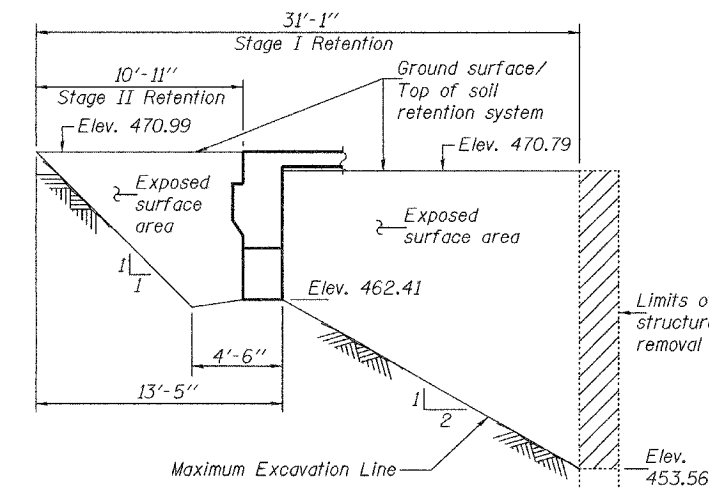
The Contractor shall drive three (3) test piles in a permanent location, one (1) of each Substructure as directed by the Engineer before ordering the remainder of piles.

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. 7.5G4/8. See Special Provision for "Cleaning and Painting New Metal Structures".

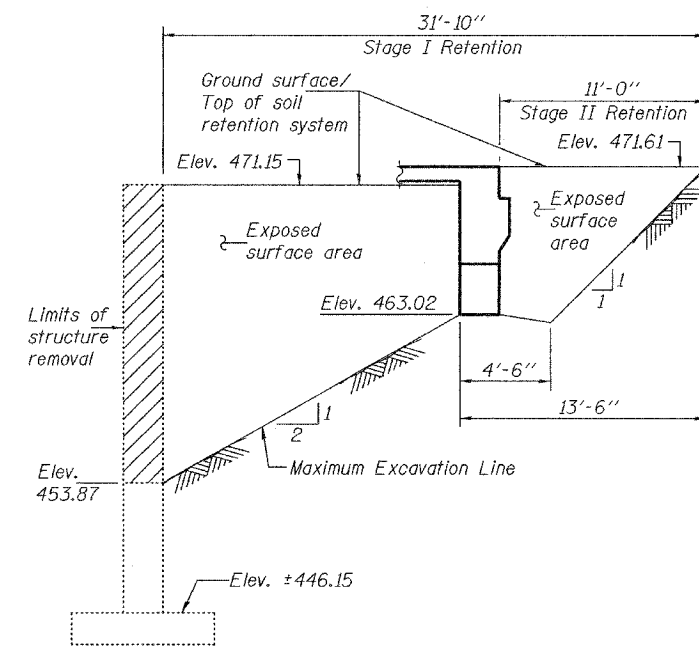
In addition to all other requirements of section 512 of the Standard Specifications, splices for HP 12x84 piles shall develop the full capacity of the steel's cross sectional area of the pile for tension, shear and bending forces. One approved method of achieving this requirement is full penetration butt welding of the entire cross section. Other types of splices meeting the full capacity requirement may be allowed subject to the approval of the Engineer. Any proposal by the Contractor to use an alternate splice method must include adequate documentation demonstrating that the full tension, shear and bending capacities will be met. Appropriate welder qualifications will be required for the positions and processes used in splicing all piles. Nondestructive testing of complete welds will be limited to visual inspection.

All construction joints shall be bonded. Excavation behind existing abutment walls shall be done before removing the existing superstructure. The Contractor shall sawcut the existing abutments at the stage removal line before Stage I removal.

If the Contractor elects to use cantilever forming brackets on the exterior girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06 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.



TEMPORARY SOIL RETENTION SYSTEM AT W. ABUT.



TEMPORARY SOIL RETENTION SYSTEM AT E. ABUT.

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.

DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.t. duong
CHECKED	R.L.M./G.R.A.

EXAMINED *Thomas J. Damagala*
ENGINEER OF BRIDGE DESIGN
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

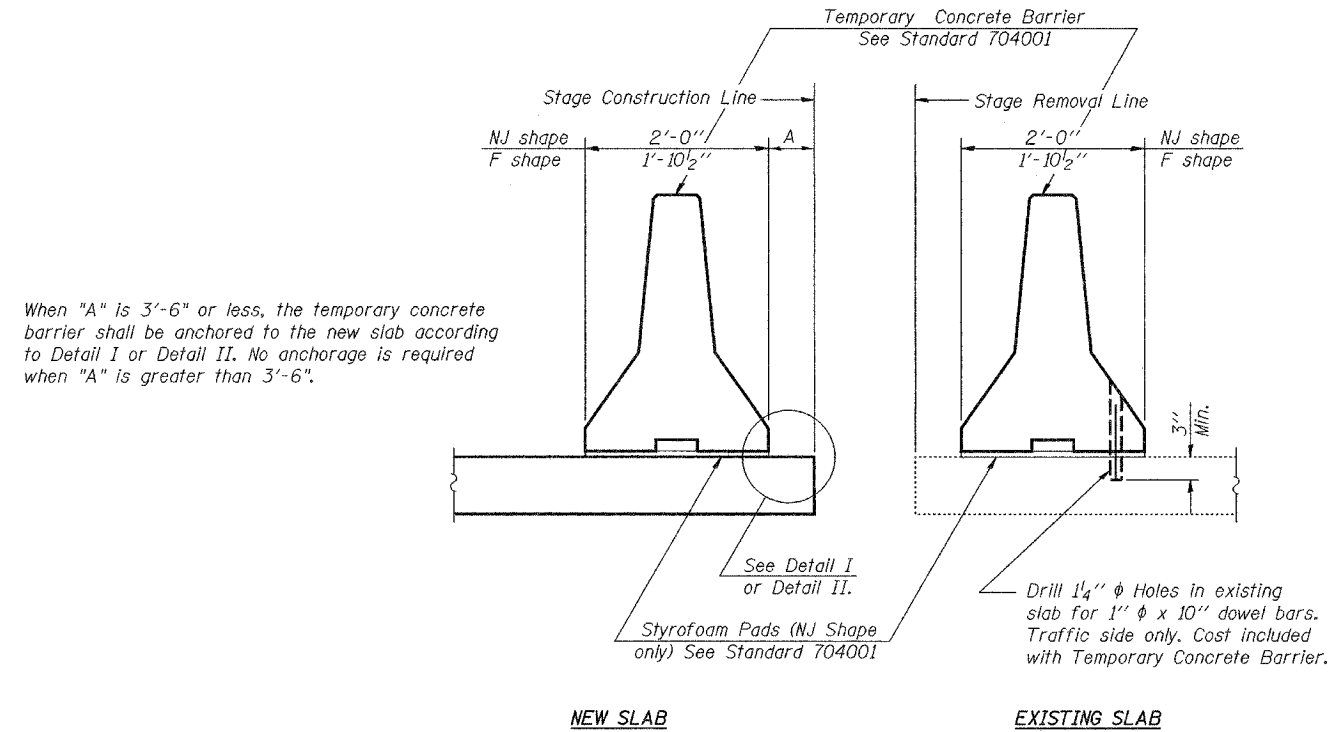
Feb 2, 2006

GENERAL DATA &
STAGE CONSTRUCTION DETAILS
F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
MARION COUNTY
STATION 375+53.00
STRUCTURE NO. 061-0091

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3
FAP 327	13B-1 & 13B-2	MARION	78	37	17 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract No. 94964

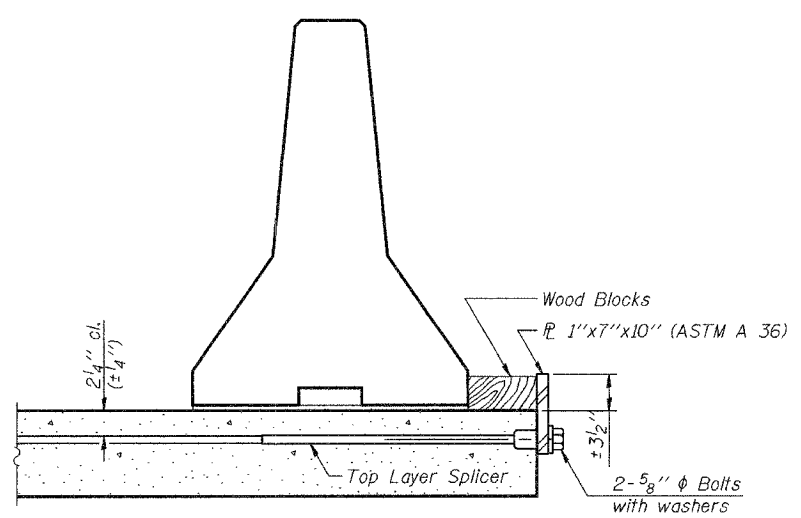


When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".

NOTES

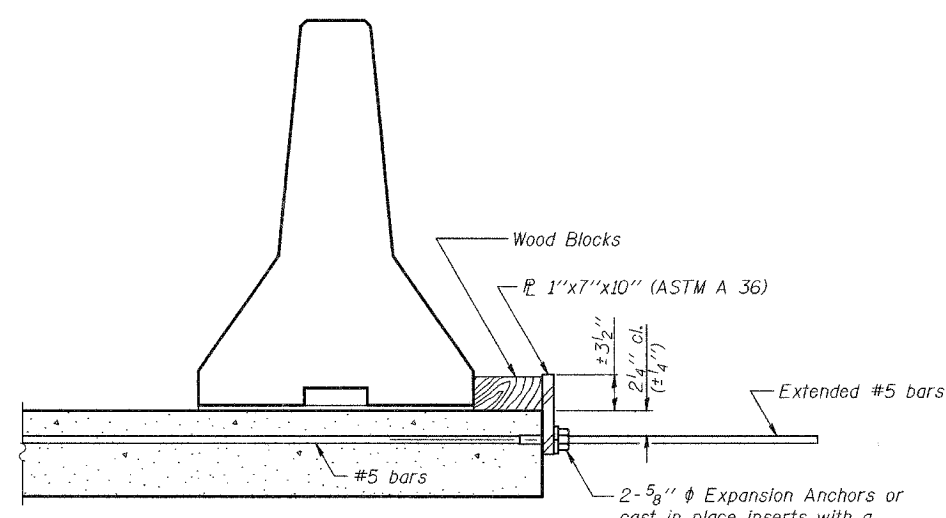
- Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.
- Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{L} to the concrete slab with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier.

SECTIONS THRU SLAB



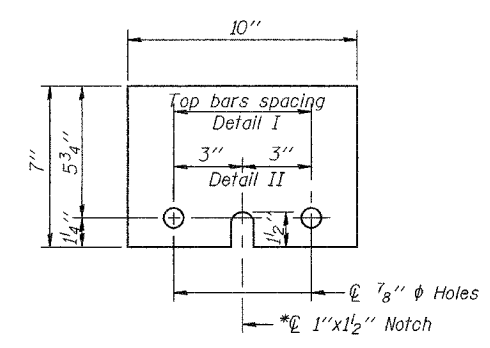
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" 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.



\bar{L} 1"x7"x10"

*Required only with Detail II

DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.t. duong
CHECKED	R.L.M./G.R.A.

Feb 2, 2006

EXAMINED *Thomas J. Domagala*
ENGINEER OF BRIDGE DESIGN

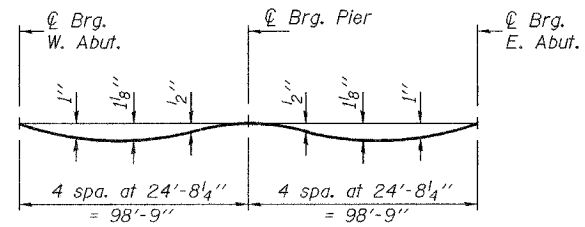
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

R-27 10-22-04

**TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
MARION COUNTY
STATION 375+53.00
STRUCTURE NO. 061-0091**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

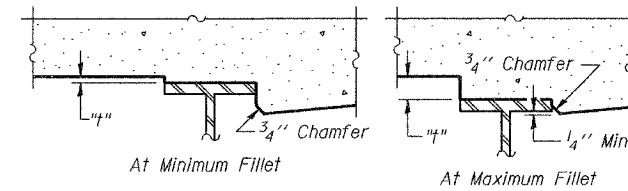
ROUTE NO.	SECTION	COUNTY	STA. SHEETS	SHEET NO.	SHEET NO. 4 17 SHEETS
FAP 327	13B-1 & 13B-2	MARION	78	38	
FED. ROAD DIST. NO. 7	SLABING	FED. AID PROJECT	Contract No. 94964		



DEAD LOAD DEFLECTION DIAGRAM

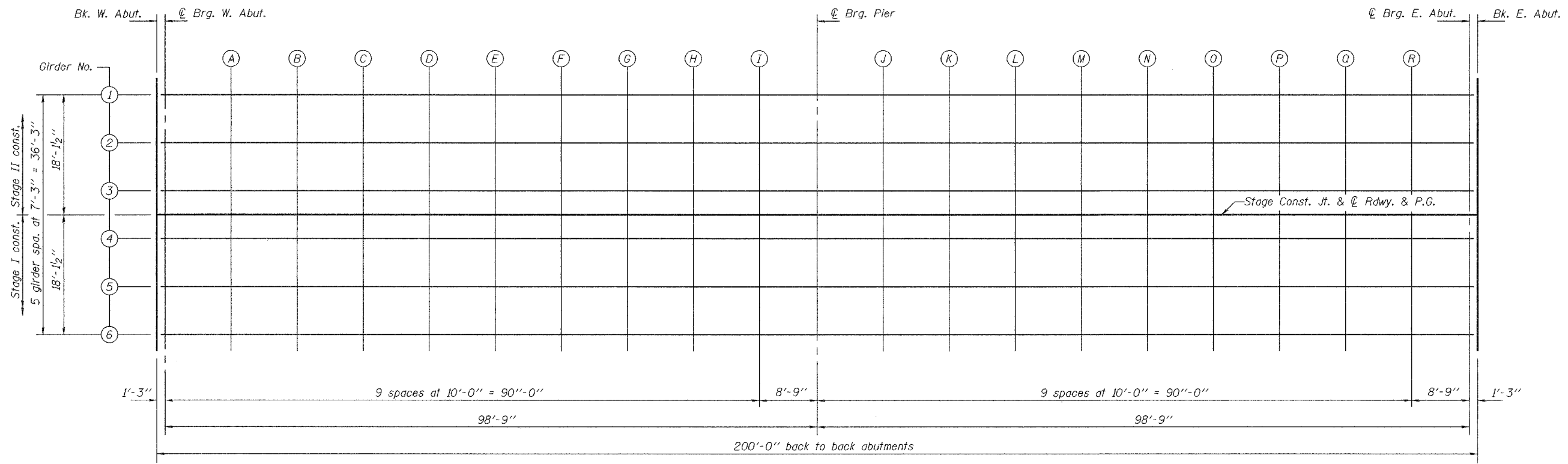
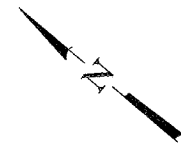
(Includes weight of concrete only.)

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 sheet 5 of 17.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheet 5 of 17, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS



PLAN

DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.t. duong
CHECKED	R.L.M./G.R.A.

Feb 2, 2006
EXAMINED *Thomas J. Demagala*
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
MARION COUNTY
STATION 375+53.00
STRUCTURE NO. 061-0091

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 327	13B-1 & 13B-2	MARION	18	39
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract No. 94964

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	37453.000	-18.125	470.678	470.678
€ Brg. W. Abut	37454.250	-18.125	470.687	470.687
A	37464.250	-18.125	470.757	470.791
B	37474.250	-18.125	470.824	470.892
C	37484.250	-18.125	470.886	470.972
D	37494.250	-18.125	470.943	471.035
E	37504.250	-18.125	470.997	471.092
F	37514.250	-18.125	471.046	471.120
G	37524.250	-18.125	471.091	471.143
H	37534.250	-18.125	471.132	471.165
I	37544.250	-18.125	471.169	471.184
€ Brg. Pier	37553.000	-18.125	471.198	471.198
J	37563.000	-18.125	471.227	471.244
K	37573.000	-18.125	471.251	471.286
L	37583.000	-18.125	471.272	471.326
M	37593.000	-18.125	471.288	471.364
N	37603.000	-18.125	471.300	471.396
O	37613.000	-18.125	471.308	471.399
P	37623.000	-18.125	471.312	471.398
Q	37633.000	-18.125	471.311	471.375
R	37643.000	-18.125	471.306	471.336
€ Brg. E. Abut	37651.750	-18.125	471.299	471.299
Bk. E. Abut	37653.000	-18.125	471.297	471.297

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	37453.000	-10.875	470.823	470.823
€ Brg. W. Abut	37454.250	-10.875	470.832	470.832
A	37464.250	-10.875	470.902	470.936
B	37474.250	-10.875	470.969	471.037
C	37484.250	-10.875	471.031	471.117
D	37494.250	-10.875	471.088	471.180
E	37504.250	-10.875	471.142	471.237
F	37514.250	-10.875	471.191	471.265
G	37524.250	-10.875	471.236	471.288
H	37534.250	-10.875	471.277	471.310
I	37544.250	-10.875	471.314	471.329
€ Brg. Pier	37553.000	-10.875	471.343	471.343
J	37563.000	-10.875	471.372	471.389
K	37573.000	-10.875	471.396	471.431
L	37583.000	-10.875	471.417	471.471
M	37593.000	-10.875	471.433	471.509
N	37603.000	-10.875	471.445	471.541
O	37613.000	-10.875	471.453	471.544
P	37623.000	-10.875	471.457	471.543
Q	37633.000	-10.875	471.456	471.520
R	37643.000	-10.875	471.451	471.481
€ Brg. E. Abut	37651.750	-10.875	471.444	471.444
Bk. E. Abut	37653.000	-10.875	471.442	471.442

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	37453.000	-3.625	470.936	470.936
€ Brg. W. Abut	37454.250	-3.625	470.945	470.945
A	37464.250	-3.625	471.016	471.050
B	37474.250	-3.625	471.082	471.150
C	37484.250	-3.625	471.144	471.231
D	37494.250	-3.625	471.202	471.294
E	37504.250	-3.625	471.255	471.350
F	37514.250	-3.625	471.305	471.378
G	37524.250	-3.625	471.350	471.401
H	37534.250	-3.625	471.391	471.423
I	37544.250	-3.625	471.427	471.442
€ Brg. Pier	37553.000	-3.625	471.456	471.456
J	37563.000	-3.625	471.485	471.502
K	37573.000	-3.625	471.510	471.544
L	37583.000	-3.625	471.530	471.584
M	37593.000	-3.625	471.546	471.622
N	37603.000	-3.625	471.558	471.655
O	37613.000	-3.625	471.566	471.658
P	37623.000	-3.625	471.570	471.656
Q	37633.000	-3.625	471.569	471.633
R	37643.000	-3.625	471.564	471.594
€ Brg. E. Abut	37651.750	-3.625	471.557	471.557
Bk. E. Abut	37653.000	-3.625	471.555	471.555

€ ROADWAY, P.G. & STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	37453.000	0.000	470.993	470.993
€ Brg. W. Abut	37454.250	0.000	471.002	471.002
A	37464.250	0.000	471.072	471.106
B	37474.250	0.000	471.138	471.207
C	37484.250	0.000	471.200	471.287
D	37494.250	0.000	471.258	471.350
E	37504.250	0.000	471.312	471.407
F	37514.250	0.000	471.361	471.435
G	37524.250	0.000	471.406	471.458
H	37534.250	0.000	471.447	471.480
I	37544.250	0.000	471.484	471.499
€ Brg. Pier	37553.000	0.000	471.513	471.513
J	37563.000	0.000	471.542	471.559
K	37573.000	0.000	471.566	471.601
L	37583.000	0.000	471.587	471.641
M	37593.000	0.000	471.603	471.679
N	37603.000	0.000	471.615	471.711
O	37613.000	0.000	471.623	471.714
P	37623.000	0.000	471.626	471.713
Q	37633.000	0.000	471.626	471.690
R	37643.000	0.000	471.621	471.651
€ Brg. E. Abut	37651.750	0.000	471.613	471.613
Bk. E. Abut	37653.000	0.000	471.612	471.612

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	37453.000	3.625	470.936	470.936
€ Brg. W. Abut	37454.250	3.625	470.945	470.945
A	37464.250	3.625	471.016	471.050
B	37474.250	3.625	471.082	471.150
C	37484.250	3.625	471.144	471.231
D	37494.250	3.625	471.202	471.294
E	37504.250	3.625	471.255	471.350
F	37514.250	3.625	471.305	471.378
G	37524.250	3.625	471.350	471.401
H	37534.250	3.625	471.391	471.423
I	37544.250	3.625	471.427	471.442
€ Brg. Pier	37553.000	3.625	471.456	471.456
J	37563.000	3.625	471.485	471.502
K	37573.000	3.625	471.510	471.544
L	37583.000	3.625	471.530	471.584
M	37593.000	3.625	471.546	471.622
N	37603.000	3.625	471.558	471.655
O	37613.000	3.625	471.566	471.658
P	37623.000	3.625	471.570	471.656
Q	37633.000	3.625	471.569	471.633
R	37643.000	3.625	471.564	471.594
€ Brg. E. Abut	37651.750	3.625	471.557	471.557
Bk. E. Abut	37653.000	3.625	471.555	471.555

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	37453.000	10.875	470.823	470.823
€ Brg. W. Abut	37454.250	10.875	470.832	470.832
A	37464.250	10.875	470.902	470.936
B	37474.250	10.875	470.969	471.037
C	37484.250	10.875	471.031	471.117
D	37494.250	10.875	471.088	471.180
E	37504.250	10.875	471.142	471.237
F	37514.250	10.875	471.191	471.265
G	37524.250	10.875	471.236	471.288
H	37534.250	10.875	471.277	471.310
I	37544.250	10.875	471.314	471.329
€ Brg. Pier	37553.000	10.875	471.343	471.343
J	37563.000	10.875	471.372	471.389
K	37573.000	10.875	471.396	471.431
L	37583.000	10.875	471.417	471.471
M	37593.000	10.875	471.433	471.509
N	37603.000	10.875	471.445	471.541
O	37613.000	10.875	471.453	471.544
P	37623.000	10.875	471.457	471.543
Q	37633.000	10.875	471.456	471.520
R	37643.000	10.875	471.451	471.481
€ Brg. E. Abut	37651.750	10.875	471.444	471.444
Bk. E. Abut	37653.000	10.875	471.442	471.442

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut	37453.000	18.125	470.678	470.678
€ Brg. W. Abut	37454.250	18.125	470.687	470.687
A	37464.250	18.125	470.757	470.791
B	37474.250	18.125	470.824	470.892
C	37484.250	18.125	470.886	470.972
D	37494.250	18.125	470.943	471.035
E	37504.250	18.125	470.997	471.092
F	37514.250	18.125	471.046	471.120
G	37524.250	18.125	471.091	471.143
H	37534.250	18.125	471.132	471.165
I	37544.250	18.125	471.169	471.184
€ Brg. Pier	37553.000	18.125	471.198	471.198
J	37563.000	18.125	471.227	471.244
K	37573.000	18.125	471.251	471.286
L	37583.000	18.125	471.272	471.326
M	37593.000	18.125	471.288	471.364
N	37603.000	18.125	471.300	471.396
O	37613.000	18.125	471.308	471.399
P	37623.000	18.125	471.312	471.398
Q	37633.000	18.125	471.311	471.375
R	37643.000	18.125	471.306	471.336
€ Brg. E. Abut	37651.750	18.125	471.299	471.299
Bk. E. Abut	37653.000	18.125	471.297	471.297

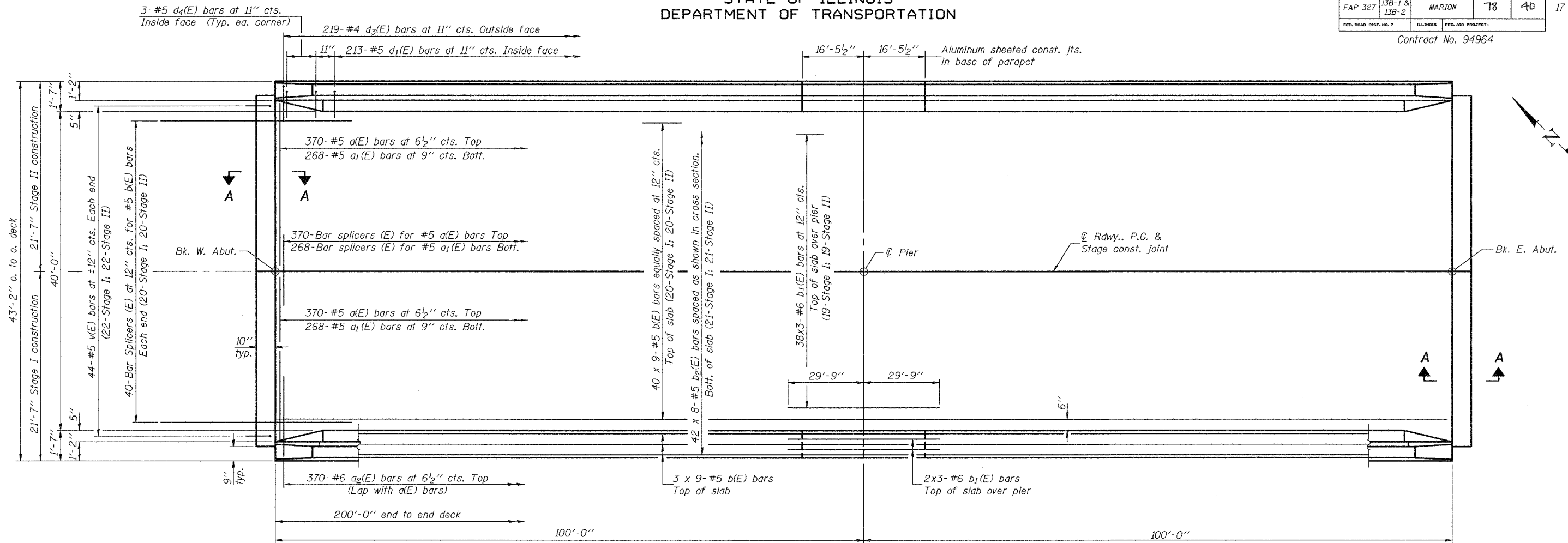
DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.t. duong
CHECKED	R.L.M./G.R.A.

Feb 2, 2006

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

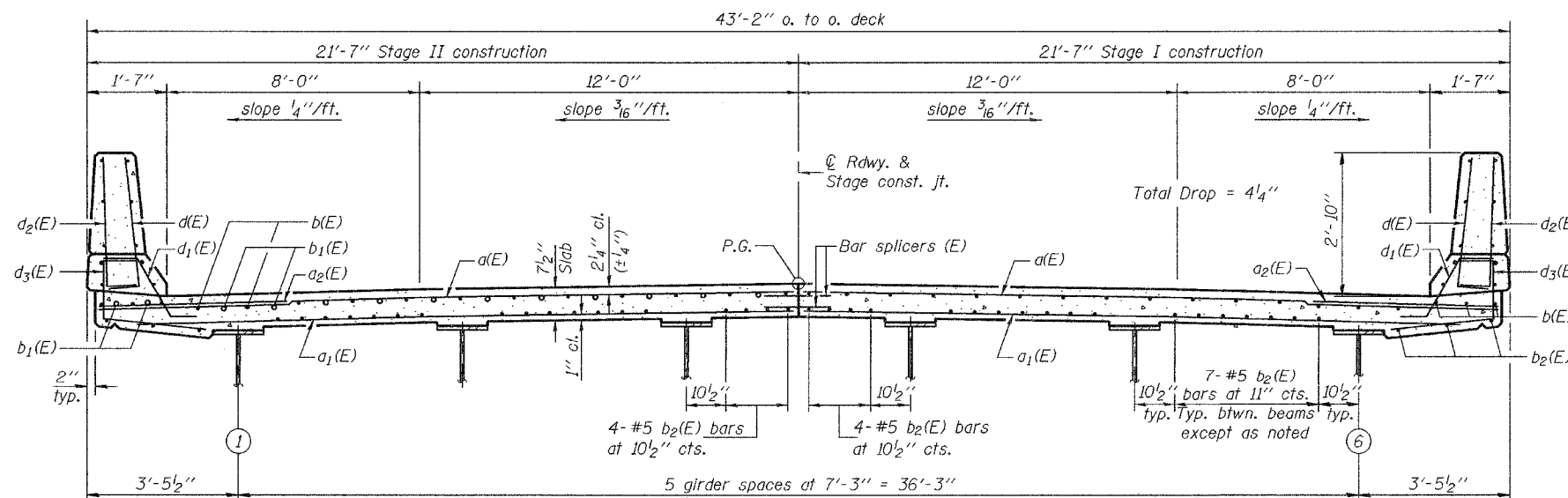
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6 17 SHEETS
FAP 327	13B-1 & 13B-2	MARION	78	40	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract No. 94964



PLAN

Notes: See sheet 7 of 17 for superstructure details, parapet reinforcement and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 38 x 3-#5 etc. indicates 38 lines of bars with 3 lengths per line.
See sheet 8 of 17 for Section A-A and diaphragm details.
See sheet 15 of 17 for bar splicer details.
See sheet 7 of 17 for details of v(E) bars.



CROSS SECTION
(Looking east)

MIN. BAR LAPS
#5 bar = 2'-2"
#6 bar = 2'-7"

DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.t. duong
CHECKED	R.L.M./G.R.A.

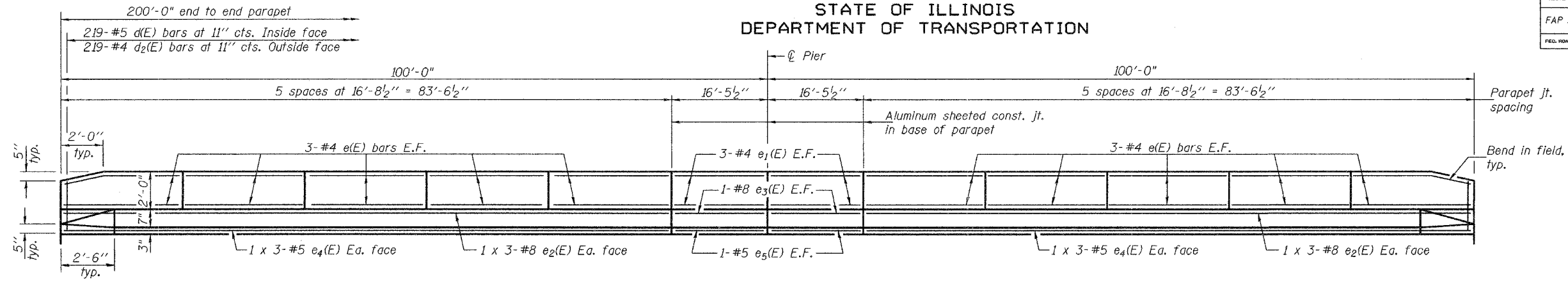
Feb 2, 2006
EXAMINED *Thomas J. Damgalab*
ENGINEER OF BRIDGE DESIGN
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

SUPERSTRUCTURE
F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
MARION COUNTY
STATION 375+53.00
STRUCTURE NO. 061-0091

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 7
FAP 327	13B-1 & 13B-2	MARION	78	41	17 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

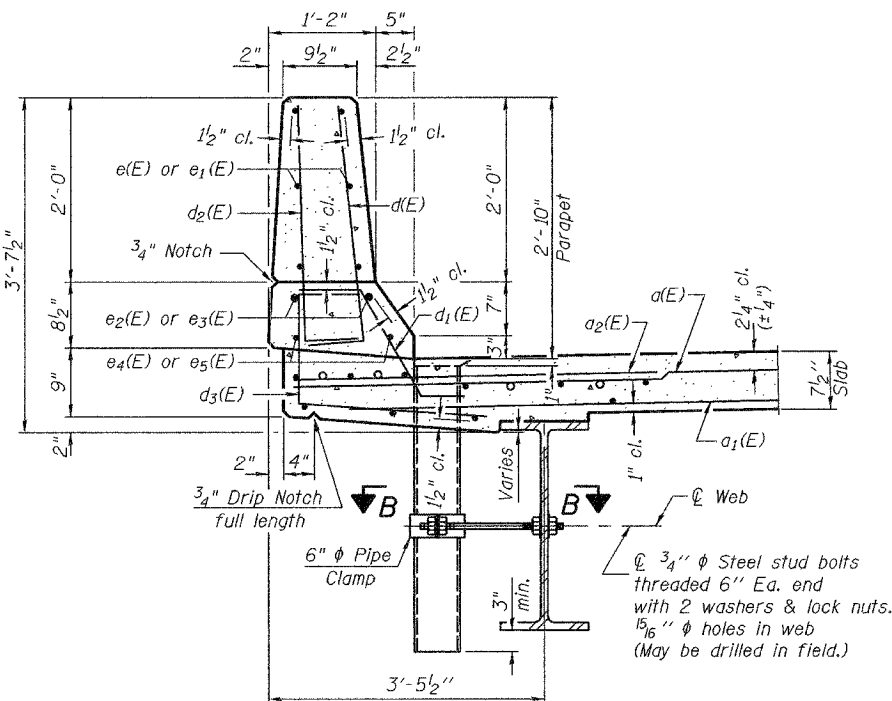
Contract No. 94964



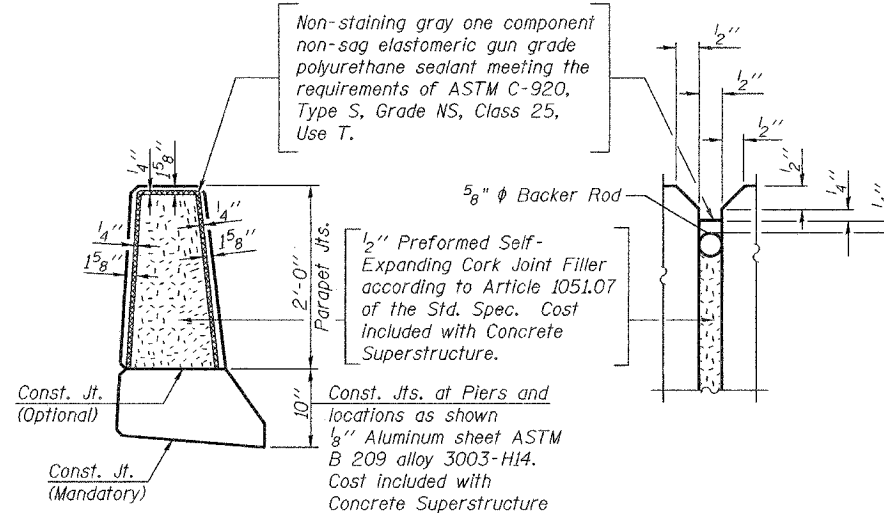
INSIDE ELEVATION OF PARAPET
(Looking north)

SUPERSTRUCTURE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	740	#5	21'-2"	—
a1(E)	536	#5	20'-3"	—
a2(E)	740	#6	6'-0"	—
b(E)	414	#5	24'-2"	—
b1(E)	126	#6	21'-7"	—
b2(E)	336	#5	26'-11"	—
d(E)	438	#5	3'-0"	—
d1(E)	426	#5	2'-5"	—
d2(E)	438	#4	3'-0"	—
d3(E)	438	#4	4'-1"	—
d4(E)	12	#5	2'-1"	—
e(E)	120	#4	16'-5"	—
e1(E)	24	#4	16'-2"	—
e2(E)	24	#8	30'-1"	—
e3(E)	8	#8	16'-2"	—
e4(E)	24	#5	28'-11"	—
e5(E)	8	#5	16'-2"	—
m(E)	8	#6	20'-7"	—
m1(E)	12	#6	21'-4"	—
m2(E)	24	#6	10'-0"	—
m3(E)	8	#6	6'-11"	—
m4(E)	4	#6	3'-2"	—
m5(E)	4	#6	3'-4"	—
s(E)	96	#5	6'-9"	—
s1(E)	88	#4	12'-0"	—
v(E)	88	#5	3'-10"	—
Reinforcement Bars, Epoxy Coated	Pound	70380		
Concrete Superstructure	Cu. Yds.	287.4		

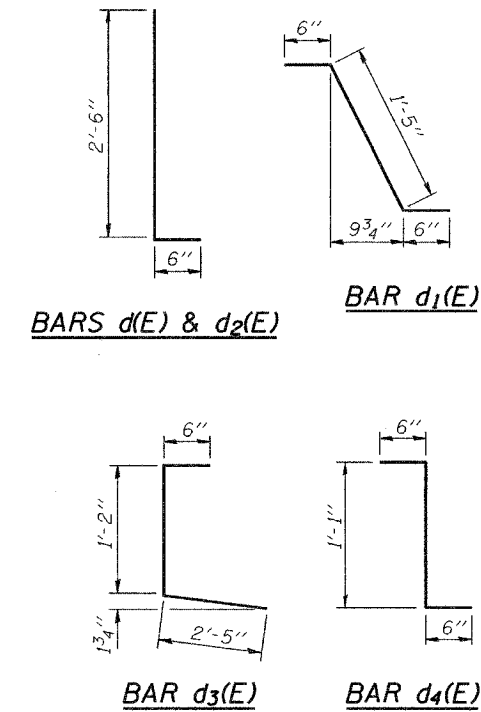


SECTION THRU PARAPET



PARAPET JOINT DETAILS

Notes:
The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Steel Structures Painting Council'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.

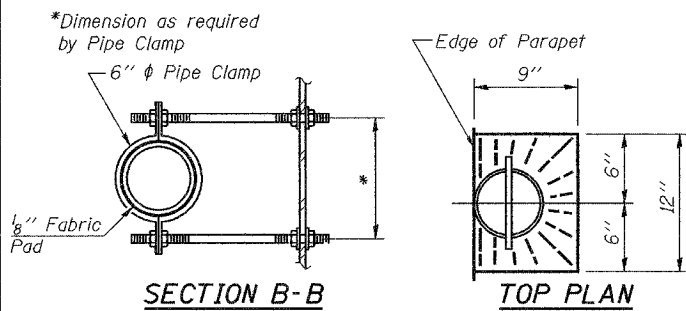


BARS d(E) & d2(E)

BAR d1(E)

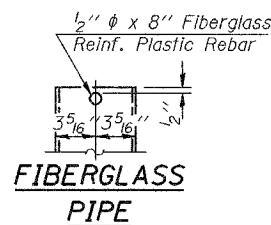
BAR d3(E)

BAR d4(E)

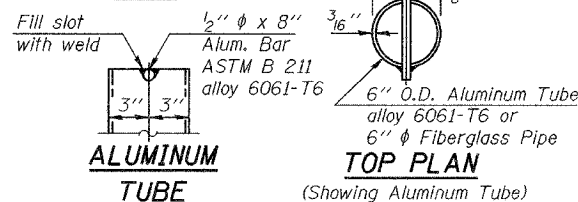


SECTION B-B

TOP PLAN



FIBERGLASS PIPE

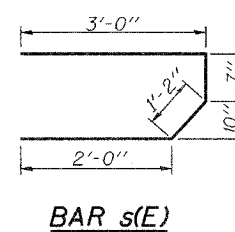


ALUMINUM TUBE

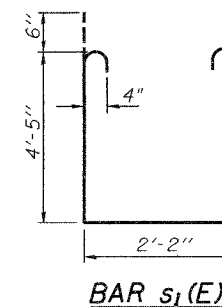
TOP PLAN
(Showing Aluminum Tube)

MIN. BAR LAPS

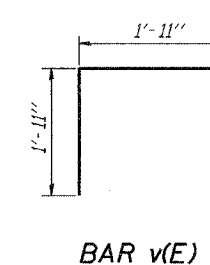
#5 bars = 1'-8"
#8 bars = 3'-5"



BAR s(E)



BAR s1(E)



BAR v(E)

SUPERSTRUCTURE DETAILS
F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
MARION COUNTY
STATION 375+53.00
STRUCTURE NO. 061-0091

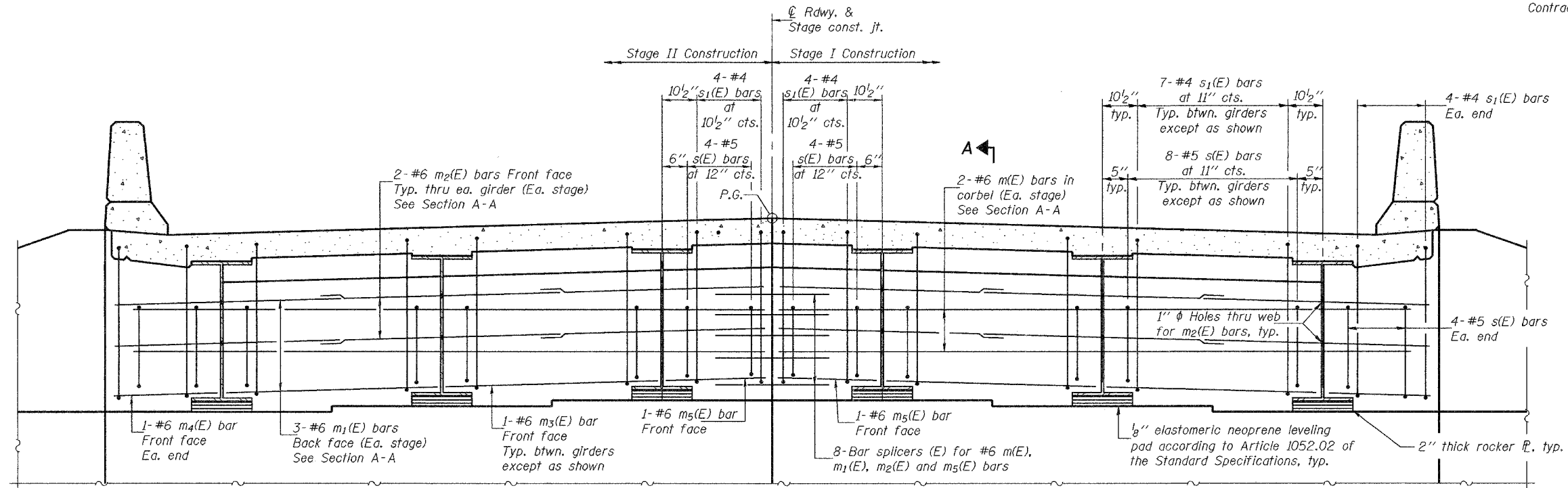
DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.t. duong
CHECKED	R.L.M./G.R.A.

EXAMINED	Thomas Damagala	Feb 2, 2006
PASSED	Ralph E. Anderson	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8
FAP 327	13B-1 & 13B-2	MARION	18	42	17 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

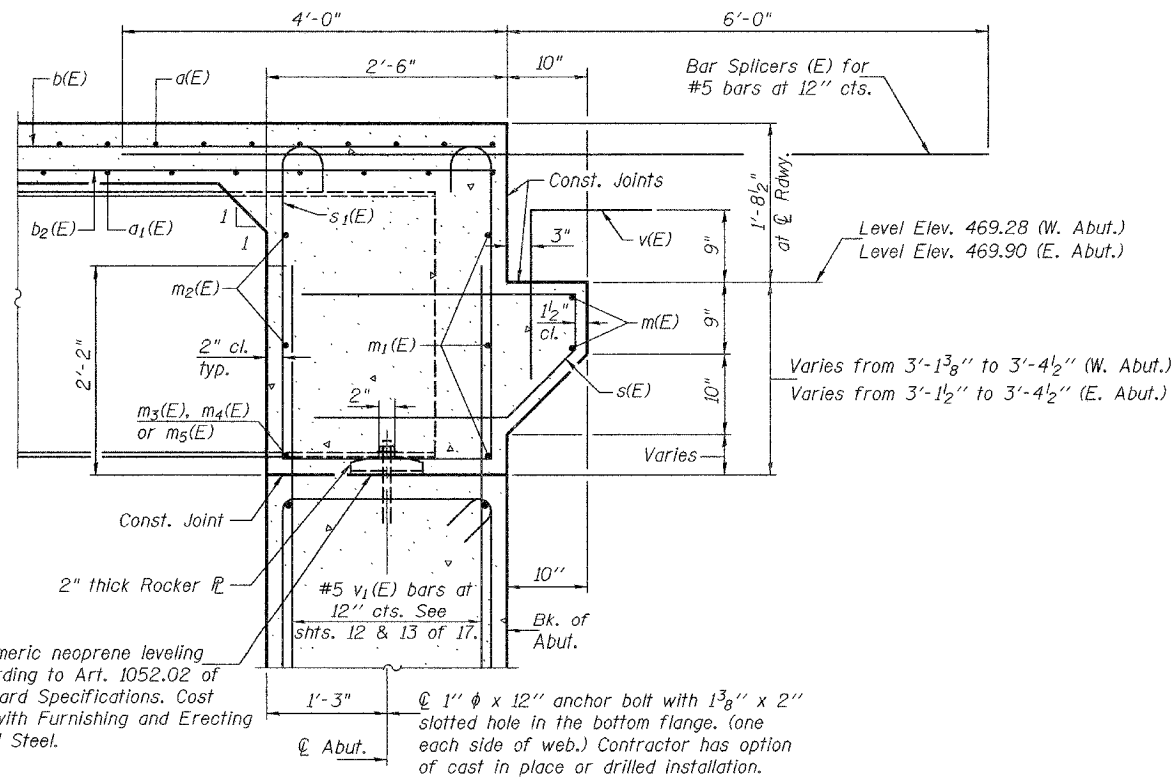
Contract No. 94964



DIAPHRAGM ELEVATION AT EAST ABUTMENT

(Looking east - West Abutment similar)

Notes: Reinforcement bars in diaphragm are billed with superstructure on sheet 7 of 17.
Concrete in diaphragm is included with Concrete Superstructure on sheet 7 of 17.
For details of bars $s(E)$ & $s_1(E)$ see sheet 7 of 17.
See sheet 10 of 17 for holes thru web for $m_2(E)$ bars.
For anchor bolt details see sheet 11 of 17.
For bar splicer (E) details see sheet 15 of 17.



SECTION A-A

MIN. BAR LAP

#6 bar = 2'-9"

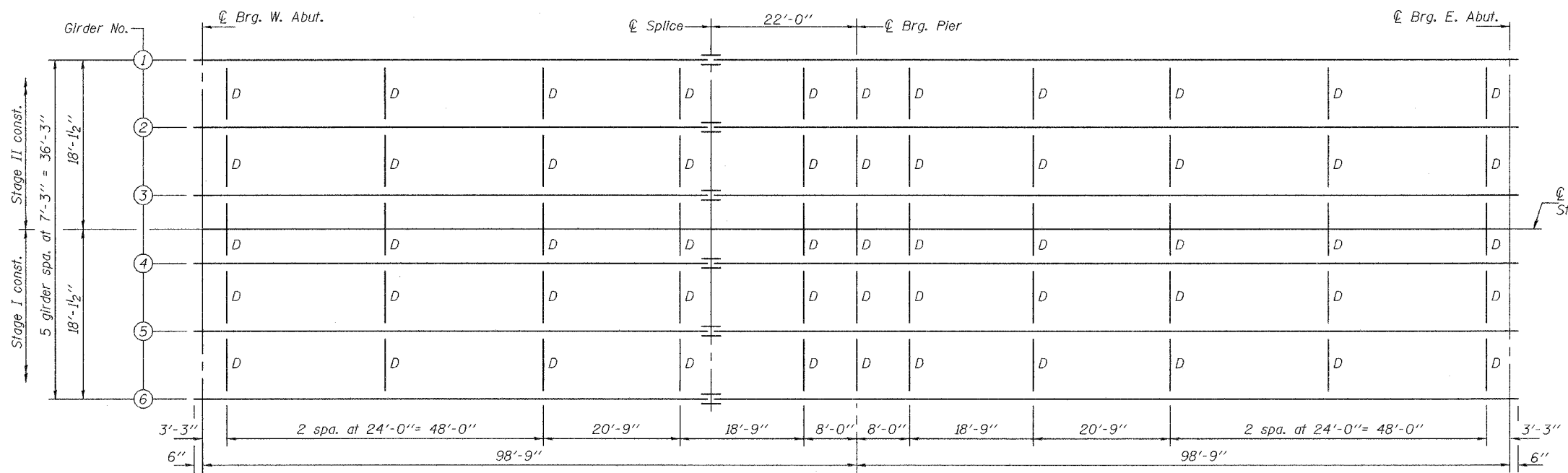
DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.t. duong
CHECKED	R.L.M./G.R.A.

Feb 2, 2006
EXAMINED *Thomas J. Damgalak*
ENGINEER OF BRIDGE DESIGN
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

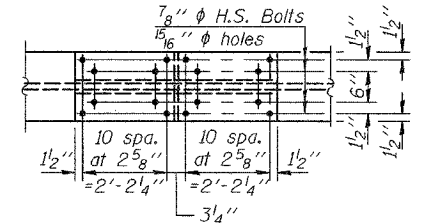
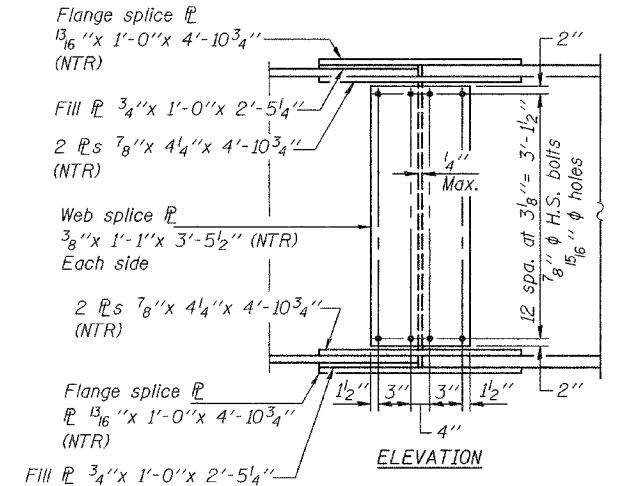
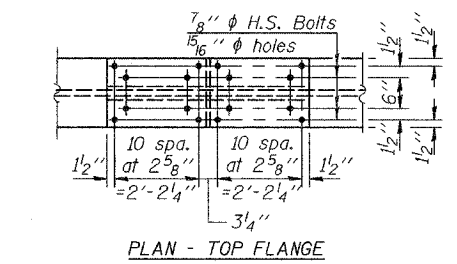
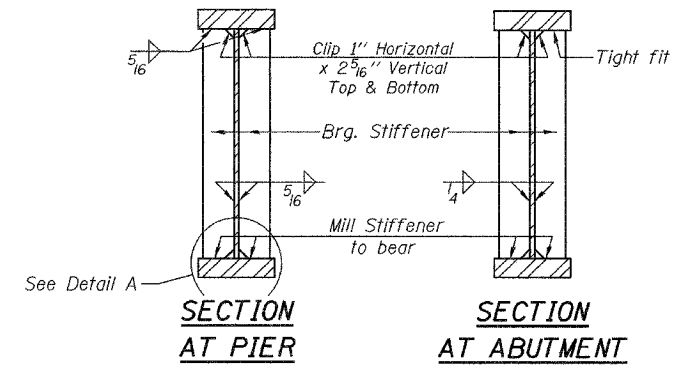
DIAPHRAGM DETAILS
F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
MARION COUNTY
STATION 375+53.00
STRUCTURE NO. 061-0091

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

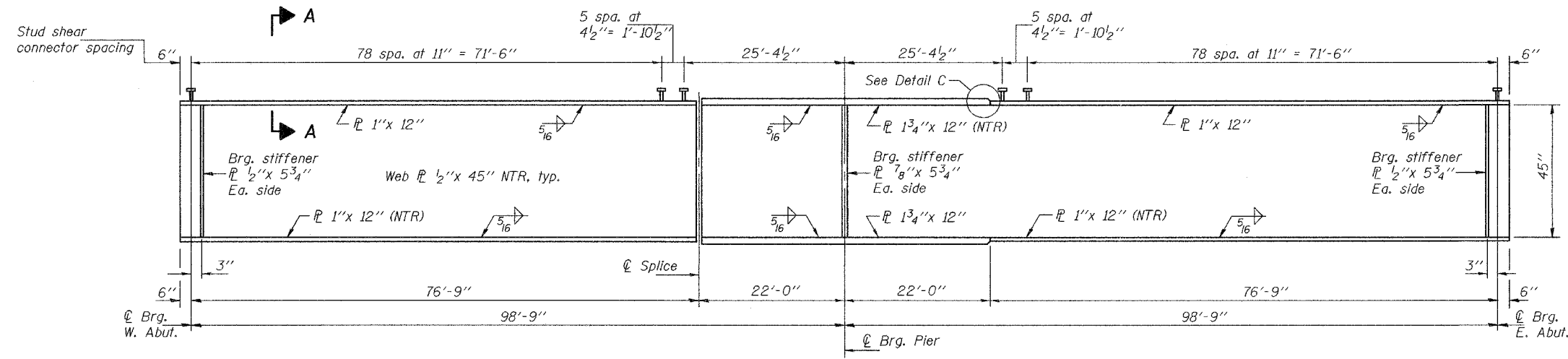
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 9 17 SHEETS
FAP 327	13B-1 & 13B-2	MARION	78	43	
Contract No. 94964					



PLAN



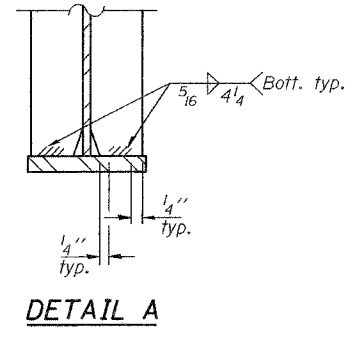
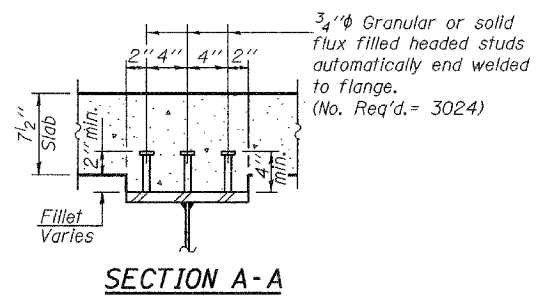
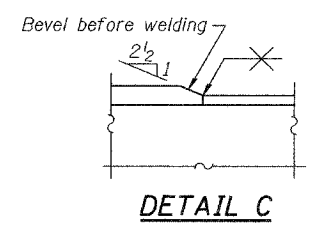
SPICE DETAIL



GIRDER ELEVATION

Notes: All splice plates shall be AASHTO M 270, Grade 50, except fill plates.
NTR denotes plates to which Notch Toughness Requirements are applicable.
Omit connection plate at exterior side of exterior beams.

All plates of the girder, including bearing stiffeners, shall be AASHTO M270 Grade 50.



DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.t. duong
CHECKED	R.L.M./G.R.A.

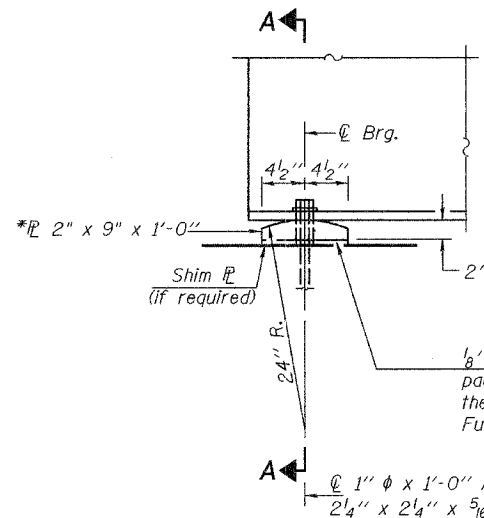
Feb 2, 2006
EXAMINED *Thomas J. Donagale*
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

STRUCTURAL STEEL
F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
MARION COUNTY
STATION 375+53.00
STRUCTURE NO. 061-0091

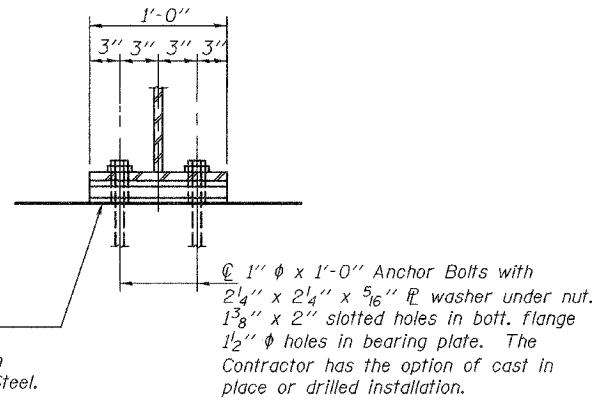
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 10 17 SHEETS
FAP 327	13B-1 & 13B-2	MARION	78	44	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract No. 94964

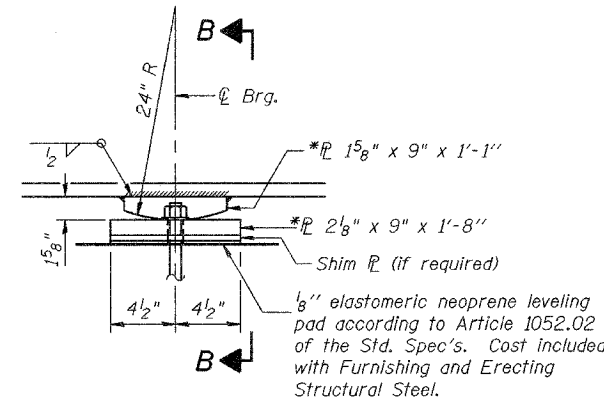


ELEVATION AT ABUTMENTS

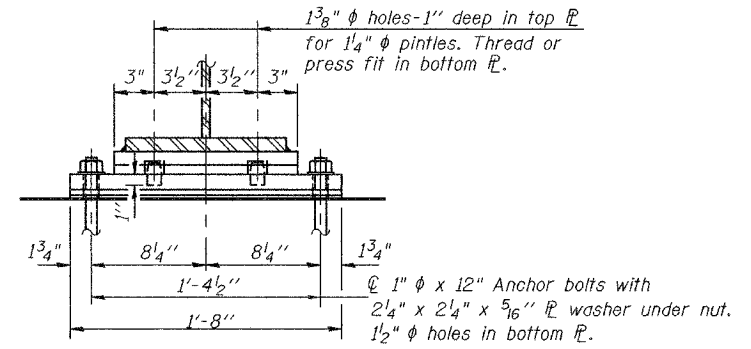


SECTION A-A

*AASHTO M270, Grade 50.



ELEVATION AT PIER



SECTION B-B

FIXED BEARING
(6 Required)

ABUTMENT BEARING
(12 Required)

	0.4 Sp. 1 & 0.6 Sp. 2	Pier
I_s	(in ⁴) 16495	26756
I_c (n)	(in ⁴) 39091	
I_c (3n)	(in ⁴) 29143	
S_s	(in ³) 702	1103
S_c (n)	(in ³) 962	
S_c (3n)	(in ³) 879	
DC1	(k/ft.) 0.879	0.952
M DC1	(k) 536	1248
DC2	(k/ft.) 0.150	0.150
M DC2	(k) 110	163
DW	(k/ft.) 0.363	0.363
M DW	(k) 267	394
M+Imp	(k) 1321	1177
M_a (Strength I)	(k) 3520	4415
$\phi F_m n$	(k) 4822	
f_s DC1	(k.s.i.) 9.2	13.6
f_s DC2	(k.s.i.) 1.5	1.8
f_s DW	(k.s.i.) 3.6	4.3
f_s 1.3 (L+I)	(k.s.i.) 21.4	16.6
f_s (Service II)	(k.s.i.) 35.7	36.3
f_s (Total)(Strength I)	(k.s.i.)	48.0
ϕF_{nc}	(k)	
Vsr	(k)	28.8

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s due to non-composite loads.
 I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s due to short-term composite loads.
 $I_{c(3n)}$ and $S_{c(3n)}$ are the moment of inertia and section modulus of the composite section used in computing f_s due to long-term composite loads.
 DC1 is the dead load acting on the non-composite section.
 DC2 is the dead load acting on the long-term composite section.
 DW is the dead load acting on the long-term composite section due to wearing surface.
 M_a (Strength I) = 1.25 (MDC1+DC2) + 1.5M (DW) + 1.75 (M(L+Imp)).
 $\phi F_m n$ is the full plastic moment capacity computed in accordance with Appendix D6.1 and 6.10.7.
 f_s (Service II) is the sum of the stresses due to DC1+DC2+DW+1.3(L+Imp).
 f_s (Total) (Strength I) (Non-compact section) is the sum of the stresses due to 1.25(DC1+DC2)+1.5DW+1.75(L+Imp).
 V_{sr} is the maximum shear range in the span (0.75 (L+Imp)).
 ϕF_{nc} is the allowable flexural resistance stress of the compression flange computed in accordance with Article 6.5.4.2 and 6.10.8.2.

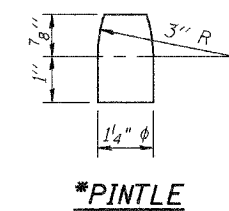
	Abut.	Pier
R DC1	(k) 30.9	114.9
R DC2+DW	(k) 19.7	61.9
R L	(k) 69.9	128.8
R Imp.	(k) 16.1	25.0
R (Total)	(k) 136.6	330.6

**TOP OF WEB ELEVATIONS

Location	Center Brg. W. Abut.	Center Splice	Center Brg. Pier	Center Brg. E. Abut.
Girder 1	469.918	470.260	470.309	470.530
Girder 2	470.064	470.405	470.455	470.675
Girder 3	470.177	470.519	470.568	470.789
Girder 4	470.177	470.519	470.568	470.789
Girder 5	470.064	470.405	470.455	470.675
Girder 6	469.918	470.260	470.309	470.530

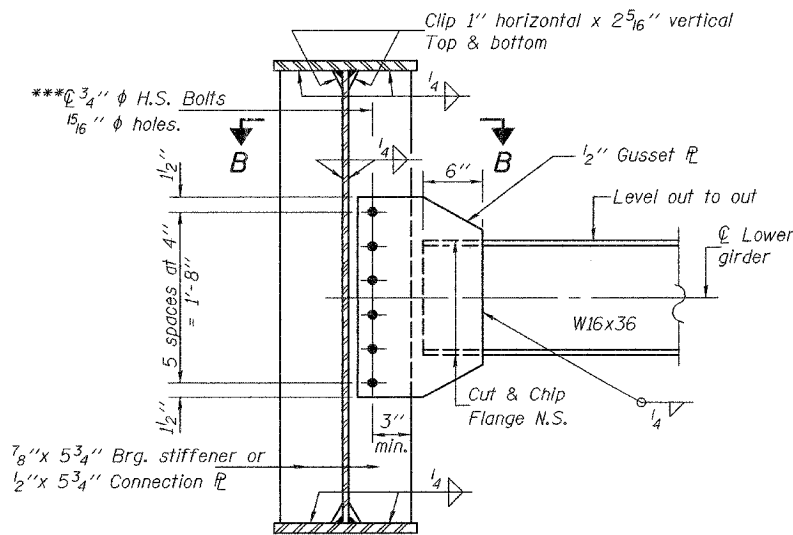
**For fabrication use only.

Notes: Two hardened washers shall be required for all 1 5/16 inch holes in diaphragms.

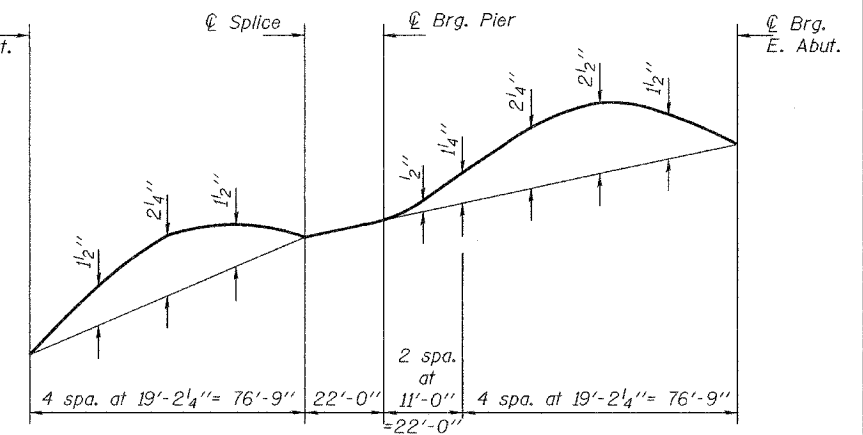


*PINTLE

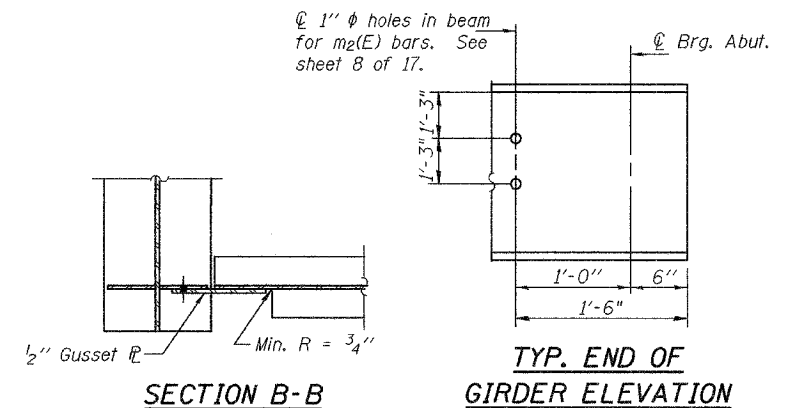
*** Use 1 3/16 inch x 1 1/2 inch vertical slotted holes in 1/2 inch gusset plate at south side of Girder 3 only. Provide 1 5/16 inch plate washers for slotted holes. Bolts for slotted holes shall be finger-tightened prior to the deck pour for Stage II Construction, and then be fully tightened after completion of the deck pour for Stage II Construction.



DIAPHRAGM D
(55 Required)



CAMBER DIAGRAM



SECTION B-B

TYP. END OF GIRDER ELEVATION

DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.f. duong
CHECKED	R.L.M./G.R.A.

Feb 2, 2006
 EXAMINED *Thomas J. Damagala*
 ENGINEER OF BRIDGE DESIGN
 PASSED *Ralph E. Anderson*
 ENGINEER OF BRIDGES AND STRUCTURES

STRUCTURAL STEEL DETAILS
 F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
 MARION COUNTY
 STATION 375+53.00
 STRUCTURE NO. 061-0091

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

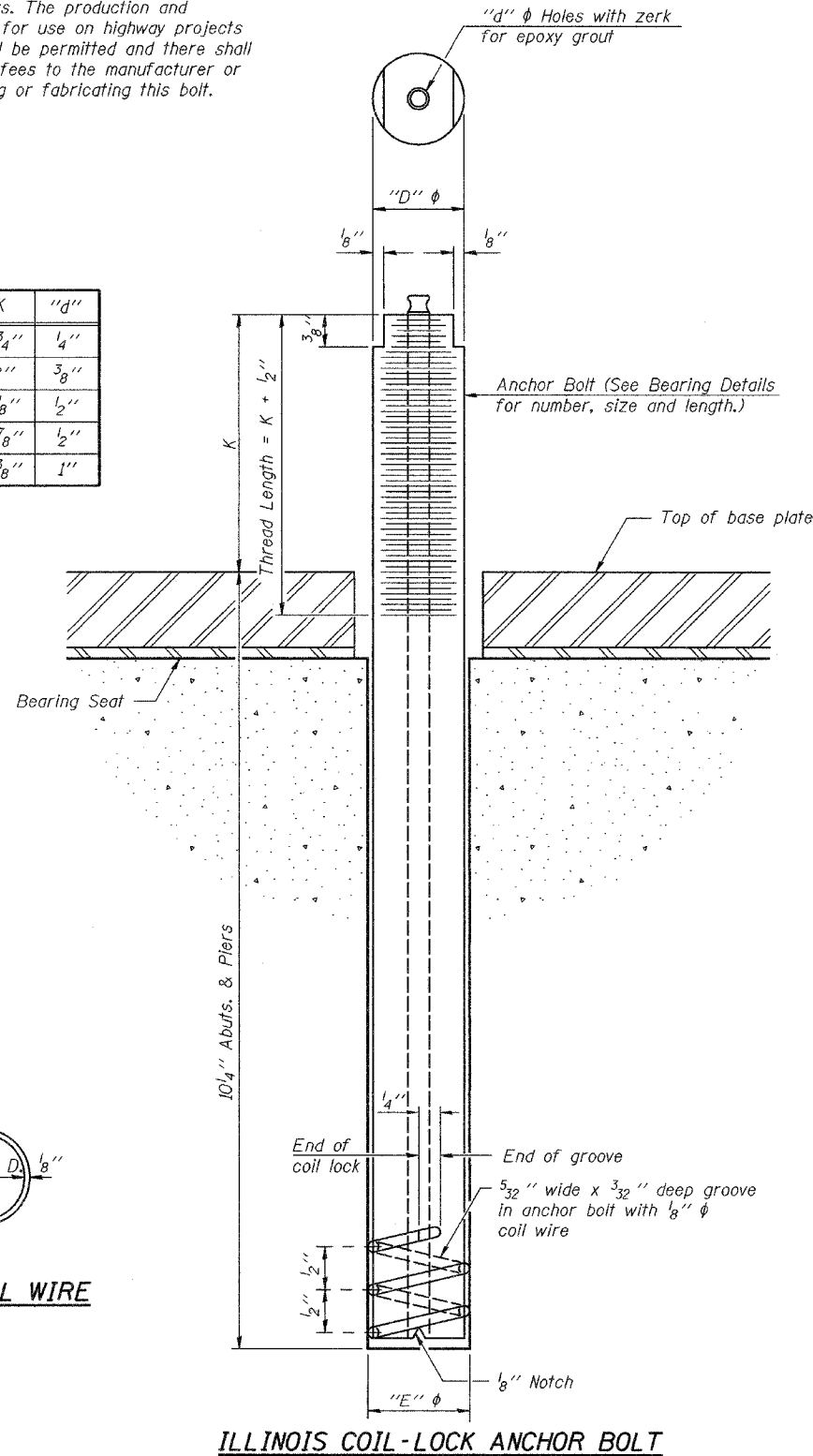
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 327	13B-1 & 13B-2	MARION	78	45
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 11
17 SHEETS

Contract No. 94964

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
1"	1 1/8"	1 3/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.

2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Abuts.	A325
Piers	A325

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

ANCHOR BOLT DETAILS

FOR BEARINGS

F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2

MARION COUNTY

STATION 375+53.00

STRUCTURE NO. 061-0091

DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.t. duong
CHECKED	R.L.M./G.R.A.

Feb 2, 2006
EXAMINED *Thomas J. Domagala*
ENGINEER OF BRIDGE DESIGN
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

ABB-1

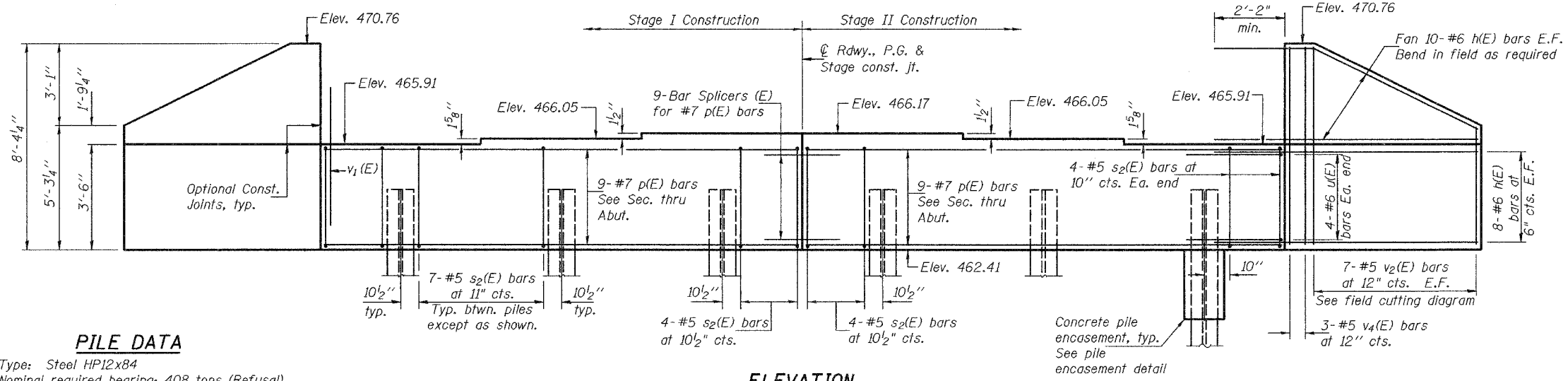
10-22-04

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 12 17 SHEETS
FAP 327	13B-1 & 13B-2	MARION	78	46	
FED. ROAD DIST. NO. 7	ILLINOIS		FED. AID PROJECT		

Contract No. 94964

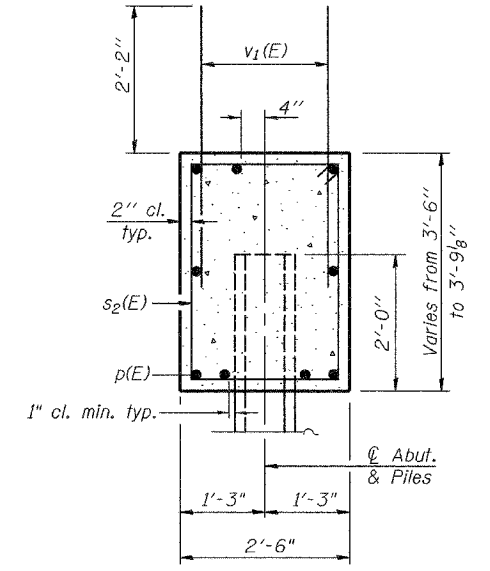
Notes:
Pour steps monolithically with cap.
Reinforcement bars designated (E) shall be epoxy coated.
For anchor bolt installation details see sheet 11 of 17.
For bar splicer assembly details see sheet 15 of 17.



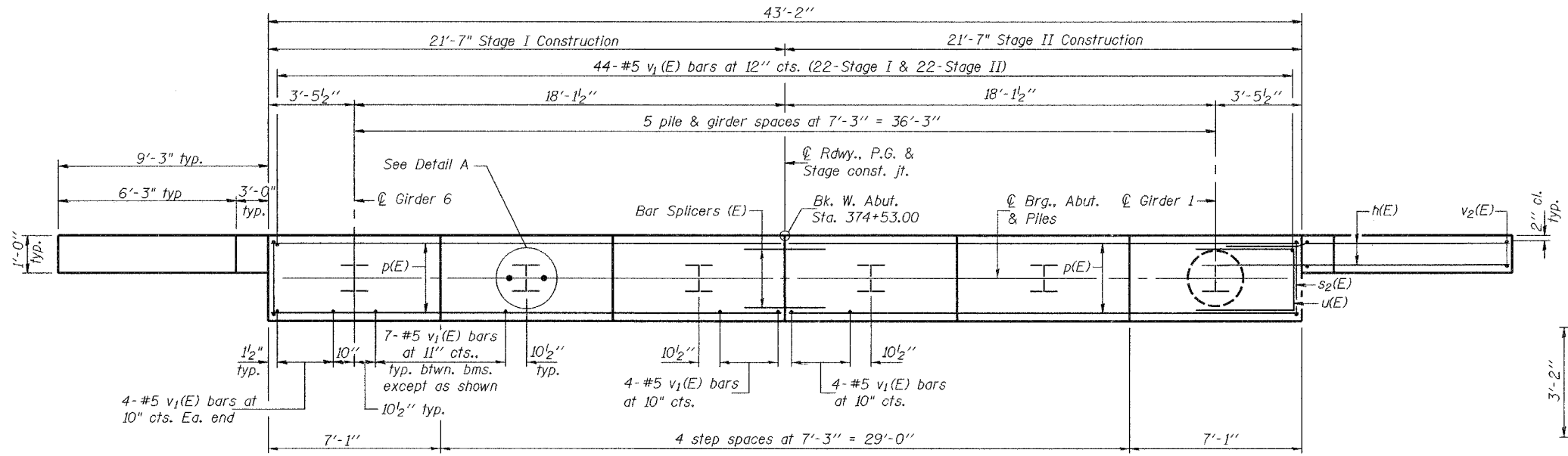
ELEVATION
(Looking West)

PILE DATA

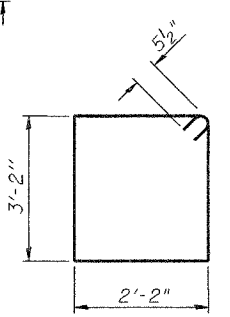
Type: Steel HP12x84
Nominal required bearing: 408 tons (Refusal)
Nominal design capacity: 241 tons
Est. Length: 89'
No. Required: 5 + 1 test pile



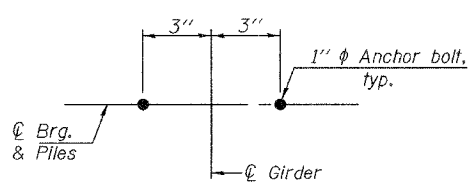
SEC. THRU ABUT.



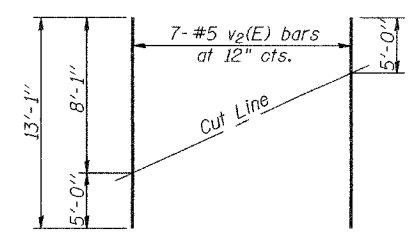
PLAN



BAR s2(E)

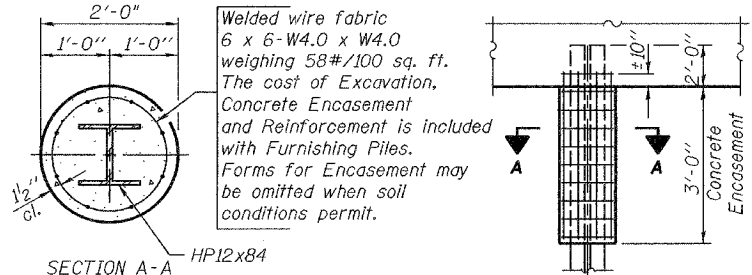


DETAIL A

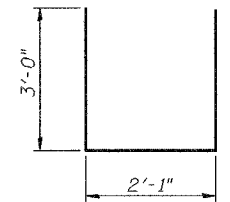


FIELD CUTTING DIAGRAM

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



PILE ENCASEMENT DETAIL



BAR u(E)

BILL OF MATERIAL

Bar No.	Size	Length	Shape
h(E)	#6	12'-2"	
p(E)	#7	21'-4"	
s2(E)	#5	11'-7"	
u(E)	#6	8'-1"	
v1(E)	#5	4'-4"	
v2(E)	#5	13'-1"	
v4(E)	#5	8'-1"	
Concrete Structures			Cu. Yd. 19.5
Reinforcement Bars, Epoxy Coated			Pound 3420
Structure Excavation			Cu. Yd. 101.0
Furnishing Steel Piles HP12x84			Foot 445
Driving Steel Piles			Foot 445
Test Pile Steel HP12x84			Each 1

WEST ABUTMENT
F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
MARION COUNTY
STATION 375+53.00
STRUCTURE NO. 061-0091

DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.t. duong
CHECKED	R.L.M./G.R.A.

Feb 2, 2006
EXAMINED *Thomas J. Donagale*
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

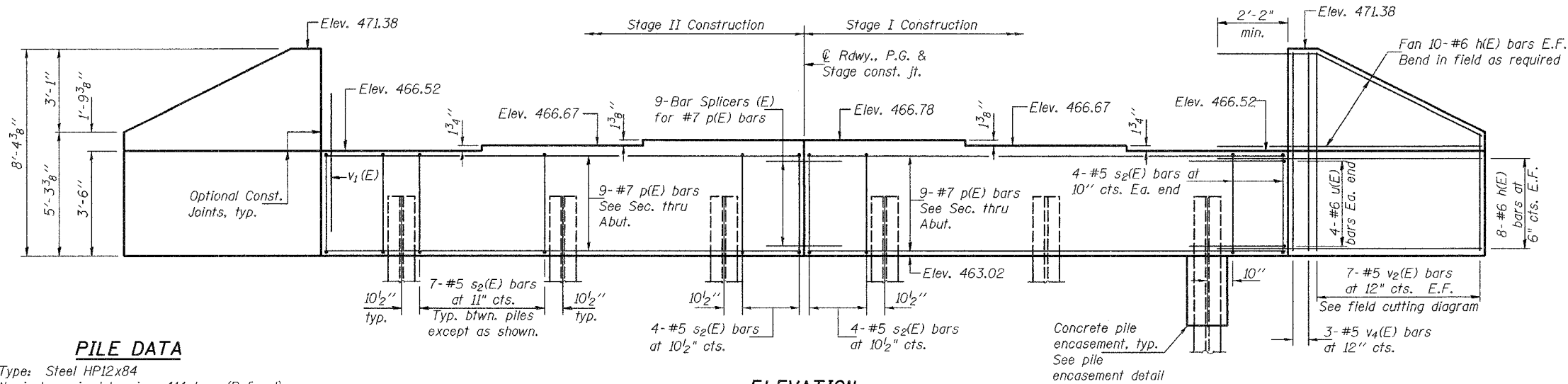
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 13
FAP 327	13B-1 & 13B-2	MARION	78	47	17 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract No. 94964

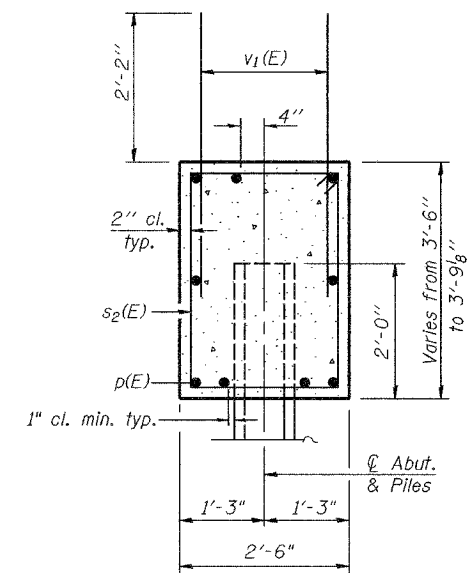
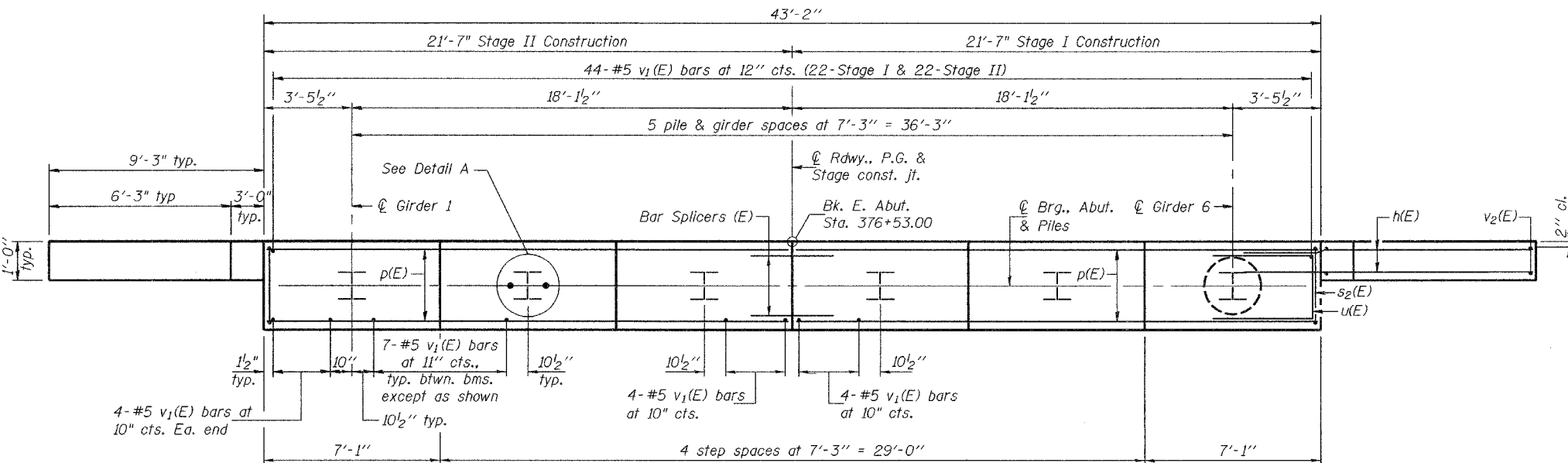
Notes:

Pour steps monolithically with cap.
Reinforcement bars designated (E) shall be epoxy coated.
For anchor bolt installation details see sheet 11 of 17.
For bar splicer assembly details see sheet 15 of 17.



PILE DATA

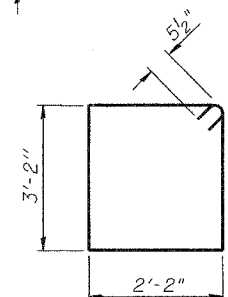
Type: Steel HP12x84
Nominal required bearing: 414 tons (Refusal)
Nominal design capacity: 250 tons
Est. Length: 81'
No. Required: 5 + 1 test pile



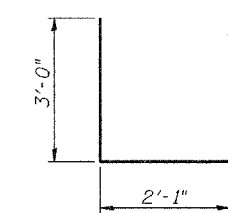
SEC. THRU ABUT.

BILL OF MATERIAL

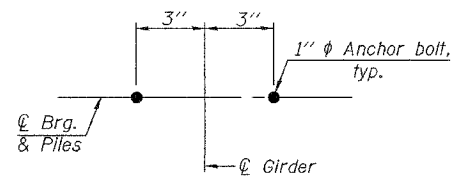
Bar	No.	Size	Length	Shape
h(E)	72	#6	12'-2"	
p(E)	18	#7	21'-4"	
s ₂ (E)	44	#5	11'-7"	
u(E)	8	#6	8'-1"	
v ₁ (E)	88	#5	4'-4"	
v ₂ (E)	14	#5	13'-1"	
v ₄ (E)	12	#5	8'-1"	
Concrete Structures		Cu. Yd.	19.5	
Reinforcement Bars, Epoxy Coated		Pound	3420	
Structure Excavation		Cu. Yd.	101.0	
Furnishing Steel Piles HP12x84		Foot	405	
Driving Steel Piles		Foot	405	
Test Pile Steel HP12x84		Each	1	



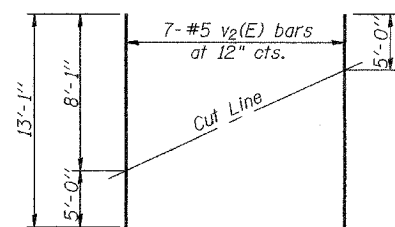
BAR s₂(E)



BAR u(E)

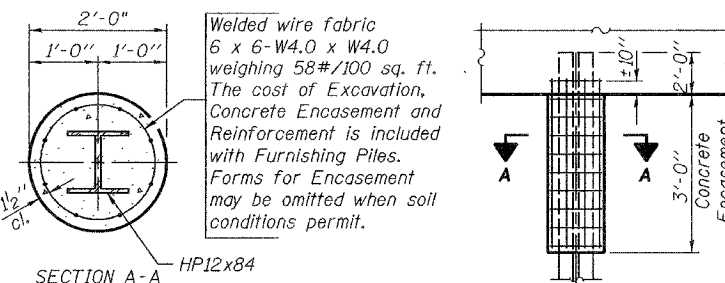


DETAIL A



FIELD CUTTING DIAGRAM

Order v₂(E) full length. Cut as shown and use remainder of bars in opposite face.



PILE ENCASEMENT DETAIL

DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.t. duong
CHECKED	R.L.M./G.R.A.

EXAMINED *Thomas J. Domagala*
ENGINEER OF BRIDGE DESIGN
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

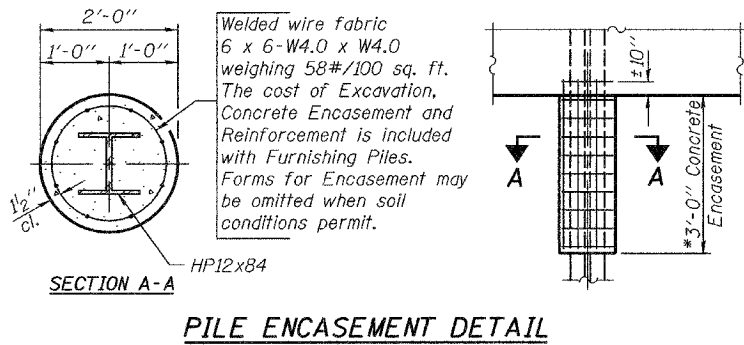
Feb 2, 2006

EAST ABUTMENT
F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
MARION COUNTY
STATION 375+53.00
STRUCTURE NO. 061-0091

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

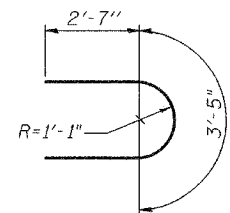
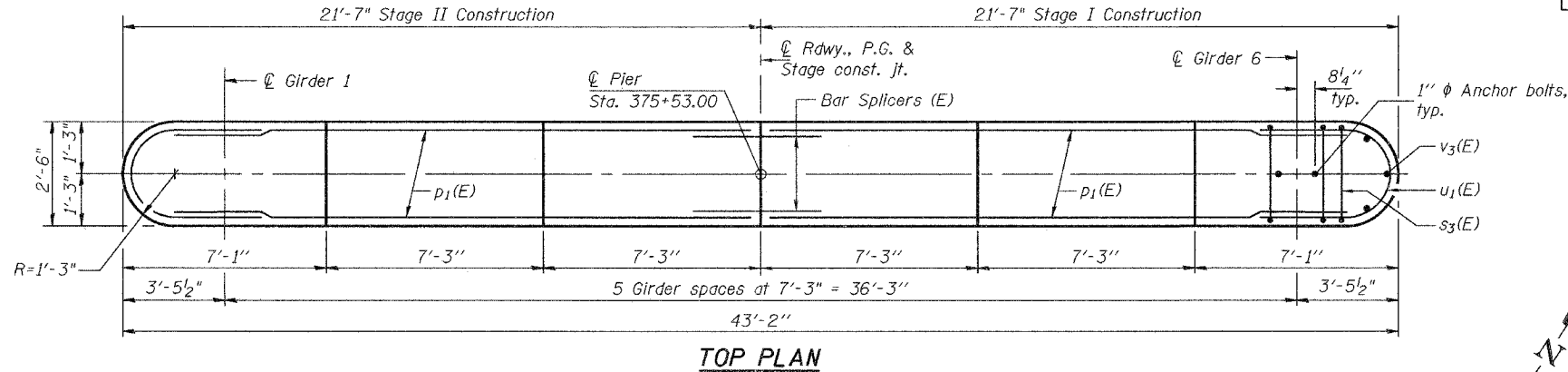
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 14 17 SHEETS
FAP 327	13B-1 & 13B-2	MARION	78	48	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #94964

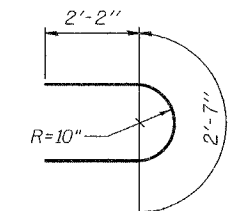


PILE DATA

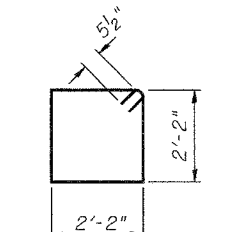
Type: Steel HP12x84
Nominal Required Bearing: 690 tons (Refusal)
Nominal Design Capacity: 451 tons
Est. Length: 95'
No. required: 5 + 1 test pile



BAR u1(E)

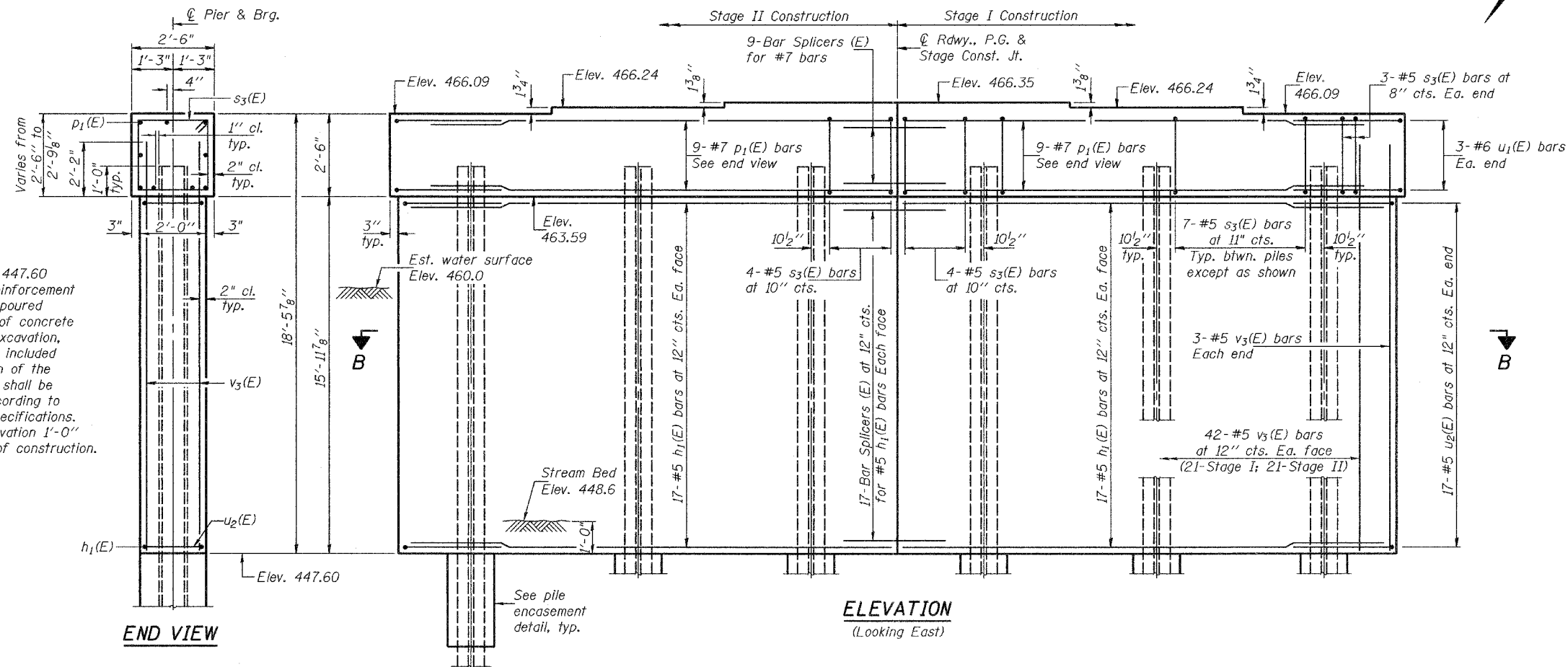


BAR u2(E)



BAR s3(E)

* Forms shall be placed below Elev. 447.60 after excavation for pier wall. Reinforcement and concrete encasement shall be poured underwater into forms. The cost of concrete encasement, reinforcement, form excavation, and furnishing and placing form is included with Furnishing Piles. If a portion of the pier wall is under water, concrete shall be trimmed under water into forms according to Article 503.08 of the Standard Specifications. Concrete shall be trimmed to an elevation 1'-0" above the water level at the time of construction.



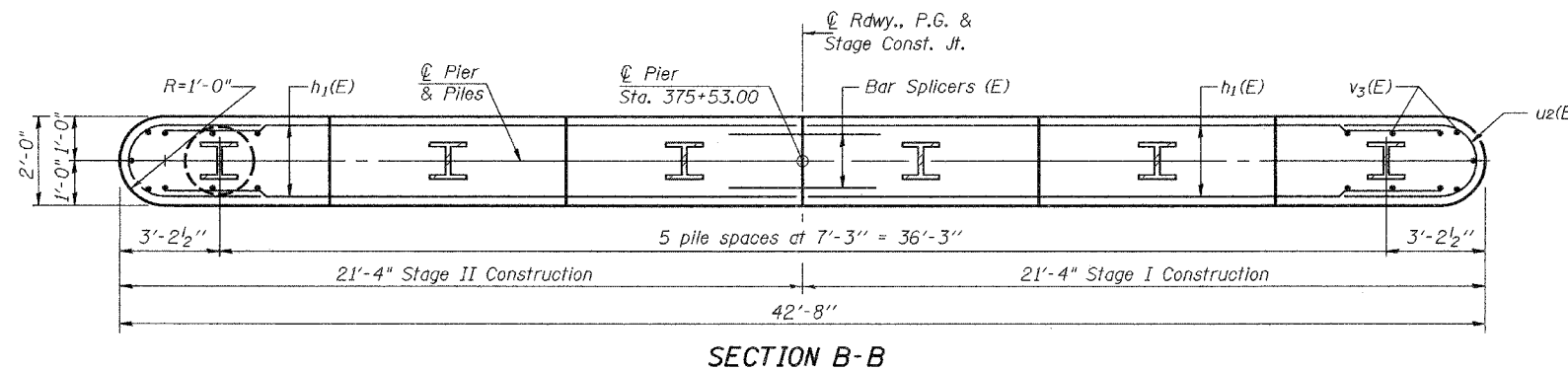
ELEVATION
(Looking East)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1(E)	68	#5	20'-2"	—
p1(E)	18	#7	20'-2"	—
s3(E)	42	#5	9'-7"	□
u1(E)	6	#6	8'-7"	U
u2(E)	34	#5	6'-11"	U
v3(E)	90	#5	18'-0"	—
Concrete Structures	Cu. Yd.		60.4	
Reinforcement Bars, Epoxy Coated	Pound		4600	
Structure Excavation	Cu. Yd.		10.4	
Furnishing Steel	Foot		475	
Piles HP12x84	Foot		475	
Driving Steel Piles	Foot		475	
Test Pile Steel HP12x84	Each		1	
Underwater Structure Excavation Protection Location 3	Each		1	

Reinforcement Bars designated (E) shall be epoxy coated.

Notes: Four steps monolithically with cap.
For bar splicer details, see sheet 15 of 17.
For anchor bolt installation details, see sheet 11 of 17.



SECTION B-B

DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.t. duong
CHECKED	R.L.M./G.R.A.

Feb 2, 2006
EXAMINED *Thomas J. Demagala*
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

PIER
F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
MARION COUNTY
STATION 375+53.00
STRUCTURE NO. 061-0091

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 15
FAP 327	13B-1 & 13B-2	MARION	78	49	17 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract No. 94964

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

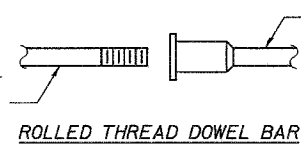
- ① Minimum Capacity = $1.25 \times f_y \times A_t$
(Tension in kips)
- ② Minimum *Pull-out Strength = $1.25 \times f_{s_{allow}} \times A_t$
(Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 $f_{s_{allow}}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

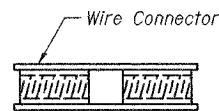
The diameter of this part is the same as the diameter of the bar spliced.



ROLLED THREAD DOWEL BAR



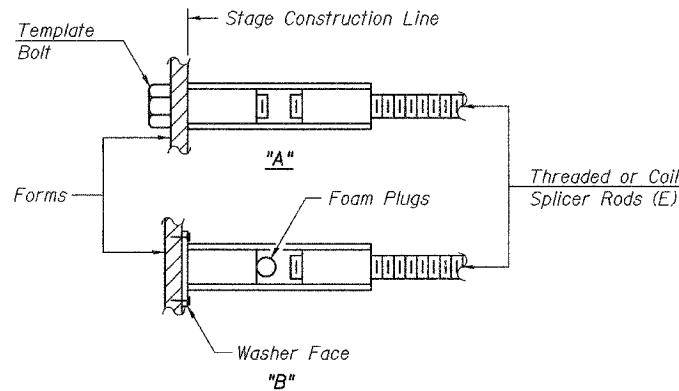
** ONE PIECE



WELDED SECTIONS

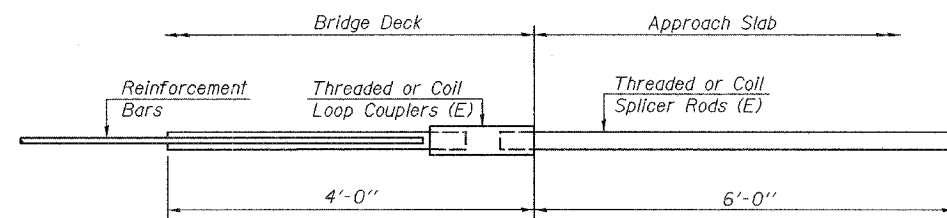
BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



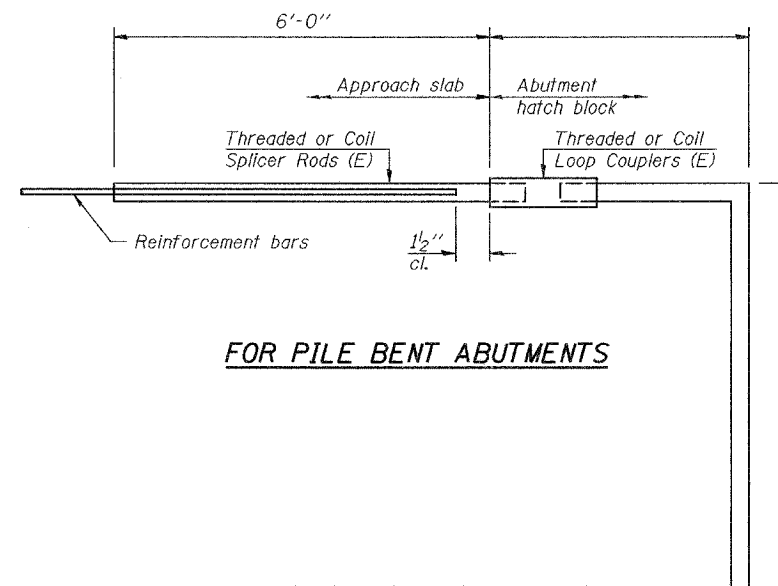
INSTALLATION AND SETTING METHODS

"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.



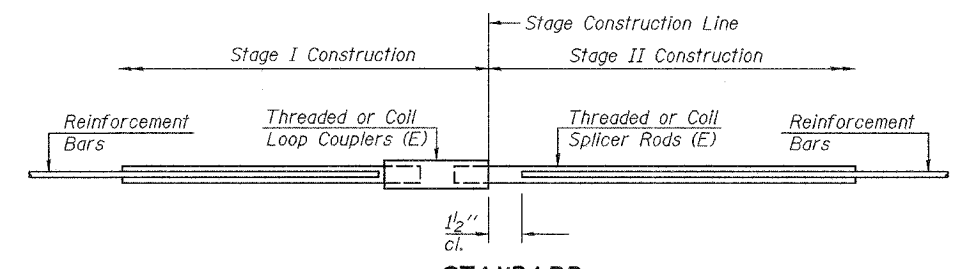
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 80



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location
#7	9	E. Abut.
#7	9	W. Abut.
#7	9	Pier Cap
#6	16	Diaphragms
#5	34	Pier Wall
#5	638	Deck

BAR SPLICER ASSEMBLY DETAILS
F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
MARION COUNTY
STATION 375+53.00
STRUCTURE NO. 061-0091

DESIGNED	R.L.M.
CHECKED	G.R.A.
DRAWN	h.t. duong
CHECKED	R.L.M./G.R.A.

Feb 2, 2006
EXAMINED *Thomas J. Domagala*
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

BSD-1 10-22-04

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 327	13B-1 & 13B-2	MARION	78	50
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract No. 94964

SHEET NO. 16
17 SHEETS

Illinois Department of Transportation
Division of Highways
District 7 Materials

SOIL BORING LOG

Page 1 of 4
Date 10/21/04

ROUTE FAP 327 (US 50) DESCRIPTION Skilllet Fork Creek LOGGED BY E. Sandschaffer

SECTION 13 B-2 LOCATION NW 1/4, SEC. 11, TWP. 2 N, RNG. 4 E, 3 PM

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

STRUCT. NO. 061-0041
Station 679+43

BORING NO. 1 (E Abut)
Station 375+58
Offset 9.50 ft. Rt
Ground Surface Elev. 469.89 ft

DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	WATER	TEMPERATURE	REMARKS	DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	WATER	TEMPERATURE	REMARKS
0	25.75" Asphalt Pavement.					0	Very soft to medium, damp to wet, gray/red, SILTY LOAM to SILT. (continued)				
4	Very stiff to medium, damp, gray, SILTY CLAY.	BS				2					
5		BS				3					
1						1					
3						3	Red, SANDY LOAM.				
1						1					
2						2	Very soft to medium, wet, gray, SILTY LOAM.				
2						2					
1						1					
2						2					
3						3					
0						0					
1						1					
2						2					
2						2					
0						0					
0						0					
1						1					
2						2					
2						2					
0						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 T208)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
District 7 Materials

SOIL BORING LOG

Page 2 of 4
Date 10/21/04

ROUTE FAP 327 (US 50) DESCRIPTION Skilllet Fork Creek LOGGED BY E. Sandschaffer

SECTION 13 B-2 LOCATION NW 1/4, SEC. 11, TWP. 2 N, RNG. 4 E, 3 PM

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

STRUCT. NO. 061-0041
Station 679+43

BORING NO. 1 (E Abut)
Station 375+58
Offset 9.50 ft. Rt
Ground Surface Elev. 469.89 ft

DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	WATER	TEMPERATURE	REMARKS	DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	WATER	TEMPERATURE	REMARKS
6	Very stiff, damp, gray to brown, CLAY TILL. (continued)					6	Stiff, damp, gray mottled blue, CLAY. (continued)				
7						7					
13						13					
18	Very stiff, damp, gray, CLAY SHALE.					18	Medium to stiff, damp, gray marbled blue, CLAY TILL w/few sand deposits.				
3						3					
6						6					
8						8					
1						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 T208)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
District 7 Materials

SOIL BORING LOG

Page 3 of 4
Date 10/21/04

ROUTE FAP 327 (US 50) DESCRIPTION Skilllet Fork Creek LOGGED BY E. Sandschaffer

SECTION 13 B-2 LOCATION NW 1/4, SEC. 11, TWP. 2 N, RNG. 4 E, 3 PM

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

STRUCT. NO. 061-0041
Station 679+43

BORING NO. 1 (E Abut)
Station 375+58
Offset 9.50 ft. Rt
Ground Surface Elev. 469.89 ft

DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	WATER	TEMPERATURE	REMARKS	DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	WATER	TEMPERATURE	REMARKS
6	Stiff, damp, blue/gray, SANDY LOAM. (continued)					6					
7						7					
15	Very dense, damp, gray, SANDSTONE.					15					
50'	Broke split spoon sampler.					50'					
60	Gray, wet, fine grained, SAND with GRAVEL. 15% passing #200 sieve.					60					
15						15					
90	Borehole continued with rock coring.					90					

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 T208)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
District 7 Materials

ROCK BORING LOG

Page 4 of 4
Date 10/21/04

ROUTE FAP 327 (US 50) DESCRIPTION Skilllet Fork Creek LOGGED BY E. Sandschaffer

SECTION 13 B-2 LOCATION NW 1/4, SEC. 11, TWP. 2 N, RNG. 4 E, 3 PM

COUNTY Marion CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. 061-0041
Station 679+43

BORING NO. 1 (E Abut)
Station 375+58
Offset 9.50 ft. Rt
Ground Surface Elev. 469.89 ft

DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	WATER	TEMPERATURE	REMARKS	DEPTH (ft)	SOIL DESCRIPTION	DRILLING METHOD	WATER	TEMPERATURE	REMARKS
380.39	Very dense, moist, Gray, SANDY CLAY SHALE.					380.39					
378.69	Hard, gray, SANDSTONE.					378.69					
378.29	Gray, SANDY CLAY SHALE.					378.29					
377.29	Hard, gray, SANDSTONE.					377.29					
376.89	Gray, SANDY CLAY SHALE.					376.89					
376.19	Gray, CLAY SHALE.					376.19					
372.59	Black, COAL.					372.59					
372.29	Gray, CLAY SHALE, thick layering, soft.					372.29					
370.19	Extent of exploration.					370.19					

Benchmark: BM 105 Chisled square in NW wingwall of Skilllet Fork Creek bridge = 467.98', Station 374+75, Rt 17, provided by Program Development.

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 T208)
BBS, from 137 (Rev. 8-99)

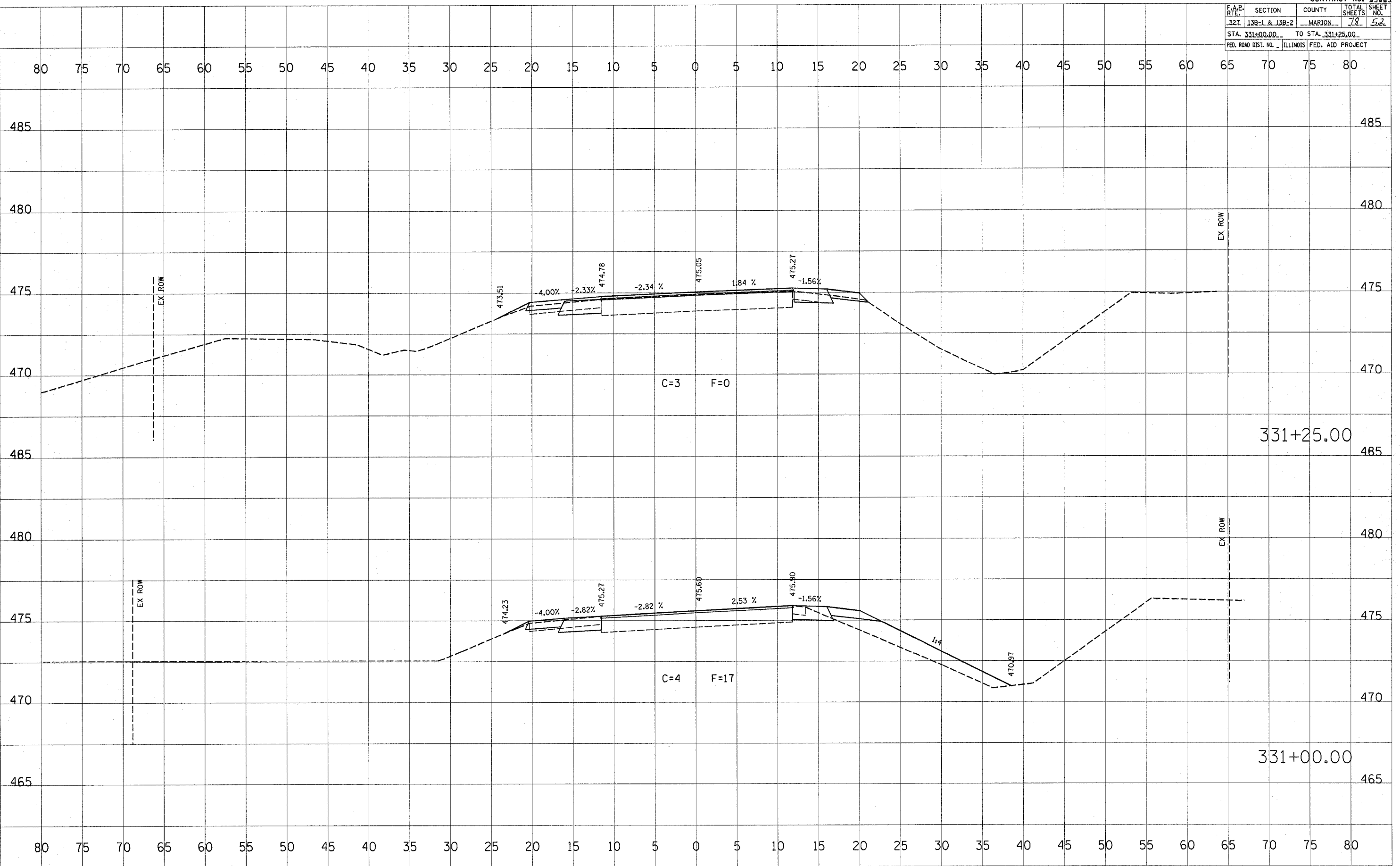
BORING LOGS
F.A.P. RTE. 327 - SEC. 13B-1 & 13B-2
MARION COUNTY
STATION 375+53.00
STRUCTURE NO. 061-0091

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
327	138-1 & 138-2	MARION	78
STA. 331+00.00		TO STA. 331+25.00	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	

DATE	
BY	
SURVEYED	
NOTE BOOK	
TEMPLATE	
AREAS CHECKED	
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BY	
SURVEYED	
NOTE BOOK	
TEMPLATE	
AREAS CHECKED	
NO.	

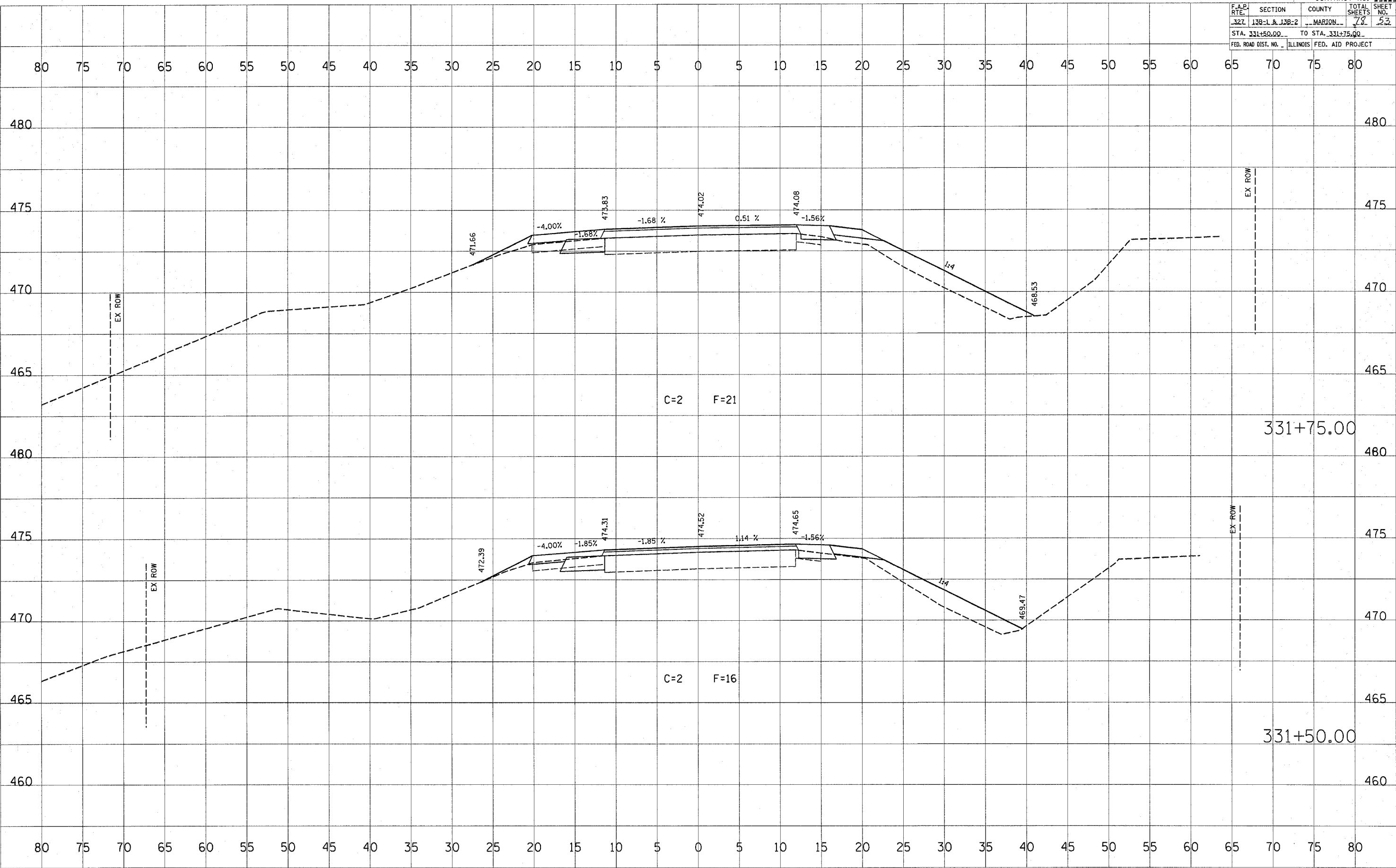
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CONTRACT NO. 99964			
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
327	138-1 & 138-2	MARION	79
STA. 331+50.00		TO STA. 331+75.00	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			

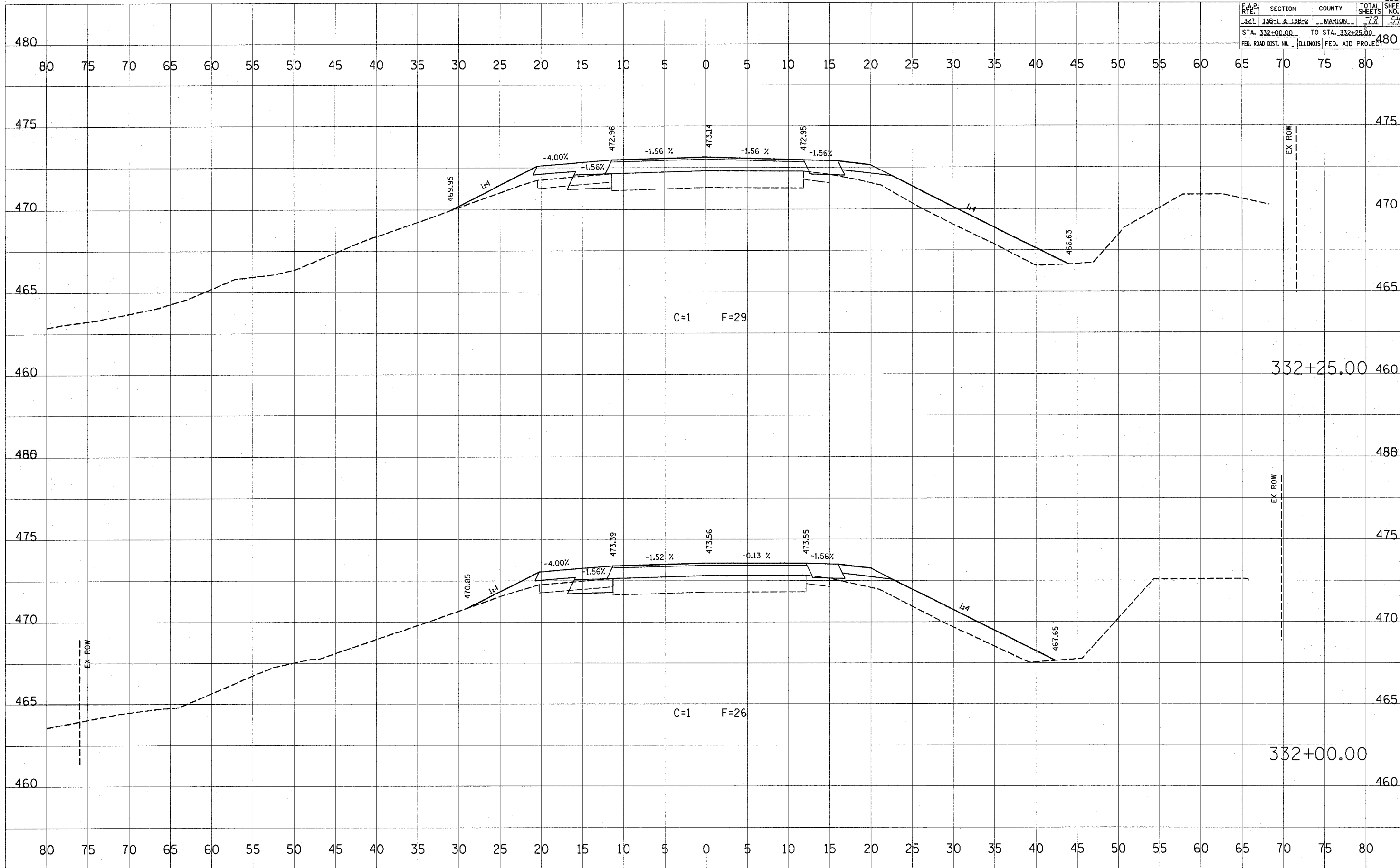
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 BY: _____
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 NOTE BOOK: _____
 NO. _____

DATE: _____
 BY: _____
 ORIGINAL SURVEY: _____
 CHECKED: _____
 FILE NAME: _____
 PLOT SCALE: 5.0/39" / IN.
 USER NAME: hammenjg



DUMS CREEK

CONTRACT NO. 94964			
F.A.R. NO.	SECTION	COUNTY	TOTAL SHEETS
321	138-1 & 138-2	MARION	72
STA. 332+00.00		TO STA. 332+25.00	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	



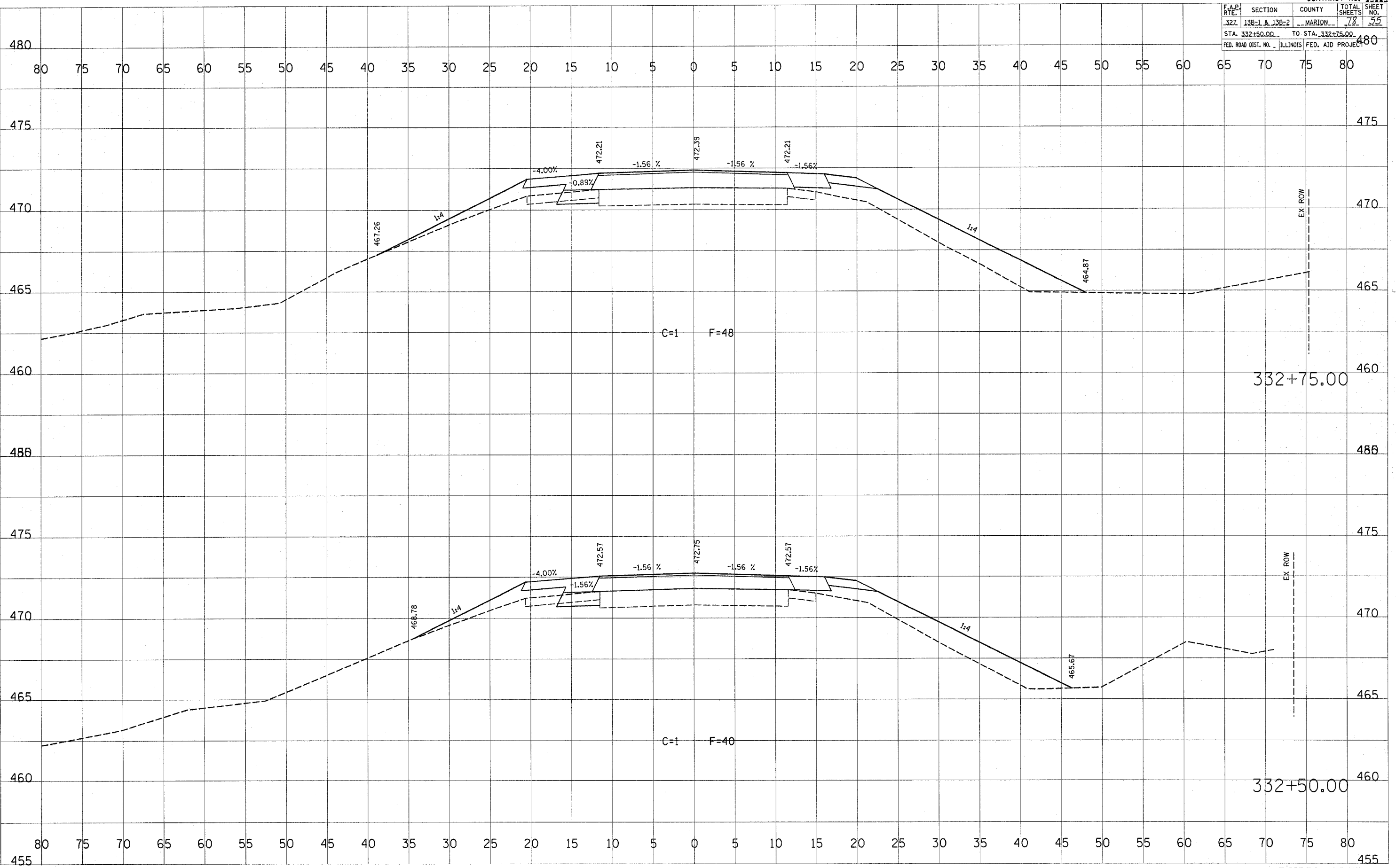
BY	DATE
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NO.	NO.
NO.	NO.
NO.	NO.
NO.	NO.
NO.	NO.
NO.	NO.
NO.	NO.
NO.	NO.
NO.	NO.

BY	DATE
NO.	NO.
NO.	NO.
NO.	NO.
NO.	NO.
NO.	NO.
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NO.	NO.
NO.	NO.

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 USER NAME = hammerup

DUMS CREEK

CONTRACT NO. 94964			
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
32L	138-1 & 138-2	MARION	78 / 55
STA. 332+50.00		TO STA. 332+75.00	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	



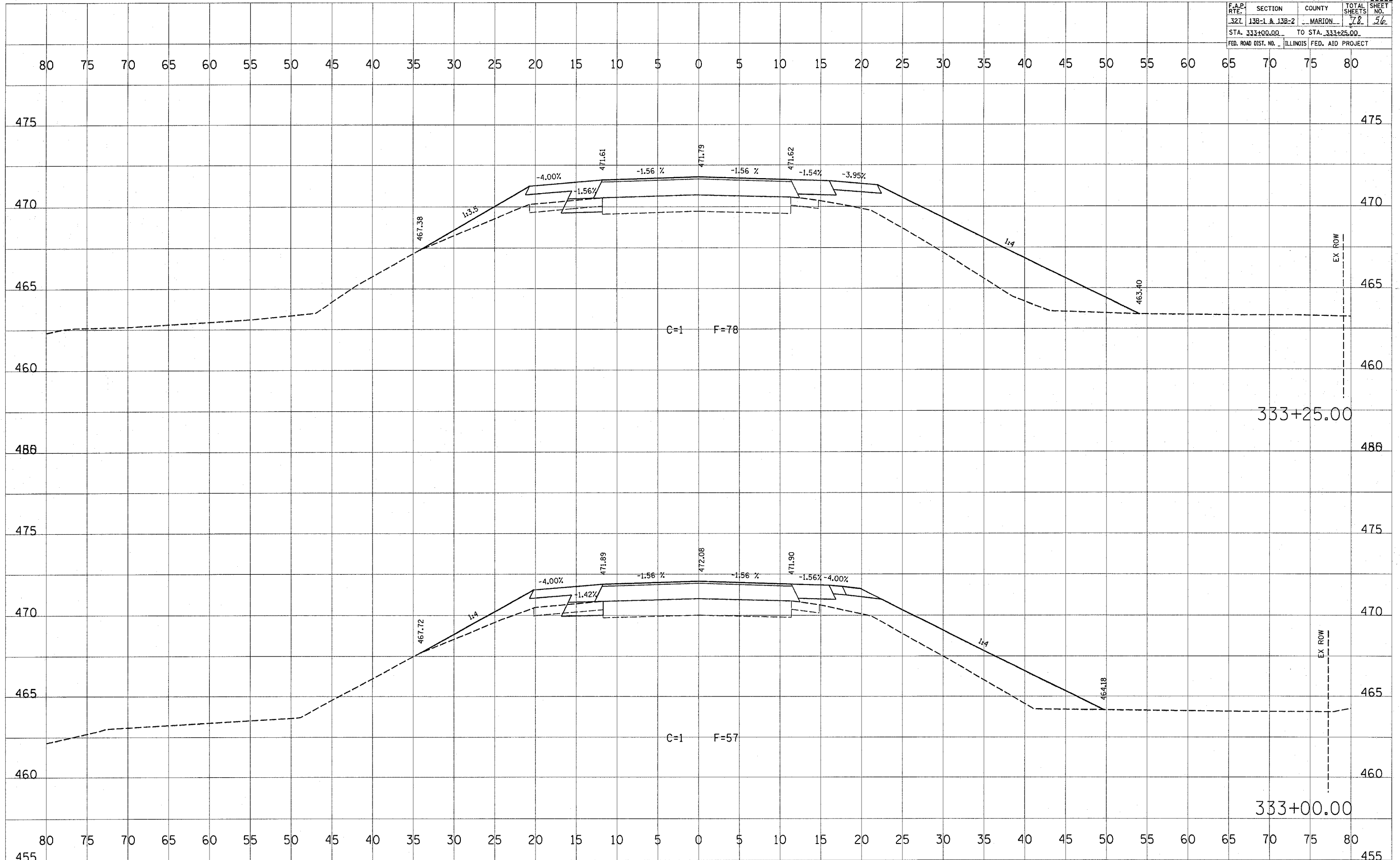
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 SURVEYED: _____
 NOTE BOOK: _____
 TEMPLATE: _____
 AREAS CHECKED: _____
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DUMS CREEK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	138-1 & 138-2	MARION	78	56
STA. 333+00.00		TO STA. 333+25.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

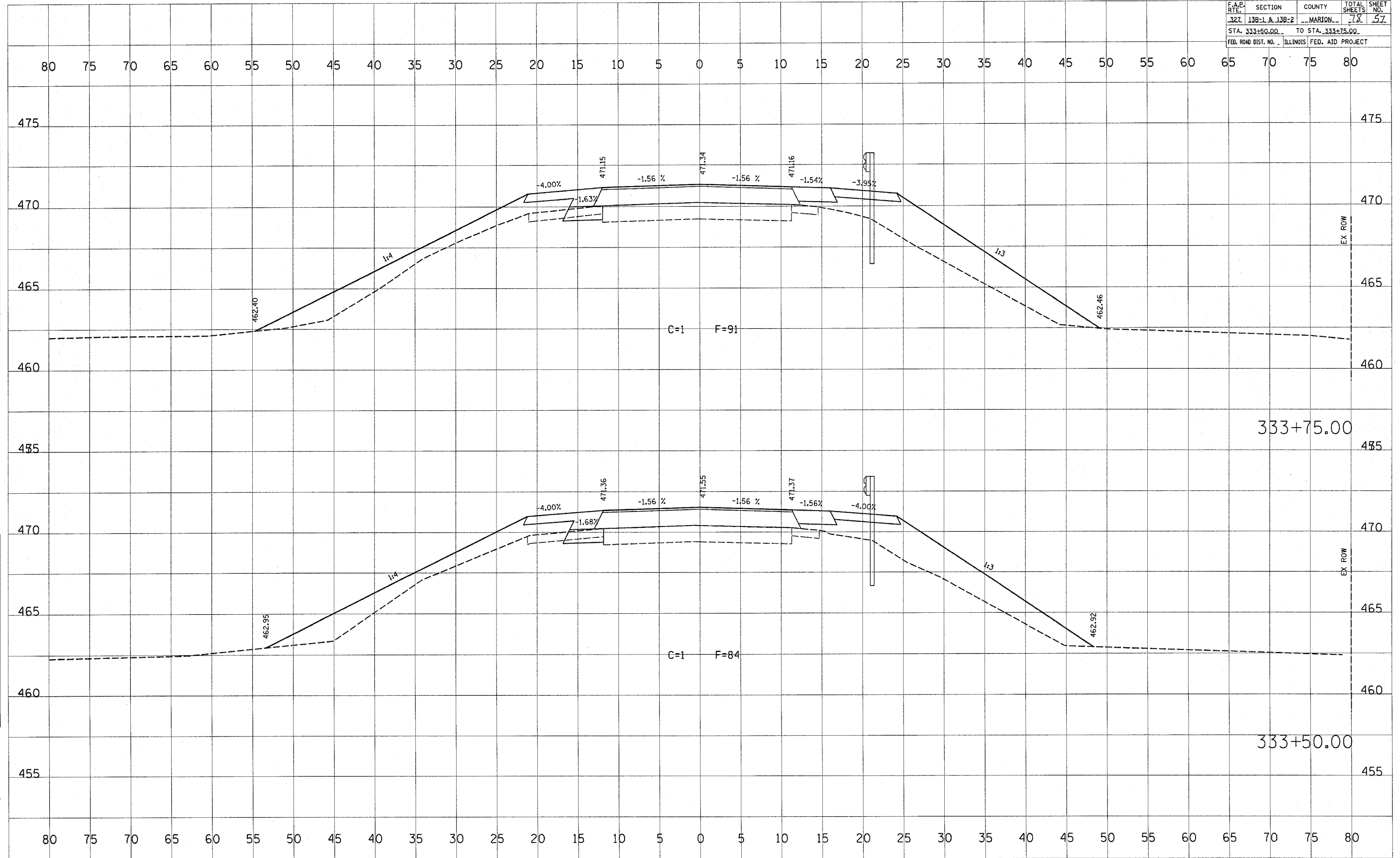


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 BY: _____
 SURVEYED: _____
 NOTE BOOK: _____
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 SURVEYED: _____
 NOTE BOOK: _____
 TEMPLATE: _____
 AREAS CHECKED: _____
 NO. _____

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 USER NAME = hammyjg

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32L	138-1 & 138-2	MARION	78	57
STA. 333+50.00		TO STA. 333+75.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

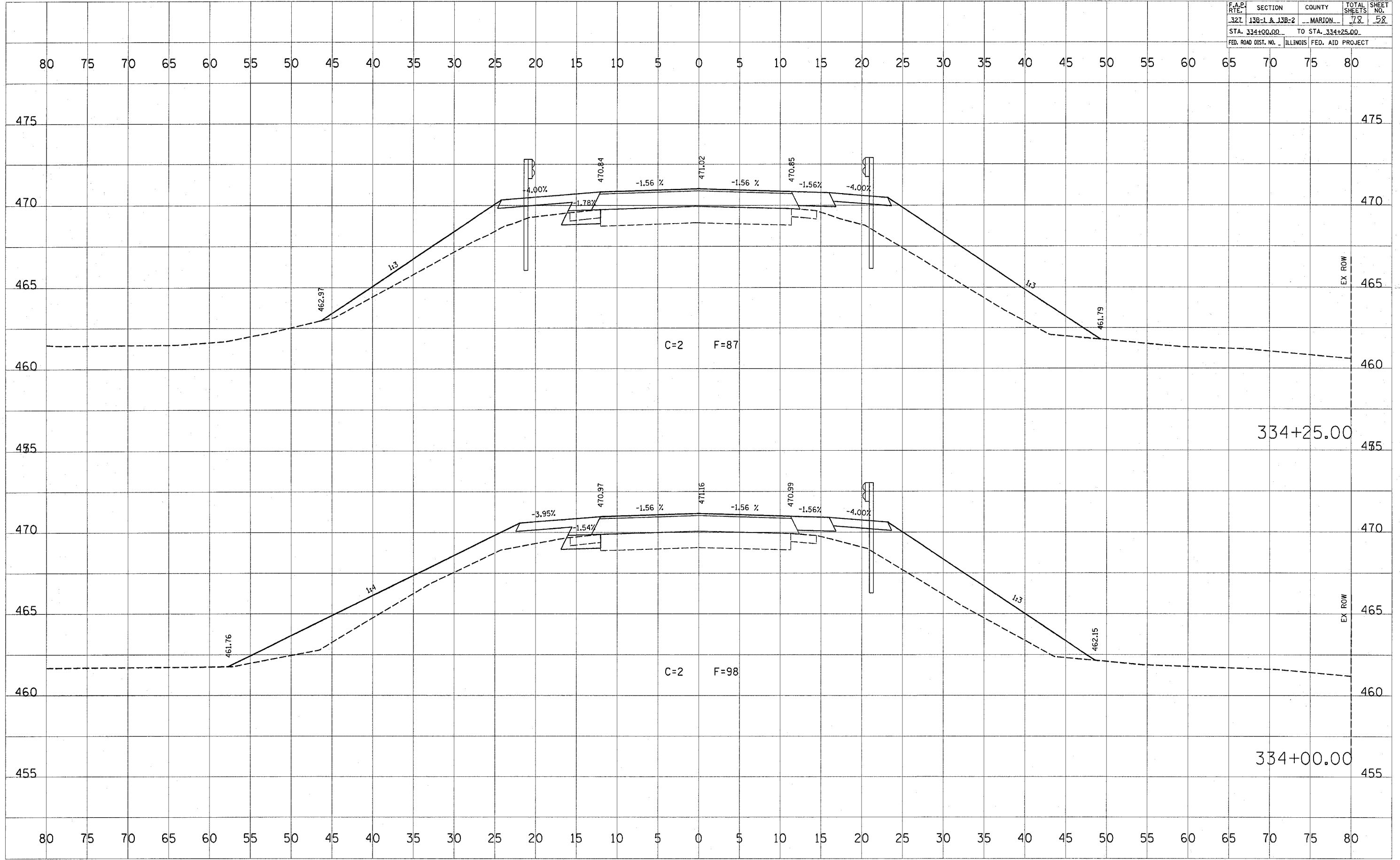


DATE	
BY	
NO.	
FINAL SURVEY	
NOTE BOOK	
TEMPLATE	
AREAS CHECKED	

DATE	
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NO.	
ORIGINAL SURVEY	
TEMPLATE	
AREAS CHECKED	

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	138-1 & 138-2	MARION	78	58
STA. 334+00.00		TO STA. 334+25.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

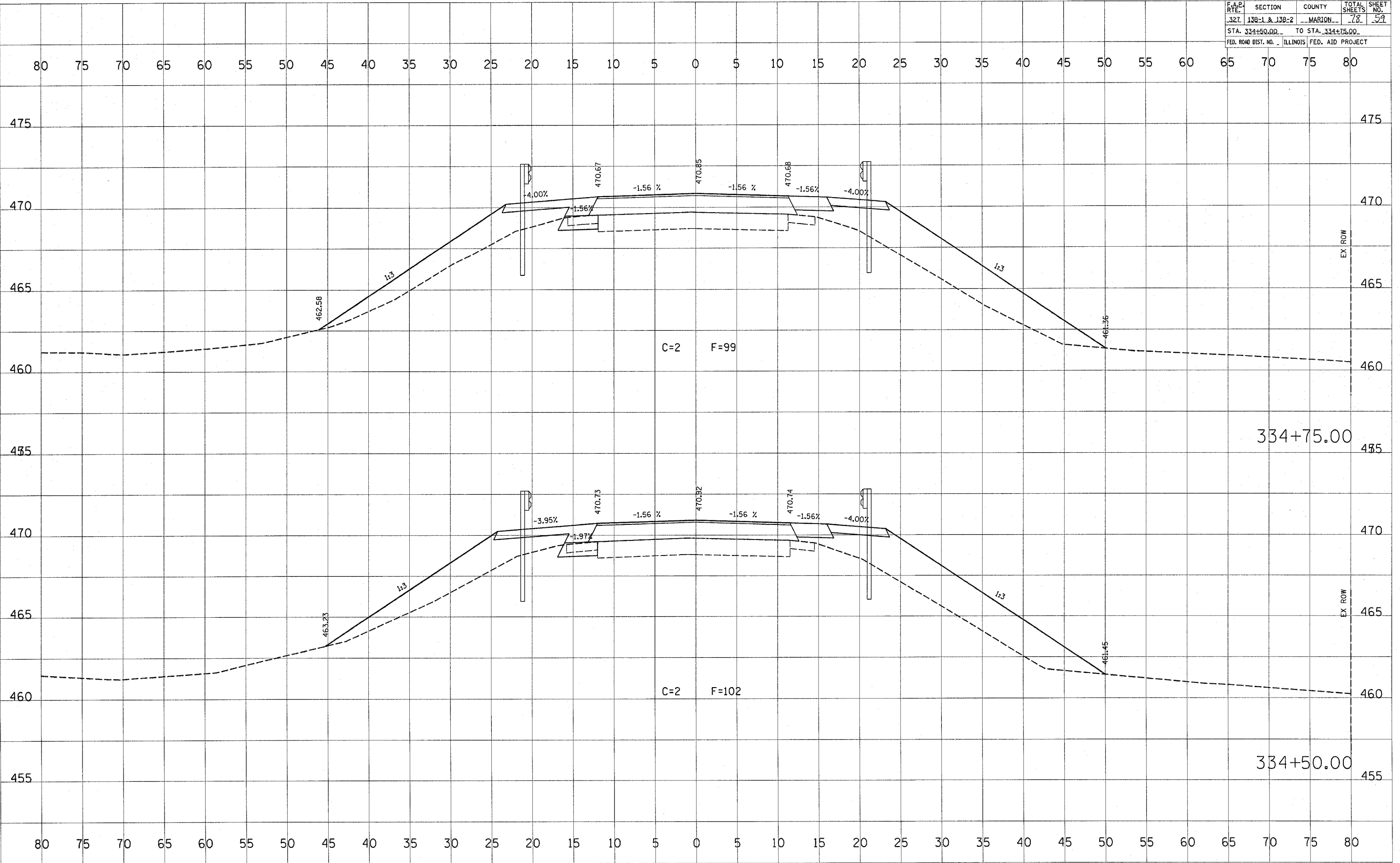


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 BY: _____
 SURVEYED: _____
 CHECKED: _____
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DATE: _____
 BY: _____
 SURVEYED: _____
 CHECKED: _____
 NO. _____

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F.A.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32L	138-1 & 138-2	MARION	78	59
STA. 334+50.00		TO STA. 334+75.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

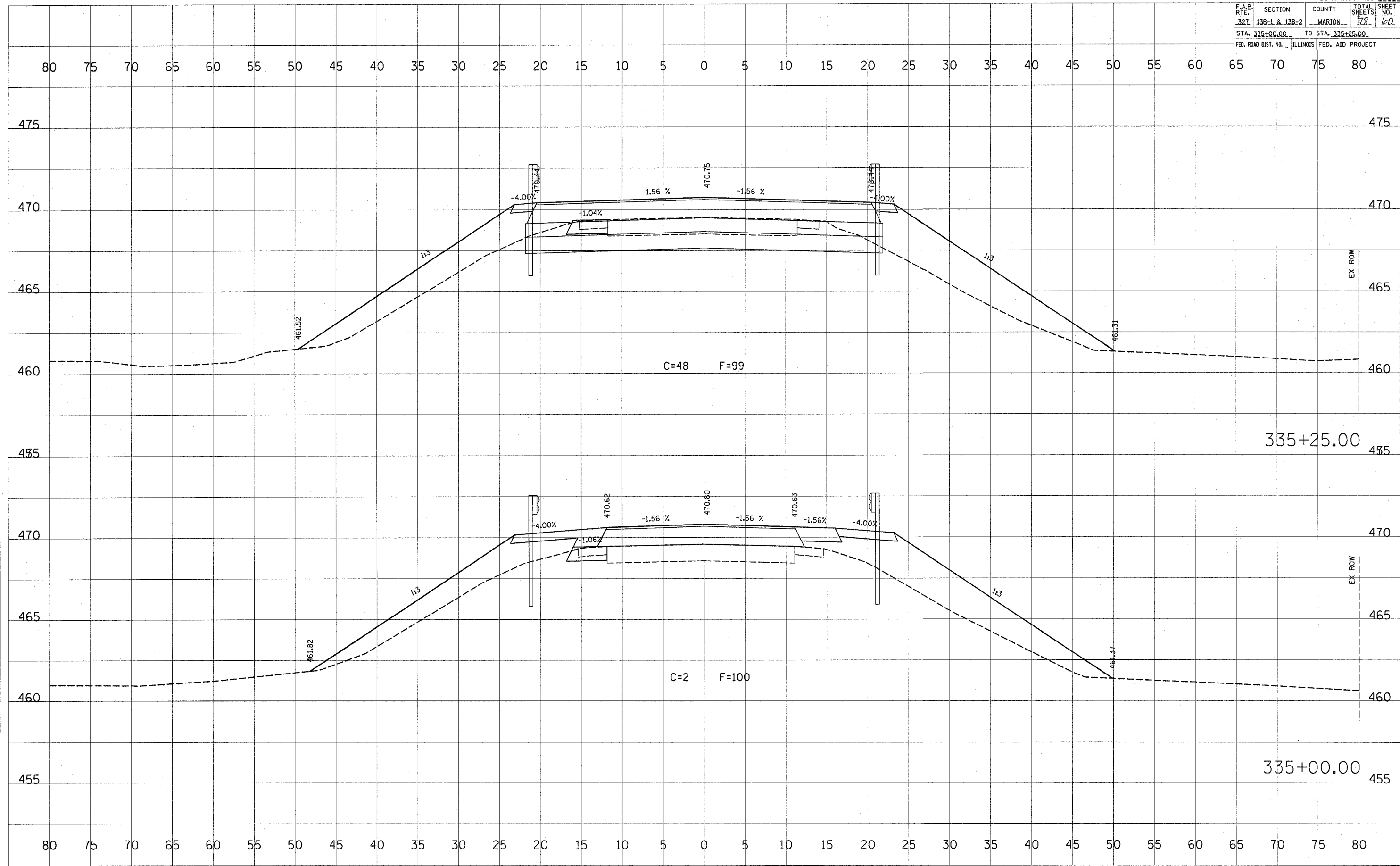


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 NOTE BOOK: _____
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 AREAS CHECKED: _____
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 BY: _____
 SURVEYED: _____
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 TEMPLATE: _____
 AREAS CHECKED: _____
 NO. _____

PLOT DATE = 12/21/2005
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CONTRACT NO. 94964			
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
321	138-1 & 138-2	MARION	78
STA. 335+00.00		TO STA. 335+25.00	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			



DATE _____
 BY _____
 SURVEYED _____
 NOTE BOOK _____
 TEMPLATE _____
 AREAS CHECKED _____
 NO. _____

DATE _____
 BY _____
 ORIGINAL SURVEY _____
 AREAS CHECKED _____
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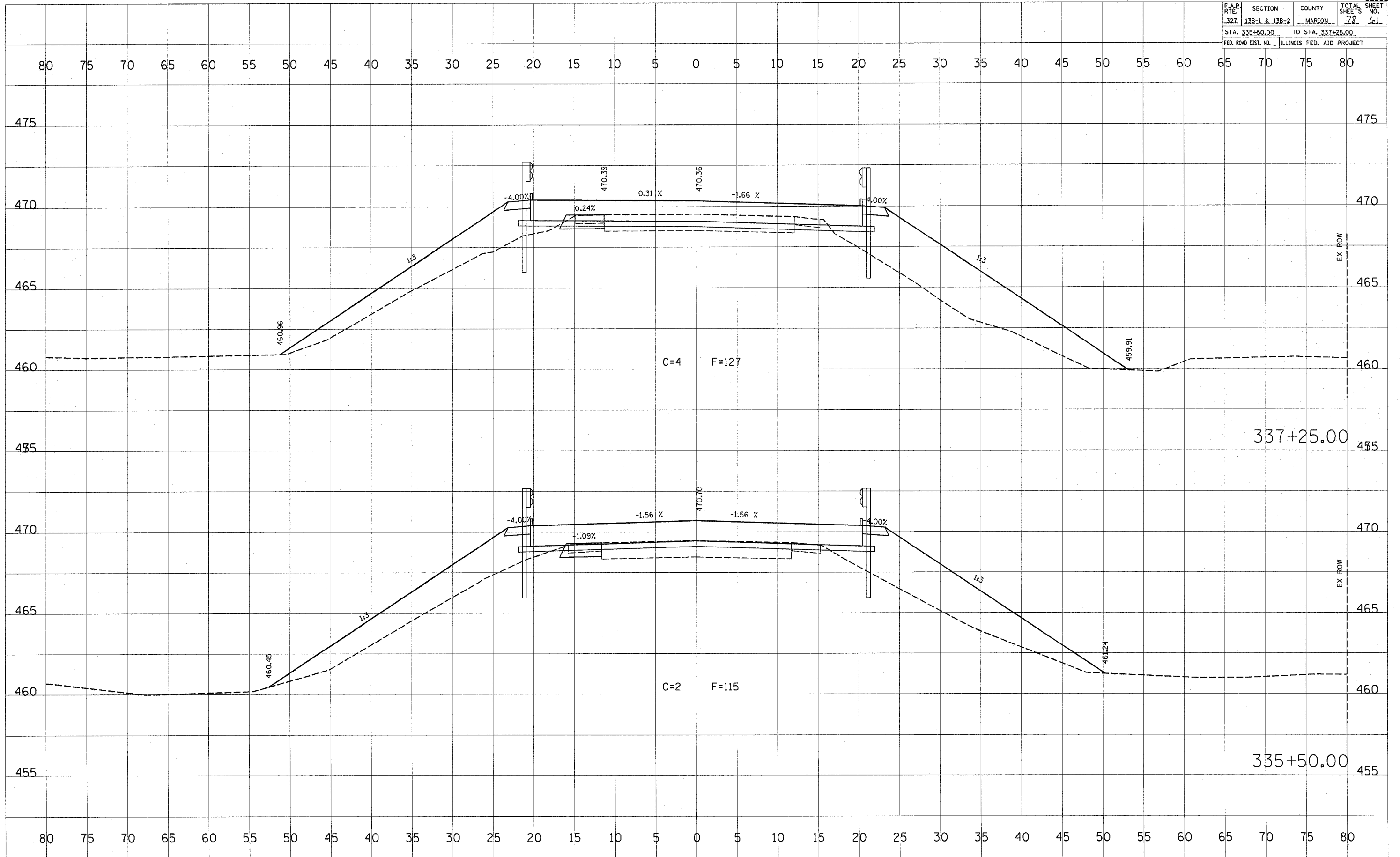
DUMS CREEK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	138-1 & 138-2	MARION	78	41
STA. 335+50.00		TO STA. 337+25.00		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

DATE: _____
 BY: _____
 SURVEYED: _____
 SURVEY: _____
 NOTE BOOK: _____
 NO. _____
 AREAS CHECKED: _____

DATE: _____
 BY: _____
 SURVEYED: _____
 SURVEY: _____
 NOTE BOOK: _____
 NO. _____
 AREAS CHECKED: _____

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 USER NAME = hammyrj

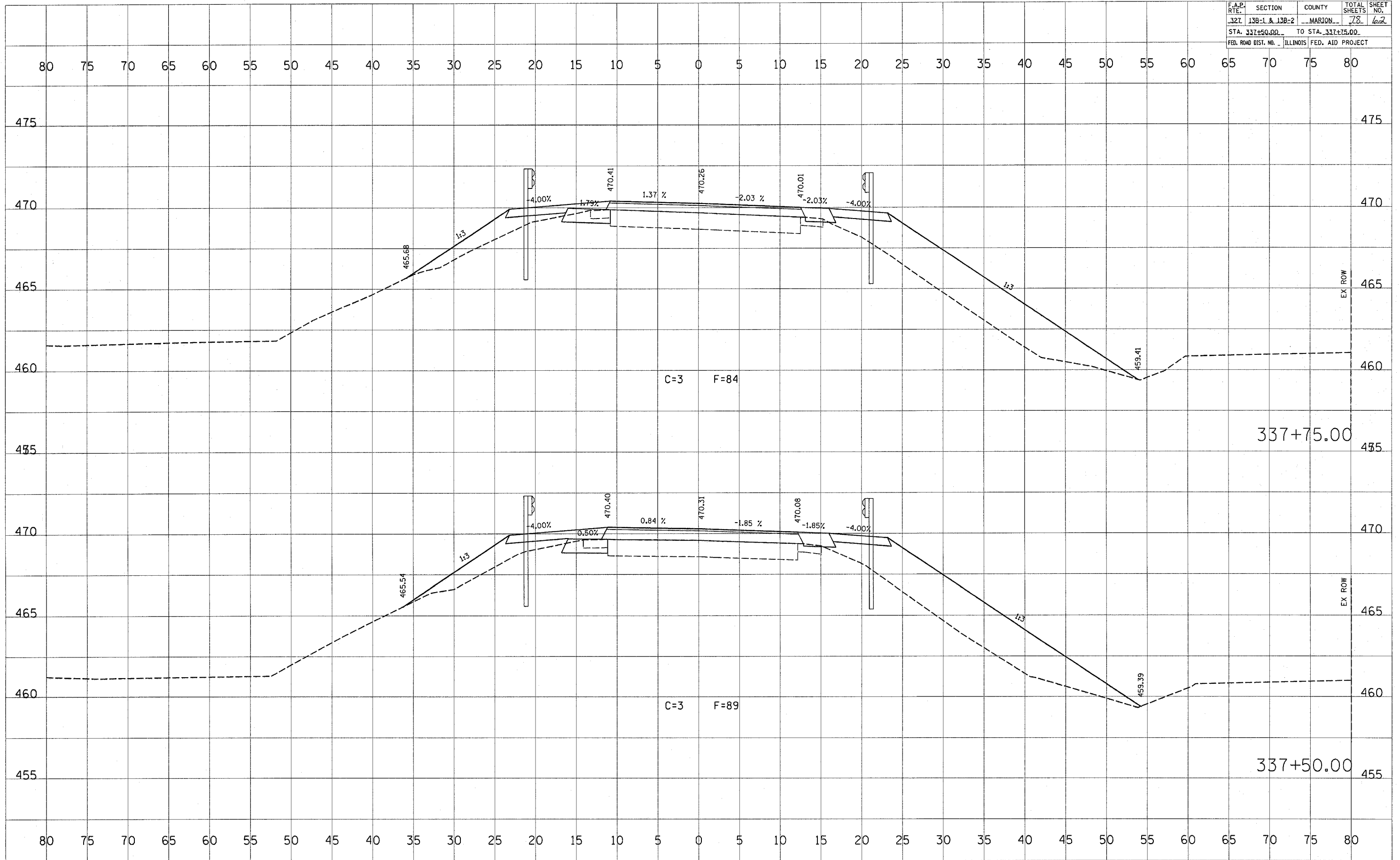


337+25.00

335+50.00

DUMS CREEK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	138-1 & 138-2	MARION	78	62
STA. 337+50.00		TO STA. 337+75.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



DATE: _____
 BY: _____
 SURVEYED: _____
 NOTE BOOK: _____
 TEMPLATES: _____
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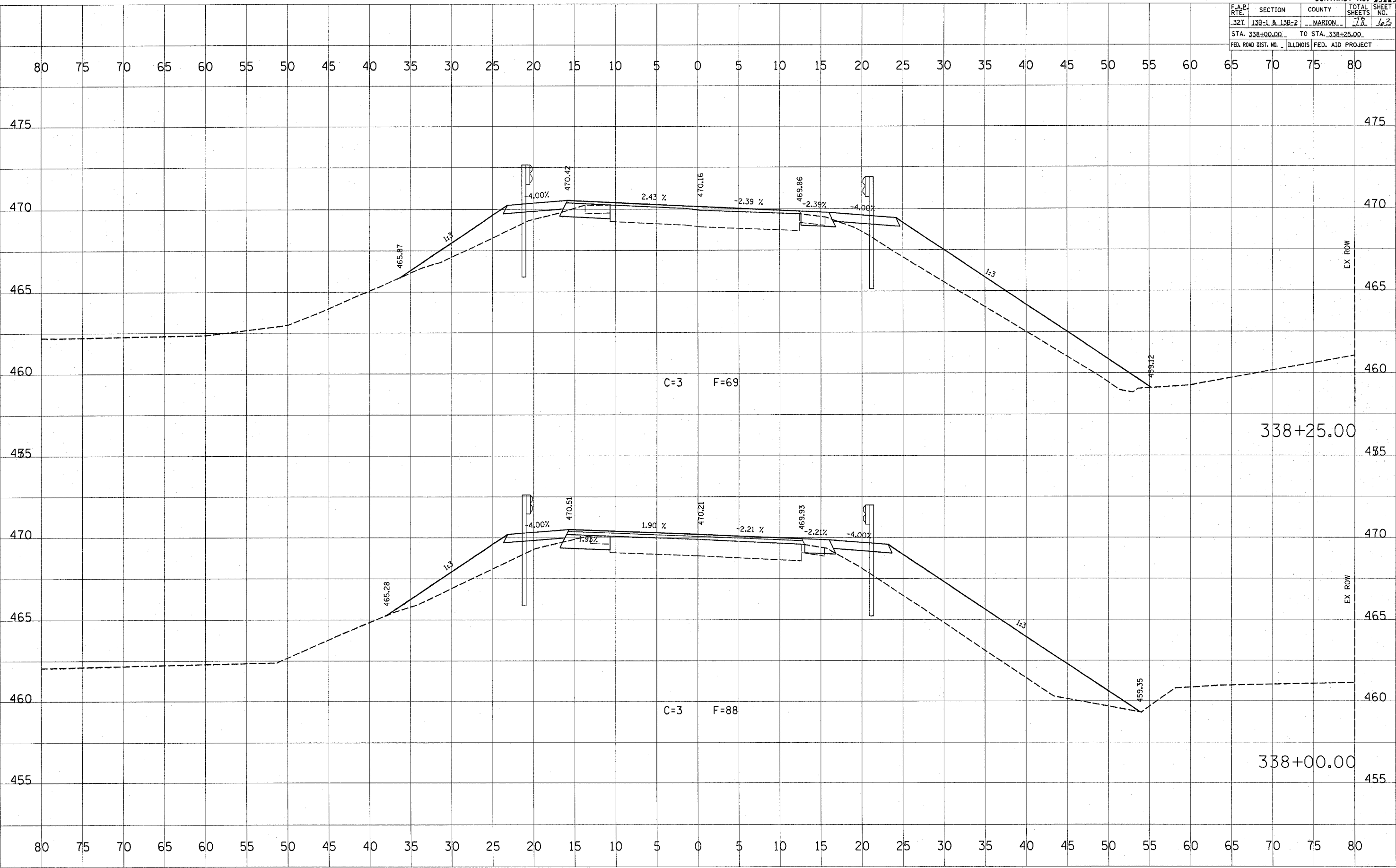
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 USER NAME = hammyjg

CONTRACT NO. 94964			
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS
32L	138-1 & 138-2	MARION	78
STA. 338+00.00		TO STA. 338+25.00	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	

DATE _____
 BY _____
 SURVEYED _____
 SURVEY _____
 NOTE BOOK _____
 TEMPLATE _____
 AREAS _____
 ANGLES CHECKED _____

DATE _____
 BY _____
 SURVEYED _____
 SURVEY _____
 NOTE BOOK _____
 TEMPLATE _____
 AREAS _____
 ANGLES CHECKED _____

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 USER NAME = hammerje

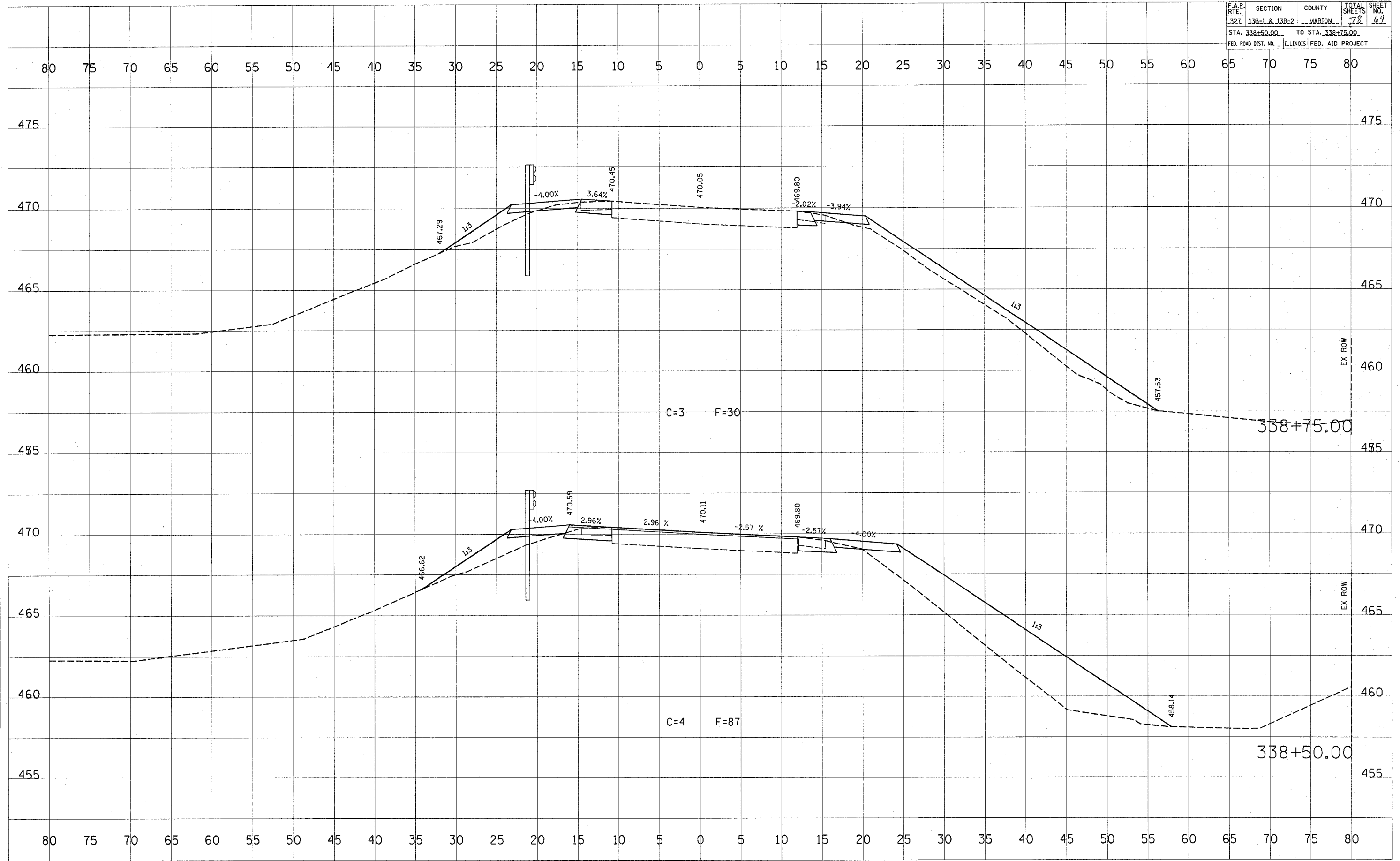


338+25.00

338+00.00

DUMS CREEK

F.A.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32L	138-1 & 138-2	MARION	78	67
STA. 338+50.00		TO STA. 338+75.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

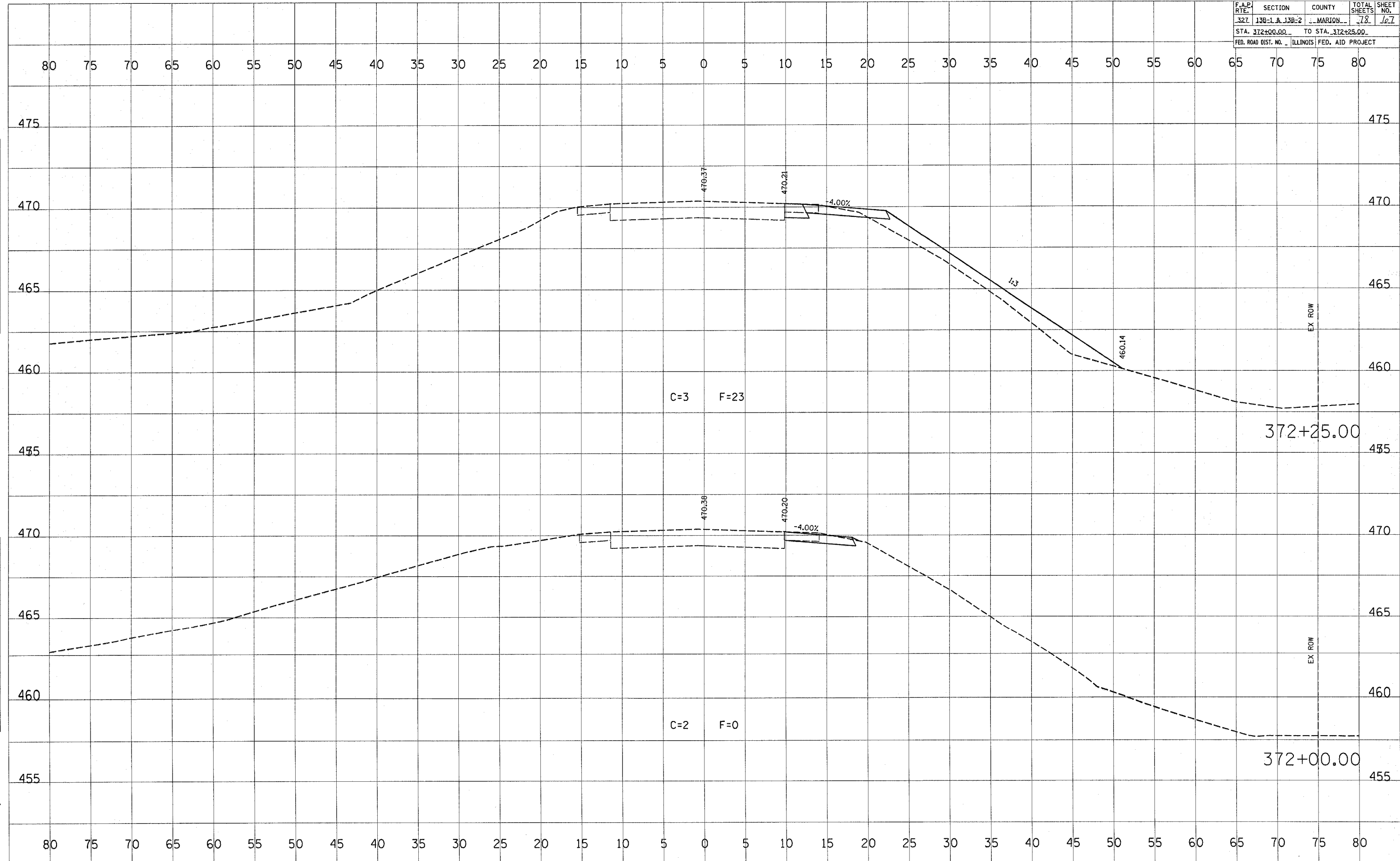


FINAL SURVEY
 SURVEYED BY: _____
 DATE: _____
 NOTE BOOK NO. _____
 TEMPLATES AREAS CHECKED

ORIGINAL SURVEY
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 DATE: _____
 NOTE BOOK NO. _____
 TEMPLATES AREAS CHECKED

PLOT DATE = 12/21/2005
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 PLOT SCALE = 5.0000' / IN.
 USER NAME = henneryj

CONTRACT NO. 94964			
F.A.P. RT.	SECTION	COUNTY	TOTAL SHEET NO.
327	138-1 & 138-2	MARION	18 / 17
STA. 372+00.00		TO STA. 372+25.00	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			



FINAL SURVEY BY DATE

SURVEYED BY

NOTE BOOK NO.

AREAS CHECKED

ORIGINAL SURVEY BY DATE

SURVEYED BY

NOTE BOOK NO.

AREAS CHECKED

PLOT DATE = 12/21/2006
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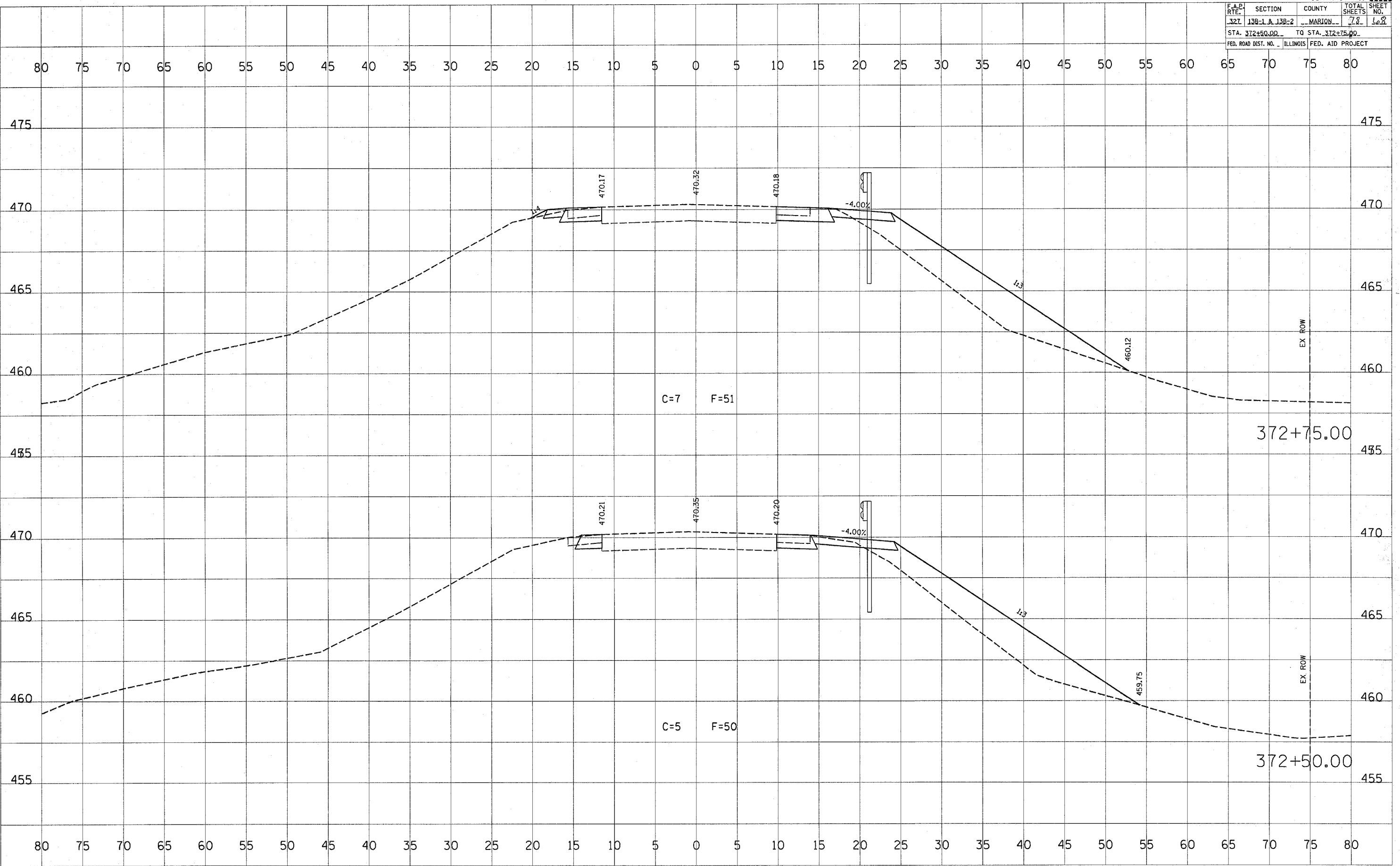
SKILLET FORK CREEK

CONTRACT NO. 94964			
F.A.R. RTE.	SECTION	COUNTY	TOTAL SHEETS
32L	138-1 & 138-2	MARION	78
STA. 372+50.00		TO STA. 372+75.00	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			

DATE	BY
SURVEYED	DATE
NOTE BOOK	NO.
AREAS CHECKED	

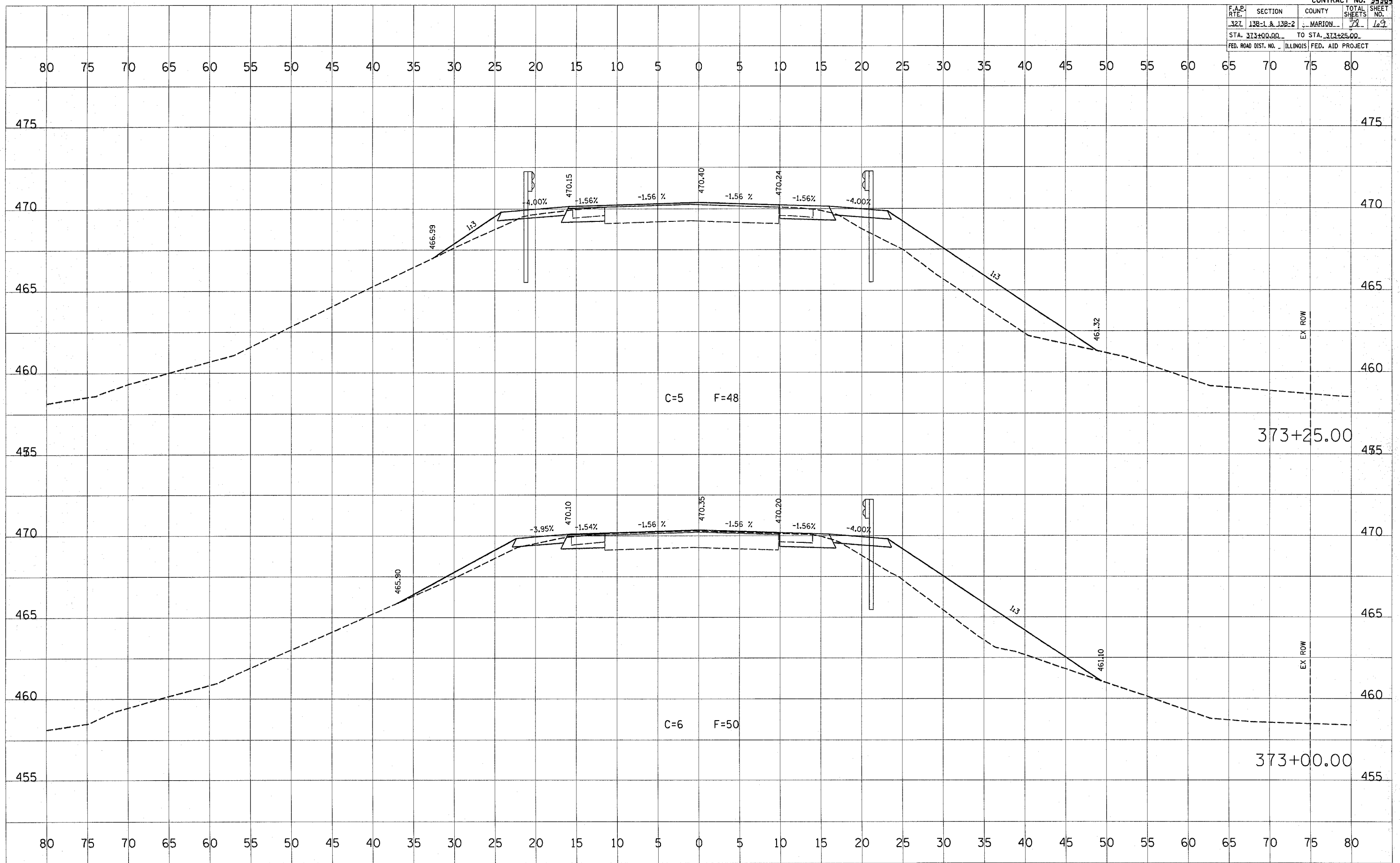
DATE	BY
ORIGINAL SURVEY	DATE
NO.	
AREAS CHECKED	

PLOT DATE = 12/21/2005
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 PLOT SCALE = 5.0000' / 1" IN.
 USER NAME = hammersp



SKILLET FORK CREEK

CONTRACT NO. 94964				
F.A.P. SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
327 138-1 & 138-2	MARION	78	129	
STA. 373+00.00		TO STA. 373+25.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



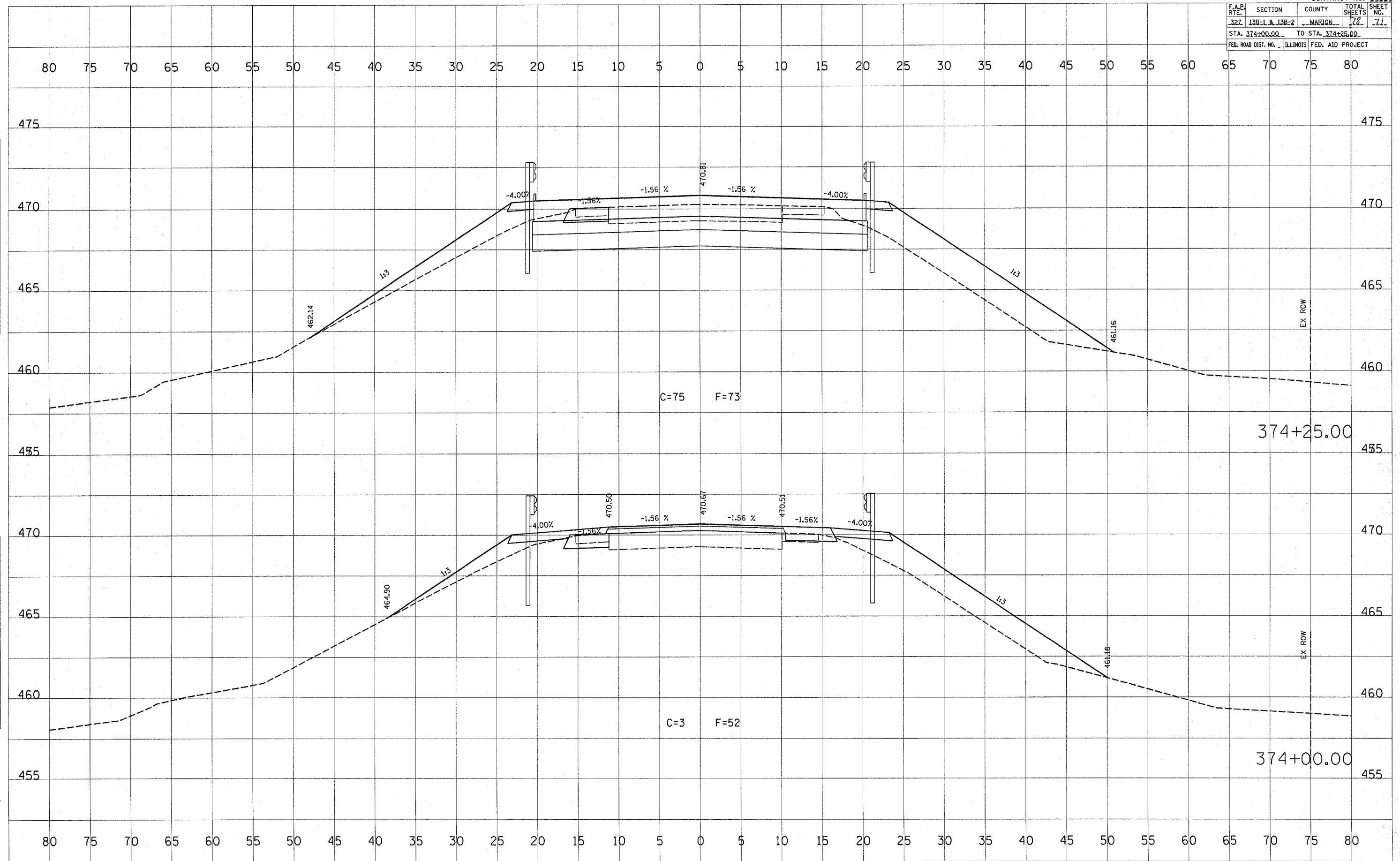
FINAL SURVEY NO. _____
 SURVEYED BY _____
 DATE _____
 NOTE BOOK NO. _____
 TEMPLATES _____
 AREAS CHECKED _____

ORIGINAL SURVEY NO. _____
 SURVEYED BY _____
 DATE _____
 NOTE BOOK NO. _____
 TEMPLATES _____
 AREAS CHECKED _____

PLOT DATE = 12/21/2005
 FILE NAME = c:\projects\94964\94964.dwg
 PLOT SCALE = 5/8" = 1' / IN.
 USER NAME = hmanan,jp

SKILLET FORK CREEK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32L	138-1 & 138-2	MARION	78	71
STA. 314+00.00 TO STA. 314+25.00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

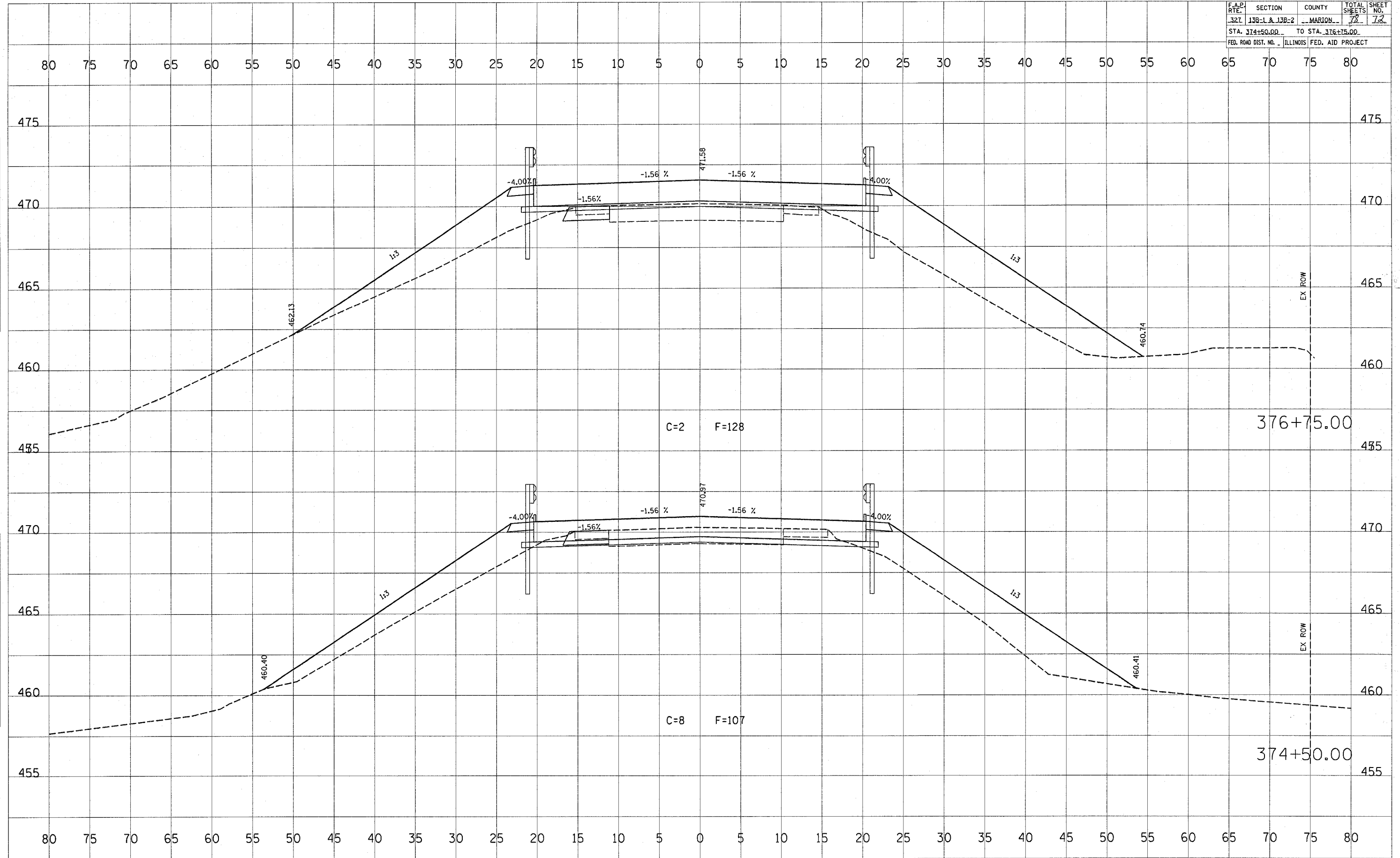


FINAL SURVEY DATE
 SURVEYED BY
 NOTE BOOK NO.
 TEMPLATE
 AREAS CHECKED

ORIGINAL SURVEY DATE
 SURVEYED BY
 TEMPLATE
 AREAS CHECKED

PLOT DATE = 12/21/2005
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 PLOT SCALE = 5/8" = 1' IN.
 USER NAME = hammersp

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
321	138-L & 138-2	MARION	78	72
STA. 374+50.00		TO STA. 376+75.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



DATE: _____
 BY: _____
 SURVEYED: _____
 NOTE BOOK: _____
 TEMPLATE: _____
 AREAS CHECKED: _____

DATE: _____
 BY: _____
 SURVEYED: _____
 NOTE BOOK: _____
 TEMPLATE: _____
 AREAS CHECKED: _____

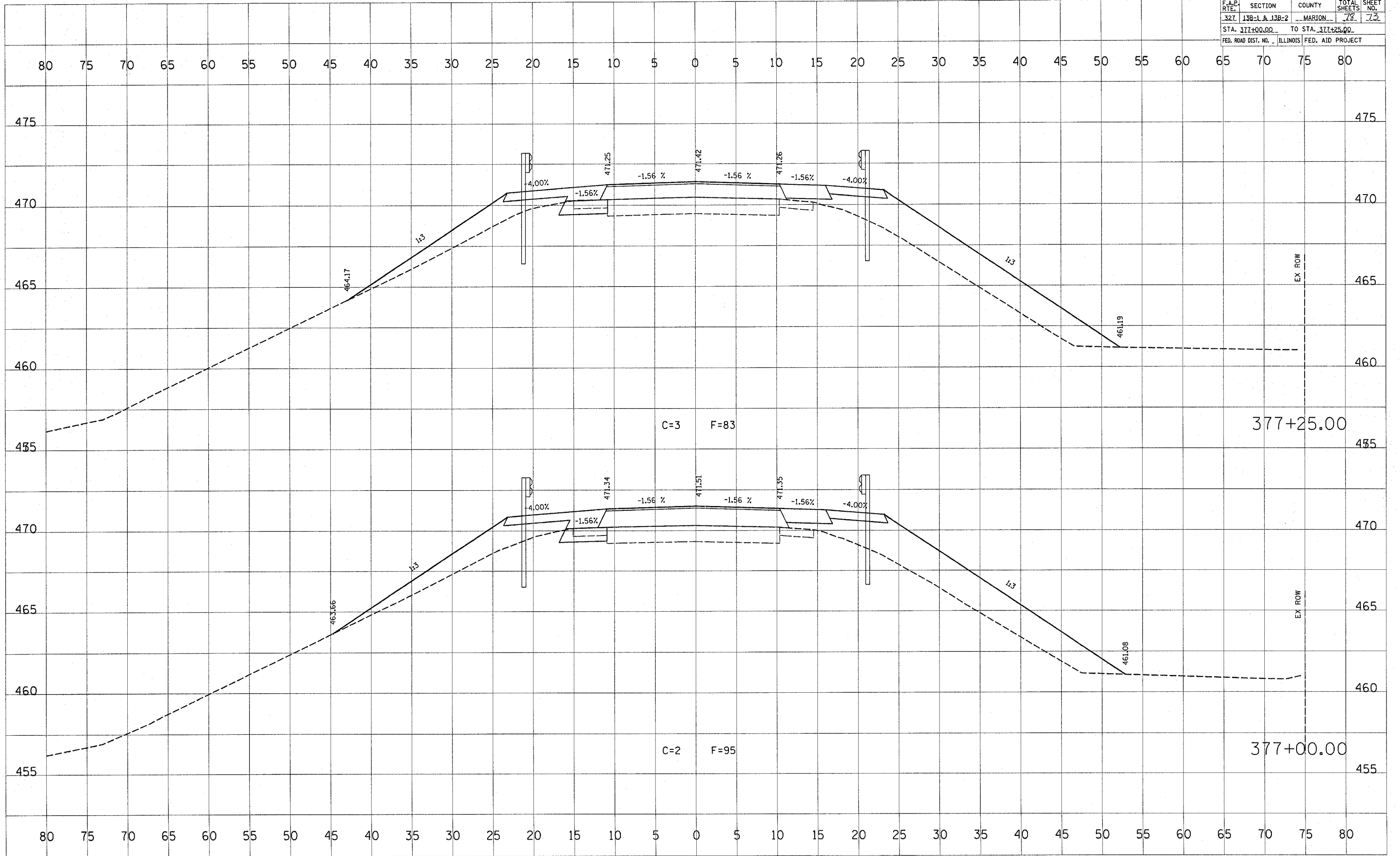
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 PLOT SCALE: 1/8" = 1'-0"
 USER NAME: hennings

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
321	138-1 & 138-2	MARION	72	72
STA. 377+00.00		TO STA. 377+25.00		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

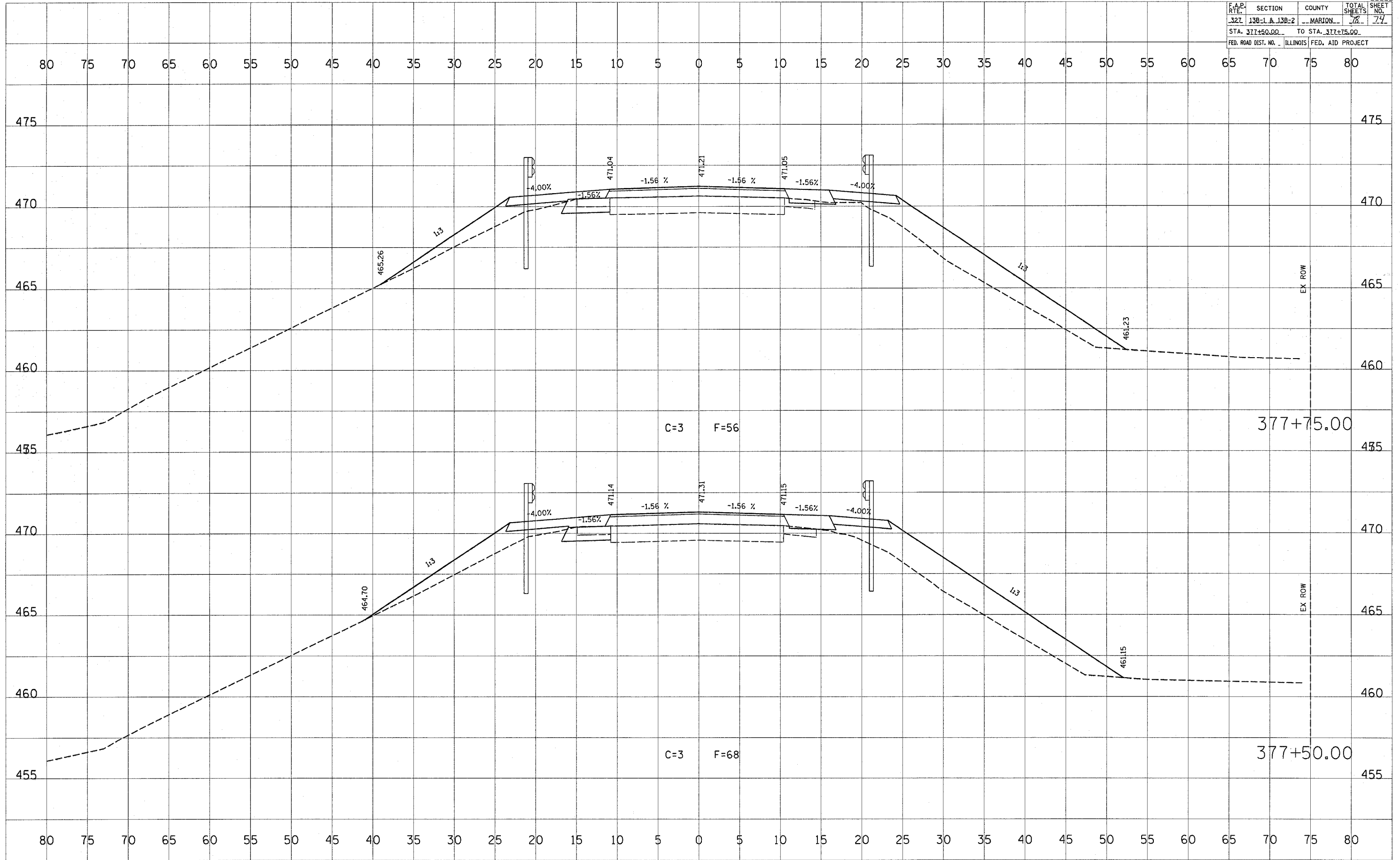
FINAL SURVEY
 SURVEYED BY: _____
 DATE: _____
 SURVEYED BY: _____
 DATE: _____
 NOTE BOOK NO.: _____
 AREAS CHECKED: _____

ORIGINAL SURVEY
 SURVEYED BY: _____
 DATE: _____
 SURVEYED BY: _____
 DATE: _____
 NOTE BOOK NO.: _____
 AREAS CHECKED: _____

PLOT DATE = 12/21/2005
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 PLOT SCALE = 5/8" = 1' IN.
 USER NAME = hennings



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	138-L & 138-2	MARION	78	74
STA. 377+50.00		TO STA. 377+75.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

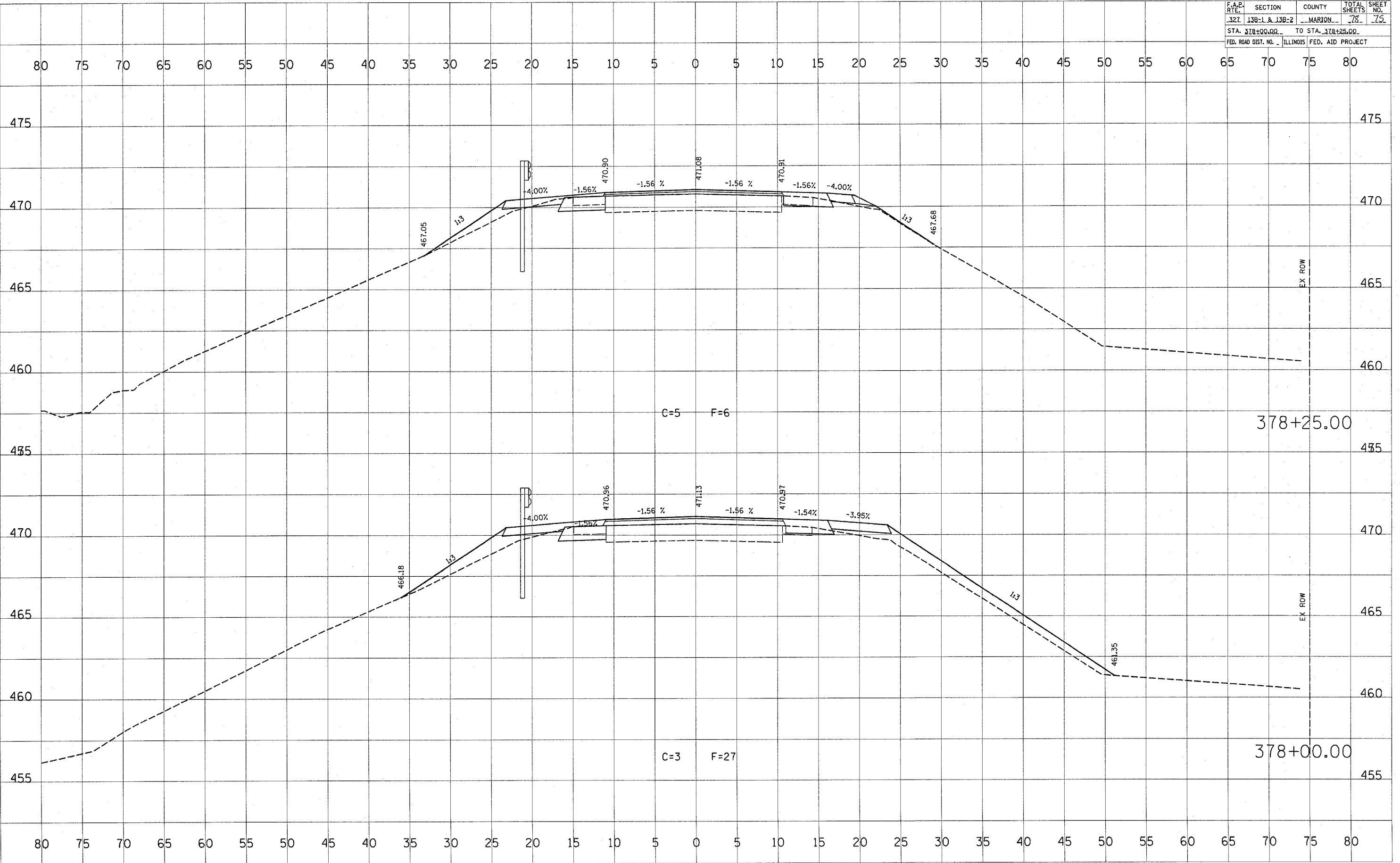


FINAL SURVEY BY: DATE: _____
 SURVEYED BY: _____
 NOTE BOOK NO. _____
 TEMPLATE NO. _____
 AREAS CHECKED: _____

ORIGINAL SURVEY BY: DATE: _____
 SURVEYED BY: _____
 TEMPLATE NO. _____
 AREAS CHECKED: _____

PLOT DATE = 12/21/2005
 FILE NAME = c:\proje\skillet\94964\94964.dwg
 PLOT SCALE = 5.0000 / IN.
 USER NAME = hammerje

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32L	138-1 & 138-2	MARION	78	75
STA. 318+00.00		TO STA. 318+25.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



FINAL SURVEY
 SURVEYED BY: _____
 DATE: _____
 NOTE BOOK NO. _____
 TEMPLATE AREAS CHECKED: _____

ORIGINAL SURVEY
 SURVEYED BY: _____
 DATE: _____
 NOTE BOOK NO. _____
 TEMPLATE AREAS CHECKED: _____

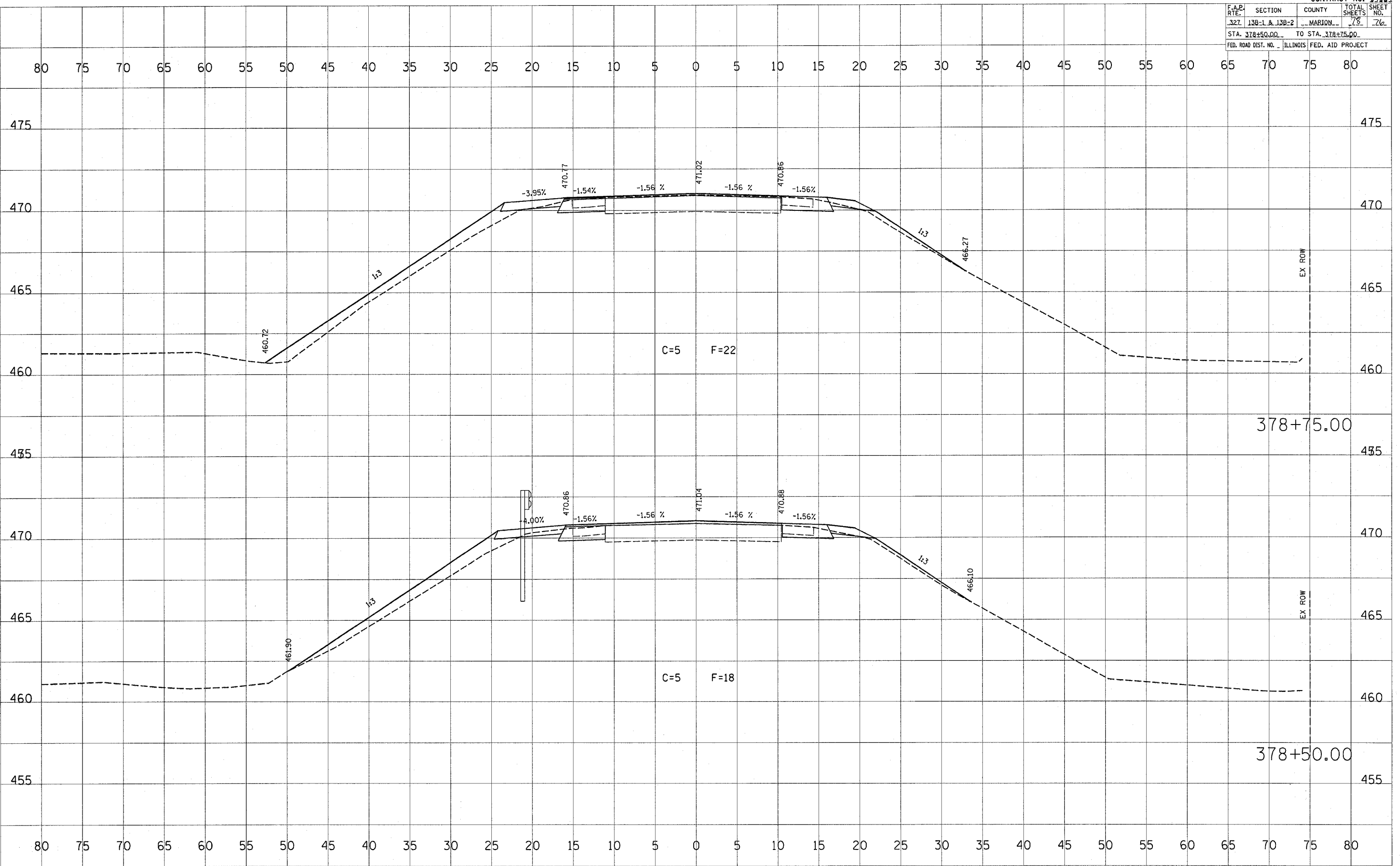
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 USER NAME = hammyrj

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	138-1 & 138-2	MARION	78	76
STA. 378+50.00		TO STA. 378+75.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

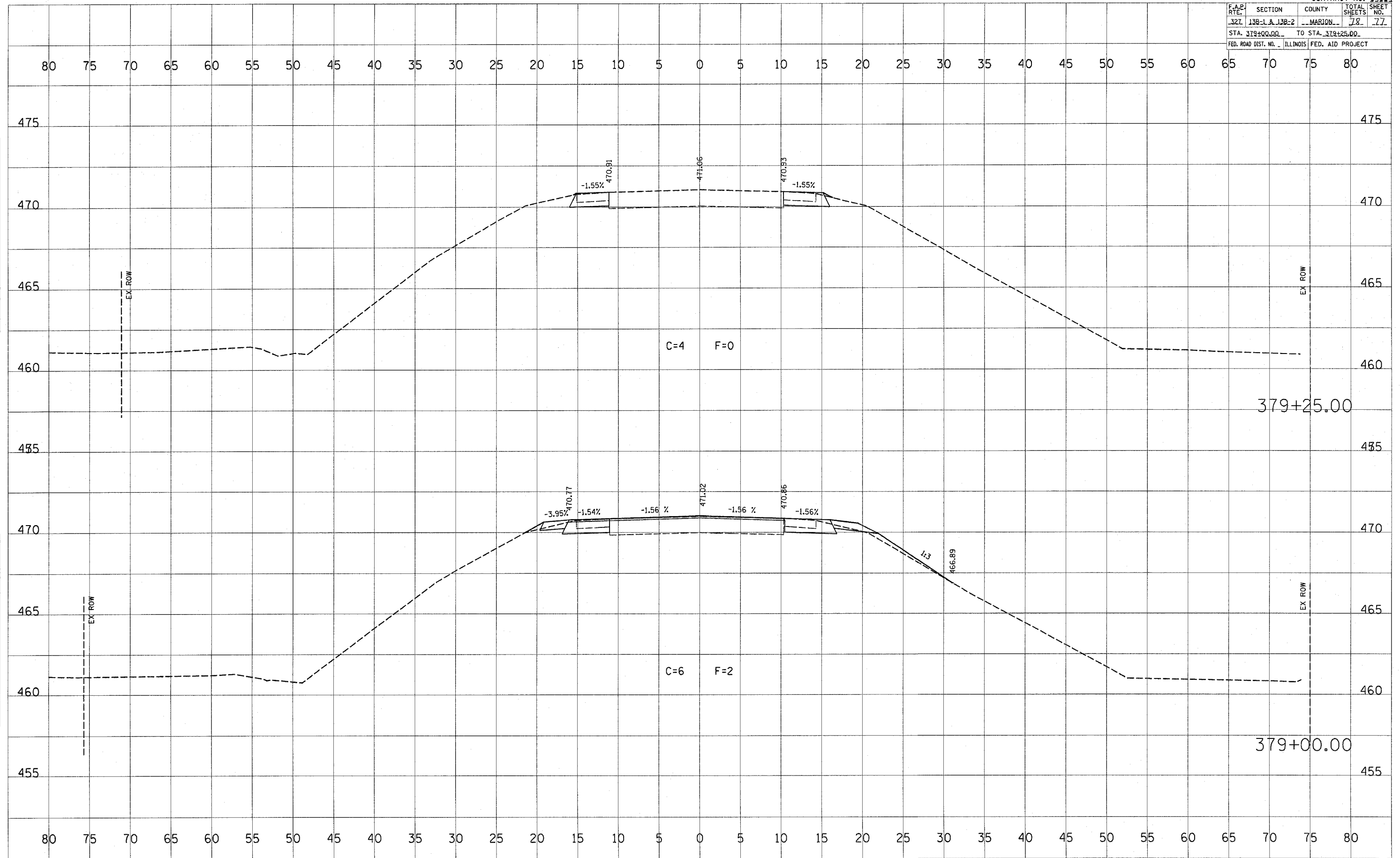
DATE: _____
 BY: _____
 SURVEYED: _____
 SURVEY: _____
 NOTE BOOK: _____
 NO.: _____
 AREAS CHECKED: _____

DATE: _____
 BY: _____
 SURVEYED: _____
 SURVEY: _____
 NOTE BOOK: _____
 NO.: _____
 AREAS CHECKED: _____

PLOT DATE = 12/21/2005
 FILE NAME = c:\prow\prow\94964\94964-138-1-2.dwg
 PLOT SCALE = 5.0000' / 1" = 100.0000'
 USER NAME = hansen, j



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
321	138-1 & 138-2	MARION	28	27
STA. 379+00.00		TO STA. 379+25.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



DATE: _____
 BY: _____
 SURVEYED: _____
 NOTE BOOK: _____
 TEMPLATE: _____
 AREAS CHECKED: _____
 NO. _____

DATE: _____
 BY: _____
 SURVEYED: _____
 NOTE BOOK: _____
 TEMPLATE: _____
 AREAS CHECKED: _____
 NO. _____

PLOT DATE = 12/21/2005
 FILE NAME = c:\p\proj\skillet\94964\94964.dwg
 PLOT SCALE = 5.0/39 / IN.
 USER NAME = hammerjg

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	138-1 & 138-2	MARION	78	78
STA. 379+50.00		TO STA. 379+50.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

DATE	
BY	
SURVEYED	
TEMPLATE	
AREAS CHECKED	
NO.	
FINAL SURVEY NOTE BOOK NO.	

DATE	
BY	
SURVEYED	
TEMPLATE	
AREAS CHECKED	
NO.	
ORIGINAL SURVEY NOTE BOOK NO.	

PLOT DATE = 12/27/2005
 FILE NAME = c:\projects\Arma\94964\483592.dwg
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 USER NAME = hennmju

