F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	1
	ILLINOIS	CONTRACT NO 74216		

1-20-2012 LETTING ITEM 152

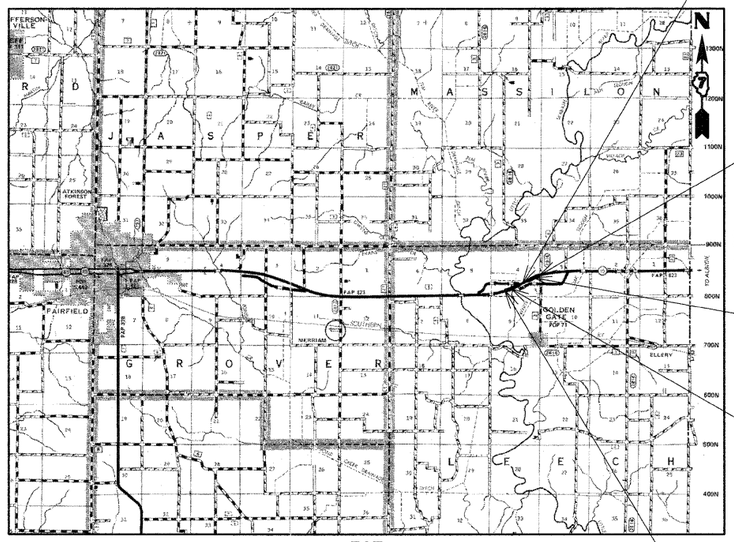
INDEX OF SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

F.A.P. ROUTE 823 – IL ROUTE 15
SECTION (22,B2A)B–1 & (22,B2B)B–1
PROJECT F-BRF-0823(012)
BRIDGE REPLACEMENT
WAYNE COUNTY

C–97–004–07



LOCATION MAP

0 1=1 MILE

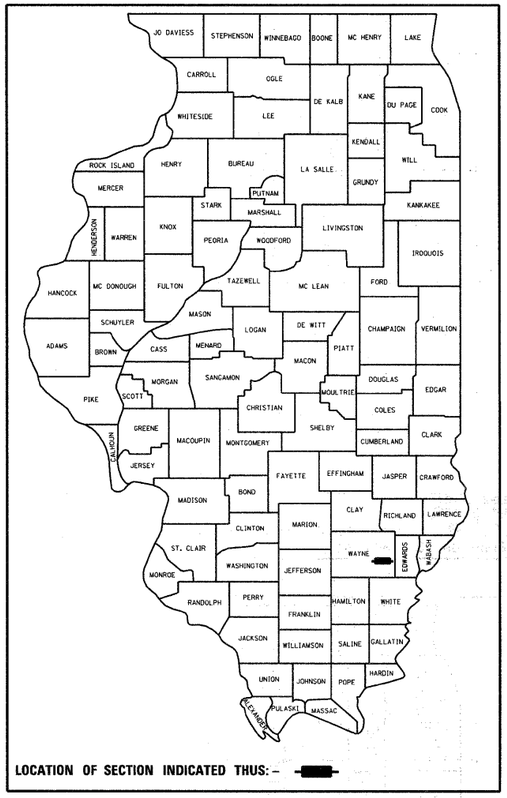
ROADWAY OMMISION
STA 405+50.00 TO
STA 424+30.00

PROJECT BEGINS
STA 399+50.00

PROPOSED STRUCTURE REPLACEMENT
STATION 402+80.00,
PROPOSED 156.5' STRUCTURE NO 096–0074
EXISTING STRUCTURE NO 096–0013

PROPOSED STRUCTURE REPLACEMENT
STATION 428+79.00
PROPOSED 120.23' STRUCTURE NO 096–0073
EXISTING STRUCTURE NO 096–0012

PROJECT ENDS
STA 433+30.00



LOCATION OF SECTION INDICATED THUS: –

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

ENGINEERING PLAN SUBMITTAL

THESE ENGINEERING PLANS AND SUPPORTING DOCUMENTS ARE ISSUED FOR THE FOLLOWING PURPOSE ONLY

	PRELIMINARY PLAN REVIEW NO.
	PRE-FINAL PLAN REVIEW NO. 1
X	FINAL PLAN REVIEW NO.
	PERMIT APPLICATION
	BIDDING
	CONSTRUCTION

DATE: 10-21-2011

100' 200' 300' — 1"= 100'
0 10' 20' 30' — 1"= 10'
0 50' 100' — 1"= 50'
0 50' 100' — 1"= 40'
0 50' 100' — 1"= 30'
0 50' 100' — 1"= 20'

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

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

IDOT PROJECT MANAGER – MARK DAUGHERTY
PROJECT ENGINEER – JOE HICKOX, ADAM GROVES
PROJECT MANAGER – DANIEL FEUERBORN

CONTRACT NO 74216

ESI CONSULTANTS, LTD
753 WINDSOR ROAD
CHARLESTON, IL 61920
(217) 348-1908
WWW.ESICONSULTANTSLTD.COM
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003695

LICENSED PROFESSIONAL ENGINEER — DANIEL FEUERBORN 62-54889 — STATE OF ILLINOIS

Daniel Feuerborn — 10/26/2011 Date
License Expires 11-30-2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Oct 26 20 11
Roger L Driskell /mgh
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

December 9 20 11
Scott E. Stitt, P.E. /a
acting ENGINEER OF DESIGN AND ENVIRONMENT

December 9 20 11
William R. Frenz /a
Interim DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED DATE: 10/26/2011
FILE NAME: N:\PROJECTS\IDOT\PTB 148, Item 25 - D7 Various Design\Work Order 05\CADD\Drawings\Sheets\01_Cover.dgn

LIST OF ILLINOIS DOT HIGHWAY STANDARDS

STANDARD NO	DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-06	TEMPORARY EROSION CONTROL SYSTEMS
420401-08	BRIDGE APPROACH PAVEMENT CONNECTOR
515001-03	NAME PLATE FOR BRIDGES
601101-01	CONCRETE HEADWALL FOR PIPE DRAIN
630001-10	STEEL PLATE BEAM GUARDRAIL
630201-06	PCC/HMA STABILIZATION AT STEEL PLATE BEAM GARDRAIL
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-10	TRAFFIC BARRIER TERMINAL, TYPE 6
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
667101-02	PERMANENT SURVEY MARKERS
701001-02	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 m) AWAY
701006-03	OFF-RD OPERATIONS, 2L,2W, 15' (600 mm) FROM PAVEMENT EDGE
701201-04	LANE CLOSURE, 2L, 2W SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS >= 45 MPH
701306-03	LANE CLOSURE, 2L, 2W MOVING OPERATIONS - DAY ONLY
701311-03	LANE CLOSURE, 2L, 2W DAY ONLY, FOR SPEEDS >= 45 MPH
701321-12	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-04	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS > 45 MPH
701901-02	TRAFFIC CONTROL DEVICES
704001-07	TEMPORARY CONCRETE BARRIER
720001-01	SIGN PANEL MOUNTING DETAILS
720006-03	SIGN PANEL ERECTION DETAILS
720011-01	METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
729001-01	APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)
780001-03	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
886001-01	DETECTOR LOOP INSTALLATIONS
886006-01	TYPICAL LAYOUTS FOR DETECTOR LOOPS

GENERAL NOTES

1. ANY REFERENCE STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE IL DEPARTMENT OF TRANSPORTATION AS SHOWN ON THE SCHEDULE OF STANDARD DRAWINGS ON THE COVER SHEET.

2. ALL ELEVATIONS SHOWN ON THE PLANS ARE ESTABLISHED FROM U.S.G.S. MEAN SEA LEVEL DATUM.

3. ALL SAW CUTS, NECESSARY TO COMPLETE THE WORK DETAILED IN THESE PLANS, SHALL BE INCLUDED IN THE COST FOR THE VARIOUS PAY ITEMS INVOLVED. THE MINIMUM SAW CUT DEPTH IN THE PAVEMENT SHALL BE 1 1/2" UNLESS OTHERWISE SPECIFIED IN A DETAIL SHOWN IN THE PLANS.

4. WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND/OR MONUMENTS UNTIL THE OWNER, AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED, OR REFERENCED THEIR LOCATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUB-SECTION MONUMENTS DESTROYED BY HIS OPERATIONS.

5. DURING CONSTRUCTION THE CONTRACTOR MAY ENCOUNTER VARIOUS TYPES OF UNDERGROUND UTILITIES THAT MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL COOPERATE WITH THE ENGINEER AND THE OWNER OF THE UTILITY WHILE THE UTILITY COMPANY ADJUST THEIR FACILITIES IF NECESSARY. IF IT IS DETERMINED THAT THE UTILITY HAS BEEN ABANDONED, THE CONTRACTOR SHALL BE DIRECTED TO REMOVE THE UTILITY LINES THAT CONFLICT WITH HIS WORK AND CAP OR PLUG THE LINES AS DIRECTED BY THE ENGINEER. THIS WORK SHALL NOT BE PAID FOR SEPARATELY AND SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT.

6. ANY TIME THE CONCRETE BARRIER IS NOT IN THE PROPOER POSITION, FLAGGERS SHALL BE IN PLACE TO CONTROL TRAFFIC AND THE TEMPORARY TRAFFIC SIGNALS SHALL BE TURNED OR COVERED.

7. ALL DEBRIS AND EXCESS MATERIAL (BROKEN CONCRETE, PIPES, WASTE EXCAVATION, ETC.) SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT-OF-WAY IN ACCORDANCE WITH ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS.

8. ALL WORK NECESSARY TO ATTACH PIPE DRAINS TO THE ABUTMENT DRAIN PIPE, TRENCHING IN THE PIPE DRAINS AND INSTALLING THE PIPE DRAINS TO THE CONCRETE HEADWALLS IS INCLUDED IN THE PAY ITEM OF PIPE DRAINS OF THE DIAMETER SELECTED.

9. PORTABLE TEMPORARY TRAFFIC SIGNALS ARE ONLY ALLOWED FROM MARCH 1 TO NOVEMBER 1.

10. CONTACT DISTRICT 7 CHIEF OF SURVEYS FOR LOCATION OF PERMANENT SURVEY MARKERS, TYPE II.

11. ALL REMOVAL LIMITS SHALL BE SAW CUT.

12. AGGREGATE SHOULDERS, TYPE B SHALL BE CRUSHED STONE, CRUSHED CONCRETE, OR RAP.

13. THE CONTRACTOR SHALL PROVIDE INTERNET ACCESSIBILITY TO THE HMA PLANT QUALITY CONTROL LAB SO THAT HMA PLANT REPORTS CAN BE EMAILED TO THE DISTRICT HEADQUARTERS. THIS WORK SHALL BE INCLUDED IN THE COST OF ALL HOT-MIX ASPHALT ITEMS.

14. GRADING SHALL BE DONE BY HAND AROUND LIGHT POLES, UTILITY POLES, SIGN POSTS, SHRUBS, TREES AND OTHER NATURAL OR MAN-MADE OBJECTS WHERE SHALLOW FILLS OR CUTS ARE ADJACENT TO THESE ITEMS. IT IS THE INTENT THAT ITEMS THAT DO NOT NEED TO BE DISTURBED BY THE CONSTRUCTION SHALL BE PRESERVED. THE DECISION AS TO ITEMS TO REMAIN IN PLACE SHALL BE AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

15. THE AREA TO BE SEEDED/SODDED SHALL CONSIST OF ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.

16. SEEDING SHALL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET, OR IN AN UNTILLABLE CONDITION. AREAS TO BE SEEDED SHALL BE DETERMINED BY THE ENGINEER AND SEEDED AS SOON AS POSSIBLE.

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

BITUMINOUS MATERIALS (PRIME COAT)	- 0.08 GAL/SQYD (ON PAVEMENT)
BITUMINOUS MATERIALS (PRIME COAT)	- 0.38 GAL/SQYD (ON AGGREGATE)
AGGREGATE (PRIME COAT)	- 0.002 TON/SQYD
HOT-MIX ASPHALT SURFACE / BINDER	- 0.056 TON/SQYD/IN
AGGREGATE SURFACE COURSE, TYPE A	- 1.8 TON/CUYD
AGGREGATE SURFACE COURSE, TYPE B	- 1.8 TON/CUYD
MULCH METHOD	- 2.0 TON/ACRE
NITROGEN FERTILIZER NUTRIENT	- 90 LB/ACRE
PHOSPHOROUS FERTILIZER NUTRIENT	- 90 LB/ACRE
POTASSIUM FERTILIZER NUTRIENT	- 90 LB/ACRE

MIXTURE USE	HOT-MIX ASPHALT SURFACE	HOT-MIX ASPHALT BINDER	HOT-MIX ASPHALT SHOULDERS (BOTTOM LIFTS)	HOT-MIX ASPHALT SHOULDERS (TOP LIFTS)
AC/PG	PG 64-22	PG 64-22	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4.0% @ Ndes= 70	4.0% @ Ndes= 70	4.0% @ Ndes= 30	4.0% @ Ndes= 70
MIX COMPOSITION	IL-9.5	IL-19.0	IL-9.5L	IL-9.5L
FRICTION AGGREGATE	MIX C	N/A	N/A	MIX C

PRINTED DATE: 12/5/2011
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HIGHWAY STANDARDS AND GENERAL NOTES

SCALE: N/A | SHEET NO 1 OF 1 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	2
ILLINOIS	FEDERAL AID PROJECT	CONTRACT NO 74216		

SUMMARY OF QUANTITIES

PAY CODE	ITEM	UNITS	TOTAL QUANTITY	BRRP FUNDS BRF 80% FED 20% STATE CONSTRUCTION CODE 0011 096-0074 QUANTITY	STP FUNDS F 80% FED 20% STATE CONSTRUCTION CODE 0011 096-0073 QUANTITY
20200100	EARTH EXCAVATION	CU YD	366	179.0	187.0
20300100	CHANNEL EXCAVATION	CU YD	1131	737.0	394.0
20400800	FURNISHED EXCAVATION	CU YD	1066	461.0	605.0
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	260	120.0	140.0
28000400	PERIMETER EROSION BARRIER	FOOT	3256	1315.0	1941.0
28000500	INLET AND PIPE PROTECTION	EACH	8	4.0	4.0
28100107	STONE RIPRAP, CLASS A4	SQ YD	2045	1025.0	1020.0
28200200	FILTER FABRIC	SQ YD	2045	1025.0	1020.0
35400500	PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 10"	SQ YD	748	323.0	425.0
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	204	102.0	102.0
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	1203	698.0	505.0
40600990	TEMPORARY RAMP	SQ YD	124	62.0	62.0
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	5266	104.0	5162.0
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	1519	107.0	1412.0
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	66	33.0	33.0
44000151	HOT-MIX ASPHALT SURFACE REMOVAL, 1/2"	SQ YD	2380	1008.0	1372.0
44004250	PAVED SHOULDER REMOVAL	SQ YD	297	144.0	153.0
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	625	263.0	362.0
48203037	HOT-MIX ASPHALT SHOULDERS, 10"	SQ YD	505	205.0	300.0
48203100	HOT-MIX ASPHALT SHOULDERS	TON	220	95.0	125.0
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1		1.0
50100400	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1	1.0	
50200100	STRUCTURE EXCAVATION	CU YD	338	232.8	104.8
50200300	COFFERDAM EXCAVATION	CU YD	452.4	333.8	118.6
50201101	COFFERDAM TYPE 1, LOCATION - 1	EACH	1		1.0
50201102	COFFERDAM TYPE 1, LOCATION - 2	EACH	1		1.0
50201103	COFFERDAM TYPE 1, LOCATION - 3	EACH	1	1.0	
50201104	COFFERDAM TYPE 1, LOCATION - 4	EACH	1	1.0	
50300100	FLOOR DRAINS	EACH	32	14.0	18.0
50300225	CONCRETE STRUCTURES	CU YD	432	243.3	188.4
50300255	CONCRETE SUPERSTRUCTURE	CU YD	339	155.4	183.6
50300260	BRIDGE DECK GROOVING	SQ YD	911	384.0	527.0
50300280	CONCRETE ENCASEMENT	CU YD	37	18.6	18.6
50300300	PROTECTIVE COAT	SQ YD	1752.2	770.1	982.1

LICE L25E

SUMMARY OF QUANTITIES

PAY CODE	ITEM	UNITS	TOTAL QUANTITY	BRRP FUNDS BRF 80% FED. 20% STATE CONSTRUCTION CODE 0011 096-0074 QUANTITY	STP FUNDS F 80% FED. 20% STATE CONSTRUCTION CODE 0011 096-0073 QUANTITY
50400805	FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS, 36 IN.	FOOT	916		916.0
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	1.0	
50500505	STUD SHEAR CONNECTORS	EACH	2772	2772.0	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	175110	83360.0	91750.0
50800515	BAR SPLICERS	EACH	1630	771.0	859.0
50800530	MECHANICAL SPLICERS	EACH	168	72	96
51201800	FURNISHING STEEL PILES HP14X73	FOOT	1392	1392.0	
51202100	FURNISHING STEEL PILES HP14X117	FOOT	2665		2665.0
51202305	DRIVING PILES	FOOT	4057	1392	2665.0
51203600	TEST PILE STEEL HP14X73	EACH	4	4.0	
51204100	TEST PILE STEEL HP14X117	EACH	4		4.0
51500100	NAME PLATES	EACH	2	1.0	1.0
52000110	PREFORMED JOINT STRIP SEAL	FOOT	83	83.0	
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	12	12.0	
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	6	6.0	
52100520	ANCHOR BOLTS, 1"	EACH	48	48.0	
58700300	CONCRETE SEALER	SQ FT	842	842.0	
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	117	46.0	71.0
60100060	CONCRETE HEADWALLS FOR PIPE DRAINS	EACH	8	4.0	4.0
60100905	PIPE DRAINS 4"	FOOT	240	120.0	120.0
* 63000001	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	FOOT	800	400.0	400.0
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	8	4.0	4.0
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	8	4.0	4.0
63200310	GUARDRAIL REMOVAL	FOOT	1549	776.0	773.0
66700305	PERMANENT SURVEY MARKERS, TYPE II	EACH	2	1	1
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	12	6.0	6.0
67100100	MOBILIZATION	L SUM	1	0.5	0.5
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2	1.0	1.0
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	4	2.0	2.0
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2	1.0	1.0
70106700	TEMPORARY RUMBLE STRIP	EACH	12	6.0	6.0
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	248	104.0	144.0
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	2417	979.0	1438.0

*SPECIALTY ITEM

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	3
		CONTRACT NO 74216		
		ILLINOIS FEDERAL AID PROJECT		

SUMMARY OF QUANTITIES

				BRRP FUNDS BRF 80% FED. 20% STATE	STP FUNDS F 80% FED. 20% STATE
				CONSTRUCTION CODE 0011	
			TOTAL	096-0074	096-0073
PAY CODE	ITEM	UNITS	QUANTITY	QUANTITY	QUANTITY
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1459	546.0	913
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1421	533.0	888
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	3708	1548.0	2160.0
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	39	16.0	23.0
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	10	5.0	5.0
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	40	20.0	20.0
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	8	4.0	4.0
78300100	PAVEMENT MARKING REMOVAL	SQ FT	1236	516.0	720.0
X2070304	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	198	87	111.0
* X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	1	0.5	0.5
Z0026407	TEMPORARY SHEET PILING	SQ FT	1090	550.0	540.0
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	2.0	2.0
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	2.0	2.0
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	285	142.0	143.0
+ Z0076600	TRAINEES	HOUR	500	250	250
X5030270	BRIDGE DECK (SHRINKAGE-COMPENSATING CONCRETE)	CU YD	246.6	105.0	141.6

+0042

* SPECIALTY ITEM

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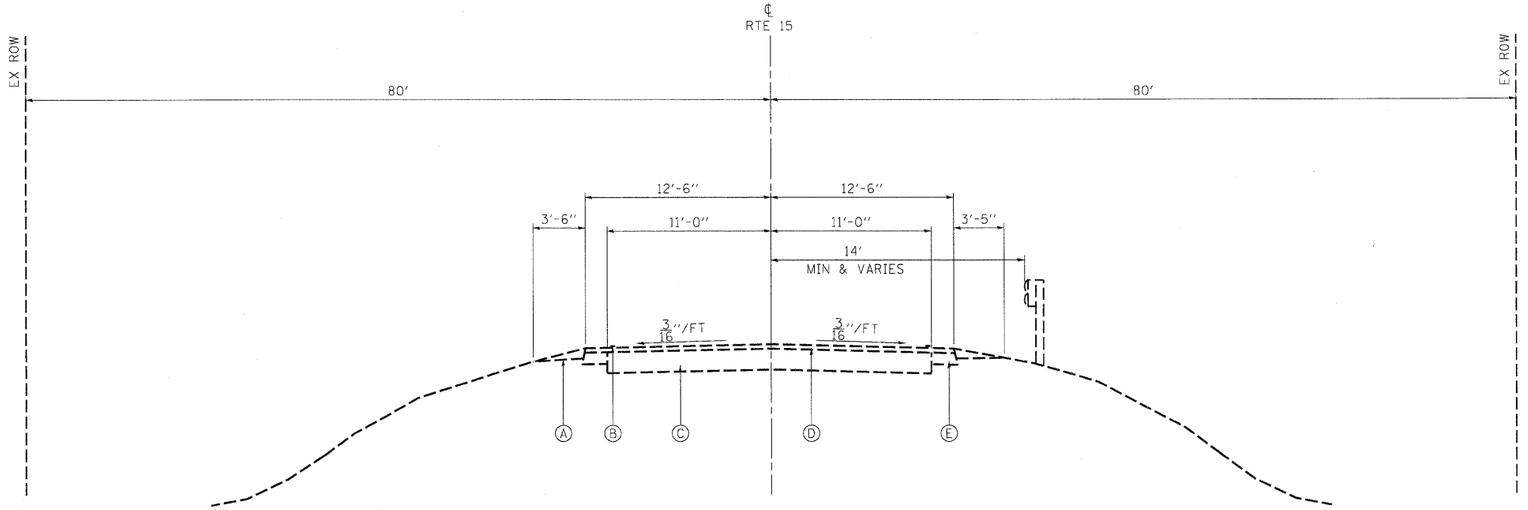
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

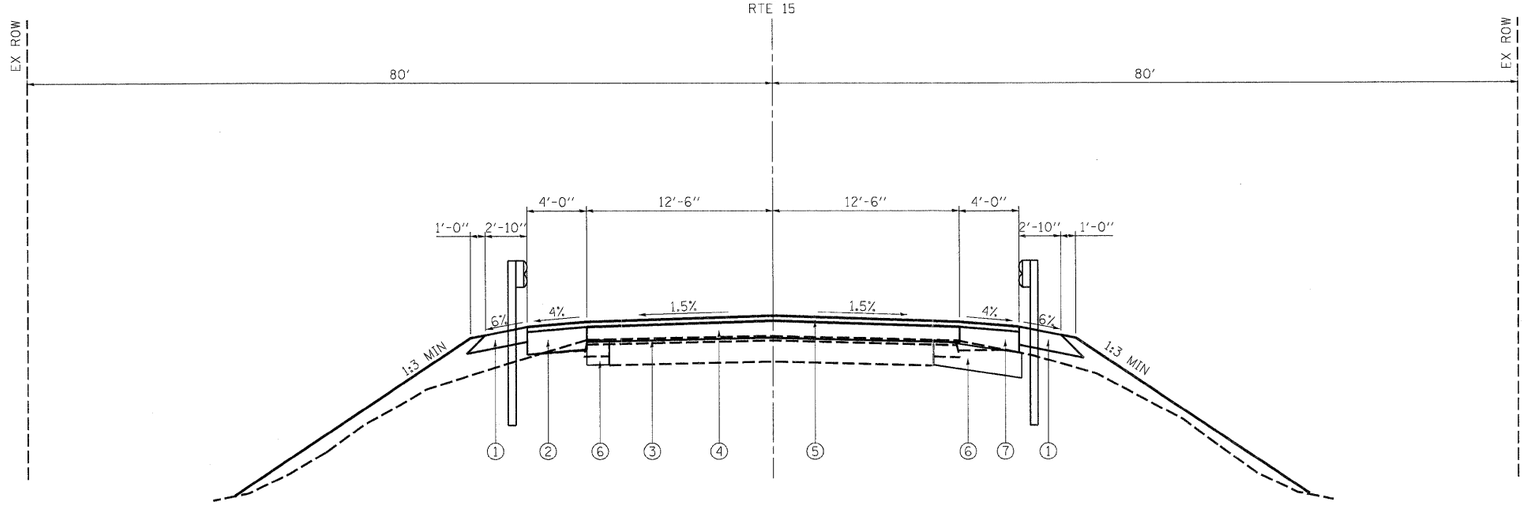
F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	4
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



W/OUT GUARDRAIL W/ GUARDRAIL

EXISTING TYPICAL SECTION

LOOKING WEST
STA 399+50.00 TO STA 401+89.89
BRIDGE OMISSION
STA 403+70.11 TO STA 405+50.00



PROPOSED TYPICAL SECTION

LOOKING WEST
STA 399+50.00 TO STA 401+89.89
BRIDGE OMISSION
STA 403+70.11 TO STA 405+95.00
HMA BASE COURSE WIDENING, 10" - STA 399+50.0 LT TO STA 400+85.6 LT & STA 404+29.8 LT TO STA 405+95.0 LT
PCC BASE COURSE WIDENING, 10" - STA 399+50.0 RT TO STA 402+25.1 RT & STA 403+16.6 RT TO STA 405+95.0 RT
HMA BINDER COURSE, VARIABLE DEPTH - STA 400+85.6 TO STA 401+90.7 & STA 403+69.7 TO STA 404+29.8

LEGEND

EXISTING

- (A) EX AGGREGATE SHOULDER, 6" (TYP)
- (B) STRIPING
- (C) EX CONCRETE PAVEMENT
- (D) EX ASPHALT SURFACE, 5 1/2" (TYP)
- (E) EX ASPHALT SHOULDER, 6"

PROPOSED

- (1) HOT-MIX ASPHALT SHOULDERS, 8"
- (2) HOT-MIX ASPHALT SHOULDERS, 10"
- (3) HOT-MIX ASPHALT SURFACE REMOVAL, 1/2"
- (4) HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N-70
- (5) HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N-70, 1 1/2"
- (6) PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 10"
- (7) HOT-MIX ASPHALT SHOULDERS

PRINTED DATE: 12/5/2011
FILE NAME: n:\projects\ide\ptb 148,item 25 - d7 various design\work order 06\cadd\drawings\sheets\05_WDS_TS-1.dgn

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USER NAME = $USER$	DESIGNED - JEH	REVISED -	
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PLOT DATE = 12/5/2011	DATE - 3-23-2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0074
TYPICAL SECTIONS
SCALE: N/A | SHEET NO 1 OF 2 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	5
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

GUARDRAIL REMOVAL

STATION	TO	STATION	SIDE	FOOT
400+09.20		402+46.00	RT	237
401+16.40		402+65.90	LT	150
402+93.60		404+43.90	RT	151
403+15.00		405+52.00	LT	238
TOTAL				776

HMA SURFACE REMOVAL 1/2"

STATION	TO	STATION	SQ YD
399+50.00		402+32.20	526
403+27.50		405+95.00	482
TOTAL			1008

HMA SURFACE REMOVAL – BUTT JOINT

			LENGTH	DEPTH	DEPTH	WIDTH	BUTT JOINT
STATION	TO	STATION	FOOT	START, IN	FINISH, IN	FOOT	SQ YD
399+50.00		400+67.10	117.1	1.5	0.5	25	325.28
404+60.90		405+95.00	134.1	0.5	1.5	25	372.50
TOTAL							698

PERIMETER EROSION BARRIER

STATION	TO	STATION	SIDE	FOOT
399+50.00		402+62.50	LT	375
399+50.00		402+62.50	RT	348
BRIDGE OMISSION				
402+98.00		405+95.00	LT	279
402+98.00		405+95.00	RT	313
TOTAL				1315

TEMPORARY RAMP

STATION	TO	STATION	SQ YD
399+50.00		399+55.00	14
401+85.50		401+90.50	17
403+69.50		403+74.50	17
405+90.00		405+95.00	14
TOTAL			62

GUARD RAIL

				STEEL PLATE BEAM GUARD RAIL, TY A	TRAFFIC BARRIER TERM, TY 1 SP TAN	TRAFFIC BARRIER TERMINAL, TY 6
STATION	TO	STATION	SIDE	FOOT	EACH	EACH
400+08.90		400+58.80	RT		1	
400+30.80		400+80.80	LT		1	
400+58.80		401+58.70	RT	100		
400+80.80		401+80.90	LT	100		
401+58.70		402+04.30	RT			1
401+80.90		402+26.60	LT			1
403+33.20		403+78.80	RT			1
403+55.90		404+01.60	LT			1
403+78.80		404+78.70	RT	100		
404+01.60		405+01.70	LT	100		
404+78.70		405+28.60	RT		1	
405+01.70		405+51.80	LT		1	
TOTAL				400	4	4

EARTH WORK

	CUT		FILL		TOTAL
STATION	SQ FT	CU YD	SQ FT	CU YD	CU YD
399+50	13.2		0.2		
		26.9		7.4	34.3
400+00	15.7		7.8		
		29.6		16.5	46.1
400+50	16.2		10.0		
		23.1		36.5	59.6
401+00	8.7		29.4		
		13.9		77.2	91.1
401+50	6.2		53.9		
		11.7		154.1	165.8
402+00	6.4		112.5		
403+50	5.6		121.5		
		12.0		168.5	180.5
404+00	7.3		60.5		
		16.3		82.6	98.9
404+50	10.2		28.7		
		21.5		33.9	55.4
405+00	12.9		7.9		
		23.5		18.1	41.6
405+50	12.5		11.6		

TOTAL CUT EARTH EXCAVATION	TOTAL FILL EMBANKMENT	TOTAL EARTHWORK
178.5 CU YD	594.8 CU YD	773.3 CU YD
FURNISHED EXCAVATION =	460.9 CU YD	

NOTE:
SHRINKAGE FACTOR APPLIED TO FURNISHED QUANTITY

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PLOT DATE = 10/25/2011	DATE - 3-23-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0074
SCHEDULES
SHEET NO 1 OF 2 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	6
ILLINOIS	FEDERAL AID PROJECT	CONTRACT NO 74216		

PAVEMENT MARKING & SHORT TERM PAVEMENT MARKING

				PAINT PVMT MARKING		SHORT	
				WHITE 4"	YELLOW 4"	TERM PM	
STATION	TO	STATION	SIDE	FOOT	FOOT	FOOT	REMARKS
399+50.00		405+95.00	LT	645		52	EDGE LINE
399+50.00		405+95.00	RT	645		52	EDGE LINE
399+50.00		405+95.00	RT		258	0	SKIP
TOTAL				1290	258	104	

HOT-MIX ASPHALT

			HMA SURFACE	HMA BINDER	BIT MATERIALS ON HMA
STATION	TO	STATION	TON	TON	GAL
399+50.00		401+84.50	55		53
400+67.10		401+84.50		60	
BRIDGE OMISSION					
403+75.50		404+60.90		44	
403+75.50		405+95.00	52		49
TOTAL			107	104	102

HMA SHOULDERS

				8"	10"	HMA SHOULDERS	BIT MATERIALS ON HMA
STATION	TO	STATION	SIDE	SQ YD	SQ YD	TON	GAL
399+50.00		401+99.40	LT		110		1.0
399+99.20		402+01.90	LT	64			0.6
399+50.00		401+82.10	RT			47	0.0
399+74.20		401+79.10	RT	66			0.6
BRIDGE OMISSION							
403+57.80		405+62.70	RT	66			0.6
403+58.00		405+95.00	RT			48	0.0
403+78.60		405+95.00	LT		95		0.9
403+81.20		405+85.10	LT	67			0.6
TOTAL				263	205	95	5

PCC BASE COURSE WIDENING

				PCC BASE CSE WIDENING 10"
STATION	TO	STATION	SIDE	SQ YD
399+50.00		402+25.10	RT	148
399+50.00		400+85.60	LT	23
403+16.60		405+05.20	RT	104
404+29.80		405+95.00	LT	28
405+05.20		405+26.90	RT	9
405+26.90		405+95.00	RT	11
TOTAL				323

PAVED SHOULDER REMOVAL

				PAVED SHOULDER REMOVAL
STATION	TO	STATION	SIDE	SQ YD
399+50.00		402+25.10	RT	51
399+50.00		400+85.60	LT	17
403+18.70		405+95.00	RT	57
404+29.80		405+95.00	LT	19
TOTAL				144

TEMPORARY PAVEMENT MARKING ***

			STAGE I WHITE 4"	STAGE II WHITE 4"	WHITE 24"
STATION	TO	STATION	FOOT	FOOT	FOOT
395+14.50					12.5
395+74.60		406+97.70	825		
399+86.50		40526.5	540.8		
398+24.50		406+47.80		824.9	
399+53.00		405+49.50		596.2	
407+07.70					12.5
TOTAL			1365	1421	25

*** INCLUDED FOR CONTRACTOR INFORMATION ONLY. COST TO BE INCLUDED WITH TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

WORK ZONE PVMT MARKING REMOVAL

			STAGE I WHITE 4"	STAGE II WHITE 4"	WHITE 24"
STATION	TO	STATION	SQ FT	SQ FT	SQ FT
395+14.50					25
395+74.60		406+97.70	275		
399+86.50		405+26.50	180		
398+24.50		406+47.80		275	
399+53.00		405+49.50		199	
407+07.70		0+00.00			25
TOTAL			455	474	50

PAVEMENT MARKING REMOVAL

			PM REM
STATION	TO	STATION	SQ FT
399+50.00		405+95.00	215
399+50.00		405+95.00	215
399+50.00		405+95.00	86
			516

PRINTED DATE: 12/5/2011
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USER NAME = $USER$	DESIGNED -	REVISED -
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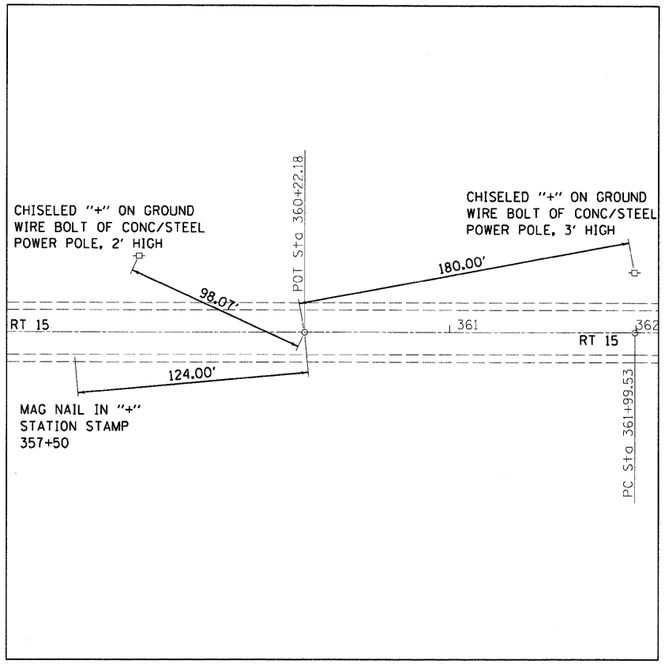
PLOT SCALE = 1.0000 ' / IN.	CHECKED -	REVISED -
PLOT DATE = 12/5/2011	DATE - 3-23-2011	REVISED -

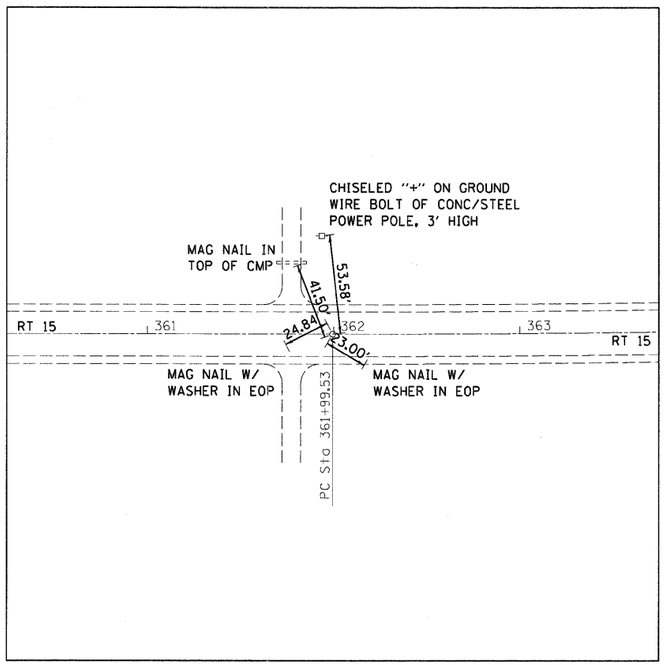
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0074
SCHEDULES
SHEET NO 2 OF 2 SHEETS

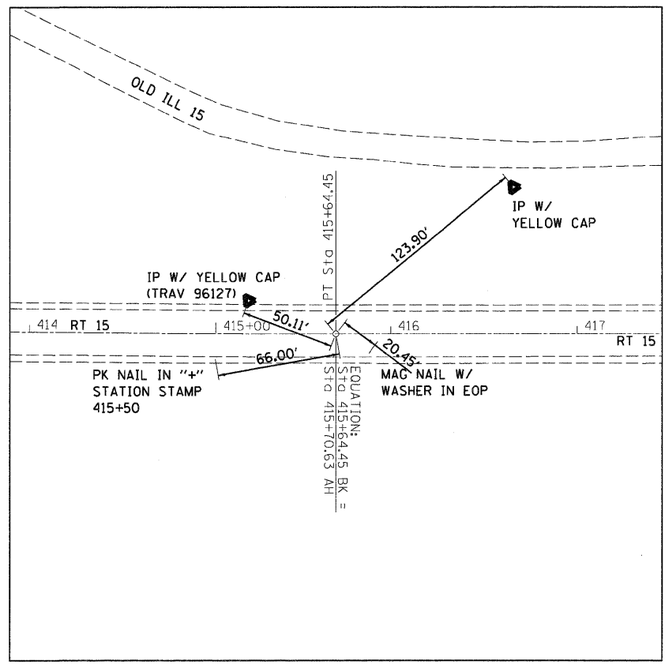
F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	7
ILLINOIS	FEDERAL AID PROJECT	CONTRACT NO 74216		



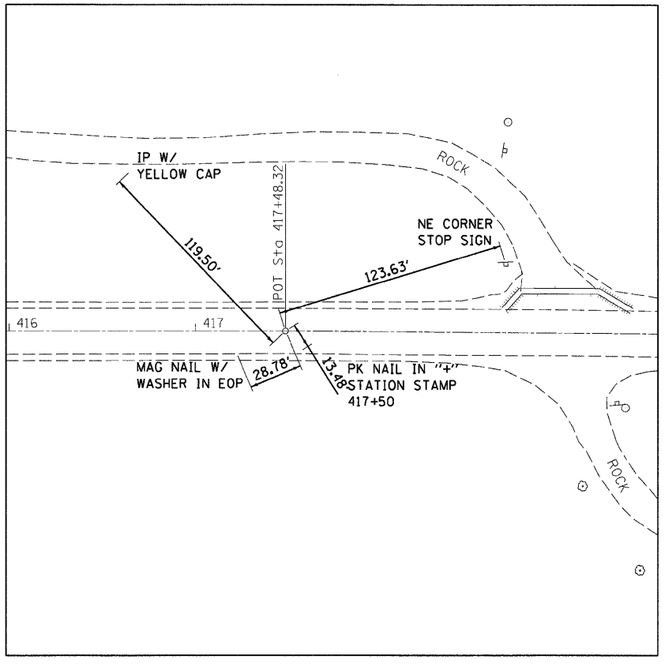
POT STA 360+22.18
PK NAIL



PC STA 361+99.53
PK NAIL



PT STA 415+64.45 BK
= 415+70.63 AH
PK NAIL



POT STA 417+48.32
PK NAIL

BENCHMARK DATA

WE-16 - CHISELED SQUARE 7.15 MILES EAST OF FAIRFIELD AND FIRST STRUCTURE, ON THE NE HEADWALL OF STRUCTURE #096-0011 AT STATION 450+32 @ 19.0 FEET RIGHT, ELEV 393.113

WE-17 - CHISELED SQUARE 7.60 MILES EAST OF FAIRFIELD ON THE NE HEADWALL OF STRUCTURE #096-0012 AT STATION 428+00 @ 19.0 FEET RIGHT, ELEV 393.162

WE-18 - CHISELED SQUARE 8.1 MILES EAST OF FAIRFIELD ON THE NE HEADWALL OF STRUCTURE #096-0013 AT STATION 402+18 @ 19.0 RIGHT, ELEV 393.396

PRINTED DATE: 10/25/2011
FILE NAME: n:\projects\idot\ptb 148,item 25 - d7 various design\work order 06\cadd\drawings\sheets\08_WO6_AT8.dgn

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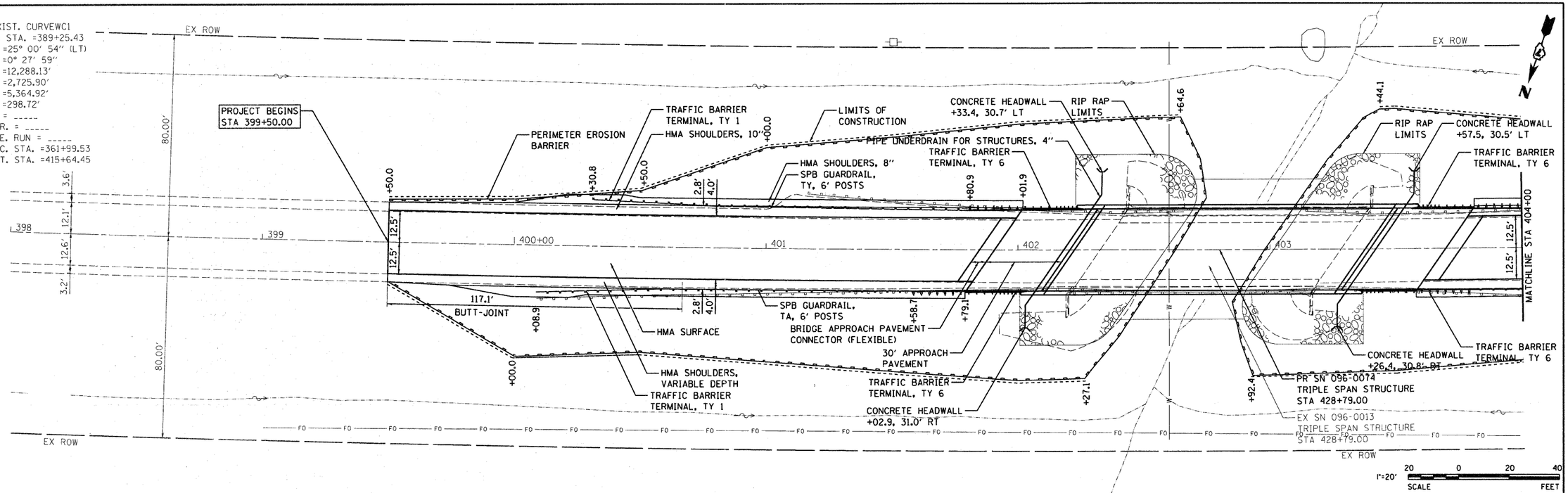
PLOT SCALE = 40.0000 ' / IN.	CHECKED - PAT	REVISED -
PLOT DATE = 10/25/2011	DATE - 3-23-2011	REVISED -

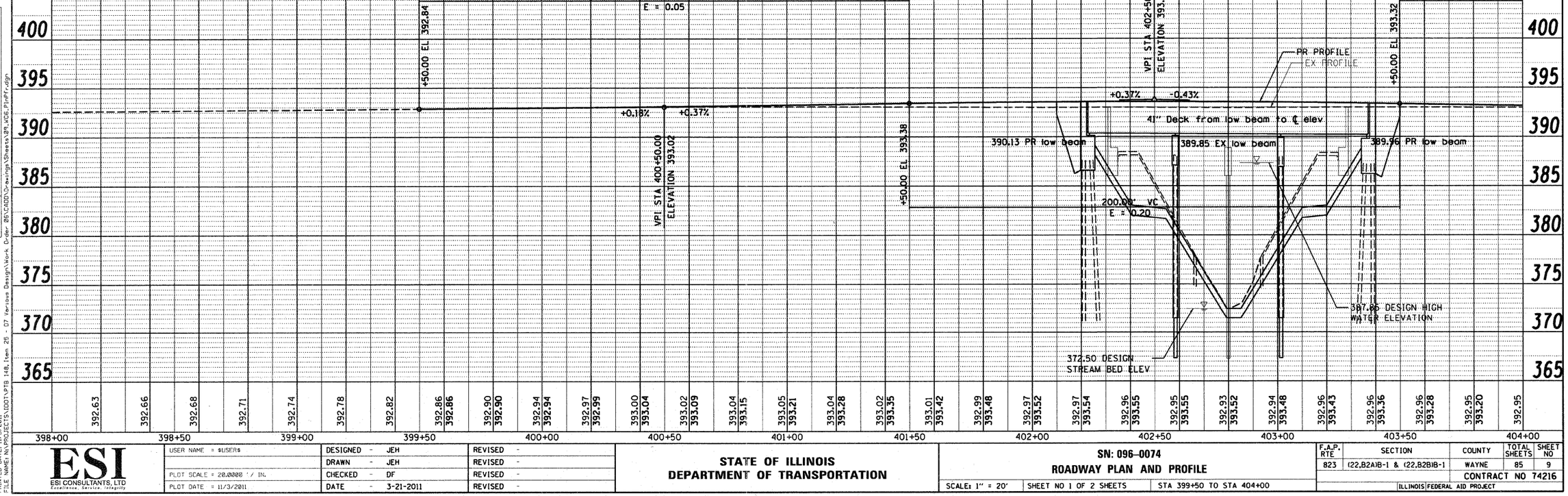
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0074
ALIGNMENT TIES AND BENCHMARKS
SHEET NO 1 OF 1 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	8
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

EXIST. CURVEWC1
PI STA. =389+25.43
Δ =25° 00′ 54″ (LT)
D =0° 27′ 59″
R =12,288.13′
T =2,725.90′
L =5,364.92′
E =298.72′
e = -----
T.R. = -----
S.E. RUN = -----
P.C. STA. =361+99.53
P.T. STA. =415+64.45





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PLAN	DATE
SUBMITTED	
REVISED	
ALIGNMENT CHECKED	
PLAN AND CHECKED	
CADD FILE NAME	
NOTE BOOK	
NO.	

PROFILE	BY	DATE
SUBMITTED		
REVISED		
GRADES CHECKED		
PLAN AND		
NOTE BOOK	STRUCTURE NO(S)(Y/N): CHK'D	
NO.		

USER NAME = $USER$	DESIGNED - JEH	REVISED -	
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PLOT SCALE = 20.0000 ' / IN.	CHECKED - DF	REVISED -	
PLOT DATE = 11/3/2011	DATE - 3-21-2011	REVISED -	

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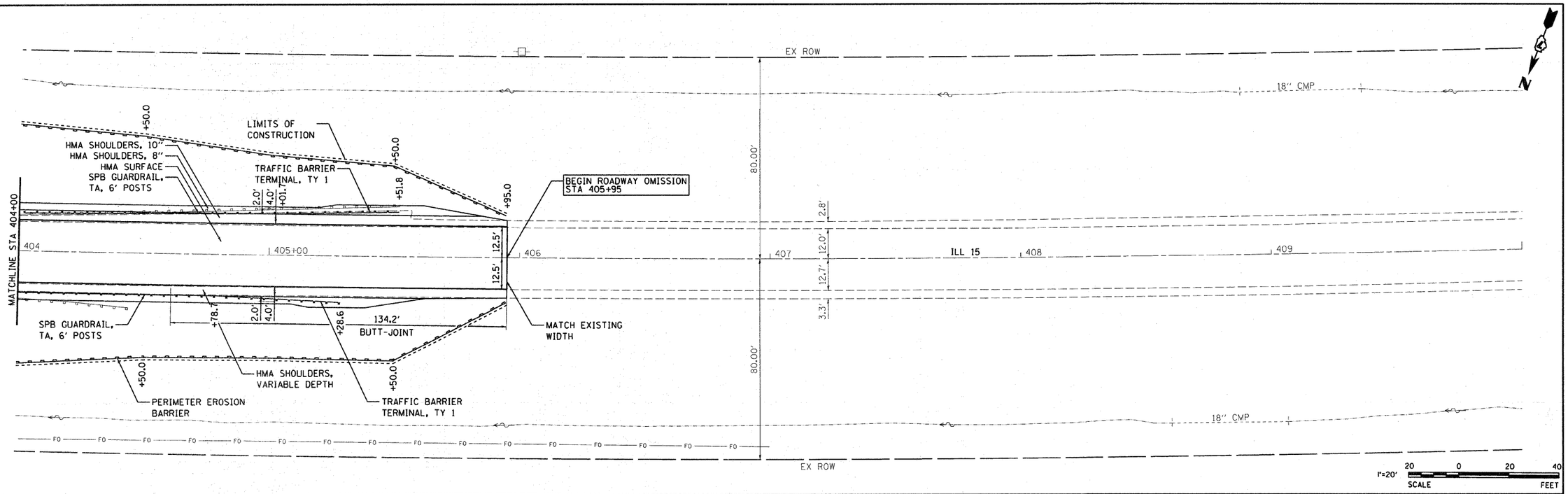
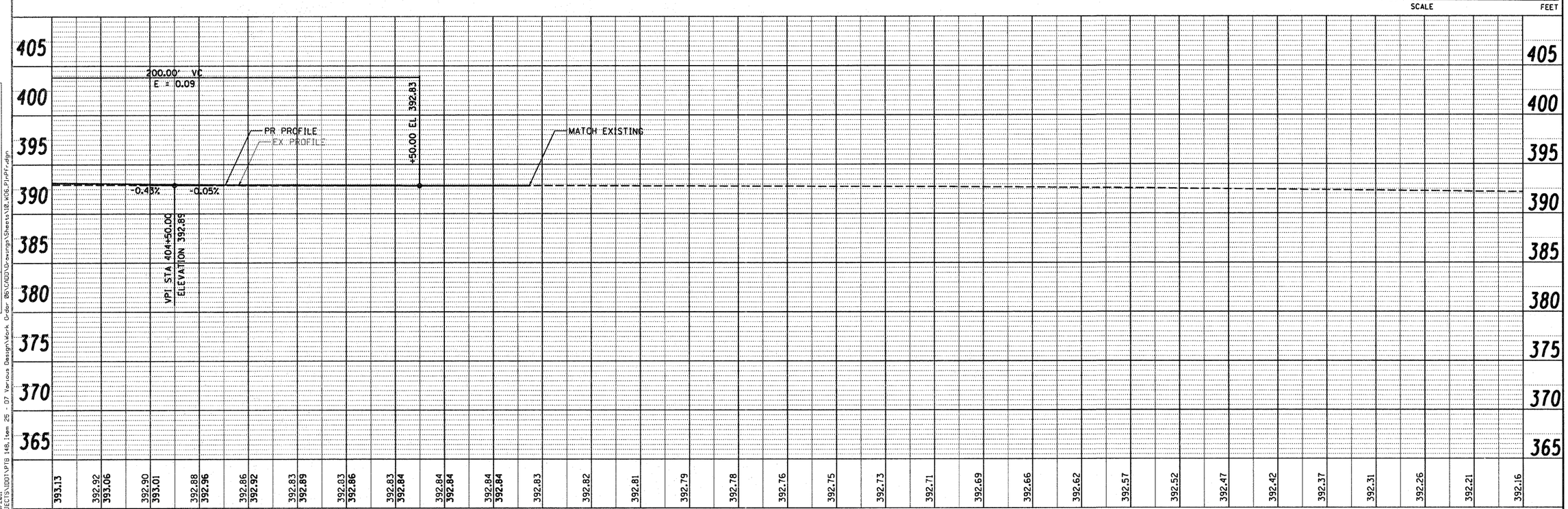
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0074
ROADWAY PLAN AND PROFILE

SCALE: 1″ = 20′ | SHEET NO 1 OF 2 SHEETS | STA 399+50 TO STA 404+00

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	9
		CONTRACT NO 74216		
		ILLINOIS FEDERAL AID PROJECT		





PLAN
SURVEYED
PLOTTED
NOTE BOOK
NO.
ALIGNMENT CHECKED
PLAN ACCEPTED
CADD FILE NAME
BY
DATE

PROFILE
SURVEYED
PLOTTED
NOTE BOOK
NO.
GRADES CHECKED
PLAN ACCEPTED
CADD FILE NAME
STAKING NOTATING CHKD
BY
DATE

PRINTED DATE= 11/3/2011
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PLOT DATE = 11/3/2011	DATE - 3-21-2011	REVISED -	

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0074
ROADWAY PLAN AND PROFILE

SCALE: 1" = 20' | SHEET NO 2 OF 2 SHEETS | STA 404+00 TO STA 405+50

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	10
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

LEGEND

- TRAFFIC SIGNAL
- SIGN
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- DOUBLE VERTICAL PANEL
- PCC BASE COURSE WIDENING

SCHEDULE OF QUANTITIES

TEMPORARY CONCRETE BARRIER

STATION	TO	STATION	FEET
399+85.0		405+31.0	546
		TOTAL	546

TEMPORARY BRIDGE TRAFFIC SIGNALS - 1 EACH

TEMPORARY RUMBLE STRIPS - 6 EACH

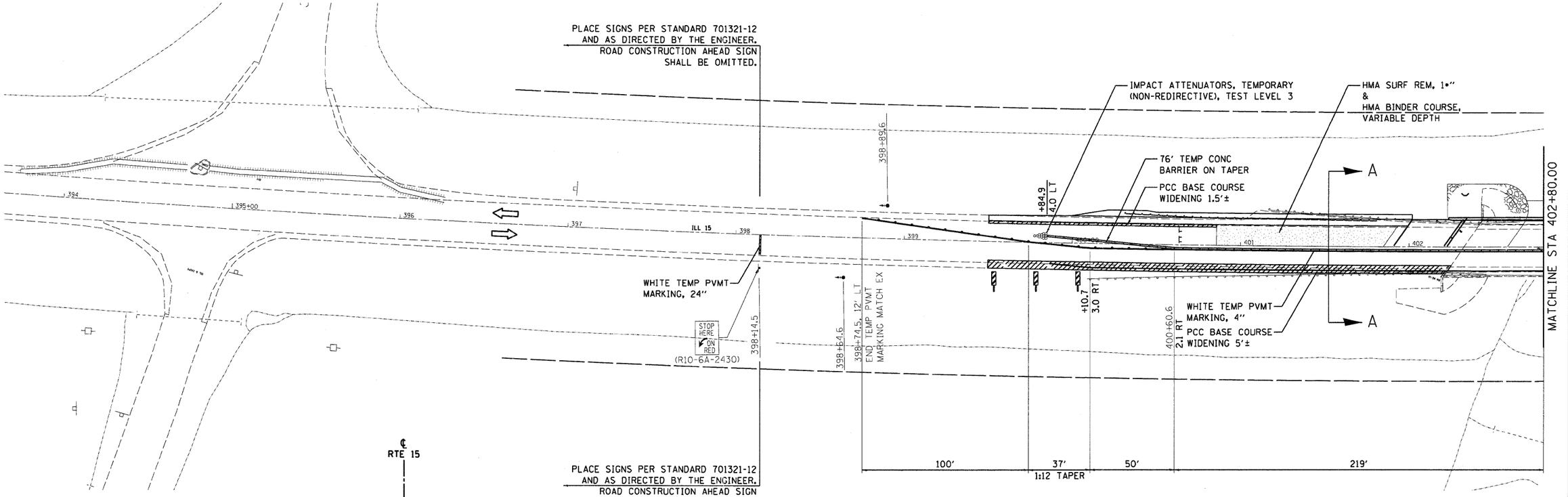
IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3 - 2 EACH

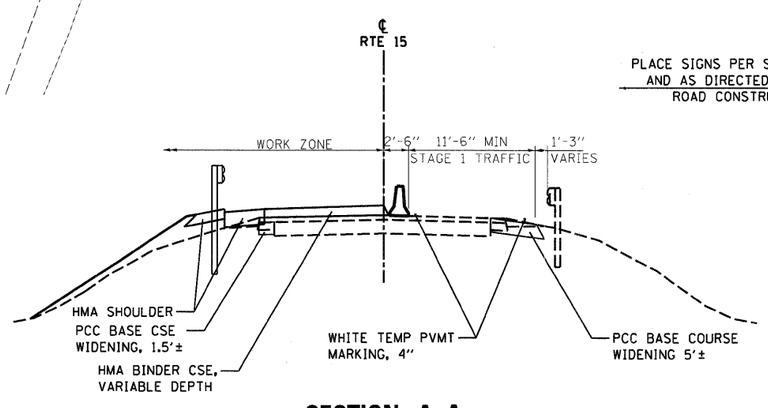
PRE-STAGE

1. CONSTRUCT PCC WIDENING ON NORTH SIDE OF RTE 15
2. INSTALL TEMPORARY TRAFFIC SIGNALS

STAGE 1

1. ACTIVATE TEMPORARY TRAFFIC SIGNALS.
2. MOVE TRAFFIC OVER TO WEST BOUND LANE.
3. INSTALL TEMPORARY CONCRETE TRAFFIC BARRIER, TEMPORARY IMPACT ATTENUATORS AND TRAFFIC CONTROL DEVISES.
4. REMOVE STAGE 1 OF EXISTING STRUCTURE, CONSTRUCT STAGE 1 OF PROPOSED STRUCTURE.
5. CONSTRUCT STAGE 1 ROADWAY WHICH INCLUDES, BUT NOT LIMITED TO: EMBANKMENT, HMA BINDER COURSE, HMA SHOULDERS (EXCLUDING 1.5" SYRFACE).
6. INSTALL NEW GUARDRAIL AS SHOWN IN THE PLANS.





PLACE SIGNS PER STANDARD 701321-12
AND AS DIRECTED BY THE ENGINEER.
ROAD CONSTRUCTION AHEAD SIGN
SHALL BE OMITTED.

SECTION A-A (STAGE I)

1"=30' SCALE: 30 0 30 60 FEET

ESI CONSULTANTS, LTD Excellence. Service. Integrity	USER NAME = $USER$	DESIGNED - JEH	REVISED -
		DRAWN - JEH	REVISED -
	PLOT SCALE = 30.0000 ' / IN.	CHECKED - DF	REVISED -
	PLOT DATE = 10/25/2011	DATE - 3-23-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0074
STAGE 1 CONSTRUCTION

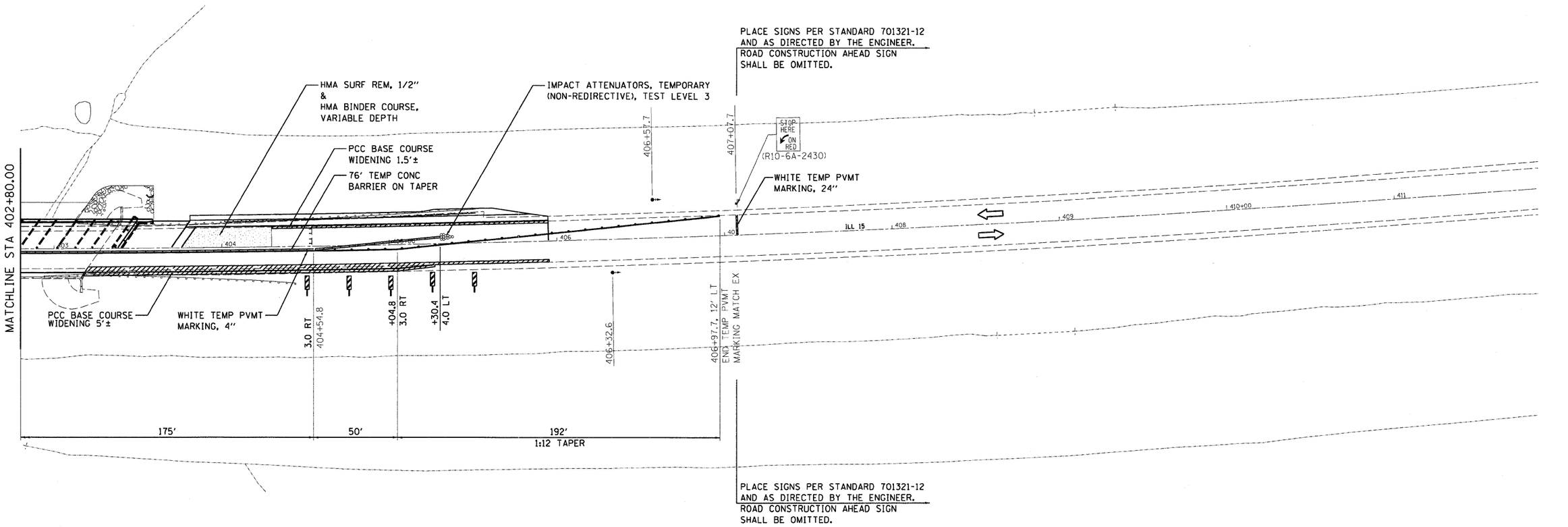
SCALE: 1"=30' | SHEET NO 1 OF 2 SHEETS | STA 396+87.43 TO STA 428+79.30

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	11
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

PRINTED DATE: 10/25/2011
FILE NAME: n:\projects\idot\ptb 148,item 25 - d7 various design\work order 06\cadd\drawings\sheets\11_WO6_Stage1.dgn

LEGEND

- TRAFFIC SIGNAL
- SIGN
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- DOUBLE VERTICAL PANEL
- PCC BASE COURSE WIDENING



1"=30'
30 0 30 60
SCALE FEET

PRINTED DATE: 10/25/2011
FILE NAME: n:\projects\ido\rpts 140, item 25 - d7 various design\work order 06\oodd\drawings\sheets\12_W06_Stage-1.dgn

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USER NAME = $USER$	DESIGNED - JEH	REVISED -
	DRAWN - JEH	REVISED -
PLOT SCALE = 30.0000 ' / IN.	CHECKED - DF	REVISED -
PLOT DATE = 10/25/2011	DATE - 3-23-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0074
STAGE 1 CONSTRUCTION

SCALE: 1"=30' | SHEET NO 2 OF 2 SHEETS | STA 428+79.30 TO STA 408+09.70

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	12
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

LEGEND

- TRAFFIC SIGNAL
- SIGN
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE

SCHEDULE OF QUANTITIES

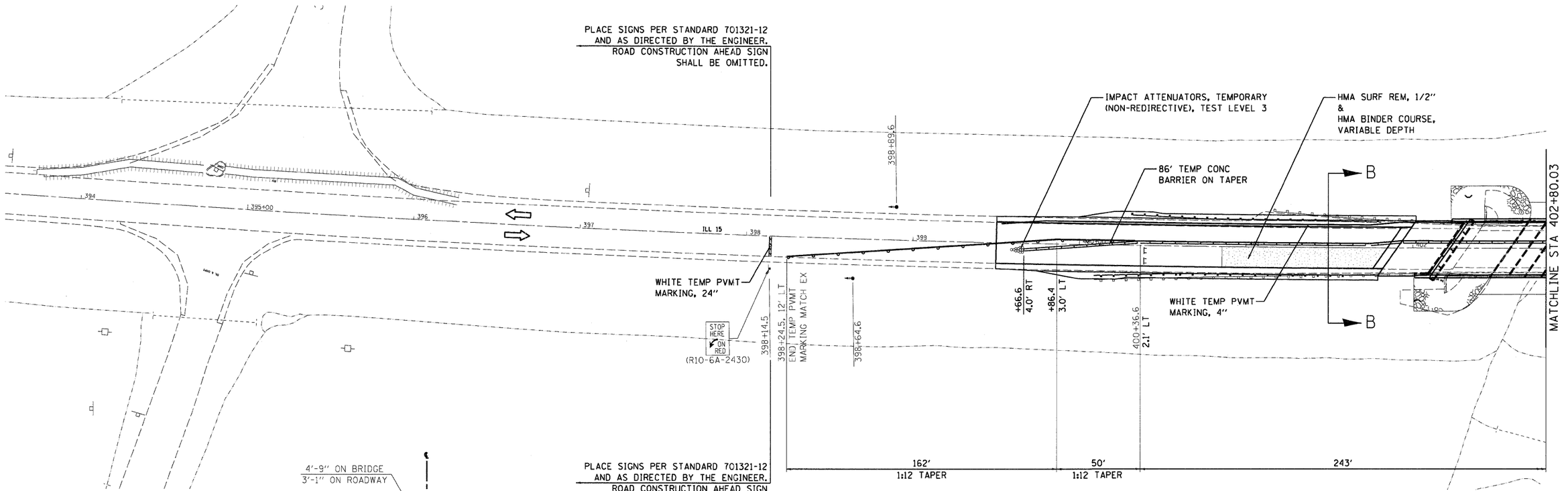
RELOCATE TEMPORARY CONCRETE BARRIER

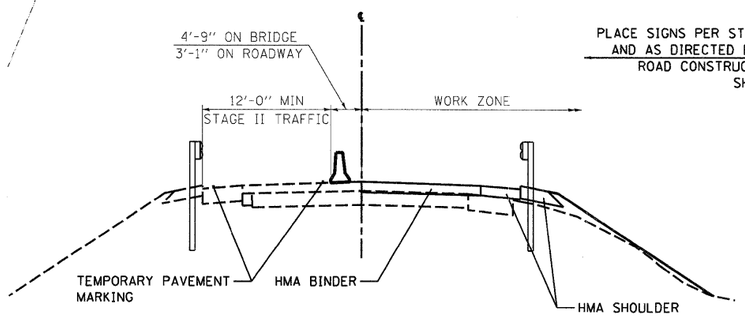
STATION	TO	STATION	FEET
399+92.0		405+25.0	533
		TOTAL	533

IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3 - 2 EACH

STAGE 2

1. RELOCATE TEMPORARY CONCRETE TRAFFIC BARRIER, TEMPORARY IMPACT ATTENUATORS AND TRAFFIC CONTROL DEVISES.
2. MOVE TRAFFIC OVER TO EAST BOUND LANE.
3. REMOVE STAGE 2 OF EXISTING STRUCTURE, CONSTRUCT STAGE 2 OF PROPOSED STRUCTURE.
4. CONSTRUCT STAGE 2 ROADWAY WHICH INCLUDES, BUT NOT LIMITED TO: EMBANKMENT, HMA BINDER COURSE, HMA SHOULDERS (EXCLUDING 1.5" SYRFACE).
5. INSTALL NEW GUARDRAIL AS SHOWN IN THE PLANS.
6. REMOVE TRAFFIC SIGNALS AND TEMPORARY CONCRETE BARRIER WALL
7. PLACE HMA SURFACE COURSE





SECTION B–B (STAGE II)

1"=30' SCALE 30 0 30 60 FEET

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USER NAME = $USER$	DESIGNED - JEH	REVISED -	
	DRAWN - JEH	REVISED -	
PLOT SCALE = 30.0000 ' / IN.	CHECKED - DF	REVISED -	
PLOT DATE = 10/25/2011	DATE - 3-23-2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

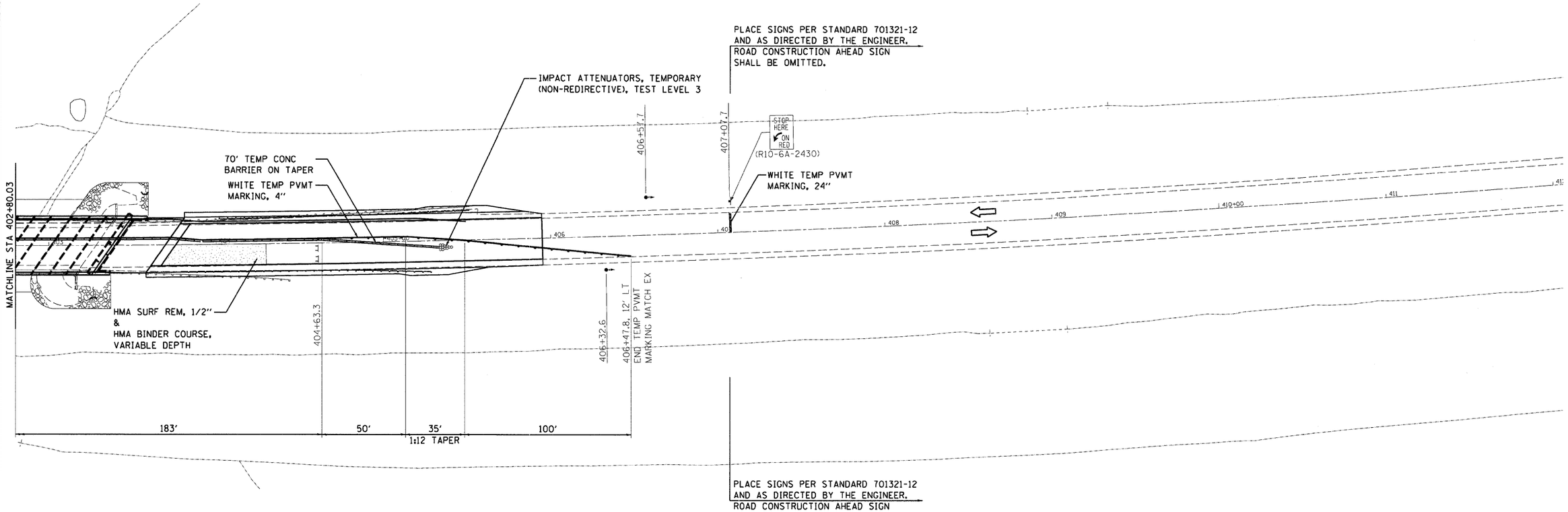
SN: 096–0074
STAGE II CONSTRUCTION

SCALE: 1" = 30' | SHEET NO 1 OF 2 SHEETS | STA 396+88.84 TO STA 402+80.03

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	13
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

LEGEND

- TRAFFIC SIGNAL
- SIGN
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE



1"=30' SCALE: 30 0 30 60 FEET

PRINTED DATE: 10/25/2011
FILE NAME: n:\projects\ido\tab 148, item 25 - d7 various design\work order 06\cadd\drawings\sheets\14_W06_Stage-2.dgn

ESI CONSULTANTS, LTD Excellence. Service. Integrity	USER NAME = $USER$	DESIGNED - JEH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN: 096-0074 STAGE II CONSTRUCTION
		DRAWN - JEH	REVISED -		
	PLOT SCALE = 30.0000 ' / IN.	CHECKED - DF	REVISED -		SCALE: 1"=30' | SHEET NO 2 OF 2 SHEETS | STA 402+80.03 TO STA 408+36.72
	PLOT DATE = 10/25/2011	DATE - 3-23-2011	REVISED -		

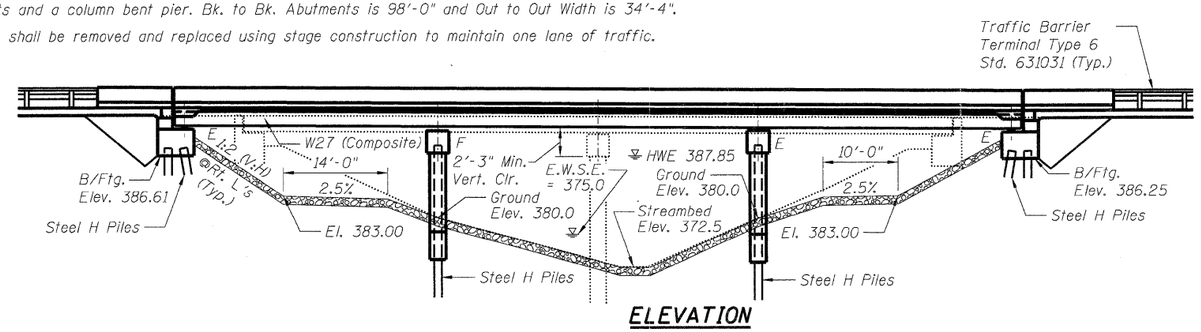
F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	14
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

Bench Mark: WE-18 Chiseled square 8.1 miles east of Fairfield on the NE wingwall of Structure #096-0013 at Sta. 402+18, Offset 19.0' Rt. El. 393.396

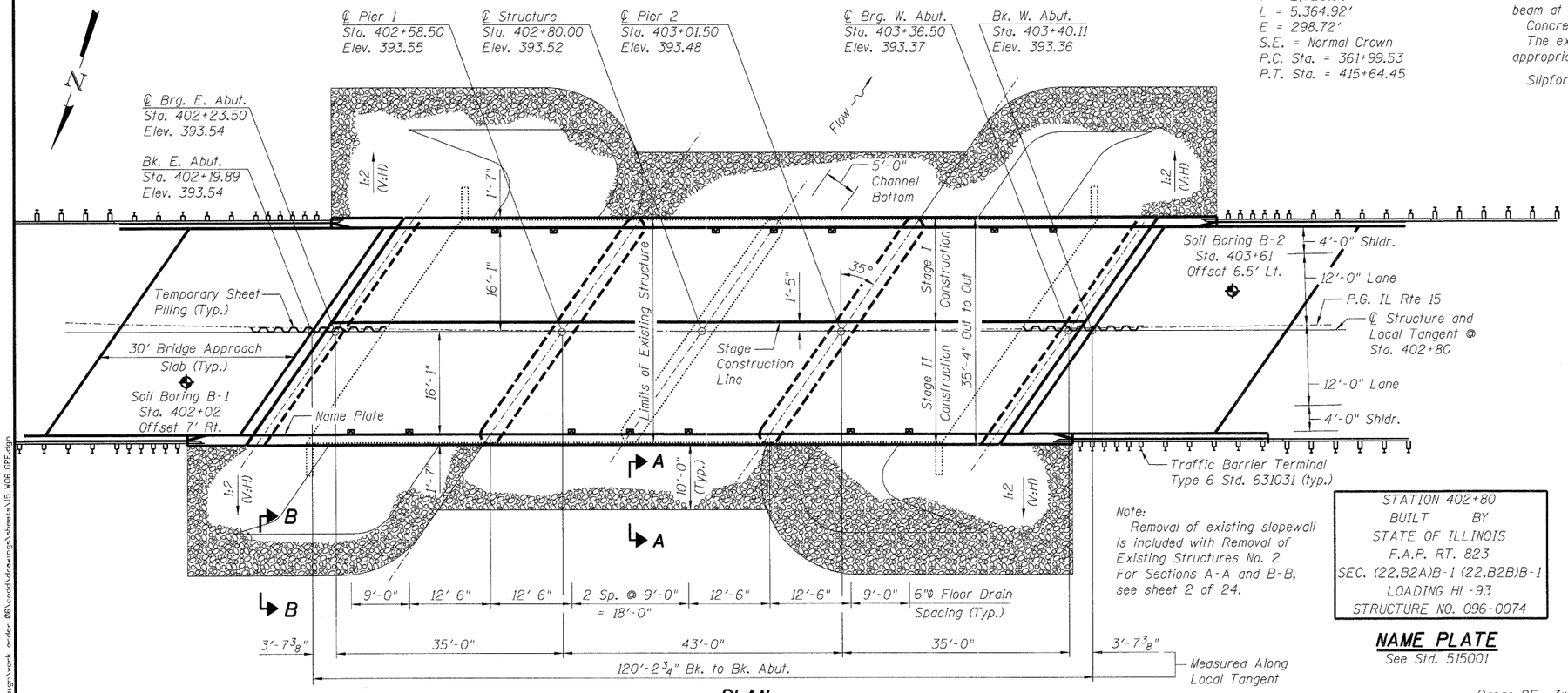
Existing Structure: S.N. 096-0013 originally constructed in 1955 as SBI 15 Section (22,BR)B-1 at Sta. 402+80. Two span continuous structure with 7" reinforced concrete deck on a steel I-beam superstructure supported by pile supported reinforced concrete abutments and a column bent pier. Bk. to Bk. Abutments is 98'-0" and Out to Out Width is 34'-4".

Existing structure shall be removed and replaced using stage construction to maintain one lane of traffic.

No Salvage.



ELEVATION



PLAN

Note: Removal of existing slopewall is included with Removal of Existing Structures No. 2 For Sections A-A and B-B, see sheet 2 of 24.

HORIZONTAL CURVE DATA

Exist. Curve WC1
PI Sta. = 389+25.43
Δ = 25° 00' 54" (LT)
D = 0° 27' 59"
R = 12,288.13'
T = 2,725.90'
L = 5,364.92'
E = 298.72'
S.E. = Normal Crown
P.C. Sta. = 361+99.53
P.T. Sta. = 415+64.45

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$" in. ϕ, holes $\frac{15}{16}$" in. ϕ, unless otherwise noted.

Calculated weight of Structural Steel = 60,000lb AASHTO M270 Grade 50
6,610lb AASHTO M270 Grade 36

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

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.

Reinforcement bars designated (E) shall be epoxy coated.

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

The 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 steel surfaces shall be gray, Munsell No. 5B 7/1.

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

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

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

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

Slipforming of the parapets will not be allowed.

INDEX OF SHEETS

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

LICENSED STRUCTURAL ENGINEER ★ STATE OF ILLINOIS ★ DANIEL FEUERBORN 81-5933

12/6/2011
Daniel Feuerborn
License Expires 11-30-2012
Date

STATION 402+80
BUILT BY
STATE OF ILLINOIS
F.A.P. RT. 823
SEC. (22,B2A)B-1 (22,B2B)B-1
LOADING HL-93
STRUCTURE NO. 096-0074

NAME PLATE

See Std. 515001

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec (SD1) = 0.276g
Design Spectral Acceleration at 0.2 sec (SDS) = 0.666g
Soil Site Class = D

DESIGN SCOUR ELEVATION TABLE

E. Abut.	Pier 1	Pier 2	W. Abut.
386.5	365.0	365.0	386.3

LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

DESIGN STRESSES

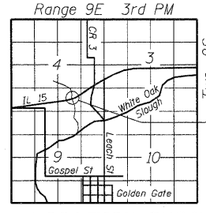
FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)
f_y = 50,000 psi (M270 Grade 50)

WATERWAY INFORMATION

Little Wabash River, White Oak Slough, Union Drainage Ditch Watershed Area = 1802.67 sq. mi.
Exist. Low Grade Elev. = 390.58' @ Sta. 378+00
Prop. Low Grade Elev. = 390.58' @ Sta. 378+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	1166	392	474	386.30	0.27	0.27	386.57	386.57
Design	50	1685	482	605	387.85	0.35	0.35	388.20	388.20
Base	100	1931	521	653	388.42	0.36	0.36	388.78	388.78
Max. Calc.	500	2292	611	759	389.67	0.44	0.43	390.11	390.10

10-Year Velocity through Existing Bridge = 2.77 fps
10-Year Velocity through Proposed Bridge = 2.78 fps



LOCATION SKETCH

GENERAL PLAN & ELEVATION
IL RTE 15 OVER UNNAMED STREAM
F.A.P. RTE. 823 SEC. (22,B2A)B-1&(22,B2B)B-1
WAYNE COUNTY
STATION 402+80
STRUCTURE NO. 096-0074

DESIGNED	SMA
CHECKED	DF
DRAWN	ADG
CHECKED	DF

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 096-0074
SHEET NO. 1 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	15
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

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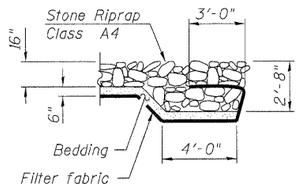
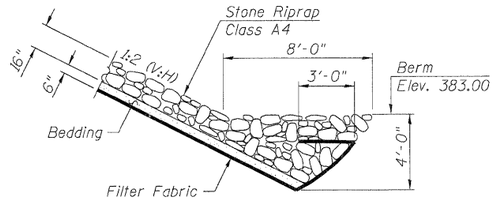
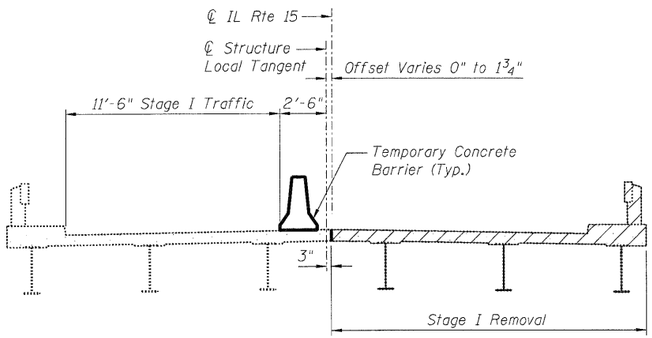
Note:
Dimensions in cross sections are at Rt. L's to Local Tangent unless noted.
Hatched area indicates Removal of Existing Structures No. 2.
For details of Temporary Concrete Barrier, see sheet 5 of 24.
For quantity of Temporary Concrete Barrier, see Roadway Plans.



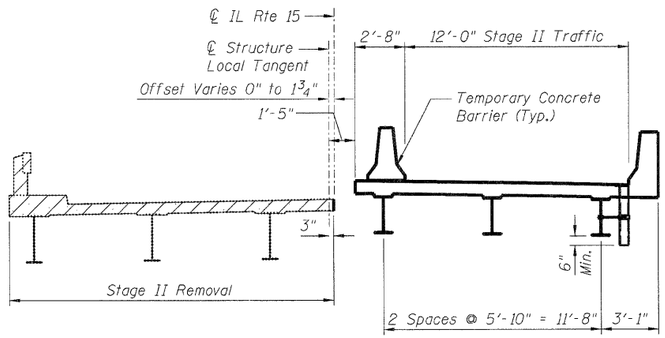
SECTION A-A



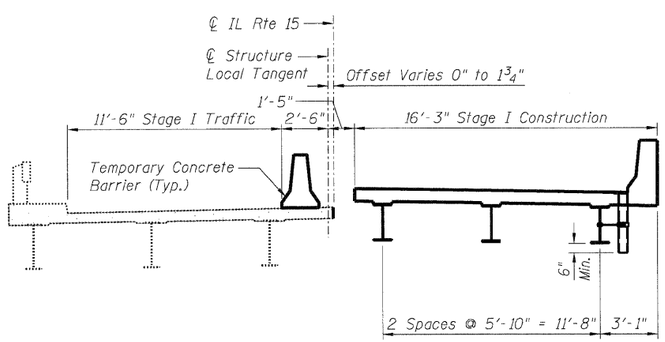
SECTION B-B



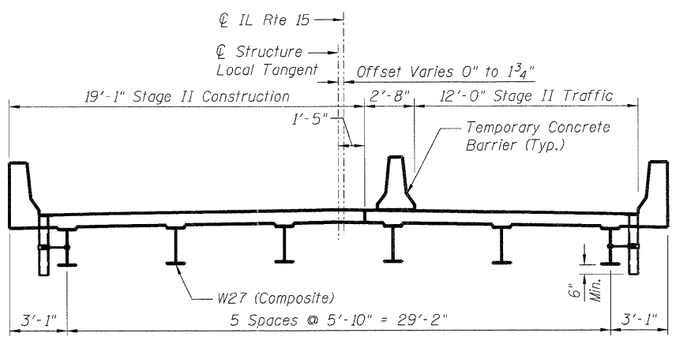
STAGE I REMOVAL
(Looking East)



STAGE II REMOVAL
(Looking East)



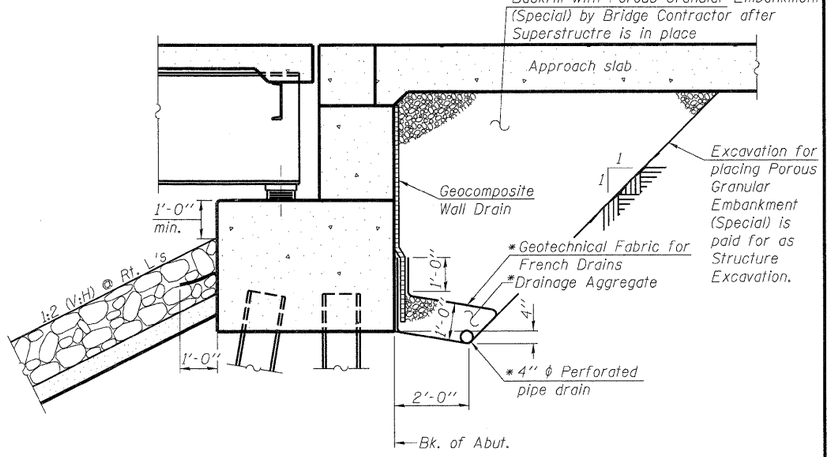
STAGE I CONSTRUCTION
(Looking East)



STAGE II CONSTRUCTION
(Looking East)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		87.2	87.2
Removal of Existing Structures, No. 2	Each			1
Structure Excavation	Cu. Yd.		232.8	232.8
Driving Piles	Foot		1392	1392
Concrete Structures	Cu. Yd.		243.3	243.3
Concrete Superstructure	Cu. Yd.	155.4		155.4
Bridge Deck Grooving	Sq. Yd.	384		384
Protective Coat	Sq. Yd.		770	770
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	2772		2772
Reinforcement Bars, Epoxy Coated	Pound	54600	28760	83360
Furnishing Steel Piles HP 14x73	Foot		1392	1392
Test Pile Steel HP 14x73	Each		4	4
Temporary Sheet Piling	Sq. Ft.		550	550
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		46	46
Pipe Underdrains for Structures 4"	Foot		142	142
Bar Splicers	Each	655	116	771
Concrete Encasement	Cu. Yd.		18.6	18.6
Preformed Joint Strip Seal	Foot	83		83
Elastomeric Bearing Assembly, Type I	Each	12		12
Elastomeric Bearing Assembly, Type II	Each	6		6
Concrete Sealer	Sq. Ft.		842	842
Stone Riprap, Class A4	Sq. Yd.		1025	1025
Filter Fabric	Sq. Yd.		1025	1025
Floor Drains	Each		14	14
Anchor Bolts, 1"	Each		48	48
Mechanical Splicers	Each		72	72
Cofferdam Excavation	Cu. Yd.		333.8	333.8
Cofferdam (Type I), Location 3	L. Sum	1		1
Cofferdam (Type I), Location 4	L. Sum	1		1
Bridge Deck (Shrinkage-Compensating Concrete)	Cu. Yd.	105		105



SECTION THRU PILE SUPPORTED STUB ABUTMENT
(Horiz. dim. @ Rt. L's)

*Included in the cost of Pipe Underdrains for Structures.

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

(Sheet 1 of 3)

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GENERAL DATA & DETAILS
STRUCTURE NO. 096-0074
SHEET NO. 2 OF 24 SHEETS

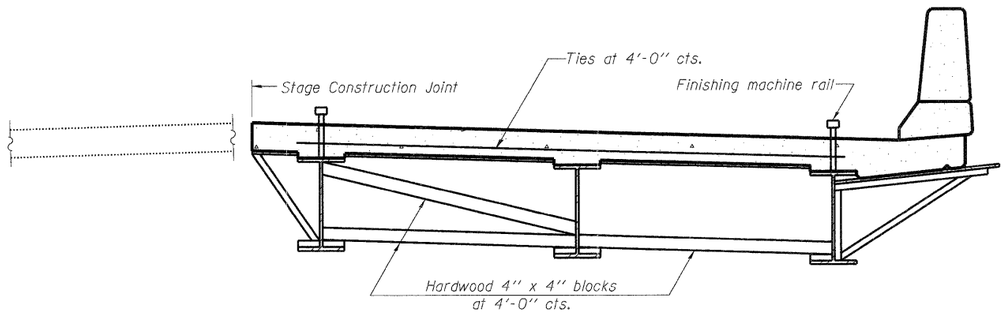
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	16
		CONTRACT NO. 74216		
		ILLINOIS FEDERAL AID PROJECT		

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.

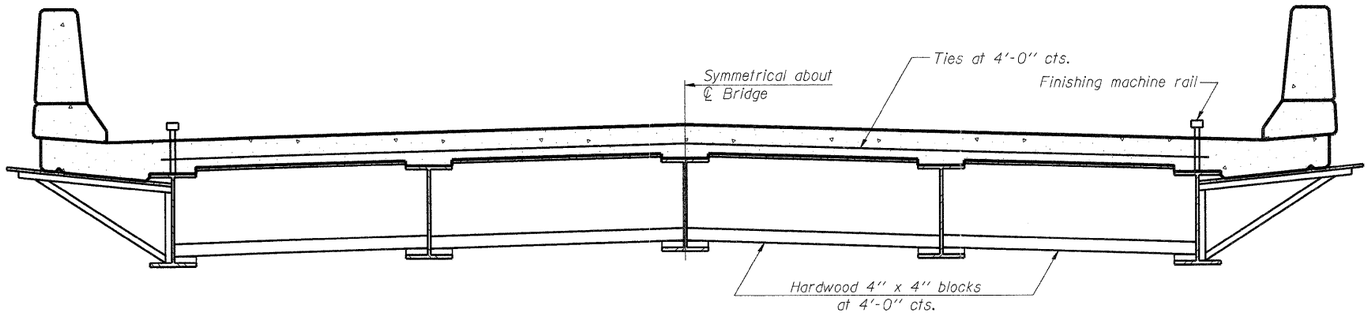
The finishing machine rails shall be placed on the top flange of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



FORM BRACES FOR STAGE CONSTRUCTION



FORM BRACES FOR STANDARD CONSTRUCTION

SB-1 7-1-10

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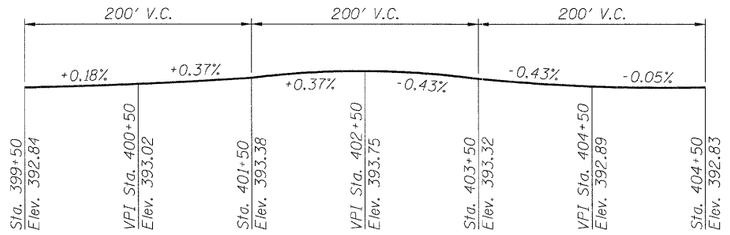
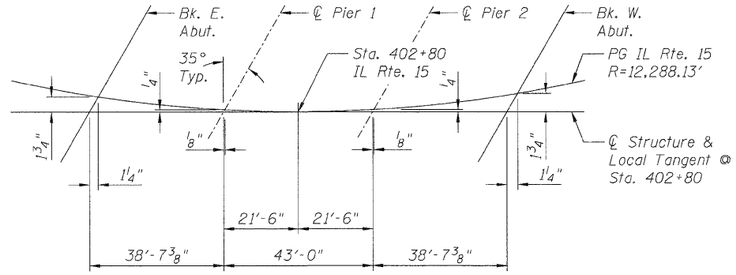
GENERAL DATA & DETAILS
CANTILEVER FORMING BRACKETS **STRUCTURE NO. 096-0074**
SHEET NO. 3 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	17
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

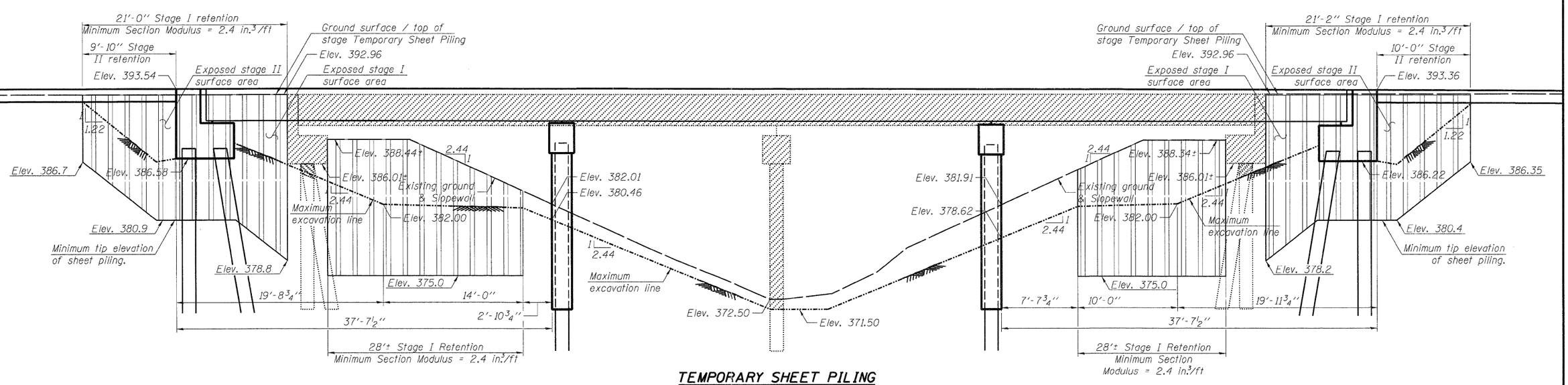
If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.



PROFILE GRADE
(along ℄ IL Route 15)



OFFSET SKETCH



TEMPORARY SHEET PILING

(Sheet 3 of 3)

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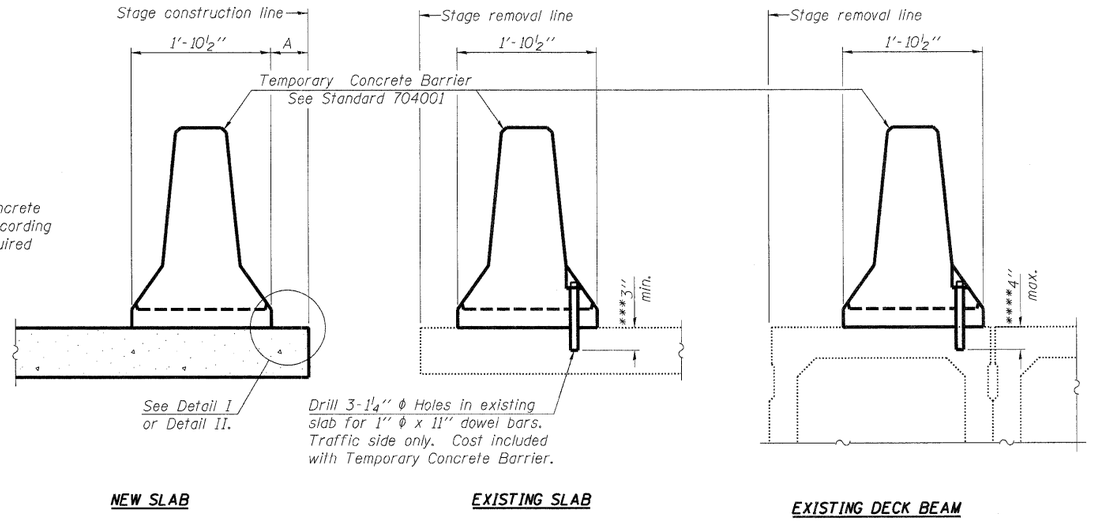
GENERAL DATA & DETAILS
TEMPORARY SHEET PILING **STRUCTURE NO. 096-0074**
SHEET NO. 4 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	18
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

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".



NEW SLAB | **EXISTING SLAB** | **EXISTING DECK BEAM**

NOTES

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

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

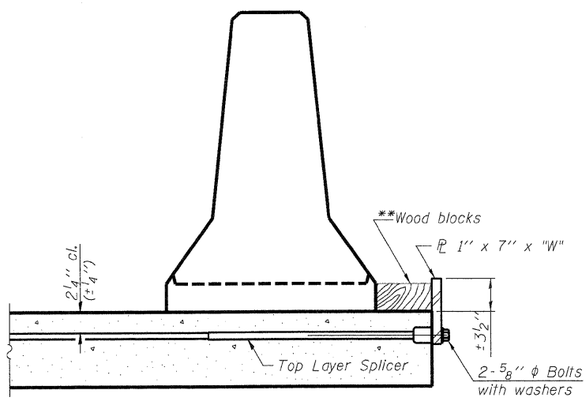
Cost of anchorage is included with Temporary Concrete Barrier.

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

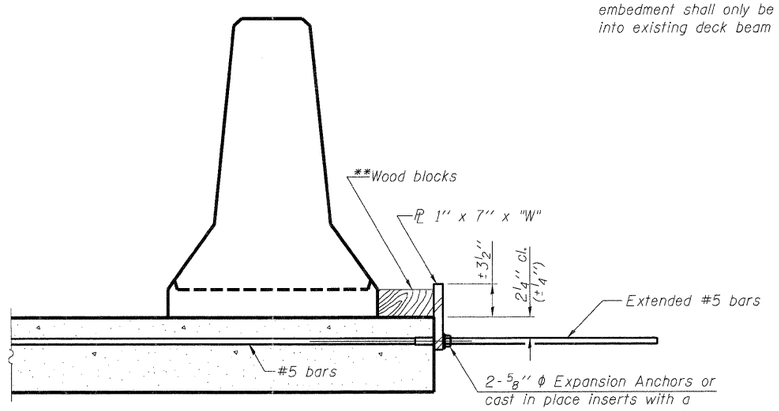
SECTIONS THRU SLAB OR DECK BEAM

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

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



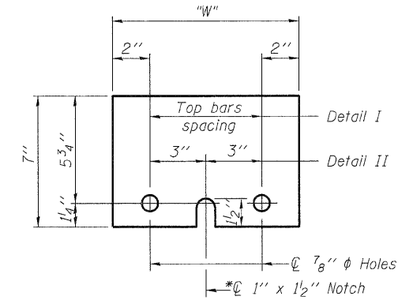
DETAIL I



DETAIL II

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

"W" = Top bars spacing + 4"



STEEL RETAINER ℙ 1" x 7" x "W"

* Required only with Detail II

R-27

7-1-10

DESIGNED	-	ADG
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CHECKED	-	DF

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ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 096-0074
SHEET NO. 5 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	19
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

PRINTED DATE: 12/5/2011
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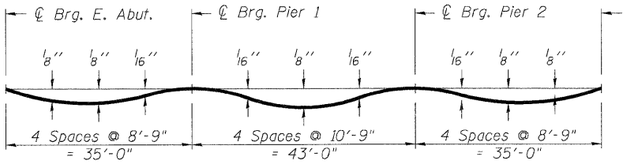
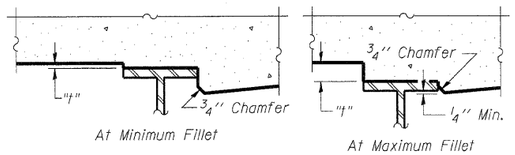


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 6 of 24 and 7 of 24.



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 below and on sheet 7 of 24, minus slab thickness, equals the fillet heights "t" above top flange of beams.

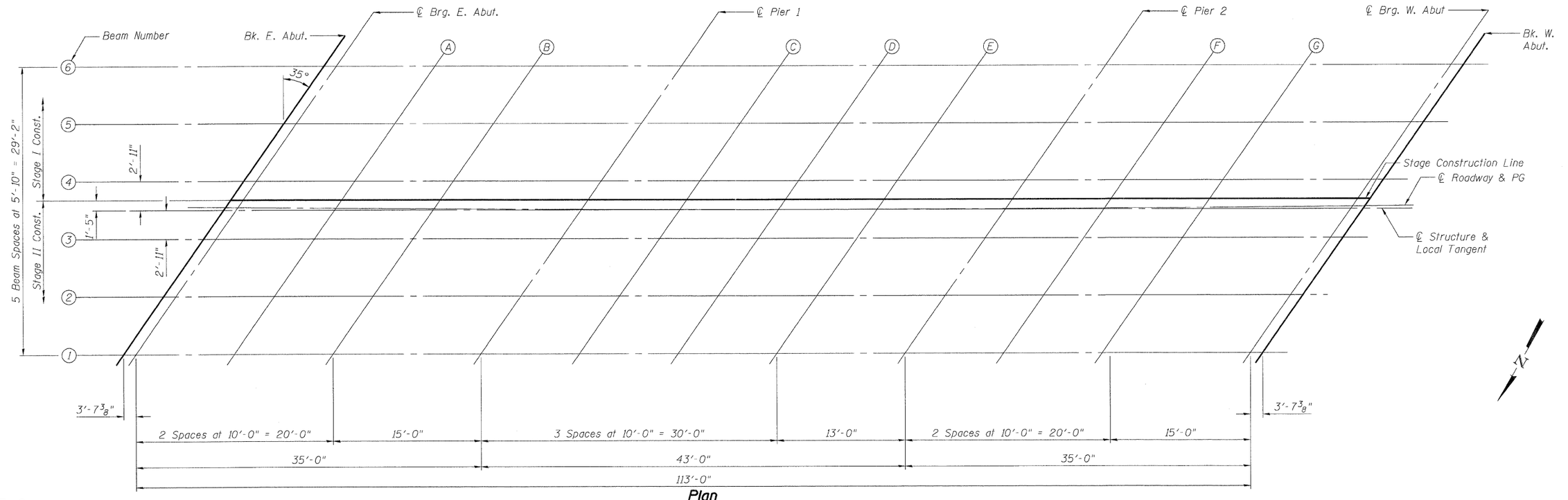
FILLET HEIGHTS

℄ ROADWAY & PG

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	402+19.99	0.00	393.54	393.54
℄ E. Abut.	402+23.59	0.00	393.54	393.54
A	402+33.56	0.00	393.55	393.56
B	402+43.54	0.00	393.55	393.56
℄ Pier 1	402+58.51	0.00	393.55	393.55
C	402+68.50	0.00	393.54	393.54
D	402+78.50	0.00	393.53	393.54
E	402+88.50	0.00	393.51	393.52
℄ Pier 2	403+01.51	0.00	393.48	393.48
F	403+11.53	0.00	393.46	393.46
G	403+21.55	0.00	393.43	393.44
℄ W. Abut.	403+36.59	0.00	393.37	393.37
Bk. W. Abut.	403+40.11	0.00	393.36	393.36

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	402+20.87	1.27	393.52	393.52
℄ E. Abut.	402+24.49	1.29	393.52	393.52
A	402+34.49	1.33	393.53	393.54
B	402+44.49	1.37	393.53	393.54
℄ Pier 1	402+59.49	1.40	393.52	393.52
C	402+69.49	1.41	393.51	393.52
D	402+79.49	1.42	393.52	393.54
E	402+89.49	1.41	393.48	393.49
℄ Pier 2	403+02.49	1.40	393.46	393.46
F	403+12.50	1.37	393.43	393.44
G	403+22.25	1.34	393.40	393.41
℄ W. Abut.	403+37.50	1.28	393.35	393.35
Bk. W. Abut.	403+41.11	1.26	393.34	393.34



Plan

E-S 7-1-10

DESIGNED	-	DF
CHECKED	-	ADG
DRAWN	-	ADG
CHECKED	-	DF

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 096-0074
SHEET NO. 6 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	20
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

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BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	402+09.76	14.78	393.28	393.28
℄ E. Abut.	402+13.37	14.76	393.29	393.29
A	402+23.36	14.71	393.30	393.31
B	402+33.34	14.67	393.31	393.32
℄ Pier 1	402+48.33	14.62	393.31	393.31
C	402+58.31	14.60	393.30	393.31
D	402+68.30	14.59	393.30	393.31
E	402+78.29	14.58	393.28	393.29
℄ Pier 2	402+91.28	14.59	393.26	393.26
F	403+01.26	14.60	393.24	393.25
G	403+11.25	14.62	393.21	393.22
℄ W. Abut.	403+26.23	14.67	393.17	393.17
Bk. W. Abut.	403+29.84	14.68	393.16	393.16

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	402+13.81	8.93	393.40	393.40
℄ E. Abut.	402+17.42	8.91	393.40	393.40
A	402+27.41	8.86	393.41	393.42
B	402+37.40	8.82	393.41	393.42
℄ Pier 1	402+52.39	8.78	393.41	393.41
C	402+62.39	8.76	393.41	393.41
D	402+72.38	8.75	393.40	393.41
E	402+82.37	8.75	393.52	393.53
℄ Pier 2	402+95.36	8.76	393.36	393.36
F	403+05.36	8.78	393.33	393.34
G	403+15.35	8.80	393.31	393.32
℄ W. Abut.	403+30.34	8.85	393.26	393.26
Bk. W. Abut.	403+33.95	8.87	393.25	393.25

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	402+17.86	3.07	393.49	393.49
℄ E. Abut.	402+21.47	3.06	393.49	393.49
A	402+31.47	3.01	393.50	393.51
B	402+41.47	2.98	393.50	393.51
℄ Pier 1	402+56.46	2.94	393.50	393.50
C	402+66.46	2.92	393.49	393.50
D	402+76.46	2.92	393.48	393.49
E	402+86.46	2.92	393.51	393.52
℄ Pier 2	402+99.45	2.93	393.44	393.44
F	403+09.45	2.95	393.42	393.42
G	403+19.45	2.98	393.39	393.40
℄ W. Abut.	403+34.44	3.04	393.33	393.33
Bk. W. Abut.	403+38.06	3.05	393.32	393.32

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	402+21.91	2.78	393.50	393.50
℄ E. Abut.	402+25.53	2.80	393.50	393.50
A	402+35.53	2.84	393.51	393.51
B	402+45.53	2.87	393.51	393.52
℄ Pier 1	402+60.54	2.90	393.50	393.50
C	402+70.54	2.91	393.49	393.50
D	402+80.54	2.92	393.52	393.53
E	402+90.54	2.91	393.46	393.47
℄ Pier 2	403+03.55	2.89	393.43	393.43
F	403+13.55	2.87	393.41	393.41
G	403+23.55	2.84	393.38	393.39
℄ W. Abut.	403+38.56	2.78	393.32	393.32
Bk. W. Abut.	403+42.17	2.76	393.31	393.31

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	402+25.97	8.63	393.41	393.41
℄ E. Abut.	402+29.59	8.65	393.41	393.41
A	402+39.60	8.68	393.42	393.42
B	402+49.61	8.71	393.41	393.42
℄ Pier 1	402+64.62	8.74	393.40	393.40
C	402+74.62	8.75	393.39	393.40
D	402+84.63	8.75	393.52	393.53
E	402+94.64	8.74	393.36	393.37
℄ Pier 2	403+07.65	8.72	393.33	393.33
F	403+17.65	8.69	393.30	393.31
G	403+27.66	8.66	393.27	393.28
℄ W. Abut.	403+42.67	8.59	393.22	393.22
Bk. W. Abut.	403+46.29	8.57	393.20	393.20

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	402+30.04	14.48	393.31	393.31
℄ E. Abut.	402+33.66	14.50	393.31	393.31
A	402+43.67	14.53	393.31	393.32
B	402+53.68	14.56	393.31	393.32
℄ Pier 1	402+68.70	14.58	393.30	393.30
C	402+78.71	14.58	393.28	393.29
D	402+88.72	14.58	393.51	393.52
E	402+98.73	14.57	393.25	393.26
℄ Pier 2	403+11.75	14.54	393.21	393.21
F	403+21.76	14.51	393.19	393.19
G	403+31.77	14.47	393.15	393.16
℄ W. Abut.	403+46.79	14.40	393.10	393.10
Bk. W. Abut.	403+50.41	14.38	393.08	393.08

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DESIGNED	-	DF
CHECKED	-	ADG
DRAWN	-	ADG
CHECKED	-	DF

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 096-0074
SHEET NO. 7 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	21
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

℄ ROADWAY & PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Pavmt.	401+89.91	0.00	393.49
A1	401+99.86	0.00	393.51
A2	402+09.82	0.00	393.53
W. End East Appr. Pavmt.	402+19.79	0.00	393.54
E. End West Appr. Pavmt.	403+40.42	0.00	393.36
A3	403+50.46	0.00	393.31
A4	403+60.50	0.00	393.27
W. End West Appr. Pavmt.	403+70.55	0.00	393.23

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Pavmt.	401+81.65	12.00	393.29
A1	401+91.59	12.00	393.31
A2	402+01.53	12.00	393.33
W. End East Appr. Pavmt.	402+11.48	12.00	393.34
E. End West Appr. Pavmt.	403+31.94	12.00	393.20
A3	403+41.96	12.00	393.17
A4	403+51.99	12.00	393.12
W. End West Appr. Pavmt.	403+62.03	12.00	393.08

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Pavmt.	401+78.56	16.50	393.19
A1	401+88.54	16.42	393.21
A2	401+98.53	16.35	393.23
W. End East Appr. Pavmt.	402+08.51	16.29	393.19
E. End West Appr. Pavmt.	403+28.99	16.18	393.13
A3	403+38.98	16.23	393.09
A4	403+48.97	16.28	393.05
W. End West Appr. Pavmt.	403+58.95	16.34	393.00

STAGE CONSTRUCTION JOINT

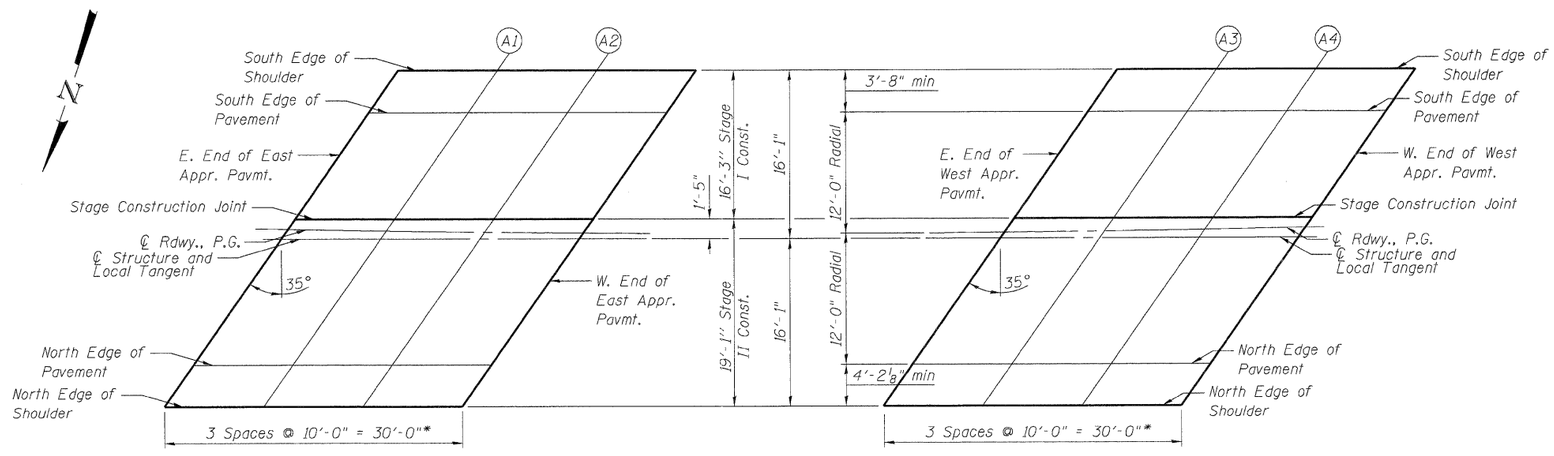
Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Pavmt.	401+90.67	1.09	393.48
A1	402+00.67	1.16	393.50
A2	402+10.67	1.22	393.51
W. End East Appr. Pavmt.	402+20.67	1.27	393.52
E. End West Appr. Pavmt.	403+41.32	1.26	393.34
A3	403+51.32	1.21	393.30
A4	403+61.32	1.15	393.25
W. End West Appr. Pavmt.	403+71.32	1.08	393.22

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Pavmt.	401+98.19	-12.00	393.32
A1	402+08.16	-12.00	393.34
A2	402+18.13	-12.00	393.35
W. End East Appr. Pavmt.	402+28.11	-12.00	393.36
E. End West Appr. Pavmt.	403+48.92	-12.00	393.14
A3	403+58.98	-12.00	393.09
A4	403+69.03	-12.00	393.05
W. End West Appr. Pavmt.	403+79.10	-12.00	393.02

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Pavmt.	402+00.84	-15.83	393.25
A1	402+10.85	-15.89	393.26
A2	402+20.87	-15.94	393.27
W. End East Appr. Pavmt.	402+30.88	-15.99	393.28
E. End West Appr. Pavmt.	403+51.67	-15.87	393.04
A3	403+61.69	-15.81	393.00
A4	403+71.70	-15.74	392.97
W. End West Appr. Pavmt.	403+81.71	-15.66	392.93



PLAN

* Measured along local tangent

E-AS 7-1-10

DESIGNED	-	DF
CHECKED	-	ADG
DRAWN	-	ADG
CHECKED	-	DF

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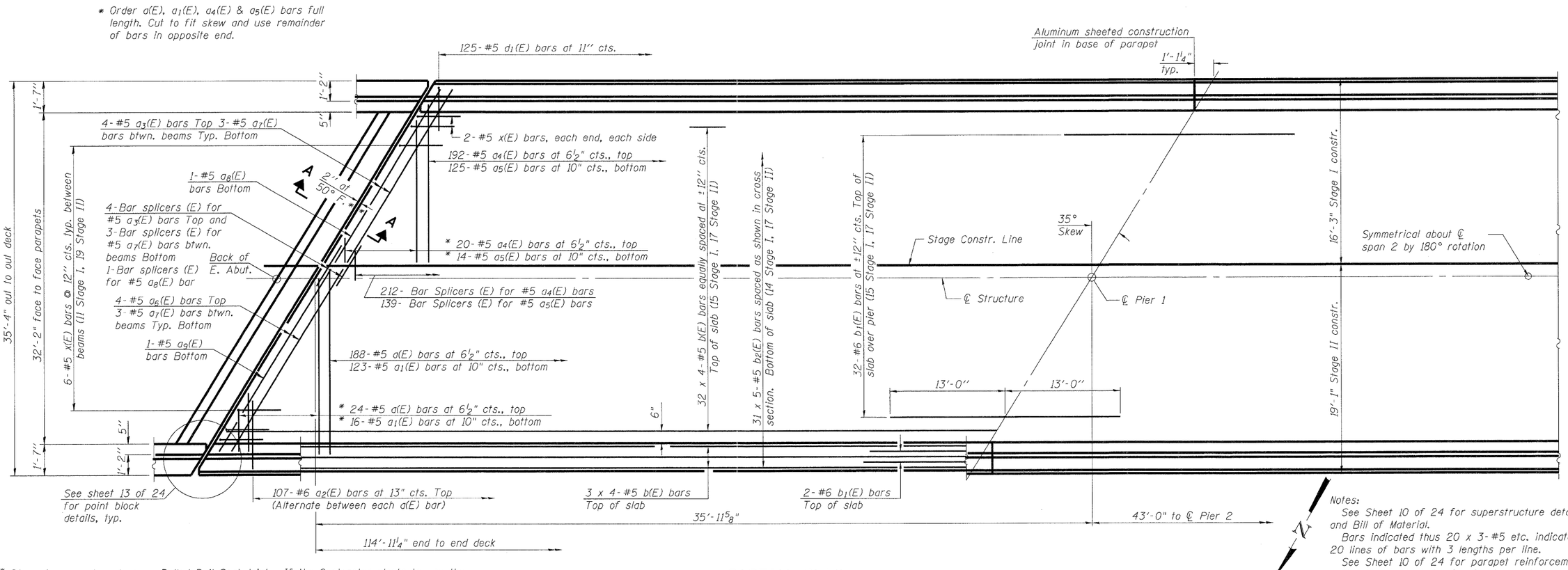
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS
STRUCTURE NO. 096-0074
SHEET NO. 8 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	22
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

* Order $a(E)$, $a_1(E)$, $a_4(E)$ & $a_5(E)$ bars full length. Cut to fit skew and use remainder of bars in opposite end.



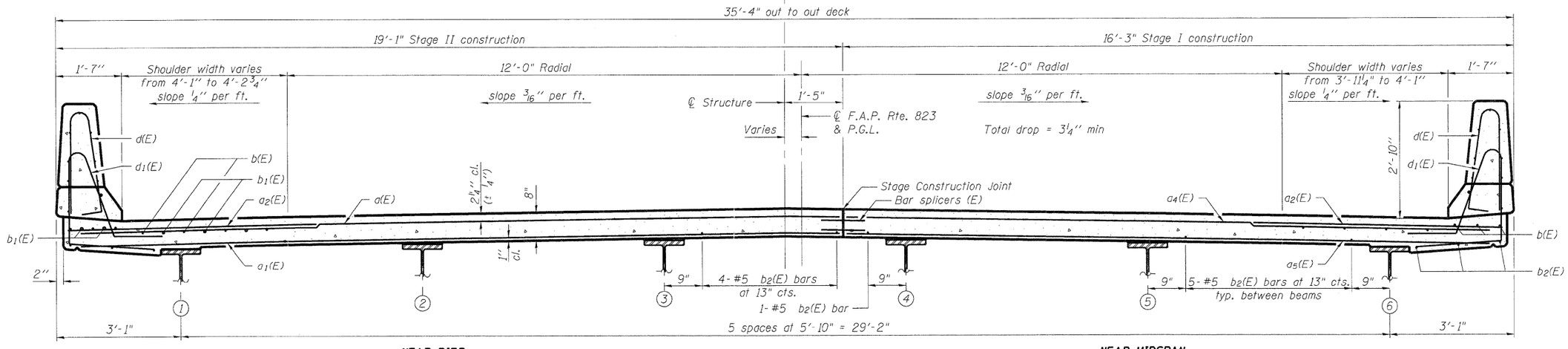
* Dimensions are based on a Rolled Rail Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Base Sheet EJ-SSJ.

PARTIAL PLAN

Notes:
See Sheet 10 of 24 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3- #5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 10 of 24 for parapet reinforcement.
See Sheet 10 of 24 for Section A-A.

MIN. BAR LAP

#5 Bar = 2'-7"



NEAR PIER **NEAR MIDSPAN**

CROSS SECTION

(Looking East)

DESIGNED - SMA	ESI CONSULTANTS, LTD 765 WINDSOR ROAD CHARLESTON, IL 61920 (217) 348-1600 WWW.ESICONSULTANTSLTD.COM ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION**	**SUPERSTRUCTURE** **STRUCTURE NO. 096-0074**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
CHECKED - DF				823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	23
DRAWN - ADG							CONTRACT NO. 74216	
CHECKED - DF			SHEET NO. 9 OF 24 SHEETS			ILLINOIS FEDERAL AID PROJECT		

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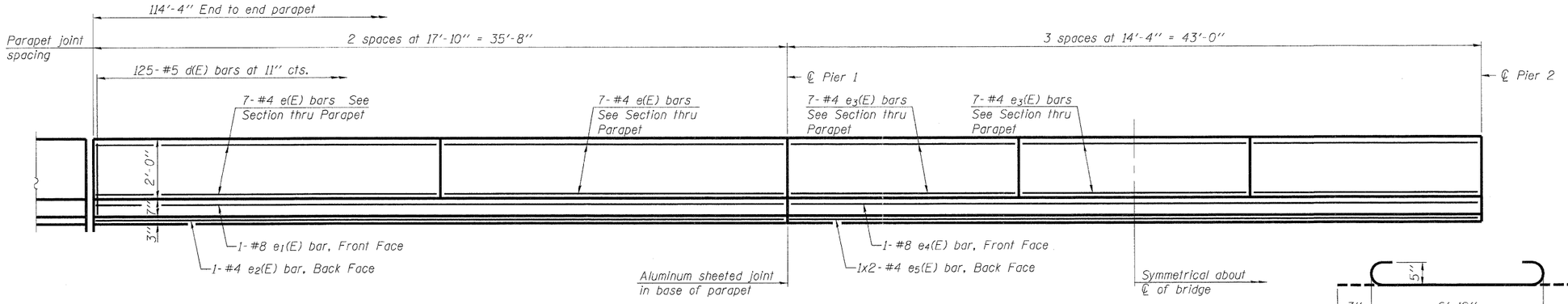
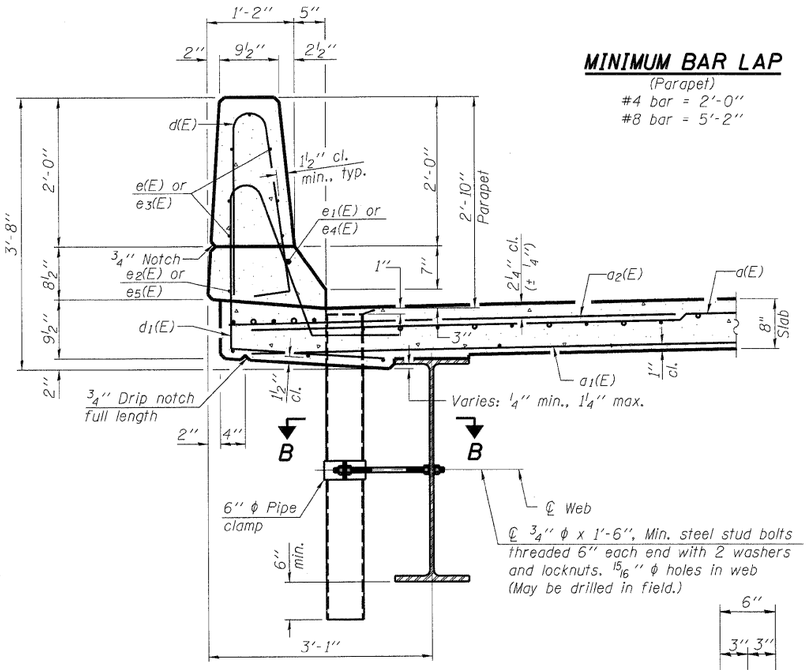


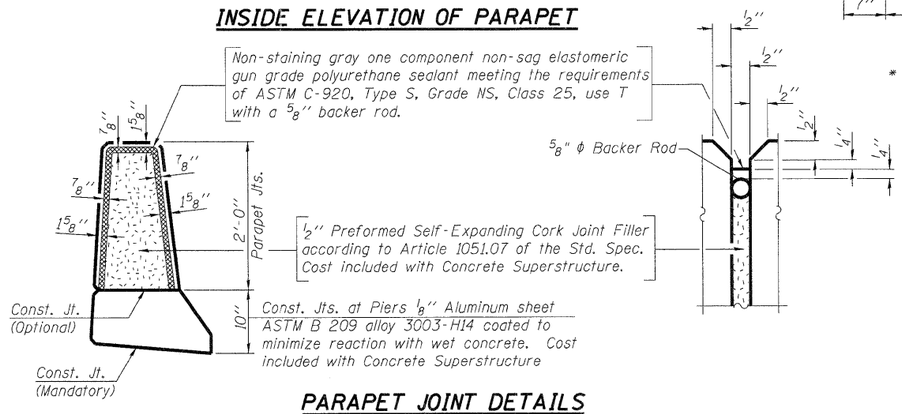
MINIMUM BAR LAP

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



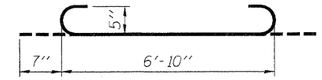
SECTION THRU PARAPET

INSIDE ELEVATION OF PARAPET



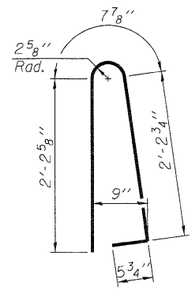
PARAPET JOINT DETAILS

Notes:
Drains shall be located clear of all diaphragms.
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 the Society of Protective Coating's Spec. SSPC-SP1 prior to painting.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
Galvanize clamping device according to AASHTO M232. Cost of clamping device and galvanizing is included with Floor Drains.

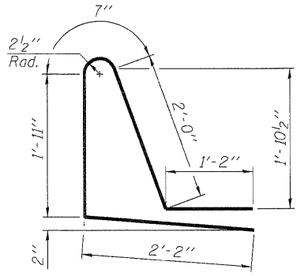


a7(E) BAR*

* Cut a7(E) to fit at stage construction joint.



BAR d(E)

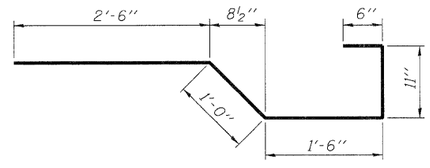


BAR d1(E)

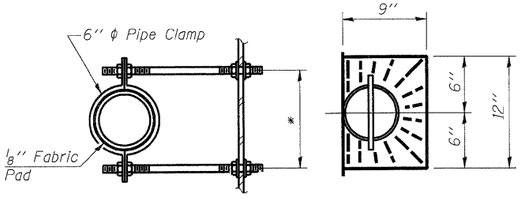
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	212	#5	18'-7"	
a1(E)	139	#5	18'-0"	
a2(E)	214	#6	6'-6"	
a3(E)	8	#5	19'-3"	
a4(E)	212	#5	15'-9"	
a5(E)	139	#5	15'-2"	
a6(E)	8	#5	22'-8"	
a7(E)	30	#5	8'-0"	
a8(E)	2	#5	18'-6"	
a9(E)	2	#5	22'-0"	
b(E)	152	#5	30'-8"	
b1(E)	64	#6	26'-0"	
b2(E)	155	#5	25'-0"	
d(E)	250	#5	5'-7"	
d1(E)	250	#5	7'-10"	
e(E)	56	#4	17'-7"	
e1(E)	4	#8	35'-5"	
e2(E)	4	#4	35'-5"	
e3(E)	42	#4	14'-1"	
e4(E)	2	#8	42'-9"	
e5(E)	4	#4	22'-5"	
x(E)	34	#5	6'-5"	
Reinforcement Bars, Epoxy Coated		Pound	32,120	
Concrete Superstructure		Cu. Yds.	38.6	
Bridge Deck (Shrinkage-Comp Concrete)		Cu. Yds.	105	

Bars indicated thus 1 x 3 - #8 etc. indicates 1 line of bars with 3 lengths per line.



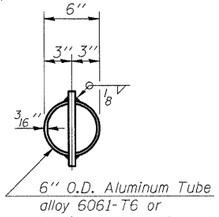
BAR x(E)



SECTION B-B

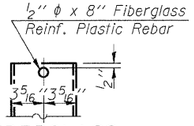
* Dimension as required by Pipe Clamp

TOP PLAN

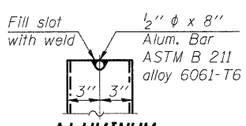


TOP PLAN

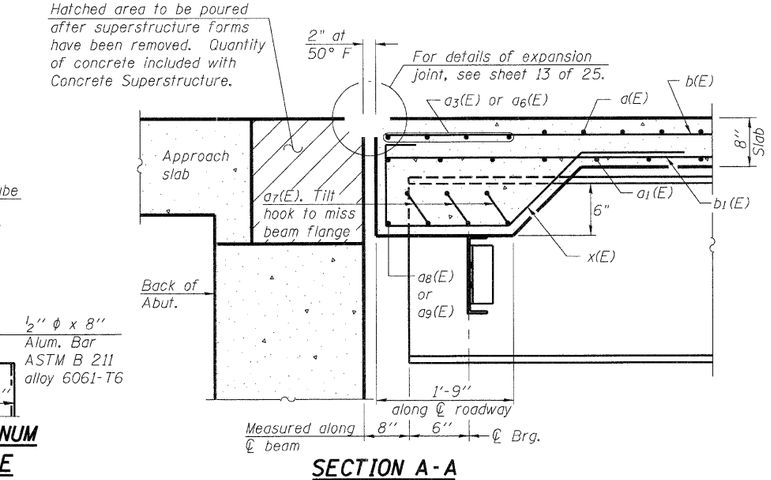
(Showing Aluminum Tube)



FIBERGLASS PIPE



ALUMINUM TUBE



SECTION A-A

S-D

7-1-10

DESIGNED	SMA
CHECKED	DF
DRAWN	ADG
CHECKED	DF

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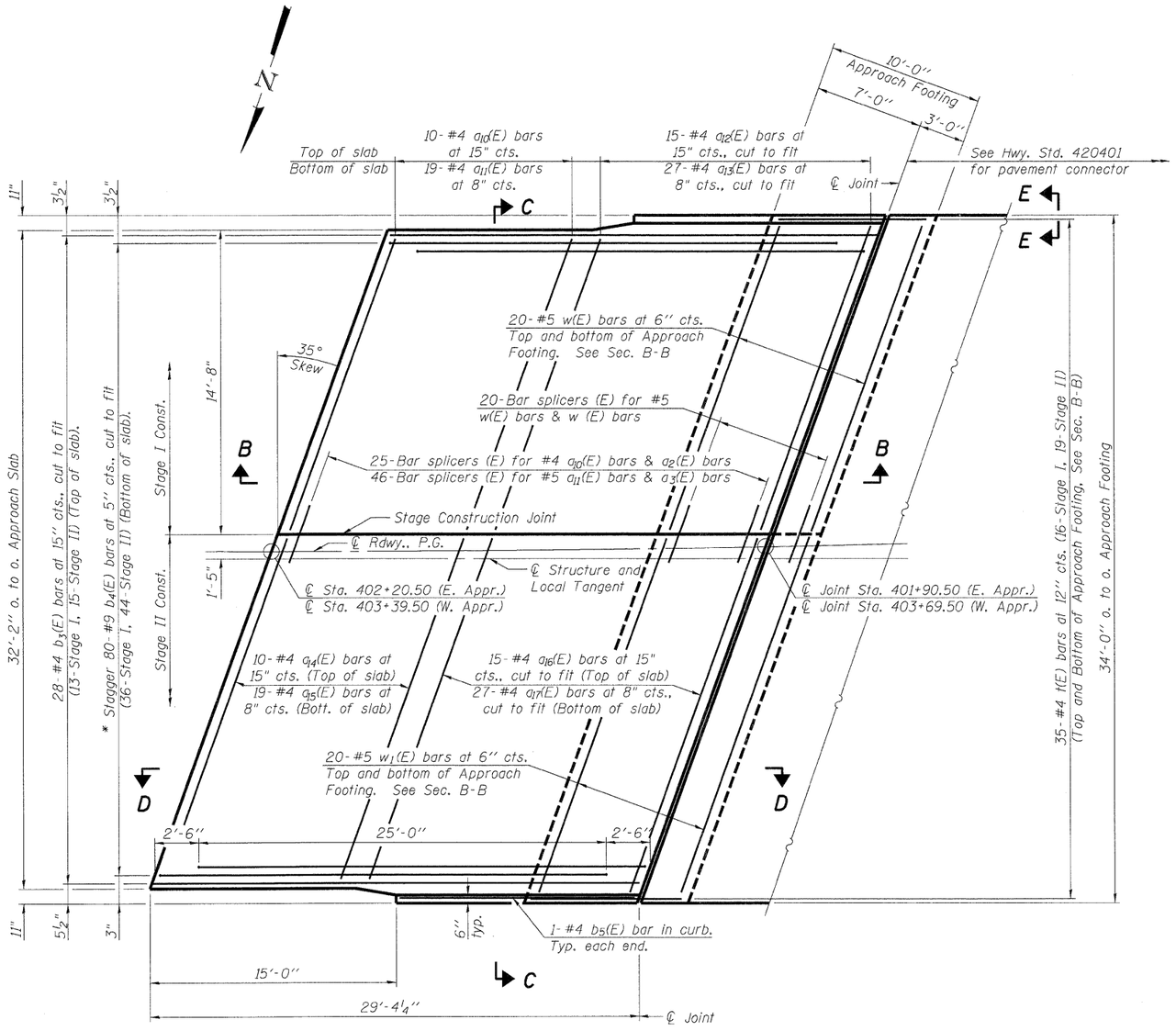
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 096-0074
SHEET NO. 10 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	24
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

PRINTED DATE: 12/5/2011
FILE NAME = n:\projects\des\sab 148, item 25 - d7 various design\work order 06\cadd\drawings\sheets\24_W06 SuperDet.dgn

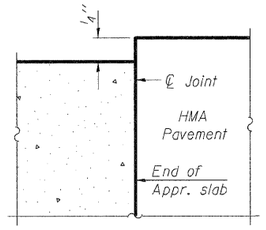
Notes:
See sheet 12 of 24 for Sections B-B & C-C and View D-D.
$a_{10}(E)$, $a_{11}(E)$, $a_{12}(E)$, $a_{13}(E)$, $a_{14}(E)$, $a_{15}(E)$, $a_{16}(E)$ and $a_{17}(E)$ bar spacings measured along ℄ Rdwy.



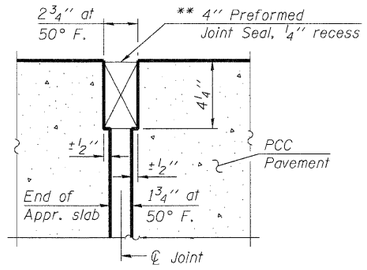
PLAN

* Tilt #9 $b_3(E)$ bars as required to maintain clearance.

** Cost included with Concrete Superstructure.

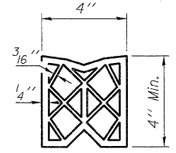


FLEXIBLE PAVEMENT

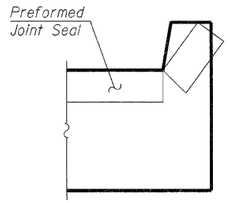


RIGID PAVEMENT

DETAIL A



PREFORMED JOINT SEAL



VIEW E-E

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.

DESIGNED	ADG
CHECKED	DF
DRAWN	ADG
CHECKED	DF

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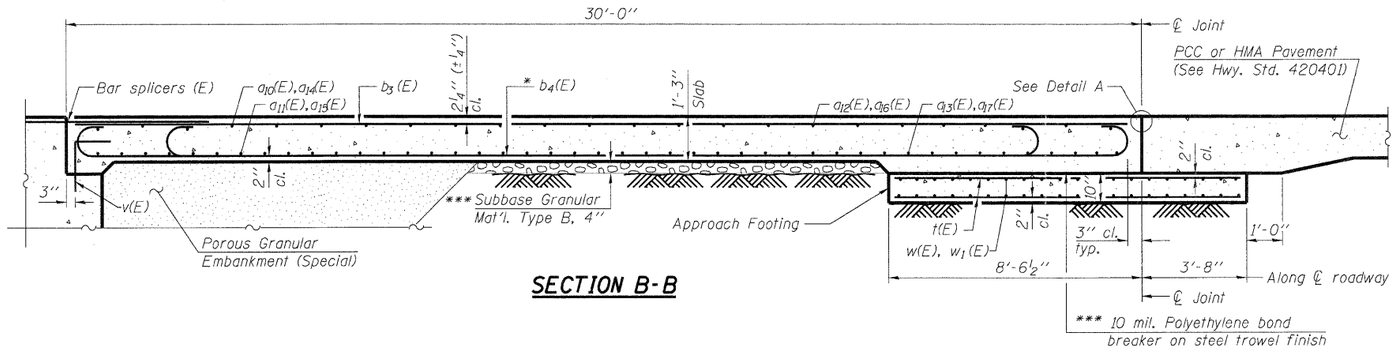
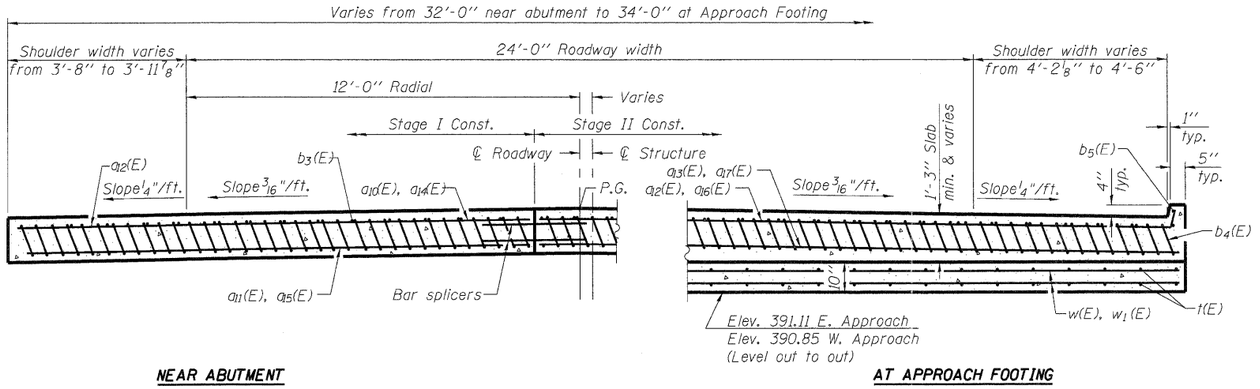
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 096-0074
SHEET NO. 11 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	25
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			



SECTION B-B



NEAR ABUTMENT

AT APPROACH FOOTING

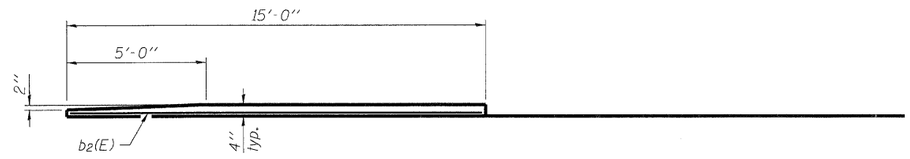
SECTION C-C

(See Plan for dimensions not shown)

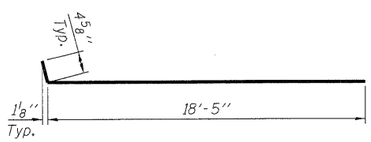
Notes:
See sheet 11 of 24 for Detail A.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 23 of 24.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 24.

* Tilt #9 $b_4(E)$ bars as required to maintain clearance.

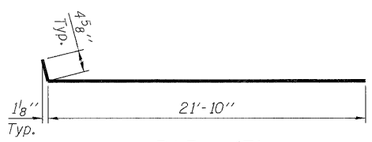
*** Cost included with Concrete Superstructure.



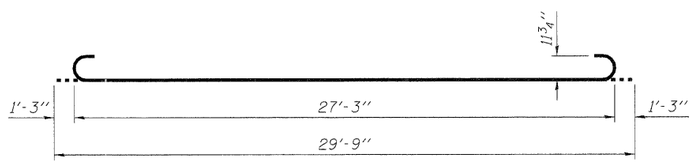
VIEW D-D



BAR a12(E)



BAR a16(E)



BAR b4(E)

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_{10}(E)$	20	#4	17'-6"	
$a_{11}(E)$	38	#5	17'-6"	
$a_{12}(E)$	30	#4	18'-10"	
$a_{13}(E)$	54	#5	18'-8"	
$a_{14}(E)$	20	#4	21'-0"	
$a_{15}(E)$	38	#5	21'-0"	
$a_{16}(E)$	30	#4	22'-3"	
$a_{17}(E)$	54	#5	22'-1"	
$b_3(E)$	56	#4	29'-8"	
$b_4(E)$	160	#9	29'-9"	
$b_5(E)$	2	#4	14'-0"	
t(E)	35	#4	11'-10"	
w(E)	80	#5	18'-8"	
$w_1(E)$	80	#5	22'-1"	
Concrete Superstructure			Cu. Yd.	116.8
Concrete Structures			Cu. Yd.	25.7
Reinforcement Bars, Epoxy Coated			Pound	26,160

DESIGNED	ADG
CHECKED	DF
DRAWN	ADG
CHECKED	DF

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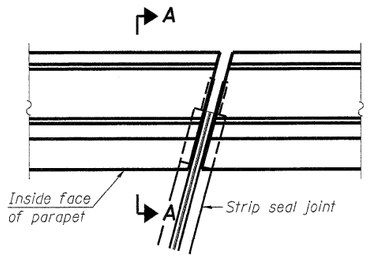
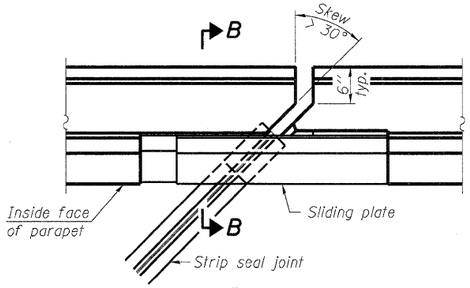
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 096-0074
SHEET NO. 12 OF 24 SHEETS

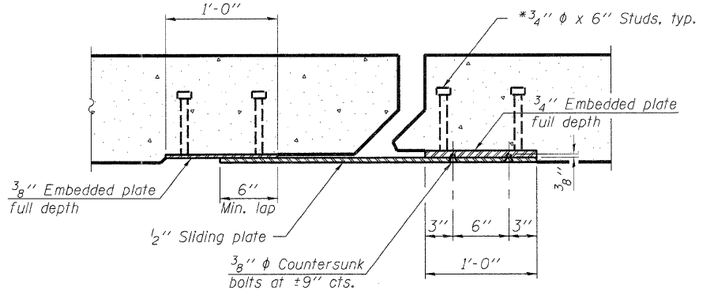
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	26
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			



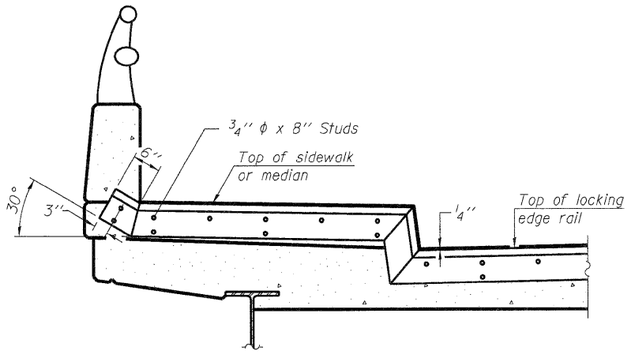
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

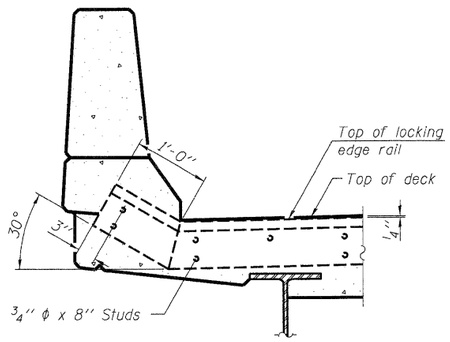


SECTION C-C

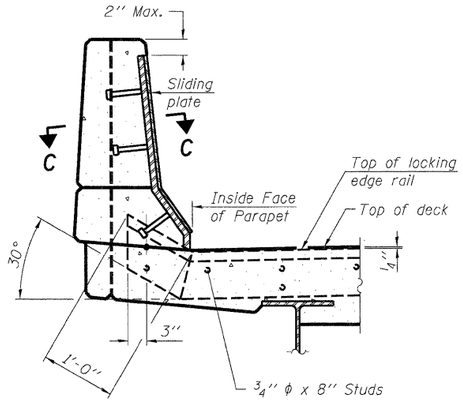


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

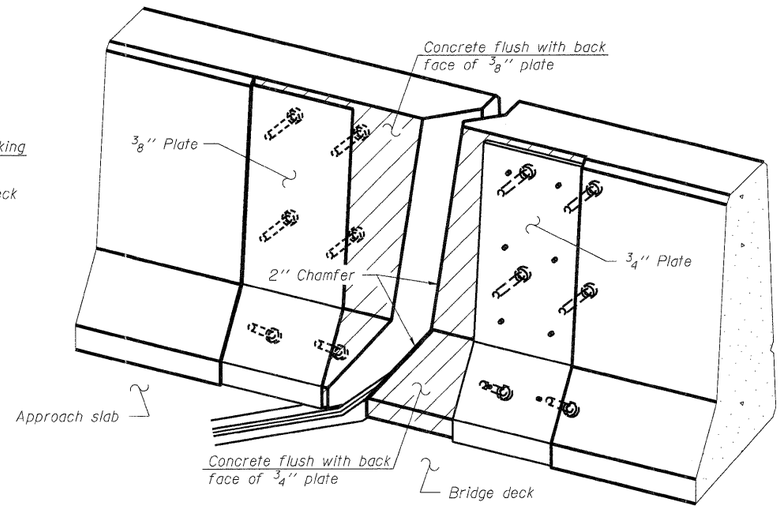
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



SECTION A-A



SECTION B-B



TRIMETRIC VIEW
(Showing back plates only)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

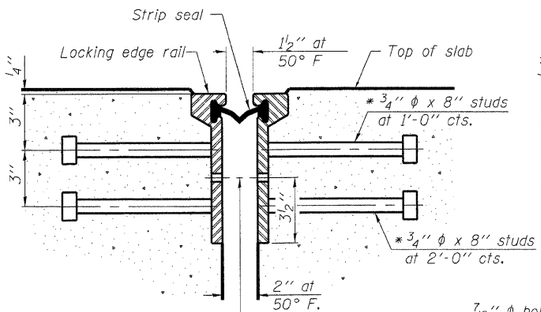
The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

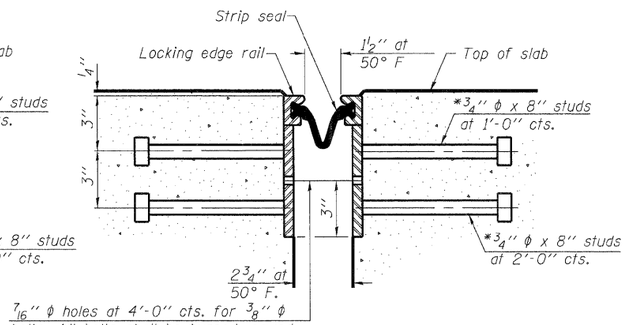
Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.



7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

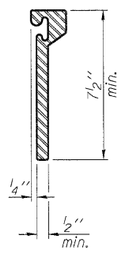
SECTION THRU ROLLED RAIL JOINT



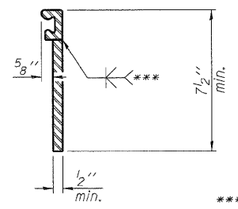
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

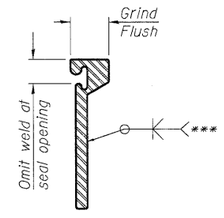
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED EXTRUDED RAIL



WELDED RAIL



*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	83

EJ-SSJ 7-1-10

DESIGNED	-	DF
CHECKED	-	ADG
DRAWN	-	ADG
CHECKED	-	DF

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PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 096-0074
SHEET NO. 13 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	27
		CONTRACT NO. 74216		
		ILLINOIS FEDERAL AID PROJECT		

PRINTED DATE: 12/5/2011
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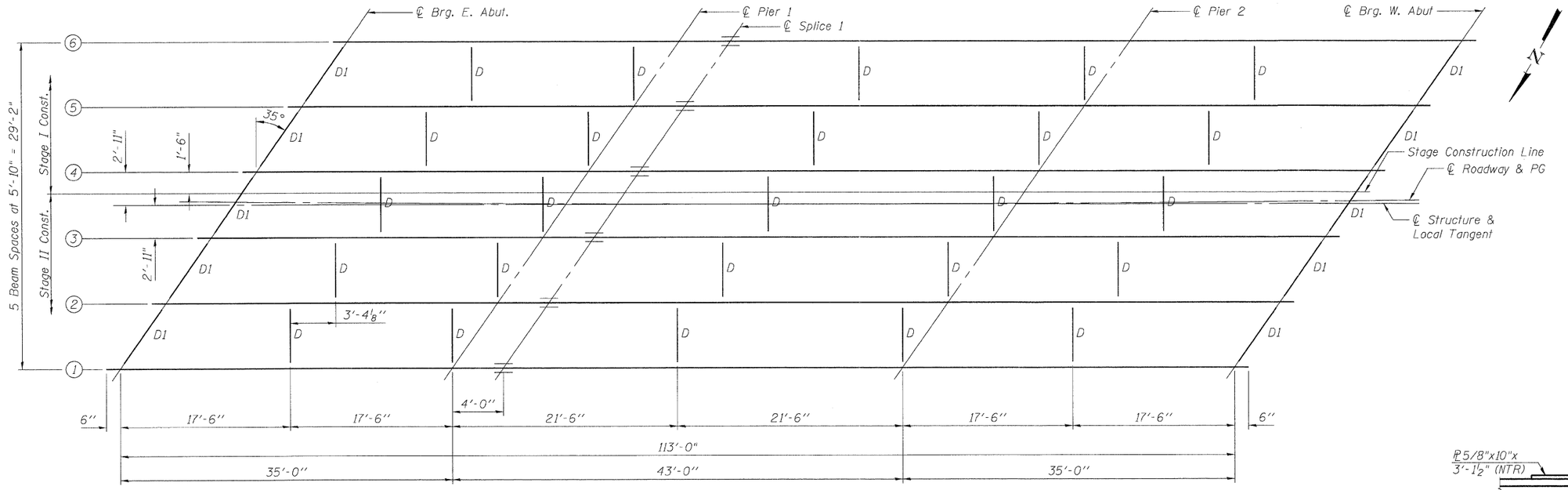
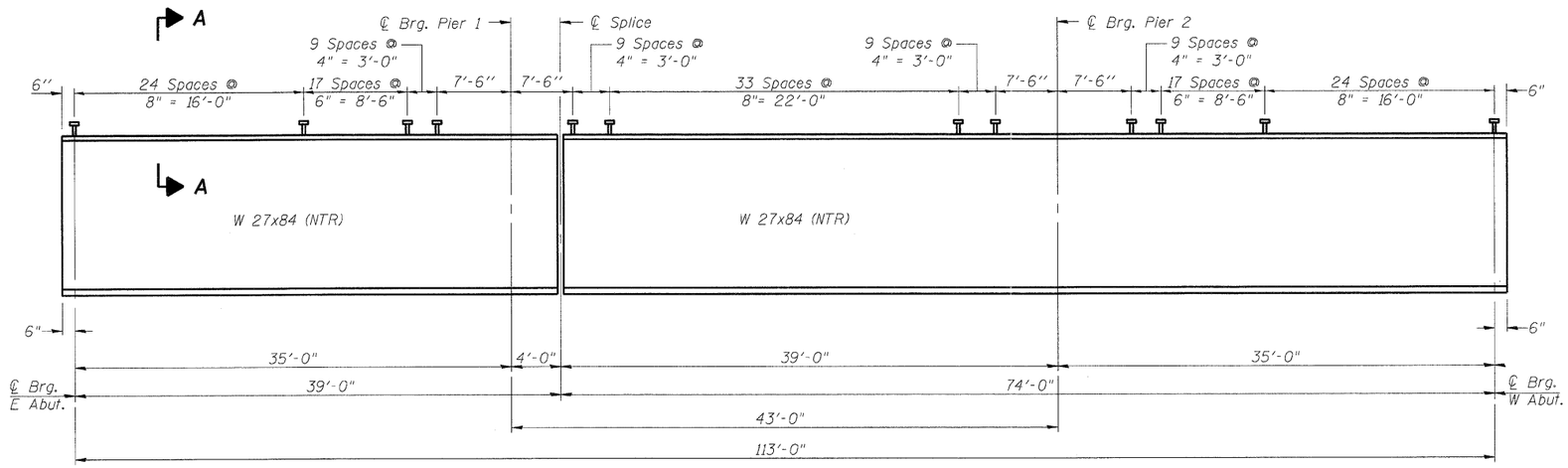
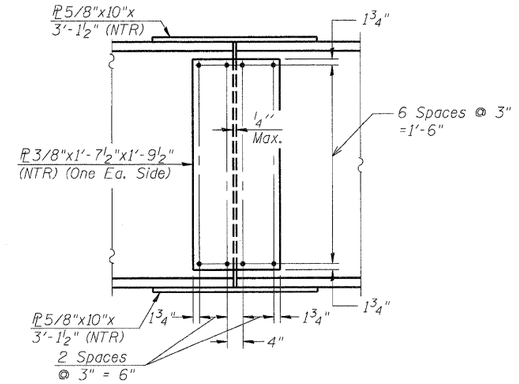


FRAMING PLAN

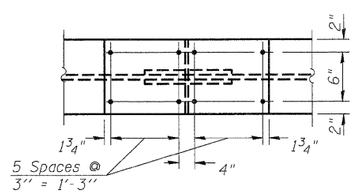


GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.



ELEVATION



PLAN (TOP AND BOTTOM FLANGE)

FIELD SPLICE DETAIL

Note:
For section A-A, see sheet 15 of 24.
See sheet 15 of 24 for diaphragm D and D1 details.
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
Structural steel for all girders (W27x84) and splice plates shall be AASHTO M270 Grade 50.

PRINTED DATE: 12/5/2011
FILE NAME = n:\projects\dot\pb 148, item 25 - d7 various design\work order 85\cadd\drawings\sheets\28_W085_Bruce5Steel.dgn

DESIGNED	-	SMA
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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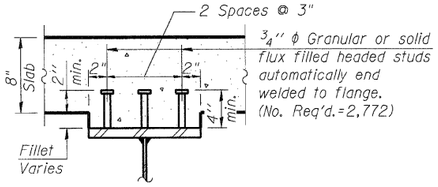
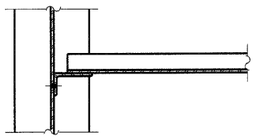
STRUCTURAL STEEL
STRUCTURE NO. 096-0074
SHEET NO. 14 OF 24 SHEETS

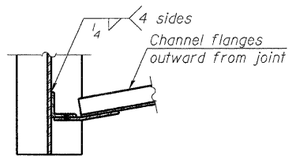
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	28
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			



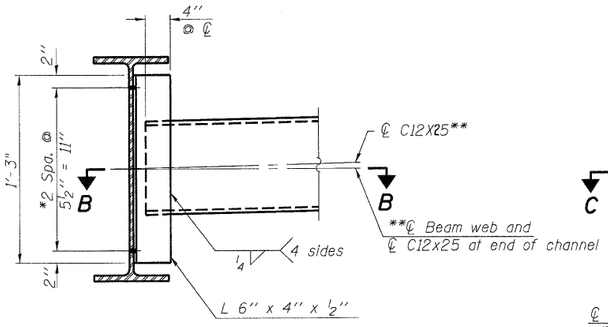
SECTION A-A

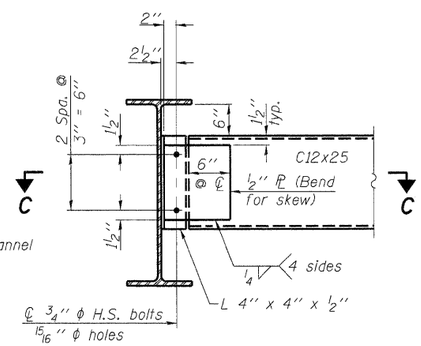


SECTION B-B



SECTION C-C





INTERIOR DIAPHRAGM (D)

END DIAPHRAGM (D1)

Note:
Two hardened washers required for each set of oversized holes.
*¾" ϕ HS bolts, 15/16" ϕ holes.
** Alternate channel C12x30 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on C12x25 sections. The alternate, if utilized shall be provided at no extra cost to the department.

***TOP OF BEAM ELEVATIONS

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
℄ Brg. E. Abut.	392.58	392.69	392.78	392.79	392.70	392.60
℄ Pier 1	392.54	392.65	392.73	392.74	392.64	392.54
℄ Splice	392.54	392.65	392.73	392.73	392.63	392.53
℄ Pier 2	392.50	392.60	392.67	392.67	392.57	392.46
℄ Brg. W. Abut.	392.46	392.55	392.62	392.61	392.51	392.39

*** For Fabrication only.

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s	(in^4)	2850	2850	2850
$I_c(n)$	(in^4)	8572	---	8572
$I_c(3n)$	(in^4)	6416	---	6416
S_s	(in^3)	213	213	213
$S_c(n)$	(in^3)	332	---	332
$S_c(3n)$	(in^3)	300	---	300
Z	(in^3)	---	244	---
DC1	(k/')	0.711	1.129	0.711
M_{DC1}	('k)	61.2	156.2	55.4
DC2	(k/')	0.150	---	0.150
M_{DC2}	('k)	15.3	---	17.7
DW	(k/')	0.268	---	0.268
M_{DW}	('k)	27.3	---	31.6
M_{L+IM}	('k)	296.6	172.3	348.0
M_u (Strength I)	('k)	655.6	504.3	747.8
**** $\phi_f M_n$, $\phi_f M_{nc}$	('k)	1802	934.5	1802
f_s DC1	(ksi)	3.4	8.8	3.1
f_s DC2	(ksi)	0.6	---	0.7
f_s DW	(ksi)	1.1	---	1.3
f_s 1.3(L+IM)	(ksi)	13.9	12.6	16.4
f_s (Service II)	(ksi)	19.0	21.4	21.5
f_s (Total)(Strength I)	(ksi)	---	---	---
***** V_f	(k)	21.4	---	21.0

**** Compact sections
***** Non-Compact and slender sections

INTERIOR GIRDER REACTION TABLE			
		Abut.	Pier
R_{DC1}	(k)	9.3	30.8
R_{DC2}	(k)	2.1	6.4
R_{DW}	(k)	3.7	11.4
R_{L+IM}	(k)	58.4	74.2
R_{Total}	(k)	73.5	122.8

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).
$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads ($in.^4$ and $in.^3$).
$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).
Z: Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations ($in.^3$).
DC1: Un-factored non-composite dead load (kips/ft.).
M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
M_u (Strength I): Factored design moment (kip-ft.). $1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$
$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
$\phi_f M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).
f_s (Service II): Sum of stresses as computed from the moments below (ksi). $M_{DC1} + M_{DC2} + M_{DW} + 1.3\ M_{L+IM}$
f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi). $1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$
V_f: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

Note:
All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

PRINTED DATE: 12/15/2011
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DESIGNED	-	SMA
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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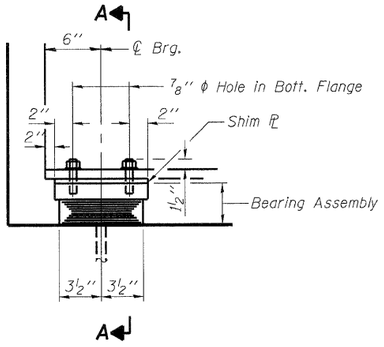
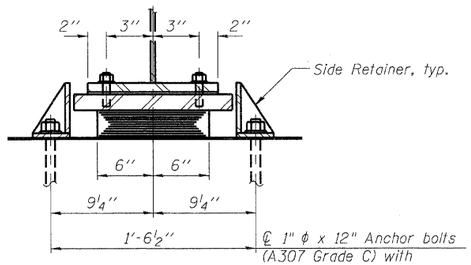
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 096-0074
SHEET NO. 15 OF 24 SHEETS

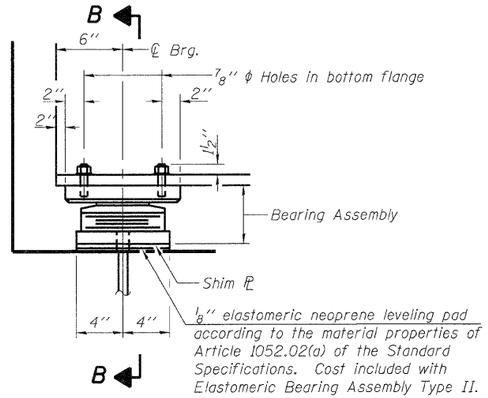
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	29
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			



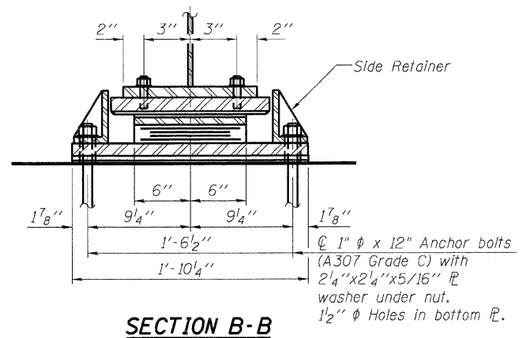
ELEVATION AT EAST ABUT.



SECTION A-A

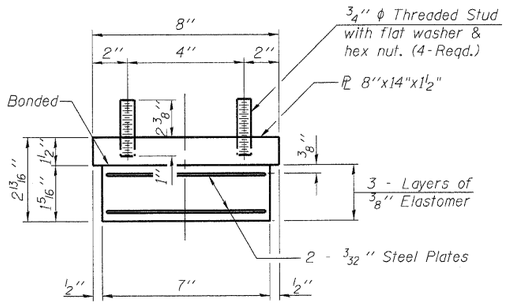


ELEVATION AT WEST ABUT.



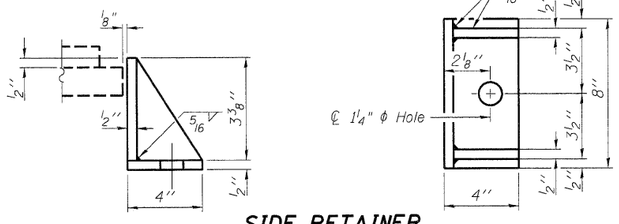
SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

EAST ABUTMENT

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

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

Side retainers and other steel members required for the Elastomeric Bearing Assembly, Type I shall be included in the cost of Elastomeric Bearing Assembly, Type I.

The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

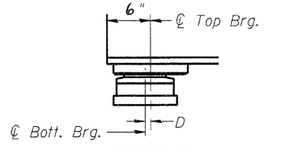
Anchor bolts for side retainers, for the Elastomeric Bearing Assembly, Type I, may be cast in place or installed in holes drilled before or after members are in place.

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

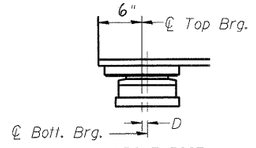
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

The anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.

Side retainers and other steel members required for the Elastomeric Bearing Assembly, Type II shall be included in the cost of Elastomeric Bearing Assembly, Type II.



BELOW 50°F.
(Move bott. brg. away from fixed brg.)

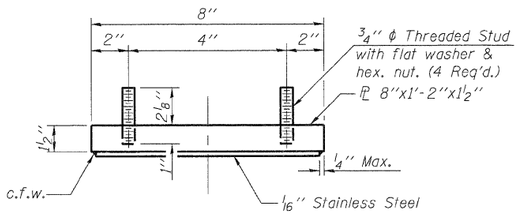


ABOVE 50°F.
(Move bott. brg. toward fixed brg.)

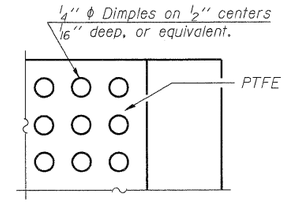
SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

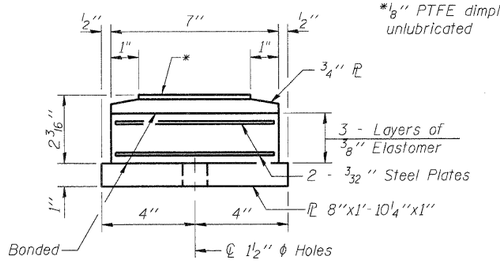
TYPE II ELASTOMERIC EXP. BRG.



TOP BEARING ASSEMBLY

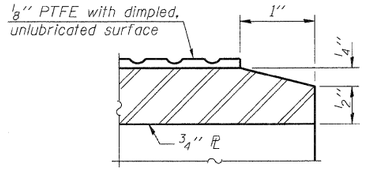


PLAN-PTFE SURFACE

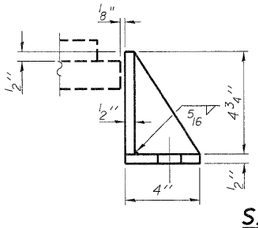


*1/8" PTFE dimpled, unlubricated

BOTTOM BEARING ASSEMBLY



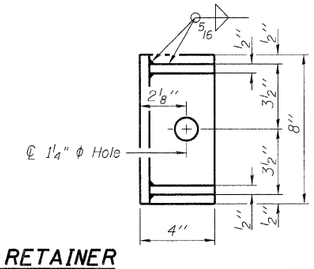
SECTION THRU PTFE



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

WEST ABUTMENT



BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	6
Elastomeric Bearing Assembly Type II	Each	6
Anchor Bolts, 1" ϕ	Each	24

PRINTED DATE: 12/15/2011
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DESIGNED	-	ADG
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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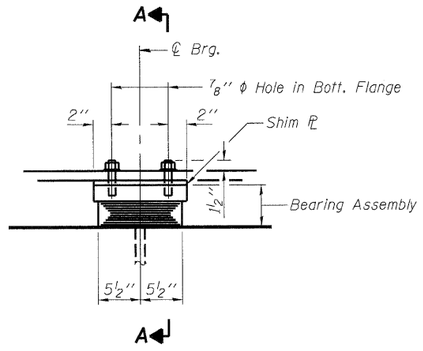
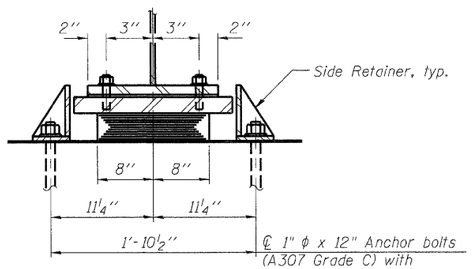
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT BEARING DETAILS
STRUCTURE NO. 096-0074
SHEET NO. 16 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	30
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

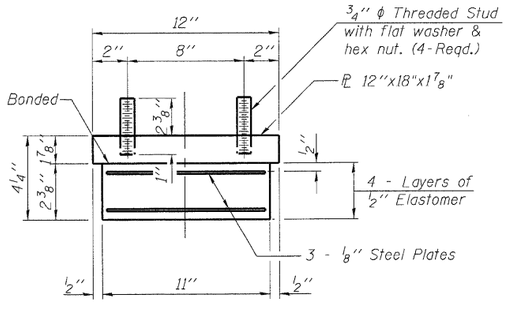


ELEVATION AT PIER



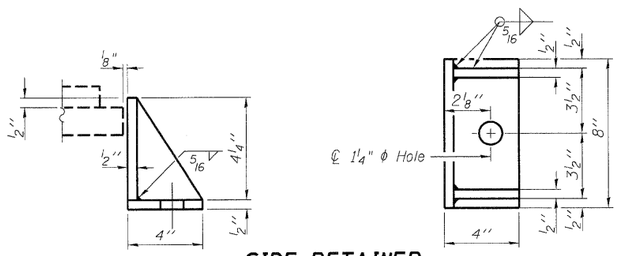
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

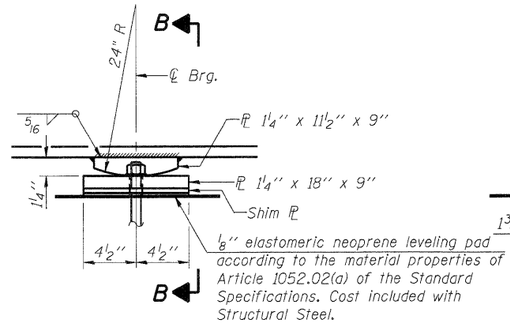
Note:
Shim plates shall not be placed under Bearing Assembly.



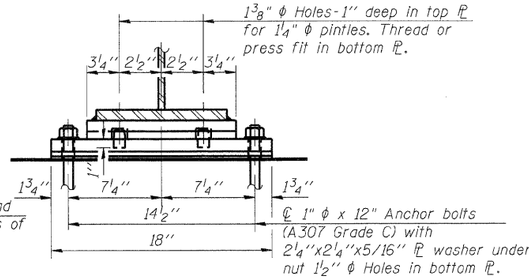
SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

PIER 2

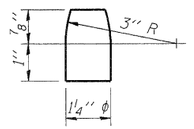


ELEVATION AT PIER



SECTION B-B

FIXED BEARING



PINTLE

PIER 1

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

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

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

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

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

The anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.

The structural steel plates and pintles of the Fixed Bearings shall conform to the requirements of AASHTO M270 Grade 50.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	6
Anchor Bolts, 1"	Each	24

PRINTED DATE: 12/5/2011
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DESIGNED	-	ADG
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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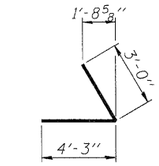
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER BEARING DETAILS
STRUCTURE NO. 096-0074
SHEET NO. 17 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	31
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			



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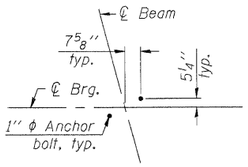
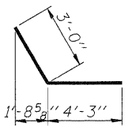


ANCHOR BOLT LAYOUT



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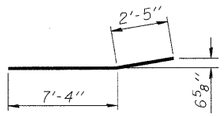

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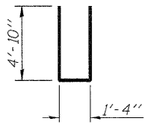

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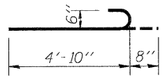

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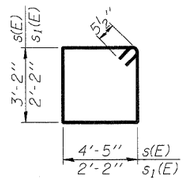
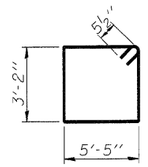
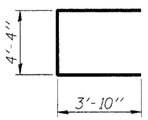


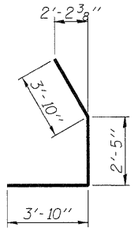
BARS s(E) & $s_1(E)$



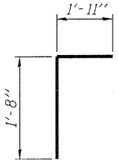
BAR $s_2(E)$



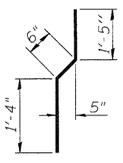
BAR u(E)



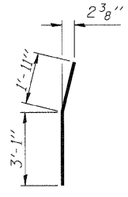
BAR $u_1(E)$



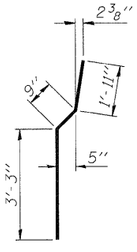
BAR v(E)



BAR $v_1(E)$



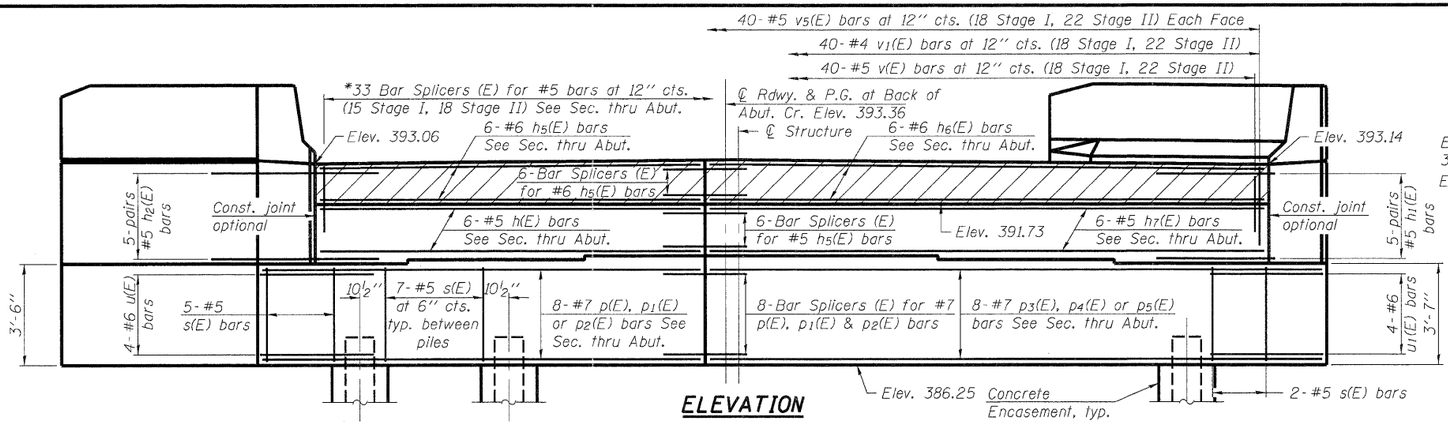
BAR $v_3(E)$



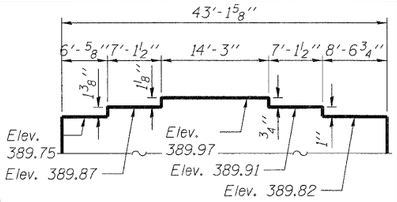
BAR $v_4(E)$

PILE DATA

Type: Steel HP 14x73
Nominal Required Bearing: 445 kips
Factored Resistance Available: 222 kips
Est. Length: 43'
No. Production Piles: 8
No. Test Piles: 1

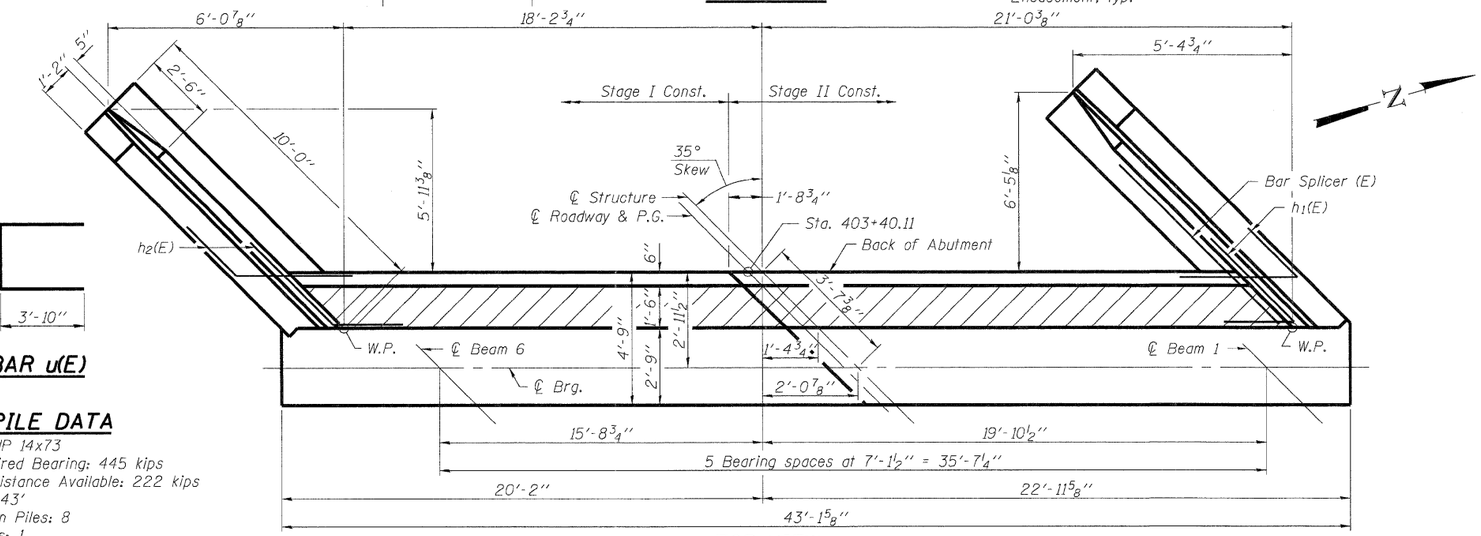


ELEVATION

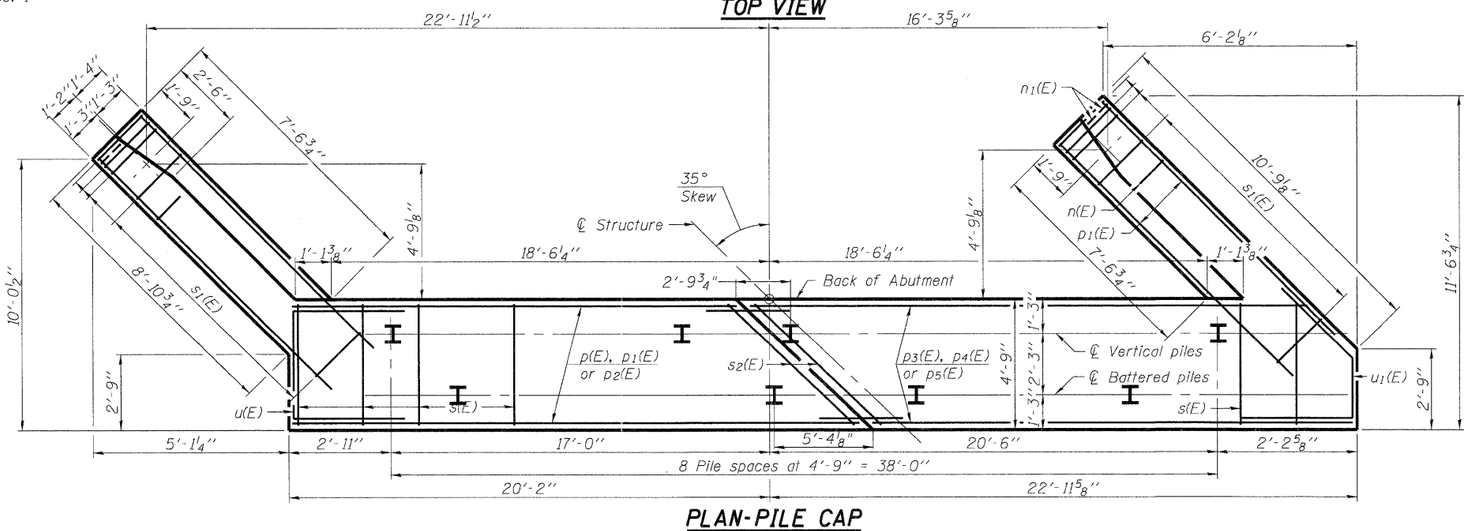


STEP DETAIL

Note:
Step dimensions are along front face of abutment.



TOP VIEW



PLAN-PILE CAP

ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	6	#5	17'-9"	
$h_1(E)$	6	#5	7'-3"	
$h_2(E)$	6	#5	7'-3"	
$h_3(E)$	20	#4	9'-8"	
$h_4(E)$	12	#4	9'-9"	
$h_5(E)$	6	#6	17'-9"	
$h_6(E)$	6	#6	21'-2"	
$h_7(E)$	6	#5	21'-2"	
n(E)	16	#6	11'-0"	
$n_1(E)$	12	#6	5'-6"	
p(E)	3	#7	18'-2"	
$p_1(E)$	2	#7	19'-10"	
$p_2(E)$	3	#7	21'-4"	
$p_3(E)$	3	#7	23'-2"	
$p_4(E)$	2	#7	22'-9"	
$p_5(E)$	3	#7	21'-3"	
s(E)	63	#5	16'-1"	
$s_1(E)$	22	#5	9'-7"	
$s_2(E)$	2	#5	18'-1"	
u(E)	4	#6	12'-0"	
$u_1(E)$	4	#6	10'-1"	
v(E)	40	#4	3'-7"	
$v_1(E)$	40	#4	3'-3"	
$v_2(E)$	22	#6	5'-9"	
$v_3(E)$	22	#6	5'-0"	
$v_4(E)$	16	#6	5'-11"	
$v_5(E)$	80	#5	6'-1"	
Structure Excavation	Cu. Yd.		116.4	
Concrete Structures	Cu. Yd.		45.5	
Reinforcement Bars, Epoxy Coated	Pound		4580	
Furnishing Steel Piles, HP 14x73	Foot		344	
Driving Piles	Foot		344	
Test Pile Steel HP 14x73	Each		1	
Concrete Encasement	Cu. Yd.		4.4	
Concrete Sealer	Sq. Ft.		421	

For details of Bar Splicers, see sheet 23 of 24.
For details of piles and Concrete Encasement, see sheet 22 of 24.

* Align Bar Splicers (E) parallel to approach slab reinforcement.

Notes:
Concrete Sealer shall be applied to all exposed surfaces of backwall, bridgeseat and front face of pile cap.

A-1-L (>30°) 7-1-10

DESIGNED	-	ADG
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT
STRUCTURE NO. 096-0074
SHEET NO. 18 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	32
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

PRINTED DATE: 12/5/2011
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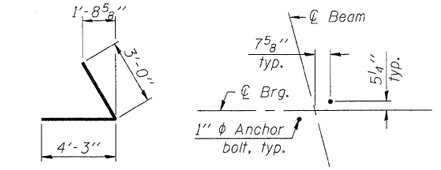
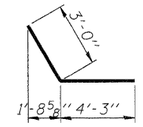
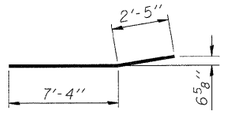


BAR $h_1(E)$

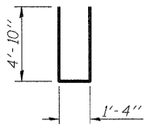
ANCHOR BOLT LAYOUT



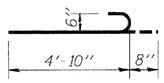
BAR $h_2(E)$



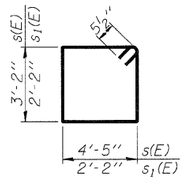
BAR $h_4(E)$



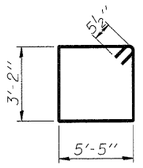
BAR $n(E)$



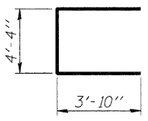
BAR $n_1(E)$



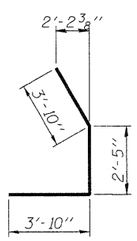
BARS $s(E)$ & $s_1(E)$



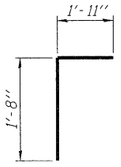
BAR $s_2(E)$



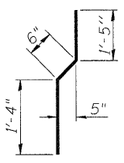
BAR $u(E)$



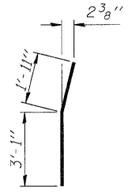
BAR $u_1(E)$



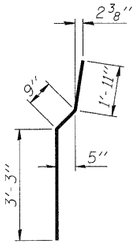
BAR $v(E)$



BAR $v_1(E)$



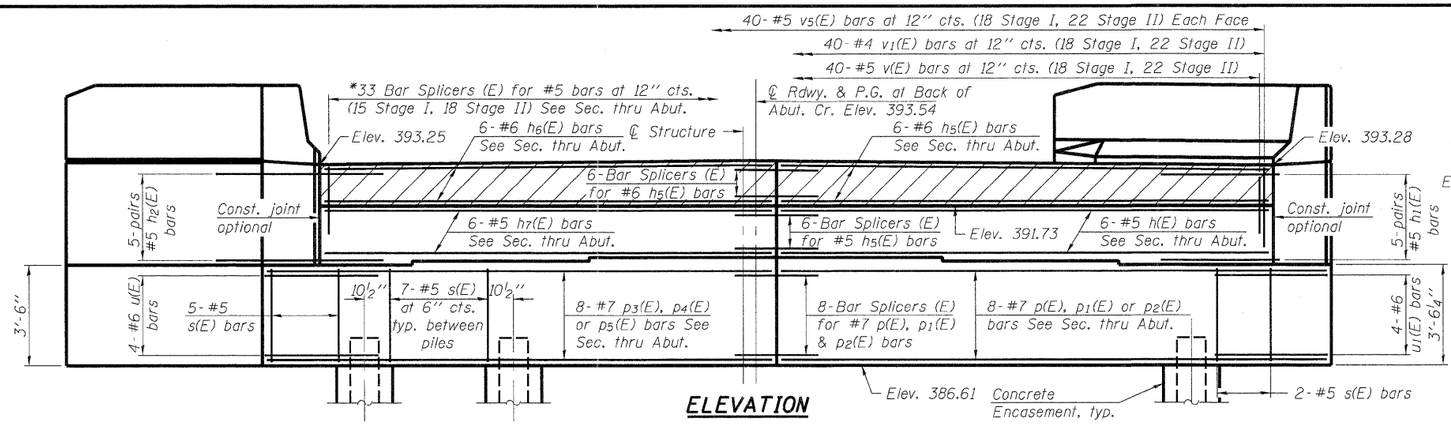
BAR $v_3(E)$



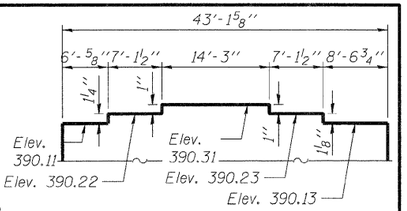
BAR $v_4(E)$

PILE DATA

Type: Steel HP 14x73
Nominal Required Bearing: 424 kips
Factored Resistance Available: 212 kips
Est. Length: 47'
No. Production Piles: 8
No. Test Piles: 1

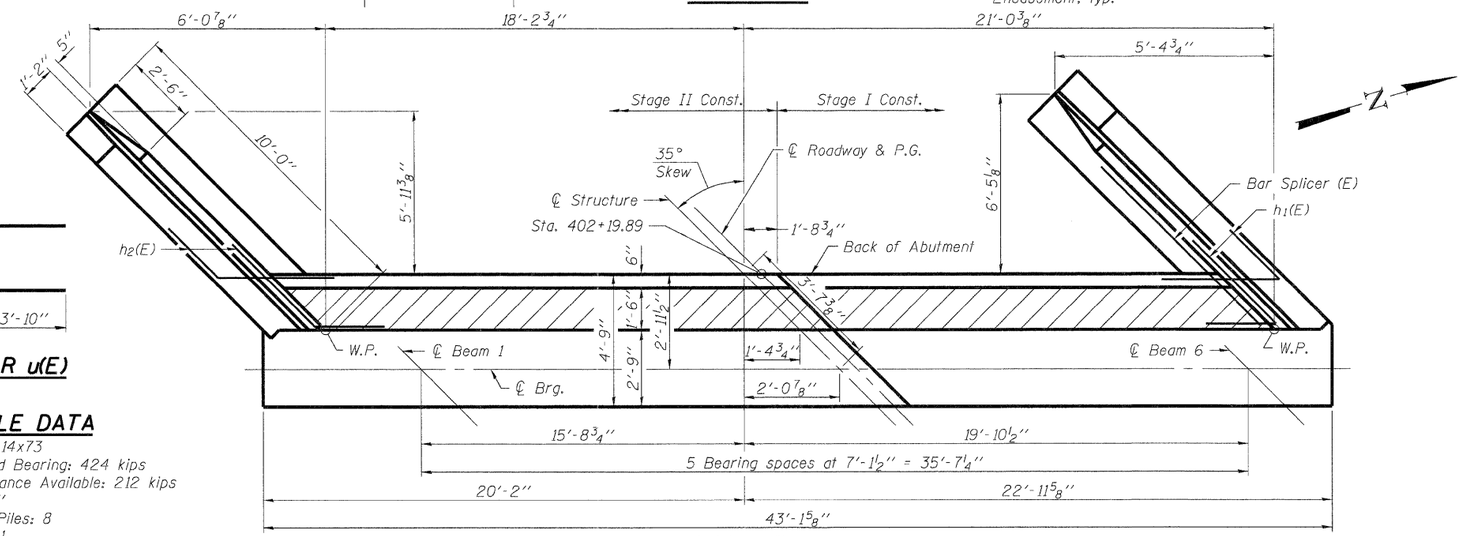


ELEVATION

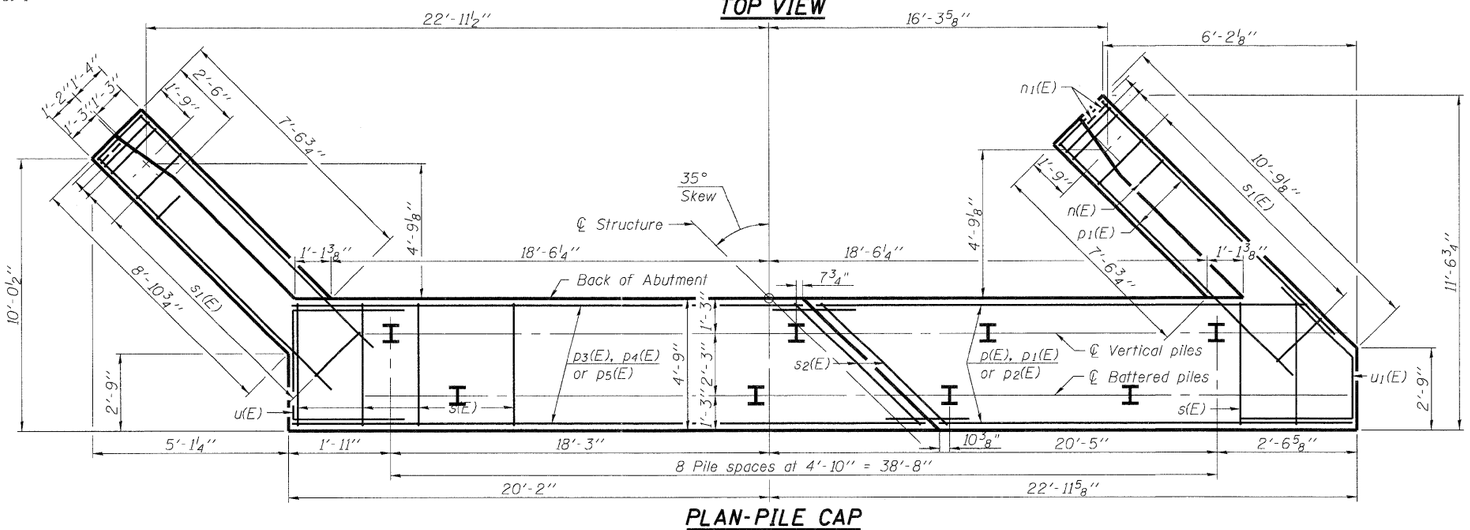


STEP DETAIL

Note:
Step dimensions are along front face of abutment.



TOP VIEW



PLAN-PILE CAP

ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	6	#5	17'-9"	
$h_1(E)$	6	#5	7'-3"	
$h_2(E)$	6	#5	7'-3"	
$h_3(E)$	20	#4	9'-8"	
$h_4(E)$	12	#4	9'-9"	
$h_5(E)$	6	#6	17'-9"	
$h_6(E)$	6	#6	21'-2"	
$h_7(E)$	6	#5	21'-2"	
n(E)	16	#6	11'-0"	
$n_1(E)$	12	#6	5'-6"	
p(E)	3	#7	18'-2"	
$p_1(E)$	2	#7	19'-10"	
$p_2(E)$	3	#7	21'-4"	
$p_3(E)$	3	#7	23'-2"	
$p_4(E)$	2	#7	22'-9"	
$p_5(E)$	3	#7	21'-3"	
s(E)		#5	16'-1"	
$s_1(E)$	22	#5	9'-7"	
$s_2(E)$	2	#5	18'-1"	
u(E)	4	#6	12'-0"	
$u_1(E)$	4	#6	10'-1"	
v(E)	40	#4	3'-7"	
$v_1(E)$	40	#4	3'-3"	
$v_2(E)$	22	#6	5'-9"	
$v_3(E)$	22	#6	5'-0"	
$v_4(E)$	16	#6	5'-11"	
$v_5(E)$	80	#5	6'-1"	

Structure Excavation	Cu. Yd.	116.4
Concrete Structures	Cu. Yd.	45.5
Reinforcement Bars, Epoxy Coated	Pound	4580
Furnishing Steel Piles, HP 14x73	Foot	376
Driving Piles	Foot	376
Test Pile Steel 14x73	Each	1
Concrete Encasement	Cu. Yd.	4.4
Concrete Sealer	Sq. Ft.	421

For details of Bar Splicers, see sheet 23 of 24.
For details of piles and Concrete Encasement, see sheet 22 of 24.

* Align Bar Splicers (E) parallel to approach slab reinforcement.

Notes:
Concrete Sealer shall be applied to all exposed surfaces of backwall, bridgeseat and front face of pile cap.

A-1-L (>30°) 7-1-10

DESIGNED	-	ADG
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT
STRUCTURE NO. 096-0074
SHEET NO. 19 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	33
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

PRINTED DATE: 12/5/2011
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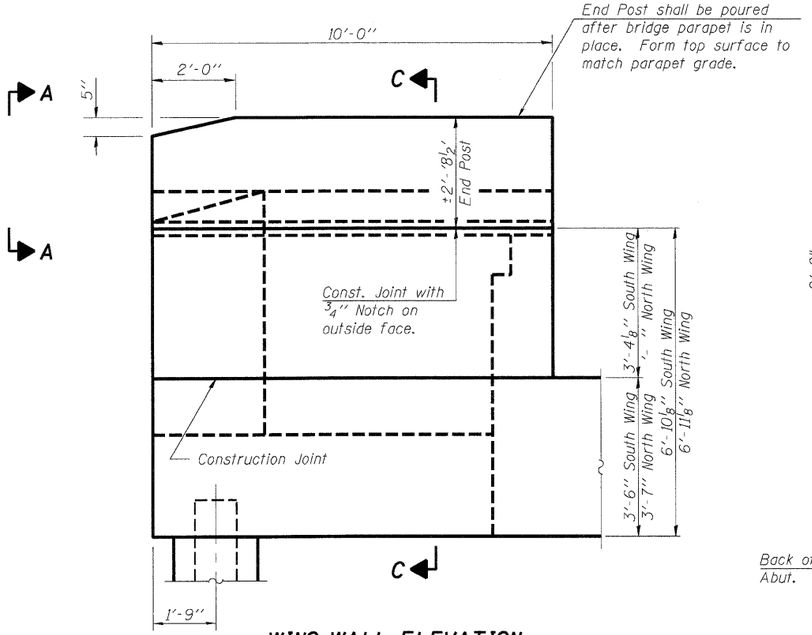
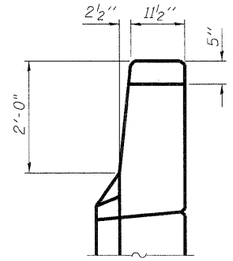
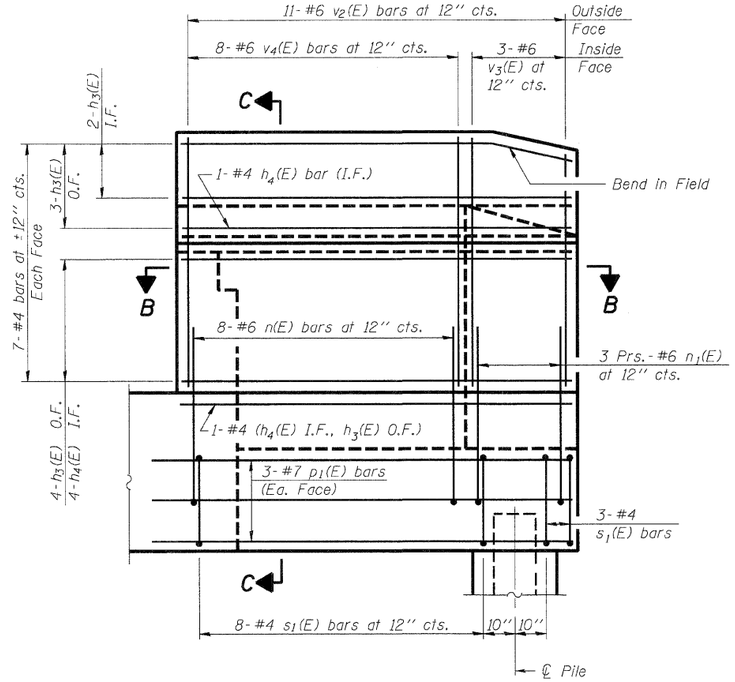


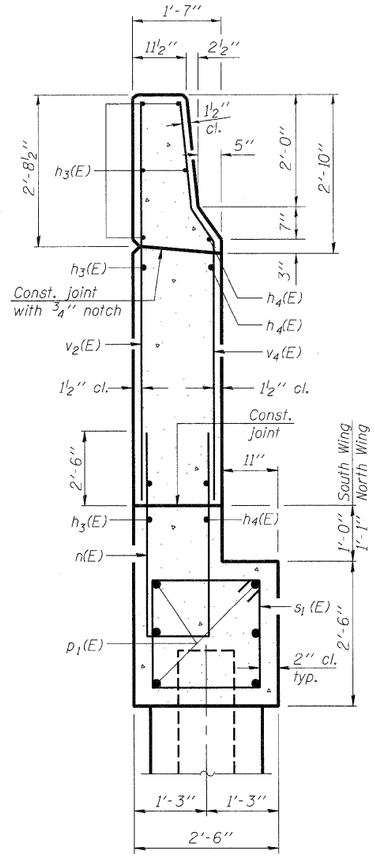
WING WALL ELEVATION
Showing Dimensions



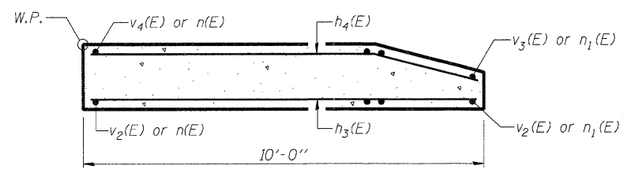
VIEW A-A



WING WALL ELEVATION
Showing Reinforcement

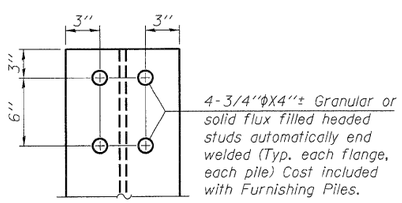


SECTION C-C

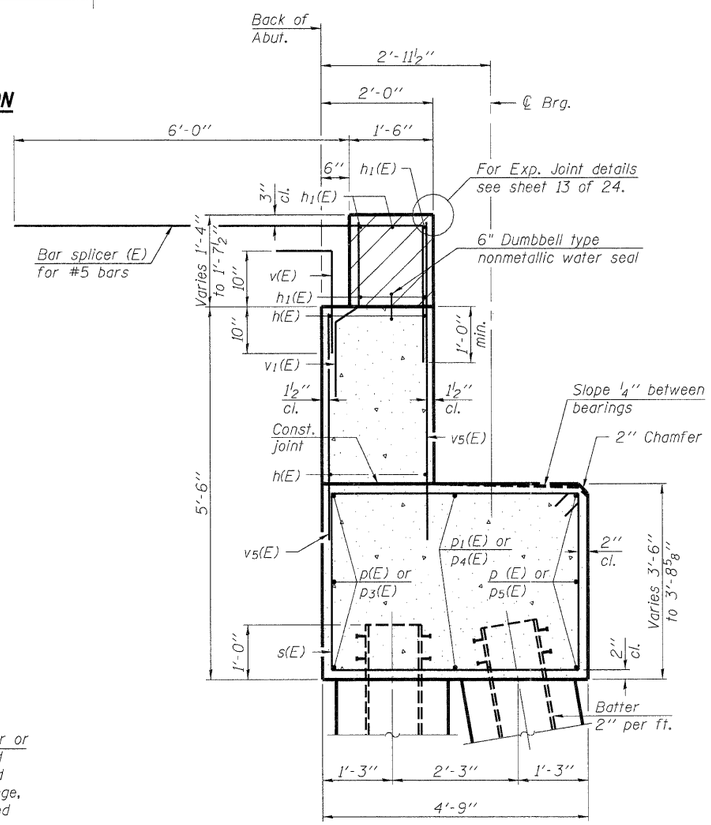


SECTION B-B

Notes:
Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Quantity of concrete in end post included with Concrete Superstructure on sheet 9 of 24.
For Concrete Encasement details, see sheet 22 of 24.



TOP OF PILE



SEC. THRU ABUT.

DESIGNED	-	ADG
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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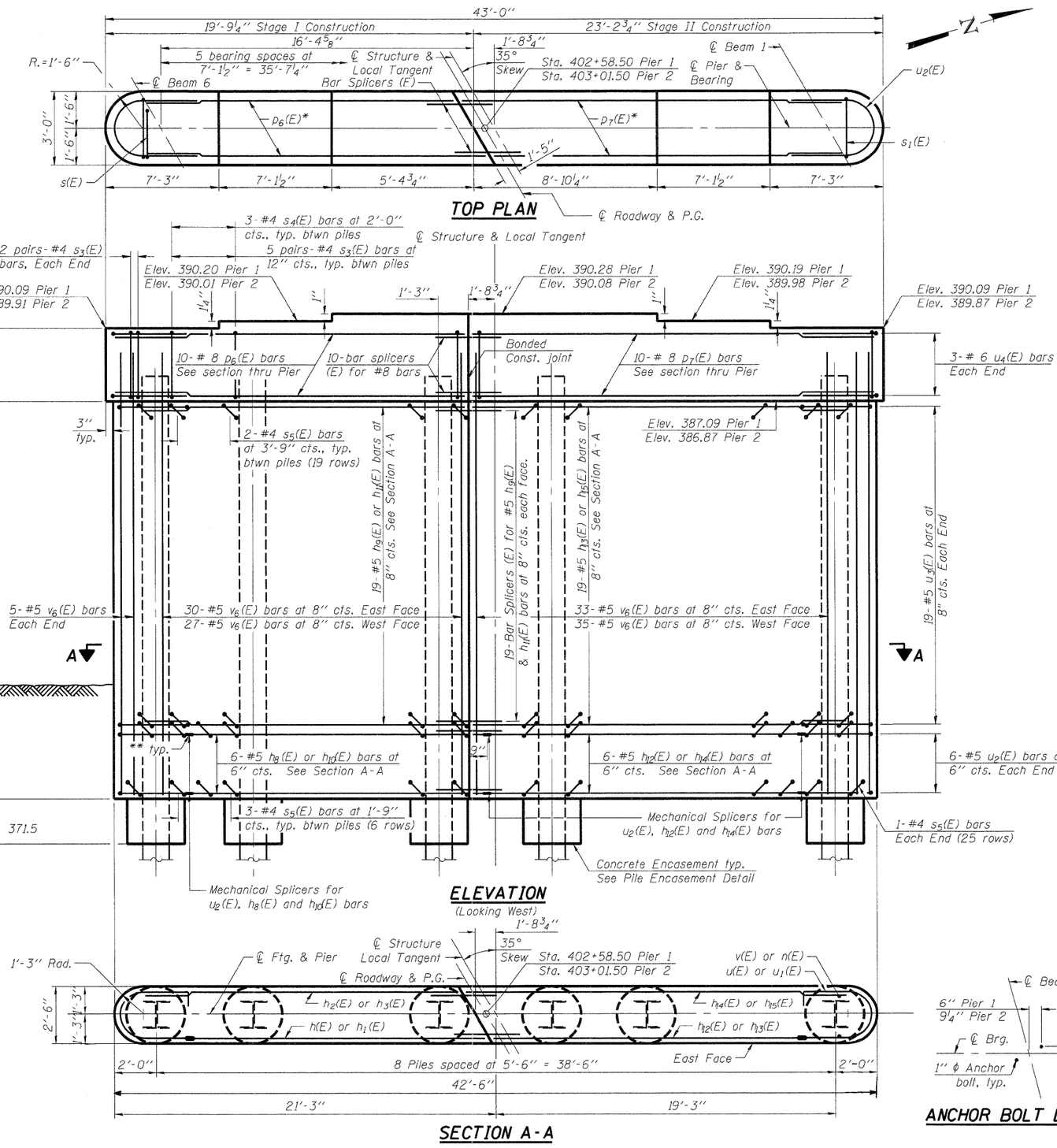
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

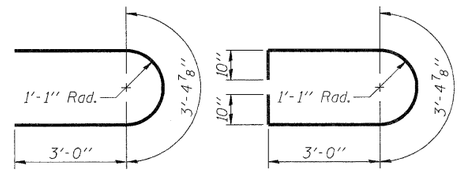
ABUTMENT DETAILS
STRUCTURE NO. 096-0074
SHEET NO. 20 OF 24 SHEETS

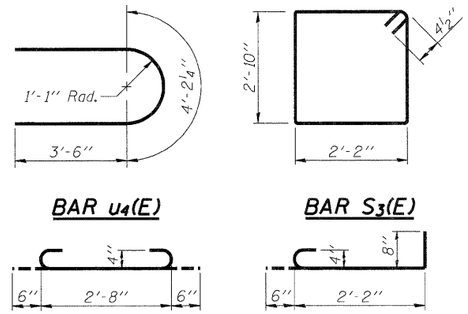
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	34
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

PRINTED DATE: 12/5/2011
FILE NAME = n:\projects\ldot\plb 148, item 25 - d7 various design\work order #6\cadd\drawings\sheets\34_W06_AbutDet.dgn

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet 22 of 24.
*Cut $p_6(E)$ and $p_7(E)$ bars to fit skew.
**Mechanical spice or shop welded splice per AWS D1.4.
***Location 3 is Pier 1
****Location 4 is Pier 2
If a portion of the concrete encasement is under water, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.







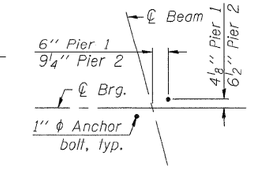
Alternate the position of the 90° hooks on the $S_5(E)$ bars in the field.

BILL OF MATERIAL FOR TWO PIERS

Bar	No.	Size	Length	Shape
$h_8(E)$	12	#5	17'-0"	—
$h_9(E)$	38	#5	19'-1"	—
$h_{10}(E)$	12	#5	15'-3"	—
$h_{11}(E)$	38	#5	17'-4"	—
$h_{12}(E)$	12	#5	17'-6"	—
$h_{13}(E)$	38	#5	21'-1"	—
$h_{14}(E)$	12	#5	19'-3"	—
$h_{15}(E)$	38	#5	22'-10"	—
$p_6(E)$	20	#8	18'-10"	—
$p_7(E)$	20	#8	22'-7"	—
$s_3(E)$	148	#4	10'-9"	□
$s_4(E)$	42	#4	3'-8"	⊂⊃
$s_5(E)$	884	#4	3'-4"	⊂⊃
$u_2(E)$	24	#5	9'-5"	⊂⊃
$u_3(E)$	124	#5	11'-1"	⊂⊃
$u_4(E)$	12	#6	11'-3"	⊂⊃
$v_6(E)$	250	#5	17'-10"	—
Cofferdam Excavation			Cu. Yd.	333.8
Concrete Structures			Cu. Yd.	126.6
Reinforcement Bars, Epoxy Coated			Pound	15920
Furnishing Steel Piles, HP 14x73			Foot	672
Driving Piles			Foot	672
Test Pile Steel HP 14x73			Each	2
Concrete Encasement			Cu. Yd.	9.8
*** Cofferdam Type 1, Location 3			Each	1
**** Cofferdam Type 1, Location 4			Each	1

PILE DATA

Type: Steel HP 14x73
Nominal Required Bearing: 464 kips Pier 1
481 kips Pier 2
Factored Resistance Available: 227 kips Pier 1
237 kips Pier 2
Est. Length: 46' Pier 1
50' Pier 2
No. Production Piles: 14
No. Test Piles: 2



ANCHOR BOLT LAYOUT

PRINTED DATE: 12/15/2011
FILE NAME = n:\projects\dot\pdb 149, item 25 - d7 various design\work order 86\caddd\drawings\sheets\35_W06_Piers.dgn

DESIGNED	DF
CHECKED	ADG
DRAWN	ADG
CHECKED	DF

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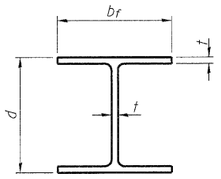
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

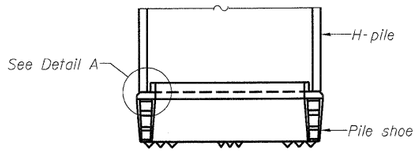
PIERS
STRUCTURE NO. 096-0074
SHEET NO. 21 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	35
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

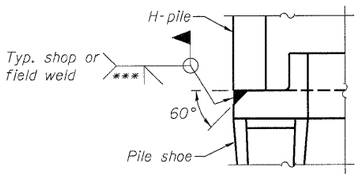


STEEL PILE TABLE

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

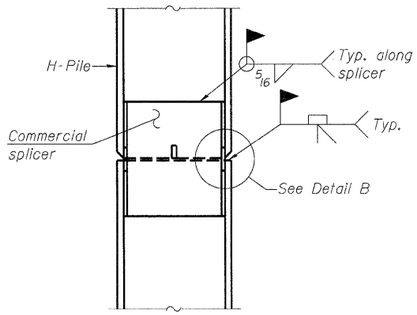


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



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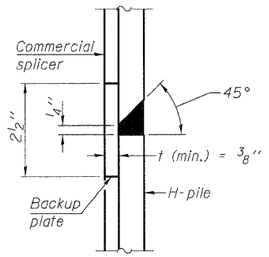
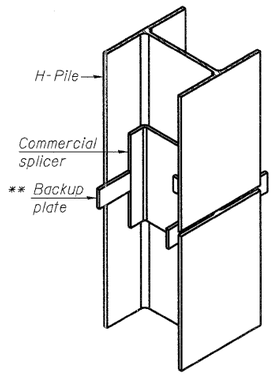
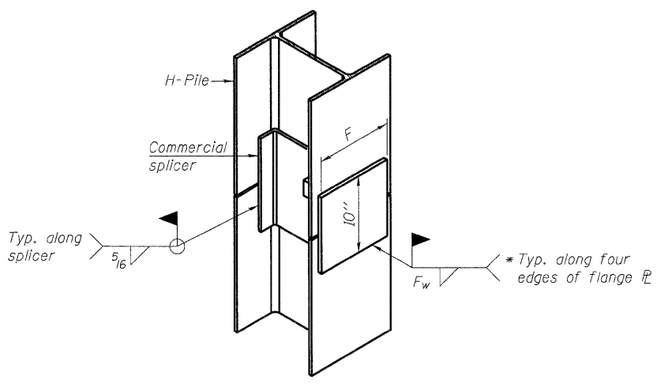


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



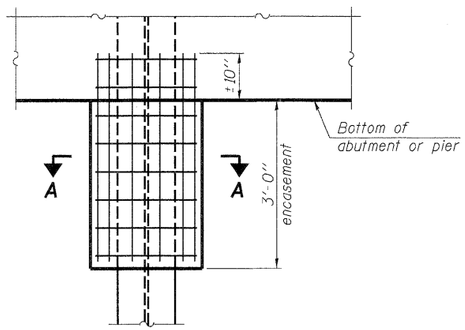
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

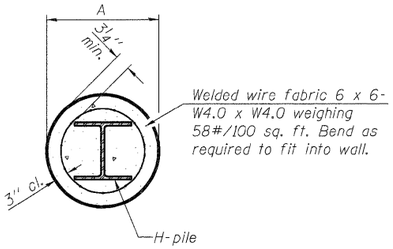
* Interrupt welds 1/4" from end of web and/or each flange.

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

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



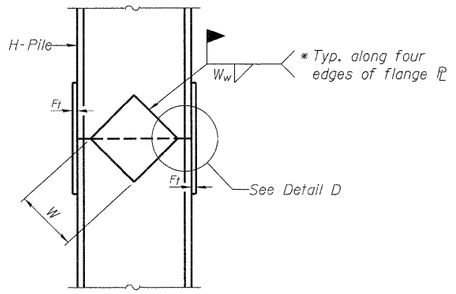
ELEVATION



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

SECTION A-A

PILE ENCASEMENT



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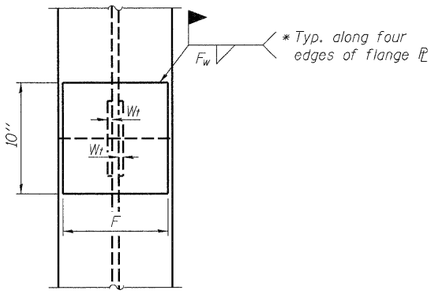
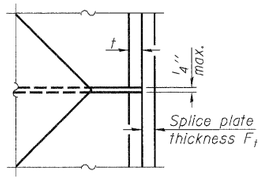


END VIEW



DETAIL D

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

WELDED PLATE FIELD SPLICE

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

F-HP 7-1-10

DESIGNED	-	ADG
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 096-0074
SHEET NO. 22 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	36
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

PRINTED DATE: 12/5/2011
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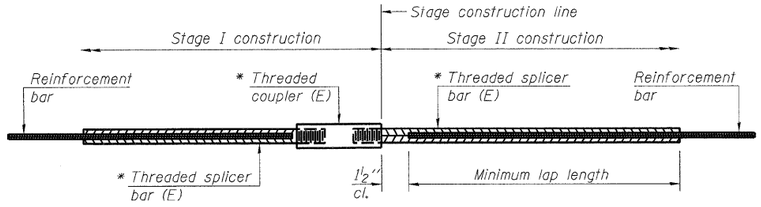


STANDARD BAR SPLICER ASSEMBLY

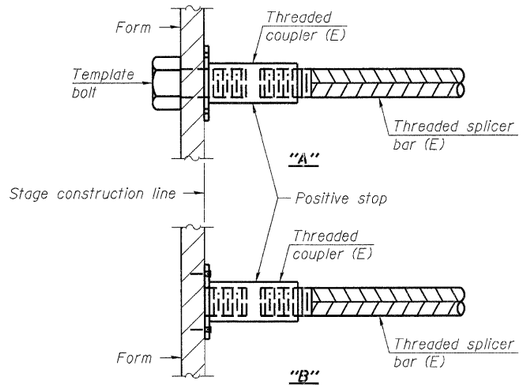
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Top bar lap, Class B

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

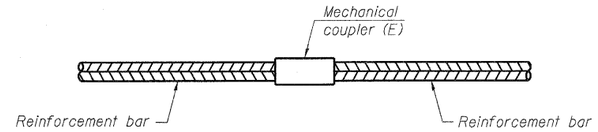
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#5	367	3
Approach Slab	#4	50	3
Approach Slab	#5	172	3
Abutments	#5	12	4
Abutments	#6	12	4
Abutments	#7	16	4
Piers	#5	76	4



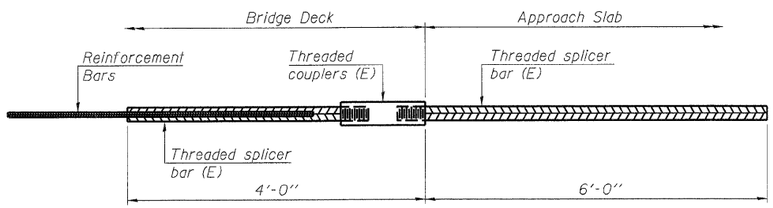
INSTALLATION AND SETTING METHODS

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



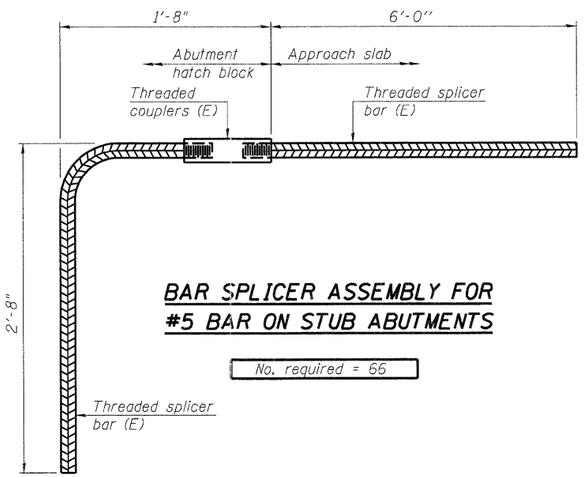
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Piers	#5	72



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 66

NOTES

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

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

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

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

BSD-1

7-1-10

DESIGNED	-	ADG
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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STATE OF ILLINOIS
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BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 096-0074
SHEET NO. 23 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	37
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 3

Date 10/2/08

ROUTE FAP 821 (IL 15) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer

SECTION (22,B2)B-1 LOCATION SE 1/4, SEC. 4, TWP. 2 S, RNG. 9 E, 3 PM

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

STRUCT. NO. 096-0013
Station 402+80

BORING NO. 1 E Abut
Station 402+02
Offset 7.00ft Rt
Ground Surface Elev. 392.78 ft

Surface Water Elev. Dry ft
Stream Bed Elev. 372.44 ft

Groundwater Elev.:
First Encounter 357.8 ft
Upon Completion 389.8 ft
After 24 Hrs. 372.6 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
4 1/4" asphalt on 10 1/2" concrete pavement. 391.56			
Medium to stiff, damp, brown/gray, CLAY.	5		
	5	0.9	21
	5	B	
	3		
	4	1.6	28
	6	B	
	1		
	2	0.9	28
	4	B	
363.28			
Soft to medium, damp, gray mottled blue, SILTY CLAY.	0		
	1	0.5	29
	2	B	
360.78			
Very stiff to medium, damp, gray mottled red, CLAY.	3		
	5	2.2	24
	7	B	
	2		
	3	1.7	28
	5	B	
	2		
	2	0.9	23
	4	B	
372.78	0		
Medium, damp, gray marbled red, SILTY CLAY.	1	0.6	34
	2	B	
	0		
	2	0.7	22
	2	B	
	0		
	2	0.7	25
	3	B	
	0		
	1	0.5	24
	2	B	
363.28	0		
Stiff, damp, blue, CLAY.	3	2.0	21
	4	B	
	0		
357.58			
Very soft, wet, brown, SANDY LOAM.	2	0.1	17
	2	B	
353.28	17		

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)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 3

Date 10/2/08

ROUTE FAP 821 (IL 15) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer

SECTION (22,B2)B-1 LOCATION SE 1/4, SEC. 4, TWP. 2 S, RNG. 9 E, 3 PM

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

STRUCT. NO. 096-0013
Station 402+80

BORING NO. 1 E Abut
Station 402+02
Offset 7.00ft Rt
Ground Surface Elev. 392.78 ft

Surface Water Elev. Dry ft
Stream Bed Elev. 372.44 ft

Groundwater Elev.:
First Encounter 357.8 ft
Upon Completion 389.8 ft
After 24 Hrs. 372.6 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very dense, moist, brown, SANDY CLAY SHALE. Sample pokerchipped and powdered. *(continued)*	40		9
348.28	49		
Very dense, moist, gray w/ black layers, SILTY CLAY SHALE.	5		
347.28	28		10
Black, SHALE/COAL mixture.	50/5"		
343.28			
Very dense, moist, gray, SANDY CLAY SHALE. Sample pokerchipped and powdered. 342.78	50/5"		5
	50/2"		
Borehole continued with rock coring.	50/1"		

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

ROCK CORE LOG

Page 3 of 3

Date 10/2/08

ROUTE FAP 821 (IL 15) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer

SECTION (22,B2)B-1 LOCATION SE 1/4, SEC. 4, TWP. 2 S, RNG. 9 E, 3 PM

COUNTY Wayne CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. 096-0013
Station 402+80

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

Core Diameter 2.05 in
Top of Rock Elev. 393.28 ft
Begin Core Elev. 342.78 ft

BORING NO. 1 E Abut
Station 402+02
Offset 7.00ft Rt
Ground Surface Elev. 392.78 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	RQD (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Gray, no weathering, SANDSTONE, scratches easily. 342.78	B1C1	64	71	1	
Rock core B1C1 from 53.8' to 54.2' depth Qu = 215 tsf.					
	B1C2	98	75	1	
Rock core B1C2 from 57.9' to 58.4' depth Qu = 105 tsf.					
332.78					
Extent of exploration.					
Benchmark: WE 18 Chiseled square on NE headwall of existing structure, Sta 402+18, 19' Rt = 393.40' elevation. Provided by Program Development.					

Color pictures of the cores: Available on request
Cores will be stored for examination until 10/02/09
The "Strength" column represents the unlaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

Field Rock Core Log.xls

Field Rock Core Log

Date: 10-02-08

Structure #: 096-0013 Boring #: 1 E Abut

Rock Core #: C1

Depth: 50' to 55'

Grey SS w/ thin woodwhere easy to scratch

-0.43 BJ
-0.53 BJ
-0.91 BJ
-0.98 BJ
-1.14 BJ
-1.46 BJ
-1.94 BJ
-2.68 BJ

B1C1 core to test

3.8
0.18

RQD
0.43
0.39
0.47
0.73
1.51
3.53

Depth: 55' 2"
Core Time: 4:45 (1.0)
Recovery: 83.6
RQD: 70.6%

Rock Core #: C2

Depth: 55' to 60'

Grey SS w/ 1/4" to 1/2" wood where easy to scratch

-0.16 BJ
-0.38 BJ
-0.84 BJ
-0.98 BJ

B1C2 core to test

2.9
3.4
3.74 BJ
3.90
4.00 BJ
4.50 BJ
4.78

Vertical crack

RQD
0.43
2.77
0.53
3.73

Depth: 60.2'
Core Time: 4:55 (1.0)
Recovery: 95.6%
RQD: 74.6%

Logged By: Eric Sandschafer

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 2

Date 10/6/08

ROUTE FAP 821 (IL 15) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer

SECTION (22,B2)B-1 LOCATION SE 1/4, SEC. 4, TWP. 2 S, RNG. 9 E, 3 PM

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

STRUCT. NO. 096-0013
Station 402+80

BORING NO. 2 W Abut
Station 403+81
Offset 8.50ft Lt
Ground Surface Elev. 392.79 ft

Surface Water Elev. Dry ft
Stream Bed Elev. 372.44 ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion Caved ft
After ____ Hrs. N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
4 1/8" asphalt on 11 1/2" concrete pavement. 391.49			
Stiff, damp, brown, CLAY.	2		
	3	1.5	22
	4	B	
388.29			
Medium to stiff, damp, brown, SILTY CLAY.	1		
	3	1.0	23
	4	B	
385.79			
Medium to stiff, damp, gray, CLAY.	1		
	3	1.0	28
	3	B	
	1		
	3	0.7	32
	3	B	
	2		
	5	1.8	23
	6	B	
	2		
	3	1.7	22
	3	B	
375.79			
Medium, damp, gray mottled red, SILTY LOAM.	1		
	2	0.7	29
	3	B	
373.29	0		
Stiff to soft, damp, gray/red/blue, SILTY CLAY. *(continued)*	1	1.2	25
	2	B	
	0		
	1	0.5	24
	2	B	
	0		
	2	0.8	24
	3	B	
	0		
	1	0.7	28
	1	B	
	0		
	2	1.0	24
	3	B	
358.29			
Stiff, damp, red, CLAY LOAM TILL.	1		
	2	1.2	16
	3	B	
353.29	5		

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 2

Date 10/6/08

ROUTE FAP 821 (IL 15) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer

SECTION (22,B2)B-1 LOCATION SE 1/4, SEC. 4, TWP. 2 S, RNG. 9 E, 3 PM

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

STRUCT. NO. 096-0013
Station 402+80

BORING NO. 2 W Abut
Station 403+81
Offset 8.50ft Lt
Ground Surface Elev. 392.79 ft

Surface Water Elev. Dry ft
Stream Bed Elev. 372.44 ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion Caved ft
After ____ Hrs. N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium to stiff, damp, red w/ gray layers, SANDY LOAM TILL. *(continued)*	8	1.0	15
348.29	14	B	
Very stiff, very moist, gray, SILTY CLAY.	6		
	11	3.3	15
	19	S	
343.29			
Very dense, moist, gray, SILTY CLAY SHALE. 342.49	29		
	50/2"		9
Extent of exploration.	50/1"		
Benchmark: WE 18 Chiseled square on NE headwall of existing structure, Sta 402+18, 19' Rt = 393.40' elevation. 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 T206)

BBS, from 137 (Rev. 8-99)

PRINTED DATE: 12/15/2011
FILE NAME = n:\proj_acts\cdot\ptb 146, item 25 - d7 various design\work order 05\cadd\drawings\sheets\38_W05_BorLogs.dgn

DESIGNED	ADG
CHECKED	DF
DRAWN	ADG
CHECKED	DF

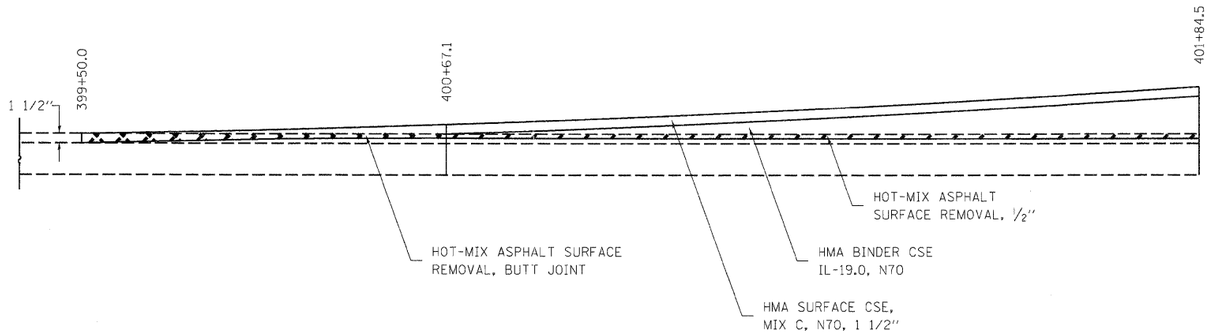
ESI CONSULTANTS, LTD
753 WINDSOR ROAD
CHARLESTON, IL 61920
(217) 348-1806
WWW.ESICONSULTANTSLTD.COM
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 096-0074

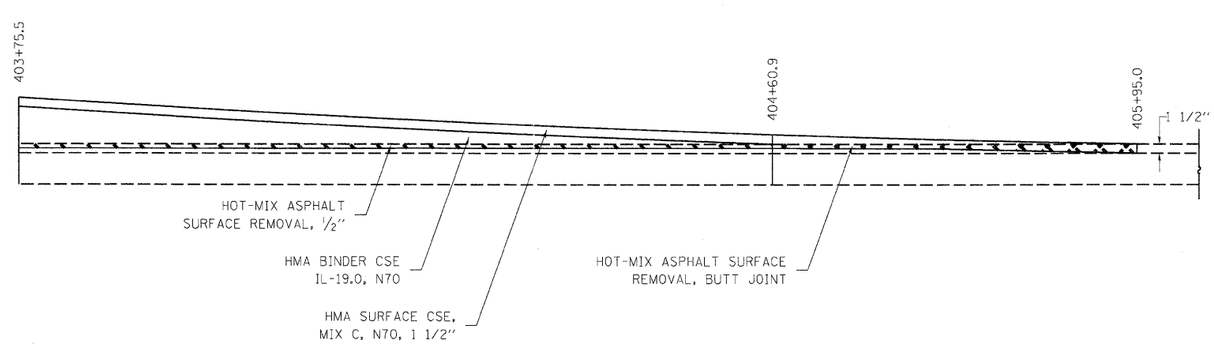
SHEET NO. 24 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	38
		CONTRACT NO. 74216		
	ILLINOIS FEDERAL AID PROJECT			



HMA PROFILE GRADE CHANGE DETAIL

EAST END



HMA PROFILE GRADE CHANGE DETAIL

WEST END

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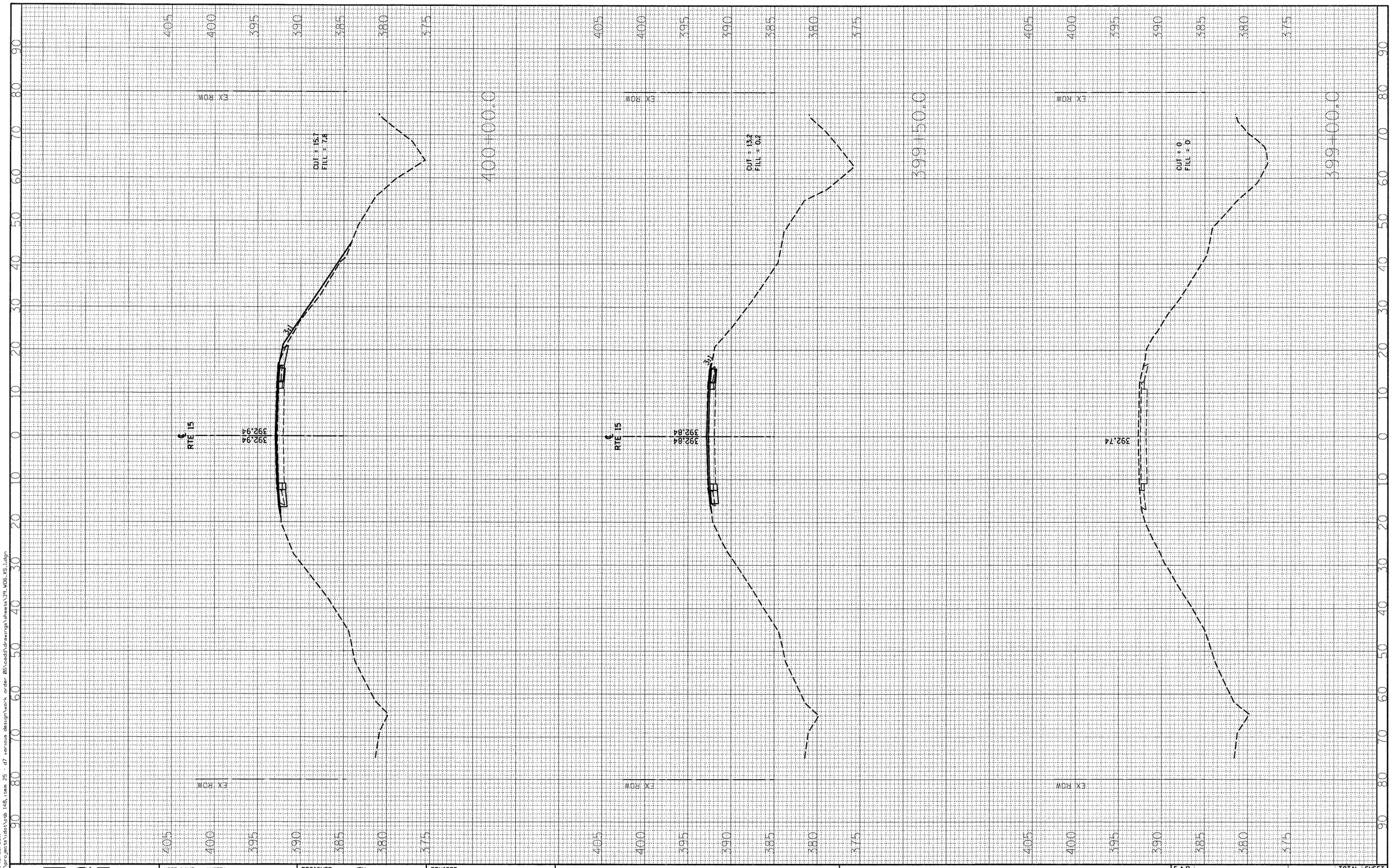
	DRAWN -	REVISED -
PLOT SCALE = 1.2000 ' / IN.	CHECKED -	REVISED -
PLOT DATE = 10/25/2011	DATE - 3-23-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROFILE GRADE CHANGE/ BUTT-JOINT DETAIL

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	39
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



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		DRAWN - JEH	REVISED -
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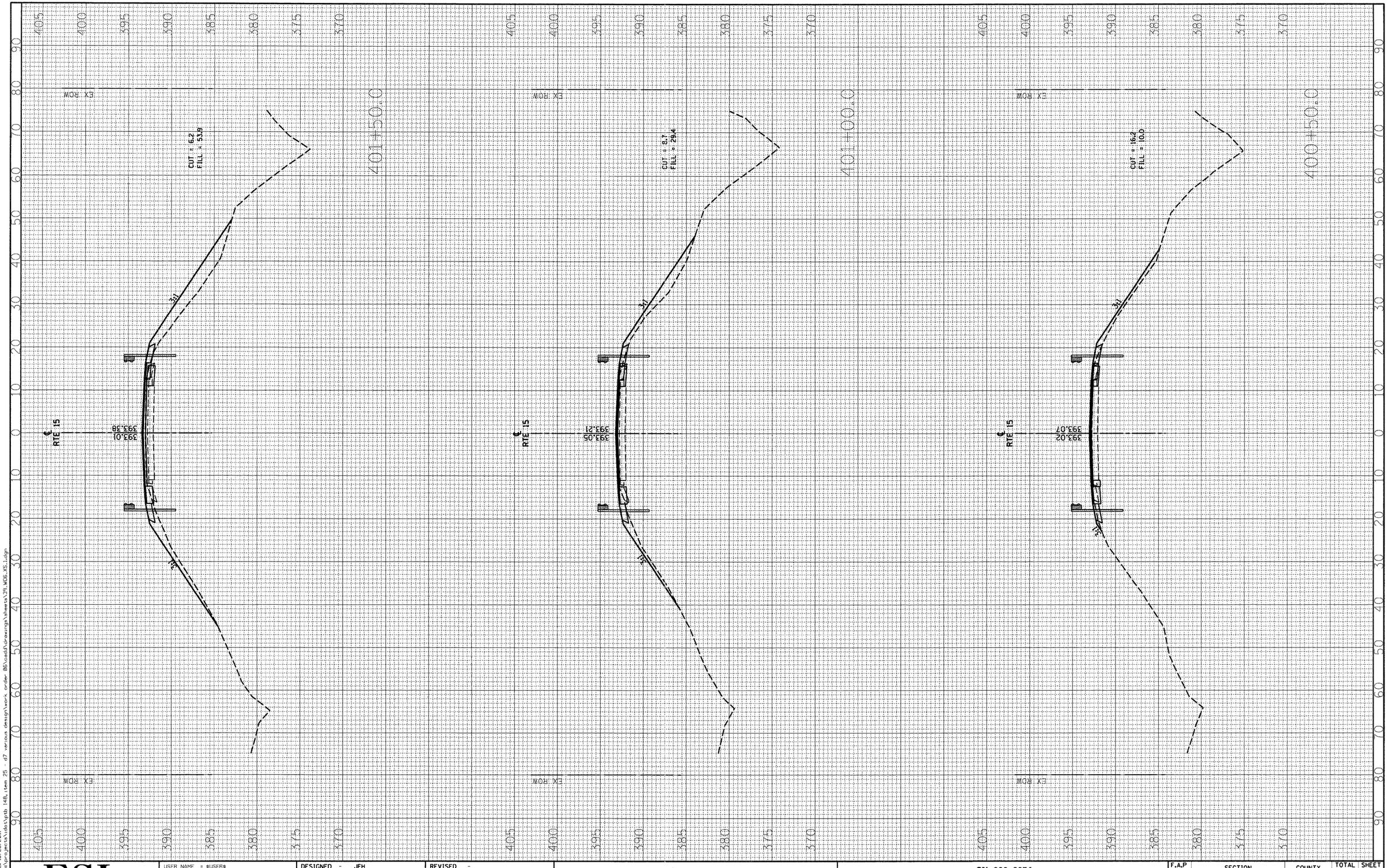
	PLOT DATE = 10/25/2011	DATE - 3-21-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0074
MAINLINE CROSS SECTIONS

SCALE: 1"H=10' 1"V=5' | SHEET NO 1 OF 5 SHEETS | STA 399+00.0 TO STA 400+00.0

F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	40
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



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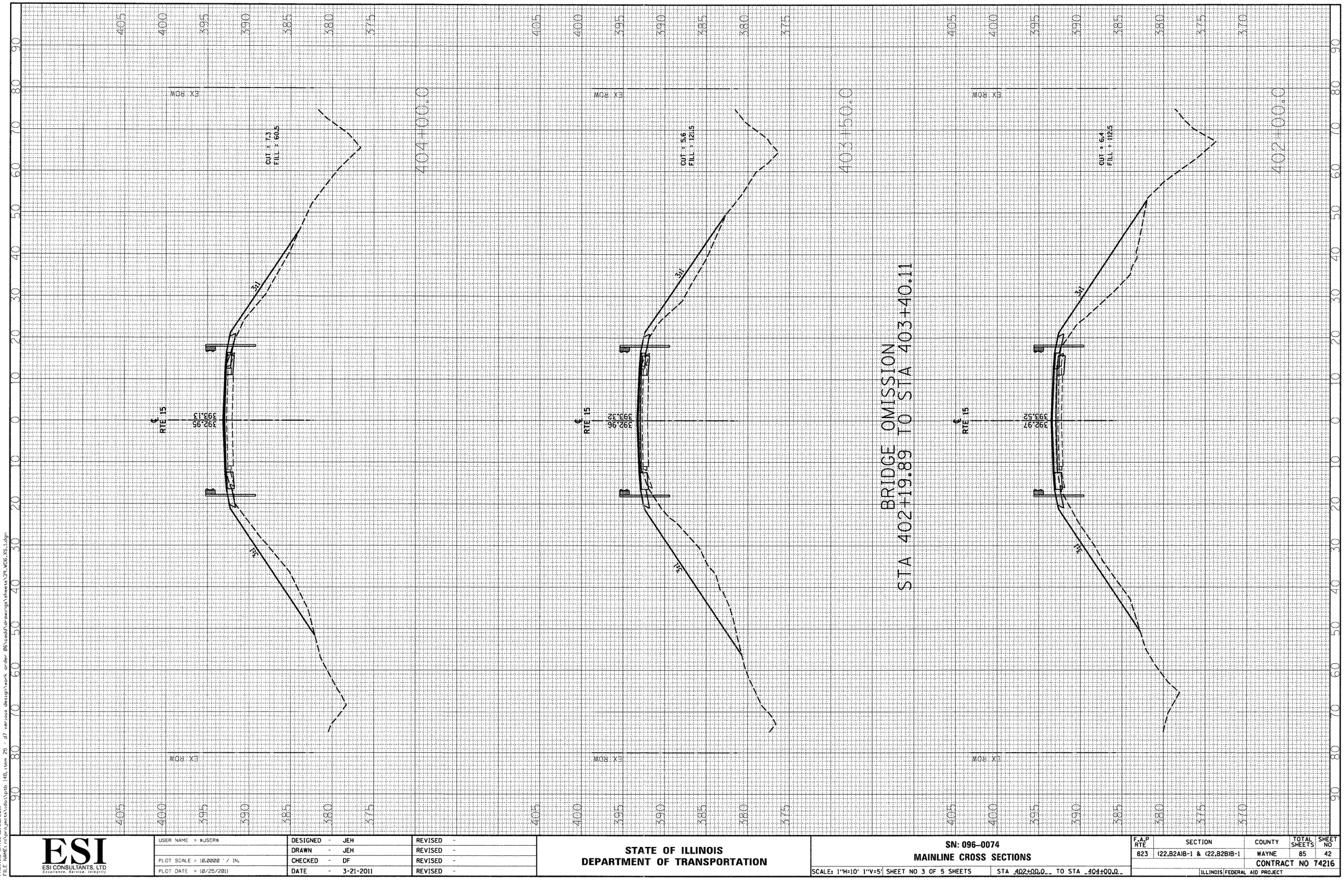
PLOT DATE = 10/25/2011	DATE - 3-21-2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0074
MAINLINE CROSS SECTIONS

SCALE: 1"H=10' 1"V=5' | SHEET NO 2 OF 5 SHEETS | STA 400+50.0 TO STA 401+50.0

F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	41
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



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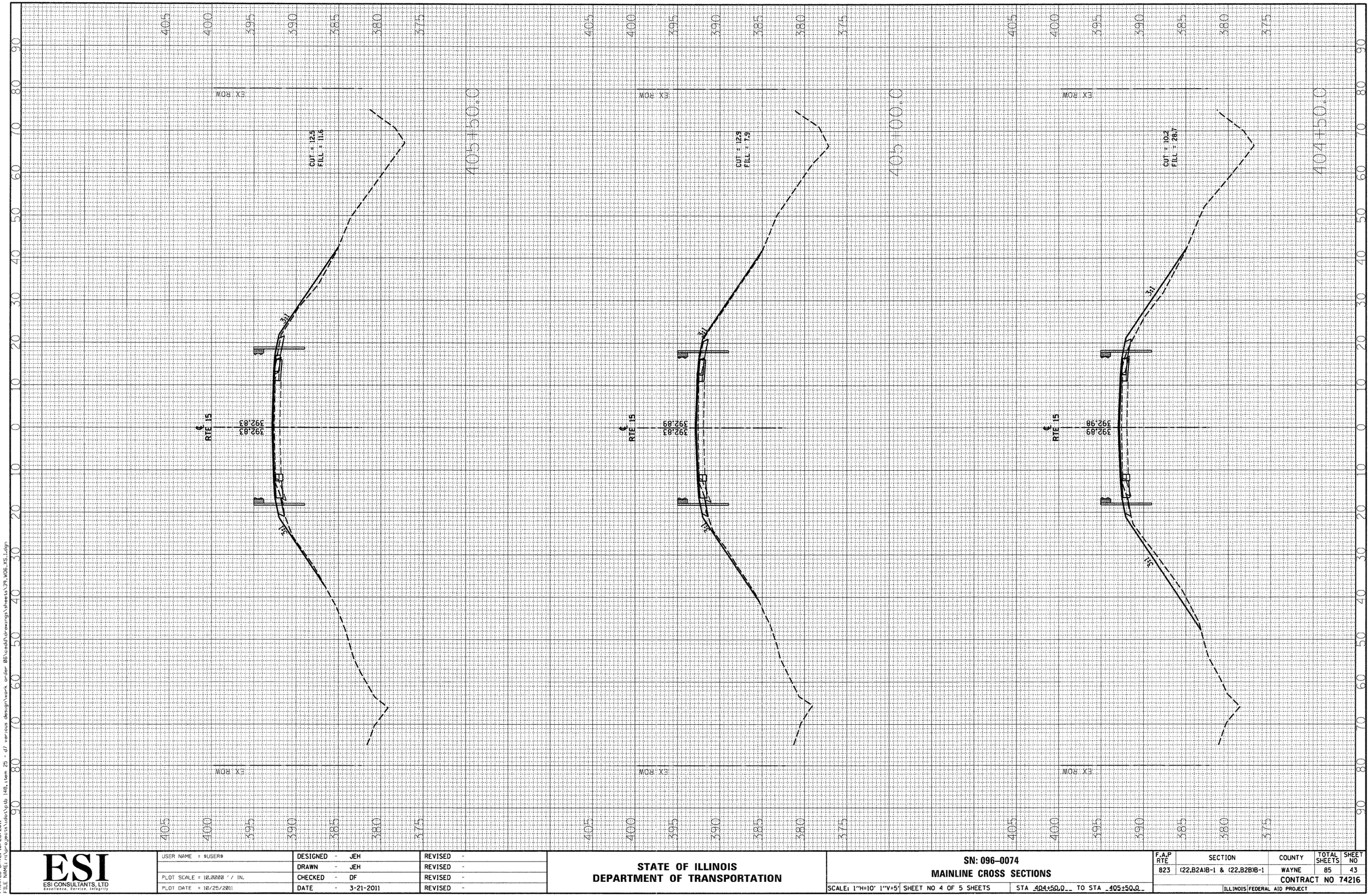
		DRAWN - JEH	REVISED -		
	PLOT SCALE = 10.0000 ' / IN.	CHECKED - DF	REVISED -		SCALE: 1"H=10' 1"V=5' SHEET NO 3 OF 5 SHEETS STA 402+00.0 TO STA 404+00.0
	PLOT DATE = 10/25/2011	DATE - 3-21-2011	REVISED -		

F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	42
		CONTRACT NO 74216		
		ILLINOIS FEDERAL AID PROJECT		



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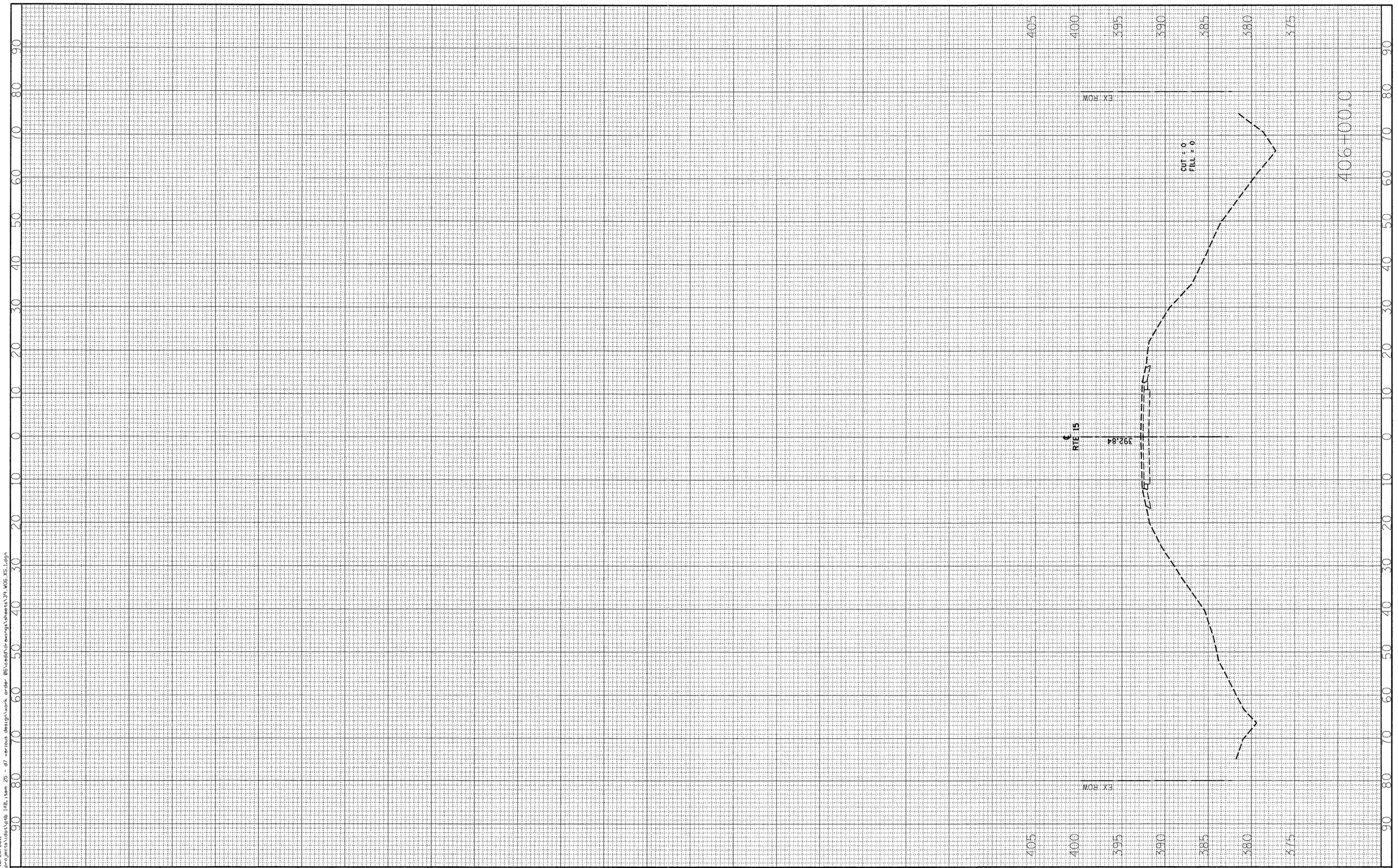
ESI CONSULTANTS, LTD Excellence, Service, Integrity	USER NAME = $USER$	DESIGNED - JEH	REVISED -
		DRAWN - JEH	REVISED -
	PLOT SCALE = 10.0000 ' / IN.	CHECKED - DF	REVISED -
	PLOT DATE = 10/25/2011	DATE - 3-21-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0074
MAINLINE CROSS SECTIONS

SCALE: 1"H=10' 1"V=5' | SHEET NO 4 OF 5 SHEETS | STA 404+50.0 TO STA 405+50.0

F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	43
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



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PLOT DATE = 10/25/2011	DATE - 3-21-2011	REVISED -	

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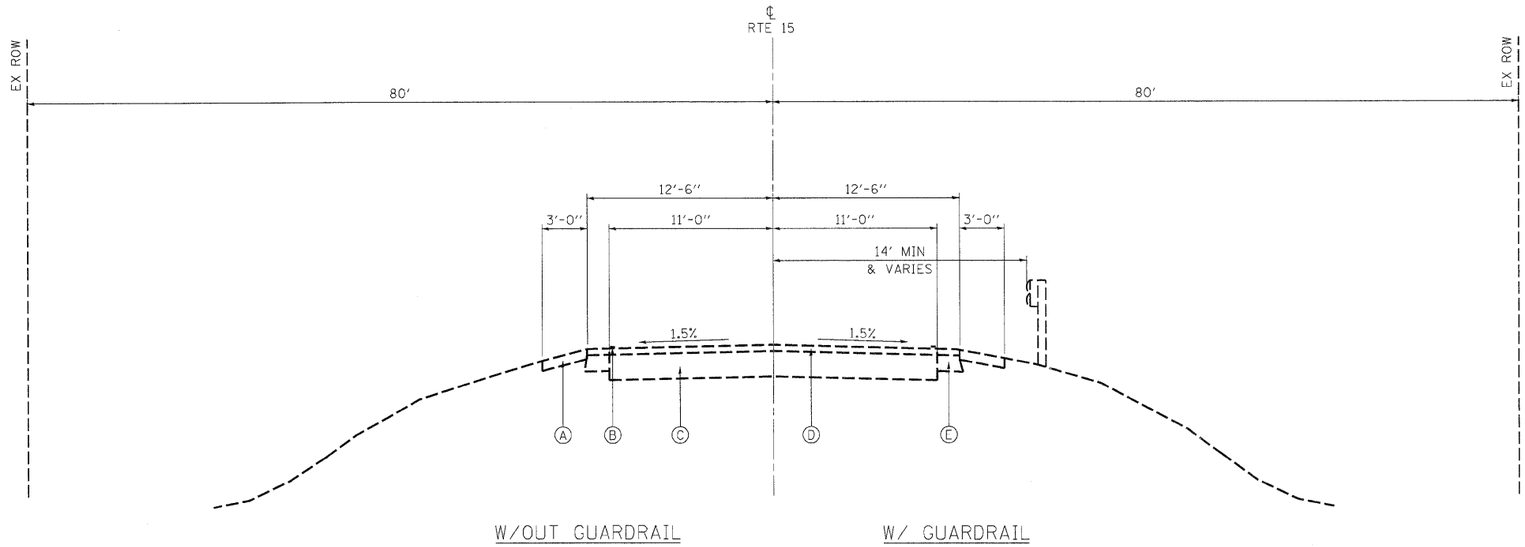
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0074
MAINLINE CROSS SECTIONS

SCALE: 1"H=10' 1"V=5' | SHEET NO 5 OF 5 SHEETS | STA 406+00.0 TO STA 406+00.0

F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	44
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



EXISTING TYPICAL SECTION

LOOKING WEST
STA 424+30.00 TO STA 427+70.75
BRIDGE OMISSION
STA 429+87.25 TO STA 433+30.00

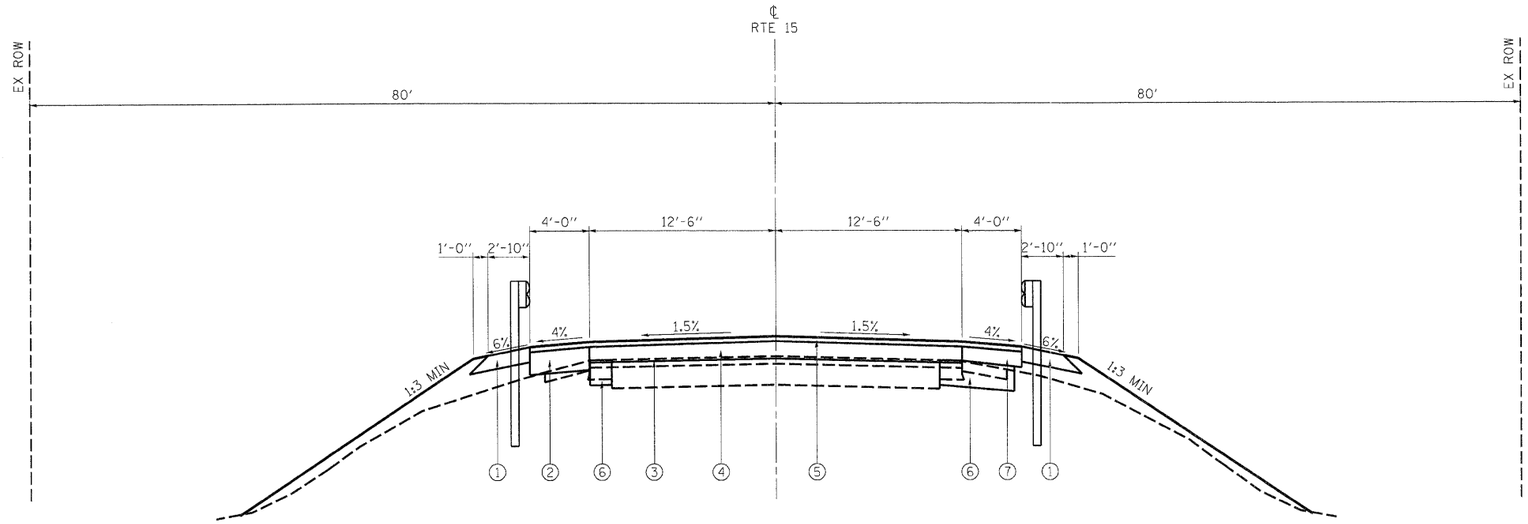
LEGEND

EXISTING

- Ⓐ EX AGGREGATE SHOULDER, 6" (TYP)
- Ⓑ STRIPING
- Ⓒ EX CONCRETE PAVEMENT
- Ⓓ EX ASPHALT SURFACE, 5 1/2" (TYP)
- Ⓔ EX ASPHALT SHOULDER, 6"

PROPOSED

- ① HOT-MIX ASPHALT SHOULDERS, 8"
- ② HOT-MIX ASPHALT SHOULDERS, 10"
- ③ HOT-MIX ASPHALT SURFACE REMOVAL, 1/2"
- ④ HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N-70
- ⑤ HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N-70, 1 1/2"
- ⑥ PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 10"
- ⑦ HOT-MIX ASPHALT SHOULDERS



PROPOSED TYPICAL SECTION

LOOKING WEST
STA 424+30.00 TO STA 427+70.75
BRIDGE OMISSION
STA 4299+87.25 TO STA 433+30.00

PRINTED DATE: 12/5/2011
FILE NAME: n:\projects\ida\tab 148, item 25 - 37 various design\Work Order 85\CADD\Drawings\Sheets\45_WO5_TS.dgn

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PLOT DATE = 12/5/2011	DATE - 3-23-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0073
TYPICAL SECTIONS

SCALE: N/A | SHEET NO 1 OF 1 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	45
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

GUARDRAIL REMOVAL

STATION	TO	STATION	SIDE	FOOT
425+89.30		428+26.60	RT	237
426+96.50		428+43.80	LT	148
429+14.90		430+65.00	RT	150
429+31.40		431+68.50	LT	238
TOTAL				773

HMA SURFACE REMOVAL 1/2"

STATION	TO	STATION	SQ YD
425+21.60		427+70.80	679
429+87.10		432+39.70	693
TOTAL			1372

HMA SURFACE REMOVAL – BUTT JOINT

			LENGTH	DEPTH	DEPTH	WIDTH	BUTT JOINT
STATION	TO	STATION	FOOT	START, IN	FINISH, IN	FOOT	SQ YD
424+30.00		425+21.60	91.6	1.5	0.5	25	254.44
432+39.70		433+30.00	90.3	0.5	1.5	25	250.83
TOTAL							505

PERIMETER EROSION BARRIER

STATION	TO	STATION	SIDE	FOOT
424+30.00		428+76.00	LT	499
424+30.00		428+63.00	RT	469
BRIDGE OMISSION				
428+80.00		433+30.00	LT	472
428+94.00		433+30.00	RT	501
TOTAL				1941

TEMPORARY RAMP

STATION	TO	STATION	SQ YD
399+50.00		399+55.00	14
401+85.50		401+90.50	17
403+69.50		403+74.50	17
405+90.00		405+95.00	14
TOTAL			62

GUARDRAIL

				STEEL PLATE BEAM	TRAFFIC BARRIER	TRAFFIC BARRIER
				GUARDRAIL, TY A	TERM, TY 1 SP TAN	TERMINAL, TY 6
STATION	TO	STATION	SIDE	FOOT	EACH	EACH
425+82.10		426+32.20	RT		1	
426+01.60		426+51.50	LT		1	
426+32.20		427+32.30	RT	100		
426+51.50		427+51.30	LT	100		
427+32.30		427+78.00	RT			1
427+51.30		427+96.90	LT			1
429+61.30		430.07.0	RT			1
429+79.70		430.25.3	LT			1
430+07.00		431+07.20	RT	100		
430+25.30		431+25.20	LT	100		
431+07.20		431+57.20	RT		1	
431+25.20		431+75.10	LT		1	
TOTAL				400	4	4

EARTH WORK

	CUT		FILL		TOTAL
STATION	SQ FT	CU YD	SQ FT	CU YD	CU YD
424+30	13.6		0.8		
		9.8		0.4	10.2
424+50	12.7		0.4		
		22.6		0.9	23.5
425+00	11.7		0.5		
		18.5		1.7	20.2
425+50	8.2		1.2		
		14.4		30.6	45.0
426+00	7.4		31.8		
		11.7		71.1	82.8
426+50	5.1		44.9		
		9.1		107.0	116.1
427+00	4.6		70.6		
		8.7		153.3	162.0
427+50	4.8		95.0		
430+00	4.3		119.9		
		8.1		186.7	194.8
430+50	4.5		81.6		
		9.3		119.3	128.6
431+00	5.5		47.1		
		10.7		55.2	65.9
431+50	6.0		12.5		
		12.8		13.1	25.9
432+00	7.8		1.7		
		17.0		2.6	19.6
432+50	10.5		1.1		
		21.1		1.9	23.0
433+00	12.3		0.8		
		12.9		1.2	14.1
433+30	10.8		1.3		

TOTAL CUT EARTH EXCAVATION	TOTAL FILL EMBANKMENT	TOTAL EARTHWORK
186.7 CU YD	745.0 CU YD	931.7 CU YD

FURNISHED EXCAVATION = 605.0 CU YD

NOTE:
SHRINKAGE FACTOR APPLIED TO FURNISHED QUANTITY

PRINTED DATE: 10/20/2011
FILE NAME: c:\projects\Video\ytb 148,item 25 - d7 various design\Work Order 05\CADD\Drawings\Sheets\V6_K05_SCHED.dgn

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USER NAME = $USER$	DESIGNED -	REVISED -
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PLOT SCALE = 1.0000 ' / IN.	CHECKED -	REVISED -
PLOT DATE = 10/20/2011	DATE - 3-23-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0073
SCHEDULES
SHEET NO 1 OF 2 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	46
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

PAVEMENT MARKING & SHORT TERM PAVEMENT MARKING

				PAINT PVMT MARKING		SHORT	
				WHITE 4"	YELLOW 4"	TERM PM	
STATION	TO	STATION	SIDE	FOOT	FOOT	FOOT	REMARKS
424+30.00		433+30.00	LT	900		72	EDGE LINE
424+30.00		433+30.00	RT	900		72	EDGE LINE
424+30.00		433+30.00	RT		360	0	SKIP
TOTAL				1800	360	144	

HOT-MIX ASPHALT

			HMA SURFACE	HMA BINDER	BIT MATERIALS ON HMA
STATION	TO	STATION	TON	TON	GAL
424+30.00		427+64.80	704		53
425+21.60		427+70.60		2562	
BRIDGE OMISSION					
429+87.20		432+39.70		2600	
429+93.20		433+30.00	708		49
TOTAL			1412	5162	102

HMA SHOULDERS

				8"	10"	HMA SHOULDERS	BIT MATERIALS ON HMA
STATION	TO	STATION	SIDE	SQ YD	SQ YD	TON	GAL
424+30.00		427+80.30	LT		153		1.4
425+66.70		427+80.80	LT	71			0.7
424+30.00		425+21.60	RT	40			0.4
425+21.60		427+63.20	RT			60	0.0
425+48.60		427+60.70	RT	70			0.7
BRIDGE OMISSION							
429+77.50		431+91.60	RT	71			0.7
429+78.90		432+39.70	RT			65	0.0
432+39.70		433+30.00	RT	40			0.4
429+94.10		433+30.00	LT		147		1.4
429+97.00		432+09.90	LT	70			0.7
TOTAL				362	300	125	7

PCC BASE COURSE WIDENING

				PCC BASE CSE WIDENING 10"
STATION	TO	STATION	SIDE	SQ YD
424+20.30		424+45.80	RT	11
424+30.00		425+51.40	LT	20
424+45.80		428+05.30	RT	177
429+38.80		433+27.60	RT	189
432+10.60		433+30.00	LT	20
433+27.60		433+49.20	RT	8
TOTAL				425

PAVED SHOULDER REMOVAL

				PAVED SHOULDER REMOVAL
STATION	TO	STATION	SIDE	SQ YD
424+20.30		428+04.30	RT	58
424+30.00		425+51.40	LT	15
429+40.50		433+49.20	RT	63
432+10.60		433+30.00	LT	17
TOTAL				153

TEMPORARY PAVEMENT MARKING ***

			STAGE I WHITE 4"	STAGE II WHITE 4"	WHITE 24"
STATION	TO	STATION	FOOT	FOOT	FOOT
422+52.10					12.5
423+12.30		434+69.10	1158		
424+20.30		43349.1	928		
422+62.20		434+34.40		1174	
424+27.50		433+31.20		905	
434+94.40					12.5
TOTAL			2086	2079	25

*** INCLUDED FOR CONTRACTOR INFORMATION ONLY. COST TO BE INCLUDED WITH TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

WORK ZONE PVMT MARKING REMOVAL

			STAGE I WHITE 4"	STAGE II WHITE 4"	WHITE 24"
STATION	TO	STATION	SQ FT	SQ FT	SQ FT
422+52.10					25
423+12.30		434+69.10	386		
424+20.30		433+49.10	309		
422+62.20		434+34.40		391	
424+27.50		433+31.20		302	
434+94.40		0+00.00			25
TOTAL			695	693	50

PAVEMENT MARKING REMOVAL

			PM REM
STATION	TO	STATION	SQ FT
424+30.00		433+30.00	300
424+30.00		433+30.00	300
424+30.00		433+30.00	120
			720

PRINTED DATE: 10/20/2011
FILE NAME: c:\projects\dist\pb 148,item 25 - d7 various design\Work Order #5\CADD\Drawings\Sheets\47_WOS_SCHED_2.dgn

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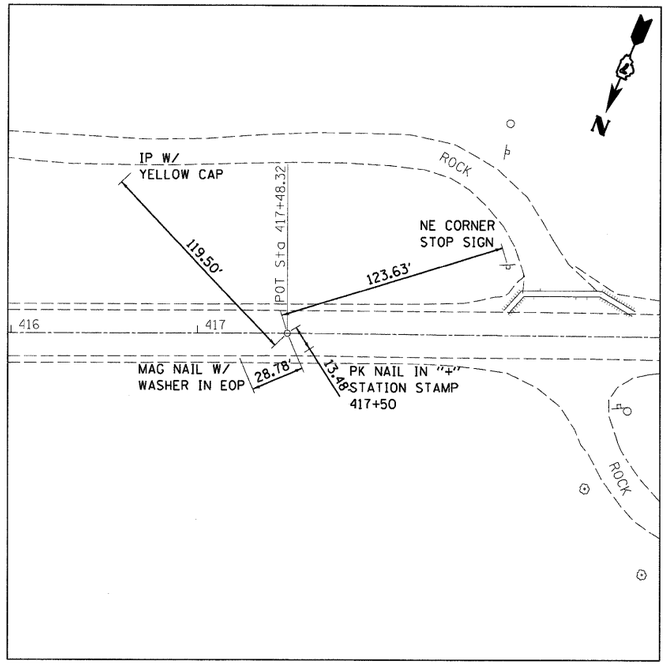
	DRAWN -	REVISED -
PLOT SCALE = 1.2000 ' / IN.	CHECKED -	REVISED -
PLOT DATE = 10/20/2011	DATE - 3-23-2011	REVISED -

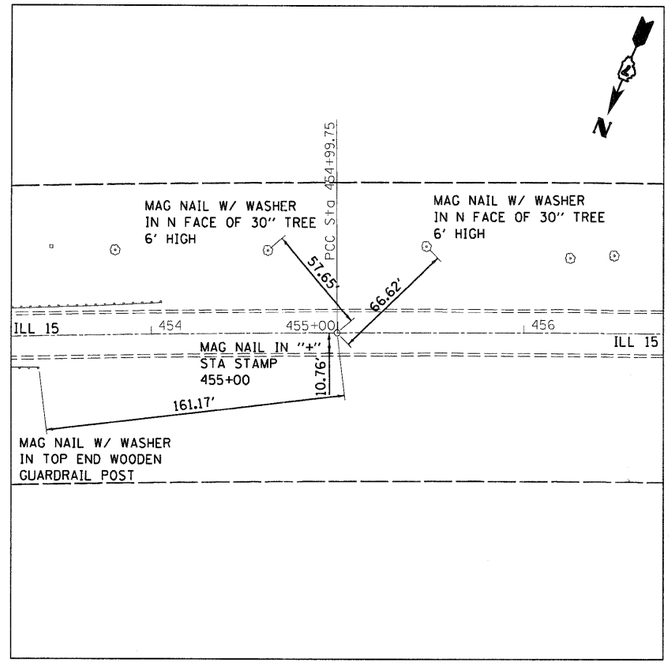
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0073
SCHEDULES
SHEET NO 2 OF 2 SHEETS

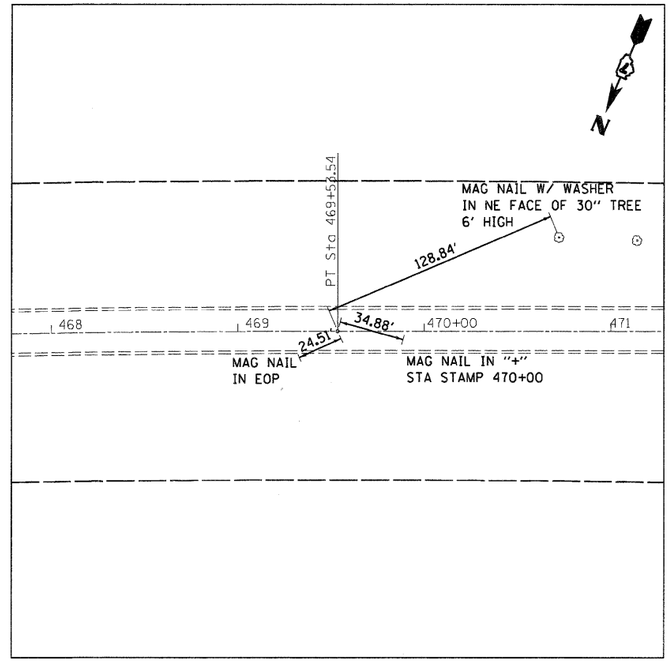
F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	47
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



POT STA 417+48.32
PK NAIL



PCC STA 454+99.75
PK NAIL



PT STA 469+53.54
PK NAIL

PRINTED DATE: 10/20/2011
FILE NAME: d:\projects\dot\jobs\148_item 25 - d7 various design\Work Order 85\CADD\Drawings\Sheets\48_W05_ATB.dgn

ESI CONSULTANTS, LTD *Excellence, Service, Integrity*	USER NAME = $USER$	DESIGNED - ---	REVISED -
		DRAWN - ---	REVISED -
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	PLOT DATE = 10/20/2011	DATE - 3-23-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0073
ALIGNMENT TIES AND BENCHMARKS

SCALE: 1"=40' | SHEET NO __ OF ___ SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	48
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

PLAN
SURVEYED
ROUTED
NOTE BOOK
NO.
ALIGNMENT CHECKED
GRADES CHECKED
STRUCTURE NOTATIONS CHKD
CADD FILE NAME
BY
DATE

PROFILE
SURVEYED
ROUTED
NOTE BOOK
NO.
GRADES CHECKED
STRUCTURE NOTATIONS CHKD
CADD FILE NAME
BY
DATE

PRINTED DATE: 11/3/2011
FILE NAME: N:\PROJECTS\1007\PTB 148, Item 25 - 07 Various Design\Work Order #5\CADD\Drawings\Sheets\49_1405_P1-P-F.dgn

EX ROW
18" CMP
80.00'
END ROADWAY OMISSION
STA 424+30.00
420+00
ILL 15
421
422
423
ILL 15
424
425+00
11.9'
12.9'
12.5'
12.5'
4.0'
50.0'
SHOULDER TAPER
BOTH SIDES
4.0'
92'
BUTT-JOINT
+30.0
+50.0
+82.1
HMA SHOULDERS, 8"
PERIMETER EROSION
BARRIER
HMA SHOULDERS, 10"
LIMITS OF
CONSTRUCTION
MATCHLINE STA 426+00
LIMITS OF
CONSTRUCTION
HMA SURFACE
HMA SHOULDERS
VARIABLE DEPTH
HMA SHOULDERS, 8"
TRAF BARRIER
TERM, TY 1
EX ROW
FD
W
N
1"=20'
20 0 20 40
SCALE
FEET

405
400
395
390
385
380
375
370
365

MATCH EXISTING
+30.00 EL 392.34
K = 473
200.00' VC
PR PROFILE
EX PROFILE
+0.28%
+0.65%
VPI STA 425+30.00
ELEVATION 392.57

391.31 391.36 391.41 391.46 391.51 391.56 391.60 391.64 391.68 391.73 391.79 391.84 391.90 391.96 392.01 392.06 392.12 392.17 392.22 392.27 392.31 392.36 392.37 392.41 392.42 392.46 392.48 392.50 392.55 392.54 392.63 392.59 392.72 392.62 392.82 392.65 392.92 392.68

420+00 420+50 421+00 421+50 422+00 422+50 423+00 423+50 424+00 424+50 425+00 425+50 426+00

USER NAME = $USER$	DESIGNED - ---	REVISED -	
	DRAWN - ---	REVISED -	
PLOT SCALE = 20.0000 ' / IN.	CHECKED - ---	REVISED -	
PLOT DATE = 11/3/2011	DATE - 3-23-2011	REVISED -	

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0073
ROADWAY PLAN AND PROFILE

SCALE: 1"=20' | SHEET NO 1 OF 3 SHEETS | STA 424+30.00 TO STA 426+00

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	49
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

PLAN

NO.	NOTE BOOK	PLOTTED	SURVEYED	DATE
		ALIGNMENT CHECKED		
		GRADES CHECKED		
		PLAN FILE NAME		

EX ROW

PERIMETER EROSION BARRIER

LIMITS OF CONSTRUCTION

CONCRETE HEADWALL +14.2, 31.9' LT

PIPE UNDERDRAIN FOR STRUCTURES, 4" 30' APPROACH SLAB

RIP RAP LIMITS

+65.9

+17.3

RIP RAP LIMITS

CONCRETE HEADWALL +72.6, 32.1' LT

PERIMTER EROSION BARRIER

LIMITS OF CONSTRUCTION

+50.0

TRAF BARRIER TERM, TY 1 SP (TANGENT)

HMA SURFACE

HMA SHOULDERS, 10"

HMA SHOULDERS, 8"

SPB GUARDRAIL TA, 6' POSTS

TRAF BARRIER TERM, TY 6

TRAF BARRIER TERM, TY 6

HMA SHOULDERS, 8"

SPB GUARDRAIL TA, 6' POSTS

HMA SURFACE

HMA SHOULDERS, 10"

TRAF BARRIER TERM, TY 1 SP (TANGENT)

+25.2

+75.1

80.0'

MATCHLINE STA 426+00

426

L 427

428

30°0'0"

429

L 430+00

431

MATCHLINE STA 432+00

4.0'

2.8'

12.2'

12.5'

12.5'

12.5'

12.5'

12.3'

SPB GUARDRAIL TA, 6' POSTS

HMA SHOULDERS, 8"

HMA SHOULDERS, VARIABLE DEPTH

BRIDGE APP PVMT CONNECTOR (FLEXIBLE)

TRAF BARRIER TERM, TY 6

TRAF BARRIER TERM, TY 6

30' APPROACH SLAB

SPB GUARDRAIL TA, 6' POSTS

HMA SHOULDERS, 8"

TRAF BARRIER TERM, TY 1 SP

+07.2

+50.0

+57.2

+00.0

+87.2

+29.6

CONCRETE HEADWALL +84.9, 31.7' RT

BM

PR SN 096-0073 TRIPLE SPAN STRUCTURE STA 428+79.00

CONCRETE HEADWALL +44.2, 31.9' RT

EX SN 096-0012 TRIPLE SPAN STRUCTURE STA 428+79.00

LIMITS OF CONSTRUCTION

PERIMETER EROSION BARRIER

LIMITS OF CONSTRUCTION

PERIMETER EROSION BARRIER

OIL WELL

EX ROW

EX ROW

BM - CUT SQUARE ON NORTHEAST CORNER OF STRUCTURE SN 096-0012, ELEV 393.162

1"=20' SCALE 20 0 20 40 FEET

PROFILE

NO.	NOTE BOOK	PLOTTED	SURVEYED	DATE
		GRADES CHECKED		
		STRUCTURE NO(S)/NOS. CHKD		

405 400 395 390 385 380 375 370 365

+30.00 EL 393.22

+30.00 EL 393.21

VPI STA 428+80.00 ELEVATION 394.85

+0.65% -0.65%

PR PROFILE

EX PROFILE

K = 383

500.00' VC

387.85 DESIGN HIGH WATER ELEVATION

R 378.00

426+00	426+50	427+00	427+50	428+00	428+50	429+00	429+50	430+00	430+50	431+00	431+50	432+00
393.04	392.69 393.16	392.70 393.29	392.70 393.41	392.71 393.51	392.71 393.61	392.73 393.70	392.74 393.78	392.76 393.85	392.77 393.90	392.80 393.95	392.95 393.99	392.91 394.01	392.87 394.03	392.83 394.03	392.86 394.03	392.88 394.01	392.89 393.99	392.84 393.95	392.77 393.90	392.70 393.84	392.69 393.78	392.68 393.70	392.67 393.61	392.66 393.51	392.65 393.40	392.64 393.28	392.64 393.15	392.62 393.03	392.61 392.92	392.60

PRINTED DATE: 11/3/2011
FILE NAME: N:\PROJECTS\IDOT\PTB 148, Item 25 - D7 Various Design\Work Order 05\CADD\Drawings\Sheets\SB_M05_PlnPrf.dgn

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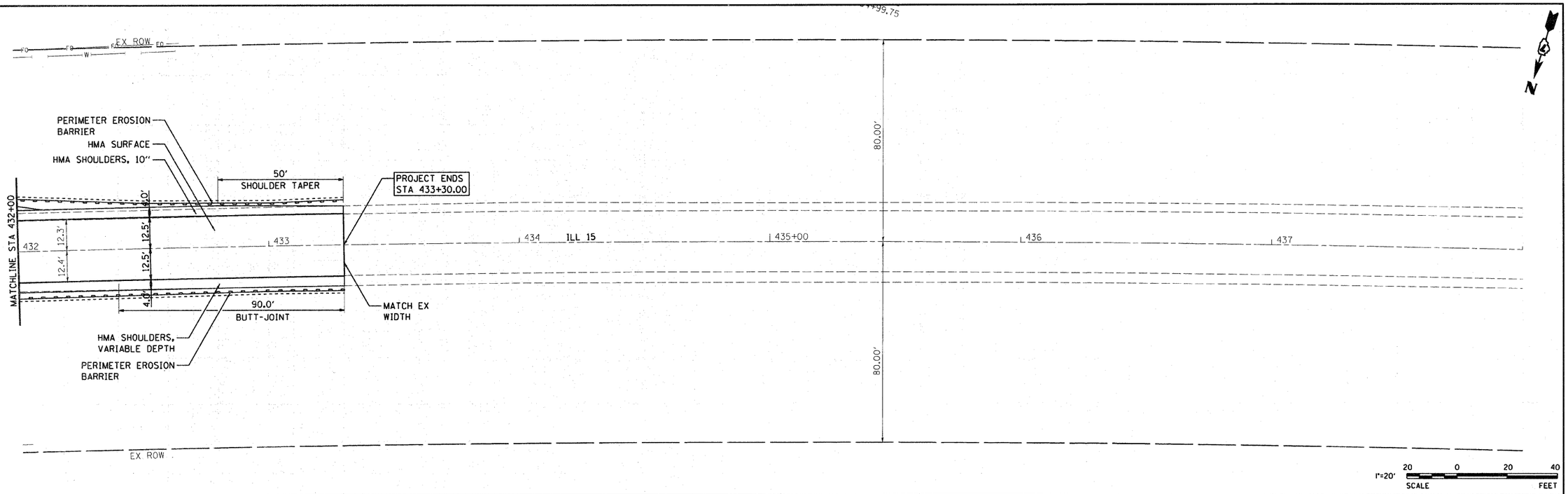
PLOT DATE = 11/3/2011	DATE - 3-23-2011	REVISED -

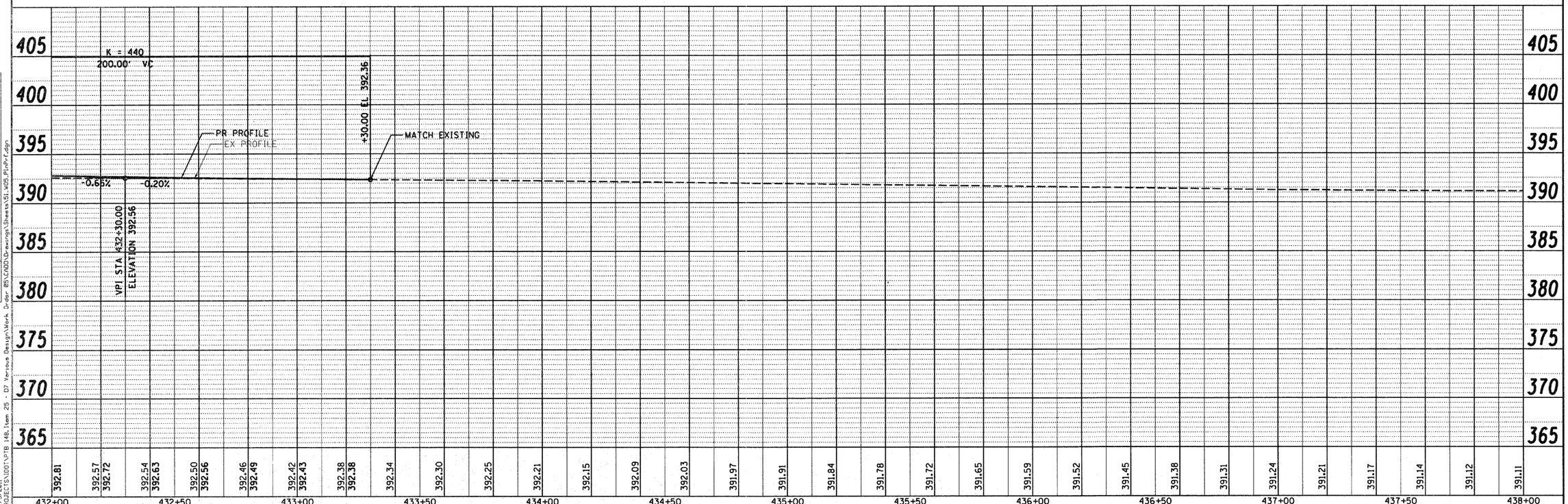
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0073
ROADWAY PLAN AND PROFILE

SCALE: 1"=20' | SHEET NO 2 OF 3 SHEETS | STA 426+00 TO STA 432+00

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	50
		CONTRACT NO 74216		
		ILLINOIS FEDERAL AID PROJECT		





PLAN: SURVEYED, DATE; DRAWN; ALIGNMENT CHECKED; PLAN AS BUILT; NOTE BOOK; NO.; CADD FILE NAME

PROFILE: SURVEYED, DATE; DRAWN; GRADES CHECKED; PROFILE AS BUILT; NOTE BOOK; NO.; CADD FILE NAME; PLOTTING CHKD

PRINTED DATE: 11/3/2011
FILE NAME: N:\PROJECTS\1007\PTB 148,Item 25 - 07 Various Design\Work Order 85\CADD\Drawings\Sheets\SL1405_Pl+Pr.dgn

ESI CONSULTANTS, LTD Excellence, Service, Integrity	USER NAME = #USER#	DESIGNED - ---	REVISED -
		DRAWN - ---	REVISED -
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	PLOT DATE = 11/3/2011	DATE - 3-23-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0073
ROADWAY PLAN AND PROFILE

SCALE: 1"=20' | SHEET NO 3 OF 3 SHEETS | STA 432+00 TO STA 433+30.00

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	51
		CONTRACT NO 74216		
	ILLINOIS	FEDERAL AID PROJECT		

LEGEND

- TRAFFIC SIGNAL
- SIGN
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- DOUBLE VERTICAL PANEL
- PCC BASE COURSE WIDENING

SCHEDULE OF QUANTITIES

TEMPORARY CONCRETE BARRIER

STATION	TO	STATION	FEET
424+27.0		433+23.3	912.5
		TOTAL	912.5

TEMPORARY BRIDGE TRAFFIC SIGNALS - 1 EACH

TEMPORARY RUMBLE STRIPS - 6 EACH

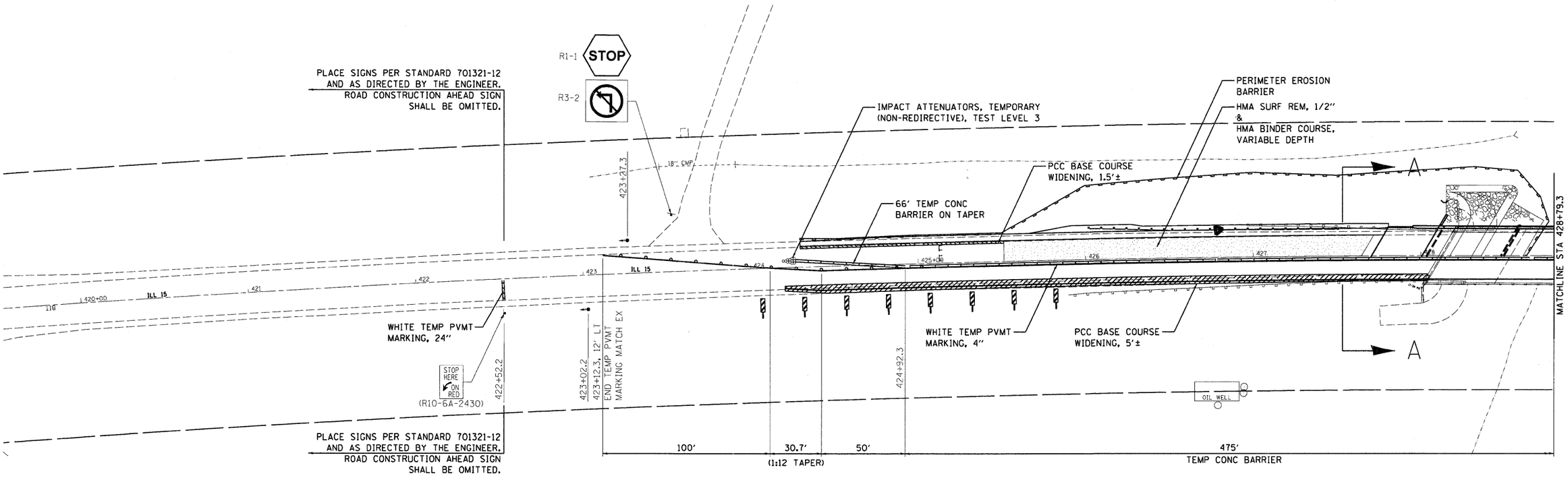
IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3 - 2 EACH

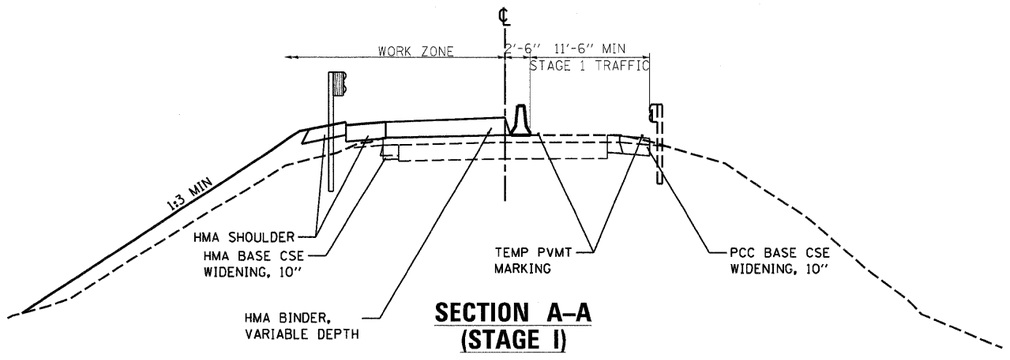
PRE-STAGE

1. CONSTRUCT PCC WIDENING ON SOUTH SIDE OF RTE 15
2. INSTALL TEMPORARY TRAFFIC SIGNALS

STAGE 1

1. ACTIVATE TEMPORARY TRAFFIC SIGNALS.
2. MOVE TRAFFIC OVER TO WEST BOUND LANE.
3. INSTALL TEMPORARY CONCRETE TRAFFIC BARRIER, TEMPORARY IMPACT ATTENUATORS AND TRAFFIC CONTROL DEVISES.
4. REMOVE STAGE 1 OF EXISTING STRUCTURE, CONSTRUCT STAGE 1 OF PROPOSED STRUCTURE.
5. CONSTRUCT STAGE 1 ROADWAY WHICH INCLUDES, BUT NOT LIMITED TO: EMBANKMENT, HMA BINDER COURSE, HMA SHOULDERS (EXCLUDING 1.5" SYRFACE).
6. INSTALL NEW GUARDRAIL AS SHOWN IN THE PLANS.





SECTION A-A (STAGE I)

1"=30' SCALE 30 0 30 60 FEET

PRINTED DATE: 10/20/2011
FILE NAME: n:\projects\dot\qtb 148,item 25 - d7 various design\Work Order 05\CADD\Drawings\Sheets\S2_MO5_Stage1.dgn

ESI CONSULTANTS, LTD Excellence, Service, Integrity	USER NAME = $USER$	DESIGNED - JEH	REVISED -
		DRAWN - JEH	REVISED -
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	PLOT DATE = 10/20/2011	DATE - 3-23-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

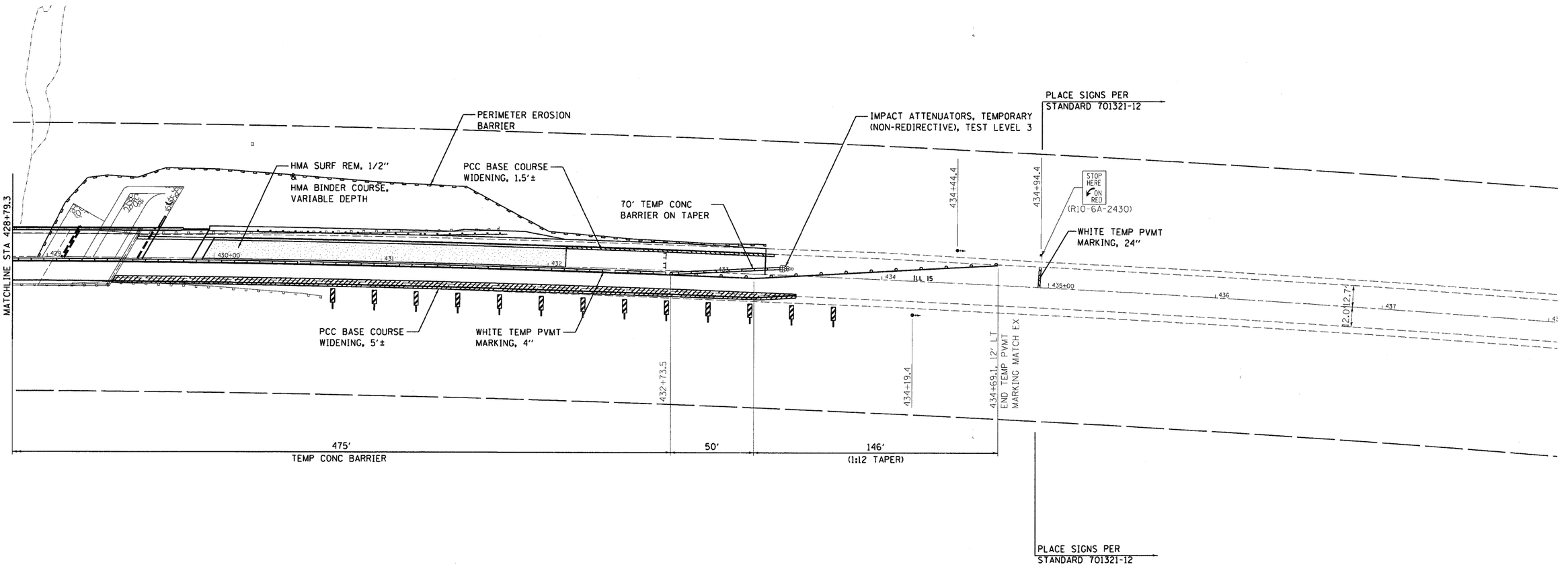
SN: 096-0073
STAGE I CONSTRUCTION

SCALE: 1" = 30' | SHEET NO 1 OF 2 SHEETS | STA 421+71.86 TO STA 428+79.30

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	52
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

LEGEND

- TRAFFIC SIGNAL
- SIGN
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- DOUBLE VERTICAL PANEL
- PCC BASE COURSE WIDENING



1"=30' SCALE: 30 0 30 60 FEET

PRINTED DATE: 10/20/2011
FILE NAME: n:\projects\tdot\pb 148, item 25 - d7 various design\Work Order #5\CADD\Drawings\Sheets\53_M05_Stage1.dgn

ESI CONSULTANTS, LTD Excellence. Service. Integrity	USER NAME = $USER$	DESIGNED - JEH	REVISED -
		DRAWN - JEH	REVISED -
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	PLOT DATE = 10/20/2011	DATE - 3-23-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0073
STAGE I CONSTRUCTION

SCALE: 1"=30' | SHEET NO 1 OF 2 SHEETS | STA 428+79.30 TO STA 425+94.34

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	53
		CONTRACT NO 74216		
		ILLINOIS FEDERAL AID PROJECT		

LEGEND

- TRAFFIC SIGNAL
- SIGN
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- DOUBLE VERTICAL PANEL

SCHEDULE OF QUANTITIES

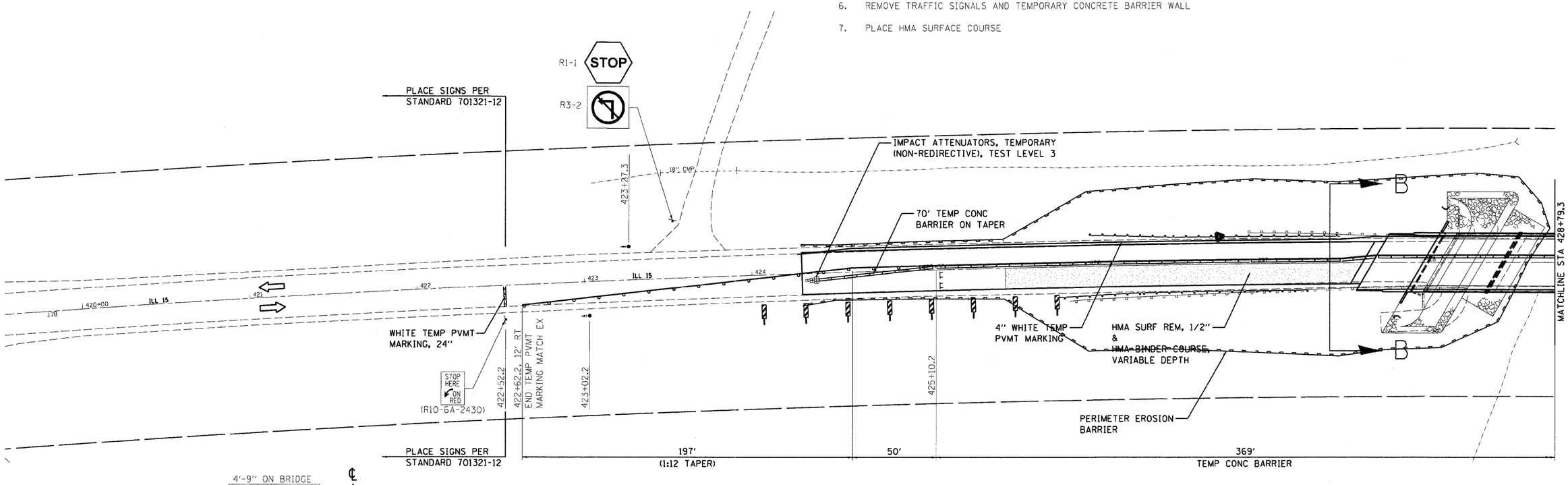
RELOCATE TEMPORARY CONCRETE BARRIER

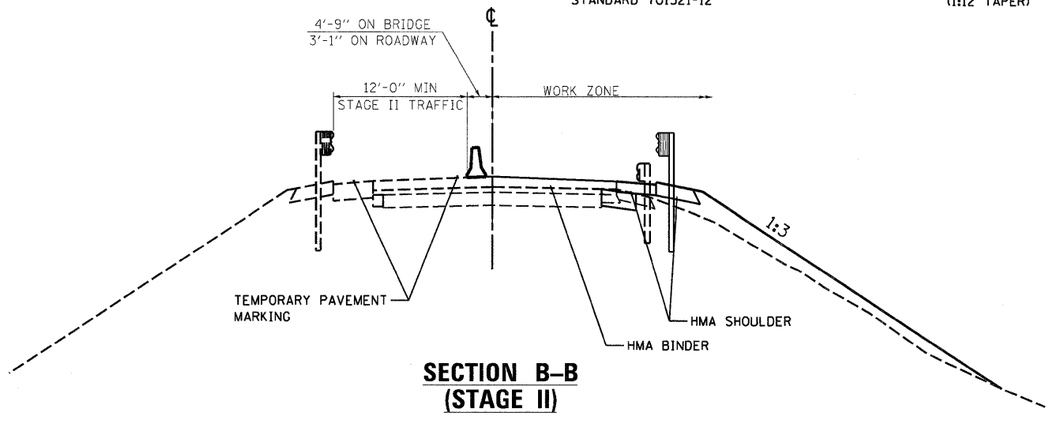
STATION	TO	STATION	FEET
424+40.0		433+23.3	887.5
		TOTAL	887.5

IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3 - 2 EACH

STAGE 2

1. RELOCATE TEMPORARY CONCRETE TRAFFIC BARRIER, TEMPORARY IMPACT ATTENUATORS AND TRAFFIC CONTROL DEVISES.
2. MOVE TRAFFIC OVER TO EAST BOUND LANE.
3. REMOVE STAGE 2 OF EXISTING STRUCTURE, CONSTRUCT STAGE 2 OF PROPOSED STRUCTURE.
4. CONSTRUCT STAGE 2 ROADWAY WHICH INCLUDES, BUT NOT LIMITED TO: EMBANKMENT, HMA BINDER COURSE, HMA SHOULDERS (EXCLUDING 1.5" SYRFACE).
5. INSTALL NEW GUARDRAIL AS SHOWN IN THE PLANS.
6. REMOVE TRAFFIC SIGNALS AND TEMPORARY CONCRETE BARRIER WALL
7. PLACE HMA SURFACE COURSE





SECTION B–B (STAGE II)

1"=30' SCALE 30 0 30 60 FEET

PRINTED DATE: 10/20/2011
FILE NAME: n:\projects\dot\vdb 148, item 25 - d7 various design\Work Order #5\CADD\Drawings\Sheets\S4_WO5_Stage2.dgn

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USER NAME = $USER$	DESIGNED - JEH	REVISED -	
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PLOT SCALE = 30.0000 ' / IN.	CHECKED - DF	REVISED -	
PLOT DATE = 10/20/2011	DATE - 3-23-2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

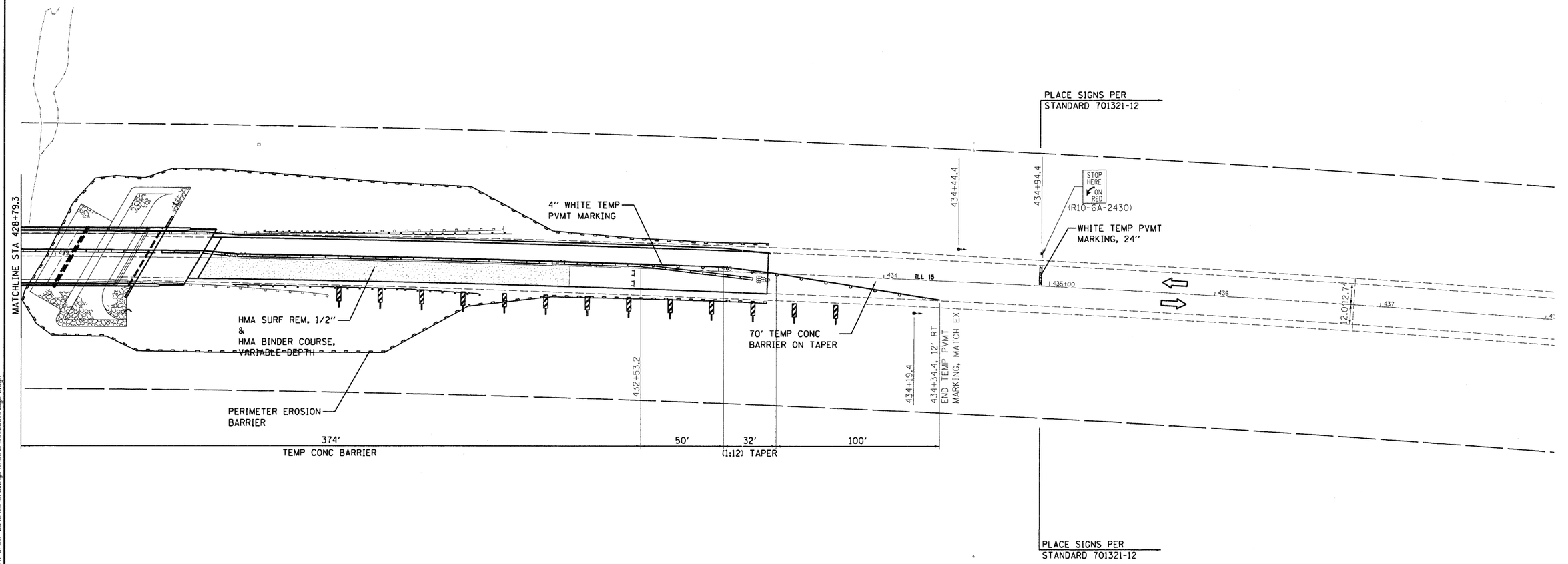
SN: 096-0073
STAGE II CONSTRUCTION

SCALE: 1"=30' | SHEET NO 1 OF 2 SHEETS | STA 421+95.47 TO STA 428+79.30

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	54
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

LEGEND

- TRAFFIC SIGNAL
- SIGN
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- DOUBLE VERTICAL PANEL



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		DRAWN - JEH	REVISED -
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	PLOT DATE = 10/20/2011	DATE - 3-23-2011	REVISED -

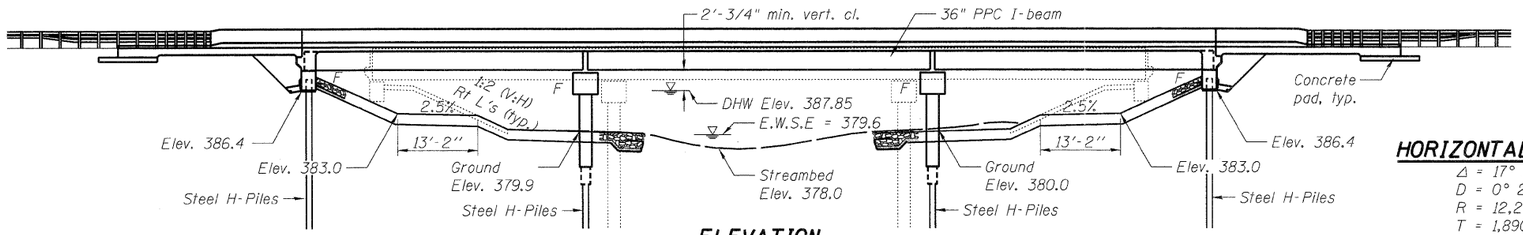
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0073
STAGE II CONSTRUCTION

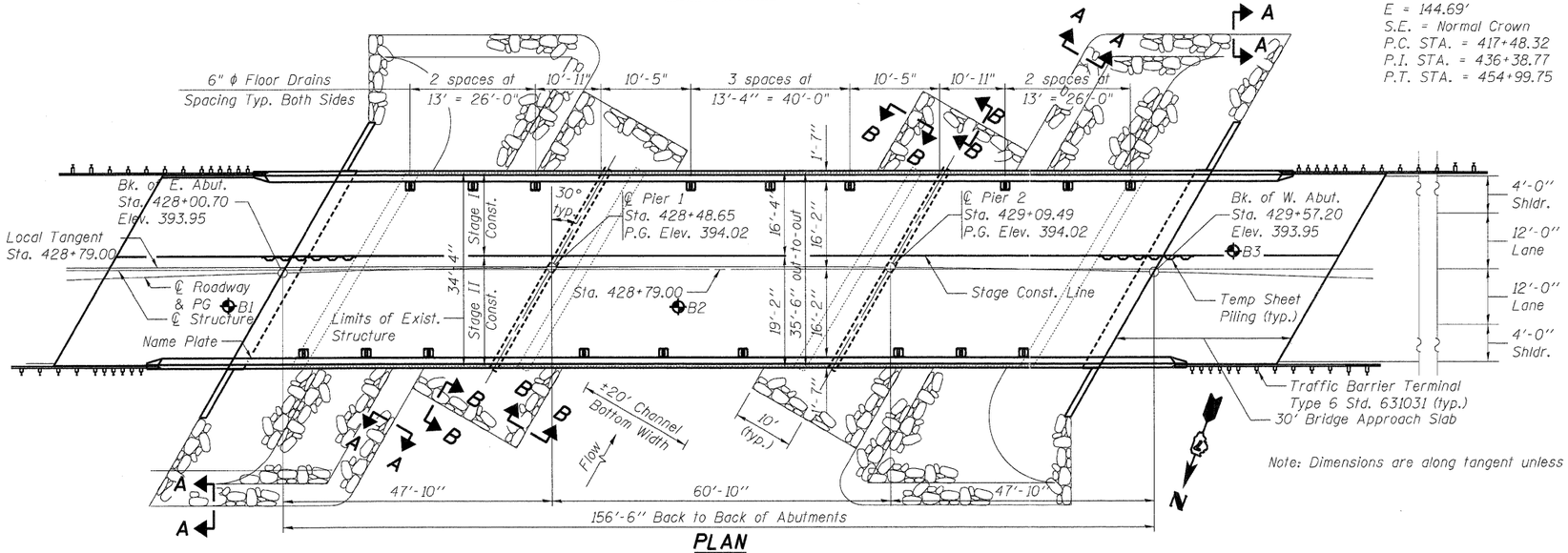
SCALE: 1"=30' | SHEET NO 2 OF 2 SHEETS | STA 428+79.30 TO STA 436+14.44

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	55
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

B.M. - Cut square on northeast corner of structure 096-0012, elev. 393.162.
Existing Structure - Structure 096-0012, originally constructed in 1955 as SBI 15, section (22,BR)B-1, consists of a three span continuous 7" concrete slab supported by 6 steel beams on precast concrete pile supported abutments and piers skewed 30° left forward. The bk. to bk. of abutments length is 136'-6" and the out-to-out width is 34'-4". The existing structure shall be completely replaced. One lane of traffic is to be maintained using stage construction.
No Salvage.



ELEVATION

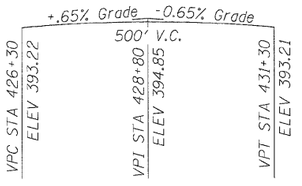


PLAN

HORIZONTAL CURVE DATA

Δ = 17° 30' 25" (RT)
D = 0° 28' 00"
R = 12,277.41'
T = 1,890.45'
L = 3,751.43'
E = 144.69'
S.E. = Normal Crown
P.C. STA. = 417+48.32
P.I. STA. = 436+38.77
P.T. STA. = 454+99.75

Note: Dimensions are along tangent unless noted.



PROFILE GRADE
(Along ℄ IL Rte. 15)

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

DESIGN STRESSES

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

PRECAST PRESTRESSED UNITS
f'c = 6,000 psi
f'ci = 5,000 psi
F's = 270,000 psi (½" low relax. strands)
Fsi = 201,960 psi (½" low relax. strands)

DESIGN SPECIFICATIONS
2007 AASHTO LRFD Bridge Design Specifications, with 2008 Interims

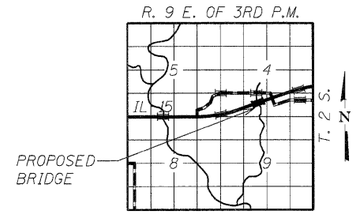
SEISMIC DATA
Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec (SD1) = .410
Design Spectral Acceleration at 0.2 sec (SDS) = .846
Soil Site Class (S) = E

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	E. Abut.	Pier 1	Pier 2	W. Abut.
	386.4	367.0	367.0	386.4

STATION 428+79
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 823 SEC.
(22,B2A)B-1 (22,B2B)B-1
LOADING HL-93
STRUCTURE NO. 096-0073

NAME PLATE
See Std. 515001



LOCATION SKETCH

WATERWAY INFORMATION

Drainage Area = 1802.67 sq.mi. Low Grade Elev. 390.58 @ Sta. 378+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	1682	581	610	386.30	0.27	0.27	386.57	386.57
Design	50	2555	749	806	387.85	0.35	0.35	388.20	388.20
Base	100	2915	811	877	388.42	0.36	0.36	388.78	388.78
Overtopping									
Max. Calc.	500	3512	946	1035	389.67	0.44	0.43	390.11	390.10

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.
Reinforcement bars designated (E) shall be epoxy coated.
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
Removal of existing slopewall is included with Removal of Existing Structures No. 1
For sections A-A and B-B see sheet 2 of 24.
Slipforming of Parapets is not allowed.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu. Yd.		104.8	104.8
Floor Drains	Each	18		18
Concrete Structures	Cu. Yd.		188.4	188.4
Concrete Superstructure	Cu. Yd.	183.6		183.6
Bridge Deck Grooving	Sq. Yd.	527		527
Porous Granular Embankment, Special	Cu. Yd.		111	111
Concrete Encasement	Cu. Yd.		18.6	18.6
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36 in.	Foot		916	916
Stone Riprap, Class A4	Sq. Yd.		1020	1020
Reinforcement Bars, Epoxy Coated	Pound	70960	20790	91750
Bar Splicers	Each	781	78	859
Filter Fabric	Sq. Yd.		1020	1020
Furnishing Steel Piles HP 14x117	Foot		2665	2665
Driving Piles	Foot		2665	2665
Test Pile Steel HP 14x117	Each		4	4
Temporary Sheet Piling	Sq. Ft.		540	540
Name Plates	Each	1		1
Removal of Existing Structures No. 1	Each			1
Geocomposite Wall Drain	Sq. Yd.		71	71
Pipe Underdrains for Structures 4"	Foot		143	143
Cofferdam (Type I), Location 1	Each		1	1
Cofferdam (Type I), Location 2	Each		1	1
Mechanical Splicers	Each		96	96
Protective Coat	Sq. Yd.		982	982
Cofferdam Excavation	Cu. Yd.		118.6	118.6
Bridge Deck (Shrinkage-Compensating Concrete)	Cu. Yd.	141.6		141.6

INDEX OF SHEETS

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

LICENSED STRUCTURAL ENGINEER
DANIEL FEUERBORN
81-5933
STATE OF ILLINOIS

Daniel Feuerborn
License Expires 11-30-2012
12/6/2011
Date

GENERAL PLAN & ELEVATION
IL RTE 15 OVER UNNAMED STREAM
F.A.P. RTE. 823, SEC. (22,B2A)B-1 (22,B2B)B-1
WAYNE COUNTY
STATION 428+79
STRUCTURE NO. 096-0073

PRINTED DATE: 12/5/2011
FILE NAME = n:\projects\idot\pb 148, item 25 - d7 various design\Work Order 05\CADD\Drawings\Sheets\S6-W05.DPE.dgn

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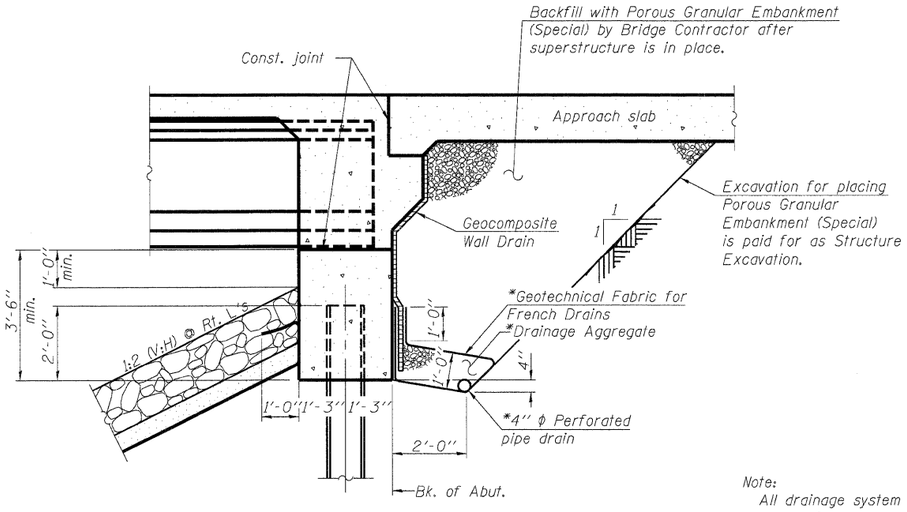
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 096-0073
SHEET NO. 1 OF 24 SHEETS

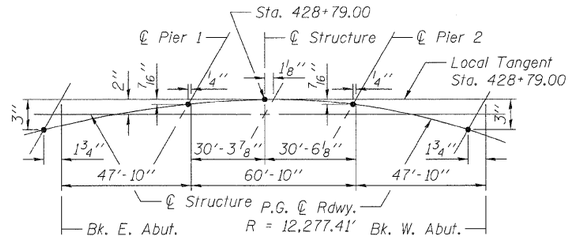
F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	56
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



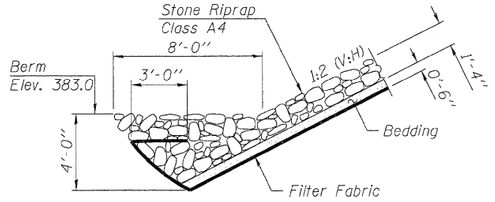
SECTION THRU INTEGRAL ABUTMENT

(Horiz. dim. ℄ Rt. L's)

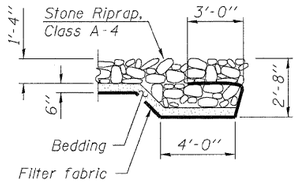
*Included in the cost of Pipe Underdrains for Structures.



OFFSET SKETCH

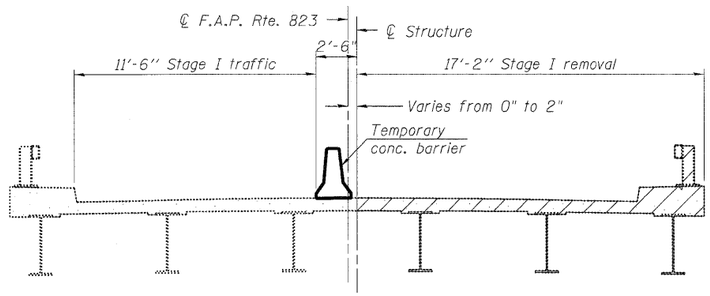


SECTION A-A



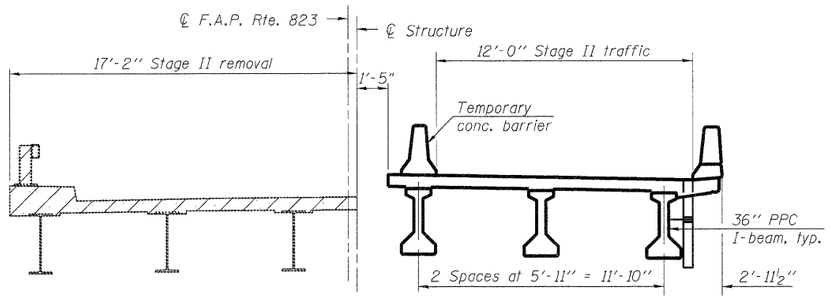
SECTION B-B

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



STAGE I REMOVAL

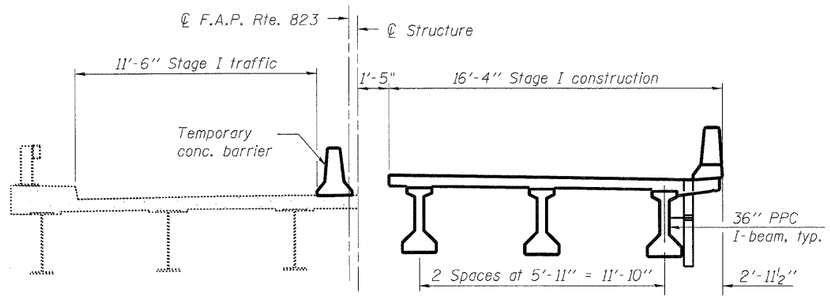
(Looking East)



STAGE II REMOVAL

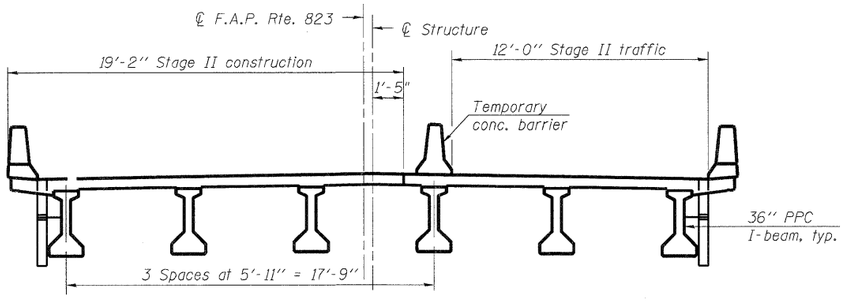
(Looking East)

Note:
Hatched area indicates Removal of Existing Structure No. 1
For details of Temporary Concrete Barrier, see sheet 4 of 24.
For quantity of Temporary Concrete Barrier, see roadway plans.



STAGE I CONSTRUCTION

(Looking East)



STAGE II CONSTRUCTION

(Looking East)

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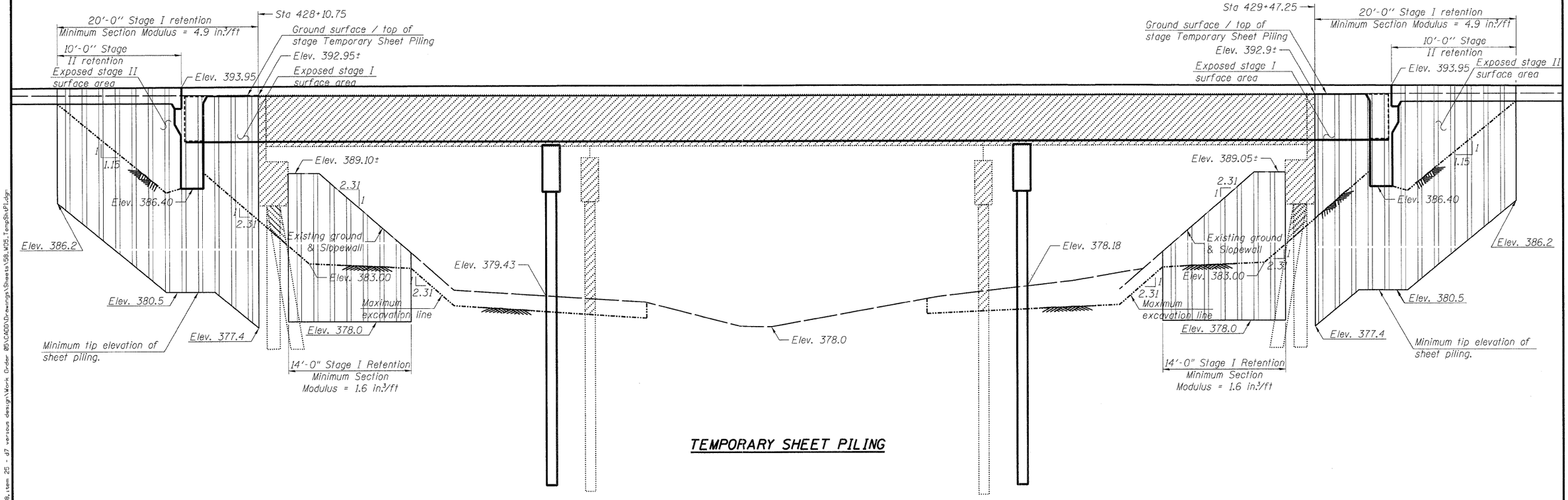
DEPARTMENT OF TRANSPORTATION

GENERAL DATA & DETAILS
STAGE CONSTRUCTION — STRUCTURE NO. 096-0073
SHEET NO. 2 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	57
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

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



TEMPORARY SHEET PILING

Structure removal area

Sheet Piling

(Sheet 2 of 2)

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FILE NAME = n:\projects\dot\pdb 148_item 25 - d7 various design\Work Order 05\CADD\Drawings\Sheets\59_W05_TempShPl.dgn

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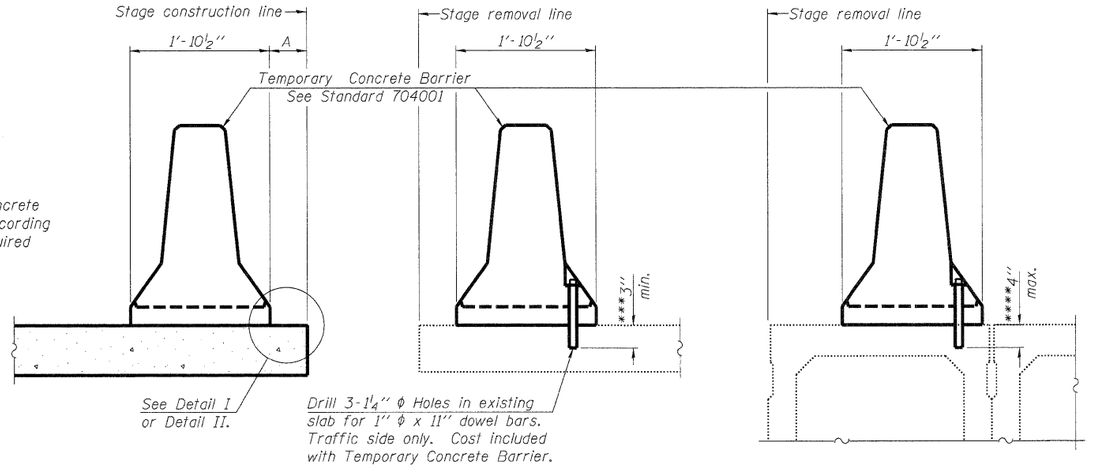
GENERAL DATA & DETAILS
TEMPORARY SHEET PILING **STRUCTURE NO. 096-0073**
SHEET NO. 3 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	58
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

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".



NEW SLAB | EXISTING SLAB | EXISTING DECK BEAM

NOTES

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

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

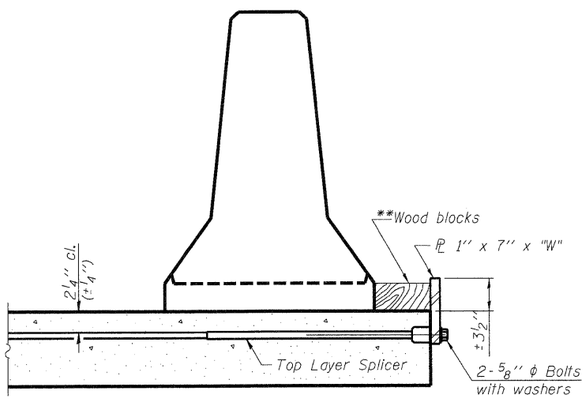
Cost of anchorage is included with Temporary Concrete Barrier.

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

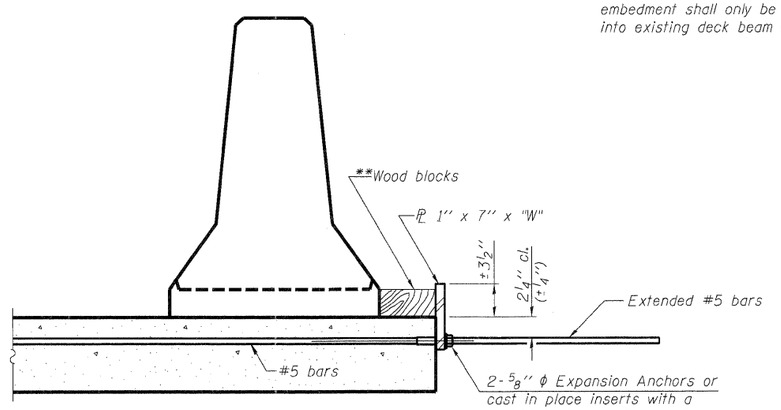
SECTIONS THRU SLAB OR DECK BEAM

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

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



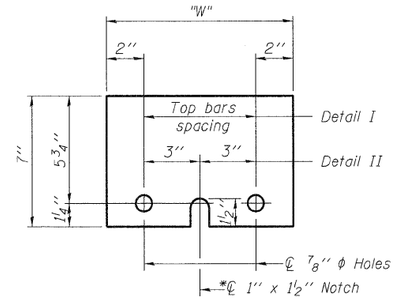
DETAIL I



DETAIL II

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

"W" = Top bars spacing + 4"



STEEL RETAINER ℄ 1" x 7" x "W"

* Required only with Detail II

R-27

7-1-10

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STATE OF ILLINOIS
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TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 096-0073
SHEET NO. 4 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	59
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

PRINTED DATE: 12/5/2011
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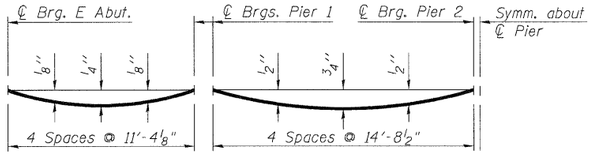
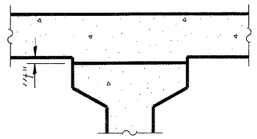


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete, excluding beams).

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 5 and 6.



To determine "t": After all precast prestressed beams have 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 Deflections" shown below and on sheet 6 of 24, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

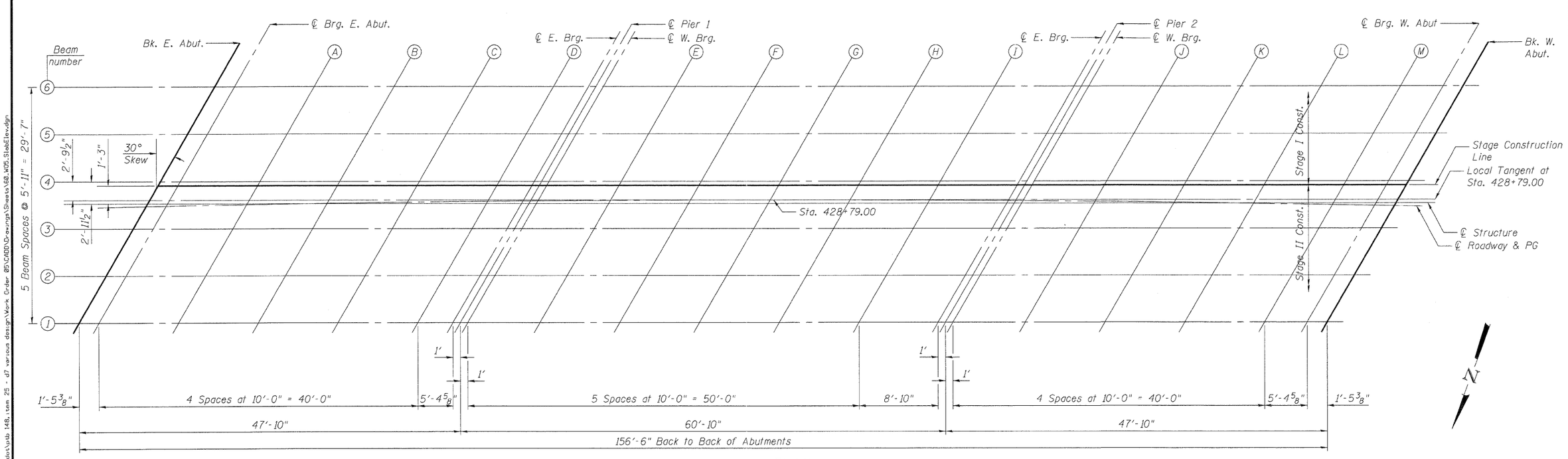
FILLET HEIGHTS

℄ ROADWAY & PG

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	428+00.70	0	393.95	393.95
℄ E. Abut.	428+02.15	0	393.95	393.95
A	428+12.18	0	393.97	393.98
B	428+22.21	0	393.99	394.01
C	428+32.23	0	394.00	394.02
D	428+42.25	0	394.01	394.02
℄ E. Brg.	428+47.65	0	394.02	394.02
℄ Pier 1	428+48.65	0	394.02	394.02
℄ W. Brg.	428+49.66	0	394.02	394.02
E	428+59.67	0	394.03	394.06
F	428+69.67	0	394.03	394.08
G	428+78.52	0	394.03	394.09
H	428+89.67	0	394.03	394.08
I	428+99.67	0	394.03	394.05
℄ E. Brg.	429+08.50	0	394.02	394.02
℄ Pier 2	429+09.49	0	394.02	394.02
℄ W. Brg.	429+10.49	0	394.02	394.02
J	429+20.48	0	394.01	394.02
K	429+30.45	0	394.00	394.02
L	429+40.43	0	393.98	394.00
M	429+50.40	0	393.96	393.97
℄ W. Abut.	429+55.77	0	393.95	393.95
Bk. W. Abut.	429+57.20	0	393.95	393.95

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	428+01.58	1.49	393.93	393.93
℄ E. Abut.	428+03.02	1.49	393.93	393.93
A	428+13.02	1.43	393.95	393.97
B	428+23.01	1.38	393.97	393.99
C	428+33.01	1.34	393.98	394.00
D	428+43.01	1.30	393.99	394.00
℄ E. Brg.	428+48.40	1.29	394.00	394.00
℄ Pier 1	428+49.40	1.29	394.00	394.00
℄ W. Brg.	428+50.40	1.28	394.00	394.00
E	428+60.40	1.26	394.01	394.04
F	428+70.40	1.25	394.01	394.06
G	428+80.40	1.25	394.01	394.07
H	428+90.40	1.26	394.01	394.06
I	429+00.40	1.27	394.01	394.03
℄ E. Brg.	429+09.23	1.29	394.00	394.00
℄ Pier 2	429+10.23	1.29	394.00	394.00
℄ W. Brg.	429+11.23	1.29	394.00	394.00
J	429+21.23	1.32	393.99	394.00
K	429+31.23	1.36	393.98	394.00
L	429+41.23	1.41	393.96	393.98
M	429+51.23	1.46	393.94	393.95
℄ W. Abut.	429+56.62	1.50	393.93	393.93
Bk. W. Abut.	429+58.06	1.51	393.93	393.93



PLAN

PI-E 7-1-10

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CHECKED	-	DF

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 096-0073
SHEET NO. 5 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	60
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

PRINTED DATE: 12/15/2011
FILE NAME = n:\projects\ydot\pb 148, tem 25 - d7 various design\Work Order #5\CADD\Drawings\Sheets\68_W05_SlabElev.dgn

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	427+92.11	-14.65	393.69	393.69
℄ E. Abut.	427+93.55	-14.66	393.69	393.69
A	428+03.56	-14.73	393.71	393.73
B	428+13.57	-14.78	393.73	393.75
C	428+23.58	-14.83	393.74	393.76
D	428+33.59	-14.87	393.76	393.76
℄ E. Brg.	428+38.99	-14.89	393.76	393.76
℄ Pier 1	428+39.99	-14.90	393.76	393.76
℄ W. Brg.	428+40.99	-14.90	393.76	393.76
E	428+51.01	-14.93	393.77	393.80
F	428+61.02	-14.95	393.78	393.83
G	428+71.03	-14.96	393.78	393.84
H	428+81.04	-14.96	393.78	393.83
I	428+91.05	-14.95	393.78	393.81
℄ E. Brg.	428+99.91	-14.94	393.78	393.78
℄ Pier 2	429+00.91	-14.94	393.78	393.78
℄ W. Brg.	429+01.91	-14.94	393.78	393.78
J	429+11.92	-14.91	393.77	393.78
K	429+21.93	-14.88	393.76	393.78
L	429+31.94	-14.84	393.75	393.77
M	429+41.96	-14.80	393.74	393.74
℄ W. Abut.	429+47.35	-14.77	393.73	393.73
Bk. W. Abut.	429+48.79	-14.76	393.73	393.73

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	427+95.57	-8.76	393.80	393.80
℄ E. Abut.	427+97.01	-8.77	393.81	393.81
A	428+07.01	-8.83	393.83	393.84
B	428+17.02	-8.89	393.84	393.86
C	428+27.03	-8.93	393.86	393.87
D	428+37.04	-8.97	393.87	393.88
℄ E. Brg.	428+42.43	-8.99	393.87	393.87
℄ Pier 1	428+43.43	-8.99	393.87	393.87
℄ W. Brg.	428+44.43	-8.99	393.88	393.88
E	428+54.44	-9.02	393.88	393.91
F	428+64.45	-9.03	393.89	393.94
G	428+74.46	-9.04	393.89	393.95
H	428+84.46	-9.04	393.89	393.94
I	428+94.47	-9.03	393.89	393.92
℄ E. Brg.	429+03.31	-9.02	393.88	393.88
℄ Pier 2	429+04.31	-9.02	393.88	393.88
℄ W. Brg.	429+05.32	-9.01	393.88	393.88
J	429+15.32	-8.99	393.88	393.89
K	429+25.33	-8.95	393.83	393.89
L	429+35.34	-8.91	393.83	393.87
M	429+45.34	-8.86	393.84	393.85
℄ W. Abut.	429+50.74	-8.83	393.85	393.83
Bk. W. Abut.	429+52.18	-8.82	393.87	393.83

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	427+99.02	-2.86	393.90	393.90
℄ E. Abut.	428+00.46	-2.87	393.91	393.91
A	428+10.47	-2.93	393.92	393.94
B	428+20.47	-2.99	393.94	393.96
C	428+30.47	-3.03	393.95	393.97
D	428+40.47	-3.06	393.96	393.97
℄ E. Brg.	428+45.86	-3.08	393.97	393.97
℄ Pier 1	428+46.86	-3.08	393.97	393.97
℄ W. Brg.	428+47.86	-3.09	393.97	393.97
E	428+57.87	-3.11	393.98	394.01
F	428+67.87	-3.12	393.97	394.03
G	428+77.87	-3.12	393.97	394.04
H	428+97.88	-3.12	393.97	394.03
I	428+87.87	-3.11	393.97	394.01
℄ E. Brg.	429+06.72	-3.09	393.91	393.97
℄ Pier 2	429+07.72	-3.09	393.92	393.97
℄ W. Brg.	429+08.72	-3.09	393.93	393.97
J	429+18.72	-3.06	393.94	393.98
K	429+28.72	-3.02	393.95	393.98
L	429+38.73	-2.98	393.98	393.96
M	429+48.73	-2.93	393.98	393.93
℄ W. Abut.	429+54.12	-2.90	393.98	393.92
Bk. W. Abut.	429+55.56	-2.89	393.98	393.91

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	428+02.48	3.03	393.91	393.91
℄ E. Abut.	428+03.92	3.02	393.91	393.91
A	428+13.91	2.96	393.93	393.94
B	428+23.91	2.92	393.95	393.97
C	428+33.91	2.87	393.96	393.98
D	428+43.91	2.84	393.96	393.98
℄ E. Brg.	428+49.29	2.83	393.97	393.98
℄ Pier 1	428+50.29	2.83	393.98	393.98
℄ W. Brg.	428+51.29	2.82	393.98	393.98
E	428+61.29	2.80	393.98	394.01
F	428+71.29	2.79	393.98	394.04
G	428+81.29	2.79	393.99	394.05
H	428+91.29	2.80	393.99	394.04
I	429+01.28	2.81	393.98	394.01
℄ E. Brg.	429+10.12	2.83	393.99	393.98
℄ Pier 2	429+11.12	2.83	393.98	393.98
℄ W. Brg.	429+12.12	2.84	393.98	393.97
J	429+22.12	2.87	393.96	393.98
K	429+32.12	2.91	393.95	393.97
L	429+42.11	2.95	393.94	393.95
M	429+52.11	3.01	393.92	393.93
℄ W. Abut.	429+57.50	3.04	393.91	393.91
Bk. W. Abut.	429+58.94	3.05	393.90	393.90

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	428+05.93	8.93	393.81	393.82
℄ E. Abut.	428+07.37	8.92	393.82	393.82
A	428+17.36	8.86	393.83	393.86
B	428+27.35	8.82	393.85	393.88
C	428+37.34	8.78	393.86	393.89
D	428+47.34	8.75	393.87	393.89
℄ E. Brg.	428+52.72	8.74	393.88	393.89
℄ Pier 1	428+53.72	8.73	393.88	393.89
℄ W. Brg.	428+54.72	8.73	393.88	393.89
E	428+64.71	8.72	393.88	393.92
F	428+74.71	8.71	393.89	393.95
G	428+84.70	8.71	393.89	393.96
H	428+94.69	8.72	393.89	393.94
I	429+04.69	8.74	393.88	393.92
℄ E. Brg.	429+13.52	8.76	393.87	393.88
℄ Pier 2	429+14.52	8.76	393.87	393.88
℄ W. Brg.	429+15.52	8.76	393.87	393.88
J	429+25.51	8.80	393.86	393.88
K	429+35.50	8.84	393.85	393.88
L	429+45.50	8.89	393.84	393.86
M	429+55.49	8.95	393.82	393.83
℄ W. Abut.	429+60.87	8.98	393.81	393.81
Bk. W. Abut.	429+62.31	8.99	393.81	393.80

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adj. For Dead Load Deflection
Bk. E. Abut.	428+09.37	14.82	393.72	393.72
℄ E. Abut.	428+10.81	14.81	393.72	393.72
A	428+20.80	14.76	393.74	393.76
B	428+30.79	14.72	393.76	393.78
C	428+40.78	14.68	393.77	393.79
D	428+50.76	14.66	393.78	393.79
℄ E. Brg.	428+56.15	14.65	393.78	393.78
℄ Pier 1	428+57.15	14.64	393.78	393.78
℄ W. Brg.	428+58.14	14.64	393.77	393.78
E	428+68.13	14.63	393.77	393.82
F	428+78.12	14.63	393.77	393.84
G	428+88.11	14.63	393.76	393.85
H	428+98.10	14.64	393.74	393.84
I	429+08.09	14.66	393.72	393.81
℄ E. Brg.	429+16.91	14.68	393.69	393.77
℄ Pier 2	429+17.91	14.69	393.69	393.77
℄ W. Brg.	429+18.91	14.69	393.78	393.77
J	429+28.90	14.73	393.78	393.77
K	429+38.89	14.77	393.79	393.76
L	429+48.88	14.82	393.79	393.74
M	429+58.86	14.89	393.79	393.71
℄ W. Abut.	429+64.25	14.92	393.79	393.69
Bk. W. Abut.	429+65.69	14.93	393.70	393.69

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DESIGNED	ADG
CHECKED	DF
DRAWN	ADG
CHECKED	DF

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 096-0073
SHEET NO. 6 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	61
			CONTRACT NO 74216	
		ILLINOIS FEDERAL AID PROJECT		

℄ ROADWAY & PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Pavmt.	427+70.57	0.00	393.87
A1	427+80.62	0.00	393.90
A2	427+90.66	0.00	393.92
W. End East Appr. Pavmt.	428+00.70	0.00	393.95
E. End West Appr. Pavmt.	429+57.20	0.00	393.95
A3	429+67.16	0.00	393.93
A4	429+77.12	0.00	393.90
W. End West Appr. Pavmt.	429+87.07	0.00	393.88

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Pavmt.	427+63.30	12.00	393.67
A1	427+73.36	12.00	393.72
A2	427+83.42	12.00	393.70
W. End East Appr. Pavmt.	427.93.66	12.00	393.75
E. End West Appr. Pavmt.	429+50.18	12.00	393.78
A3	429+60.15	12.00	393.76
A4	429+70.12	12.00	393.74
W. End West Appr. Pavmt.	429+80.09	12.00	393.71

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Pavmt.	427+61.26	15.77	393.58
A1	427+71.28	15.86	393.61
A2	427+81.29	15.95	393.64
W. End East Appr. Pavmt.	427+91.30	16.02	393.66
E. End West Appr. Pavmt.	429+48.01	16.14	393.70
A3	429+58.02	16.08	393.68
A4	429+68.03	16.01	393.66
W. End West Appr. Pavmt.	429+78.05	15.93	393.64

STAGE CONSTRUCTION JOINT

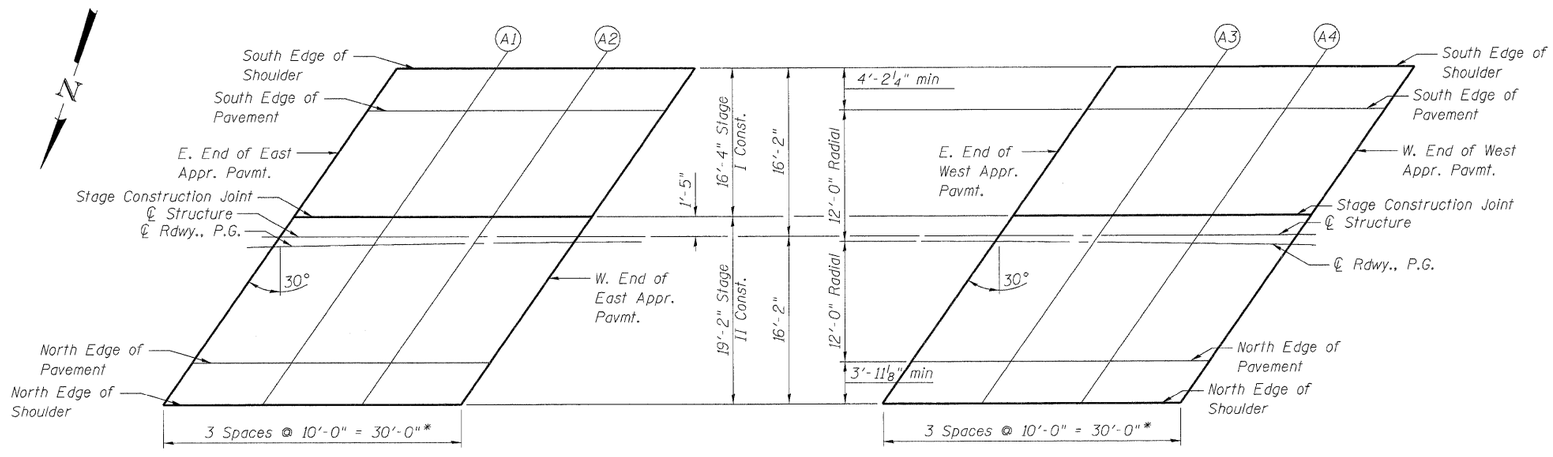
Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Pavmt.	427+71.58	1.72	393.85
A1	427+81.58	1.64	393.88
A2	427+91.58	1.56	393.91
W. End East Appr. Pavmt.	428+01.58	1.49	393.93
E. End West Appr. Pavmt.	429+58.06	1.50	393.93
A3	429+68.06	1.57	393.91
A4	429+78.06	1.65	393.88
W. End West Appr. Pavmt.	429+88.05	1.73	393.85

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Pavmt.	427+77.63	-12.00	393.71
A1	427+87.67	-12.00	393.73
A2	427+97.70	-12.00	393.76
W. End East Appr. Pavmt.	428+07.72	-12.00	393.78
E. End West Appr. Pavmt.	429+64.02	-12.00	393.75
A3	429+73.97	-12.00	393.73
A4	429+83.91	-12.00	393.70
W. End West Appr. Pavmt.	429+93.85	-12.00	393.68

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Pavmt.	427+80.21	-16.40	393.62
A1	427+90.20	-16.32	393.65
A2	428+00.19	-16.25	393.67
W. End East Appr. Pavmt.	428+10.17	-16.19	393.69
E. End West Appr. Pavmt.	429+66.47	-16.31	393.66
A3	429+76.45	-16.39	393.63
A4	429+86.44	-16.47	393.60
W. End West Appr. Pavmt.	429+96.43	-16.56	393.57



PLAN

*Measured along local tangent

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E-AS 7-1-10

DESIGNED	-	ADG
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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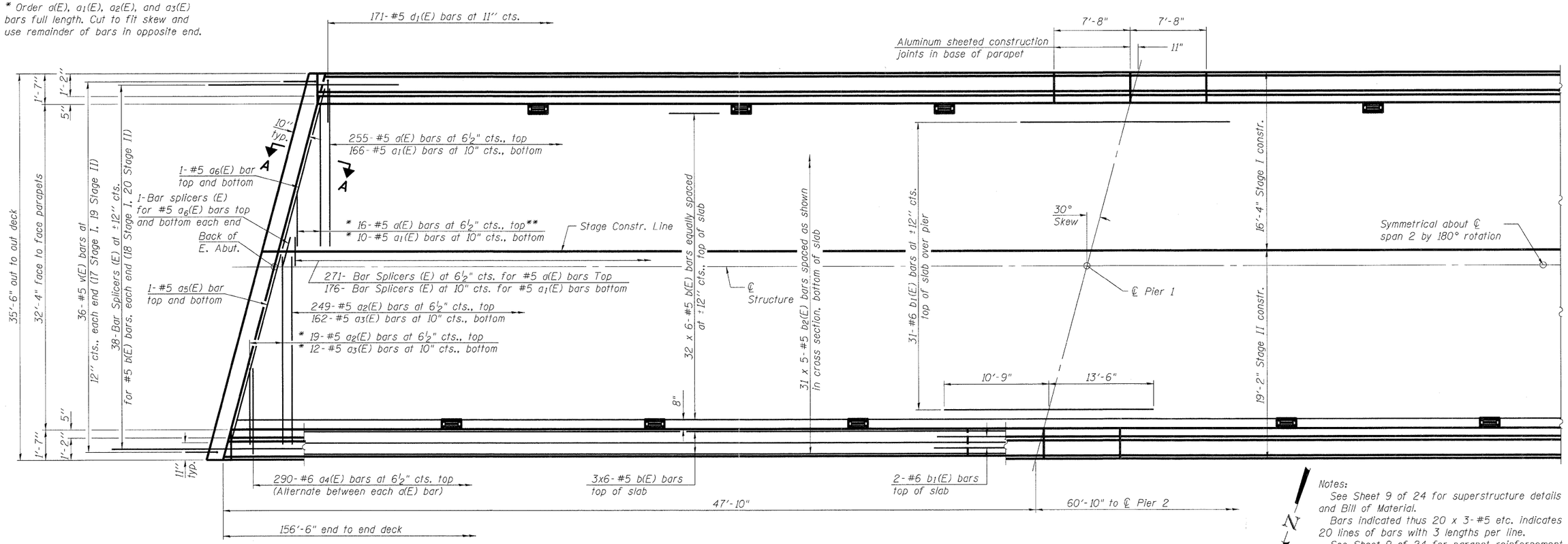
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS
STRUCTURE NO. 096-0073
SHEET NO. 7 OF 24 SHEETS

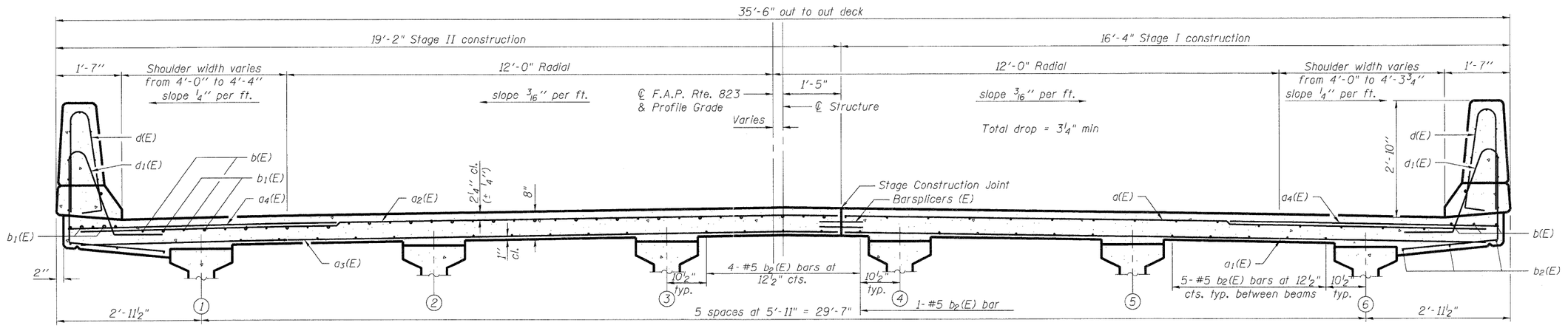
F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	62
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



PARTIAL PLAN

Notes:
See Sheet 9 of 24 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 9 of 24 for parapet reinforcement.
See Sheet 10 of 24 for Section A-A.

MIN. BAR LAP
#5 Bar = 2'-7"



NEAR PIER **NEAR MIDSPAN**

CROSS SECTION
(Looking East)

DESIGNED	-	SMA
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE
STRUCTURE NO. 096-0073
SHEET NO. 8 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	63
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

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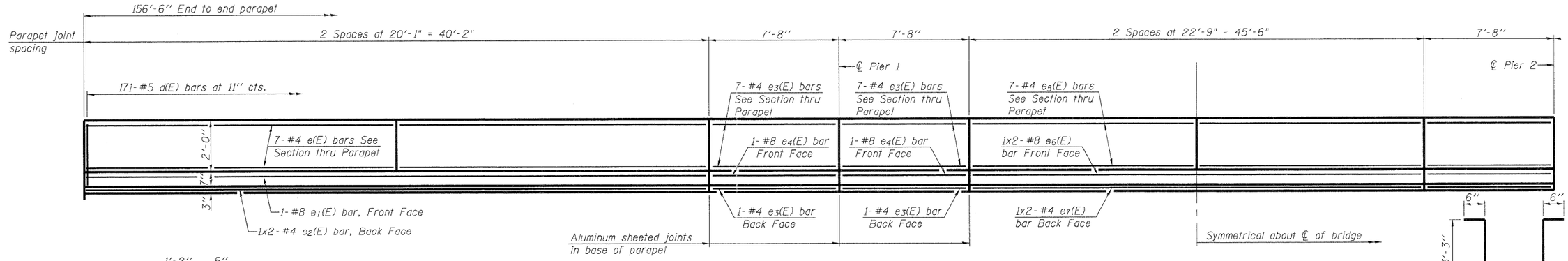
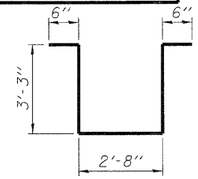


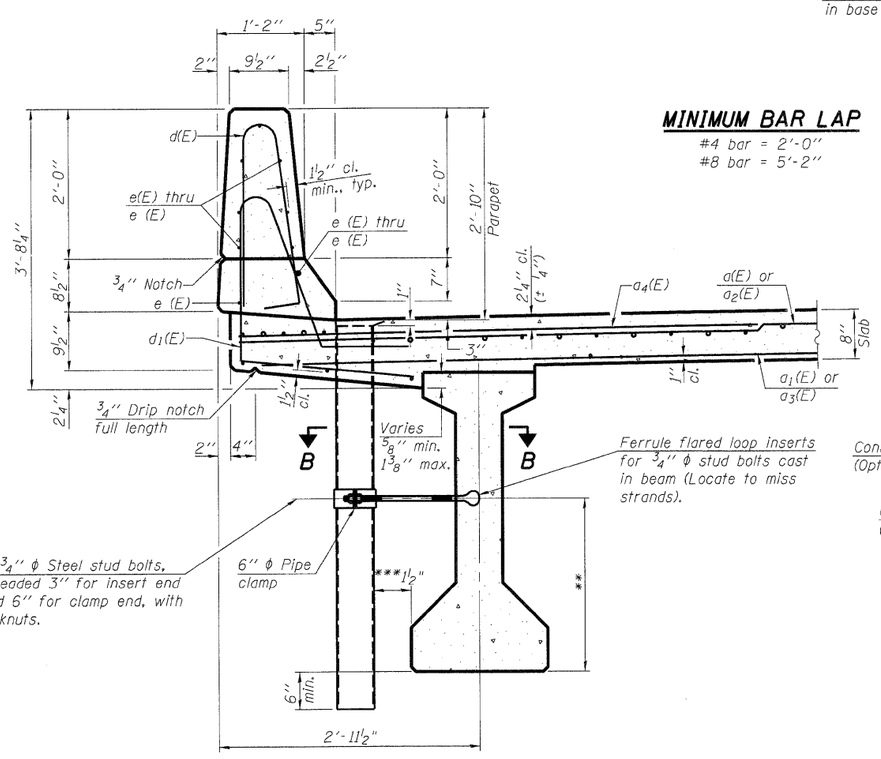
INSIDE ELEVATION OF PARAPET



BAR s_2(E)

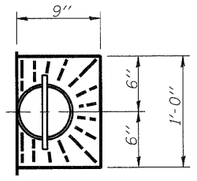
MINIMUM BAR LAP

#4 bar = 2'-0"
#8 bar = 5'-2"

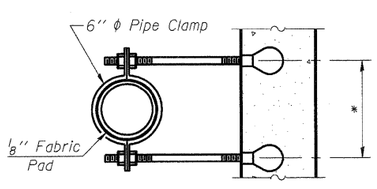


SECTION THRU PARAPET

** For insert locations See sheet 15 & 16 of 24.
*** For Aluminum Tube

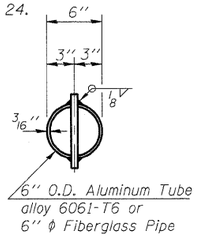


TOP PLAN



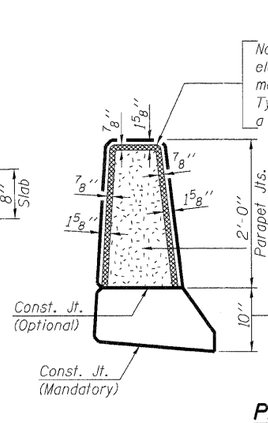
SECTION B-B

*Dimension as required by Pipe Clamp

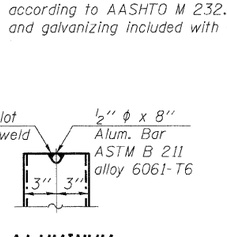


TOP PLAN

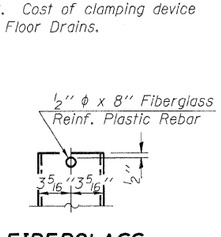
(Showing Aluminum Tube)



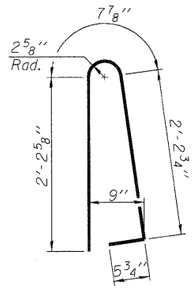
PARAPET JOINT DETAILS



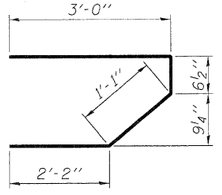
ALUMINUM TUBE



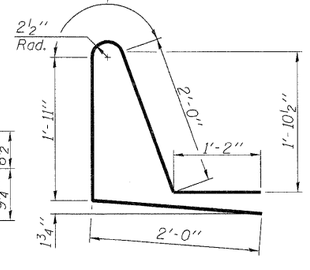
FIBERGLASS PIPE



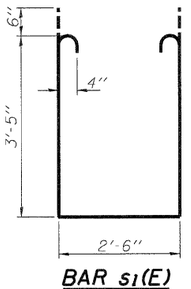
BAR d(E)



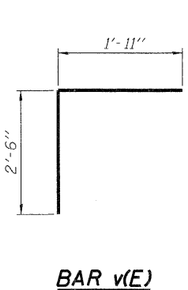
BAR s(E)



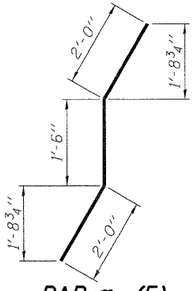
BAR d_1(E)



BAR s_1(E)



BAR v(E)



BAR m_{10}(E)

Notes:
Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
The exterior surfaces of the floor drains shall be coated or pigmented by the manufacturer with a color that matches the concrete.
The clamping device and inserts shall be galvanized according to AASHTO M 232. Cost of clamping device and galvanizing included with Floor Drains.

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	271	#5	15'-11"	—
a_1(E)	176	#5	15'-4"	—
a_2(E)	268	#5	19'-3"	—
a_3(E)	174	#5	18'-8"	—
a_4(E)	580	#6	6'-6"	—
a_5(E)	4	#5	21'-7"	—
a_6(E)	4	#5	17'-9"	—
b(E)	228	#5	28'-3"	—
b_1(E)	62	#6	24'-3"	—
b_2(E)	155	#5	33'-4"	—
d(E)	342	#5	5'-7"	⌐
d_1(E)	342	#5	6'-6"	L
e(E)	56	#4	19'-9"	—
e_1(E)	4	#8	38'-10"	—
e_2(E)	8	#4	20'-11"	—
e_3(E)	64	#4	7'-4"	—
e_4(E)	8	#8	7'-4"	—
e_5(E)	28	#4	22'-5"	—
e_6(E)	8	#8	25'-2"	—
e_7(E)	8	#4	23'-7"	—
m(E)	10	#6	18'-5"	—
m_1(E)	12	#6	8'-5"	—
m_2(E)	24	#6	4'-8"	—
m_3(E)	4	#6	2'-2"	—
m_4(E)	6	#6	0'-9"	—
m_5(E)	10	#6	21'-9"	—
m_6(E)	12	#6	9'-7"	—
m_7(E)	6	#6	3'-10"	—
m_8(E)	32	#4	5'-10"	—
m_9(E)	8	#4	1'-2"	—
m_{10}(E)	12	#8	5'-6"	—
m_{11}(E)	8	#4	4'-5"	—
s(E)	82	#5	6'-10"	⊐
s_1(E)	64	#4	10'-4"	⊔
s_2(E)	52	#4	10'-2"	⊔
v(E)	72	#5	3'-11"	⌐
Reinforcement Bars, Epoxy Coated		Lbs.	46240	
Concrete Superstructure		Cu. Yds.	62.8	
Bridge Deck (Shrink-Comp Concrete)		Cu. Yds.	141.6	

Bars indicated thus 1 x 3 -#8 etc. indicates 1 line of bars with 3 lengths per line.

PI-I-D 7-1-10

DESIGNED	-	SMA
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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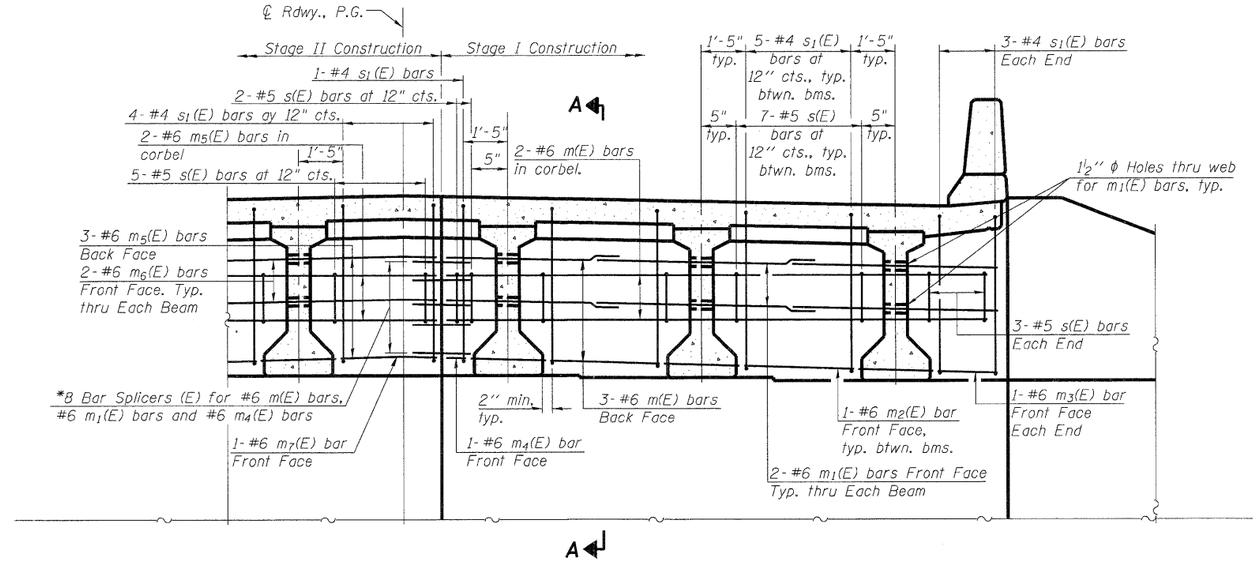
SUPERSTRUCTURE DETAILS
STRUCTURE NO. 096-0073
SHEET NO. 9 OF 24 SHEETS

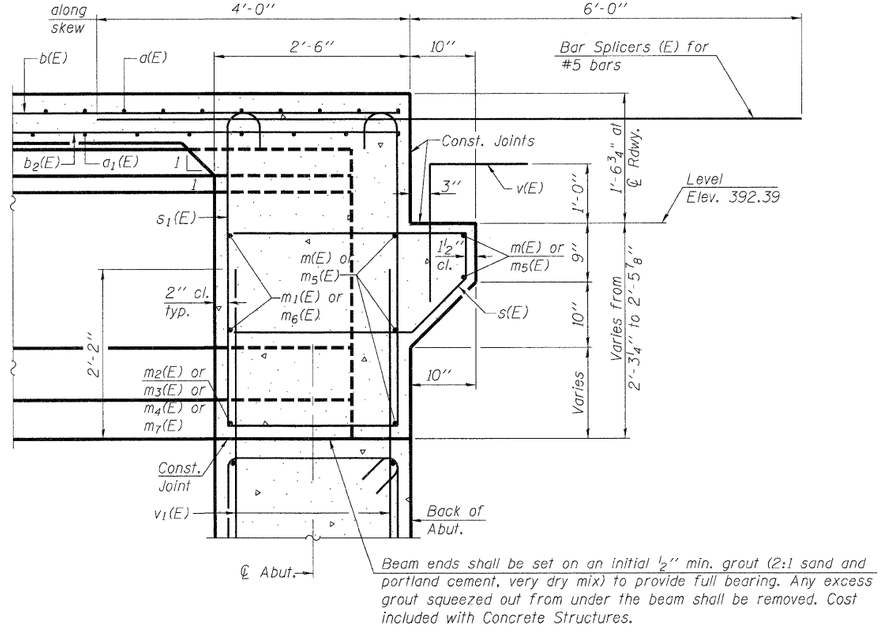
F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	64
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



DIAPHRAGM ELEVATION AT ABUTMENT

MIN. BAR LAP

#6 bar = 3'-4"



Beam ends shall be set on an initial ½" min. grout (2:1 sand and portland cement, very dry mix) to provide full bearing. Any excess grout squeezed out from under the beam shall be removed. Cost included with Concrete Structures.

SECTION A-A

Dimensions at right angles to abutment, except as shown.

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 9 of 24.

Concrete in diaphragm is included with Concrete Superstructure on sheet 9 of 24.

For details of bars s(E) and s_1(E) see sheet 9 of 24.

The s(E) and s_1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

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DRAWN	-	ADG
CHECKED	-	DF

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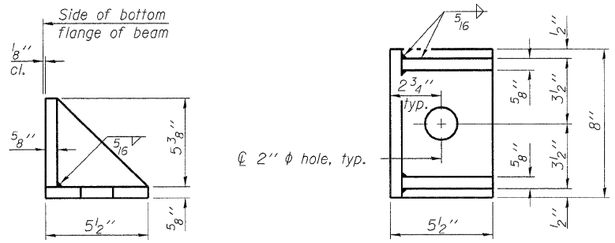
ABUTMENT DIAPHRAGM DETAILS
STRUCTURE NO. 096-0073
SHEET NO. 10 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	65
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



SIDE RETAINER

(2 required each side of pier).
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 9 of 24.

Concrete in diaphragm is included with Concrete Superstructure on sheet 9 of 24.

For details of bars $s_2(E)$ see sheet 9 of 24.

The $s_2(E)$ bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

Cost of 30 Lb. roofing felt is included with Concrete Superstructure.

The side retainer shall be galvanized after shop fabrication according to AASHTO M 111.

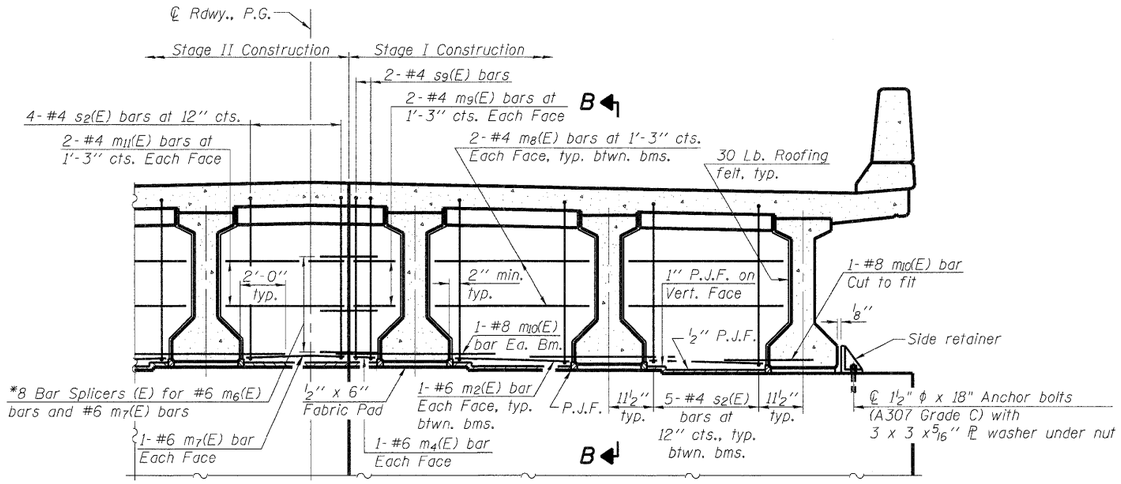
Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for side retainers may be either cast in place or installed in holes drilled after the supporting member is in place and prior to pouring the deck.

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

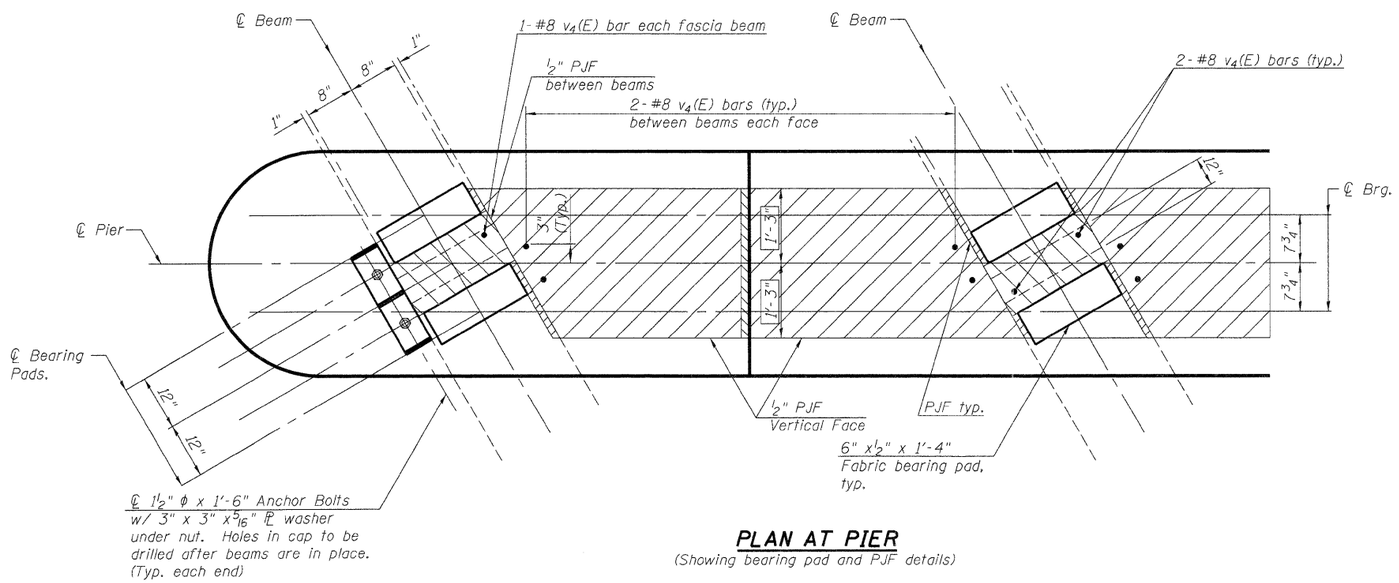
Cost of side retainer and anchor bolts shall be included with Concrete Structures.



DIAPHRAGM AT PIER

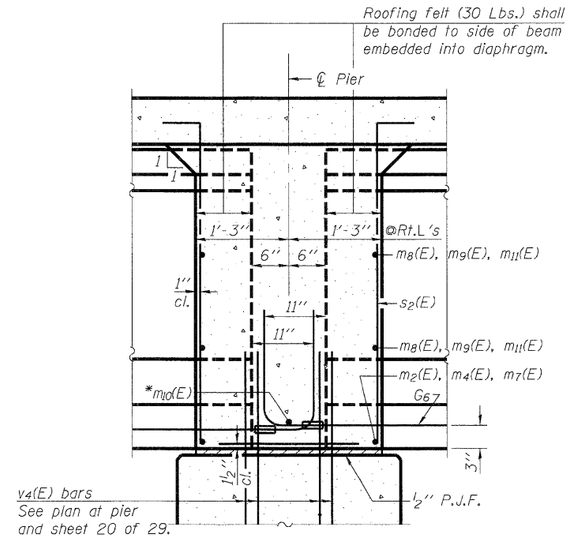
MIN. BAR LAP

#6 bar = 3'-4"



PLAN AT PIER

(Showing bearing pad and PJF details)



SECTION B-B

Dimensions along ℄ of beam, except as shown.

* Tightly fasten the #8 bars together with No. 9 wire ties.

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CHECKED	-	DF

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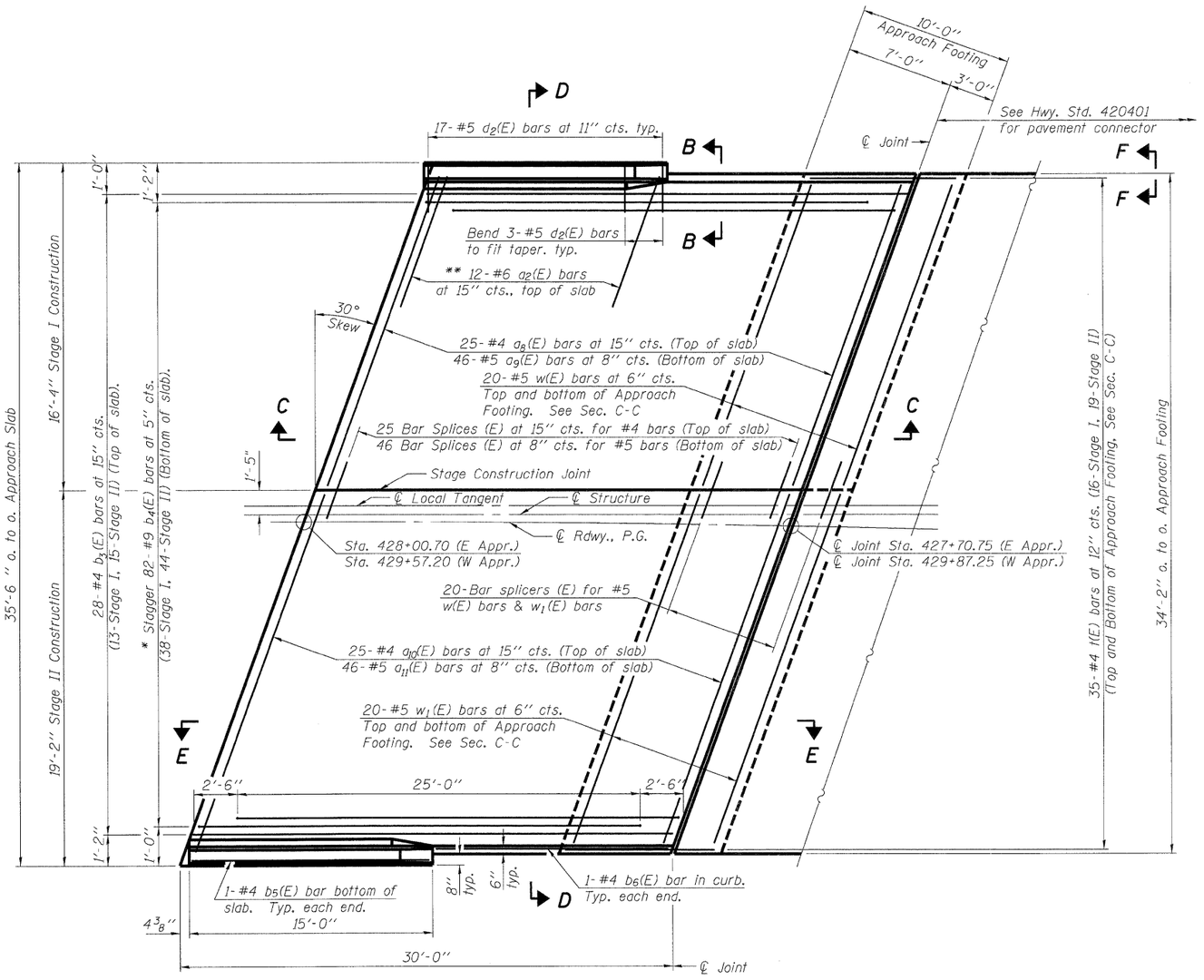
PIER DIAPHRAGM DETAILS
STRUCTURE NO. 096-0073
SHEET NO. 11 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	66
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

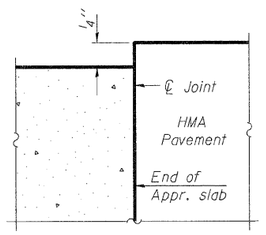
Notes:
See sheet 13 of 24 for Sections C-C & D-D and View E-E.
a_8(E) and a_9(E) bar spacings measured along ℄ Rdwy.



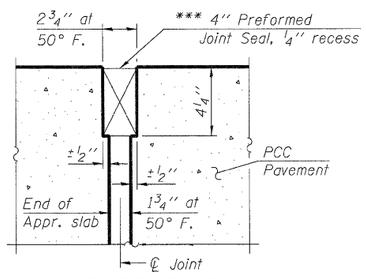
PLAN

* Tilt #9 b_4(E) bars as required to maintain clearance.
** Space between a_8(E) bars, typ. each parapet.

*** Cost included with Concrete Superstructure.

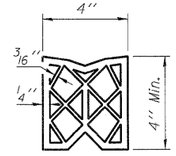


FLEXIBLE PAVEMENT

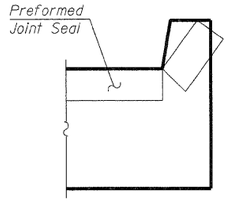


RIGID PAVEMENT

DETAIL A

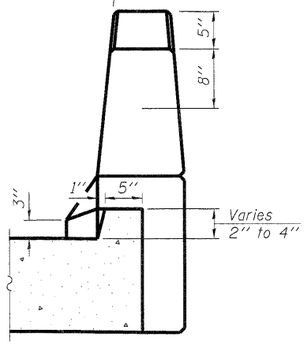


PREFORMED JOINT SEAL



VIEW F-F

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.



VIEW B-B

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CHECKED	DF
DRAWN	ADG
CHECKED	DF

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STATE OF ILLINOIS
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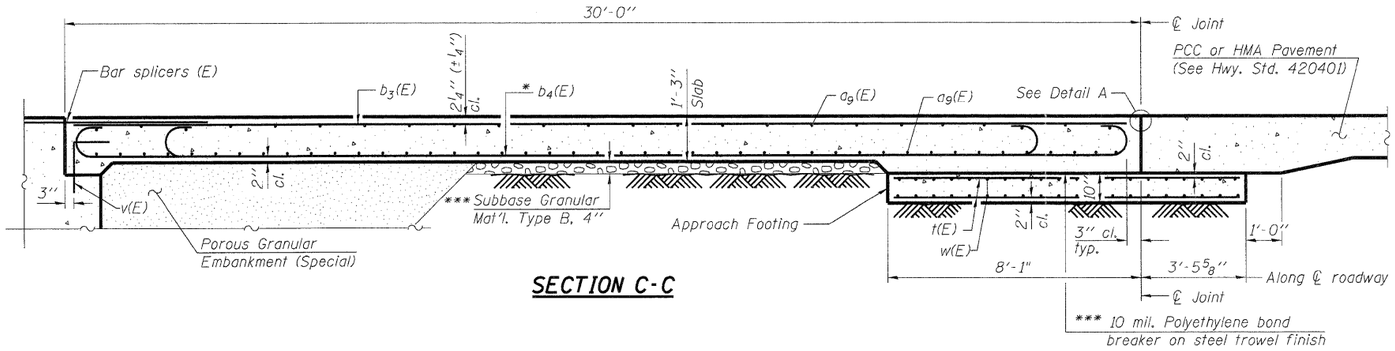
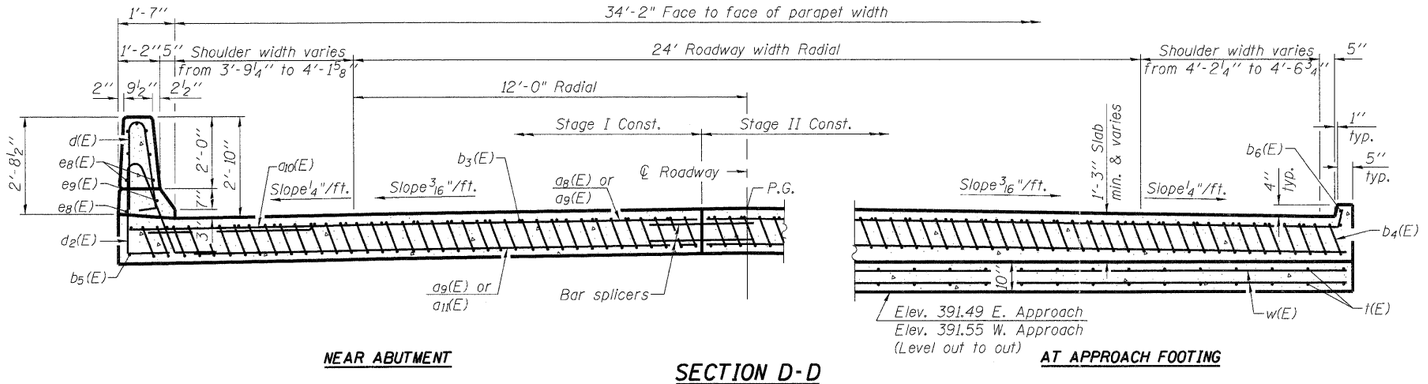
BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 096-0073
SHEET NO. 12 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	67
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



SECTION C-C

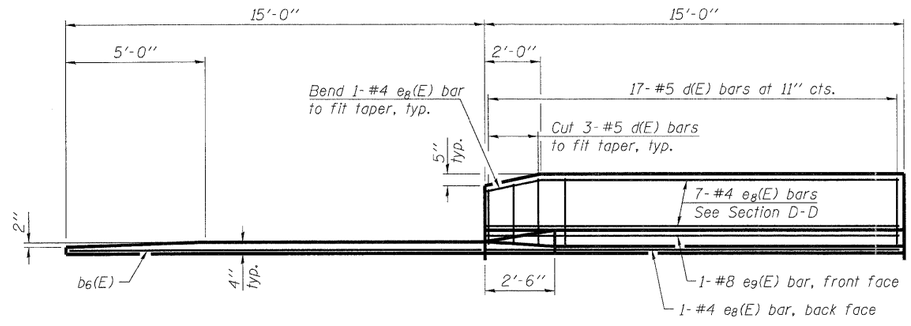


NEAR ABUTMENT

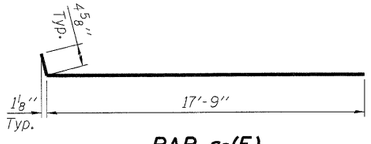
AT APPROACH FOOTING

SECTION D-D

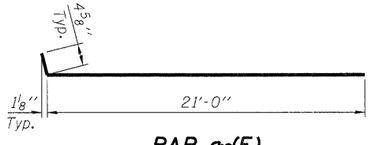
(See Plan for dimensions not shown)



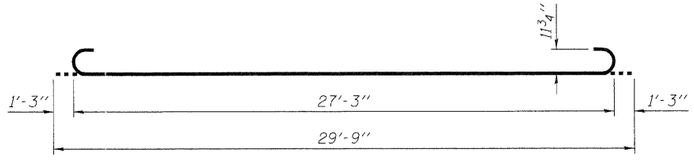
VIEW E-E



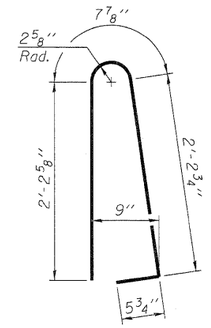
BAR a_8(E)



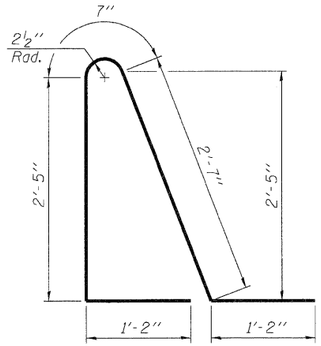
BAR a_{10}(E)



BAR b_4(E)



BAR d(E)



BAR d_2(E)

Notes:
See sheet 12 of 24 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet 9 of 24.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 22 of 24.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 24.
For additional parapet details, see sheet 9 of 24.

* Tilt #9 b_1(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_8(E)	50	#4	18'-2"	
a_9(E)	92	#5	17'-10"	
a_{10}(E)	50	#4	21'-5"	
a_{11}(E)	92	#5	21'-0"	
a_{12}(E)	48	#6	6'-6"	
b_3(E)	56	#4	29'-8"	
b_4(E)	164	#9	29'-9"	
b_5(E)	4	#4	14'-8"	
b_6(E)	4	#4	13'-9"	
d(E)	68	#5	5'-7"	
d_2(E)	68	#5	7'-11"	
e_8(E)	32	#4	14'-8"	
e_9(E)	4	#8	14'-8"	
t(E)	140	#4	11'-2"	
w(E)	80	#5	17'-10"	
w_1(E)	80	#5	21'-0"	
Concrete Superstructure			Cu. Yd.	120.8
Concrete Structures			Cu. Yd.	28.1
Reinforcement Bars, Epoxy Coated			Pound	29010

BA-L 7-1-10

(Sheet 2 of 2)

DESIGNED	ADG
CHECKED	DF
DRAWN	ADG
CHECKED	DF

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BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 096-0073
SHEET NO. 13 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	68
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

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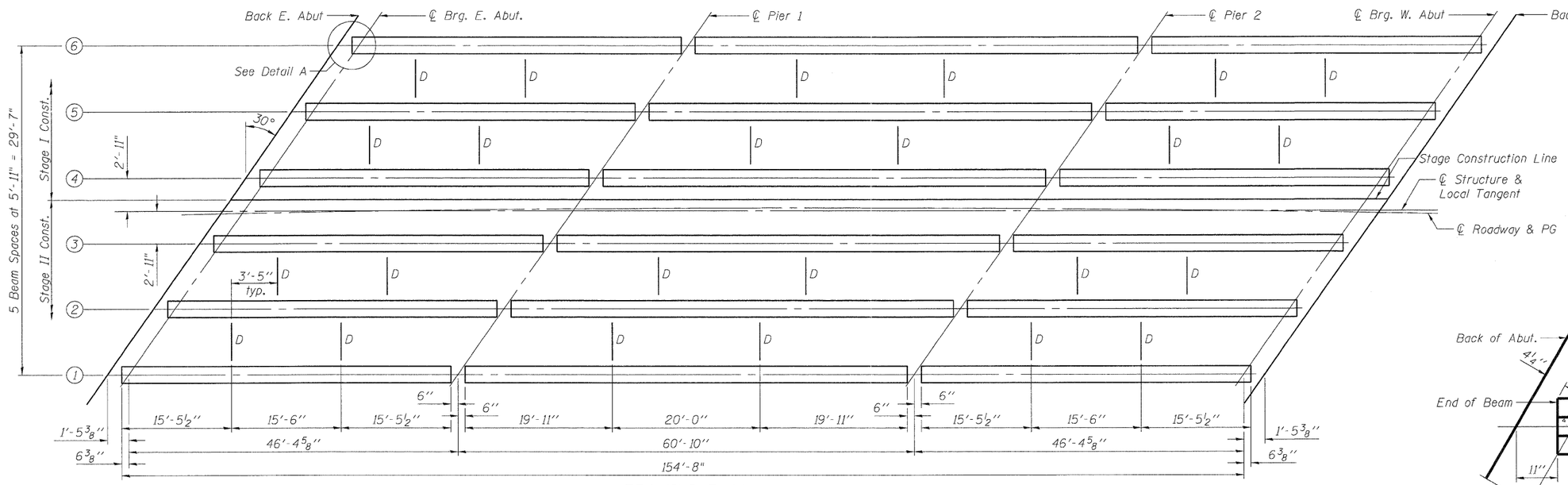
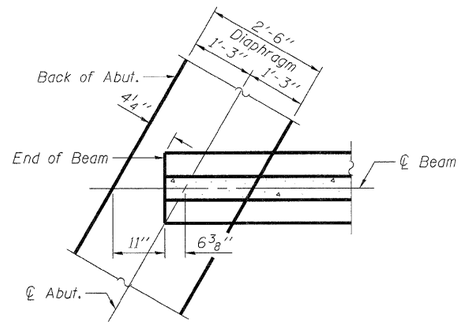
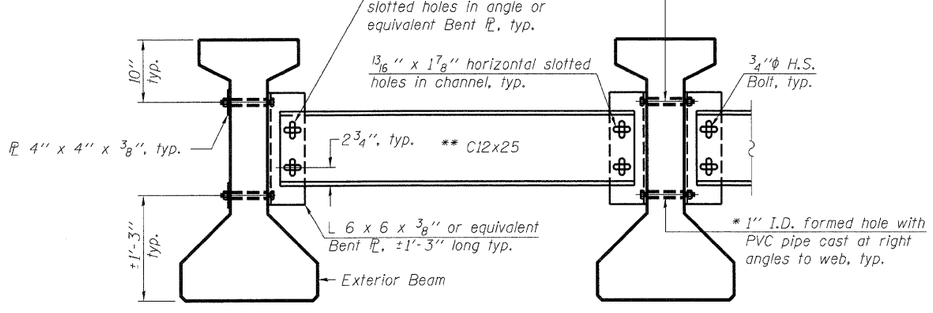


FRAMING PLAN



DETAIL A



Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.

Two hardened washers are required for each set of oversized holes.

All holes shall be 15/16"ϕ unless otherwise noted.

5/16" x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232.

Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams.

* Fabricator shall locate to miss strands within permissible tolerances.

** Alternate C12x30 channels are permitted to facilitate material acquisition.

INTERIOR DIAPHRAGM (D)

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I	(in^4)	48,648		48,648
I'	(in^4)	169,781		169,781
S_b	(in^3)	3,165.1		3,165.1
S_b'	(in^3)	5,879		5,879
S_t	(in^3)	2,358.1		2,358.1
S_t'	(in^3)	23,846		23,846
DC1	(k/')	0.980		0.980
M_{DC1}	('k)	253.1		453.3
DC2	(k/')	0.150	0.150	0.150
M_{DC2}	('k)	21.0	44.3	25.1
DW	(k/')	0.296	0.296	0.296
M_{DW}	('k)	41.5	87.3	49.6
M_{L+IM}	('k)	464.6	409.3	488.6

INTERIOR BEAM REACTION TABLE				
		Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
R_{DC1}	(k)	22.7	22.7	29.8
R_{DC2}	(k)	2.5	4.5	4.5
R_{DW}	(k)	5.0	8.9	8.9
R_{L+IM}	(k)	64.0	43.7	43.7
R_{Total}	(k)	94.2	79.8	86.9

I: Non-composite moment of inertia of beam section ($in.^4$).
I': Composite moment of inertia of beam section ($in.^4$).
S_b: Non-composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_b': Composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_t: Non-composite section modulus for the top fiber of the prestressed beam ($in.^3$).
S_t': Composite section modulus for the top fiber of the prestressed beam ($in.^3$).
DC1: Un-factored non-composite dead load (kips/ft.).
M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft).
M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

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DESIGNED	SMA
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CHECKED	DF

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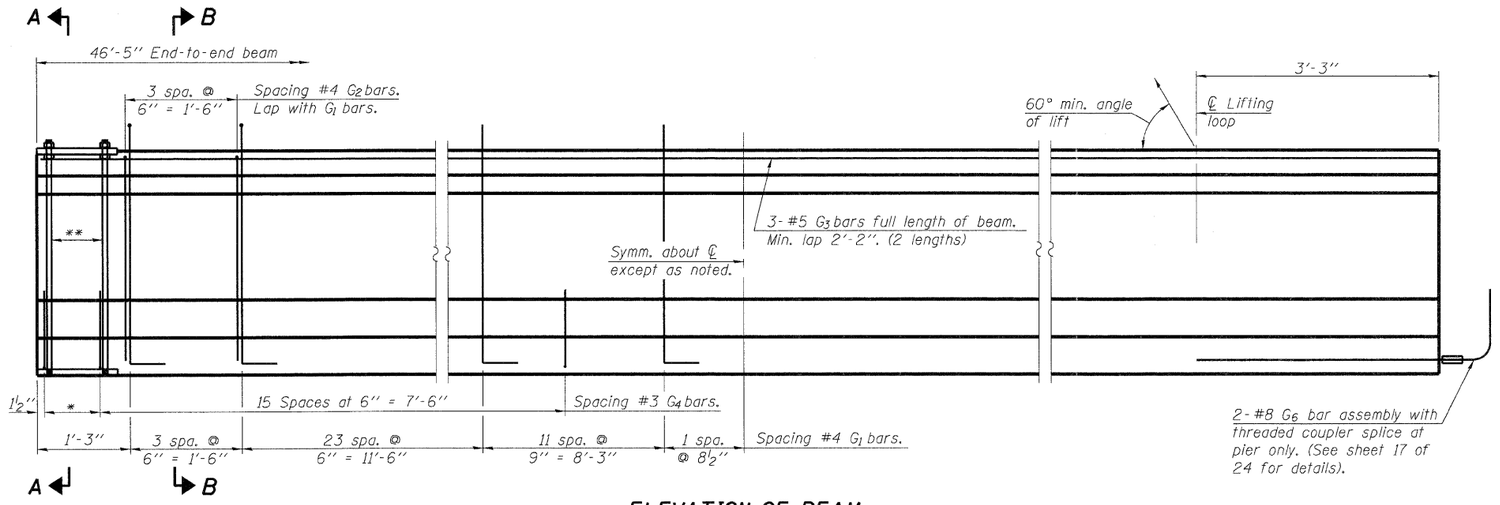
FRAMING PLAN
STRUCTURE NO. 096-0073
SHEET NO. 14 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	69
		CONTRACT NO. 74216		
		ILLINOIS FEDERAL AID PROJECT		

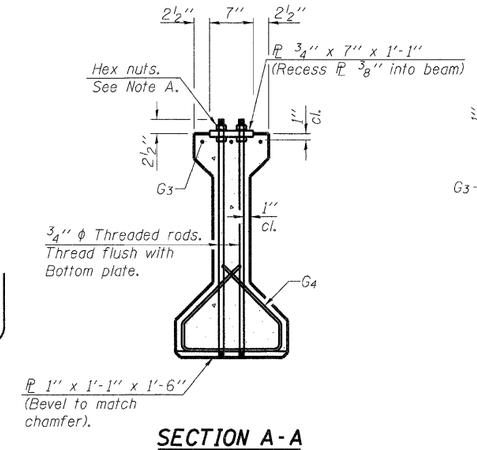


* 3 spaces at 3" = 9".
** 4-¾" ϕ threaded dowel rods at 3" cts., Each Face

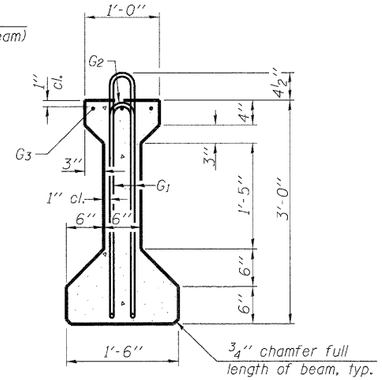
ELEVATION OF BEAM
(Showing reinforcement & dimensions)

2-#8 G_6 bar assembly with threaded coupler splice at pier only. (See sheet 17 of 24 for details).

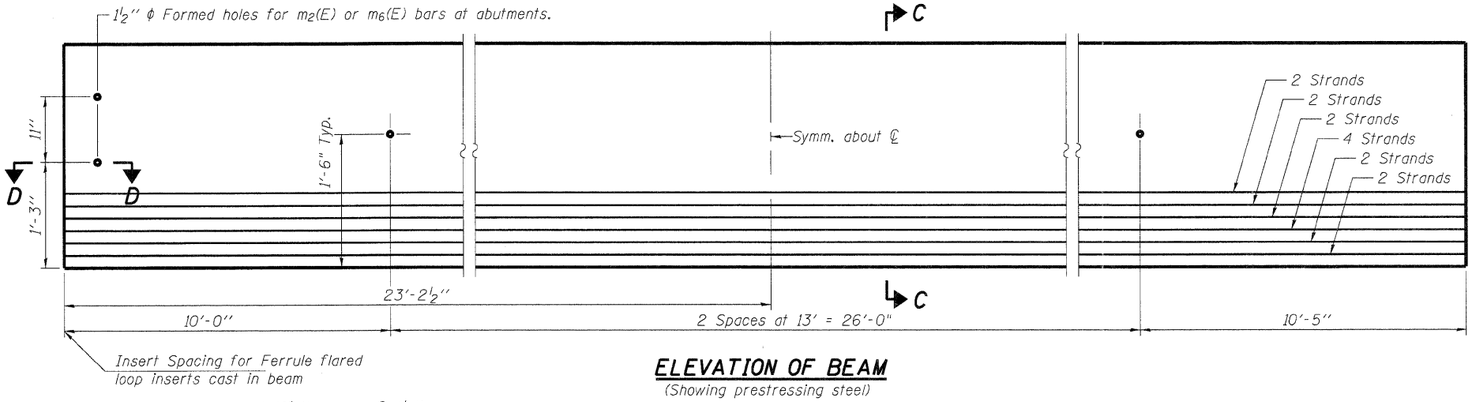
Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



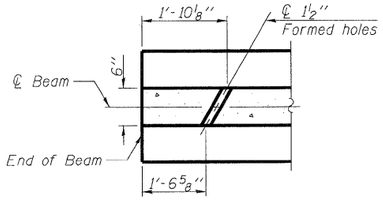
SECTION A-A



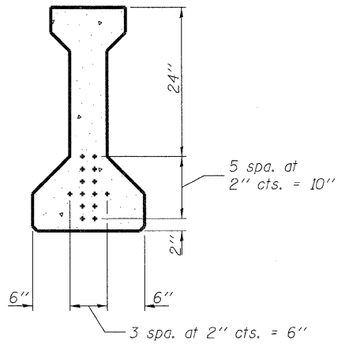
SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION D-D



SECTION C-C

***BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	76	#4	7'-5"	⊓L
G_2	76	#4	5'-8"	⊓
G_3	6	#5	24'-3"	—
G_4	38	#3	4'-1"	⌓
G_6	2	#8	6'-6"	⌒

***For information only

Notes:
See sheet 17 of 24 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5000 psi.

PRINTED DATE: 12/5/2011
FILE NAME: n:\projects\dot\pb 148, lam 25 - d7 various design\Work Order #5\CADD\Drawings\Streets\72_M05_Beam_1.dgn

PI-4-36 7-1-10

DESIGNED	-	SMA
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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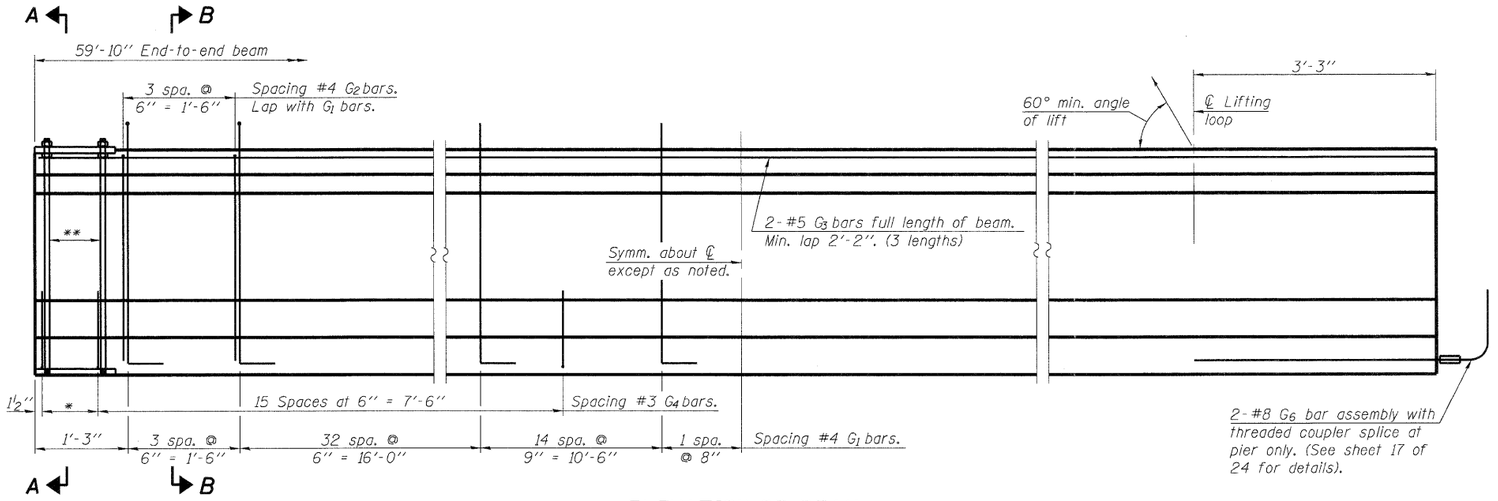
36" PPC I-BEAM (SPANS 1 & 3)
STRUCTURE NO. 096-0073
SHEET NO. 15 OF 24 SHEETS

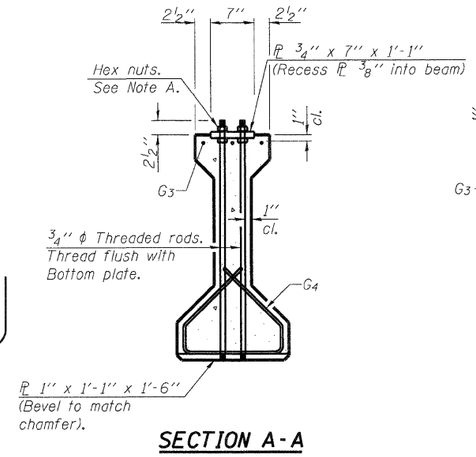
F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	70
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



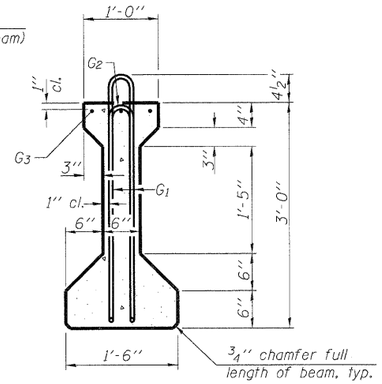
* 3 spaces at 3" = 9".
** 4-¾" ϕ threaded dowel rods at 3" cts., Each Face

ELEVATION OF BEAM
(Showing reinforcement & dimensions)

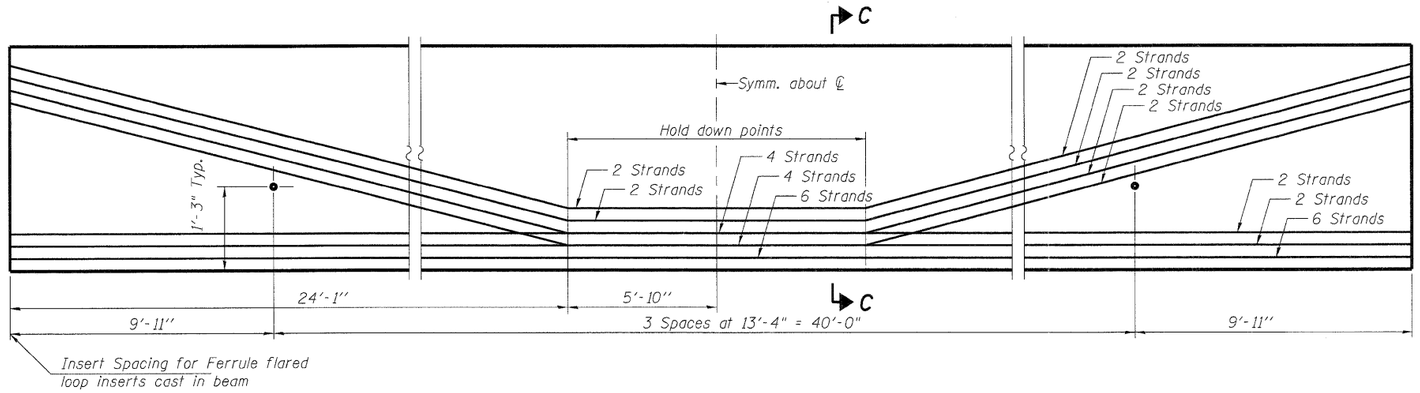
Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



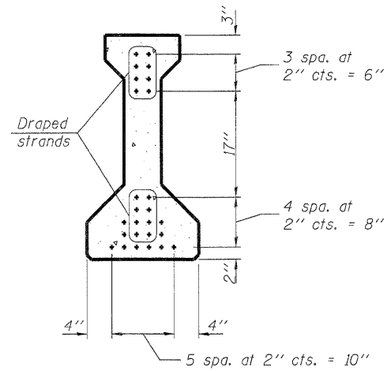
SECTION A-A



SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C

***BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	100	#4	7'-5"	⊓L
G_2	100	#4	5'-8"	⊓
G_3	6	#5	30'-11"	—
G_4	38	#3	4'-1"	⌓
G_6	4	#8	6'-6"	⌒

***For information only

Notes:
See sheet 17 of 24 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5000 psi.

PRINTED DATE: 12/5/2011
FILE NAME = n:\projects\tdds\plb 146.ram 25 - d7 various design\Work Order #'s\CADD\Drawings\Sheets\7t_W05_Beam_2.dgn

PI-4-36 7-1-10

DESIGNED	-	SMA
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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STATE OF ILLINOIS
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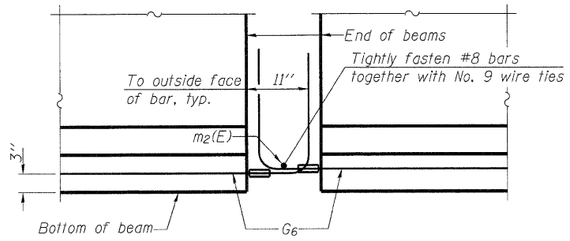
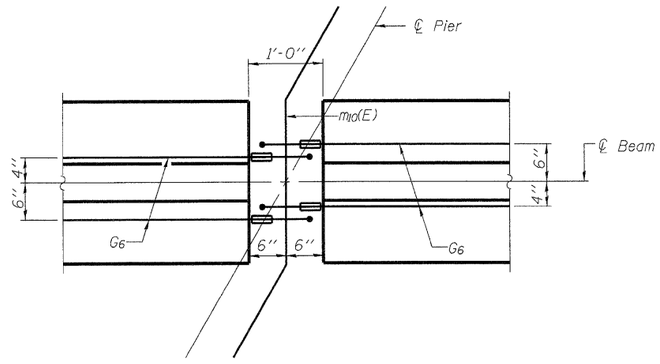
36" PPC I-BEAM (SPAN 2)
STRUCTURE NO. 096-0073
SHEET NO. 16 OF 24 SHEETS

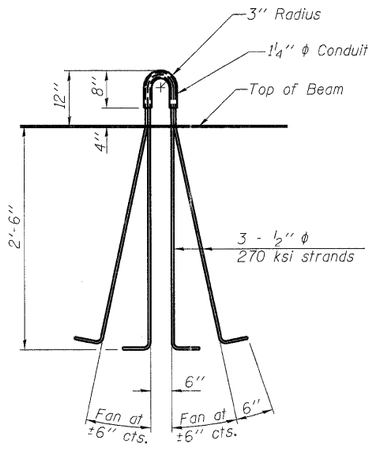
F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	71
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



ELEVATION OF BEAM AT PIER



PLAN OF BEAM AT PIER



LIFTING LOOP DETAIL

NOTES

Inserts for ¾" ϕ threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).

A minimum 2½" ϕ lifting pin shall be used to engage the lifting loops during handling.

Tilt G_6 bars when necessary to maintain 1½" clearance.

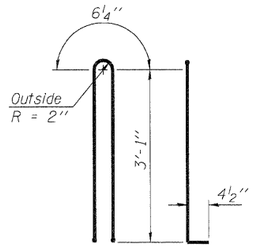
The top and bottom plates shall be AASHTO M270 Grade 50.

The bottom plates shall be galvanized according to AASHTO M111. Top plates and threaded rods need not be galvanized.

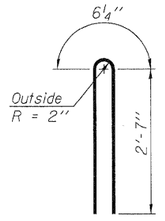
Threaded rods shall be ASTM F 1554 Grade 55.

The G_6 bar assembly shall be capable of developing 125 percent of the yield strength of the grade 60 reinforcement bar components. The assembly shall allow completion of the splice without turning of the hook bar. The hook bar shall be threaded such that the entire coupler can be threaded onto the hook bar.

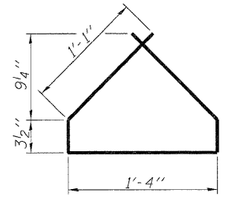
Beams requiring G_6 bar assemblies shall not be released from the fabricator until they have attained 45 days of age or older.



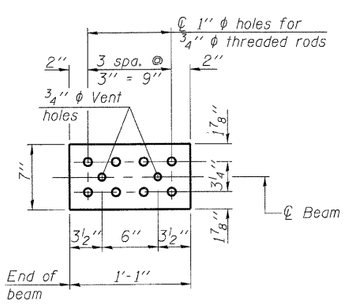
BAR G1



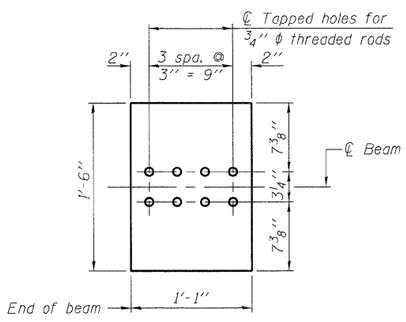
BAR G2



BAR G4

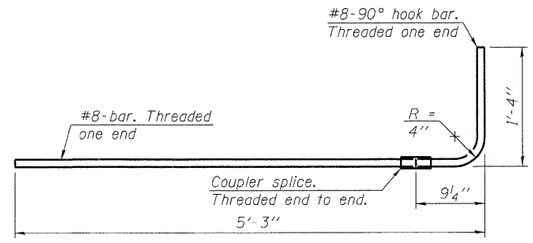


TOP PLATE



BOTTOM PLATE

See bearing details for pintle hole locations when required.



G6 BAR ASSEMBLY

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36"	Ft.	916

PRINTED DATE: 12/5/2011
FILE NAME = n:\projects\idot\pb 148, item 25 - d7 various design\Work Order #5\CADD\Drawings\Sheets\72_W05_BeamDet.dgn

PI-4-36D 1-28-11

DESIGNED	-	SMA
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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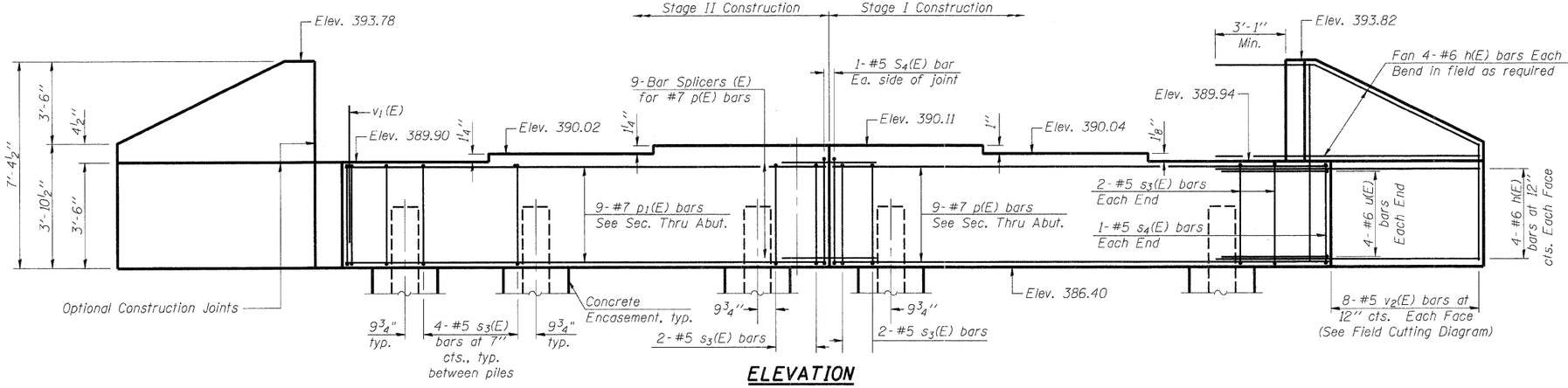
DEPARTMENT OF TRANSPORTATION

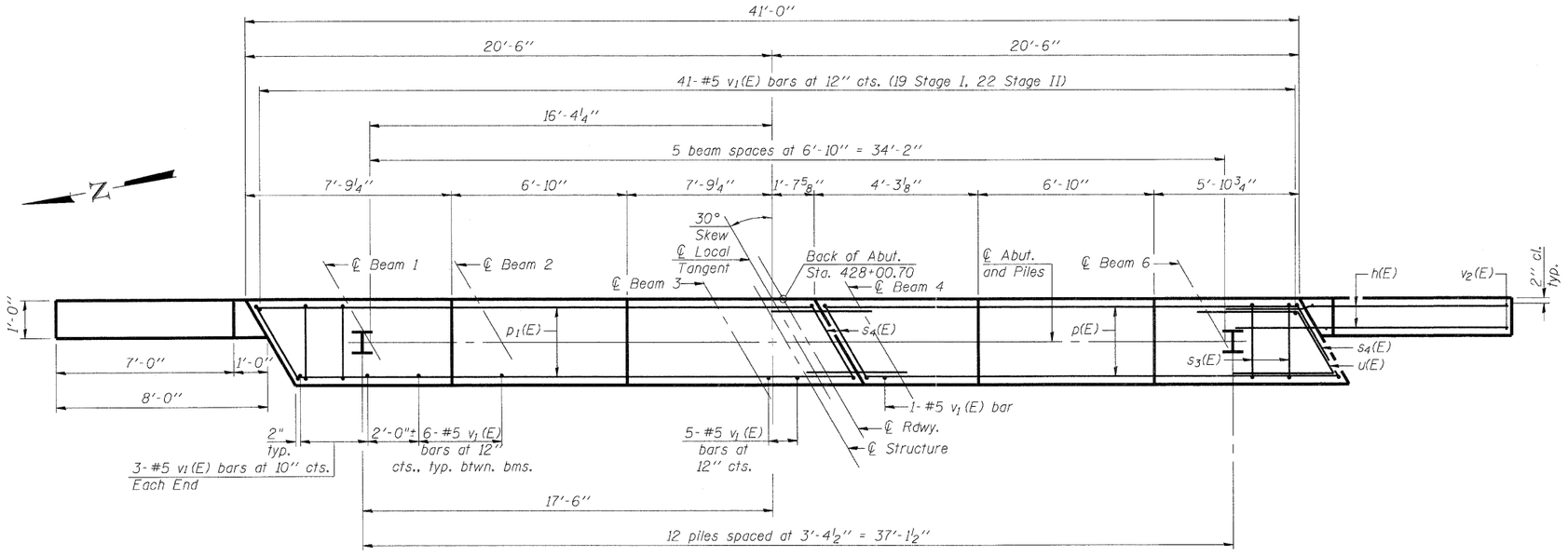
36" PPC I-BEAM DETAILS
STRUCTURE NO. 096-0073
SHEET NO. 17 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	72
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

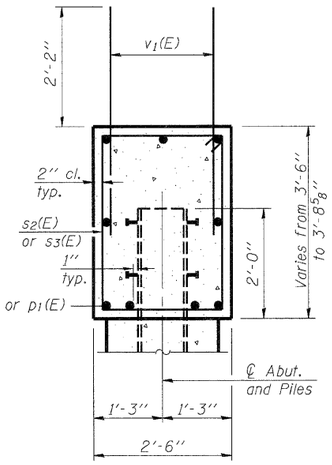
Notes:
Pour steps monolithically with cap.



ELEVATION



PLAN



SEC. THRU ABUT.

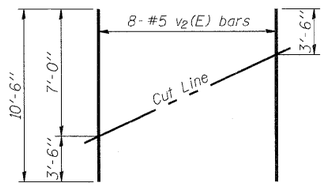
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#6	11'-11"	——
p(E)	9	#7	18'-7"	——
p1(E)	9	#7	2'-10"	——
s3(E)	43	#5	11'-7"	⌐
s4(E)	4	#5	12'-3"	⌐
u(E)	8	#6	10'-0"	⌐
v1(E)	77	#5	4'-4"	——
v2(E)	32	#5	10'-6"	——
Structure Excavation		Cu. Yd.	52.4	
Concrete Structures		Cu. Yd.	17.1	
Reinforcement Bars, Epoxy Coated		Pound	2360	
Furnishing Steel- Piles, HP 14x117		Foot	803	
Driving Piles		Foot	803	
Test Pile Steel, HP 14x117		Each	1	
Concrete Encasement		Cu. Yd.	4.4	

For details of Bar Splicers, see sheet 22 of 24.
For details of piles and Concrete Encasement, see sheet 21 of 24.

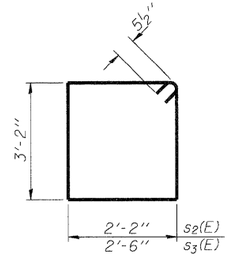
PILE DATA

Type: HP 14x117
Nominal Required Bearing: 464 kips
Factored Resistance Available: 232 kips
Est. Length: 73'
No. Production Piles: 11
No. Test Piles: 1

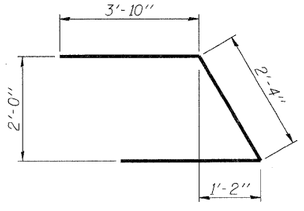


FIELD CUTTING DIAGRAM

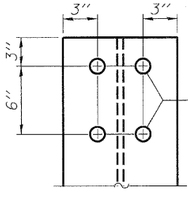
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s2(E) & s3(E)



BAR u(E)



4-3/4" ϕ ±X4" Granular or solid flux filled headed studs automatically end welded (Typ. each flange, each pile) Cost included with Furnishing Piles.

TOP OF PILE

DESIGNED	ADG
CHECKED	DF
DRAWN	ADG
CHECKED	DF

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CHARLESTON, IL 61920
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT
STRUCTURE NO. 096-0073
SHEET NO. 18 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	73
		CONTRACT NO 74216		
		ILLINOIS FEDERAL AID PROJECT		

PRINTED DATE: 12/5/2011
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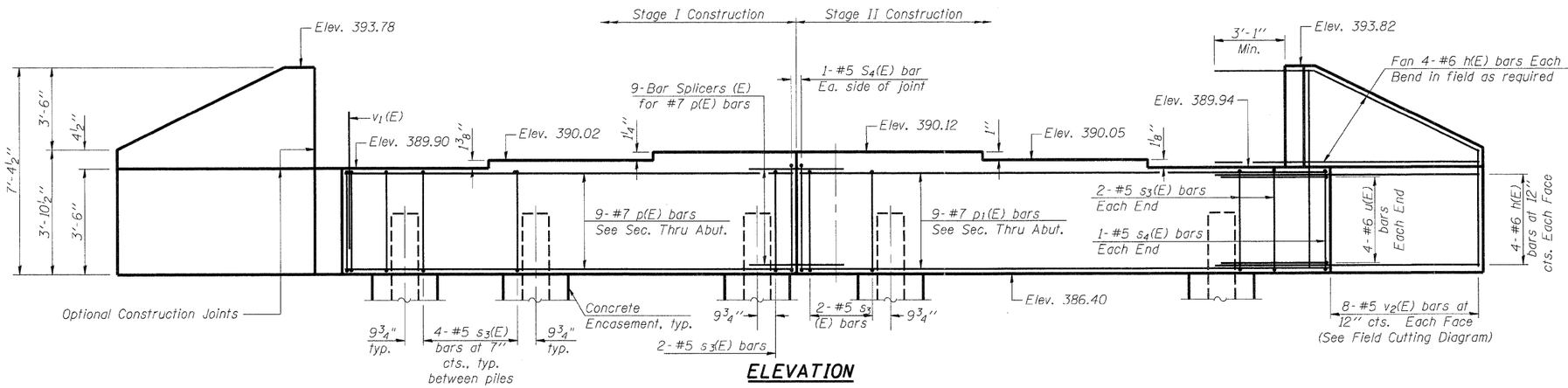
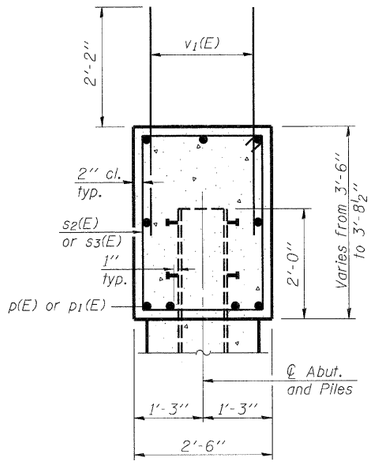
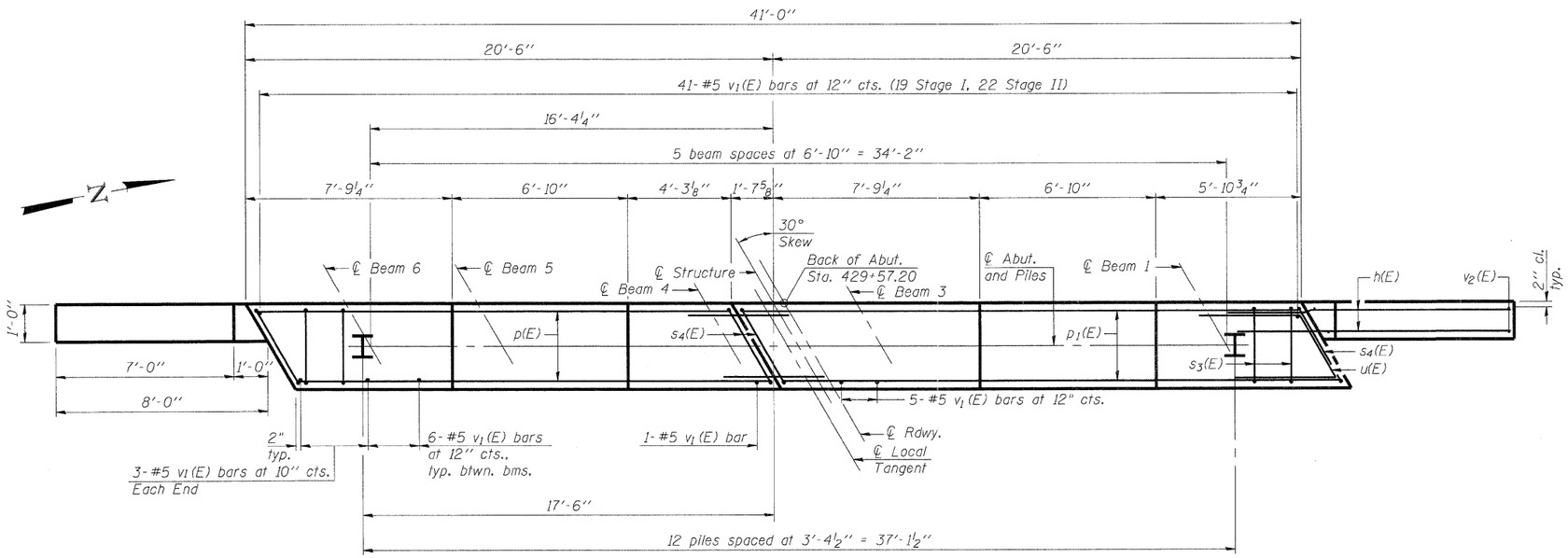
Notes:
Pour steps monolithically with cap.



ELEVATION



SEC. THRU ABUT.



PLAN

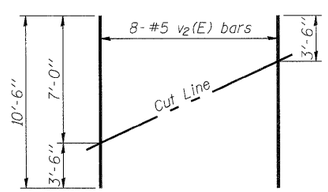
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#6	11'-11"	
p(E)	9	#7	18'-7"	
p1(E)	9	#7	2'-10"	
s3(E)	43	#5	11'-7"	
s4(E)	4	#5	12'-3"	
u(E)	8	#6	10'-0"	
v1(E)	77	#5	4'-4"	
v2(E)	32	#5	10'-6"	
Structure Excavation	Cu. Yd.		52.4	
Concrete Structures	Cu. Yd.		17.1	
Reinforcement Bars, Epoxy Coated	Pound		2360	
Furnishing Steel- Piles, HP 14x117	Foot		726	
Driving Piles	Foot		726	
Test PileSteel, HP 14x117	Each		1	
Concrete Encasement	Cu. Yd.		4.4	

For details of Bar Splicers, see sheet 22 of 24.
For details of piles and Concrete Encasement, see sheet 21 of 24.

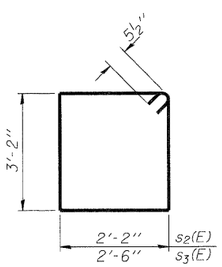
PILE DATA

Type: HP 14x117
Nominal Required Bearing: 444 kips
Factored Resistance Available: 222 kips
Est. Length: 66'
No. Production Piles: 11
No. Test Piles: 1

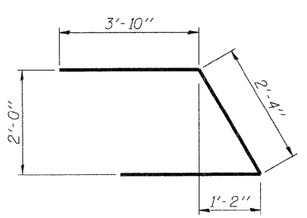


FIELD CUTTING DIAGRAM

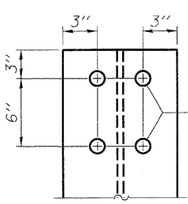
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s2(E) & s3(E)



BAR u(E)



4-3/4" ϕ ±X4" Granular or solid flux filled headed studs automatically end welded (Typ. each flange, each pile) Cost included with Furnishing Piles.

TOP OF PILE

PRINTED DATE: 12/5/2011
FILE NAME = n:\projects\dist\pltb 148, item 25 - d7 various design\Work Order 05\CADD\Drawings\Sheets\74-W05-Abut-West.dgn

DESIGNED	ADG
CHECKED	DF
DRAWN	ADG
CHECKED	DF

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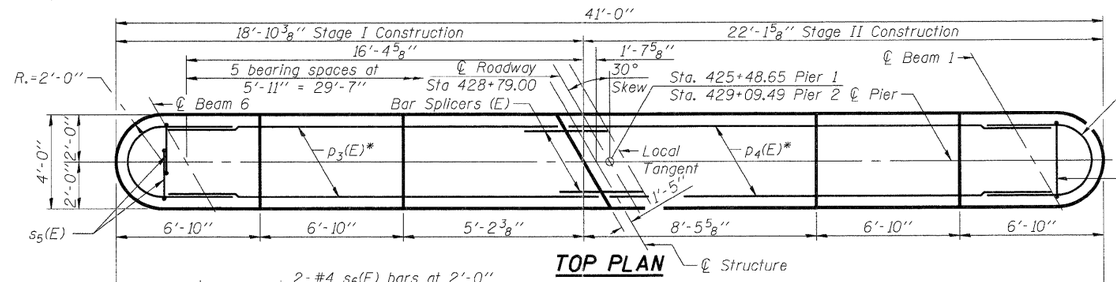
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT
STRUCTURE NO. 096-0073
SHEET NO. 19 OF 24 SHEETS

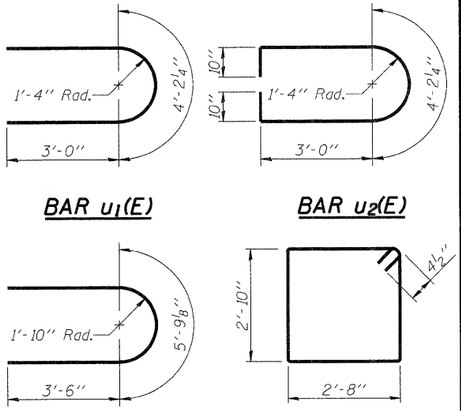
F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	74
		CONTRACT NO 74216		
		ILLINOIS FEDERAL AID PROJECT		

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet 22 of 24.
*Cut $p(E)$ and $p_1(E)$ bars to fit skew.
**Mechanical spice or shop welded splice per AWS D1.4.
If a portion of the concrete encasement is under water, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.
*** Pier 1 is Location 1, Pier 2 is Location 2
**** See sheet 11 of 24 for $V_4(E)$ bars



TOP PLAN

BAR $v_4(E)$



BAR $u_1(E)$

BAR $u_2(E)$

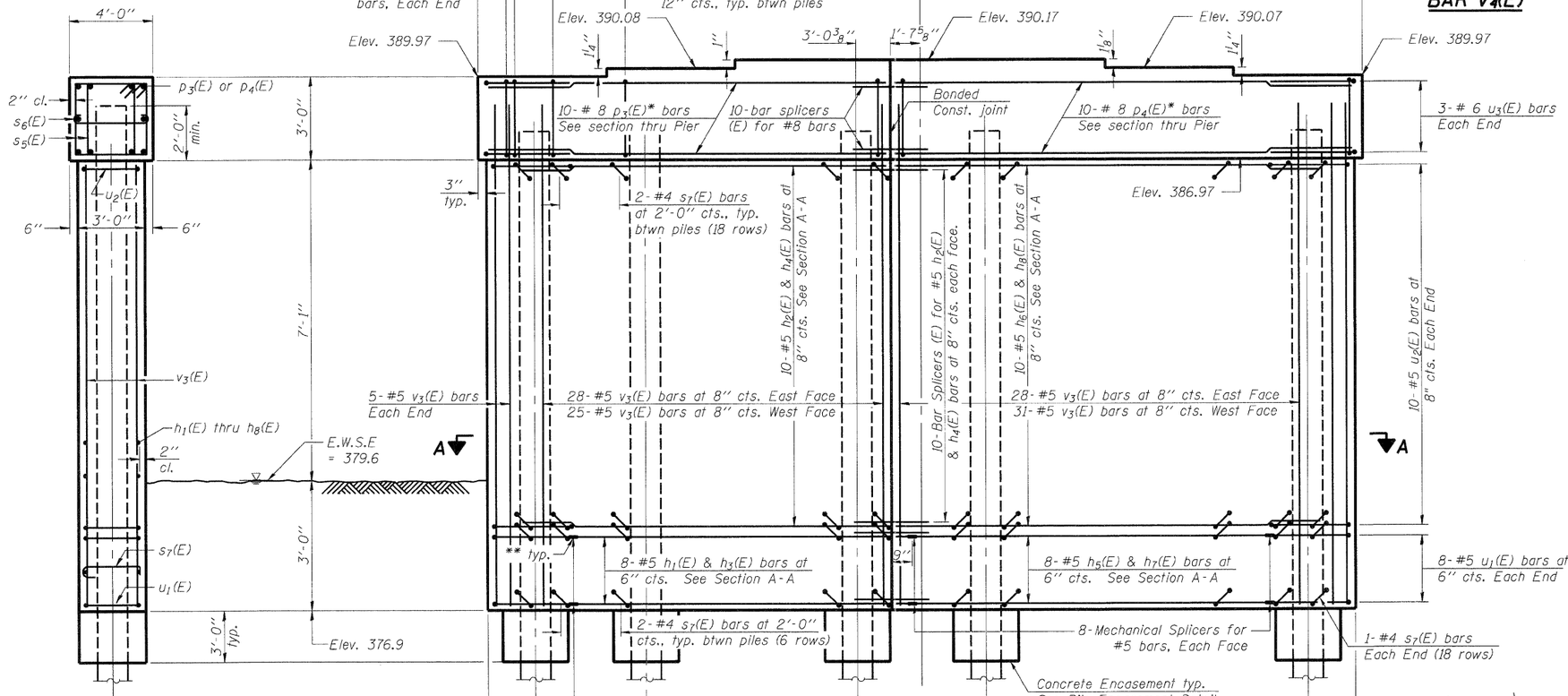
BAR $u_3(E)$

BAR $S_5(E)$

BAR $S_6(E)$

BAR $S_7(E)$

Alternate the position of the 90° hooks on the $S_2(E)$ bars in the field.

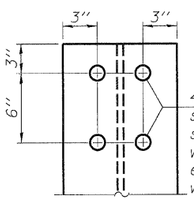


ELEVATION
(Looking West)

END VIEW

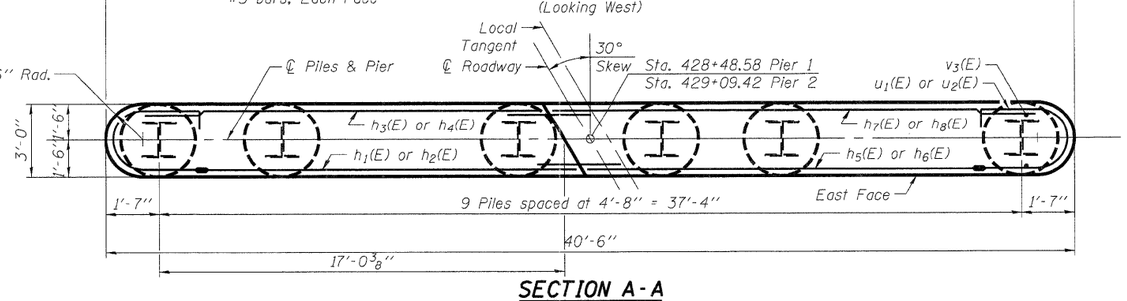
PILE DATA

Type: Steel HP 14x117
Nominal Required Bearing: 423 kips
Factored Resistance Available: 204 kips
Est. Length: 71'
No. Production Piles: 16 (for two piers)
No. Test Piles: 2 (one at each pier)

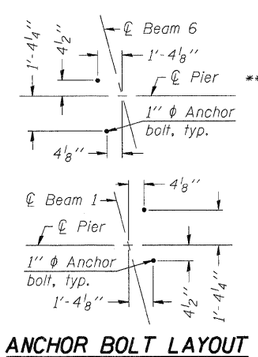


4-3/4" ϕ X4" Granular or solid flux filled headed studs automatically end welded (Typ. each flange, each pile) Cost included with Furnishing Piles.

TOP OF PILE



SECTION A-A



ANCHOR BOLT LAYOUT

BILL OF MATERIAL
FOR TWO PIERS

Bar	No.	Size	Length	Shape
$h_1(E)$	16	#5	15'-9"	—
$h_2(E)$	20	#5	17'-10"	—
$h_3(E)$	16	#5	14'-0"	—
$h_4(E)$	20	#5	16'-2"	—
$h_5(E)$	16	#5	15'-9"	—
$h_6(E)$	20	#5	19'-5"	—
$h_7(E)$	16	#5	17'-6'	—
$h_8(E)$	20	#5	21'-2"	—
$p_3(E)$	20	#8	17'-11"	—
$p_4(E)$	20	#8	21'-2"	—
$s_5(E)$	160	#4	11'-9"	
$s_6(E)$	36	#4	4'-8"	
$s_7(E)$	396	#4	3'-6"	
$u_1(E)$	32	#5	10'-3"	
$u_2(E)$	40	#5	11'-11"	
$u_3(E)$	12	#6	12'-9"	
$v_3(E)$	244	#5	12'-0"	—
$v_4(E)$	60	#8	4'-2"	
Cofferdam Excavation	Cu. Yd.		118.6	
Concrete Structures	Cu. Yd.		126.1	
Reinforcement Bars, Epoxy Coated	Pound		11,780	
Furnishing Steel Piles HP 14x117	Foot		1136	
Driving Piles	Foot		1136	
Test Pile Steel HP 14x117	Each		2	
Concrete Encasement	Cu. Yd.		9.8	
*** Cofferdam Type 1, Location 1	Each		1	
*** Cofferdam Type 1, Location 2	Each		1	

DESIGNED	DF
CHECKED	ADG
DRAWN	ADG
CHECKED	DF

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS
STRUCTURE NO. 096-0073
SHEET NO. 20 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	75
		CONTRACT NO 74216		
		ILLINOIS FEDERAL AID PROJECT		

PRINTED DATE: 12/5/2011
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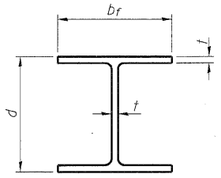
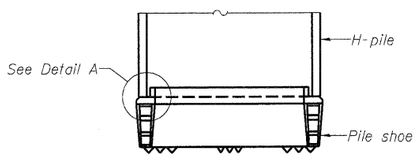
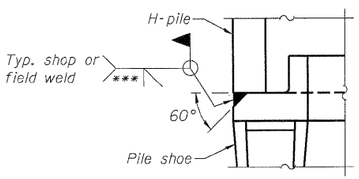


STEEL PILE TABLE

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

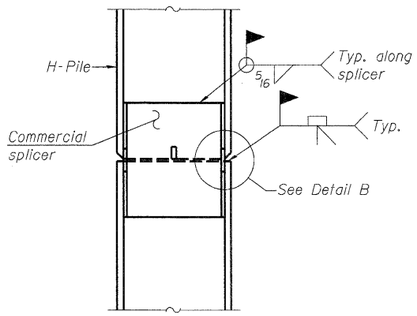


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



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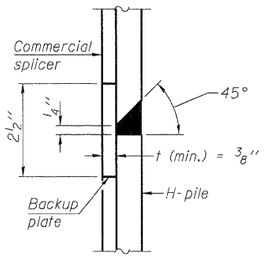
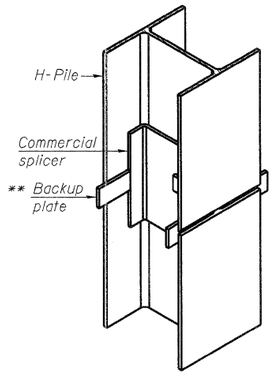
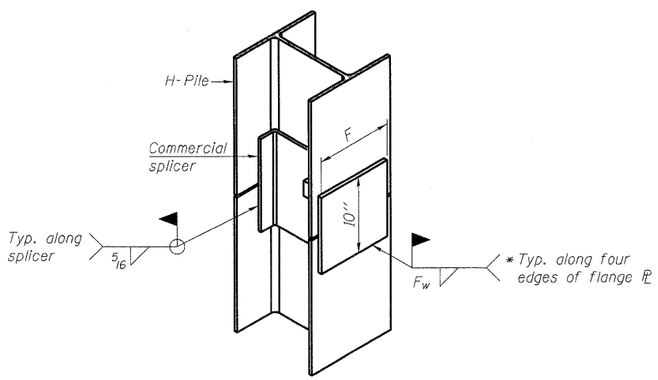


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



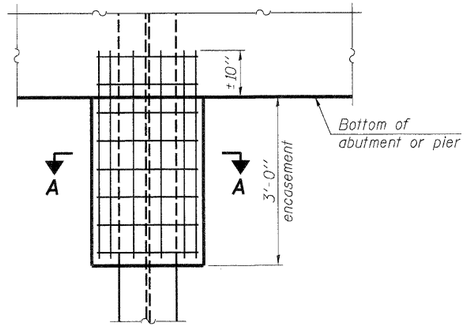
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

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

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

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



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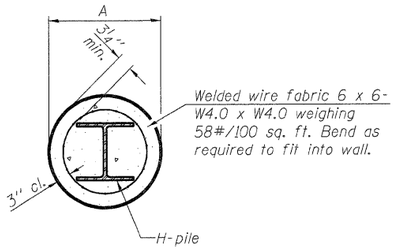
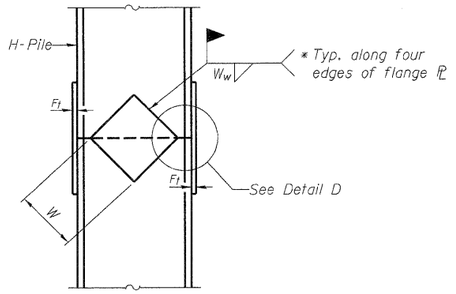


SECTION A-S

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

PILE ENCASEMENT



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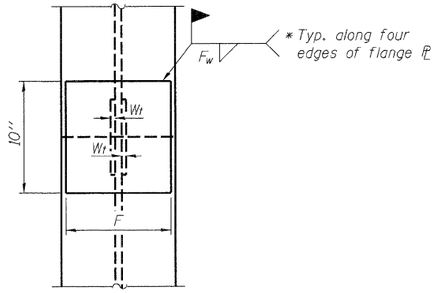
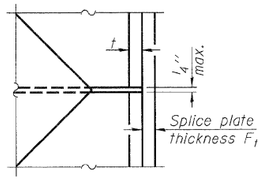


END VIEW



DETAIL D

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

WELDED PLATE FIELD SPLICE

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

F-HP 7-1-10

DESIGNED	-	ADG
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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HP PILE DETAILS
STRUCTURE NO. 096-0073
SHEET NO. 21 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	76
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

PRINTED DATE: 12/5/2011
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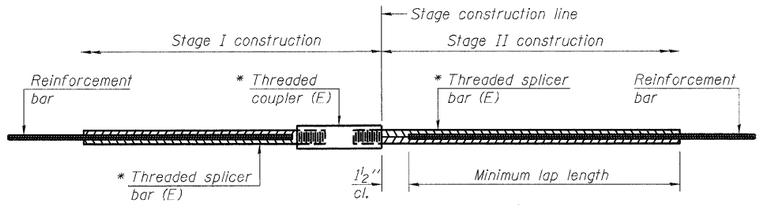


STANDARD BAR SPLICER ASSEMBLY

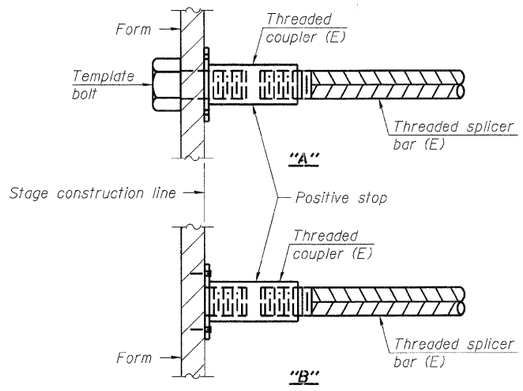
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Top bar lap, Class B

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

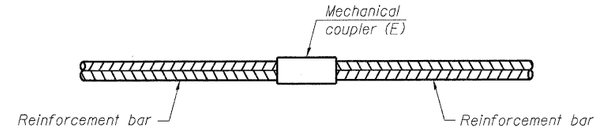
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#5	451	3
Abt. Diaphragm	#6	16	5
Pier Diaphragm	#6	16	5
Approach Slab	#4	50	3
Approach Slab	#5	172	3
Abutments	#7	18	4
Piers	#5	40	4
Piers	#8	20	4



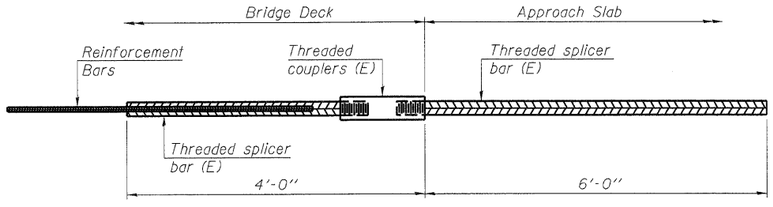
INSTALLATION AND SETTING METHODS

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



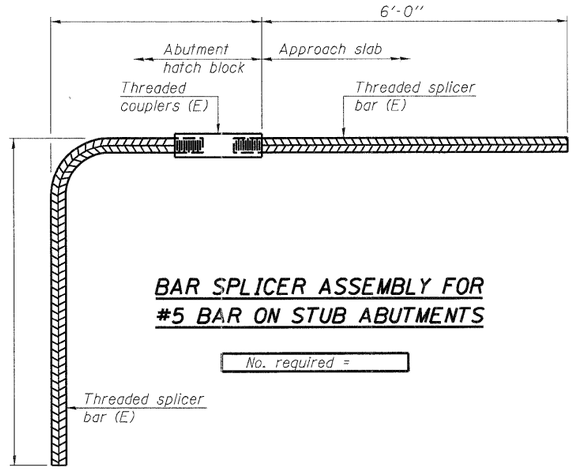
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Piers	#5	96



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 76



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

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

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

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

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

BSD-1 7-1-10

DESIGNED	-	ADG
CHECKED	-	DF
DRAWN	-	ADG
CHECKED	-	DF

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 096-0073
SHEET NO. 22 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	77
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

PRINTED DATE: 12/9/2011
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Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 3

Date 9/29/08

ROUTE FAP 823 (IL 15) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer

SECTION (22,B2)B-1 LOCATION SW 1/4, SEC. 4, TWP. 2 S, RNG. 9 E, 3 PM

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

STRUCT. NO. 096-0012
Station 428+79

BORING NO. 1 E Abut
Station 427+85
Offset 7.00ft Rt
Ground Surface Elev. 392.55 ft

Surface Water Elev. Dry ft
Stream Bed Elev. 377.02 ft

Groundwater Elev.:
First Encounter 348.1 ft
Upon Completion 374.1 ft
After 72 Hrs. 373.6 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				5 1/2" asphalt on 11 1/4" concrete pavement.
391.15				
	0			Medium, damp, gray, SILTY CLAY.
	0	0.7	29	
	1	B		
383.05				
-8	1			Stiff, damp, gray, CLAY.
	3	1.7	17	
	4	B		
375.55				
	1			Medium, damp, gray, SILTY CLAY.
	3	0.7	28	
	4	B		
363.05				
-30	1			Stiff, damp, gray/brown/red, CLAY.
	3	1.6	22	
	5	B		
	1			
	4	1.4	22	
	4	B		
-55	1			
	2	1.1	29	
	3	B		
	1			
	3	2.1	20	
	5	B		
373.05				
-20	0			
				Very soft, redigray, SILTY LOAM. *Mush at 20.3' to 20.8' depth.* *(continued)*
	1	0.2	29	
	0	B		
	0			
	1	0.7	32	
	1	B		
-25	0			
	0	0.4	27	
	0	B		
	0			
	0	0.1	29	
	0	B		
-35	0			
	0	0.1	24	
	1	B		
	0			
358.05				
-35	0			
				Very soft, damp, gray, SANDY LOAM.
	4	0.1	21	
	8	S		
-40	3			

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

BBS, from 137 (Rev. 8-99)

LatDub W:\Bridg 12\572.mic, LongDub N:\Bridg 12\447.mic, MapDatum WGS 84

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 3

Date 9/29/08

ROUTE FAP 823 (IL 15) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer

SECTION (22,B2)B-1 LOCATION SW 1/4, SEC. 4, TWP. 2 S, RNG. 9 E, 3 PM

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

STRUCT. NO. 096-0012
Station 428+79

BORING NO. 1 E Abut
Station 427+85
Offset 7.00ft Rt
Ground Surface Elev. 392.55 ft

Surface Water Elev. Dry ft
Stream Bed Elev. 377.02 ft

Groundwater Elev.:
First Encounter 348.1 ft
Upon Completion 374.1 ft
After 72 Hrs. 373.6 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Very soft, damp, gray, SANDY LOAM. *(continued)*
	4	0.1	22	
	9	S		
348.05				
-45	4			Medium, wet, gray, SAND w/ small Gravel.
	9			
	12			
-55	1			
	1			
	5			
333.05				
-60	9			
				Medium, damp, gray, SANDY LOAM. *(continued)* 331.75
	8	0.6	6	
	16	S		
				Very dense, moist, gray, SANDSTONE.
-70	48			
322.15	50/3"		17	
	50/2"			
				Borehole continued with rock coring.
-75				
-80				

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
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Illinois Department of Transportation

ROCK CORE LOG

Page 3 of 3

Date 9/29/08

ROUTE FAP 823 (IL 15) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer

SECTION (22,B2)B-1 LOCATION SW 1/4, SEC. 4, TWP. 2 S, RNG. 9 E, 3 PM

COUNTY Wayne CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. 096-0012
Station 428+79

BORING NO. 1 E Abut
Station 427+85
Offset 7.00ft Rt
Ground Surface Elev. 392.55 ft

CORING BARREL TYPE & SIZE NW, conv rbl bbl, split inner
Core Diameter 2.09 in
Top of Rock Elev. 331.75 ft
Begin Core Elev. 322.15 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	RQD (%)	CORE TIME (min/ft)	STRENGTH (tsf)	Description
						Brown, soft, SANDSTONE, scratches easily.
322.15	B1C1	71	27	0.5		
320.15						Gray, hard, SANDSTONE, hard to scratch. *Rock core B1C1 from 72.7' to 73.1' depth Qu = 779 tsf.*
-75						
317.15	B1C2	65	39	0.8		Gray, very hard, estimated LIMESTONE.
						Rock core B1C2 from 77.9' to 78.4' depth Qu = 890 tsf.
314.15						
313.05						Black, COAL.
-80						No recovery, estimated LIMESTONE.
312.15						
-85						Extent of exploration.
-90						Benchmark: WE 17 Chiseled square on NE headwall of existing structure, Sta 428+00, 19' Rt = 393.16' elevation. Provided by Program Development.

Color pictures of the cores Available on request.
Cores will be stored for examination until 09/29/09
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

Field Rock Core Log.xls

Field Rock Core Log

Date: 9-29-08

Structure #: 096-0012 Boring #: B1

Rock Core #: C1

Depth: 70 ± 4

Brn/ Rust Soft to very easy to scratch

Cracked Vertical

Gray V hard to hard to scratch

Core to Test B1C1

RQD 0.79 0.54 1.33

Depth: 75 ± 4

Core Time: 2:16

Recovery: 70.6%

RQD: 26.6%

Logged By: Eric Sandschafer

Rock Core #: C2

Depth: 75 ± 4

Cracked Vertically

Grey V hard limestone like Rock

Blk coal

Core to Test B1C2

RQD 0.43 1.53 1.96

Depth: 80 ± 4

Core Time: 3:57

Recovery: 64.6%

RQD: 39.2%

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 2

Date 10/1/08

ROUTE FAP 823 (IL 15) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer

SECTION (22,B2)B-1 LOCATION SW 1/4, SEC. 4, TWP. 2 S, RNG. 9 E, 3 PM

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

STRUCT. NO. 096-0012
Station 428+79

BORING NO. 2 Pier
Station 428+67
Offset 6.50ft Rt
Ground Surface Elev. 392.71 ft

Surface Water Elev. Dry ft
Stream Bed Elev. 377.02 ft

Groundwater Elev.:
First Encounter 348.2 ft
Upon Completion 370.0 ft
After 48 Hrs. 373.0 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				2" asphalt on 8 5/8" concrete bridge deck.
391.81				Air.
-5				
-10				
	2			
	3	0.8	21	
	5	B		
373.21				
-20	2			
				Soft to medium, damp, red marbled gray, SILTY LOAM. *(continued).*
	3	0.5	21	
	3	B		
370.31				
	1			Brown, wet, SILT.
	1	1.0	24	
368.21	2	B		Medium to stiff, damp, red w/ brown layers, SILTY LOAM.
-25	0			
	0	0.1	24	
	0	B		
	0			
	0	0.1	28	
	1	B		
-35	0			
	0	0.3	24	
	0	B		
356.21				
-35	0			Very soft, very damp, gray, SANDY LOAM.
	1	0.3	24	
353.21	2	B		Gray, fine grained, SAND.
-40	1			

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

BBS, from 137 (Rev. 8-99)

LatDub W:\Bridg 12\572.mic, LongDub N:\Bridg 12\447.mic, MapDatum WGS 84

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 2

Date 10/1/08

ROUTE FAP 823 (IL 15) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer

SECTION (22,B2)B-1 LOCATION SW 1/4, SEC. 4, TWP. 2 S, RNG. 9 E, 3 PM

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

STRUCT. NO. 096-0012
Station 428+79

BORING NO. 2 Pier
Station 428+67
Offset 6.50ft Rt
Ground Surface Elev. 392.71 ft

Surface Water Elev. Dry ft
Stream Bed Elev. 377.02 ft

Groundwater Elev.:
First Encounter 348.2 ft
Upon Completion 370.0 ft
After 48 Hrs. 373.0 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Soft, very damp, gray, SANDY LOAM. *(continued)*
	5	0.3	18	
	11	B		
348.21				
-45	1			Medium, wet, gray, fine grained, SAND w/ small Gravel. 4% *passing #200 sieve.*
	3		16	
	9			
				7% passing #200 sieve.
-50	1			
	4		18	
	10			
-55				
333.21	2			
-60				
				Medium, damp, gray, SANDY LOAM TILL. *(continued)*
	4	0.8	13	
	10	B		
-65				
				Very dense, moist, gray, SANDSTONE.
-70				
322.81	50/5"		14	
	50/1"			
	50/1"			
				Extent of exploration.
-75				
-80				
-85				
-90				Benchmark: WE 17 Chiseled square on NE headwall of existing structure, Sta 428+00, 19' Rt = 393.16' elevation. 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 T206)

BBS, from 137 (Rev. 8-99)

(Sheet 1 of 2)

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FILE NAME: n:\projects\ddot\096 H8, item 25 - d7 various design\Work Order #5\CADD\Drawings\Sheets\Y78_W05_BorLogs.dgn

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 096-0073
SHEET NO. 23 OF 24 SHEETS

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	78
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Date 9/30/08

ROUTE FAP 823 (IL 15) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer

SECTION (22,B2)B-1 LOCATION SW 1/4, SEC. 4, TWP. 2 S., RNG. 9 E., 3 PM

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

STRUCT. NO. 096-0012
Station 428+79

BORING NO. 3 W Abut
Station 429+73
Offset 8.50ft Lt
Ground Surface Elev. 392.66 ft

Surface Water Elev. Dry ft
Stream Bed Elev. 377.02 ft

Groundwater Elev.:
First Encounter 353.2 ft
Upon Completion 374.2 ft
After 72 Hrs. 373.2 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
				6 3/8" asphalt on 11 1/2" concrete pavement.
391.16				
	2			Medium to stiff, damp, gray, CLAY.
	1	1.0	20	
	2	PP		
-5	2			
	3	1.1	22	
	5	B		
385.36				
	1			Medium, damp, gray, SILTY CLAY.
	1	0.8	21	
	2	B		
383.16				
-10	1			Stiff, damp, dark gray, CLAY.
	3	1.6	26	
	5	B		
380.89				
	2			Medium to stiff, damp, gray, SILTY CLAY.
	3	1.0	22	
	4	B		
378.16				
-15	1			Soft, damp, gray, SILTY LOAM.
	2	0.4	29	
	2	B		
375.66				
	2			Stiff, damp, brown marbled gray, CLAY LOAM.
	3	1.8	20	
	6	B		
373.16				
-20	2			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
	3	0.4	26	Soft to very soft, damp, brown/gray, SILTY LOAM.
	4	B		
	0			*Muck at 22.0' to 23.0' depth (continued)*
	2	0.6	25	
	2	B		
-25	0			
	1	0.1	26	
	0	B		
	0			
	0	0.1	30	
	1	B		
-30	0			
362.66				Soft, damp, gray, SILTY CLAY.
	0	0.3	26	
	0	B		
358.16				
-35	0			Soft to medium, damp, gray, SILTY LOAM.
	0	0.5	27	
	1	B		
353.16				
-40	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)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Date 9/30/08

ROUTE FAP 823 (IL 15) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer

SECTION (22,B2)B-1 LOCATION SW 1/4, SEC. 4, TWP. 2 S., RNG. 9 E., 3 PM

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

STRUCT. NO. 096-0012
Station 428+79

BORING NO. 3 W Abut
Station 429+73
Offset 8.50ft Lt
Ground Surface Elev. 392.66 ft

Surface Water Elev. Dry ft
Stream Bed Elev. 377.02 ft

Groundwater Elev.:
First Encounter 353.2 ft
Upon Completion 374.2 ft
After 72 Hrs. 373.2 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
	5		26	Medium, wet, gray, fine grained, SAND. *75% passing #200 sieve.*
	7			
				4% passing #200 sieve.
				6% passing #200 sieve. (continued)
-45	5			
	12		21	
	16			
-50	8			
	14			
	18			
-55				
-60	23			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
	28		16	*No recovery this trip.*
	50			Estimated, medium, wet, gray, fine grained, SAND.
328.16				
-65	19			Gray, soft, SANDSTONE.
327.66	50/4"		11	Very dense, moist, hard, SANDSTONE.
	50/0"			
323.16				
-70	49			Very dense, moist, gray, SILTY CLAY SHALE.
322.26	50/3"			Extent of exploration.
	50/1"			
-75				Benchmark: WE 17 Chiseled square on NE headwall of existing structure, Sta 426+00, 19' Rt = 393.16' elevation. Provided by Program Development.
-80				

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

BBS, from 137 (Rev. 8-99)

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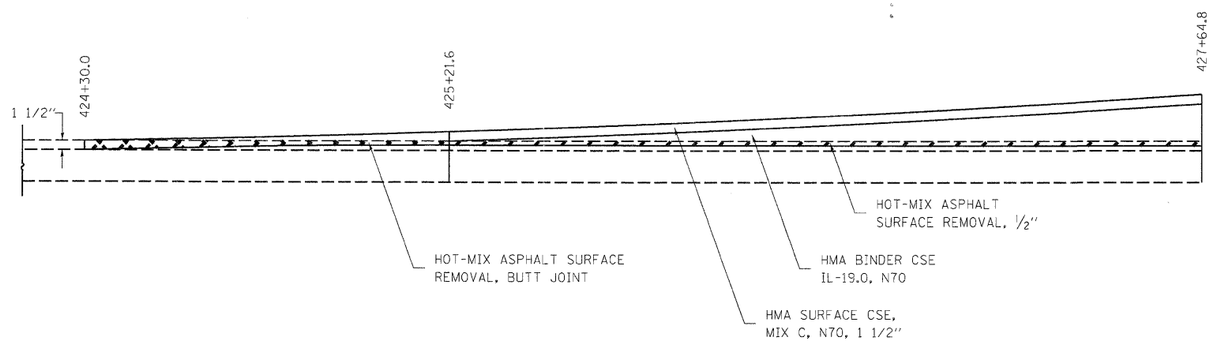
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 096-0073

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	Wayne	85	79
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



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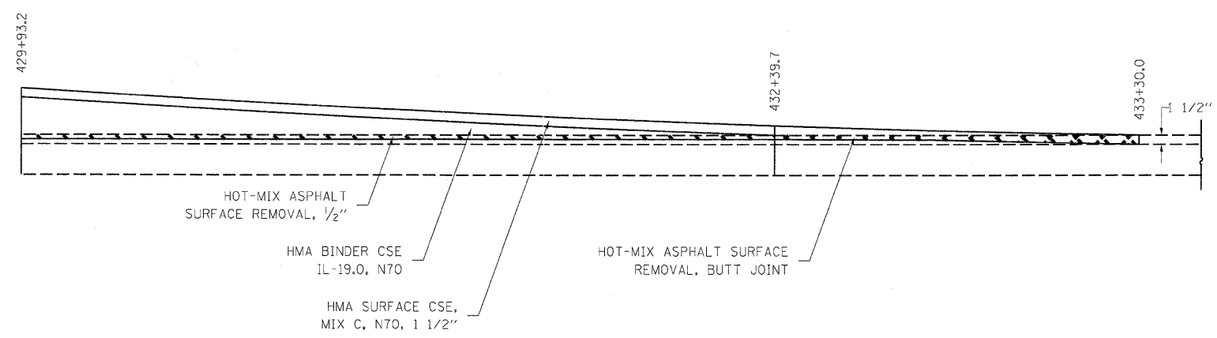
EAST END



HMA PROFILE GRADE CHANGE DETAIL

WEST END

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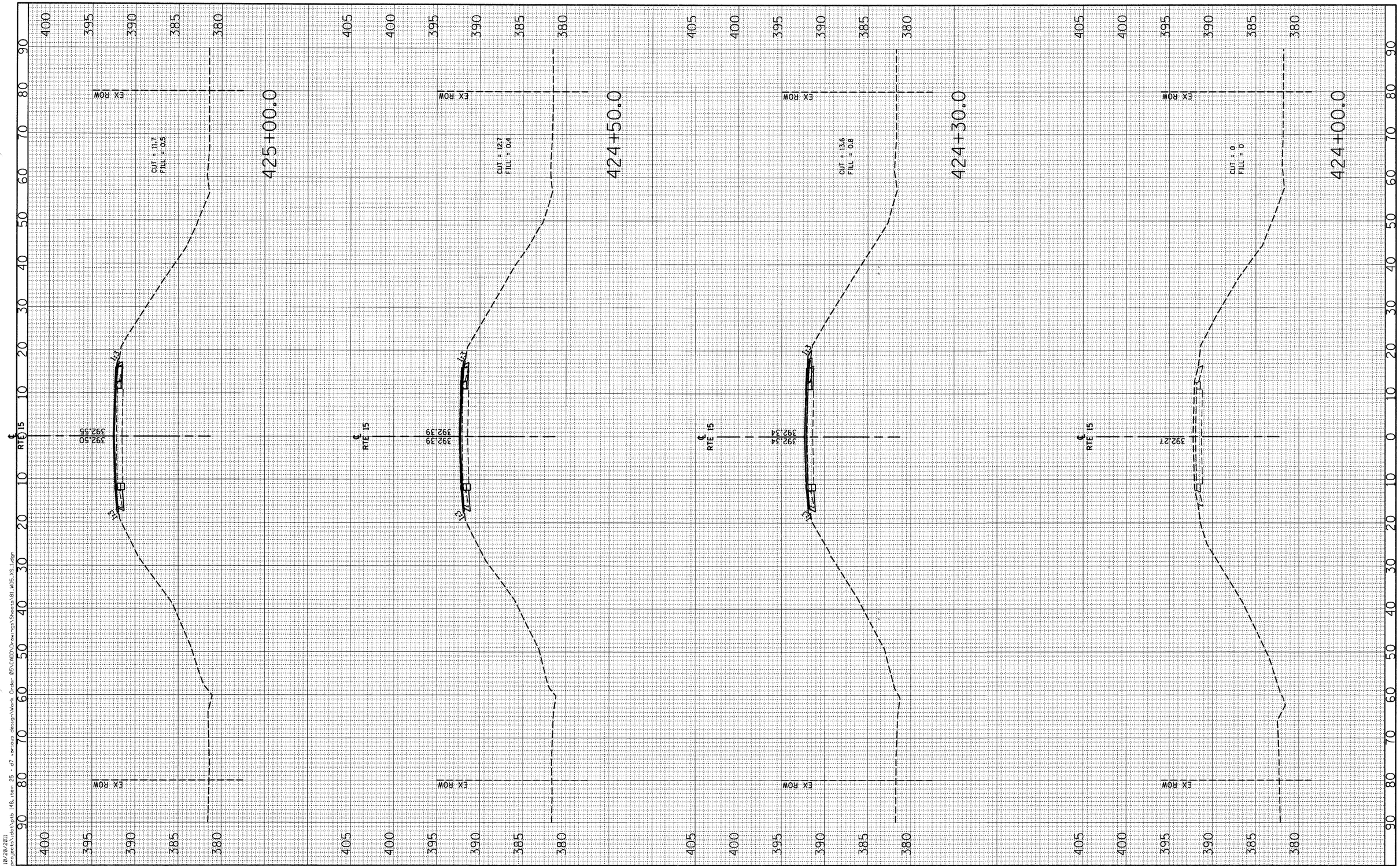
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GRADE PROFILE CHANGE/ BUTT-JOINT DETAIL

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	80
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



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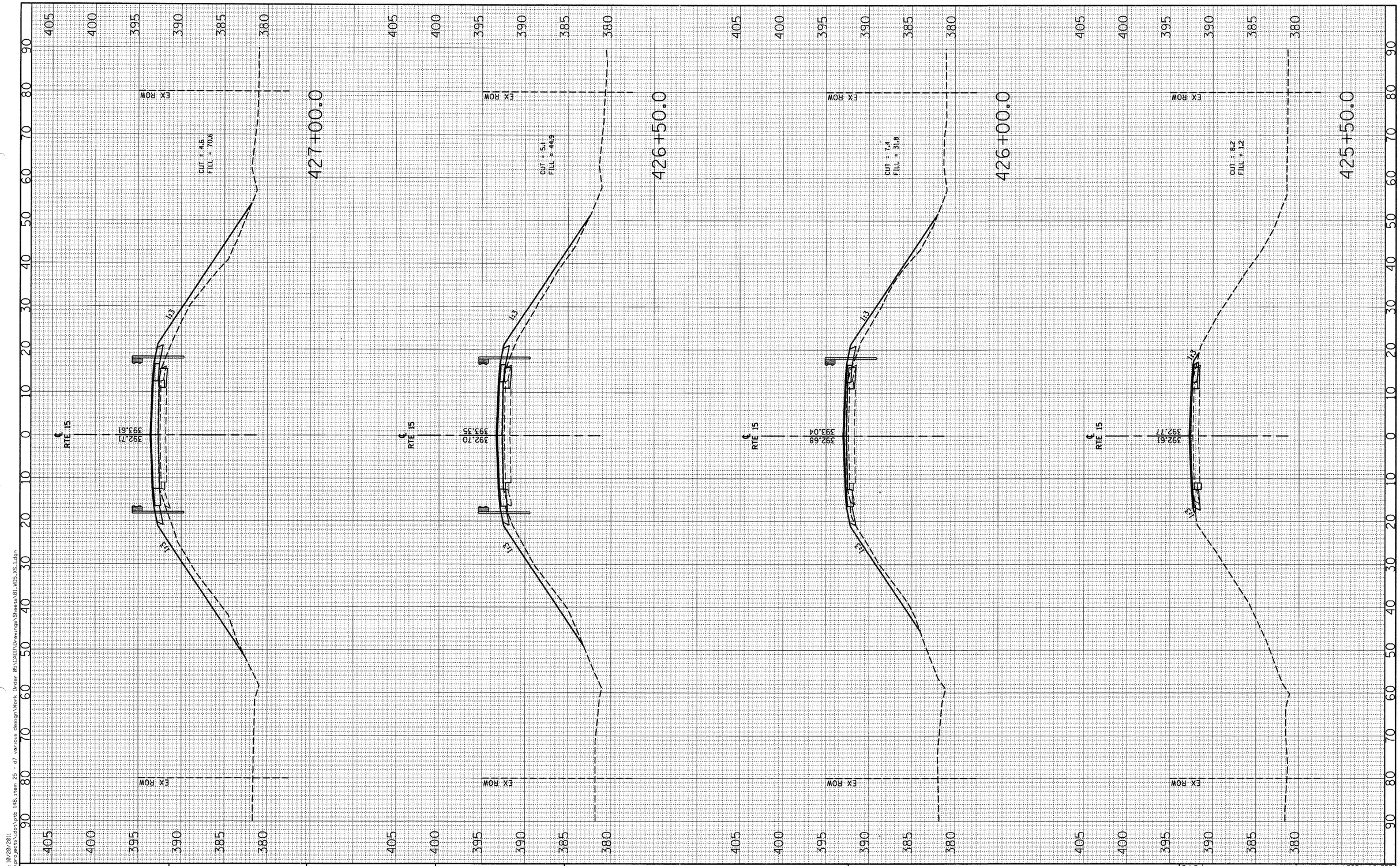
SN: 096-0073
MAINLINE CROSS SECTIONS

SCALE: 1"H=10' 1"V=5' | 424+00.0 | 425+00.0

F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	81
		CONTRACT NO 74216		
		ILLINOIS FEDERAL AID PROJECT		



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN: 096-0073
MAINLINE CROSS SECTIONS

SCALE: 1"H=10' 1"V=5' | 425+50.0 | 427+00.0

F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
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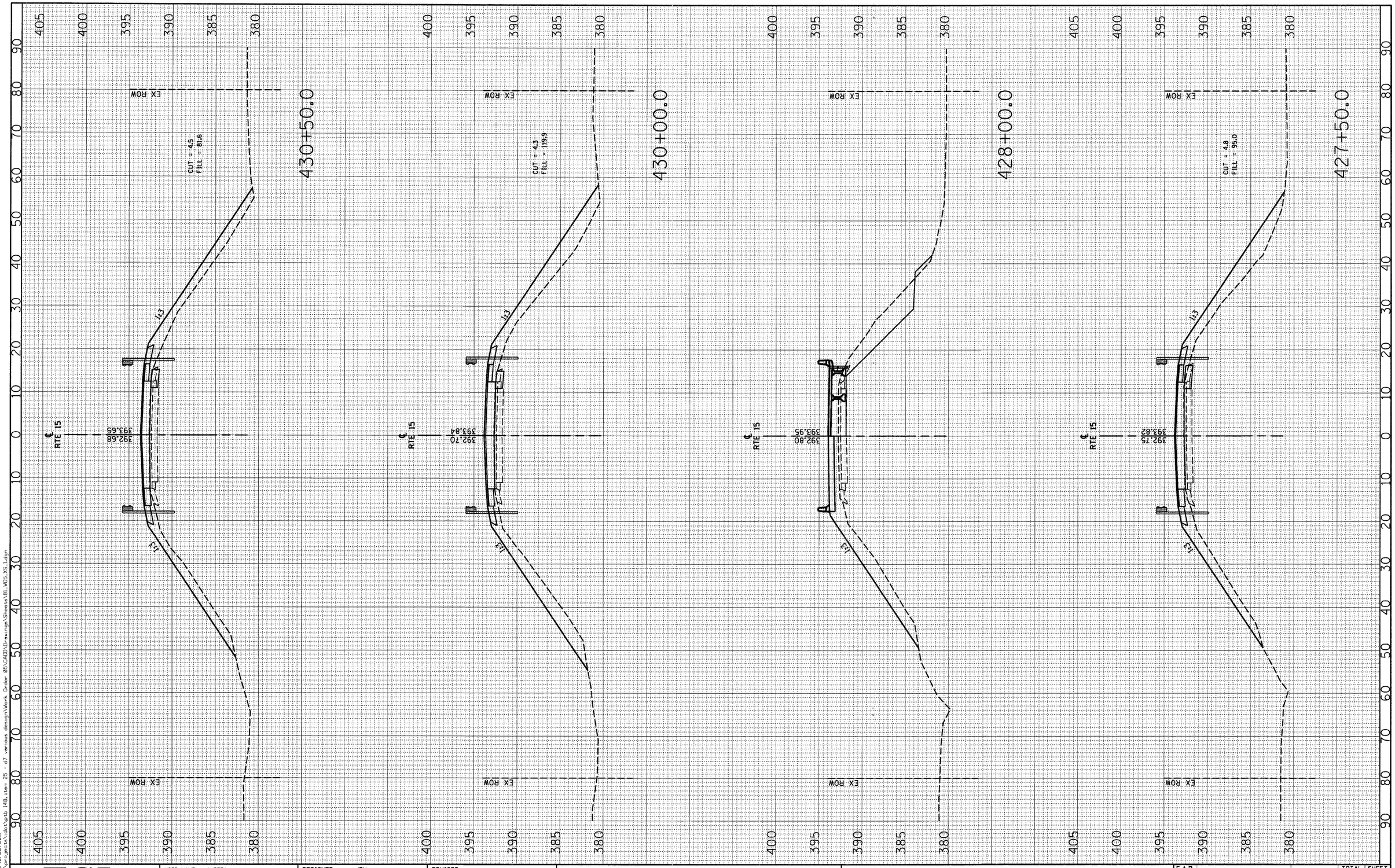
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			



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MAINLINE CROSS SECTIONS

SCALE: 1"H=10' 1"V=5' | 427+50.0 | 430+50.0

F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	83
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

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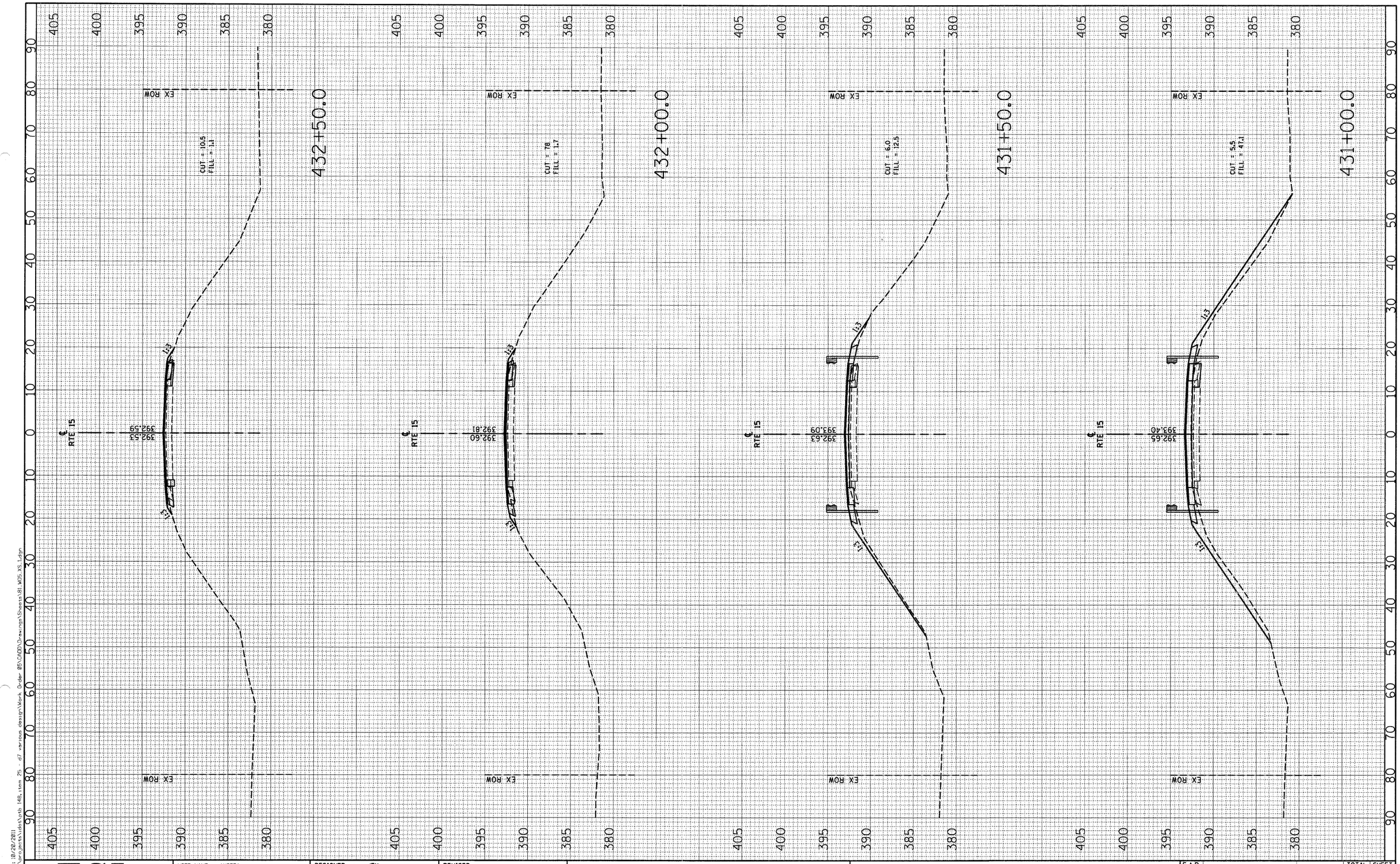

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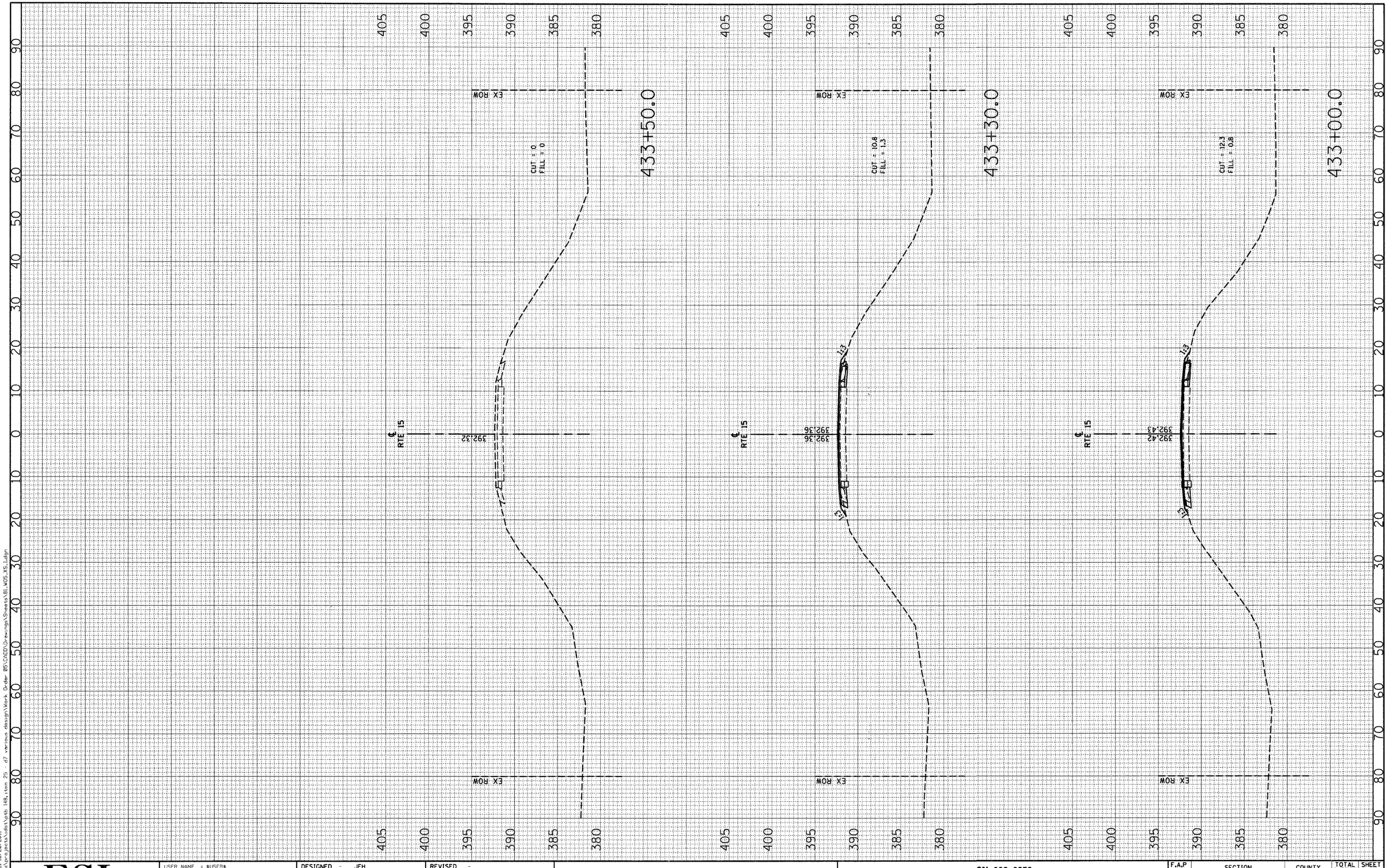
SN: 096-0073
MAINLINE CROSS SECTIONS

SCALE: 1"H=10' 1"V=5' | 431+00.0 | 432+50.0

F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	84
		CONTRACT NO 74216		
		ILLINOIS FEDERAL AID PROJECT		



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SN: 096-0073
MAINLINE CROSS SECTIONS

SCALE: 1"H=10' 1"V=5' | 433+00.0 | 433+50.0

F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
823	(22,B2A)B-1 & (22,B2B)B-1	WAYNE	85	85
		CONTRACT NO 74216		
	ILLINOIS FEDERAL AID PROJECT			

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