

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
• 776 & 782	115BR-1, 110BR-1	••	73	1
•• HAMILTON & WHITE				
P-99-				
D-99-007-08				

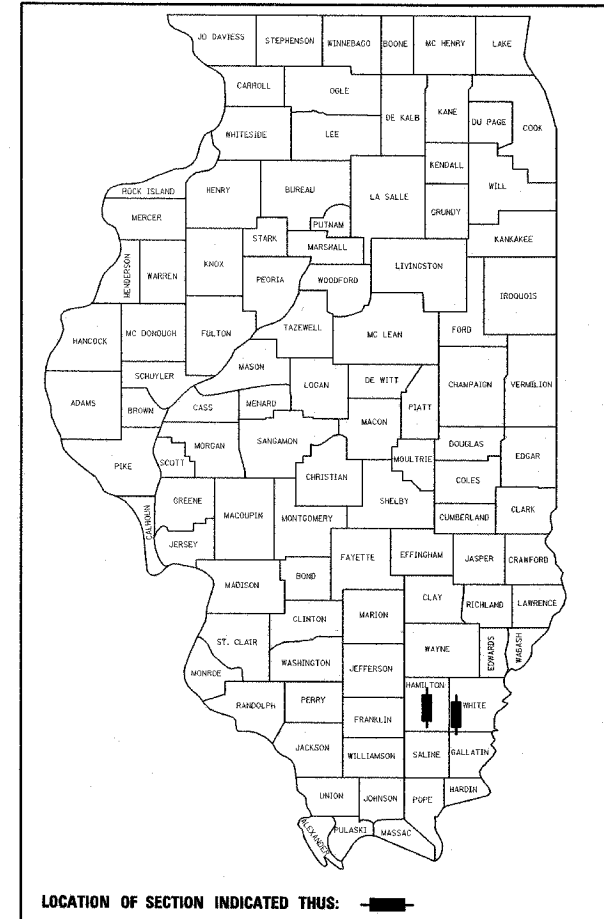
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAP RTE'S 776 & 782 (IL 142 & IL 1)
SECTIONS 115BR-1 & 110BR-1
PROJECT: *BHF-0005(585)*
HAMILTON & WHITE COUNTIES

C - 99 - 007-08

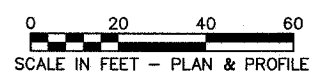
PPC DECK BEAM SUPERSTRUCTURE REPLACEMENTS
OVER BEAR CREEK AND INDIAN CREEK



FUNCTIONAL CLASSIFICATION: MINOR ARTERIAL (RURAL)
DESIGN SPEED: 55 mph
POSTED SPEED: 55 mph
ADT: (IL 142; IL 1) 2500; 2240 (2007)
PV: (IL 142; IL 1) 85%; 83%
SU: (IL 142; IL 1) 8%; 6%
MU: (IL 142; IL 1) 7%; 11%

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57.	STRIP SEAL EXPANSION JOINT
58.	NORTH ABUTMENT
59.	NORTH ABUTMENT DETAILS
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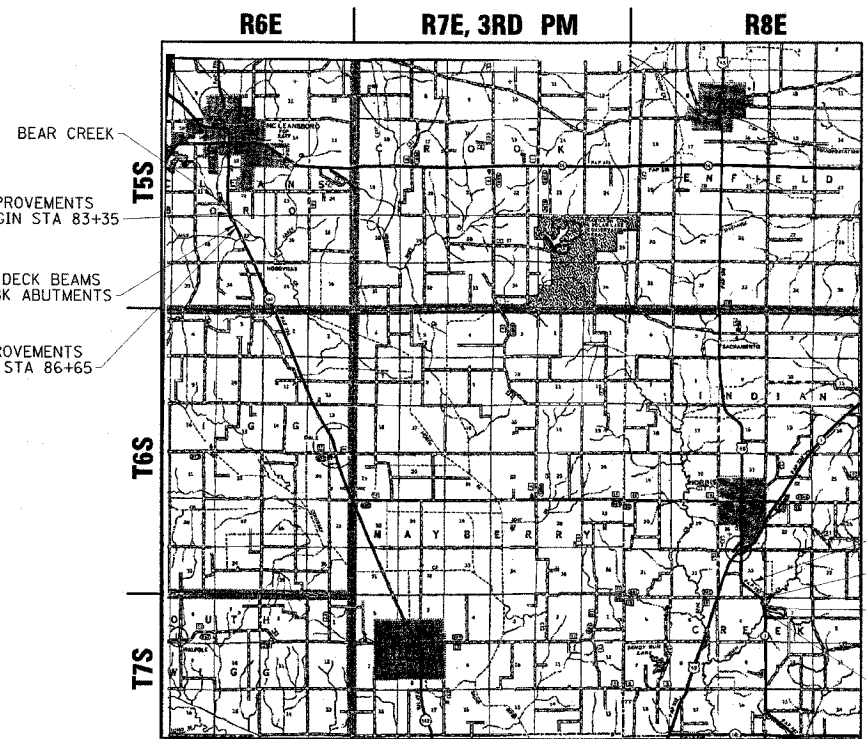


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

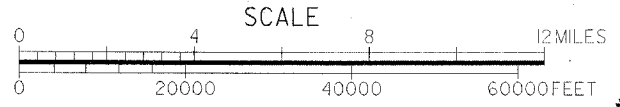
MICROFILMED _____
 REEL NUMBER _____
 AWARDED _____
 RESIDENT ENGINEER _____
 AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS _____

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

DISTRICT 9 NO. (217) 549-2171
 PROJECT ENGINEER: DAVID PICHE
 UNIT CHIEF:
 TOWNSHIP: MCLEANSBORO & INDIAN CREEK
 CONTRACT NO: 78027



LOCATION MAP



115BR-1 110BR-1
 GROSS LENGTH : 330 FT. = 0.063 MI. ; 322.5 FT. = 0.061 MI.
 NET LENGTH : 330 FT. = 0.063 MI. ; 322.5 FT. = 0.061 MI.

**DESIGN DESIGNATION
N.A.**



Richard D. Payne DATE: 02/29/08
 ILLINOIS PROFESSIONAL LICENSE NO. 37421
 (EXPIRATION DATE: 11-30-09)

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED *March 14, 2008*
May 9, 2008
May 9, 2008
May 9, 2008

DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
 INTERIM ENGINEER OF DESIGN AND ENVIRONMENT
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS**

LIST OF ILLINOIS DOT HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-01	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-04	TEMPORARY EROSION CONTROL SYSTEMS
420001-07	PAVEMENT JOINTS
515001-02	NAME PLATE FOR BRIDGES
630001-07	STEEL PLATE BEAM GUARDRAIL
631011-04	TRAFFIC BARRIER TERMINAL, TYPE 2
631032-03	TRAFFIC BARRIER TERMINAL, TYPE 6A
635001	DELINEATORS
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-01	REFLECTOR MARKER AND MOUNTING DETAILS
701001-01	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 4.5 m (15') AWAY
701006-02	OFF-RD OPERATIONS, 2L, 2W, 4.5 m (15') TO 600 mm (24") FROM PAVEMENT EDGE
701011-01	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701201-02	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701301-02	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-02	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701321-09	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-02	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS ≥ 45 MPH
701901	TRAFFIC CONTROL DEVICES
704001-04	TEMPORARY CONCRETE BARRIER
720001	SIGN PANEL MOUNTING DETAILS
720006-01	SIGN PANEL ERECTION DETAILS
720011	METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
729001	APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)
780001-01	TYPICAL PAVEMENT MARKINGS
781001-02	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

GENERAL NOTES

- THE ENGINEER SHALL BE THE SOLE JUDGE CONCERNING CURING TIME FOR THE VARIOUS HMA LIFTS.
- EXCEPT AS NOTED ON THE PLANS, PAVEMENT GRADES SHOWN ARE AT THE TOP OF PAVEMENT SURFACES.
- ALL SAWCUTTING OF EXISTING PAVEMENT SHALL BE CONSIDERED INCLUDED IN THE PAY ITEMS INVOLVED. THE MINIMUM SAW DEPTH IN THE PAVEMENT SHALL BE 1/2" UNLESS OTHERWISE NOTED.
- 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 MONUMENTS UNTIL AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR REESTABLISH ANY SECTION OR SUBSECTION MONUMENTS DESTROYED BY HIS OPERATIONS.
- THE THICKNESS OF HMA MIXTURES SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HMA MIXTURE IS PLACED.
- ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER LISTED ON THE INDEX OF SHEETS OR THE COPY OF THE STANDARD INCLUDED IN THESE PLANS.
- FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:

ALL HOT-MIX ASPHALT	2.016 TONS/CU YD
ALL AGGREGATE	2.05 TONS/CU YD
BITUMINOUS MATERIALS:	
ON PAVEMENT	0.09 GAL/SQ YD
INTERMEDIATE LIFTS (FOG COAT)	0.04 GAL/SQ YD
ON AGGREGATE SURFACE	0.32 GAL/SQ YD
AGGREGATE (PRIME COAT)	0.0015 TONS/SQ YD
- ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY ACCORDING TO ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF PAVEMENT REMOVAL.
- ALL DISTURBED AREAS WITHIN THE CONSTRUCTION LIMITS SHALL BE FERTILIZED AND SEED. SEEDING SHALL BE CLASS 2A ACCORDING TO THE APPLICABLE ARTICLES OF SECTION 250 OF THE STANDARD SPECIFICATIONS. SEEDING SHALL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET, OR IN AN UNTILLABLE CONDITION. LOCATIONS TO BE SEDED WILL BE DETERMINED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. THE JULIE NUMBER IS 800-892-0123. A MINIMUM OF 48 HOURS ADVANCE NOTICE IS REQUIRED.
- EXISTING TRAFFIC BARRIER TERMINALS TO BE REMOVED SHALL BE PAID FOR AS GUARDRAIL REMOVAL.
- FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SANDBAGS PER BARRICADE.
- ALL ELEVATIONS REFERRING TO U.S.G.S. MEAN SEA LEVEL DATUM.
- TREES SHALL BE PRESERVED THROUGHOUT THIS SECTION AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER EXCEPT AS DESCRIBED IN NOTE 19. GENERALLY, TREES OUTSIDE THE CLEAR ZONE, AND WHICH DO NOT INTERFERE WITH CONSTRUCTION, SHALL NOT BE DISTURBED.
- THE QUANTITY OF SHORT TERM PAVEMENT MARKING SHOWN IN THE PLANS IS BASED ON ONE APPLICATION EACH FOR THE INITIAL OPENING OF THE COMPLETED STRUCTURE TO TWO LANE TRAFFIC, THE PRIME COAT, BINDER COURSE, AND THE SURFACE COURSE.
- THE ADVANCE DETECTOR LOOPS ARE TYPICALLY LOCATED 275 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.
- THE CENTERLINE PAVEMENT MARKING SHOULD BE REMOVED FROM THE STOP BAR TO THE SAND ATTENUATORS OR DRUMS. EDGE LINE PAVEMENT MARKING SHOULD BE REMOVED IF A 10 FOOT LANE WIDTH CANNOT BE MAINTAINED. TEMPORARY EDGE LINES SHOULD BE INSTALLED WHEN THE EDGE LINES ARE REMOVED.
- ANY TIME THE CONCRETE BARRIER IS NOT IN THE PROPER POSITION, FLAGGERS SHALL BE IN PLACE TO CONTROL TRAFFIC AND THE TEMPORARY TRAFFIC SIGNALS SHALL BE TURNED OR COVERED.
- ALL OBSTRUCTIONS WHICH ARE WITHIN 30' OF THE CENTERLINE OF THE ROADWAY AND ARE NOT SHIELDED BY THE PROPOSED GUARDRAIL, SHALL BE REMOVED FROM STATION 82+00 TO 88+00 (IL 142) AND STATION 82+00 TO 88+00 (IL 1). TYPICAL OBSTRUCTIONS ARE HEADWALLS, FOUNDATIONS, ETC. WHICH PROJECT 4 IN. OR MORE ABOVE THE GROUNDLINE; AND TREES WHICH WILL MATURE TO A DIAMETER OF 4 IN. OR GREATER.
- ALL CULVERT EXTENSIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH METHOD II AS SPECIFIED IN ARTICLE 542.05 OF THE STANDARD SPECIFICATIONS. PRIOR TO EXTENDING ANY CULVERT, THE ENTIRE LENGTH OF THE EXISTING CULVERT SHALL BE CLEANED OF ALL EARTH AND DEBRIS BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE NEW PIPE CULVERT.
- COMMITMENTS: NONE AS OF MARCH 21, 2008. REFER TO COMMITMENT FILE FOR ANY COMMITMENTS AFTER THIS DATE.

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
• 115BR-1, 110BR-1		••	73	2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
• 776 & 782				
•• HAMILTON & WHITE				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREPARED BY: Joe DePina
DISTRICT STUDIES & PLANS ENGINEER

EXAMINED BY: James E. Emer
DISTRICT LAND ACQUISITION ENGINEER

EXAMINED BY: Carrie Nelson
DISTRICT PROGRAM DEVELOPMENT ENGINEER

EXAMINED BY: Kevin Scammell
DISTRICT OPERATIONS ENGINEER

EXAMINED BY: Joseph Lewis
DISTRICT CONSTRUCTION ENGINEER

EXAMINED BY: Bruce W. Pugh
DISTRICT MATERIALS ENGINEER

EXAMINED BY: Jim Shuster
DISTRICT PROJECT IMPLEMENTATION ENGINEER

EXAMINED BY: Danah D. Carter
ASSISTANT REGIONAL ENGINEER

EXAMINED BY: Mark C. Lammie
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

DATE: March 14 20 08

**GENERAL NOTES
AND STANDARDS**
FAP RTE'S 776 (IL 142) & 782 (IL 1)
SECTIONS 115BR-1 & 110BR-1
HAMILTON & WHITE COUNTIES

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/MTD	01/08
APPROVED BY:	RDP	02/08

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	HBP FUNDING 80% FEDERAL 20% STATE	HAMILTON CO.		WHITE CO.	
				CONSTRUCTION TYPE CODE			
				X080-2A			
		TOTAL	SN 033- 0016	SN 097- 0026			
20200500	EARTH EXCAVATION (WIDENING)	CU YD	100	50	50		
20400800	FURNISHED EXCAVATION	CU YD	20	-	20		
21101505	TOPSOIL EXCAVATION AND PLACEMENT	CU YD	15	-	15		
25000210	SEEDING, CLASS 2A	ACRE	0.2	0.1	0.1		
25000350	SEEDING, CLASS 7	ACRE	0.2	0.1	0.1		
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	18	9	9		
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	18	9	9		
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	18	9	9		
25000700	AGRICULTURAL GROUND LIMESTONE	TON	0.4	0.2	0.2		
25100115	MULCH, METHOD 2	ACRE	0.4	0.2	0.2		
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	40	20	20		
28000300	TEMPORARY DITCH CHECKS	EACH	1	-	1		
28000400	PERIMETER EROSION BARRIER	FOOT	1200	600	600		
35300500	PORTLAND CEMENT CONCRETE BASE COURSE 10"	SQ YD	40	18	22		
35650500	BASE COURSE WIDENING 10"	SQ YD	402	192	210		
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	3.5	-	3.5		
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	192	90	102		
40600300	AGGREGATE (PRIME COAT)	TON	5	2	3		
40600645	LEVELING BINDER (MACHINE METHOD), N90	TON	70	31	39		
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	564	350	214		
40600990	TEMPORARY RAMP	SQ YD	363	183	180		
40603320	HOT-MIX ASPHALT SURFACE COURSE, MIX "C" N90	TON	365	172	193		
44000100	PAVEMENT REMOVAL	SQ YD	40	18	22		
44000196	HOT-MIX ASPHALT SURFACE REMOVAL, SPECIAL	SQ YD	24	12	12		
48203100	HOT-MIX ASPHALT SHOULDERS	TON	65	26	39		
50101700	REMOVAL OF EXISTING SUPERSTRUCTURES NO. 1	EACH	1	1	-		
50101800	REMOVAL OF EXISTING SUPERSTRUCTURES NO. 2	EACH	1	-	1		
50102400	CONCRETE REMOVAL	CU YD	2.7	1.8	0.9		
50300225	CONCRETE STRUCTURES	CU YD	2.7	1.8	0.9		
50300260	BRIDGE DECK GROOVING	SQ YD	564	330	234		
50300300	PROTECTIVE COAT	SQ YD	613	357	256		
50400105	PRECAST CONCRETE BRIDGE SLAB	SQ FT	660	300	360		
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	2563	2563	-		
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1590	-	1590		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	8400	4800	3600		
50800515	BAR SPLICERS	EACH	144	88	56		
50901050	STEEL RAILING, TYPE SM	FOOT	436	241	195		
51500100	NAME PLATES	EACH	2	1	1		
52000110	PREFORMED JOINT STRIP SEAL	FOOT	141	94	47		
542A1060	PIPE CULVERTS, CLASS A, TYPE 2 15"	FOOT	25	-	25		
54213660	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 15"	EACH	1	-	1		
54248510	CONCRETE COLLAR	CU YD	0.3	-	0.3		
58700300	CONCRETE SEALER	SQ FT	162	103	59		

ESCA
CONSULTANTS, INC.

DESIGNED BY: DAJ 09/07
DRAWN BY: HAS 09/07
CHECKED BY: MTD 01/08
APPROVED BY: RDP 02/08

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	HBP FUNDING 80% FEDERAL 20% STATE	HAMILTON CO.		WHITE CO.	
				CONSTRUCTION TYPE CODE			
				X080-2A			
		TOTAL	SN 033- 0016	SN 097- 0026			
59000200	EPOXY CRACK INJECTION	FOOT	153	63	90		
* 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	62.5	50	12.5		
* 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	5	4	1		
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	8	4	4		
* 63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	1	-	1		
63200310	GUARDRAIL REMOVAL	FOOT	689	400	289		
63301000	REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL	FOOT	25	-	25		
63301990	REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	3	2	1		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	3	3		
67100100	MOBILIZATION	L SUM	1	0.5	0.5		
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2	1	1		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	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	20	10	10		
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2	1	1		
70106700	TEMPORARY RUMBLE STRIP	EACH	12	6	6		
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	12	6	6		
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	360	180	180		
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	2985	1360	1625		
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	1115	513	602		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	725	375	350		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	625	375	250		
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	2985	1360	1625		
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	8	4	4		
* 78200520	BARRIER WALL MARKERS, TYPE B	EACH	8	4	4		
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	9	4	5		
78300100	PAVEMENT MARKING REMOVAL	SQ FT	719	305	414		
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	7	3	4		
86200300	UNINTERRUPTIBLE POWER SUPPLY, EXTENDED	EACH	2	1	1		
X0324744	REMOVAL OF EXISTING PRECAST CONCRETE UNITS	SQ FT	660	300	360		
X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	134	54	80		
X5030305	CONCRETE WEARING SURFACE, 5"	SQ YD	613	357	256		
* XX005496	TRAFFIC BARRIER TERMINAL TYPE 6A (SPECIAL)	EACH	2	-	2		
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	66	44	22		
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	2	2		
* Z0030260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1	-	1		
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	2	2		

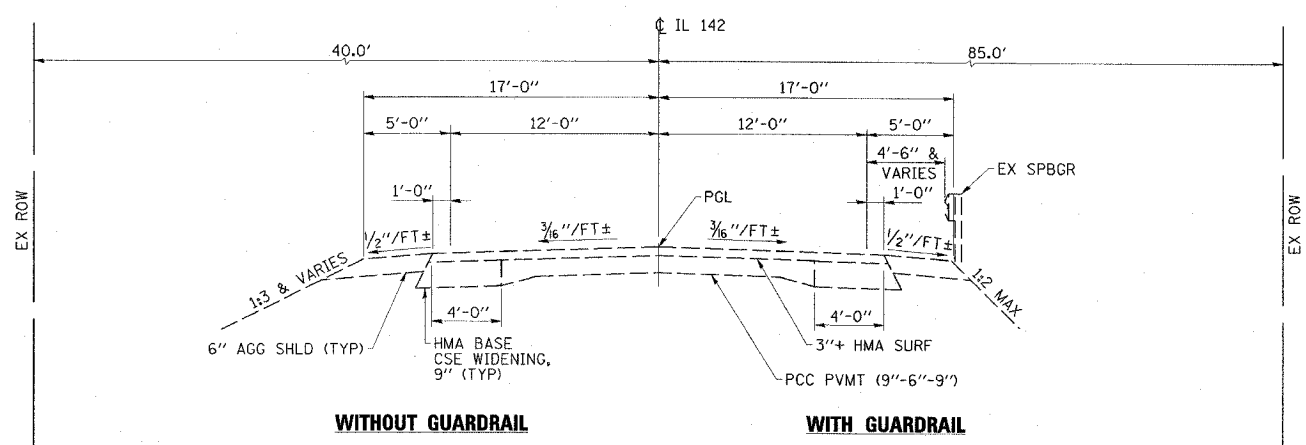
* SPECIALTY ITEM

SUMMARY OF QUANTITIES
FAP RTE'S 776 (IL 142) & 782 (IL 1)
SECTIONS 115BR-1 & 110BR-1
HAMILTON & WHITE COUNTIES

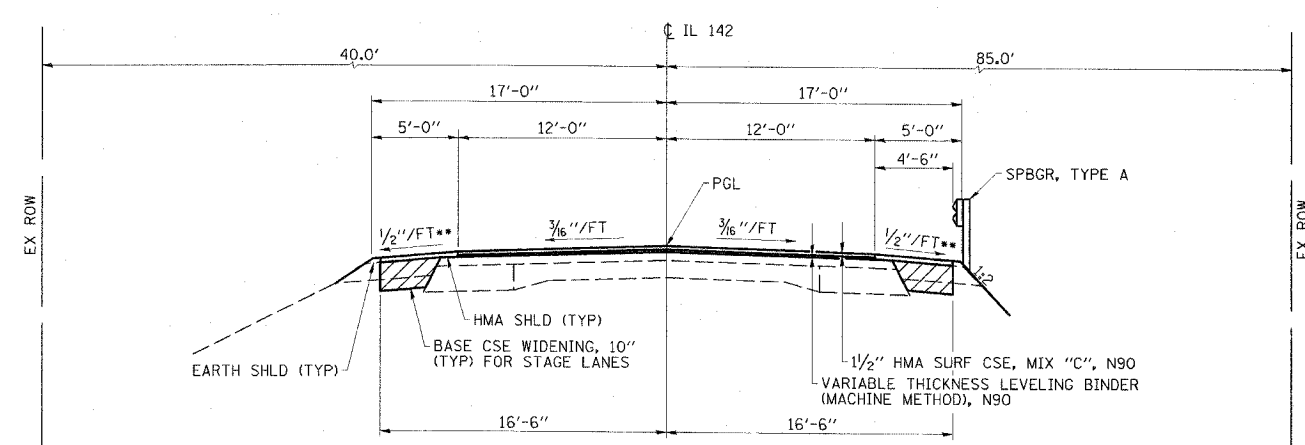
FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
• 115BR-1, 110BR-1	••	••	73	3
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
• 776, 782	•• HAMILTON, WHITE			



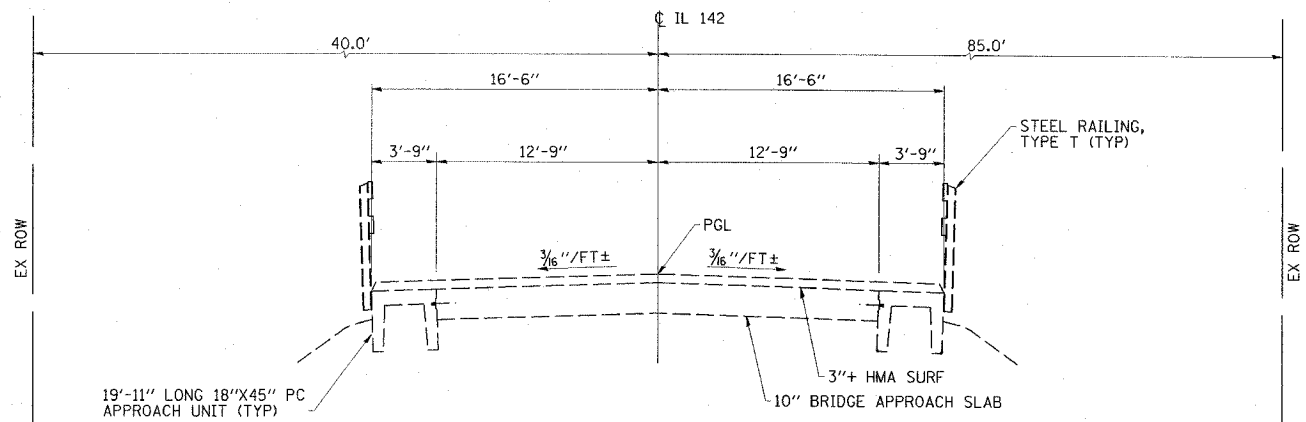
FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	115BR-1	HAMILTON	73	4
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



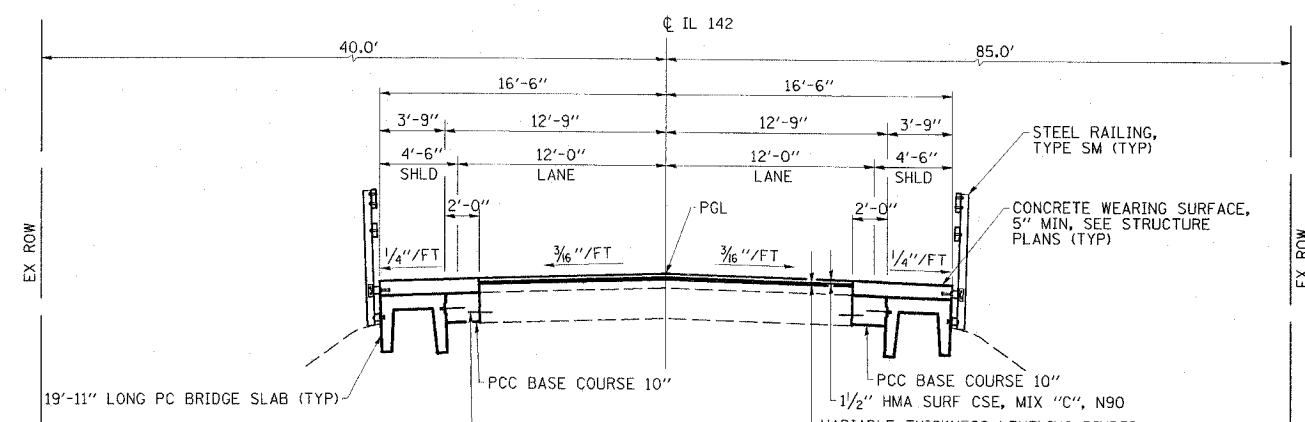
EXISTING TYPICAL ROADWAY SECTION
 WITHOUT GUARDRAIL WITH GUARDRAIL
 STA 82+50.00 TO 84+44.71
 STA 85+65.29 TO 88+50.00



PROPOSED TYPICAL ROADWAY SECTION
 WITHOUT GUARDRAIL WITH GUARDRAIL
 STA 83+35.00 TO 84+44.71
 STA 85+65.29 TO 86+65.00
 ** TRANSITION TO 1/4"/FT NEAR BRIDGE APPROACHES



EXISTING BRIDGE APPROACH SECTION
 STA 84+44.71 TO 85+65.29
 BRIDGE OMISSION STA 84+65.75 TO 85+44.25



PROPOSED BRIDGE APPROACH SECTION
 STA 84+44.71 TO 85+65.29
 BRIDGE OMISSION STA 84+65.75 TO 85+44.25

HMA MIXTURES REQUIREMENTS

LOCATION(S):	HOT MIX ASPHALT SURFACE COURSE AND LEVELING BINDER	BASE COURSE WIDENING	HOT MIX ASPHALT SHOULDERS
MIXTURE USE(S):	HOT MIX ASPHALT SURFACE COURSE, MIX C, N90	HOT MIX ASPHALT BINDER COURSE, N90, IL-19.0	HOT MIX ASPHALT SHOULDERS
AC/PG:	PG64-22	PG64-22	PG58-22
RAP % (MAX): ***	10	10	50
DESIGN AIR VOIDS:	4.0%, 90 GYRATION DESIGN	4.0%, 90 GYRATION DESIGN	2.0%, 30 GYRATION DESIGN
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL-9.5 OR IL 12.5	IL-19.0	HMA SHOULDERS
FRICTION AGGREGATE:	C SURFACE	NONE	NONE

*** IF RAP OPTION IS SELECTED, THE ASPHALT CEMENT GRADE MAY NEED TO BE ADJUSTED. THIS WILL BE DETERMINED BY THE ENGINEER.

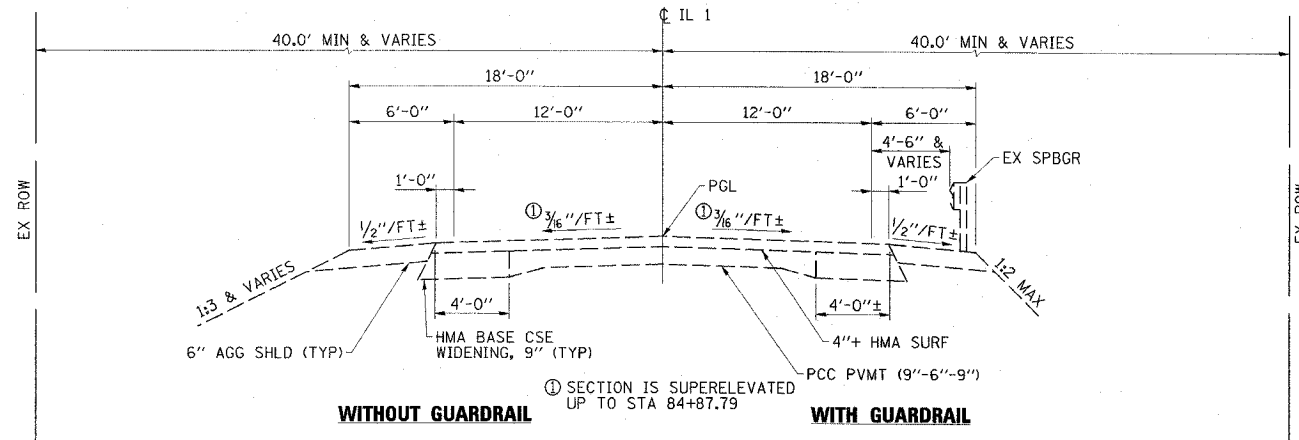
ESCA
 CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	MTD	01/08
APPROVED BY:	RDP	01/08

TYPICAL SECTIONS
 FAP RTE 776 (IL 142)
 SECTION 115BR-1
 HAMILTON COUNTY

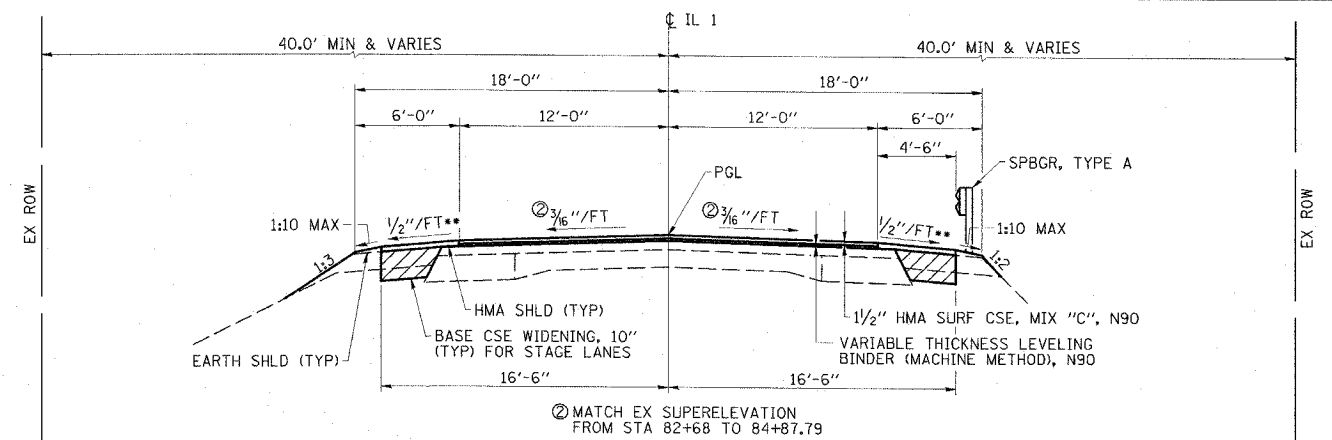


CONTRACT NO. 78027				
FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
782	110BR-1	WHITE	73	5
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



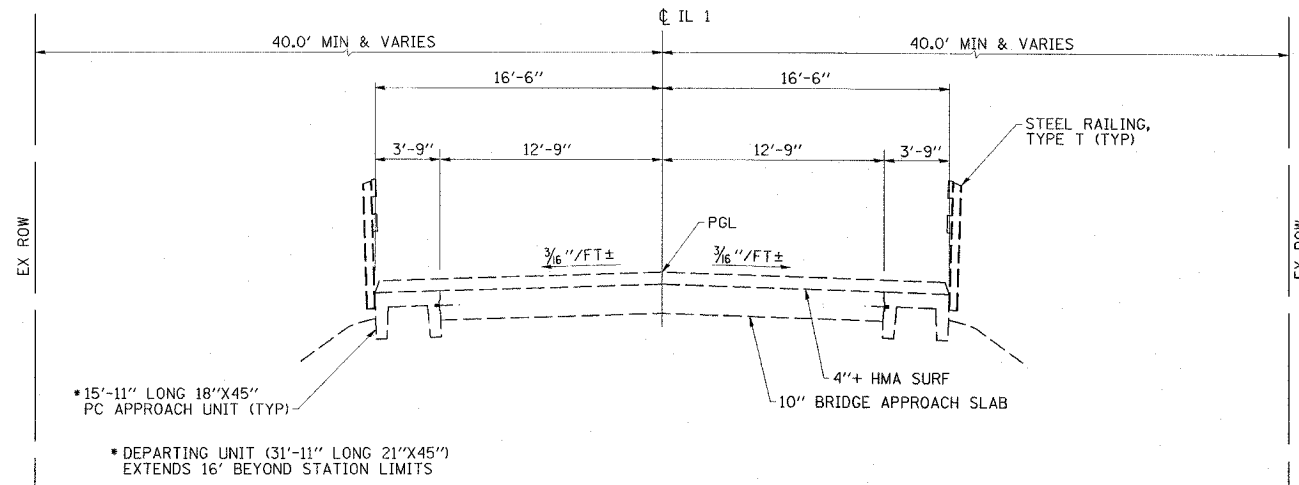
EXISTING TYPICAL ROADWAY SECTION

STA 82+00 TO 84+87.79
STA 85+69.22 TO 88+50



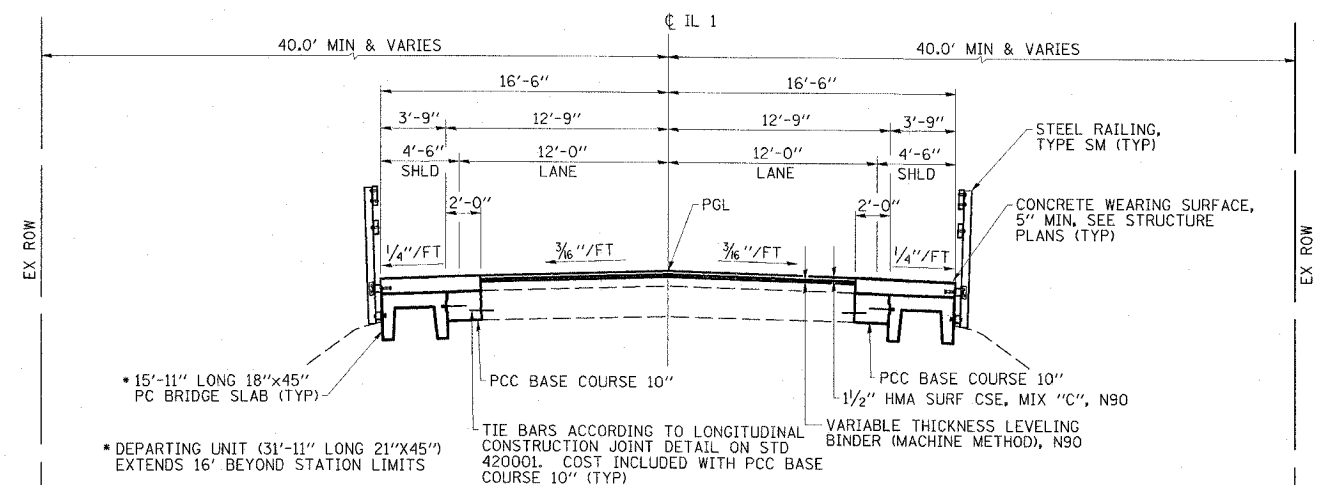
PROPOSED TYPICAL ROADWAY SECTION

STA 82+68 TO 84+87.79
STA 85+69.22 TO 86+60



EXISTING BRIDGE APPROACH SECTION

STA 84+87.79 TO 85+69.22
BRIDGE OMISSION STA 85+03.38 TO 85+52.63



PROPOSED BRIDGE APPROACH SECTION

STA 84+87.79 TO 85+69.22
BRIDGE OMISSION STA 85+03.38 TO 85+52.63

HMA MIXTURES REQUIREMENTS

LOCATION(S):	HOT MIX ASPHALT SURFACE COURSE AND LEVELING BINDER	BASE COURSE WIDENING	HOT MIX ASPHALT SHOULDERS
MIXTURE USE(S):	HOT MIX ASPHALT SURFACE COURSE, MIX C, N90	HOT MIX ASPHALT BINDER COURSE, N90, IL-19.0	HOT MIX ASPHALT SHOULDERS
AC/PG:	PG64-22	PG64-22	PG58-22
RAP % (MAX): ***	10	10	50
DESIGN AIR VOIDS:	4.0%, 90 GYRATION DESIGN	4.0%, 90 GYRATION DESIGN	2.0%, 30 GYRATION DESIGN
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL-9.5 OR IL 12.5	IL-19.0	HMA SHOULDERS
FRICTION AGGREGATE:	C SURFACE	NONE	NONE

*** IF RAP OPTION IS SELECTED, THE ASPHALT CEMENT GRADE MAY NEED TO BE ADJUSTED. THIS WILL BE DETERMINED BY THE ENGINEER.

ESCA
CONSULTANTS, INC.

DESIGNED BY: DAJ 10/07
DRAWN BY: HAS 10/07
CHECKED BY: MTD 01/08
APPROVED BY: RDP 01/08

PLOT DATE = #DATE#
PLOT SCALE = #SCALE#
REFERENCE = #REF#

TYPICAL SECTIONS
FAP RTE 782 (IL 1)
SECTION 110BR-1
WHITE COUNTY

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	115BR-1	HAMILTON	73	6
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

LOCATION	SUITABLE EARTH EXCAVATION (WIDENING)	SUITABLE EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	SUITABLE INCIDENTAL EXCAVATION MATERIAL	SUITABLE INCIDENTAL EXC. MATERIAL ADJUSTED FOR SHRINKAGE	EMBANKMENT (NOT A PAY ITEM)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD
NE QUADRANT CUTS & FILLS	15	11.25			5.25	+6
NW QUADRANT CUTS & FILLS	10	7.5			3.5	+4
SE QUADRANT CUTS & FILLS	10	7.5			3.5	+4
SW QUADRANT CUTS & FILLS	15	11.25			5.25	+6
TOTALS	50	37.5	-	-	17.5	+20

NOTES:
1. EXCAVATION USED AS EMBANKMENT = (SUITABLE EARTH EXCAVATION + SUITABLE INCIDENTAL EXCAVATION) * 0.75

LOCATION	PERIMETER EROSION BARRIER	TEMPORARY EROSION CONTROL SEEDING (2 APPLICATIONS)
	FOOT	POUND
NE QUADRANT	170	5
NW QUADRANT	130	5
SE QUADRANT	130	5
SW QUADRANT	170	5
TOTALS	600	20

LOCATION	SEEDING, CLASS 2A	SEEDING, CLASS 7	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	AGRICULTURAL GROUND LIMESTONE	MULCH, METHOD 2
	ACRE	ACRE	POUND	POUND	POUND	TON	ACRE
NE QUADRANT	0.025	0.025	2.25	2.25	2.25	0.05	0.05
NW QUADRANT	0.025	0.025	2.25	2.25	2.25	0.05	0.05
SE QUADRANT	0.025	0.025	2.25	2.25	2.25	0.05	0.05
SW QUADRANT	0.025	0.025	2.25	2.25	2.25	0.05	0.05
TOTALS	0.10	0.10	9.0	9.0	9.0	0.20	0.20

LOCATION	PAVEMENT REMOVAL
	SQ YD
NE QUADRANT	4.5
NW QUADRANT	4.5
SE QUADRANT	4.5
SW QUADRANT	4.5
TOTAL	18

LOCATION	DESCRIPTION	SHORT-TERM PAVEMENT MARKING	PAINT PAVEMENT MARKING - LINE	TEMP PAVEMENT MARKING - LINE
		FOOT	FOOT	FOOT
STA 81+57.5 TO 88+52.5, CENTERLINE	SKIP-DASH YELLOW CENTERLINE	180	180	180
STA 83+22.5 TO 86+87.5, LT	SOLID WHITE EDGE LINE		365	365
STA 83+22.5 TO 86+87.5, RT	SOLID WHITE EDGE LINE		365	365
STA 81+57.5 TO 86+05	SOLID YELLOW NO-PASS LINE		450	450
TOTALS		180	1360	1360

① INCLUDES 3 ADDITIONAL APPLICATIONS FROM STA 83+35 TO 86+65

LOCATION	RRPM REMOVAL
	EACH
83+82	1
84+60	1
86+20	1
TOTAL	3

LOCATION	PAVEMENT MARKING DESCRIPTION	WORK ZONE PAVEMENT MARKING REMOVAL	PAVEMENT MARKING REMOVAL
		SQ FT	SQ FT
CENTERLINE	SHORT-TERM	60	44
EDGE LINES	TEMPORARY	243	
CENTERLINE	TEMPORARY	60	
STA 83+37.5 TO 86+72.5, LT	EDGE LINE		112
STA 83+37.5 TO 84+10, RT	EDGE LINE		25
STA 85+75 TO 86+72.5, RT	EDGE LINE		33
STA 81+57.5 TO 86+05	NO-PASS LINE	150	91
TOTALS		513	305

LOCATION	PCC BASE COURSE, 10" WIDENING, 10"	BASE COURSE
	SQ YD	SQ YD
NE QUADRANT	4.5	54
NW QUADRANT	4.5	42
SE QUADRANT	4.5	42
SW QUADRANT	4.5	54
TOTALS	18	192

LOCATION	BUTT JOINT	SPECIAL
	SQ YD	SQ YD
STA 83+35	240	
STA 86+65	110	
NORTH ABUTMENT		6
SOUTH ABUTMENT		6
TOTALS	350	12

LOCATION	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	SPBGR, TYPE A	TRAFFIC BARRIER TERMINAL, TYPE 6A	GUARDRAIL MARKERS, TYPE A	BARRIER WALL MARKERS, TYPE B	TERMINAL MARKER-DIRECT APPLIED	STEEL RAILING, TYPE SM	REMOVE AND RE-ERECT TBT TYPE 1
	EACH	FOOT	EACH	EACH	EACH	EACH	FOOT	EACH
STRUCTURE NO. 033-0016 - NE	1	12.5	1	1	1	1		1
STRUCTURE NO. 033-0016 - NW	1	12.5	1	1	1	1		1
STRUCTURE NO. 033-0016 - SE	1	12.5	1	1	1	1		1
STRUCTURE NO. 033-0016 - SW	1	12.5	1	1	1	1		1
STRUCTURE NO. 033-0016 - BRIDGE					4		241	
TOTALS	4	50.0	4	4	4	4	241	2

LOCATION	FOOT
STRUCTURE NO. 033-0016 - NE	100
STRUCTURE NO. 033-0016 - NW	100
STRUCTURE NO. 033-0016 - SE	100
STRUCTURE NO. 033-0016 - SW	100
TOTAL	400

LOCATION	BITUMINOUS MATERIALS (PRIME COAT)	AGGREGATE (PRIME COAT)	HMA SURFACE COURSE, MIX "C", N90	LEVELING BINDER (MACHINE METHOD), N90	HMA SHOULDERS
	GALLON	TON	TON	TON	TON
NORTH APPROACH	46	1	89.5	12	12
SOUTH APPROACH	44	1	82.5	19	14
TOTALS	90	2	172.0	31	26

SCHEDULES OF QUANTITIES
FAP RTE 776 (IL 142)
SECTION 115BR-1
HAMILTON COUNTY

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	MTD	01/08
APPROVED BY:	RDP	02/08

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
782	110BR-1	WHITE	73	7
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

LOCATION	SUITABLE EARTH EXCAVATION (WIDENING)	SUITABLE EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	SUITABLE INCIDENTAL EXCAVATION MATERIAL	SUITABLE INCIDENTAL EXC. MATERIAL ADJUSTED FOR SHRINKAGE	EMBANKMENT (NOT A PAY ITEM)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD
NE QUADRANT CUTS & FILLS	10	7.5			3.5	+4
NW QUADRANT CUTS & FILLS	15	11.25			45.25	-34
SE QUADRANT CUTS & FILLS	15	11.25			5.25	+6
SW QUADRANT CUTS & FILLS	10	7.5			3.5	+4
TOTALS	50	37.5	-	-	17.5	-20

NOTES:

1. EXCAVATION USED AS EMBANKMENT = (SUITABLE EARTH EXCAVATION + SUITABLE INCIDENTAL EXCAVATION)*0.75

LOCATION	PERIMETER EROSION BARRIER	TEMPORARY DITCH CHECKS	TEMPORARY EROSION CONTROL SEEDING (2 APPLICATIONS)
	FOOT	EACH	POUND
NE QUADRANT	150		600
NW QUADRANT	170	1	680
SE QUADRANT	165		660
SW QUADRANT	115		460
TOTALS	600	1	20

LOCATION	SEEDING, CLASS 2A	SEEDING, CLASS 7	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	AGRICULTURAL GROUND LIMESTONE	MULCH, METHOD 2
	ACRE	ACRE	POUND	POUND	POUND	TON	ACRE
NE QUADRANT	0.025	0.025	2.25	2.25	2.25	0.05	0.05
NW QUADRANT	0.025	0.025	2.25	2.25	2.25	0.05	0.05
SE QUADRANT	0.025	0.025	2.25	2.25	2.25	0.05	0.05
SW QUADRANT	0.025	0.025	2.25	2.25	2.25	0.05	0.05
TOTALS	0.10	0.10	9.0	9.0	9.0	0.20	0.20

LOCATION	TON
NW QUADRANT FE	3.5
TOTAL	3.5

LOCATION	PAVEMENT REMOVAL
	SQ YD
NE QUADRANT	7.3
NW QUADRANT	3.7
SE QUADRANT	3.7
SW QUADRANT	7.3
TOTAL	22.0

LOCATION	DESCRIPTION	SHORT-TERM PAVEMENT MARKING	PAINT PAVEMENT MARKING - LINE	TEMP PAVEMENT MARKING - LINE
		FOOT	FOOT	FOOT
STA 81+11 TO 88+75.5, CENTERLINE	SKIP-DASH YELLOW CENTERLINE	180		
STA 82+68 TO 87+10.5, LT	SOLID WHITE EDGE LINE		375	375
STA 82+68 TO 87+10.5, RT	SOLID WHITE EDGE LINE		375	375
STA 81+11 TO 88+75.5, CENTERLINE	SOLID YELLOW NO-PASS LINE		695	695
TOTALS		180	1625	1625

① INCLUDES 3 ADDITIONAL APPLICATIONS FROM STA 82+68 TO 86+60

LOCATION	RRPM REMOVAL
	EACH
STA 83+28	1
STA 84+84	1
STA 85+65	1
STA 86+35	1
TOTAL	4

LOCATION	PAVEMENT MARKING DESCRIPTION	WORK ZONE PAVEMENT MARKING REMOVAL	PAVEMENT MARKING REMOVAL
		SQ FT	SQ FT
CENTERLINE	SHORT-TERM	60	46
EDGELINES	TEMPORARY	250	
CENTERLINE	TEMPORARY	60	
STA 82+83 TO 87+03.5, RT	EDGELINE		117
STA 82+83 TO 83+70, LT	EDGELINE		29
STA 85+85 TO 87+03.5, LT	EDGELINE		40
STA 81+11 TO 88+75.5	NO-PASS LINE	232	182
TOTALS		602	414

LOCATION	PCC BASE COURSE, 10"	BASE COURSE WIDENING, 10"
	SQ YD	SQ YD
NE QUADRANT	7.3	45
NW QUADRANT	3.7	61
SE QUADRANT	3.7	60
SW QUADRANT	7.3	44
TOTALS	22.0	210

LOCATION	BUTT JOINT	SPECIAL
	SQ YD	SQ YD
STA 82+68	104	
STA 86+60	110	
NORTH ABUTMENT		5
SOUTH ABUTMENT		7
TOTALS	214	12

LOCATION	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL)		SPBGR, TYPE A	TRAFFIC BARRIER TERMINAL, TYPE 6A		GUARDRAIL MARKERS, TYPE A	BARRIER WALL MARKERS, TYPE B	TERMINAL MARKER-DIRECT APPLIED	STEEL RAILING, TYPE SM	REMOVE AND RE-ERECT	
	TANGENT	FLARED		STD	SPL					SPBGR	TBT TYPE 1
	EACH	EACH	FOOT	EACH	EACH	EACH	EACH	FOOT	FOOT	EACH	
STRUCTURE NO. 097-0026 - NE	1		12.5	1				1			
STRUCTURE NO. 097-0026 - NW		1		1				1			
STRUCTURE NO. 097-0026 - SE	2				1			2		25	1
STRUCTURE NO. 097-0026 - SW	1				1			1			
STRUCTURE NO. 097-0026 - BRIDGE						4			195		
TOTALS	4	1	12.5	1	2	4	4	5	195	25	1

LOCATION	FOOT
STRUCTURE NO. 097-0026 - NE	100
STRUCTURE NO. 097-0026 - NW	75
STRUCTURE NO. 097-0026 - SE	40
STRUCTURE NO. 097-0026 - SW	74
TOTAL	289

LOCATION	BITUMINOUS MATERIALS (PRIME COAT)	AGGREGATE (PRIME COAT)	HMA SURFACE COURSE, MIX "C", N90	LEVELING BINDER (MACHINE METHOD), N90	HMA SHOULDERS
	GALLON	TON	TON	TON	TON
NORTH APPROACH		1.5	121	27	22
SOUTH APPROACH	41	1.5	72	12	17
TOTALS	102	3.0	193	39	39

SCHEDULES OF QUANTITIES
 FAP RTE 782 (IL 1)
 SECTION 110BR-1
 WHITE COUNTY

ESCA
 CONSULTANTS, INC.

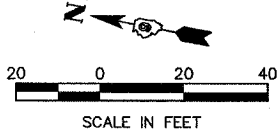
DESIGNED BY: DAJ 09/07
 DRAWN BY: HAS 09/07
 CHECKED BY: MTD 01/08
 APPROVED BY: RDP 02/08



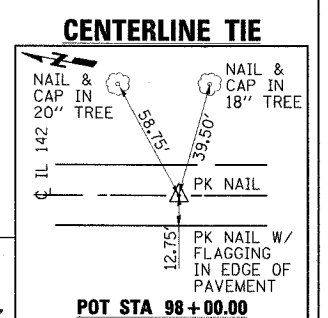
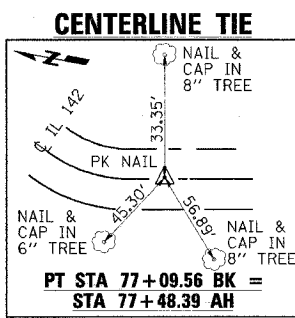
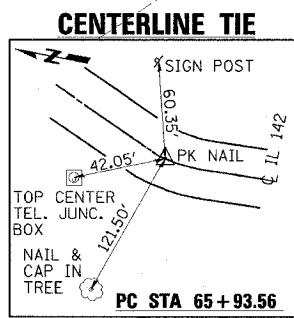
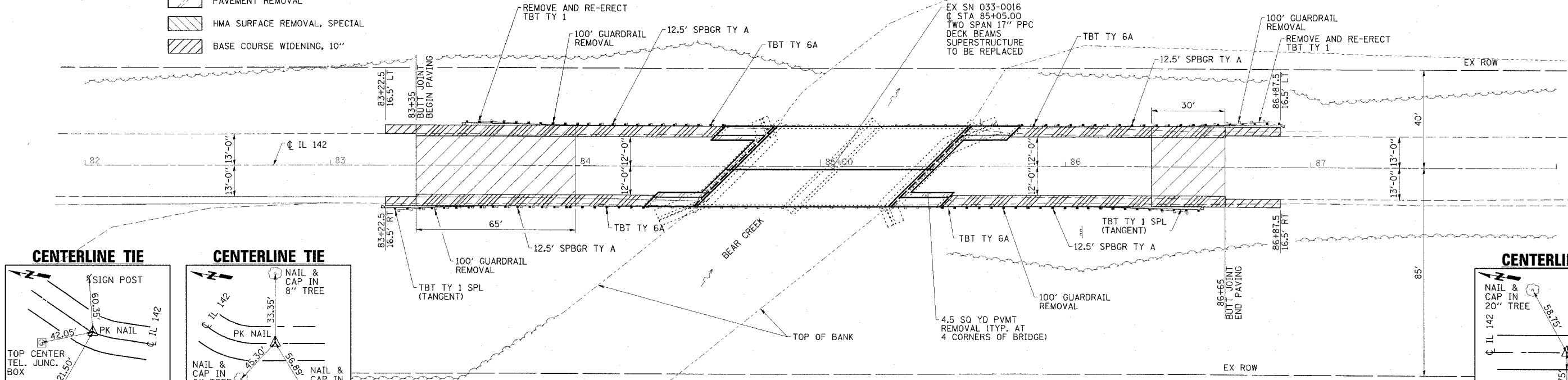
SEC. 27, T5S, R6E, 3RD P.M.

CONTRACT NO. 78027

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	15BR-1	HAMILTON	73	8
STA. 82+00		TO STA. 88+00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



- LEGEND**
- HMA SHOULDER
 - HMA SURF REMOVAL - BUTT JOINT
 - PAVEMENT REMOVAL
 - HMA SURFACE REMOVAL, SPECIAL
 - BASE COURSE WIDENING, 10'



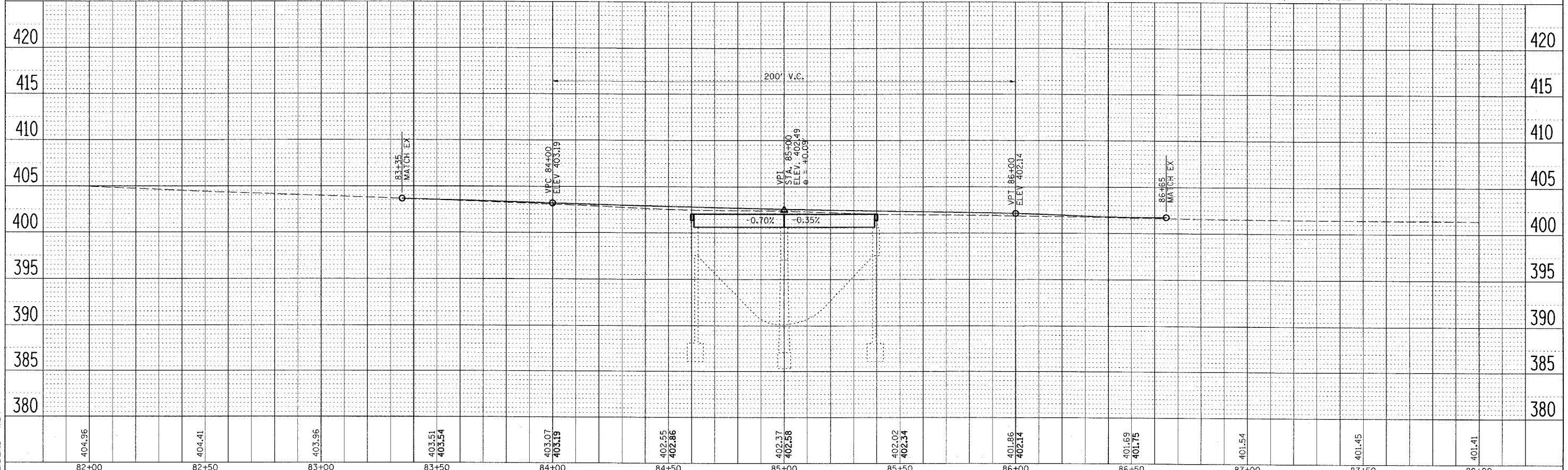
BENCHMARK
CHISELED SQUARE ON TOP OF NORTHEAST WINGWALL, SN 033-0016, STA 84+82.78, 18.7' LT, ELEV 400.43

SEC. 27, T5S, R6E, 3RD P.M.

PROFILE

DATE	BY

STRUCTURE NOTATIONS CHRD



PLT DATE = #0015
FILE NAME = #FILE15
PLT SCALE = #SCALE
REFERENCE = #REF



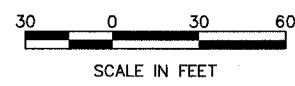
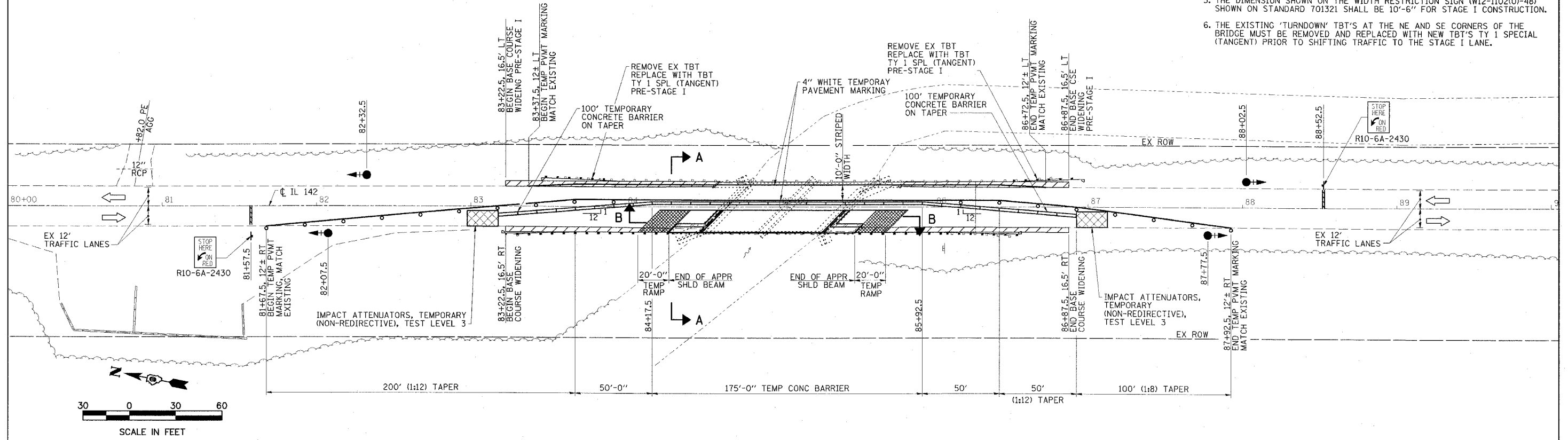
FAP RTE	SECTION	COUNTY	TOTAL SHEET SHEETS	NO.
776	115BR-1	HAMILTON	73	10
STA. 80+00		TO STA. 90+00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SCHEDULE OF QUANTITIES

TEMPORARY CONCRETE BARRIER	STATION TO	STATION	FEET
	83+18	86+92	375
		TOTAL	375
TEMPORARY BRIDGE TRAFFIC SIGNALS			- 1 EACH
TEMPORARY RUMBLE STRIPS			- 6 EACH
IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3			- 2 EACH

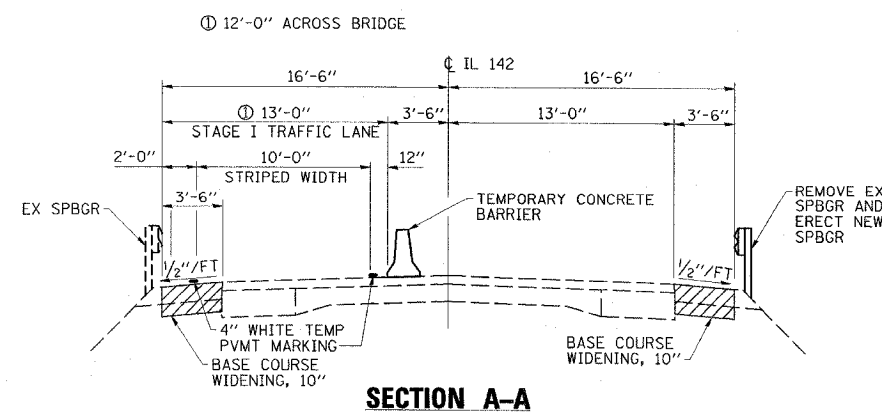
GENERAL NOTES

1. TRAFFIC CONTROL SHALL BE ERECTED AS SHOWN AND ACCORDING TO "TRAFFIC CONTROL AND PROTECTION, STANDARD 701321."
2. SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.
3. COORDINATE LOCATION OF SIGNALS WITH FINAL WORK AS DIRECTED BY THE ENGINEER.
4. CONSTRUCT TEMPORARY RUMBLE STRIPS AT LOCATIONS SHOWN ON STANDARD 701321.
5. THE DIMENSION SHOWN ON THE WIDTH RESTRICTION SIGN (W12-1102(0)-48) SHOWN ON STANDARD 701321 SHALL BE 10'-6" FOR STAGE I CONSTRUCTION.
6. THE EXISTING 'TURNDOWN' TBT'S AT THE NE AND SE CORNERS OF THE BRIDGE MUST BE REMOVED AND REPLACED WITH NEW TBT'S TY 1 SPECIAL (TANGENT) PRIOR TO SHIFTING TRAFFIC TO THE STAGE I LANE.

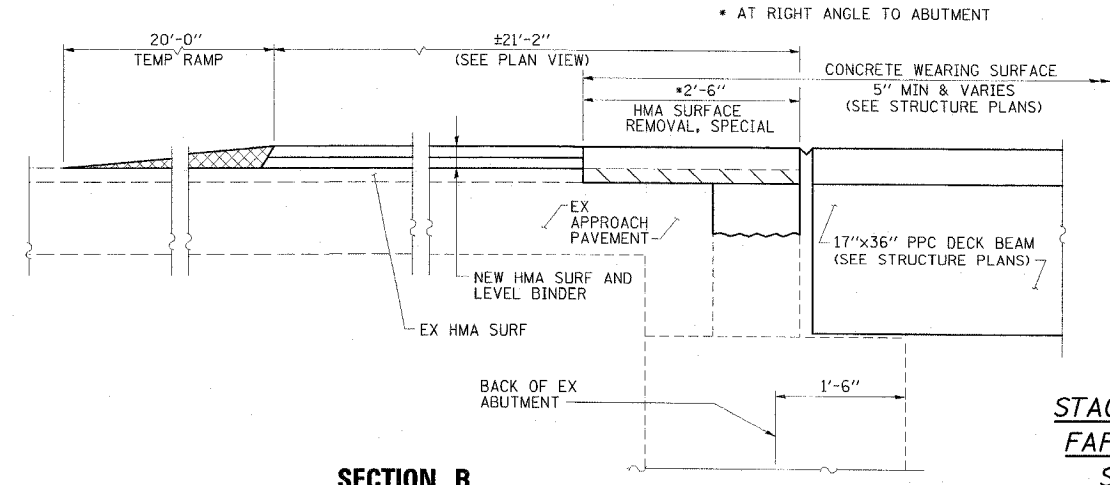


LEGEND

- TRAFFIC SIGNAL WITH BACKPLATE, SIGNAL DIRECTION INDICATED
- ▨ BASE COURSE WIDENING, 10"
- ▨ TEMPORARY RAMP
- ▨ PAVEMENT REMOVAL
- ▨ HMA SURFACE REMOVAL, SPECIAL



SECTION A-A



SECTION B

STAGE I CONSTRUCTION
FAP RTE 776 (IL 142)
SECTION 115BR-1
HAMILTON COUNTY

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	10/07
DRAWN BY:	HAS	10/07
CHECKED BY:	JMS/MTD	02/08
APPROVED BY:	RDP	02/08



SCHEDULE OF QUANTITIES

RELOCATE TEMPORARY CONCRETE BARRIER		
STATION TO	STATION	FEET
83+18	86+92	375
		TOTAL - 375

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

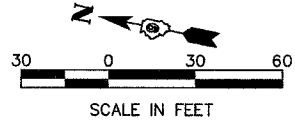
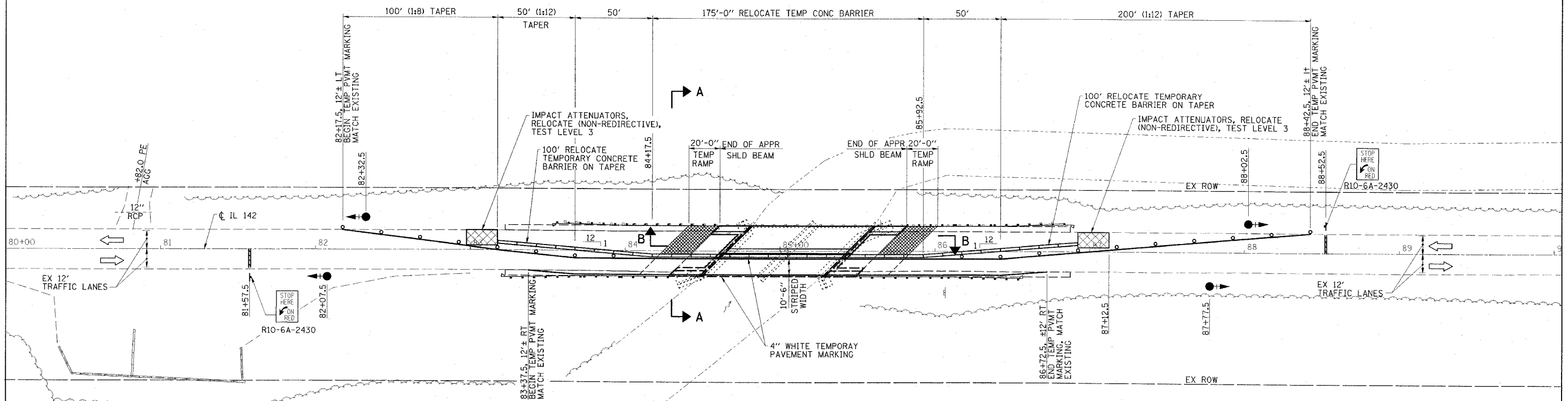
CONTRACT NO. 78027

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	115BR-1	HAMILTON	73	11

STA. 80+00 TO STA. 90+00
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

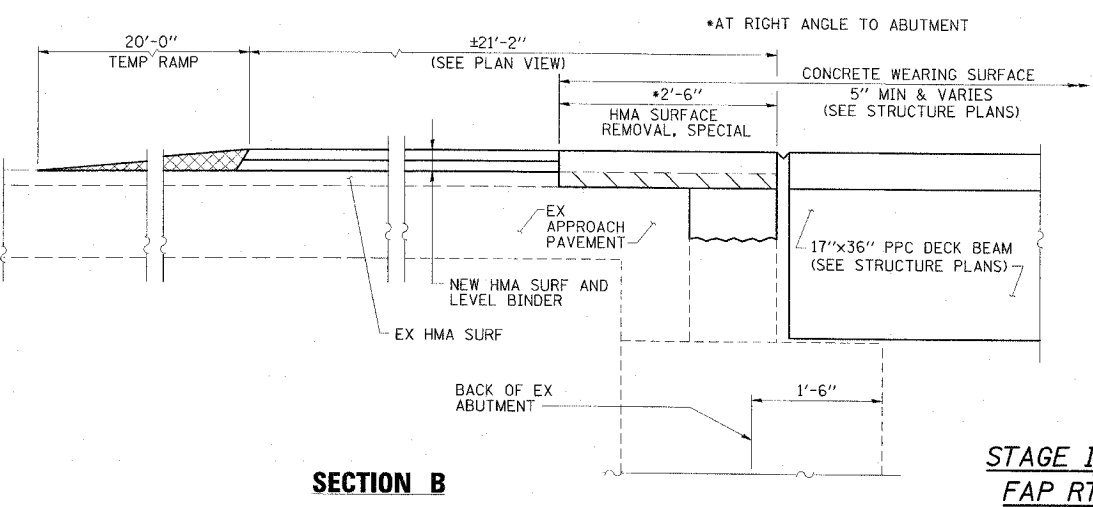
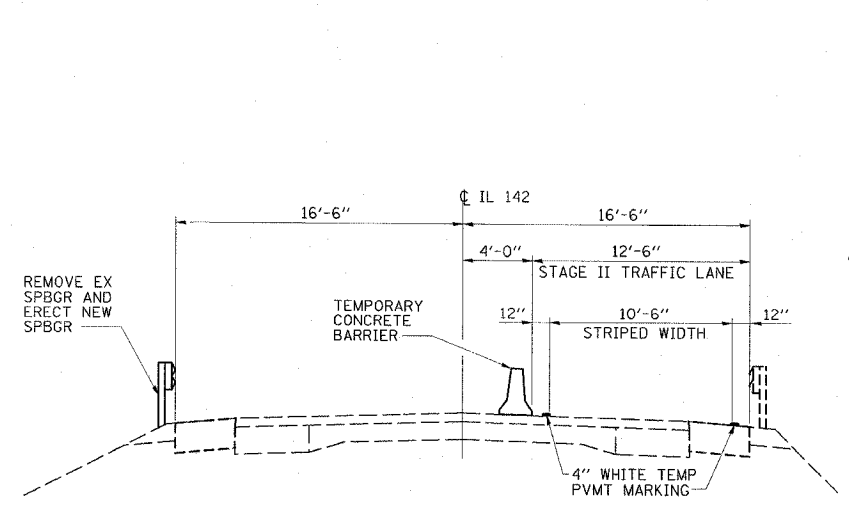
GENERAL NOTES

1. TRAFFIC CONTROL SHALL BE ERECTED AS SHOWN AND ACCORDING TO "TRAFFIC CONTROL AND PROTECTION, STANDARD 701321."
2. SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.
3. COORDINATE LOCATION OF SIGNALS WITH FINAL WORK AS DIRECTED BY THE ENGINEER.
4. CONSTRUCT TEMPORARY RUMBLE STRIPS AT LOCATIONS SHOWN ON STANDARD 701321.
5. THE DIMENSION SHOWN ON THE WIDTH RESTRICTION SIGN (W12-1102(O)-48) SHOWN ON STANDARD 701321 SHALL BE 11'-0" FOR STAGE II CONSTRUCTION.



LEGEND

- TRAFFIC SIGNAL WITH BACKPLATE, SIGNAL DIRECTION INDICATED
- ▨ TEMPORARY RAMP
- ▨ PAVEMENT REMOVAL
- ▨ HMA SURFACE REMOVAL, SPECIAL



ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	10/07
DRAWN BY:	HAS	10/07
CHECKED BY:	JMS/MTD	02/08
APPROVED BY:	RDP	02/08

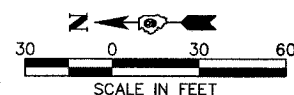
STAGE II CONSTRUCTION
FAP RTE 776 (IL 142)
SECTION 115BR-1
HAMILTON COUNTY



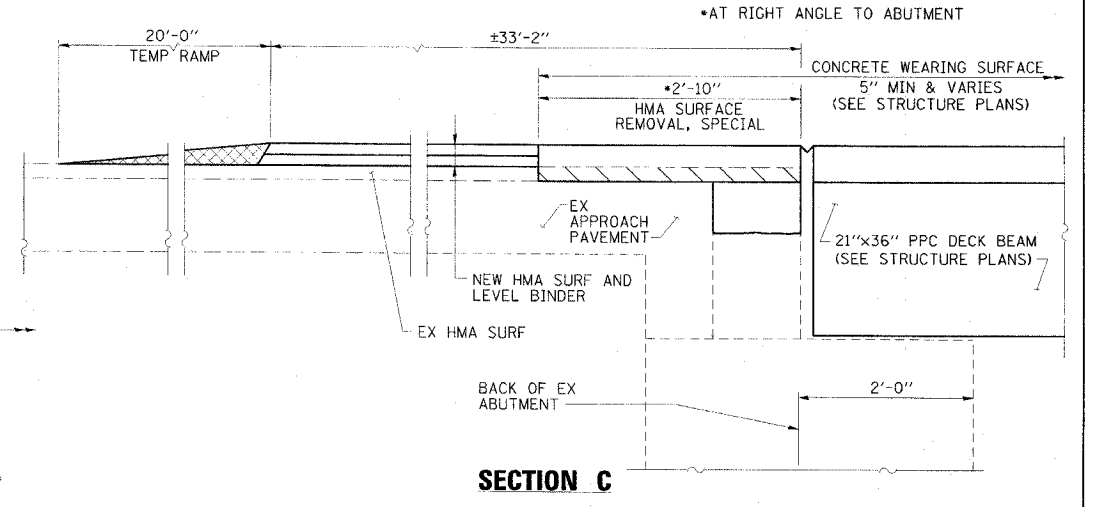
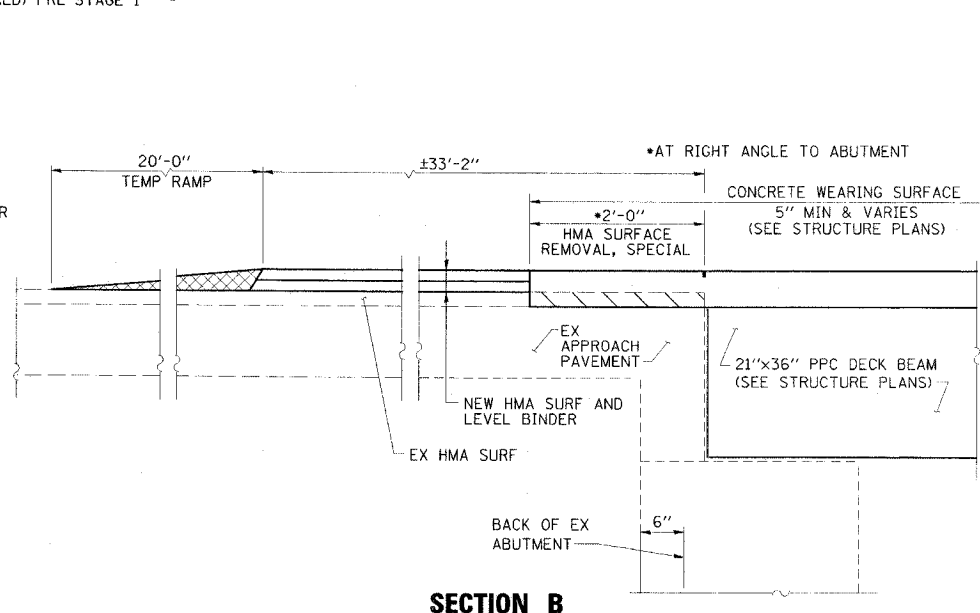
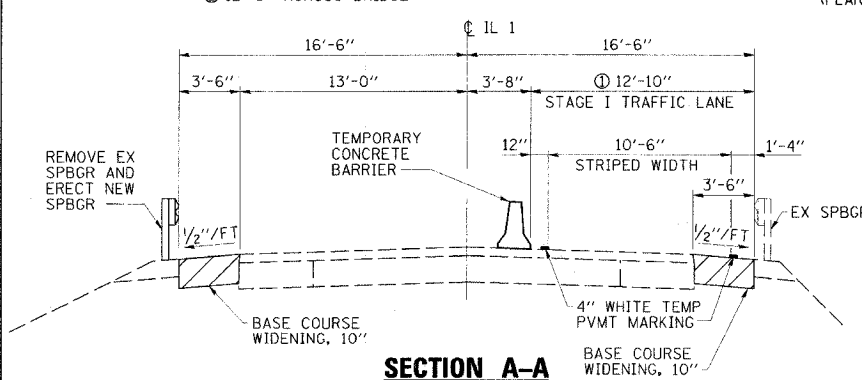
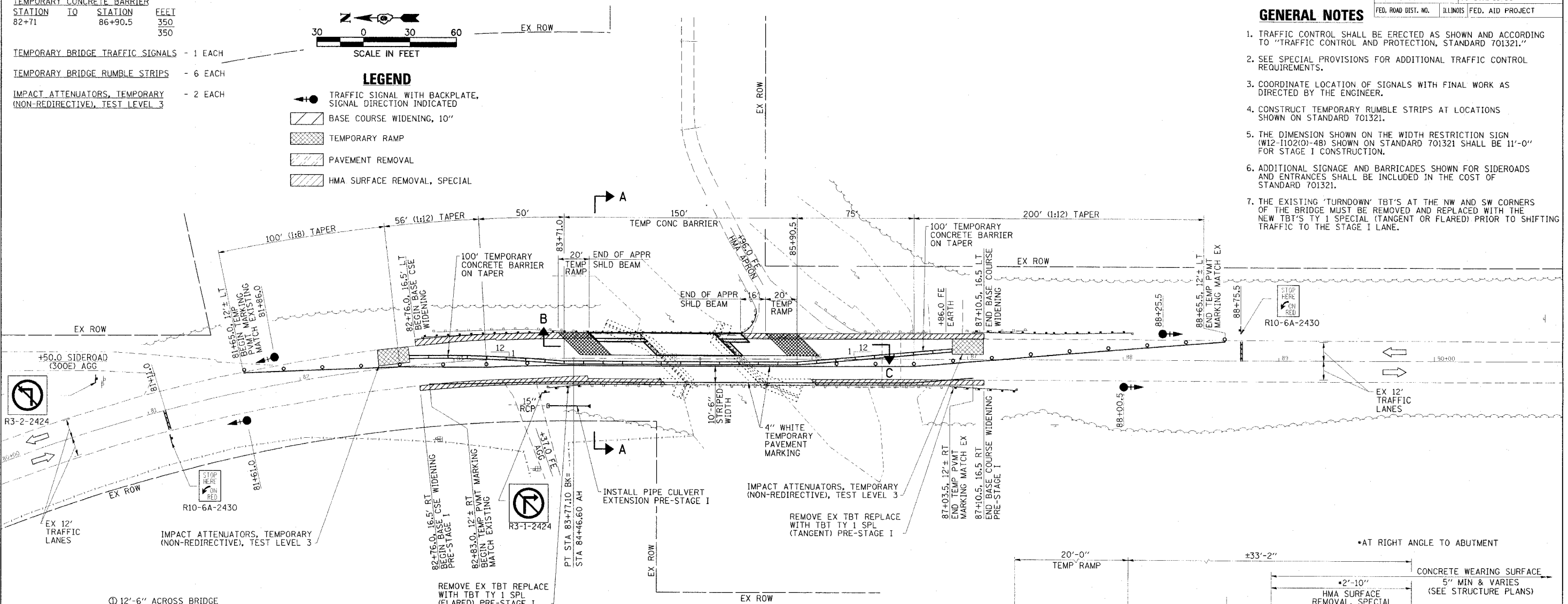
SCHEDULE OF QUANTITIES

TEMPORARY CONCRETE BARRIER	STATION TO	STATION	FEET
	82+71	86+90.5	350

- TEMPORARY BRIDGE TRAFFIC SIGNALS - 1 EACH
- TEMPORARY BRIDGE RUMBLE STRIPS - 6 EACH
- IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3 - 2 EACH



- LEGEND**
- TRAFFIC SIGNAL WITH BACKPLATE, SIGNAL DIRECTION INDICATED
 - BASE COURSE WIDENING, 10"
 - TEMPORARY RAMP
 - PAVEMENT REMOVAL
 - HMA SURFACE REMOVAL, SPECIAL



CONTRACT NO. 78027

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
782	110BR-1	WHITE	73	12

STA. 80+00 TO STA. 91+00
ILLINOIS FED. AID PROJECT

GENERAL NOTES

- TRAFFIC CONTROL SHALL BE ERECTED AS SHOWN AND ACCORDING TO "TRAFFIC CONTROL AND PROTECTION, STANDARD 701321."
- SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.
- COORDINATE LOCATION OF SIGNALS WITH FINAL WORK AS DIRECTED BY THE ENGINEER.
- CONSTRUCT TEMPORARY RUMBLE STRIPS AT LOCATIONS SHOWN ON STANDARD 701321.
- THE DIMENSION SHOWN ON THE WIDTH RESTRICTION SIGN (W12-1102(O)-48) SHOWN ON STANDARD 701321 SHALL BE 11'-0" FOR STAGE I CONSTRUCTION.
- ADDITIONAL SIGNAGE AND BARRICADES SHOWN FOR SIDEROADS AND ENTRANCES SHALL BE INCLUDED IN THE COST OF STANDARD 701321.
- THE EXISTING 'TURNDOWN' TBT'S AT THE NW AND SW CORNERS OF THE BRIDGE MUST BE REMOVED AND REPLACED WITH THE NEW TBT'S TY 1 SPECIAL (TANGENT OR FLARED) PRIOR TO SHIFTING TRAFFIC TO THE STAGE I LANE.

ESCA CONSULTANTS, INC.

DESIGNED BY:	DAJ	10/07
DRAWN BY:	HAS	10/07
CHECKED BY:	MTD	02/08
APPROVED BY:	RDP	02/08

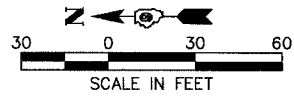
STAGE I CONSTRUCTION
FAP RTE 782 (IL 1)
SECTION 110BR-1
WHITE COUNTY



SCHEDULE OF QUANTITIES

RELOCATE TEMPORARY CONCRETE BARRIER	STATION TO	STATION	FEET
	84+65.5	87+15.5	250
			TOTAL - 250

IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3 - 2 EACH
 IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3 - 1 EACH



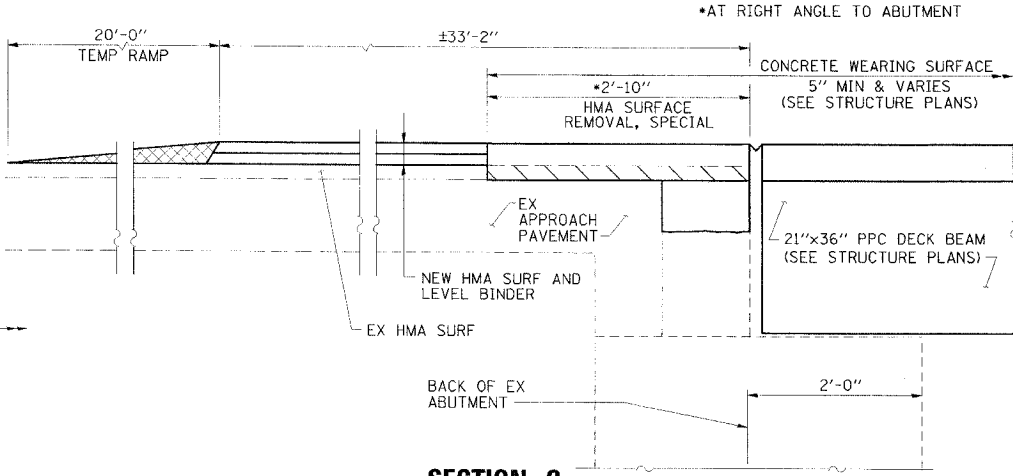
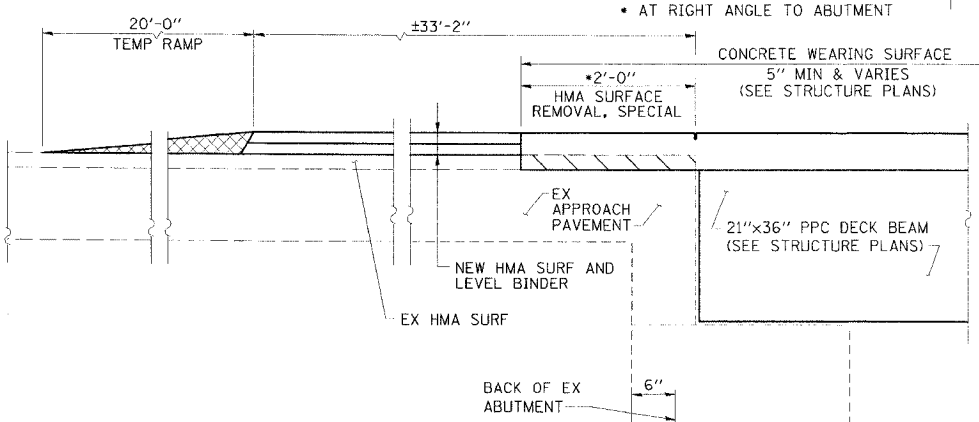
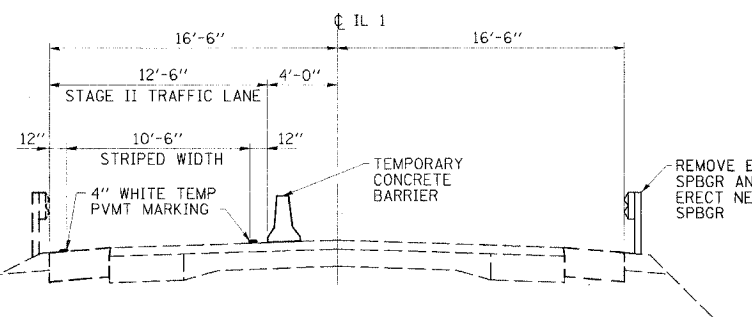
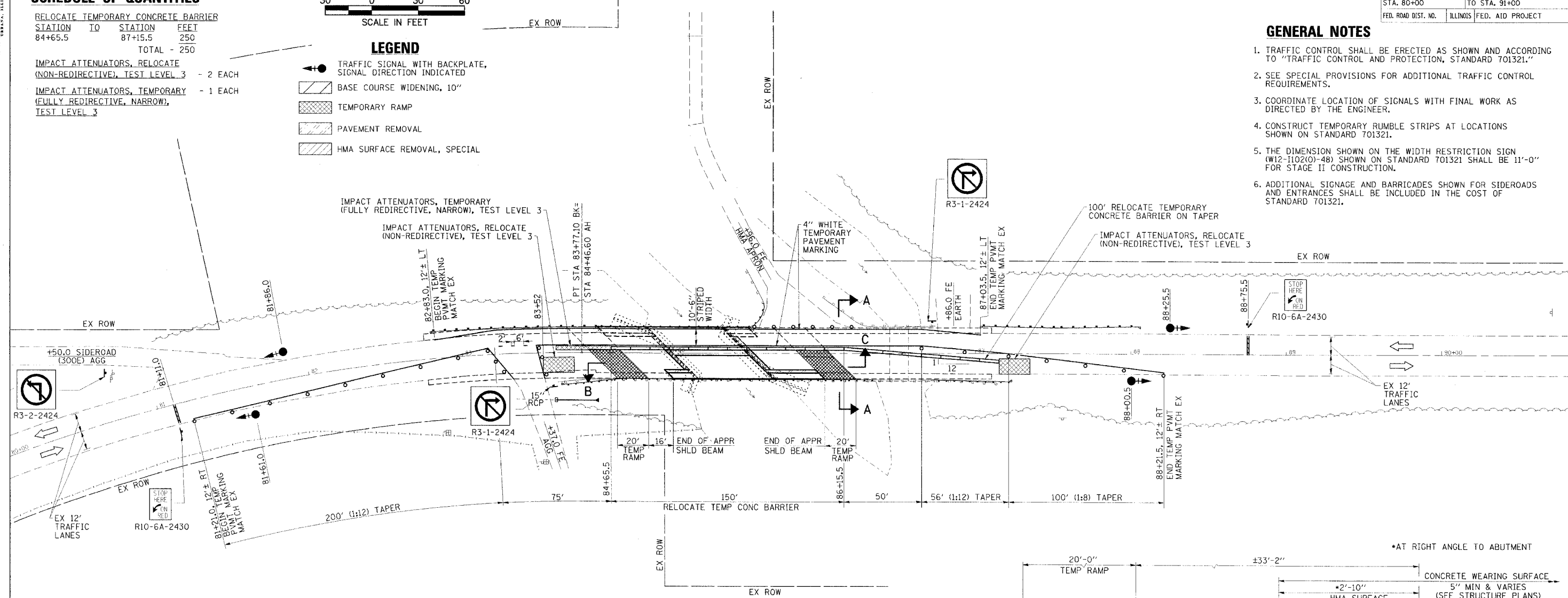
LEGEND

- TRAFFIC SIGNAL WITH BACKPLATE, SIGNAL DIRECTION INDICATED
- BASE COURSE WIDENING, 10"
- TEMPORARY RAMP
- PAVEMENT REMOVAL
- HMA SURFACE REMOVAL, SPECIAL

CONTRACT NO. 78027			
FAP RTE	SECTION	COUNTY	TOTAL SHEETS NO.
782	110BR-1	WHITE	73 13
STA. 80+00		TO STA. 91+00	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

GENERAL NOTES

- TRAFFIC CONTROL SHALL BE ERECTED AS SHOWN AND ACCORDING TO "TRAFFIC CONTROL AND PROTECTION, STANDARD 701321."
- SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.
- COORDINATE LOCATION OF SIGNALS WITH FINAL WORK AS DIRECTED BY THE ENGINEER.
- CONSTRUCT TEMPORARY RUMBLE STRIPS AT LOCATIONS SHOWN ON STANDARD 701321.
- THE DIMENSION SHOWN ON THE WIDTH RESTRICTION SIGN (W12-1102(O)-48) SHOWN ON STANDARD 701321 SHALL BE 11'-0" FOR STAGE II CONSTRUCTION.
- ADDITIONAL SIGNAGE AND BARRICADES SHOWN FOR SIDEROADS AND ENTRANCES SHALL BE INCLUDED IN THE COST OF STANDARD 701321.



ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	10/07
DRAWN BY:	HAS	10/07
CHECKED BY:	MTD	02/08
APPROVED BY:	RDP	02/08

SECTION A-A

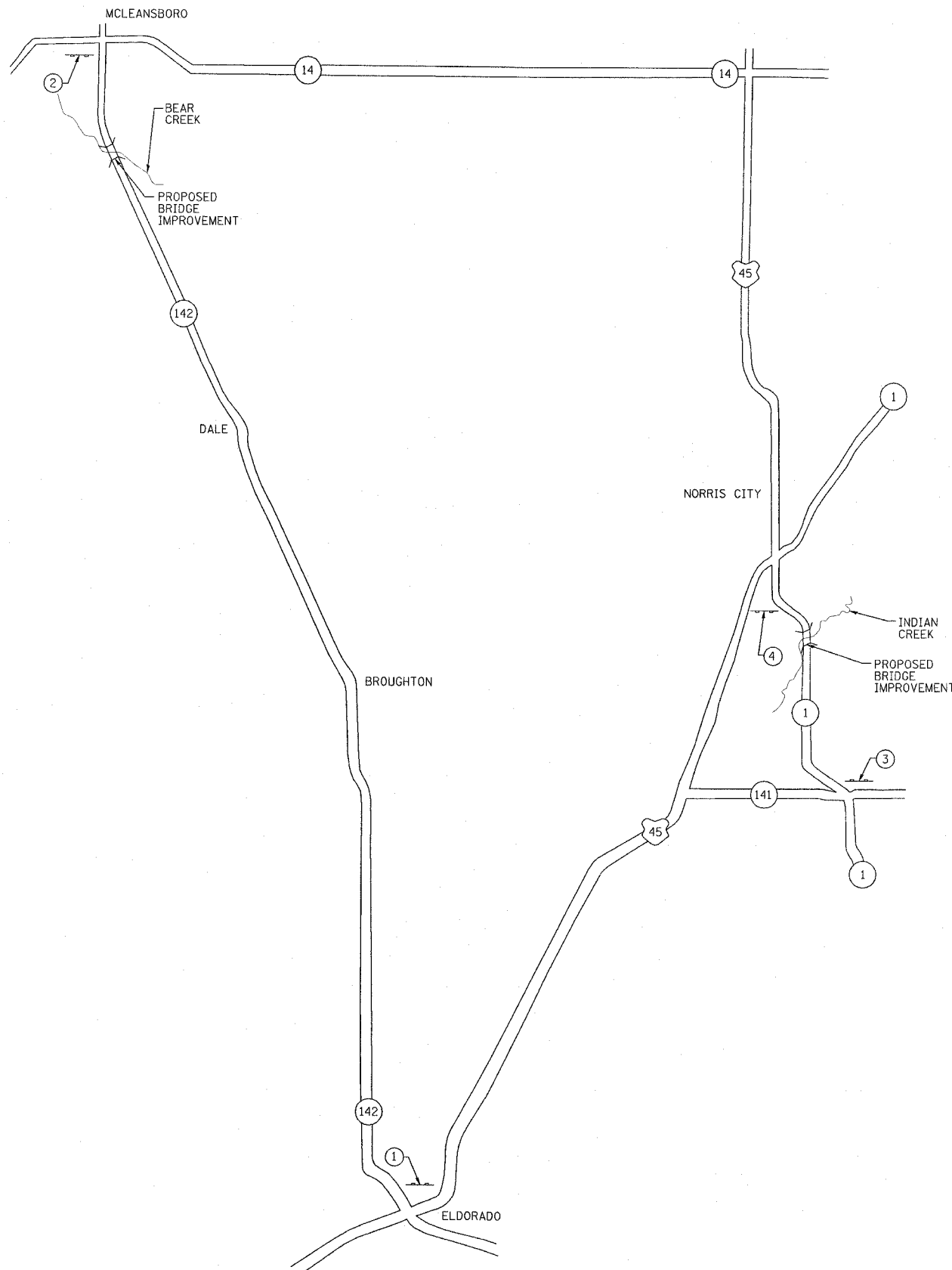
SECTION B

SECTION C

STAGE II CONSTRUCTION
 FAP RTE 782 (IL 1)
 SECTION 110BR-1
 WHITE COUNTY



CONTRACT NO. 78027				
FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
* 115BR-1, 110BR-1	**	**	73	14
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* 776 & 782				
** HAMILTON & WHITE				



**SIGN LEGEND
STAGE I**

①
**WIDE LOADS
OVER 10'-6"**
DETOUR VIA
NORTH ROUTE 45 WEST ILLINOIS 14
60"x90"

②
**WIDE LOADS
OVER 10'-6"**
DETOUR VIA
EAST ILLINOIS 14 SOUTH ROUTE 45
60"x90"

③
**WIDE LOADS
OVER 11'-0"**
DETOUR VIA
WEST ILLINOIS 141 NORTH ROUTE 45
60"x90"

④
**WIDE LOADS
OVER 11'-0"**
DETOUR VIA
SOUTH ROUTE 45 EAST ILLINOIS 141
60"x90"

**SIGN LEGEND
STAGE II**

①
**WIDE LOADS
OVER 11'-0"**
DETOUR VIA
NORTH ROUTE 45 WEST ILLINOIS 14
60"x90"

②
**WIDE LOADS
OVER 11'-0"**
DETOUR VIA
EAST ILLINOIS 14 SOUTH ROUTE 45
60"x90"

③
**WIDE LOADS
OVER 11'-0"**
DETOUR VIA
WEST ILLINOIS 141 NORTH ROUTE 45
60"x90"

④
**WIDE LOADS
OVER 11'-0"**
DETOUR VIA
SOUTH ROUTE 45 EAST ILLINOIS 141
60"x90"

DETOUR NOTES

1. THE CONTRACTOR SHALL FURNISH THE POSTS AND ERECT THE SIGNS AT THE LOCATIONS DIRECTED BY THE ENGINEER. ALL SIGNS SHALL BE POST MOUNTED.
2. THE ABOVE NOTED WORK, INCLUDING SIGNS, POSTS, HARDWARE, AND LABOR SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE, EACH, FOR TRAFFIC CONTROL AND PROTECTION, STD. 701321 AND NO OTHER COMPENSATION WILL BE ALLOWED.

ESCA CONSULTANTS, INC.		
DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS/JPC	09/07
CHECKED BY:	JMS/MTD	01/08
APPROVED BY:	RDP	01/08

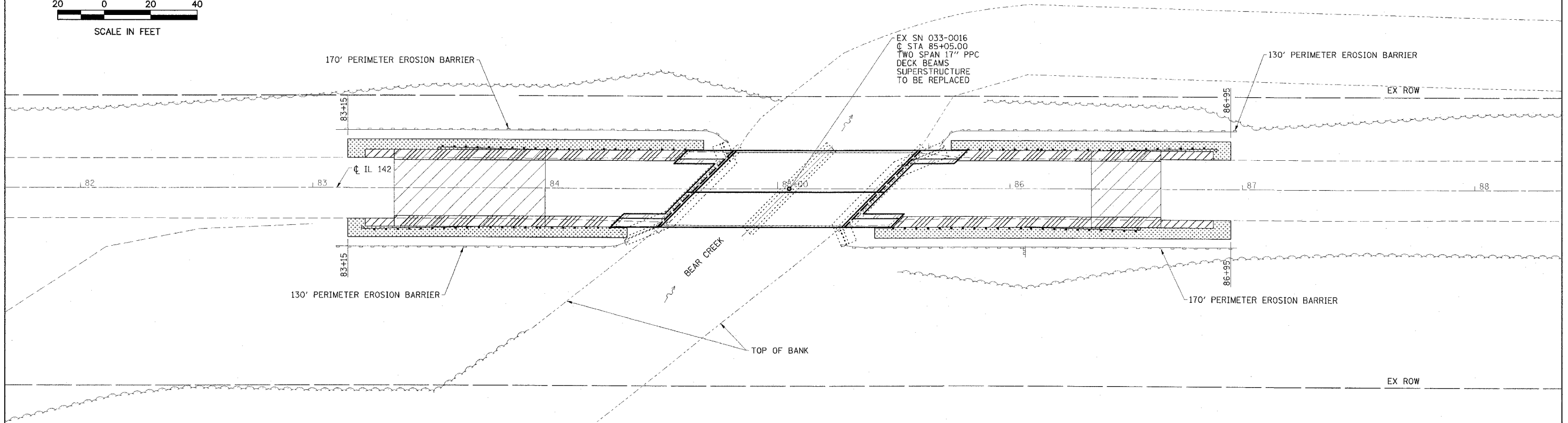
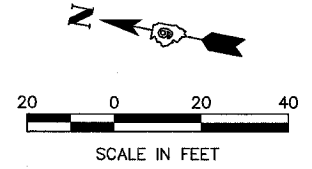
DETOUR SIGNING PLAN

WIDE LOAD DETOUR
FAP RTE'S 776 (IL 142) & 782 (IL 1)
SECTIONS 115BR-1 & 110BR-1
HAMILTON & WHITE COUNTIES



CONTRACT NO. 78027

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	115BR-1	HAMILTON	73	15
STA. 82+00		TO STA. 88+00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



LEGEND
 APPROXIMATE SEEDING AND MULCH AREAS
 PERIMETER EROSION BARRIER

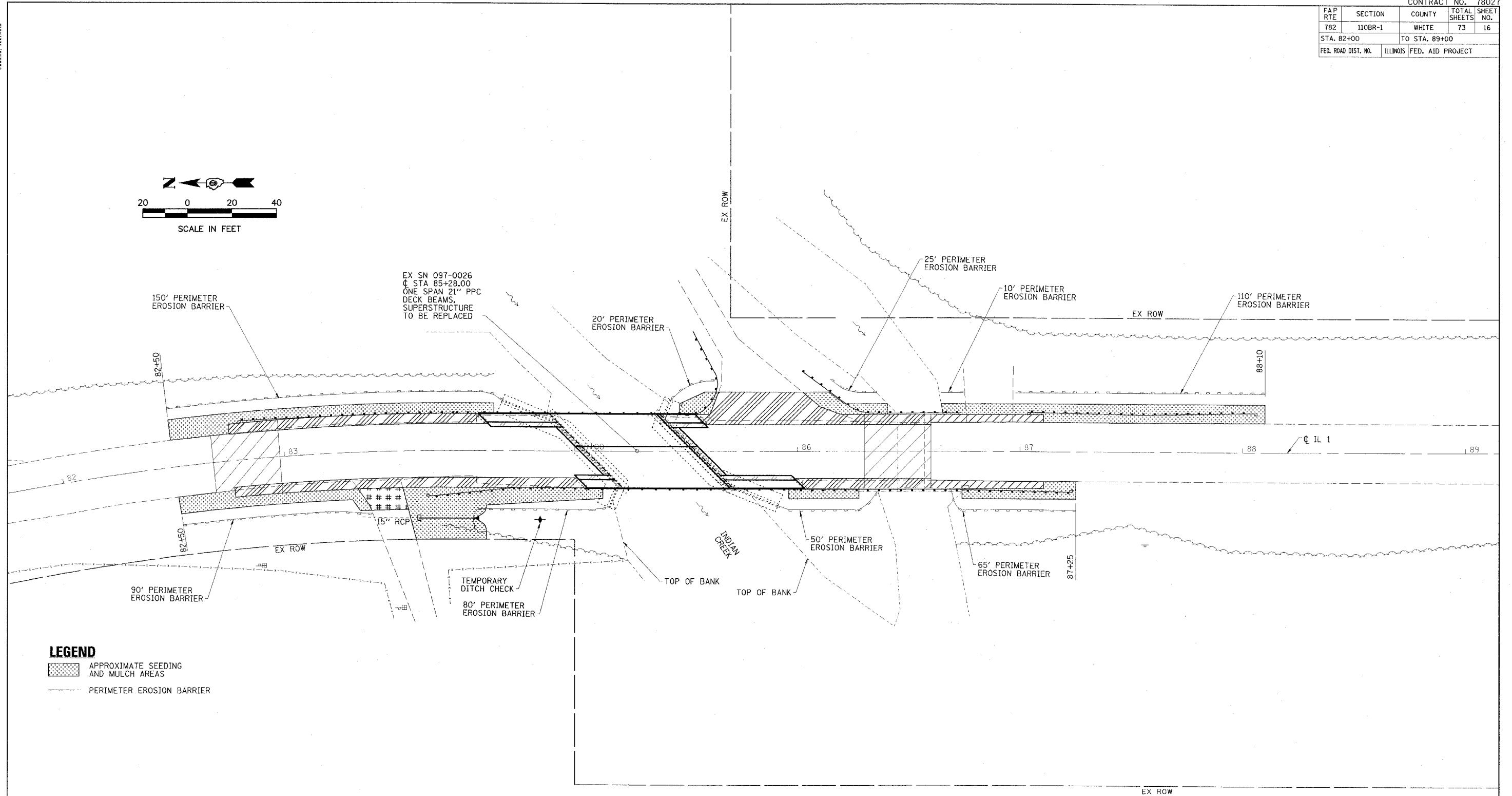
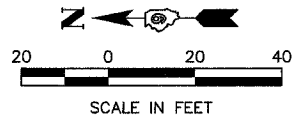
ESCA CONSULTANTS, INC.		
DESIGNED BY:	DAJ	10/07
DRAWN BY:	HAS	10/07
CHECKED BY:	JMS/MTD	01/08
APPROVED BY:	RDP	01/08

*EROSION CONTROL
 AND DRAINAGE PLAN
 FAP RTE 776 (IL 142)
 SECTION 115BR-1
 HAMILTON COUNTY*



CONTRACT NO. 78027

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
782	110BR-1	WHITE	73	16
STA. 82+00		TO STA. 89+00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



LEGEND

APPROXIMATE SEEDING AND MULCH AREAS

PERIMETER EROSION BARRIER

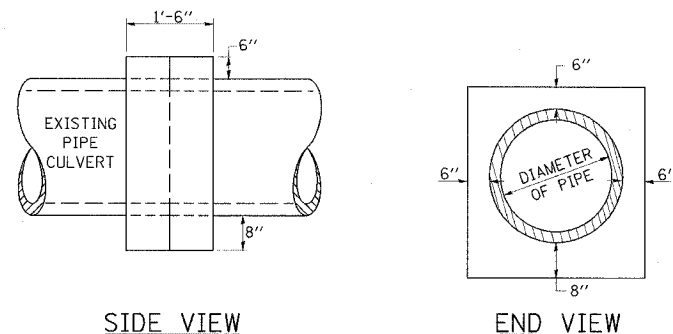
ESCA
 CONSULTANTS, INC.

DESIGNED BY:	DAJ	10/07
DRAWN BY:	HAS	10/07
CHECKED BY:	MTD	02/08
APPROVED BY:	RDP	02/08

**EROSION CONTROL
 AND DRAINAGE PLAN**
 FAP RTE 782 (IL 1)
 SECTION 110BR-1
 WHITE COUNTY

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
• 115BR-1, 110BR-1		••	73	17
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT AID			
• 776 & 782	•• HAMILTON & WHITE			

DETAILS OF CONCRETE COLLAR PIPE TO PIPE



TABULATION

DIAMETER OF PIPE	CL SI CONC CU YDS EST
12"	0.24
15"	0.29
18"	0.32
24"	0.44
30"	0.56
36"	0.66
42"	0.80
48"	0.93
54"	1.07
60"	1.22
72"	1.55

THE CONCRETE COLLAR SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR **CONCRETE COLLAR**, AS SHOWN ON THE PLANS, WHICH PRICE SHALL INCLUDE THE REMOVAL OF SUCH PORTIONS THE EXISTING HEADWALLS AS MAY BE REQUIRED.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

REVISIONS
DRAWN 7-15-90
REVISED 8-22-93
REVISED
REVISED

STD. 9-79

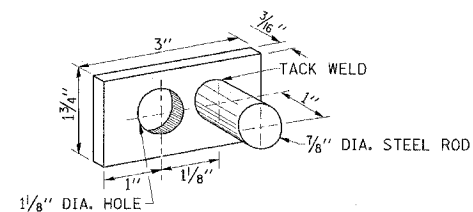
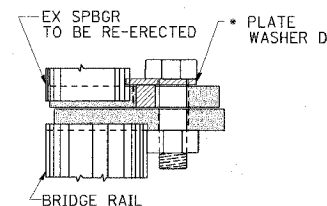


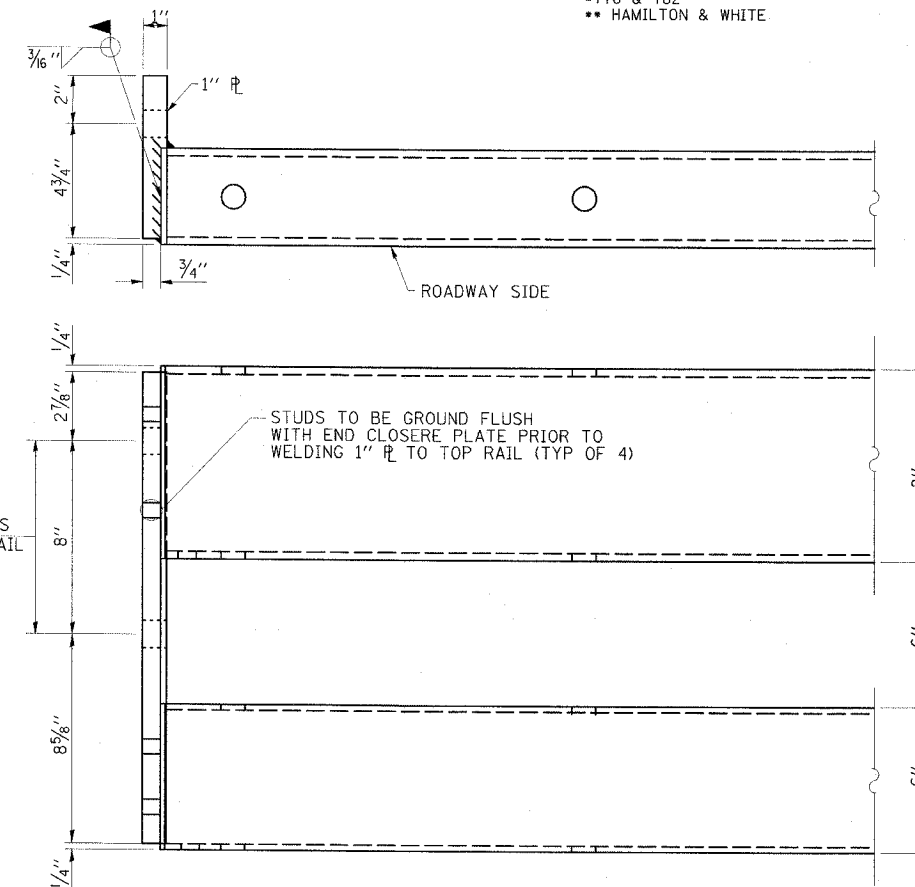
PLATE WASHER D



PLACEMENT OF PLATE WASHER D (PLAN)

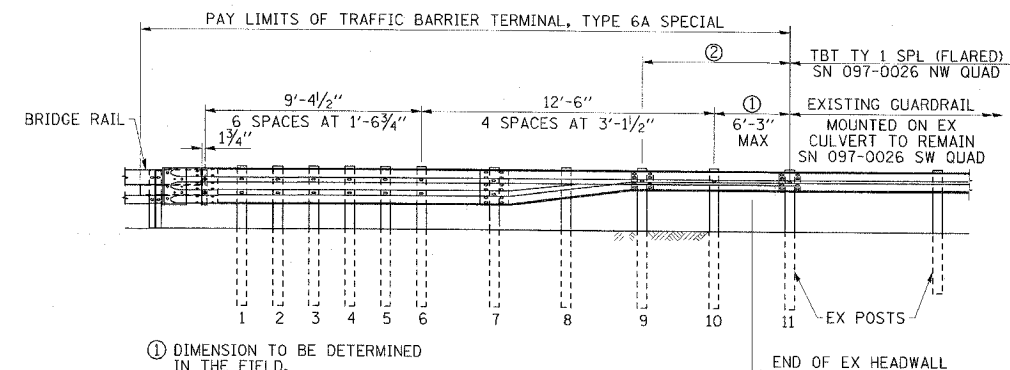
• INSTALL PLATE WASHER D SO THAT THE 1" PROJECTION FILLS THE REMAINDER OF THE SLOTTED HOLES IN THE 1" END PLATE AFTER THE 1" DIA. BOLTS ARE IN PLACE

1/8" DIA. HOLES FOR 1" DIA. x 4" ROUND HEAD BOLTS PROVIDE 2 FLAT WASHERS & LOCKNUTS FOR GUARD RAIL CONNECTION



END OF BRIDGE RAIL DETAIL

SPECIAL GUARDRAIL CONNECTION DETAILS

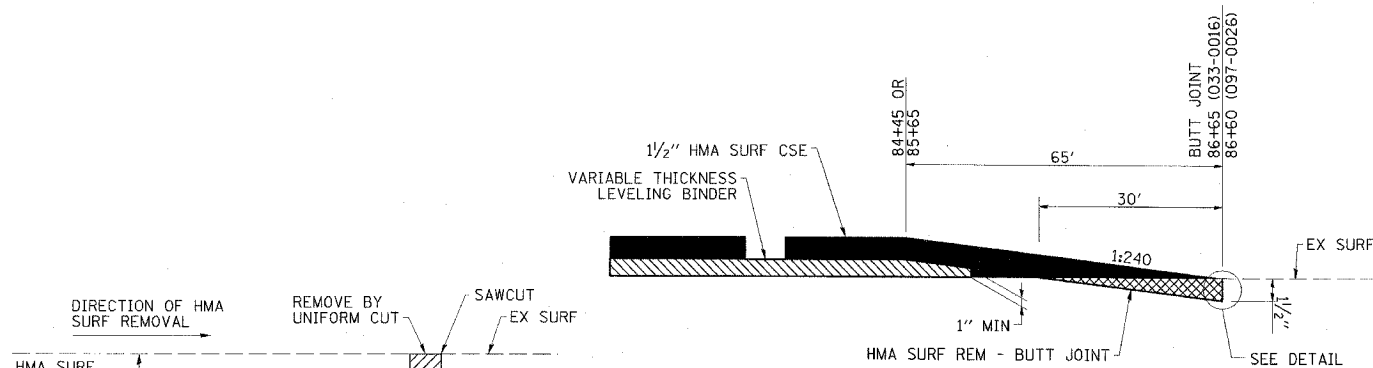


- ① DIMENSION TO BE DETERMINED IN THE FIELD.
- ② OMIT THIS SECTION OF RAIL IN NW QUAD

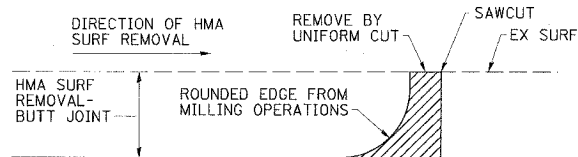
TBT, TYPE 6A SPECIAL (ONLY AT SN 097-0026)

- NOTES: 1. OMIT SINGLE SECTION OF THRIE BEAM SHOWN ON STANDARD 631032.
- 2. SEE STANDARD 631032 FOR ADDITIONAL DETAILS.

MISCELLANEOUS DETAILS
FAP RTE'S 776 (IL 142) & 782 (IL 1)
SECTIONS 115BR-1 & 110BR-1
HAMILTON & WHITE COUNTIES

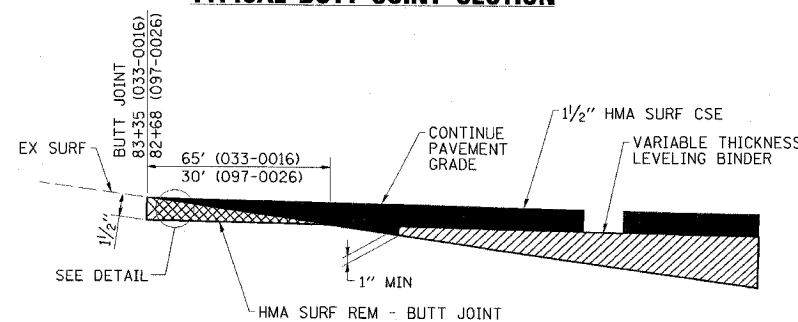


TYPICAL BUTT JOINT SECTION



DETAIL AT BUTT JOINT

NOTE: WHEN MILLING OPERATIONS PRODUCE A ROUNDED EDGE, THEN A SAWCUT SHALL BE USED TO MANUFACTURE A PERPENDICULAR EDGE AS SHOWN IN THE DETAIL. THE COST OF ALL WORK SHOWN IN THE DETAIL IS INCLUDED IN HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT. THE ENGINEER SHALL BE THE SOLE JUDGE CONCERNING THE USE OF THIS DETAIL.



SPECIAL BUTT JOINT SECTION

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/MTD	01/08
APPROVED BY:	RDP	02/08

BENCHMARK: Chiseled Square on top of northeast wingwall of SN 033-0016, Sta. 84+82.78, 18.7' Lt., Elev. 400.43

EXISTING STRUCTURE: SN 033-0016 was originally built in 1928 as S.B.I. Rte. 142, Section 115-B. The superstructure was replaced in 1976 and precast concrete bridge slabs were utilized to widen the approaches. The superstructure consists of two simple spans, 17"x36" PPC deck beams. The substructure consists of two reinforced concrete closed abutments and a reinforced concrete pier on timber piles. The back-to-back abutments length is 78'-6", the out-to-out width is 33'-0". The existing superstructure and the existing bridge approach shoulders shall be removed and replaced utilizing stage construction.

No salvage.

STATION 85+05.00
REBUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 776 SEC. 115BR-1
LOADING HS20
STR. NO. 033-0016

NAME PLATE

Note: See Std. 515001
Existing Name Plate shall be cleaned and relocated adjacent to the new plate. Cost included with Name Plates.

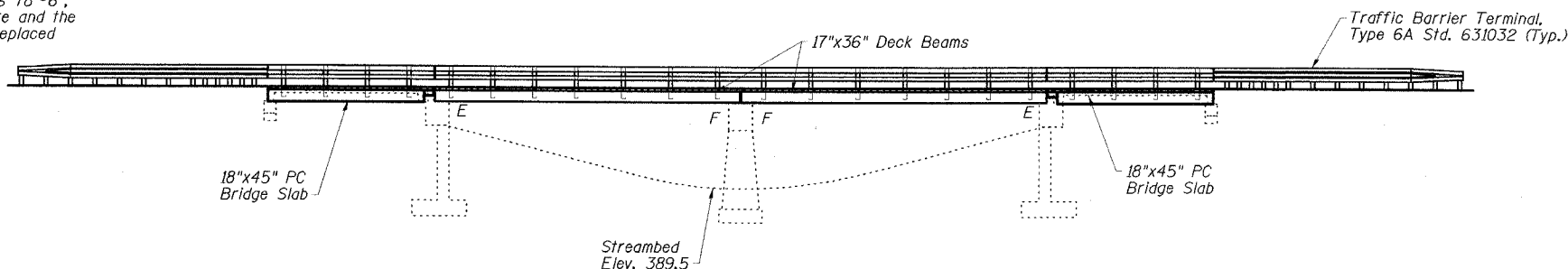
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	DISTRICT	COUNTY	SECTION	SHEET	SHEET NO.
776	115BR-1	HAMILTON	73	18	17 SHEETS

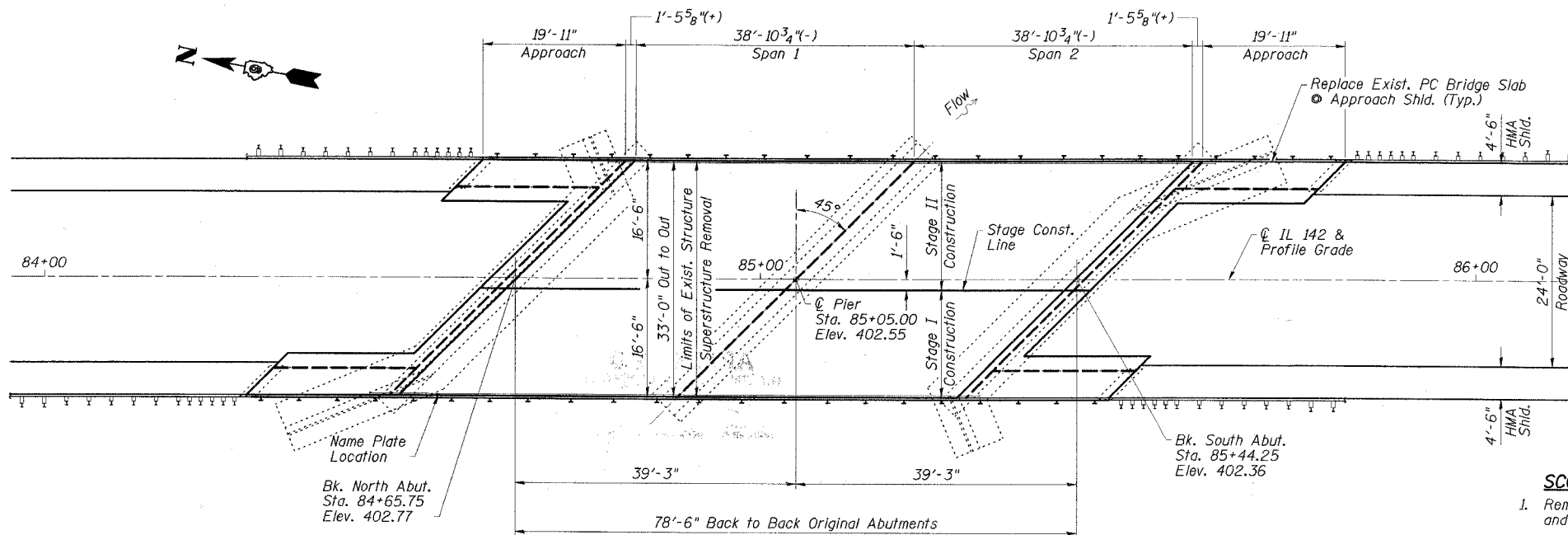
78027

STRUCTURE INDEX OF SHEETS

General Plan	Dwg. No. 1 of 17
General Data	Dwg. No. 2 of 17
Stage Construction Details	Dwg. No. 3 of 17
Temporary Concrete Barrier	Dwg. No. 4 of 17
Superstructure	Dwg. No. 5 of 17
Superstructure Details	Dwg. No. 6 & 7 of 17
Approach Details	Dwg. No. 8 of 17
Superstructure and Approach Details	Dwg. No. 9 of 17
Steel Railing, Type SM	Dwg. No. 10 of 17
Strip Seal Expansion Joint	Dwg. No. 11 of 17
North Abutment	Dwg. No. 12 of 17
South Abutment	Dwg. No. 13 of 17
Abutment Details	Dwg. No. 14 of 17
Pier	Dwg. No. 15 of 17
Pier Details	Dwg. No. 16 of 17
Bar Splicer Assembly Details	Dwg. No. 17 of 17



ELEVATION



PLAN

DESIGN SPECIFICATION

2002 AASHTO

LOADING HS20-44

No allowance for future wearing surface

DESIGN STRESSES

FIELD UNITS

$f'_c = 5,000$ psi (Concrete Wearing Surface)
 $f'_c = 3,500$ psi (All concrete except CWS)
 $f_y = 60,000$ psi (reinf.)

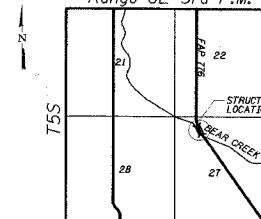
PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_ci = 5,000$ psi
 $f'_s = 270,000$ psi ($1/2$ " ϕ low lax strands)
 $f_{si} = 201,960$ psi ($1/2$ " ϕ low lax strands)

PRECAST UNITS

$f'_c = 4,500$ psi
 $f_y = 60,000$ psi (reinf.)

Range 6E 3rd P.M.



LOCATION SKETCH

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SCOPE OF WORK

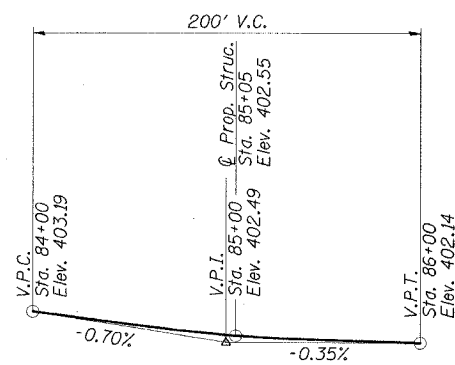
1. Remove existing surfacing, steel railing, deck beams, curbs, and bridge approach shoulders.
2. Repair beam bearing seats and perform other repairs at abutments and pier as required.
3. Reconstruct a two-span PPCD beam superstructure with Concrete Wearing Surface and Steel Railing, Type SM. Reconstruct existing approach shoulders with Precast Concrete Bridge Slabs with Concrete Wearing Surface and Steel Railing, Type SM.

GENERAL PLAN

IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	02/08
APPROVED BY:	RDP	02/08



PROFILE GRADE
(Along ϕ Roadway)

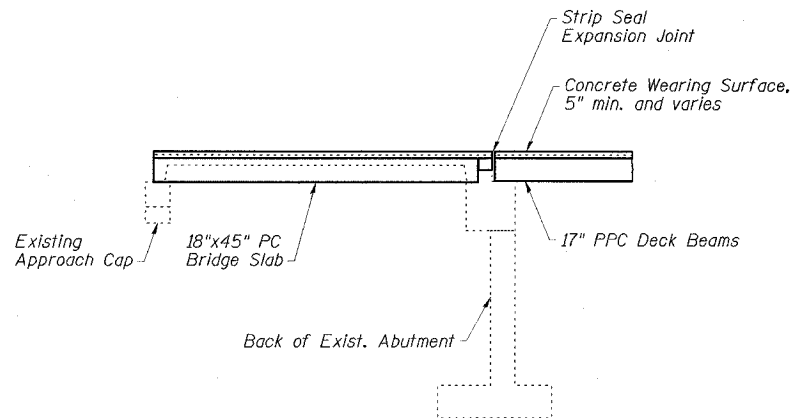


EXPIRES 11-30-08
R. D. J. [Signature]
SIGNATURE
02/29/08
DATE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATION	SHEET	SHEET NO.
FAP 776	115BR-1	HAMILTON	73	19	17 SHEETS
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT			

78027



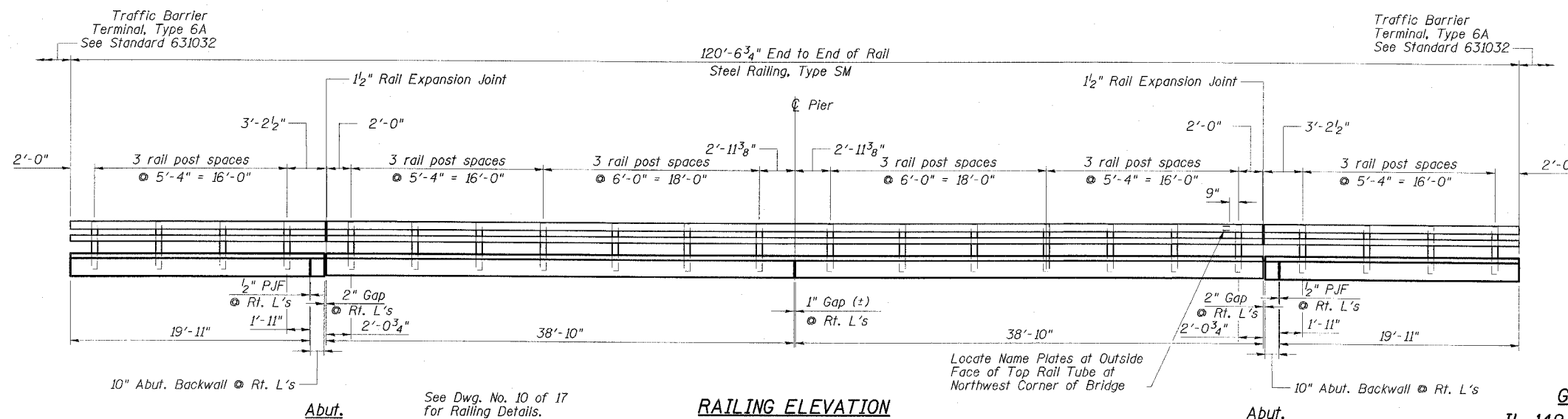
**SECTION THRU ABUTMENTS
@ OUTSIDE BEAM**

GENERAL NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A706 Gr 60 (IL Modified). See Special Provisions.
2. Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work. However, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.
3. Concrete Sealer shall be applied to abutment bearing seats and backwalls where Structural Repair of Concrete is performed and also to the front faces of new concrete backwalls.
4. All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M300 Type 1 unless noted otherwise.
5. Side Retainers shall be AASHTO M270 Grade 36 minimum.
6. No in-stream work will be allowed on this project.
7. The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.
8. If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the new or existing deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads. Cost included with Precast Prestressed Concrete Deck Beams (17" Depth).
9. The minimum thickness of the concrete overlay shall be 5" and varies as required to adjust for the new profile grade and beam camber. Modify to meet field conditions as directed by the Engineer.
10. Repair of the substructure and removal of the existing expansion joints shall be completed prior to placement of the new deck beams.
11. The existing expansion bearing pads contain ASBESTOS. See Special Provisions for Asbestos Bearing Pad Removal.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures No. 1	Each	1	-	1
Bridge Deck Grooving	Sq. Yd.	330	-	330
Protective Coat	Sq. Yd.	357	-	357
Precast Concrete Bridge Slab	Sq. Ft.	300	-	300
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2563	-	2563
Reinforcement Bars, Epoxy Coated	Pound	4460	340	4800
Bar Splacers	Each	84	4	88
Steel Railing, Type SM	Foot	241	-	241
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	94	-	94
Concrete Sealer	Sq. Ft.	-	103	103
Epoxy Crack Injection	Foot	-	63	63
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	-	54	54
Asbestos Bearing Pad Removal	Each	-	44	44
Concrete Wearing Surface, 5"	Sq. Yd.	357	-	357
Concrete Structures	Cu. Yd.	-	1.8	1.8
Concrete Removal	Cu. Yd.	-	1.8	1.8
Removal of Existing Precast Concrete Units	Sq. Ft.	300	-	300



RAILING ELEVATION
(Showing Inside Face of East Railing;
West Railing Similar)

GENERAL DATA
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016

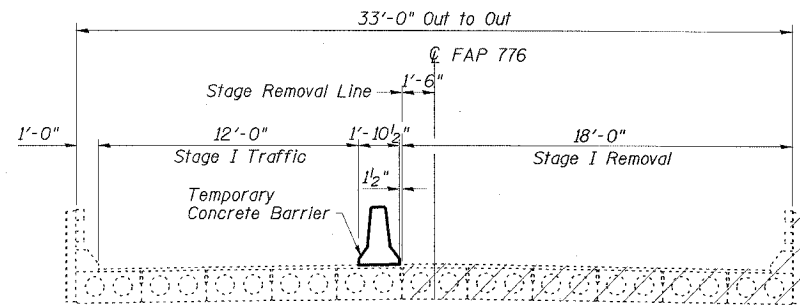
ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	02/08
APPROVED BY:	RDP	02/08

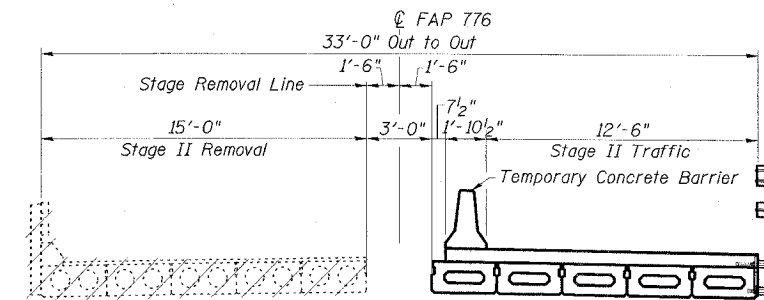
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 3 17 SHEETS
FAP 776	115BR-1	HAMILTON	73	20	
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT		

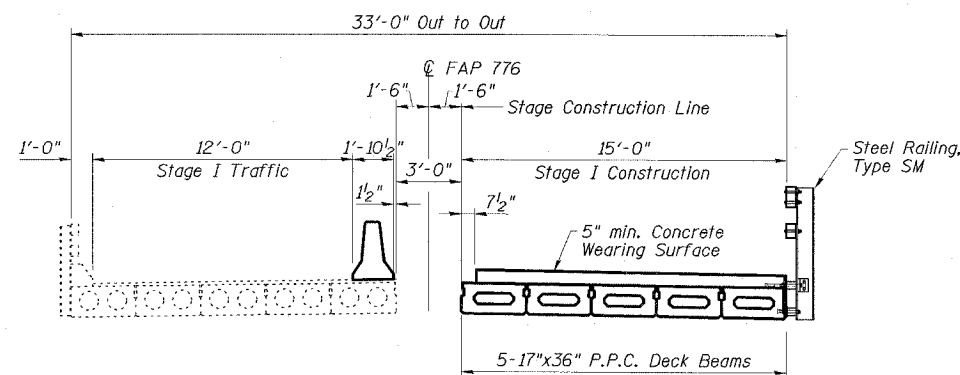
78027



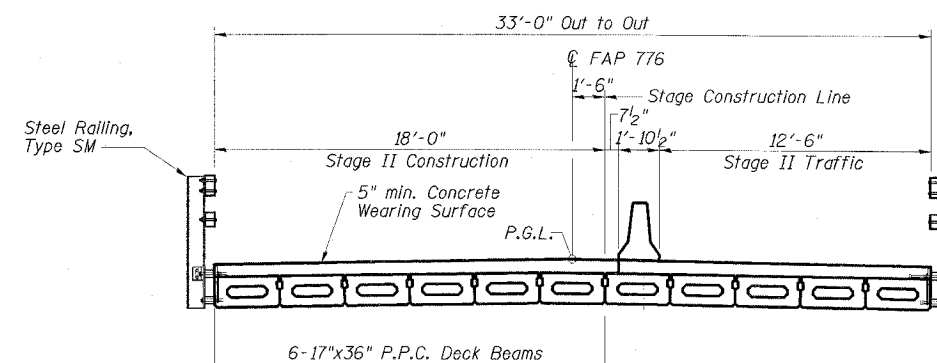
STAGE I REMOVAL



STAGE II REMOVAL



STAGE I CONSTRUCTION



STAGE II CONSTRUCTION

STAGE CONSTRUCTION NOTES

1. All staging sections are looking South.
2. See Dwg. No. 5 of 17 for shear key clamping details.
3. For quantity of Temporary Concrete Barrier, see Roadway Plans.

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CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

STAGE CONSTRUCTION DETAILS
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016

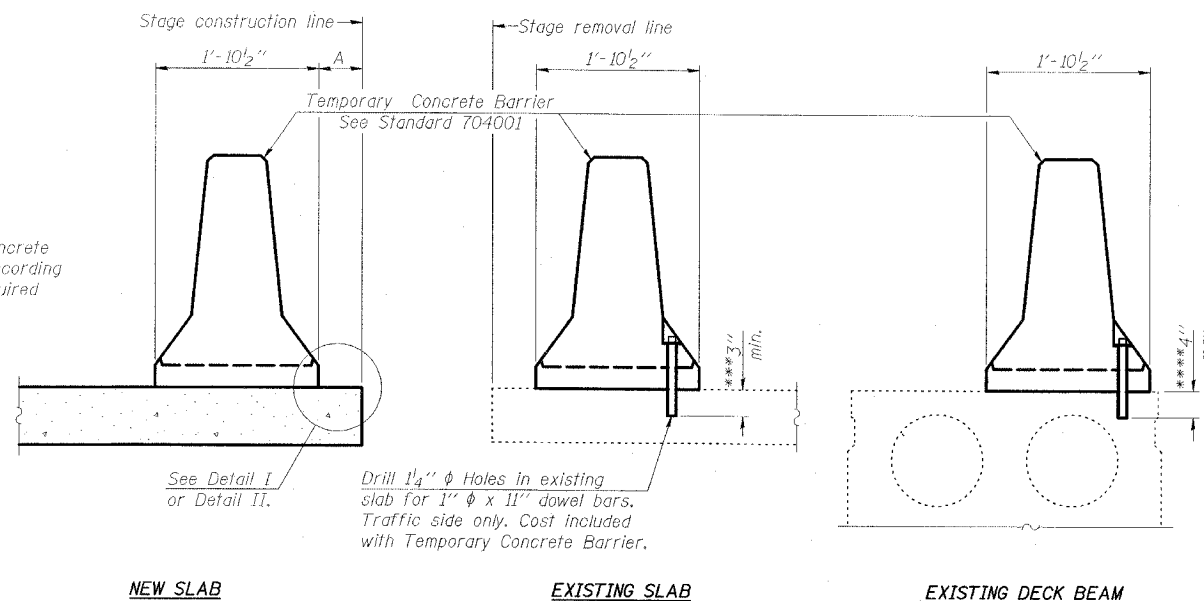
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
FAP 776	115BR-1	HAMILTON	73	21
FED. ROAD DIST. NO. 1 ILLINOIS FEDERAL PROJECT				

78027

SHEET NO. 4
17 SHEETS

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".

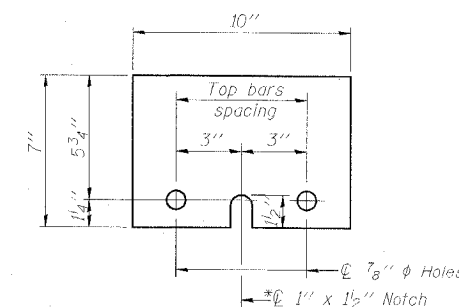
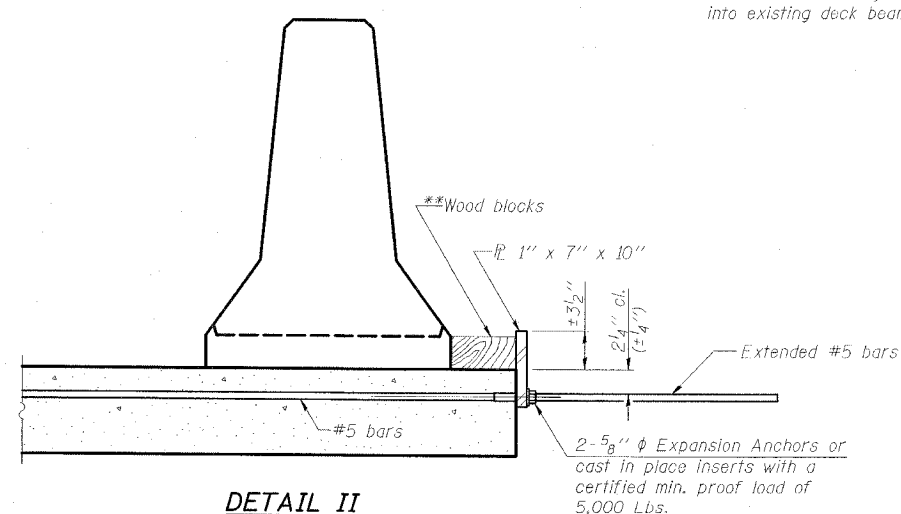
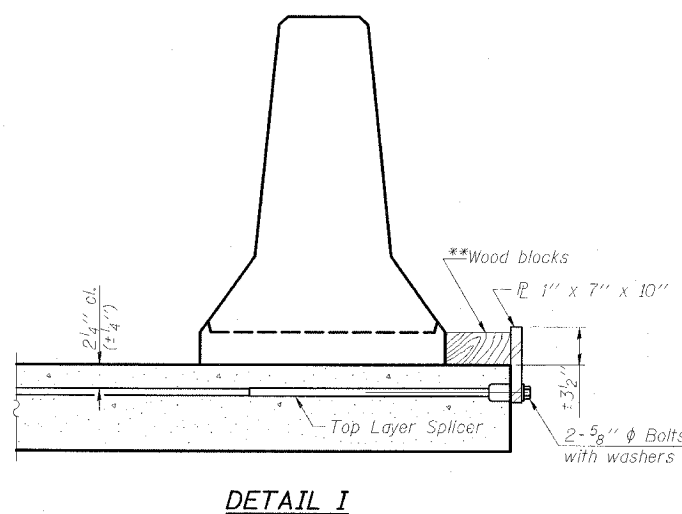


SECTIONS THRU SLAB OR DECK BEAM

NOTES

- Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{P} to the top layer of couplers with 2- $\frac{5}{8}$ " ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.
- Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{P} to the concrete slab or concrete wearing surface with 2- $\frac{5}{8}$ " ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" 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.

- ***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.



STEEL RETAINER \bar{P} 1" x 7" x 10"
* Required only with 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.

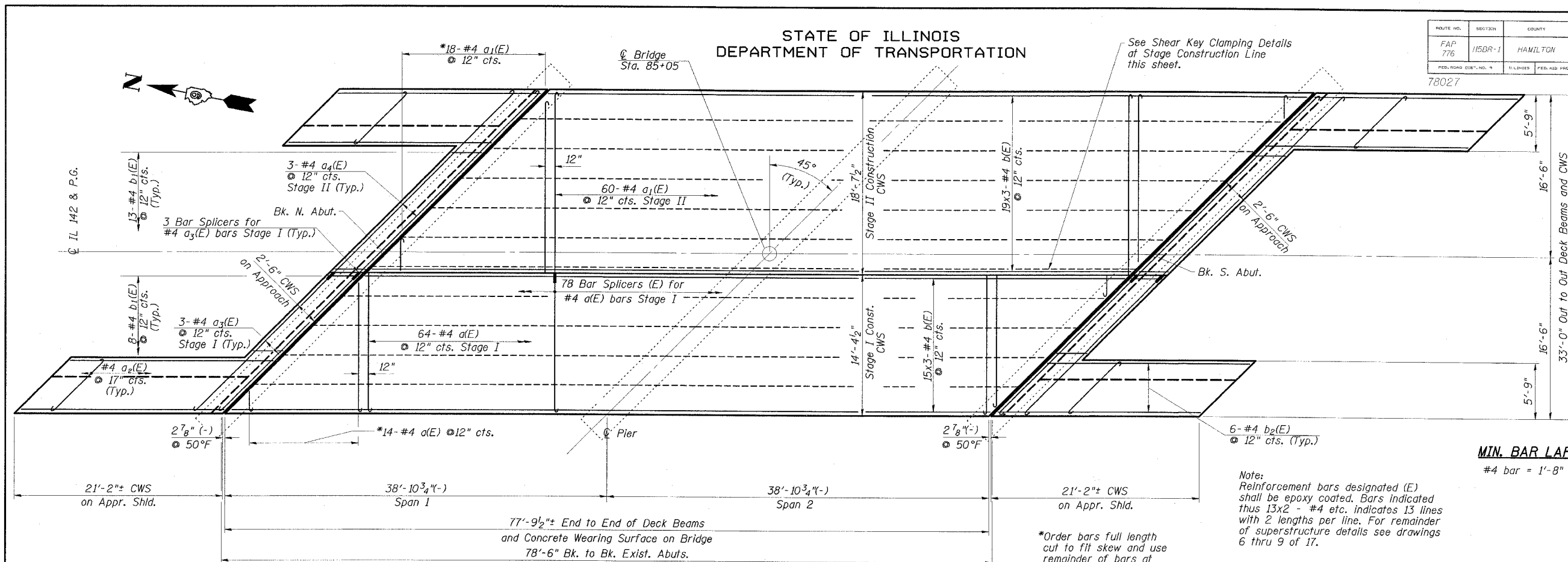
TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016

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CONSULTANTS, INC.

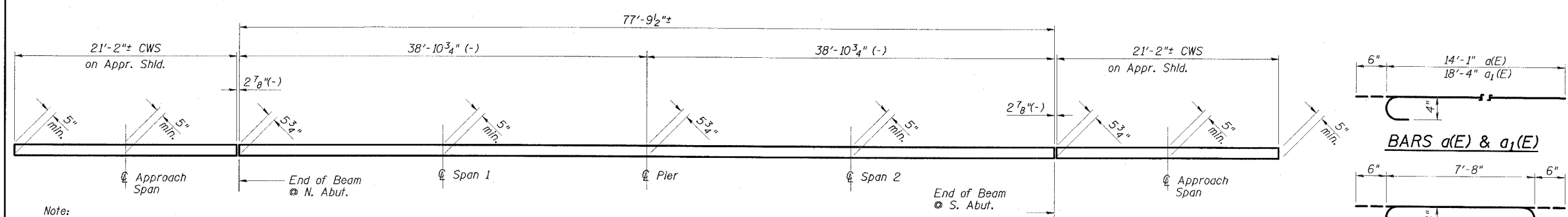
DESIGNED BY:	DAJ	09/07
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CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	ASSETS	SHEET NO.	SHEET NO. 5 17 SHEETS
FAP 776	115BR-1	HAMILTON	73	22	
FED. ROAD DIST. NO. 78027		ILLINOIS		FED. AID PROJECT	



PLAN - WEARING SURFACE



REINFORCED CONCRETE WEARING SURFACE PROFILE
(At edge of Bridge Deck)

Note:
Greater thickness is required at centerline of superstructure to conform to cross section slopes shown on Dwg. 7 of 17.

Note:
Reinforcement bars designated (E) shall be epoxy coated. Bars indicated thus 13x2 - #4 etc. indicates 13 lines with 2 lengths per line. For remainder of superstructure details see drawings 6 thru 9 of 17.

MIN. BAR LAP
#4 bar = 1'-8"

*Order bars full length cut to fit skew and use remainder of bars at other end of deck.

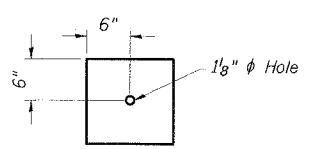
CONCRETE WEARING SURFACE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a(E)	78	#4	14'-7"	U	
a ₁ (E)	78	#4	18'-10"	U	
a ₂ (E)	48	#4	8'-8"	U	
a ₃ (E)	6	#4	20'-5"	U	
a ₄ (E)	6	#4	26'-5"	U	
b(E)	102	#4	26'-10"	—	
b ₁ (E)	42	#4	3'-0"	—	
b ₂ (E)	24	#4	20'-9"	—	
Reinforcement Bars, Epoxy Coated				Pound	4460
Concrete Wearing Surface, 5"				Sq. Yd.	357
Bridge Deck Grooving				Sq. Yd.	330
Bar Splicers				Each	84
Protective Coat				Sq. Yd.	357

BARS a(E) & a₁(E)

BAR a₂(E)

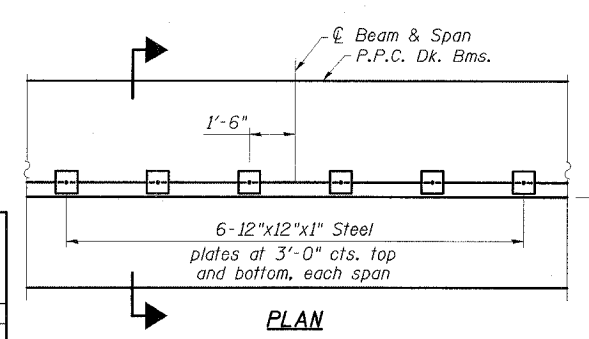
BARS a₃(E) & a₄(E)



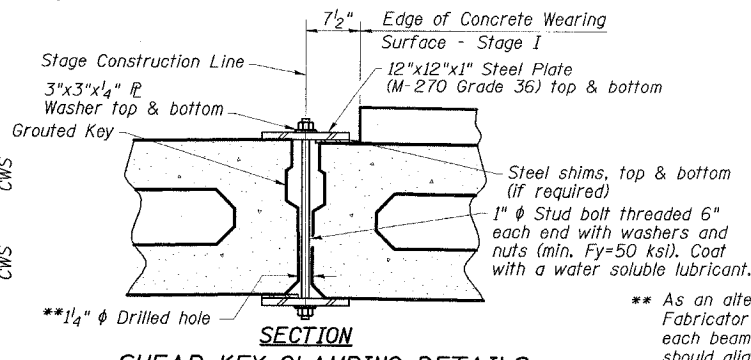
CLAMPING PLATE

Note:
See Stage Construction Details for traffic lanes. Cost is included with Precast Prestressed Concrete Deck Beams.

** As an alternate to the drilled holes, the Contractor may request the Fabricator to cast 2" diameter semi-circular recesses in the sides of each beam adjacent to the Stage Construction Line. These recesses should align to form a hole at the appropriate location for the clamping device bolts. If the Contractor elects to use this alternate, the details shall be identified on the shop drawings.



PLAN



SECTION
SHEAR KEY CLAMPING DETAILS

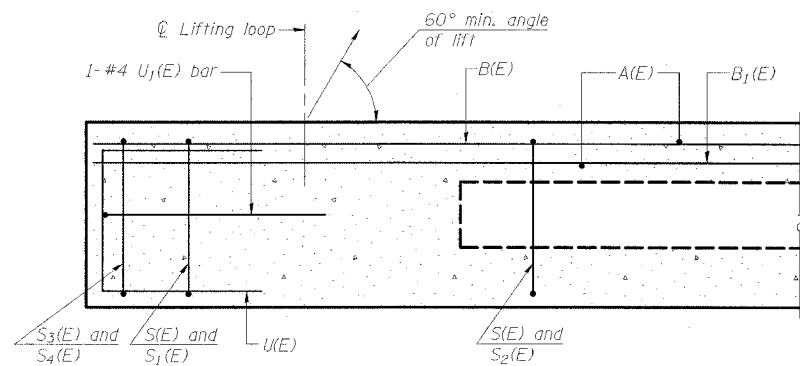
ESCA CONSULTANTS, INC.		
DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	02/08
APPROVED BY:	RDP	02/08

SUPERSTRUCTURE
IL 142 OVER BEAR CREEK
FA ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016

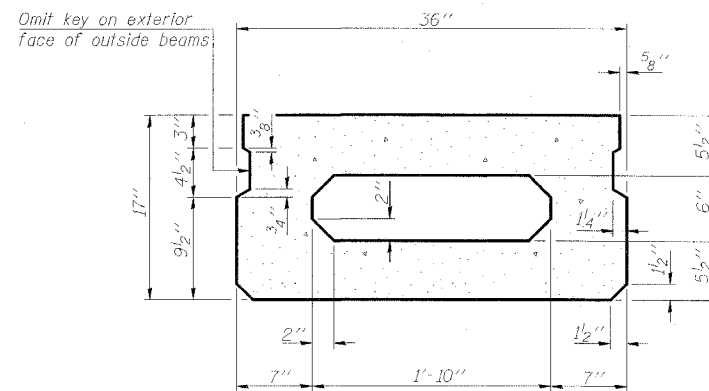
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
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FED. ROAD DIST. NO. 5		ILLINOIS	FED. AID PROJECT	
78027				

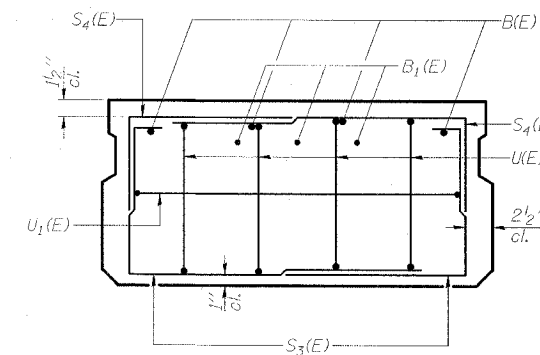
SHEET NO. 6
17 SHEETS



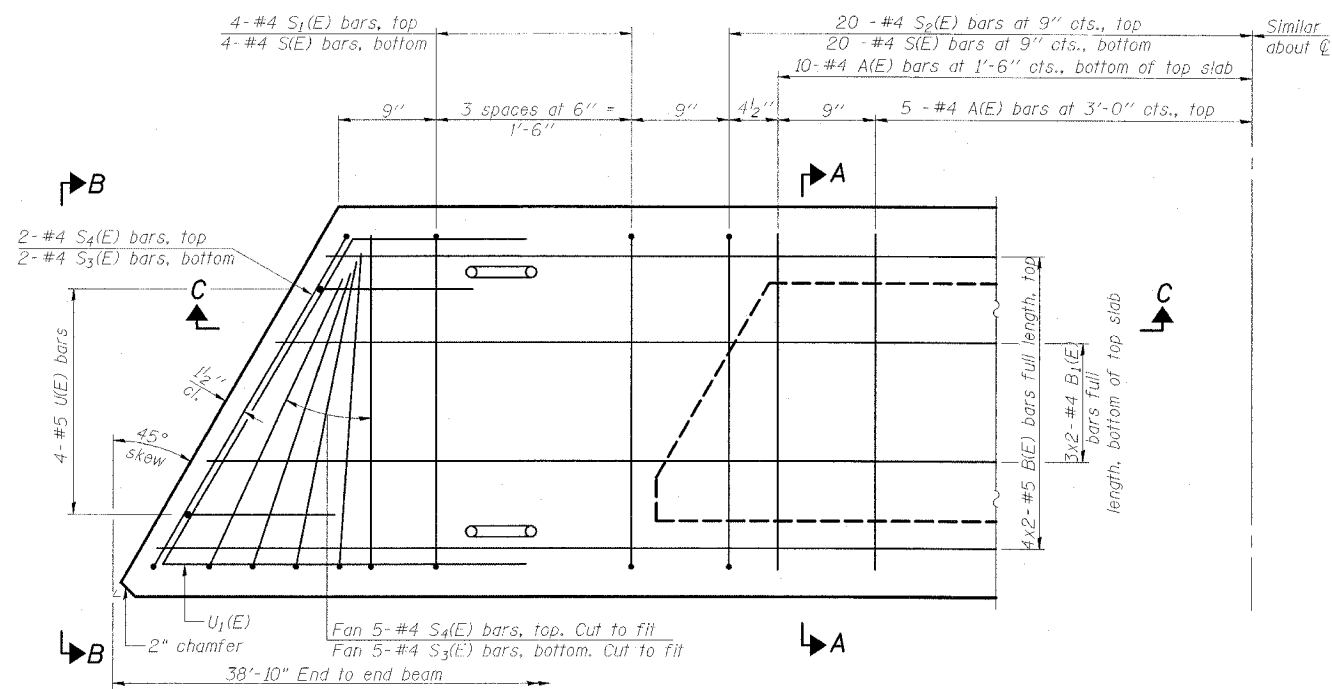
SECTION C-C



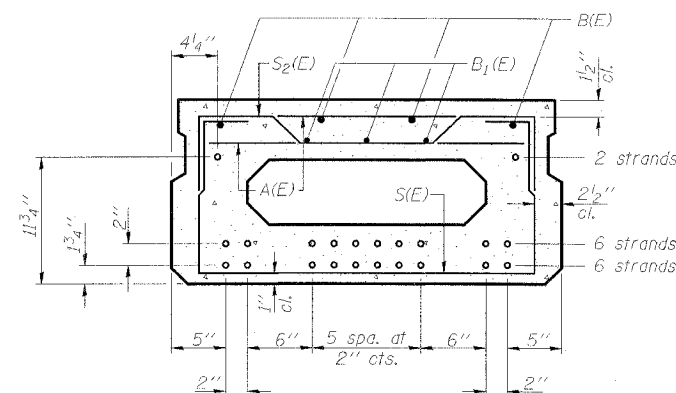
SECTION A-A
(Showing dimensions)



VIEW B-B



PLAN VIEW



SECTION A-A

(Showing reinforcement and permissible strand locations)

14 - 1/2" diameter strands, each strand stressed to 30,900 lbs.

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	30	#4	2'-7"	—
B(E)	8	#5	21'-10"	—
B1(E)	6	#4	21'-0"	—
S(E)	48	#4	5'-9"	U
S1(E)	8	#4	4'-11"	U
S2(E)	40	#4	5'-2"	U
S3(E)	14	#4	5'-2"	U
S4(E)	14	#4	4'-9"	U
U(E)	8	#5	3'-8"	U
U1(E)	2	#4	8'-7"	U

Note: See sheet 7 of 17 for additional details and Bill of Material.

Notes: 1. Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

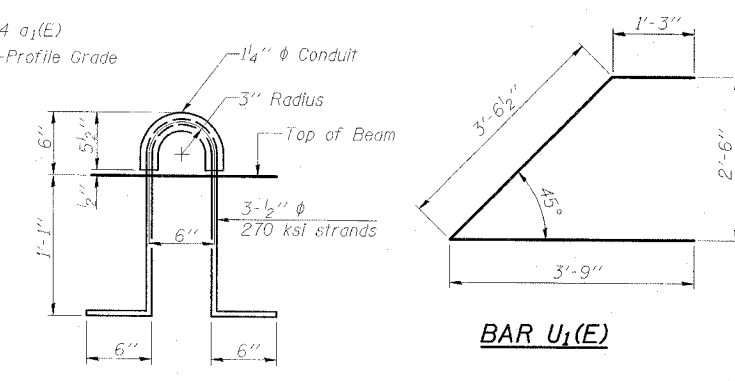
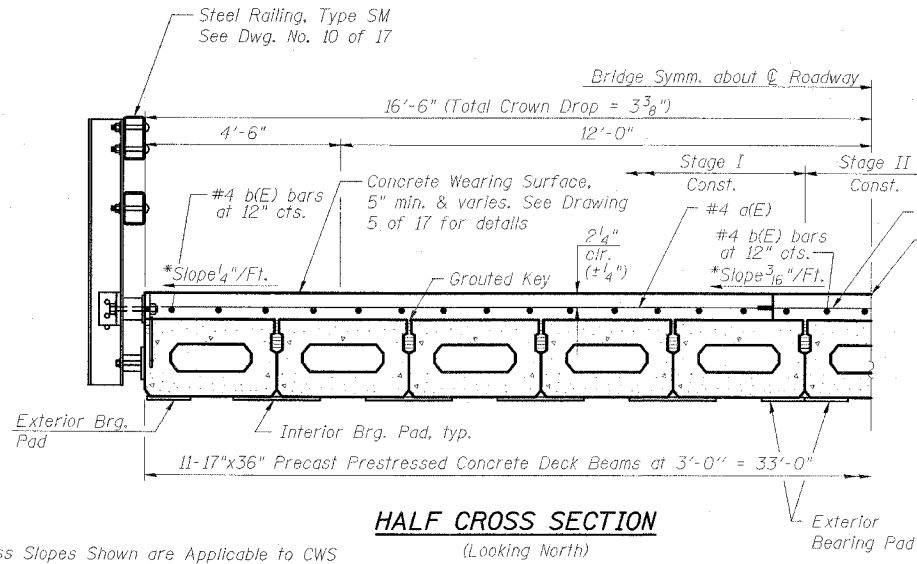
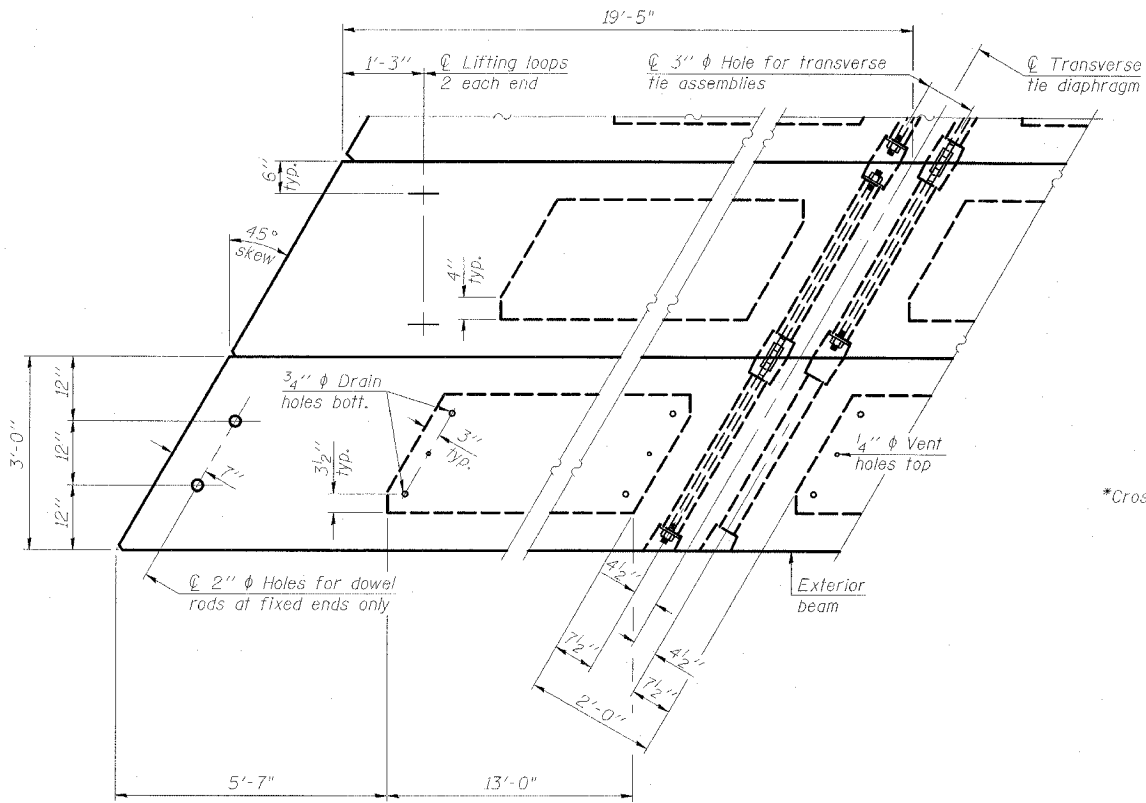
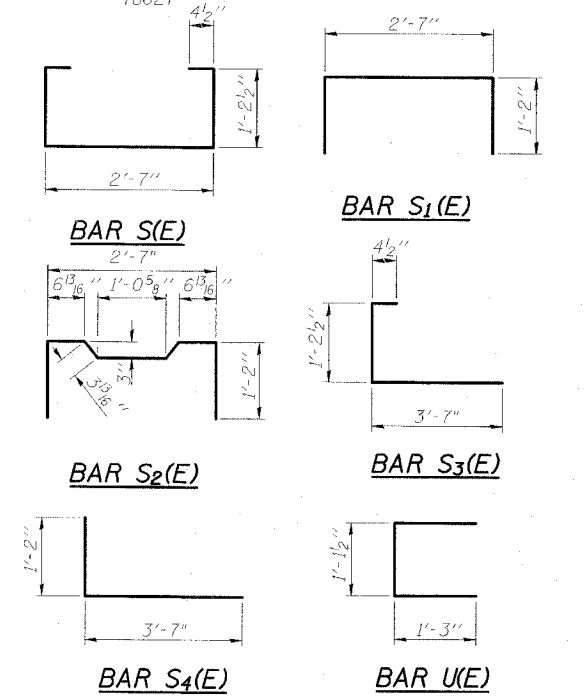
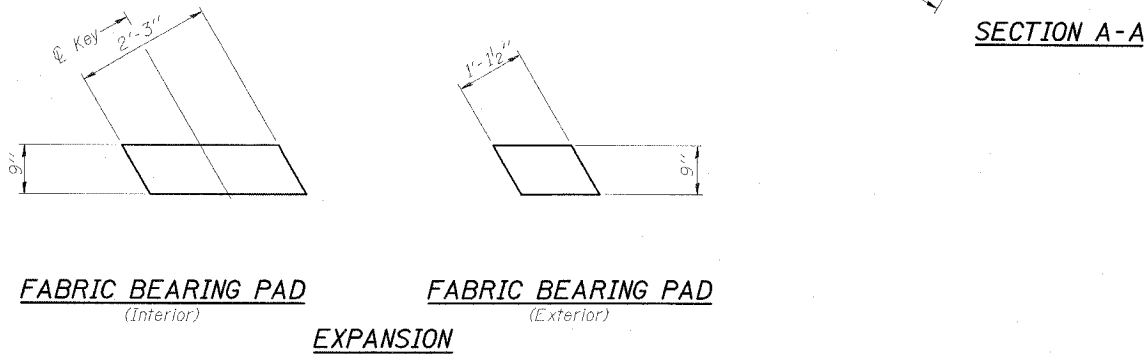
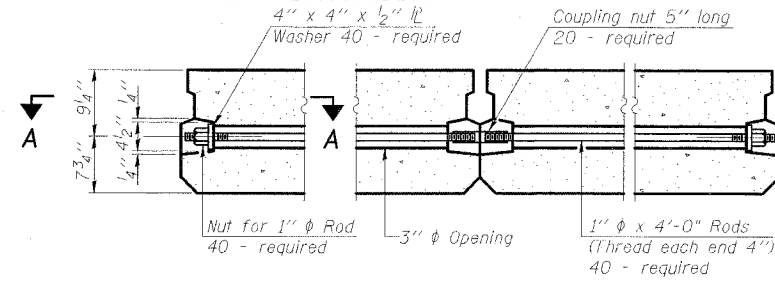
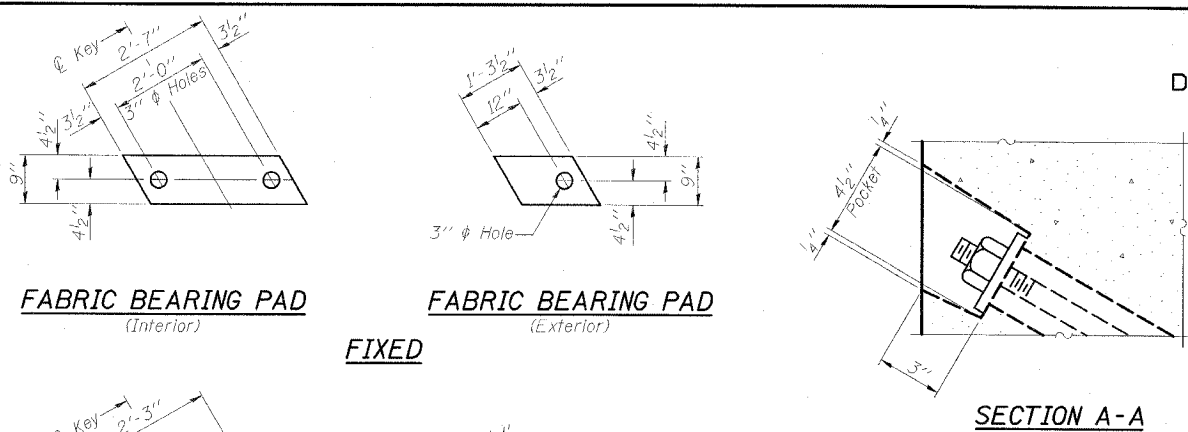
2. Adjust reinforcement locations to clear dowel holes at fixed ends.

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DESIGNED BY: DAJ 09/07
DRAWN BY: HAS 09/07
CHECKED BY: JMS/ELH 01/08
APPROVED BY: RDP 01/08

SUPERSTRUCTURE DETAILS
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAP 776	115BR-1	HAMILTON	73	24
FED. ROAD DIST. NO. 9		ILLINOIS		FED. AID PROJECT-
78027				17 SHEETS



*Cross Slopes Shown are Applicable to CWS

BILL OF MATERIAL

Item	Unit	Quantity
Precast Prestressed Conc. Deck Bms. (17" Depth)	Sq. Ft.	2563

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" φ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

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

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

Two 1/2" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2 1/2" φ lifting pin shall be used to engage the lifting loops during handling.

Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'_c, shall be 6000 psi.

Compressive strength of prestressed concrete at release, f'_{ci}, shall be 5000 psi.

See Dwg. No. 2 of 17 for location of rail anchors and additional notes.

SUPERSTRUCTURE DETAILS
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016

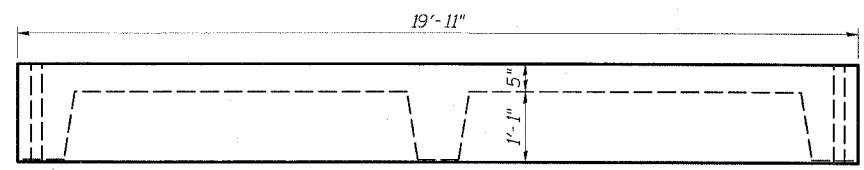
ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

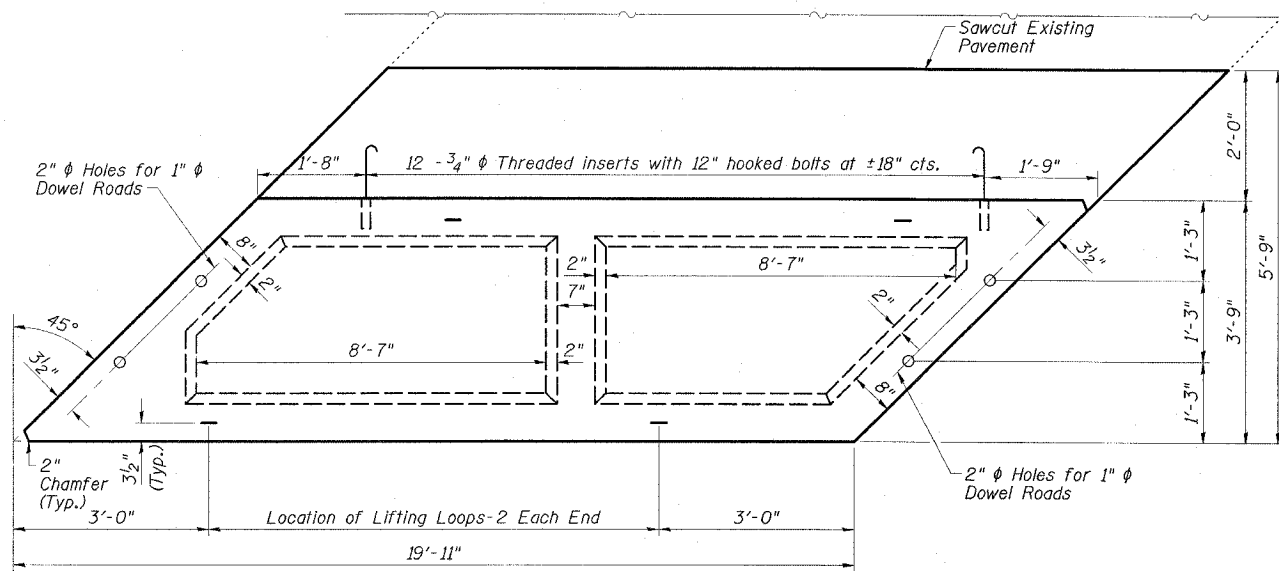
Note: Connect beams in pairs with the transverse tie configuration shown.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

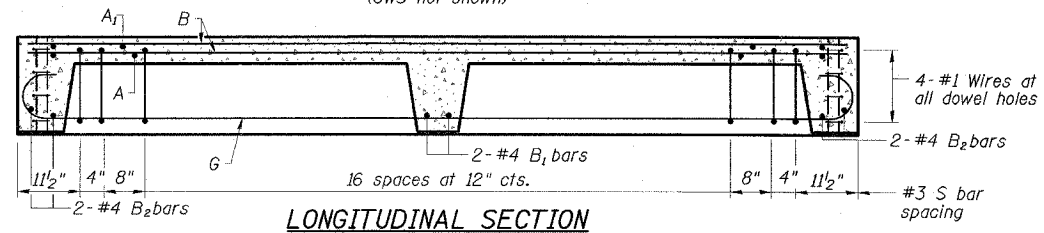
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FUND. ROAD DIST. NO. 4					ILLINOIS
FED. AID PROJECT					



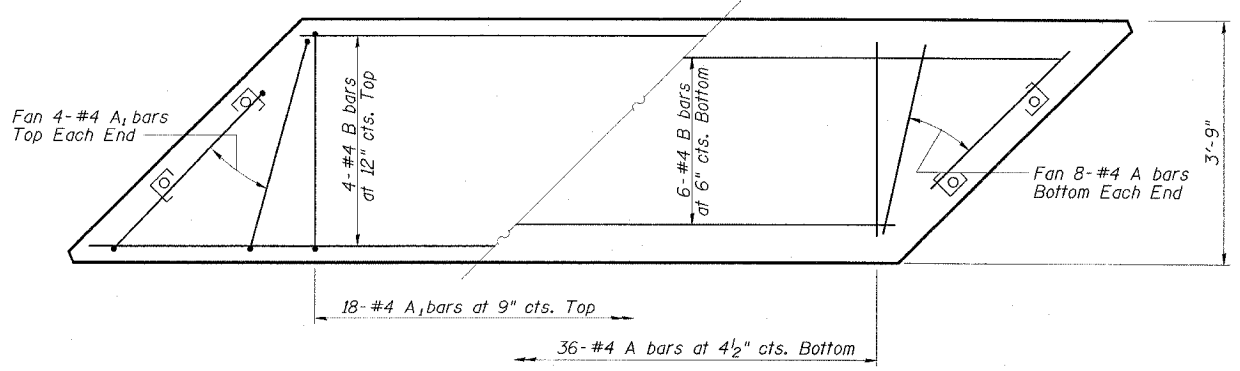
ELEVATION



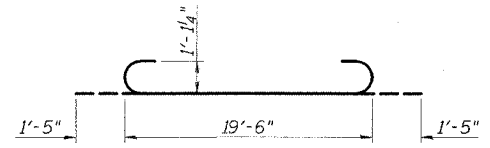
PARTIAL PLAN OF APPROACH
(CWS not shown)



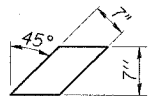
LONGITUDINAL SECTION



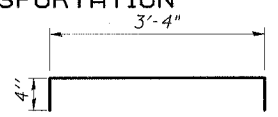
SLAB REINFORCEMENT



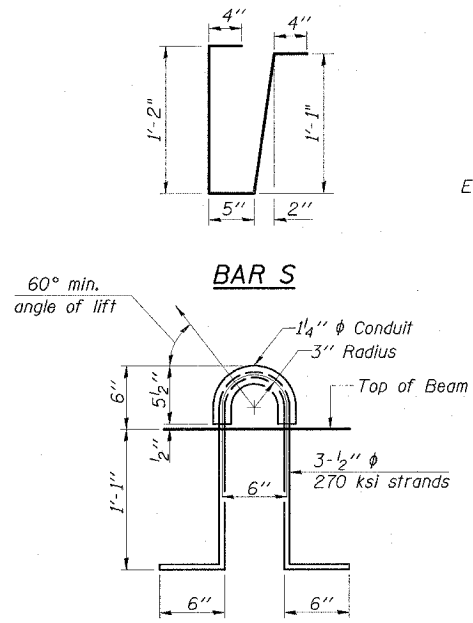
BAR G



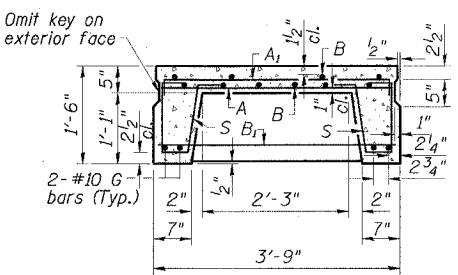
FABRIC BEARING PAD



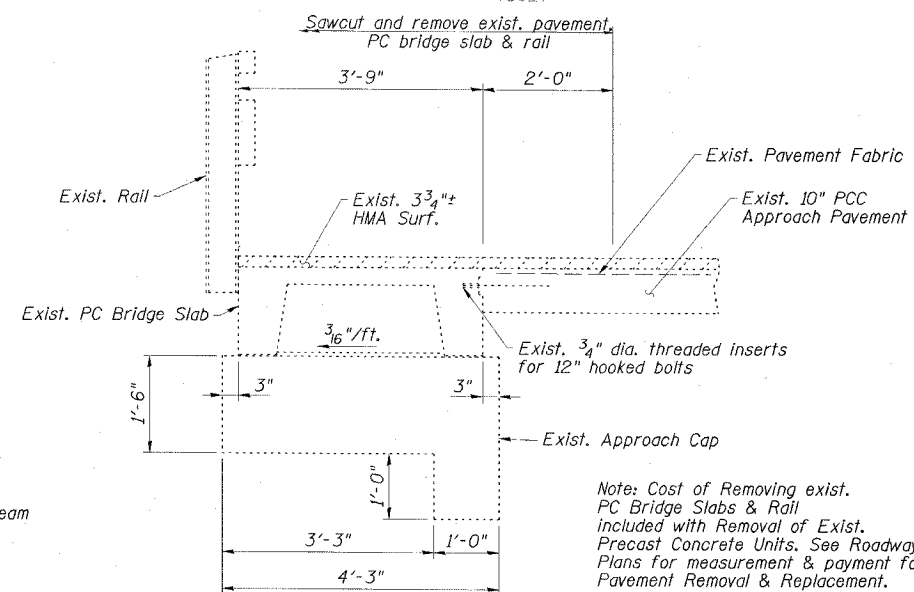
BAR A1



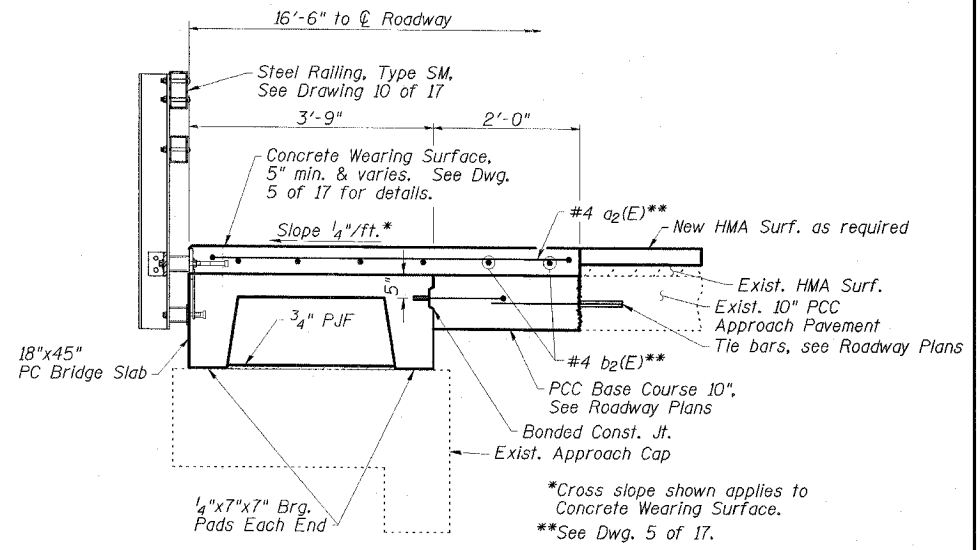
LIFTING LOOP DETAIL



SECTION THRU PRECAST UNIT



EXISTING CROSS SECTION



PROPOSED CROSS SECTION

NOTES

Reinforcing steel shall conform to ASTM A 706 (IL MOD), Grade 60.
The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Bearing Pad shall be provided for each bearing pad location.
Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the slabs. Cleaning shall be done by sandblasting the keyway areas between top of the slab and the bottom edge of the key.
Corrosion inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast concrete bridge slabs.
Required Strength, f'c, shall be 4500 p.s.i.
See Dwg. No. 2 of 17 for location of rail anchors and additional notes.
Cost of reinforcement and accessories cast into the slab unit, bearing pads, furnishing, drilling for, placing and grouting anchor rods and 3/4" hooked bolts is included in contract Unit Price for "Precast Concrete Bridge Slab."
The Precast Concrete Bridge Slab shall be erected and aligned with the exterior face of the exterior Deck Beam after Deck Beams are in final position.
A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.

BILL OF MATERIAL

Item	Unit	Quantity
Precast Concrete Bridge Slab	Sq. Ft.	300

APPROACH DETAILS
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

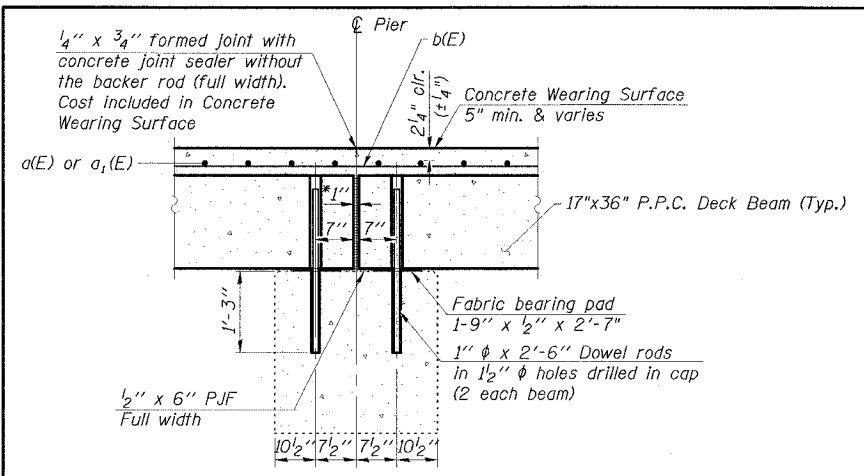
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO.
FAP 776	115BR-1	HAMILTON	73	26	17 SHEETS
FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT					

78027

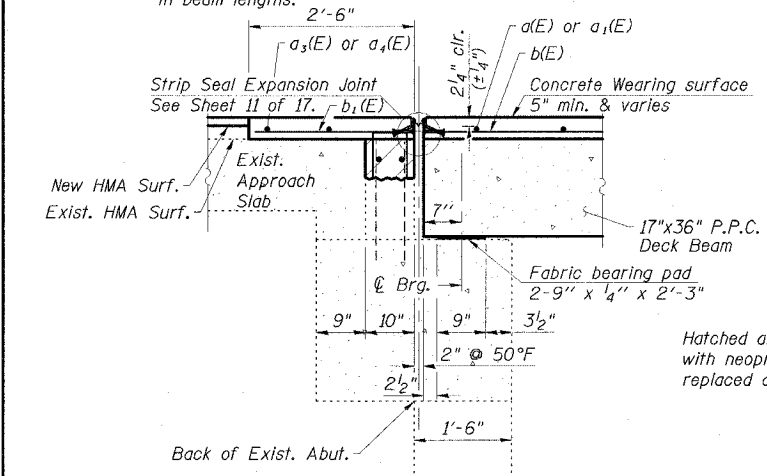
NOTES

- After beams have been erected, holes shall be drilled into substructure and dowels rods placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
- Concrete wearing surface to be poured after grouting the shear keys.
- Dowel rods drilled in cap are included in the cost of Precast Prestressed Concrete Deck Beams (17" Depth) or Precast Concrete Bridge Slabs.
- The rail anchorage shall be cast with the beam or slab and the wearing surface shall be cast in the field. Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam or slab. Drilling into the beam or slab will not be permitted.
- 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.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.



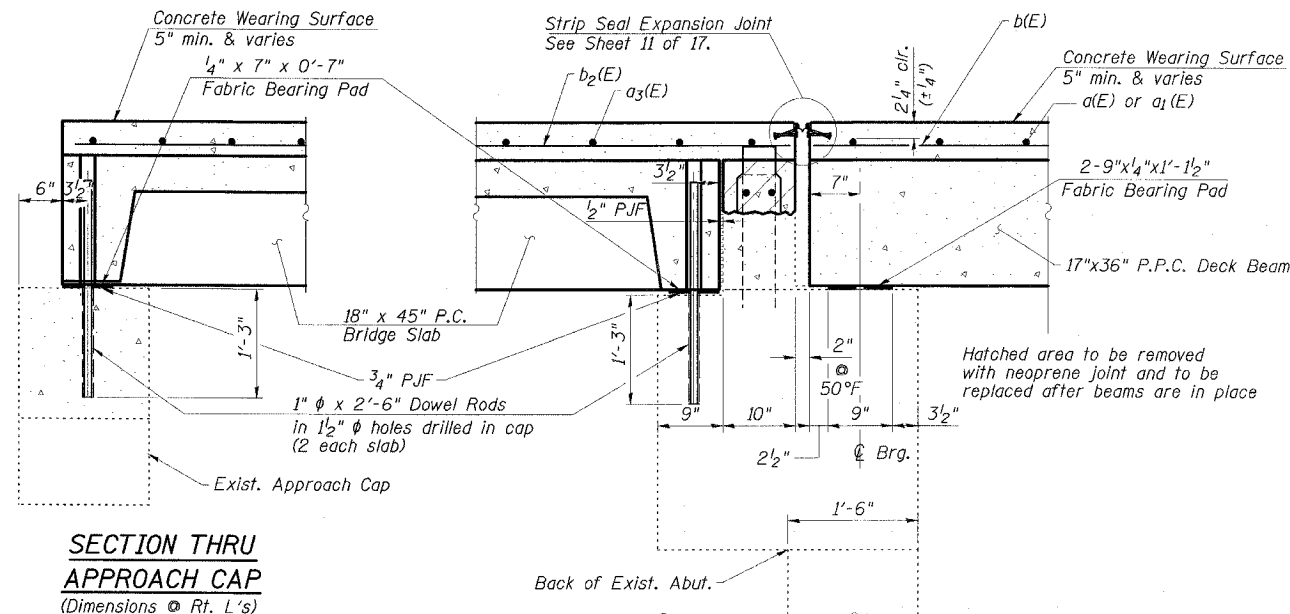
SECTION THRU FIXED PIER

(Dimensions @ Rt. L's)
* 1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.



SECTION THRU ABUTMENT @ ROADWAY

(Dimensions @ Rt. L's)

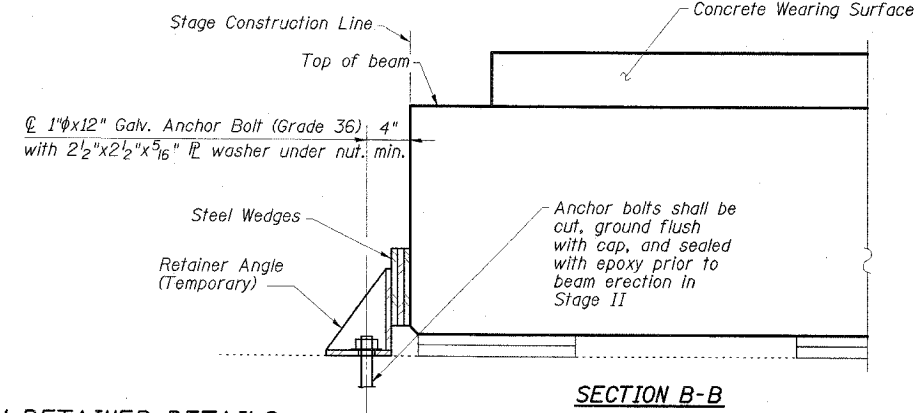
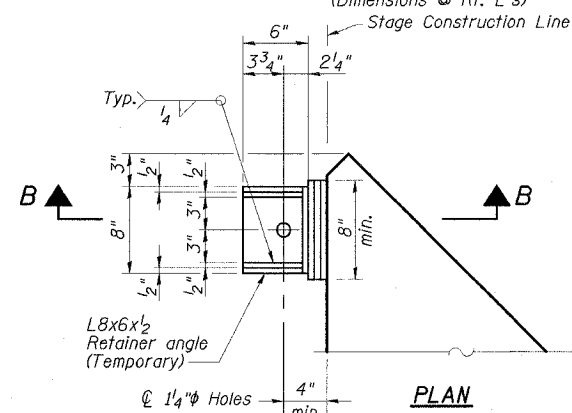


SECTION THRU APPROACH CAP

(Dimensions @ Rt. L's)

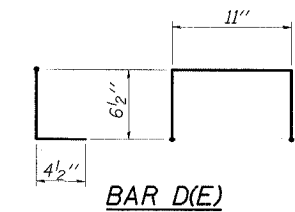
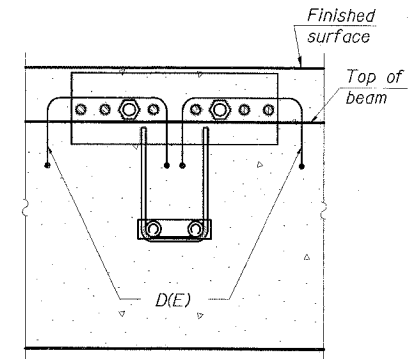
SECTION THRU ABUTMENT @ OUTSIDE BEAM

(Dimensions @ Rt. L's)

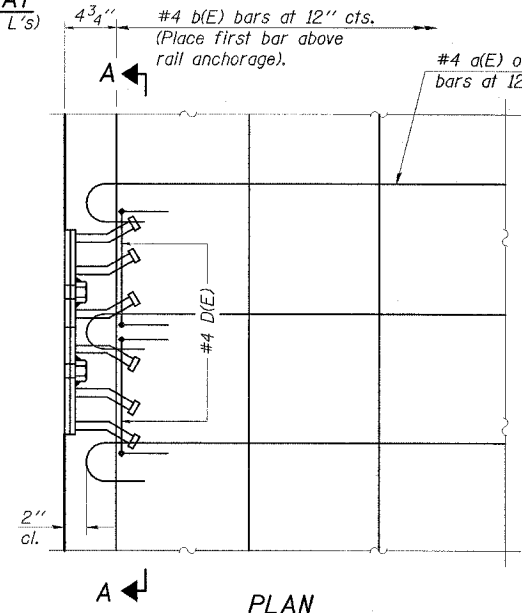


BEAM RETAINER DETAILS AT STAGE CONSTRUCTION LINE

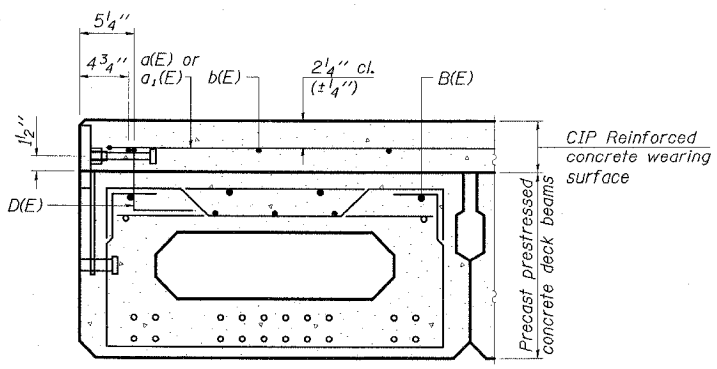
(2 Required)



SUPERSTRUCTURE AND APPROACH DETAILS
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016



PLAN



CROSS SECTION

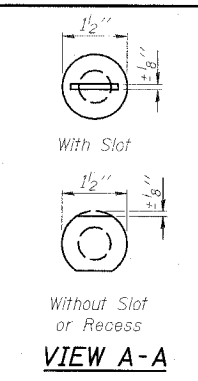
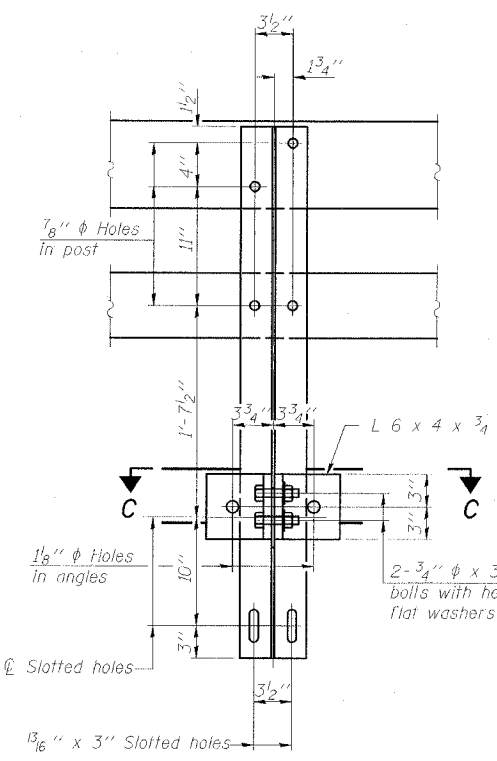
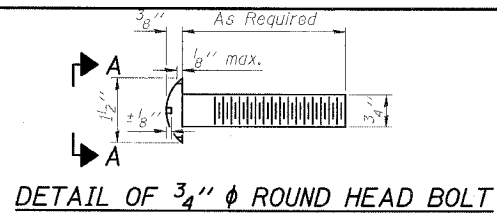
(Deck beam shown; PC bridge slab similar)

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

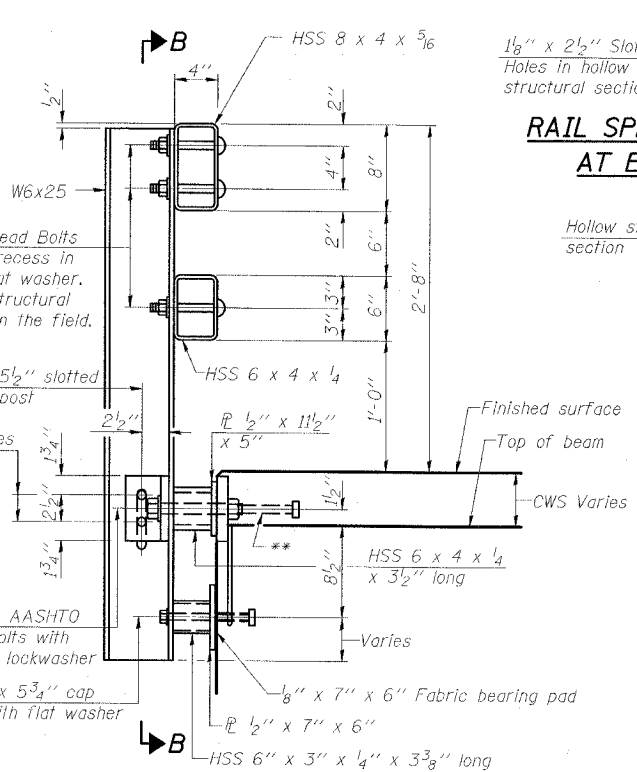
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAP 776	115BR-1	HAMILTON	73	27
FED. ROAD DIST. NO. 4				ILLINOIS
FED. AID PROJECT				78027



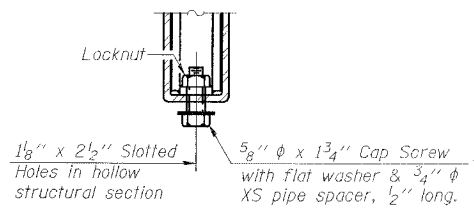
4- 3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" ϕ holes in hollow structural section may be drilled in the field.

SECTION B-B

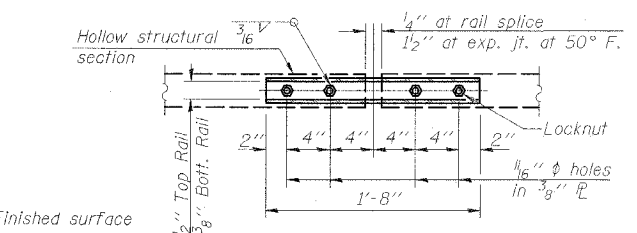
SECTION C-C



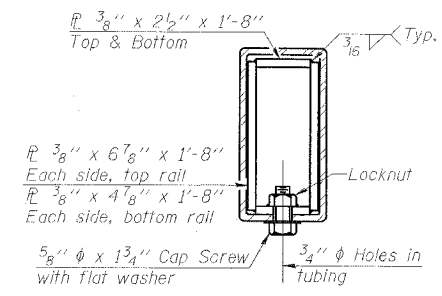
SECTION AT RAIL POST



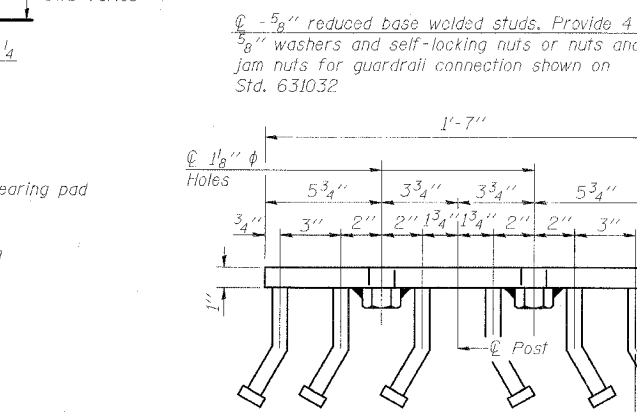
RAIL SPLICE CONNECTION AT EXPANSION JT.



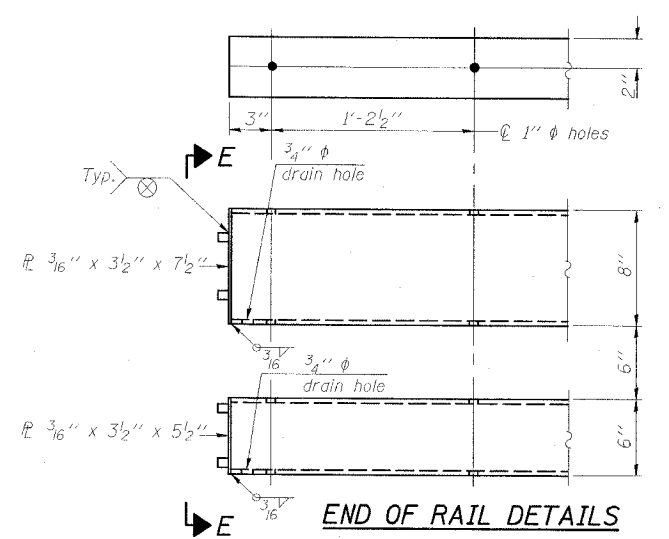
PLAN-BOTT. SPLICE R TYPICAL



SECTION AT RAIL SPLICE



VIEW D-D



END OF RAIL DETAILS

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CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

(6'-3" Maximum Post Spacing) (5" minimum to 7 1/8" maximum CWS thickness)

*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.
Steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
**The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	241

STEEL RAILING, TYPE SM
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 11
FAP 776	115BR-1	HAMILTON	73	28	17 SHEETS
FED. AID DIST. NO. 4	ILLINOIS	FED. AID PROJECT			

78027

GENERAL NOTES

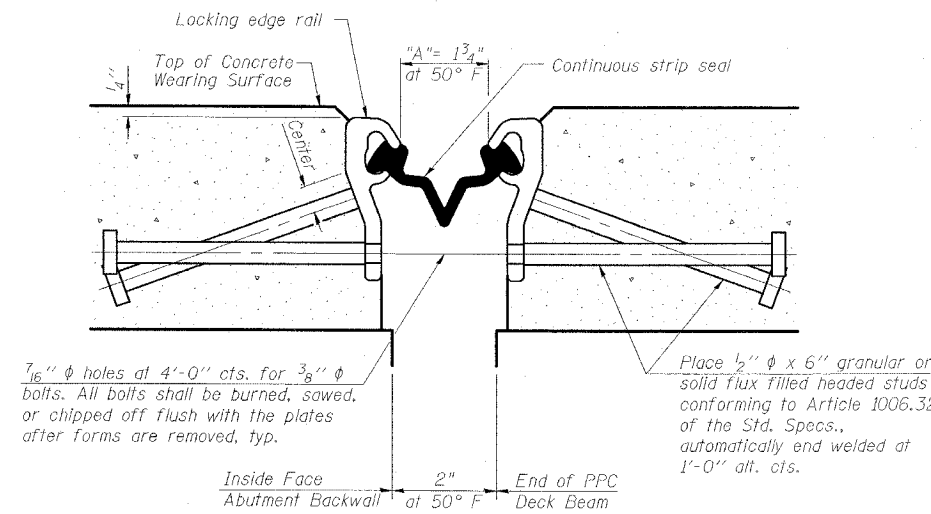
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. 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 and stage construction joints.

The manufacturer's recommended installation methods shall be followed.

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

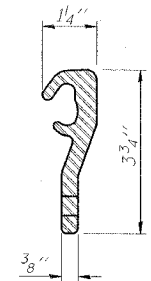


**SECTION THRU STRIP SEAL JOINT
FOR OVERLAY OVER DECK BEAMS**

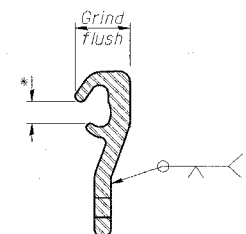
BILL OF MATERIAL

Item	Unit	Quantity
Preformed Joint Strip Seal	Foot	94

* Omit weld at seal opening.



LOCKING EDGE RAIL



LOCKING EDGE RAIL SPLICE

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	02/08
APPROVED BY:	RDP	02/08

**STRIP SEAL EXPANSION JOINT
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO.
FAP 776	115BR-1	HAMILTON	73	29	17 SHEETS
FED. ROAD DIST. NO. 4	ALIANCES	FED. AID PROJECT			

78027

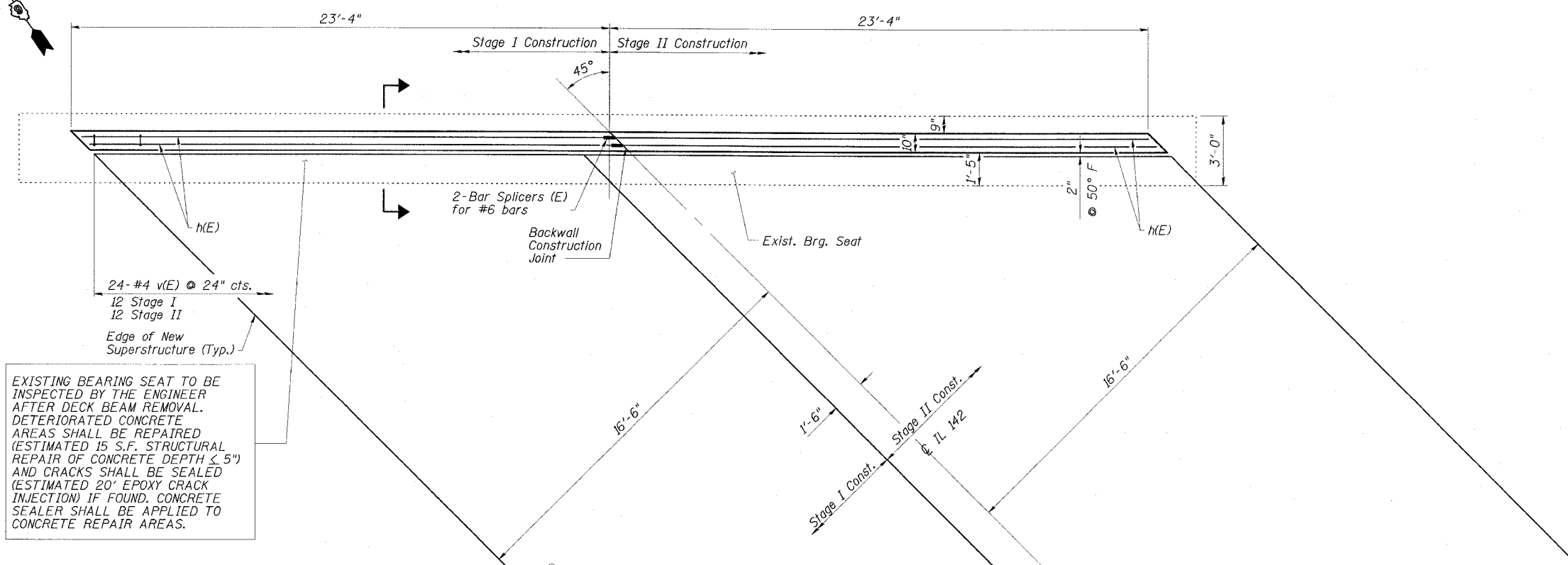
**NORTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	4	#6	22'-10"	
v(E)	24	#4	1'-11"	□
Concrete Sealer		Sq. Ft.	44	
Epoxy Crack Injection		Foot	23	
Structural Repair of Concrete (Depth Equal to or Less Than 5")		Sq. Ft.	22	
Concrete Removal		Cu. Yd.	0.9	
Concrete Structures		Cu. Yd.	0.9	
Reinforcement Bars, Epoxy Coated		Pound	170	
Asbestos Bearing Pad Removal		Each	22	
Bar Splicers		Each	2	

REPAIR LEGEND

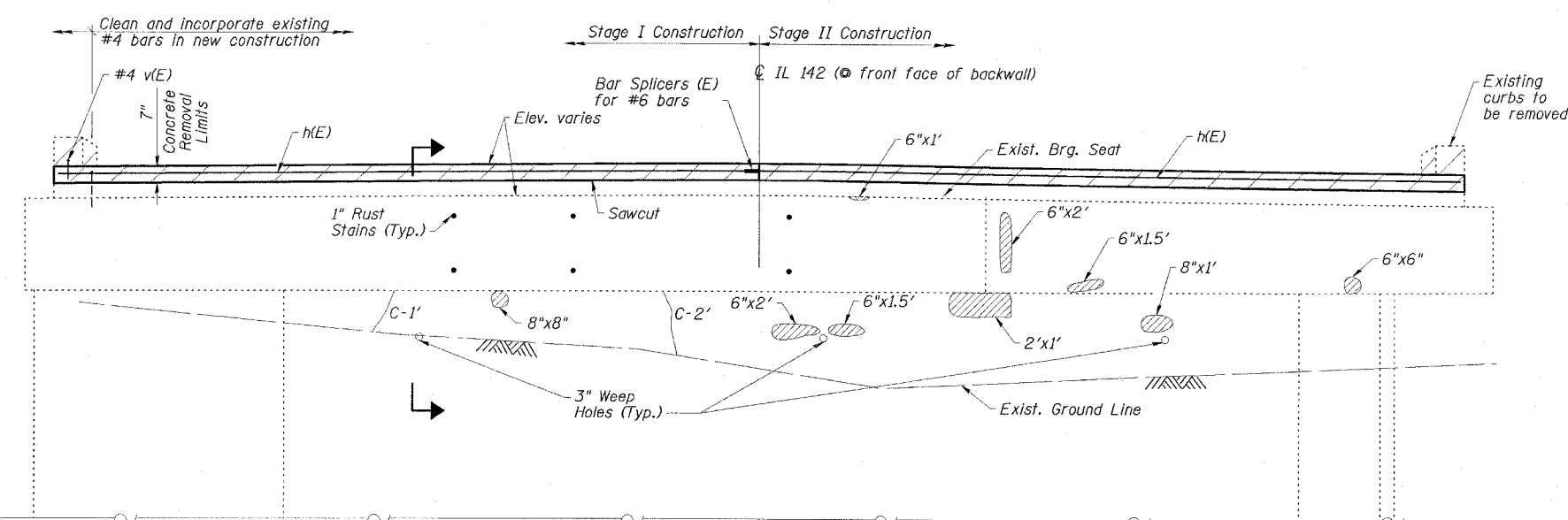
Inspection Date: 12/10/07

- C-6' Crack to be epoxy injected
- Delaminated or Spalled Area - Use Structural Repair of Concrete
- Rust Stain



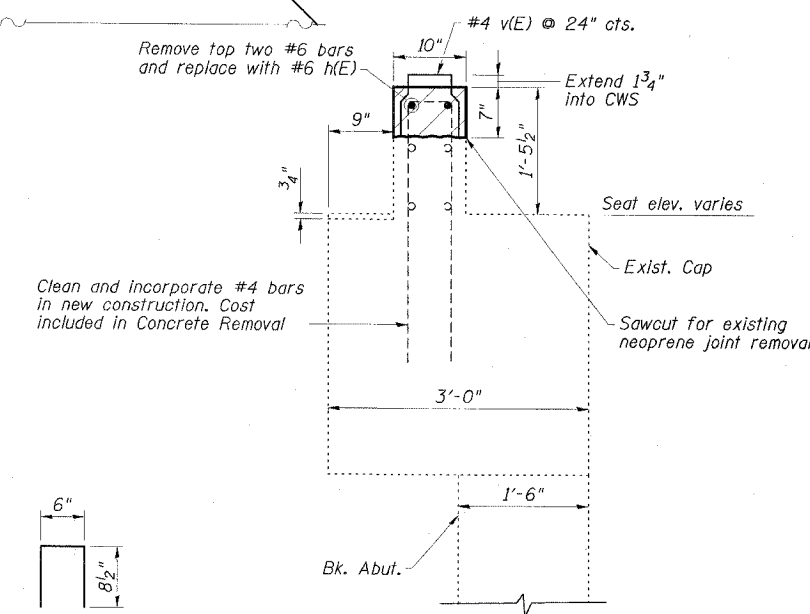
EXISTING BEARING SEAT TO BE INSPECTED BY THE ENGINEER AFTER DECK BEAM REMOVAL. DETERIORATED CONCRETE AREAS SHALL BE REPAIRED (ESTIMATED 15 S.F. STRUCTURAL REPAIR OF CONCRETE DEPTH \leq 5") AND CRACKS SHALL BE SEALED (ESTIMATED 20' EPOXY CRACK INJECTION) IF FOUND. CONCRETE SEALER SHALL BE APPLIED TO CONCRETE REPAIR AREAS.

PLAN



ELEVATION

NOTE: ABUTMENT CRACK REPAIR LENGTHS AND STRUCTURAL REPAIR OF CONCRETE AREAS ARE ESTIMATED FROM 12-10-07 SURVEY WORK. ACTUAL LOCATIONS AND QUANTITIES OF REPAIRS SHALL BE SHOWN BY THE ENGINEER ON THE AS-BUILT PLANS FOR THIS SECTION.



BAR v(E)

SECTION THRU ABUTMENT

**NORTH ABUTMENT
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016**

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 13
FAP 776	115BR-1	HAMILTON	73	30	17 SHEETS
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT			

78027

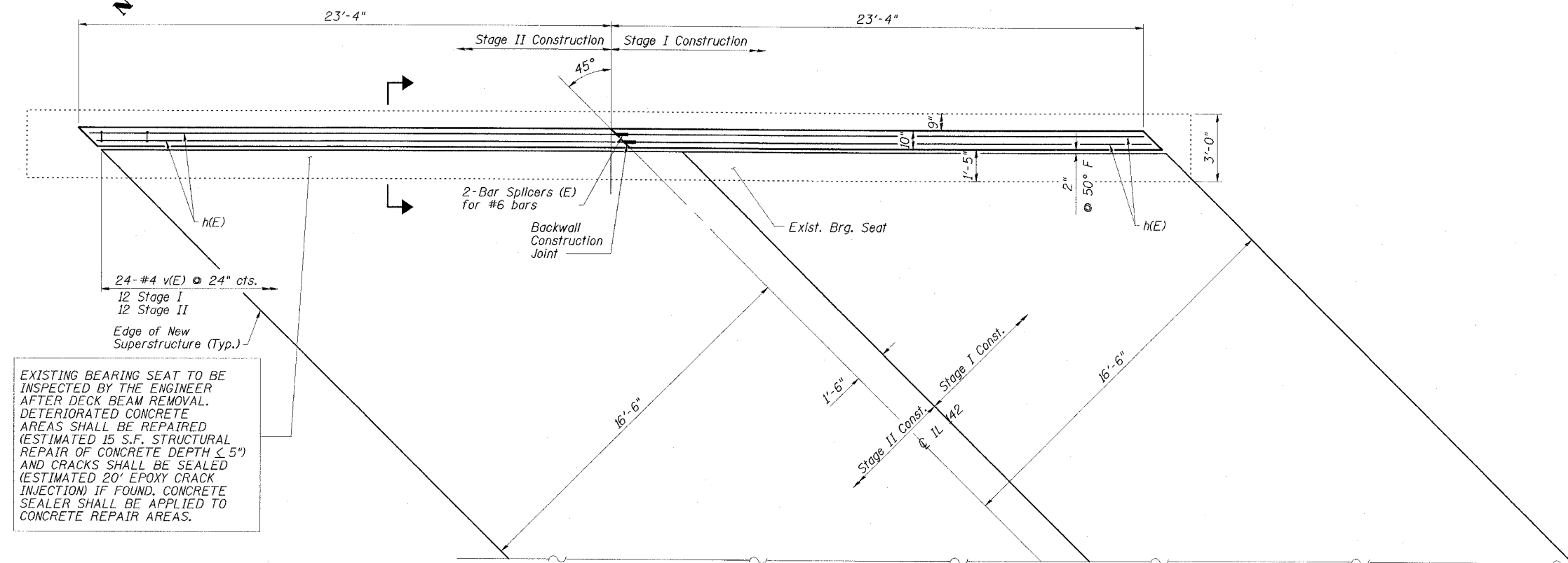
**SOUTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	4	#6	22'-10"	—
v(E)	24	#4	1'-11"	□
Concrete Sealer		Sq. Ft.	44	
Epoxy Crack Injection		Foot	20	
Structural Repair of Concrete (Depth Equal to or Less Than 5")		Sq. Ft.	17	
Concrete Removal		Cu. Yd.	0.9	
Concrete Structures		Cu. Yd.	0.9	
Reinforcement Bars, Epoxy Coated		Pound	170	
Asbestos Bearing Pad Removal		Each	22	
Bar Splicers		Each	2	

REPAIR LEGEND

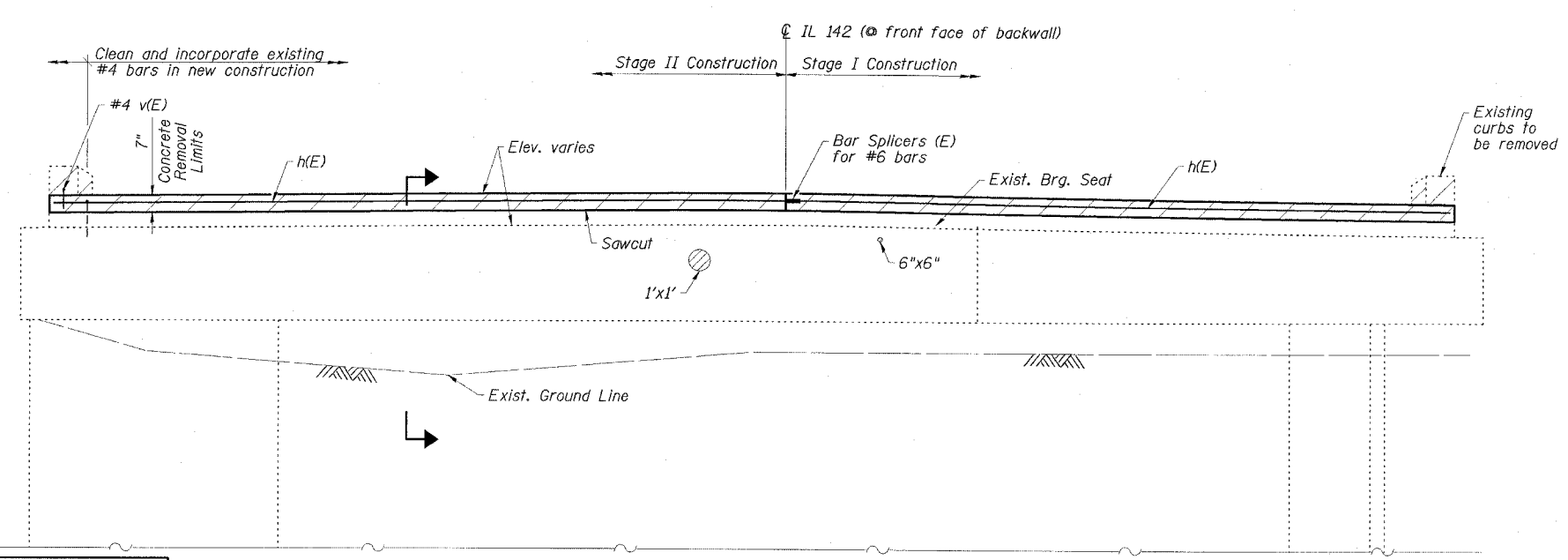
Inspection Date: 12/10/07

- C-6' Crack to be epoxy injected
- Delaminated or Spalled Area - Use Structural Repair of Concrete
- Rust Stain



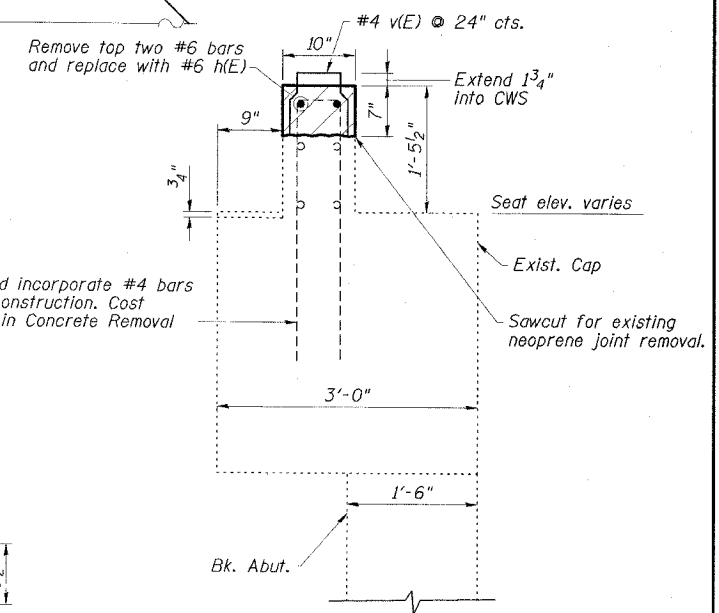
EXISTING BEARING SEAT TO BE INSPECTED BY THE ENGINEER AFTER DECK BEAM REMOVAL. DETERIORATED CONCRETE AREAS SHALL BE REPAIRED (ESTIMATED 15 S.F. STRUCTURAL REPAIR OF CONCRETE DEPTH < 5") AND CRACKS SHALL BE SEALED (ESTIMATED 20' EPOXY CRACK INJECTION) IF FOUND. CONCRETE SEALER SHALL BE APPLIED TO CONCRETE REPAIR AREAS.

PLAN



ELEVATION

NOTE: ABUTMENT CRACK REPAIR LENGTHS AND STRUCTURAL REPAIR OF CONCRETE AREAS ARE ESTIMATED FROM 12-10-07 SURVEY WORK. ACTUAL LOCATIONS AND QUANTITIES OF REPAIRS SHALL BE SHOWN BY THE ENGINEER ON THE AS-BUILT PLANS FOR THIS SECTION.



SECTION THRU ABUTMENT

**SOUTH ABUTMENT
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016**

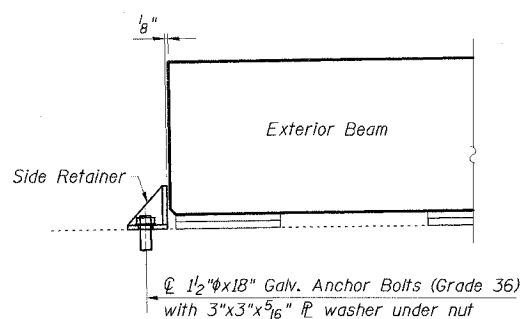
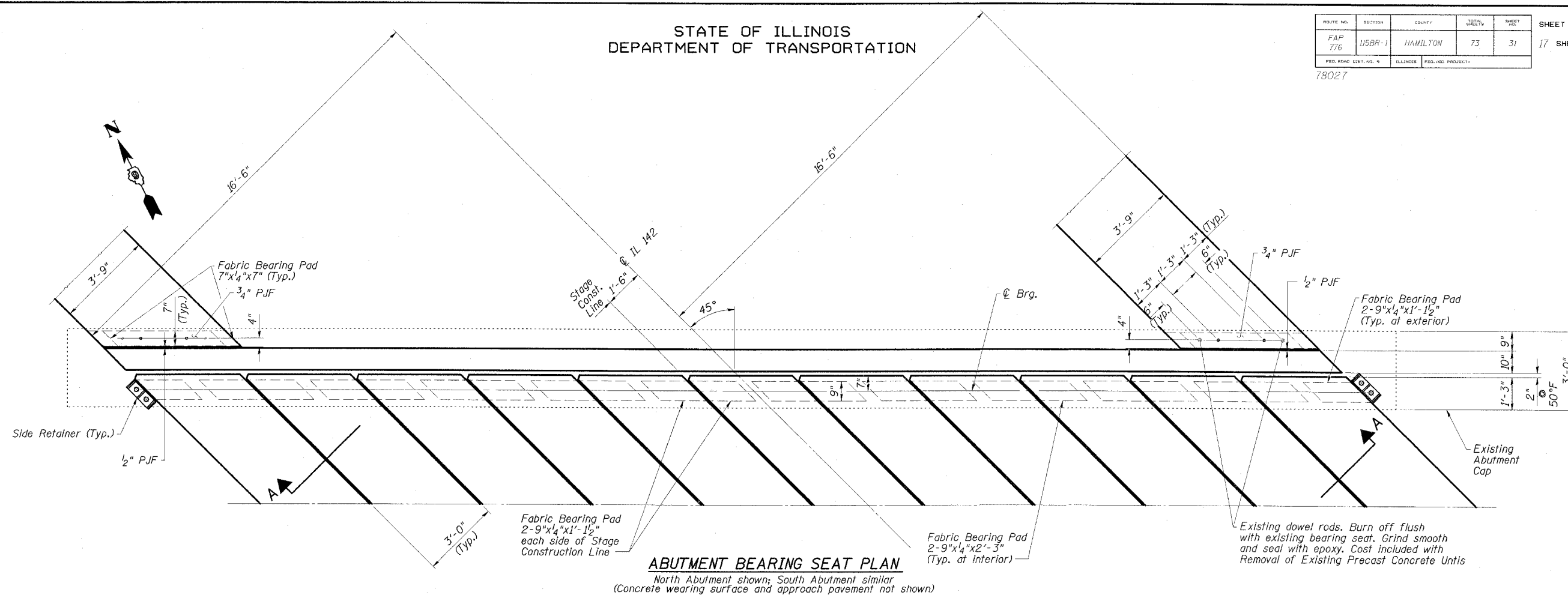
ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO.
FAP 776	115BR-1	HAMILTON	73	31	17 SHEETS
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT-					

78027

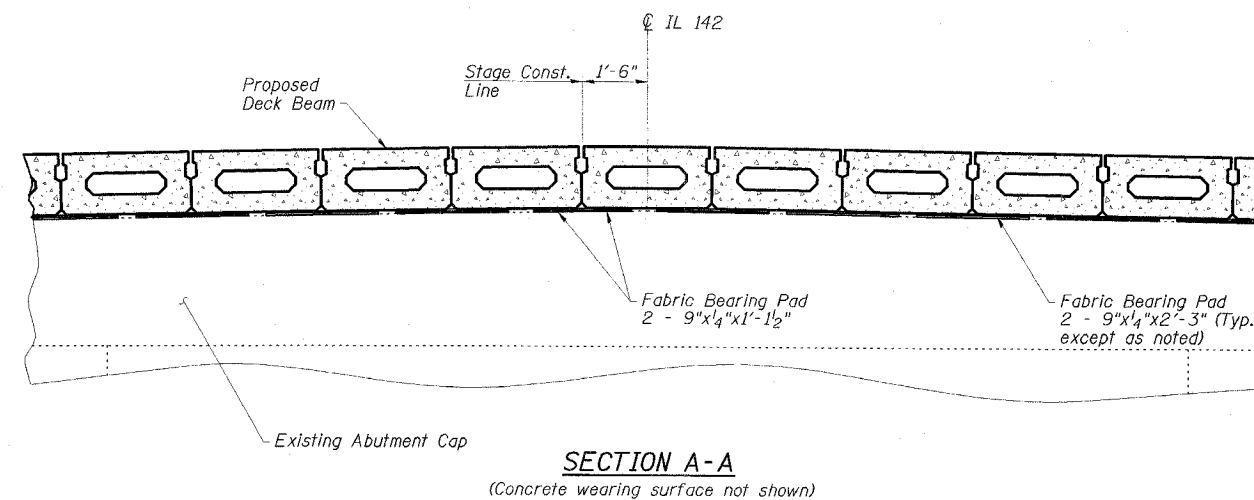
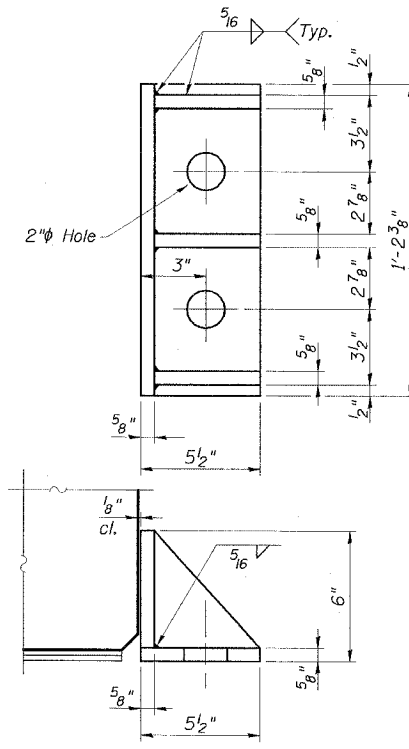


Cost of Retainer Angles, Anchor Bolts & accessories are included with Precast Prestressed Concrete Deck Beams.

Fill 1/8" gap with shim \bar{r} to provide temporary lateral support until shear keys have been grouted and concrete wearing surface has been placed.

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.

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



ABUTMENT DETAILS
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016

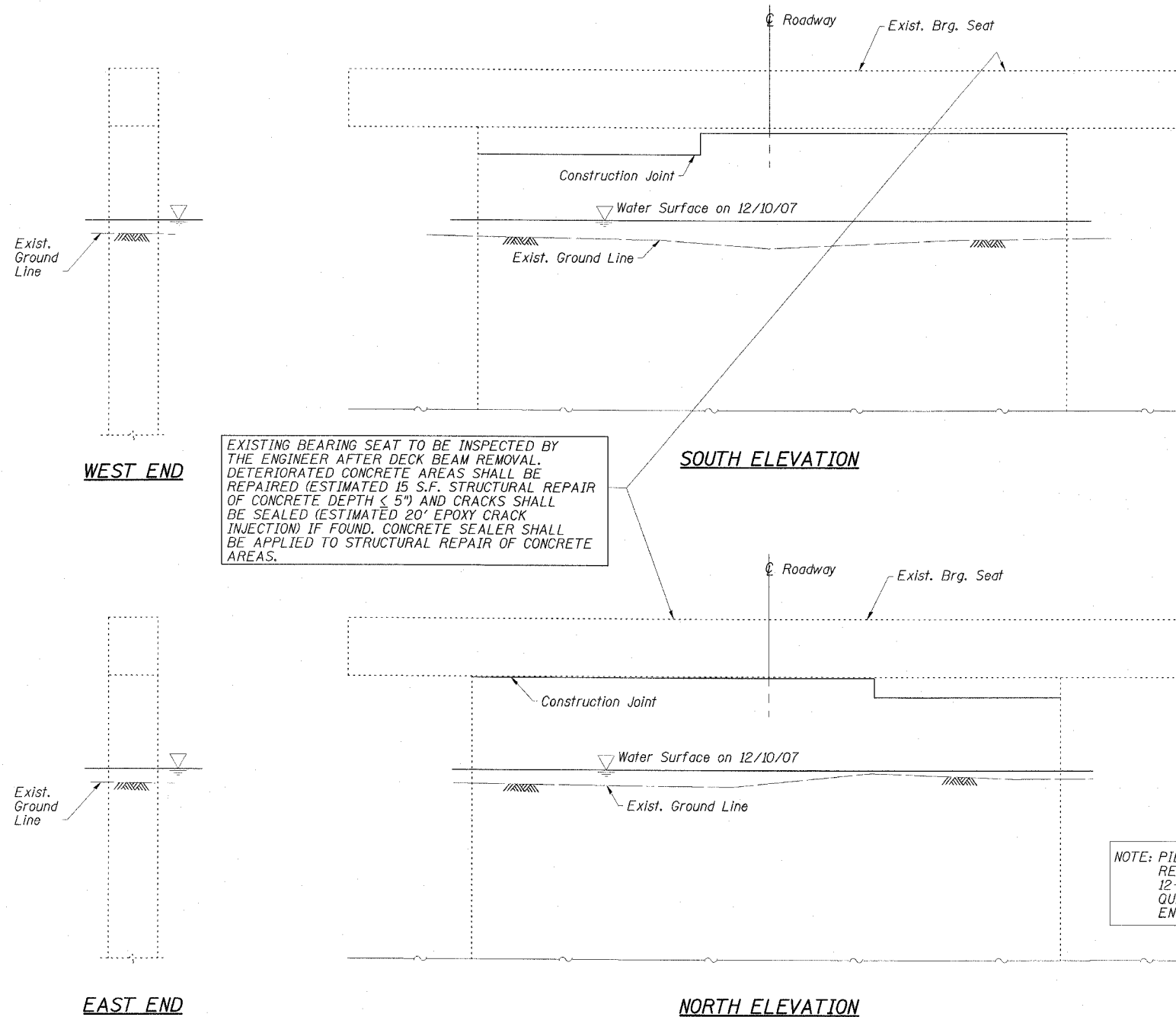
ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 15
FAP 776	115BR-1	HAMILTON	73	32	17 SHEETS
FED. ROAD DIST. NO. 4		BUSINESS	FILL AND PROJECT		

78027



**PIER
BILL OF MATERIAL**

Item	Unit	Total
Concrete Sealer	Sq. Ft.	15
Epoxy Crack Injection	Foot	20
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	15

REPAIR LEGEND

Inspection Date: 12/10/07

- C.-6' Crack to be epoxy injected
- Delaminated or Spalled Area - Use Structural Repair of Concrete

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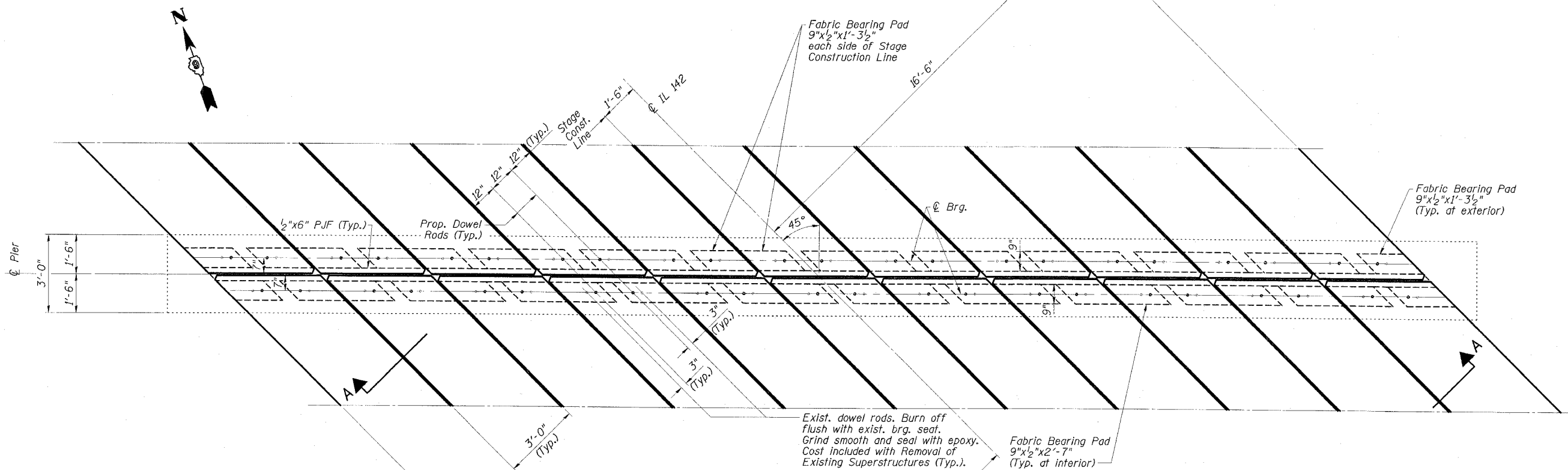
DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

PIER
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016

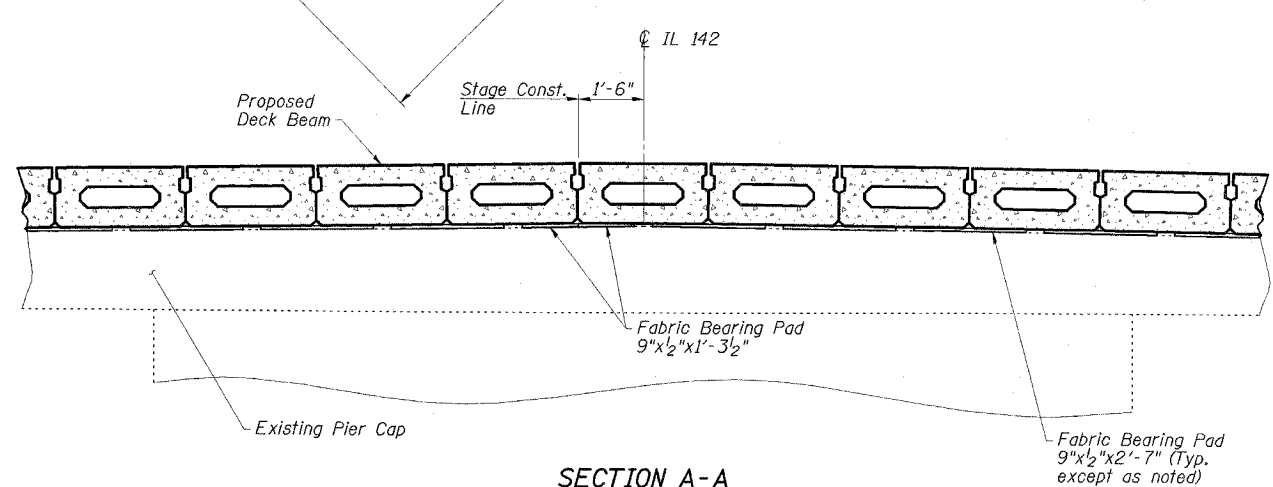
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO. 16 17 SHEETS
FAP 776	115BR-1	HAMILTON	73	33	
FED. ROAD DIST. NO. 9		ILLINOIS	FED. AID PROJECT		

78027



PIER BEARING SEAT PLAN
(Concrete wearing surface not shown)



SECTION A-A
(Concrete wearing surface not shown)

PIER DETAILS
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SUBSECTION	COUNTY	SECTIONS	SHEET	SHEET NO. 17 17 SHEETS
FAP 776	115BR-1	HAMILTON	73	34	
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT		78027

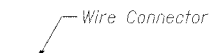
The diameter of this part is equal or larger than the diameter of bar spliced.

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

ROLLED THREAD DOWEL BAR



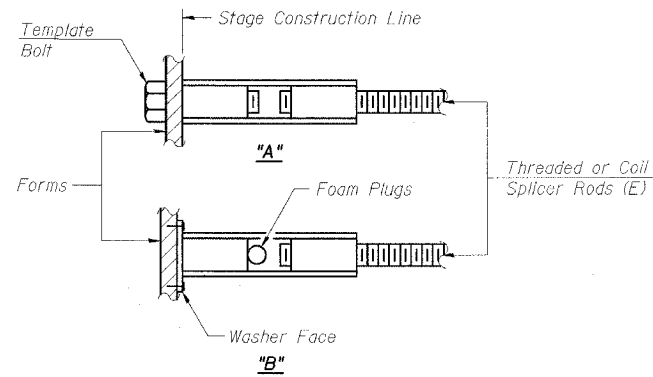
**** ONE PIECE**



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

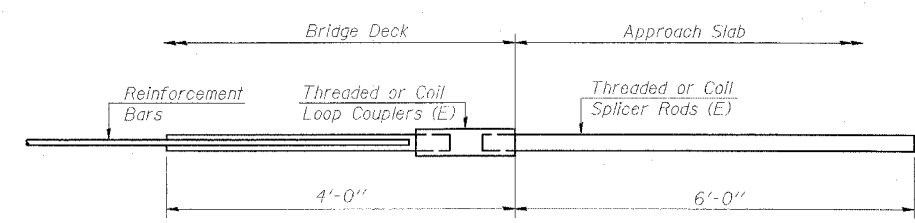
"A": Set bar splicer assembly by means of a template bolt.
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E): Indicates epoxy coating.

NOTES

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

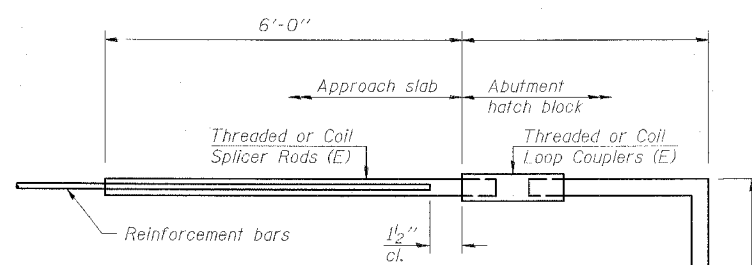
- Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
 - Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



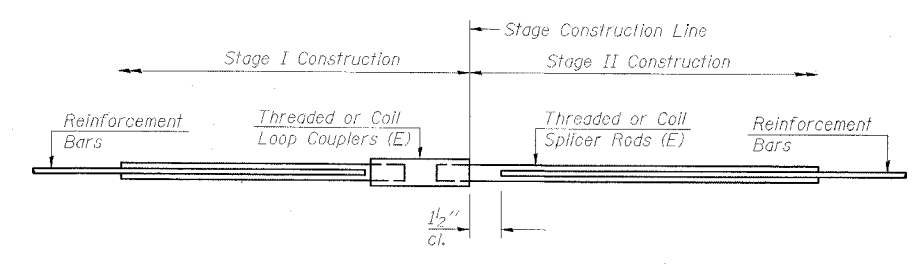
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 0



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 0



STANDARD

Bar Size	No. Assemblies Required	Location
#4	84	Concrete Wearing Surface
#6	2	North Abutment
#5	2	South Abutment

BAR SPLICER ASSEMBLY DETAILS
IL 142 OVER BEAR CREEK
FAP ROUTE 776 - SECTION 115BR-1
HAMILTON COUNTY
STATION 85+05.00
STRUCTURE NO. 033-0016

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	SHEET NO.
115BR-1	HAMILTON	15 5
TOTAL SHEETS 100		

GENERAL NOTES

All reinforcement bars shall be lapped 2d diameter unless otherwise shown.
It shall be the responsibility of the contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.
Protective Coat shall be applied to surfaces to which Waterproofing Membrane System is applied.
Preparation of concrete and 4"x12" haunched beams shall be shaped with broom finish concrete. Coat incidental. One coat of basic lead silico chromate shop primer shall be used for painting of structural steel.
The top surface of the beams shall be finished in accordance with Article 305.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANT	UNIT	TOTAL
Bituminous Concrete	Tons	24		24
Expansion Bolts 3/4"	EA	18	1.00	18
Concrete Reinforcing Steel	CY	153		153
Precast Prestressed Concrete Deck Beams (17')	SP. FT	2562		2562
Reinforcement Bars	LB	250	1.54	385
Steel Rolling Type	LB	331		331
Removal of Existing Superstructure	EA			1
Waterproofing Membrane	CY	275		275
Formwork	EA	20		20
Name Plates	EA			1
Expansion Bolts 3/4"	EA	24		24
Cast-in-place Concrete	CY	175		175
Class 2 Concrete	CY	75		75
Protective Coat	EA	1		1
Cast-in-place Concrete	CY	233		233
Cast-in-place Concrete	CY	330		330
Expansion Bolts 3/4"	EA	330		330
Replacement Road 10'	CY	14.0		14.0
Structure Elevation	EA	18		18
Channel Expansion	EA	318		318

GENERAL PLAN & ELEVATION
FA. RT 142 OVER BEAR CREEK
S.B. 27 142 SEC 115BR-1
HAMILTON COUNTY
STATION 83+06

FIELD UNITS
PRECAST UNITS

PRECAST PRESTRESSED UNITS

WATERWAY INFORMATION

NAME PLATES

PROPOSED PROFILE S.B. 27 142

PLAN

ELEVATION

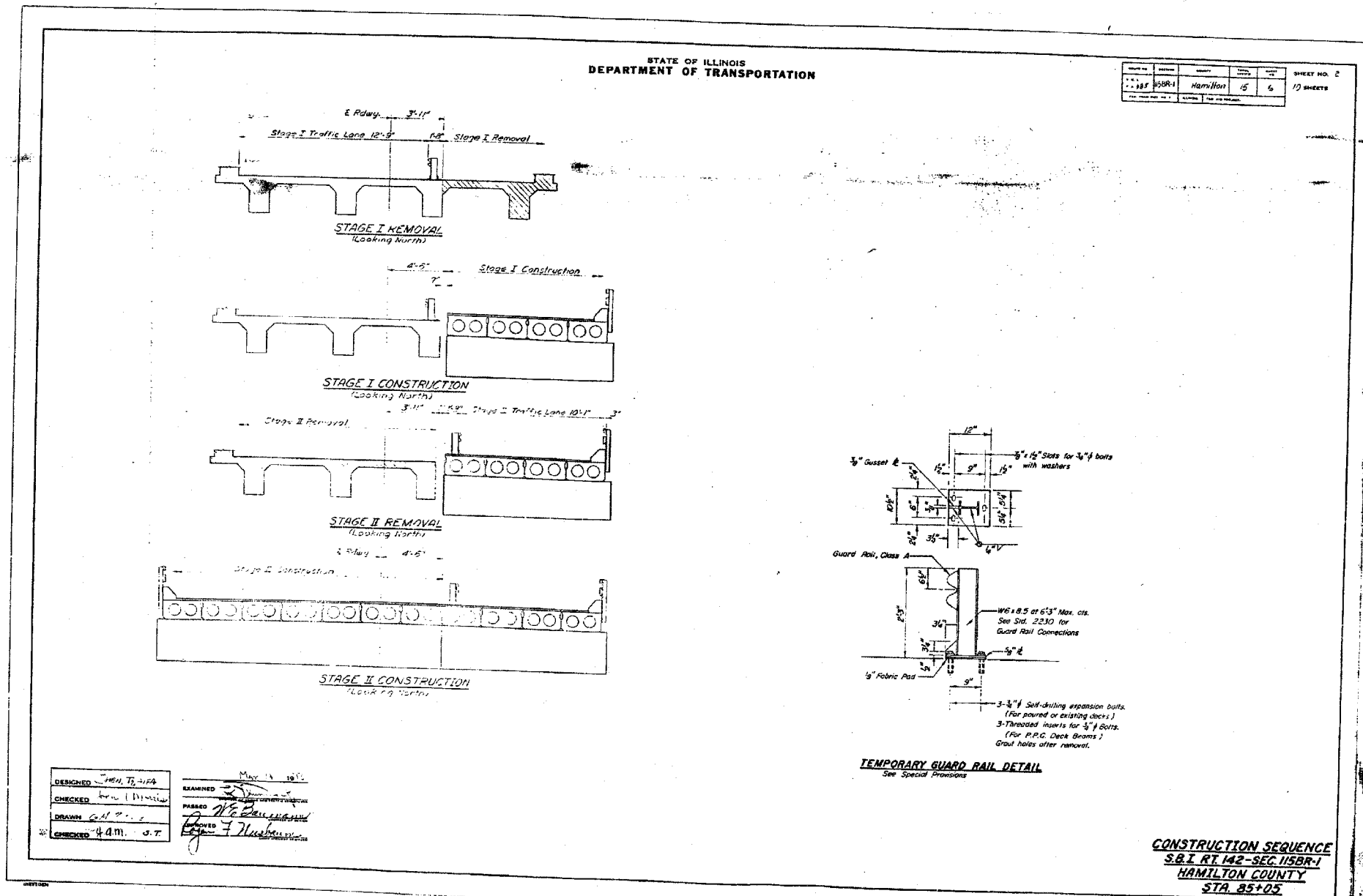
LOCATION SKETCH

STATION 83+05.00
AS BUILT 1971 BY
STATE OF ILLINOIS
FA. RT 142 SEC 115BR-1
PROJECT NO. 27202
LOADING NO. 20

DESIGNED BY: DAJ 09/07
DRAWN BY: HAS 09/07
CHECKED BY: ELH 01/08
APPROVED BY: RDP 01/08



CONTRACT NO. 78027			
FAP RTE	SECTION	COUNTY	TOTAL SHEET NO.
776	115BR-1	HAMILTON	73 36
STA.		TO STA.	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT AID	



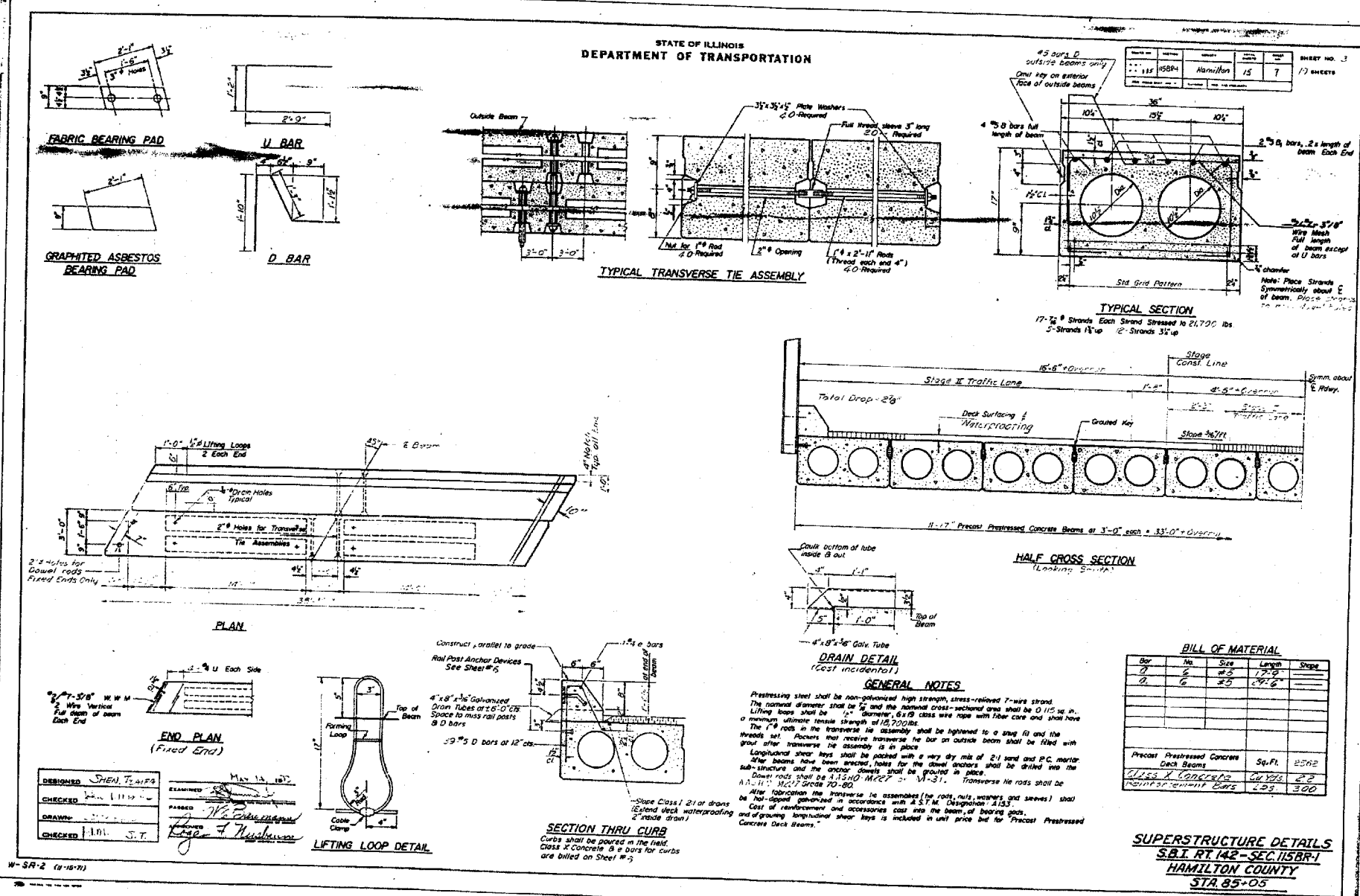
DESIGNED	John T. ...	EXAMINED	...
CHECKED	...	PERMANENT	...
DRAWN	...	APPROVED	...
CHECKED	...		

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	ELH	01/08
APPROVED BY:	RDP	01/08

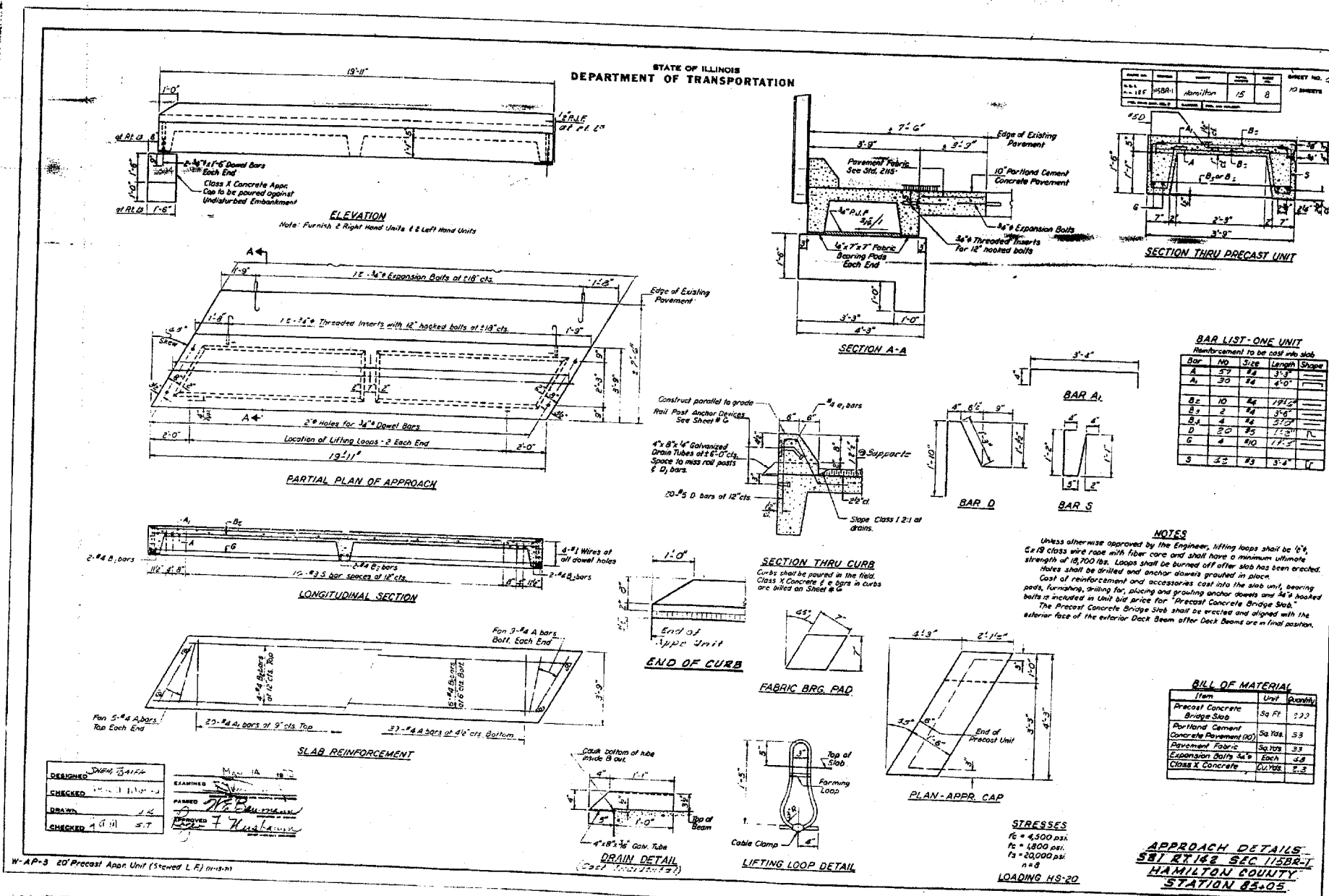
FOR INFORMATION ONLY

EXISTING STRUCTURE PLANS
FAP RTE 776 (IL 142)
SECTION 115BR-1
HAMILTON COUNTY





CONTRACT NO. 78027			
FAP RTE	SECTION	COUNTY	TOTAL SHEET NO.
776	115BR-1	HAMILTON	73 38
STA.		TO STA.	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT AID	



ESCA
CONSULTANTS, INC.

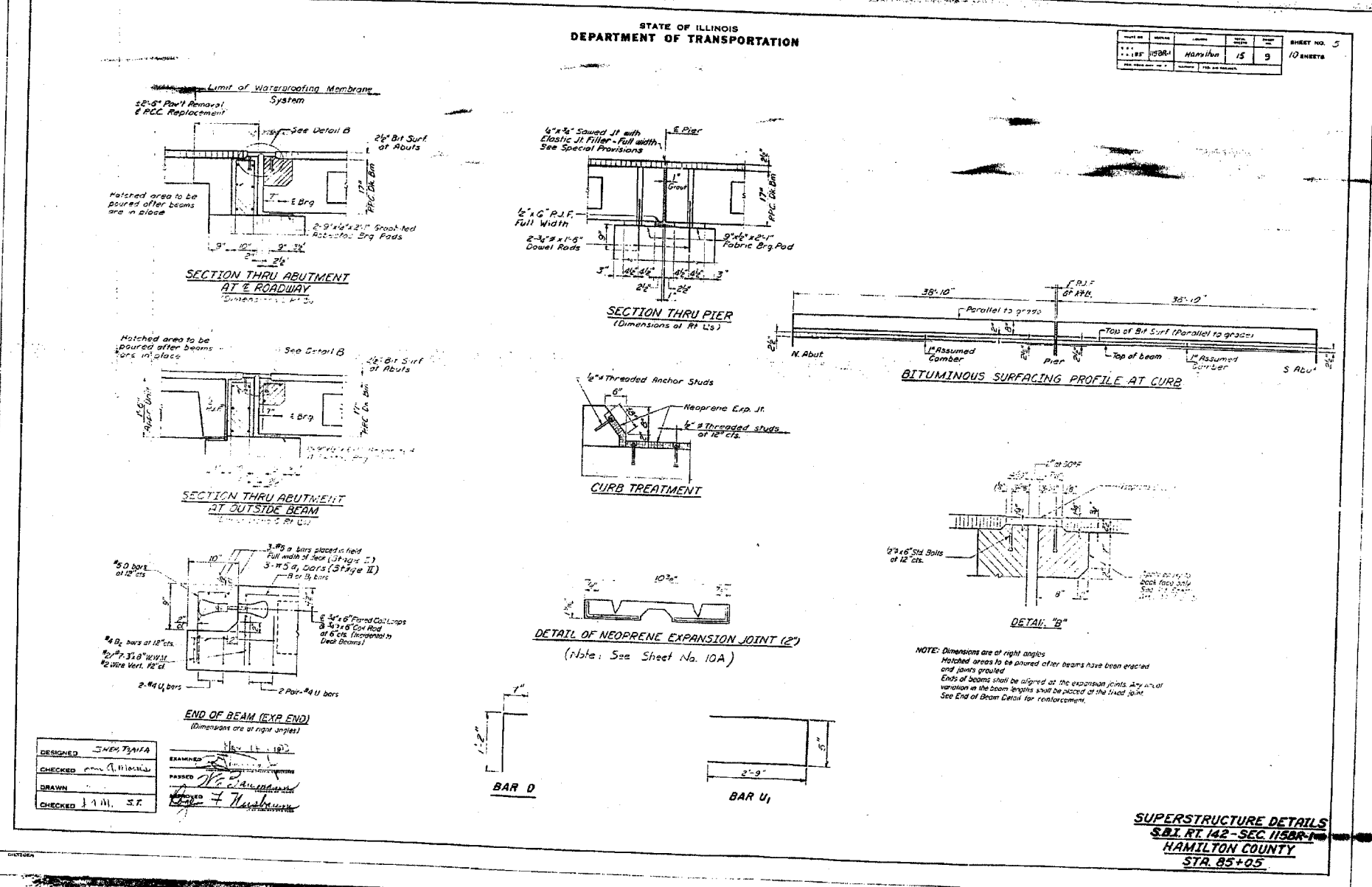
DESIGNED BY: DAJ 09/07
DRAWN BY: HAS 09/07
CHECKED BY: ELH 01/08
APPROVED BY: RDP 01/08

EXISTING STRUCTURE PLANS
FAP RTE 776 (IL 142)
SECTION 115BR-1
HAMILTON COUNTY

FOR INFORMATION ONLY



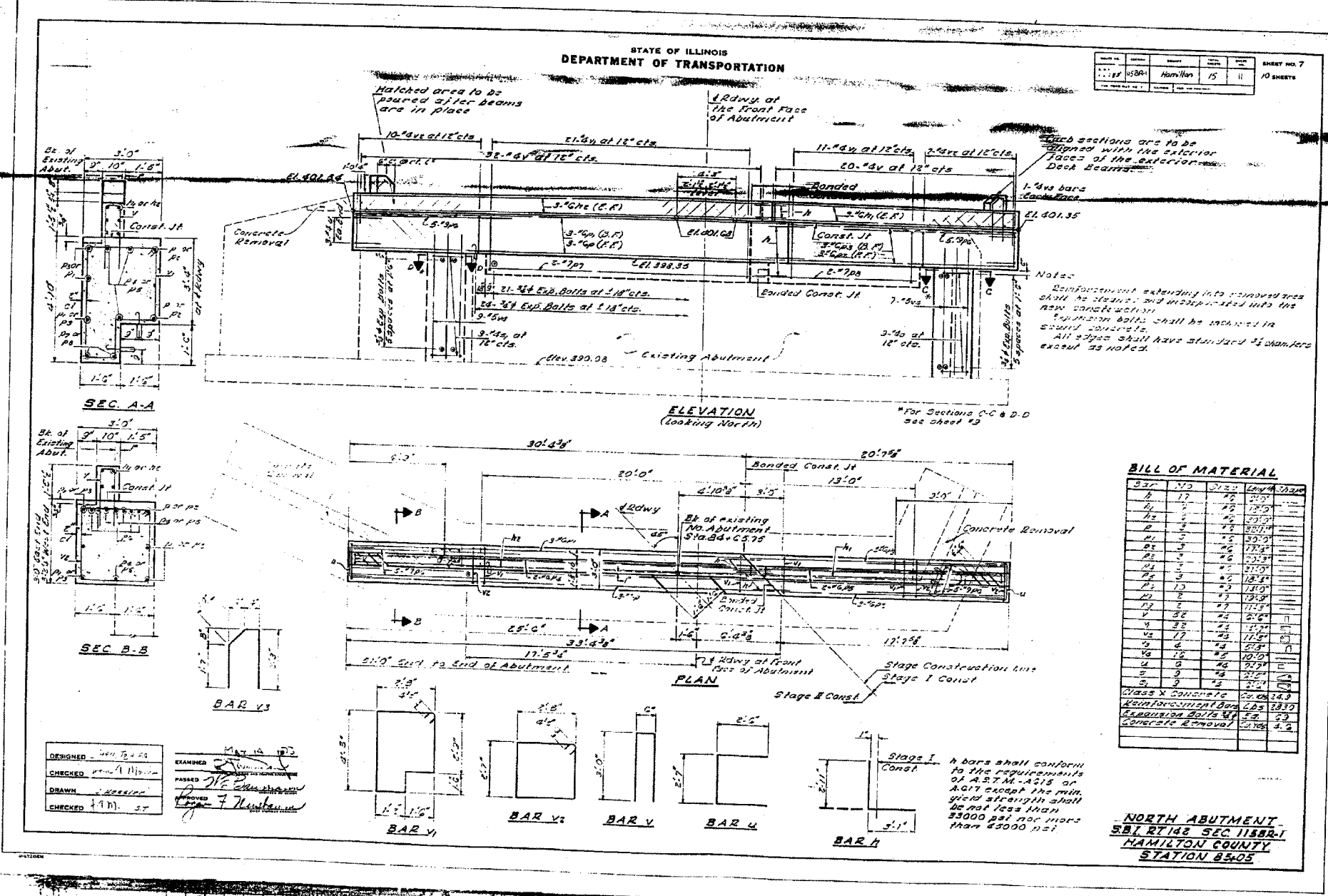
CONTRACT NO. 78027			
FAP RTE	SECTION	COUNTY	TOTAL SHEET NO.
776	115BR-1	HAMILTON	73 39
STA.		TO STA.	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT AID	



ESCA CONSULTANTS, INC.		
DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	ELH	01/08
APPROVED BY:	RDP	01/08

FOR INFORMATION ONLY

EXISTING STRUCTURE PLANS
FAP RTE 776 (IL 142)
SECTION 115BR-1
HAMILTON COUNTY

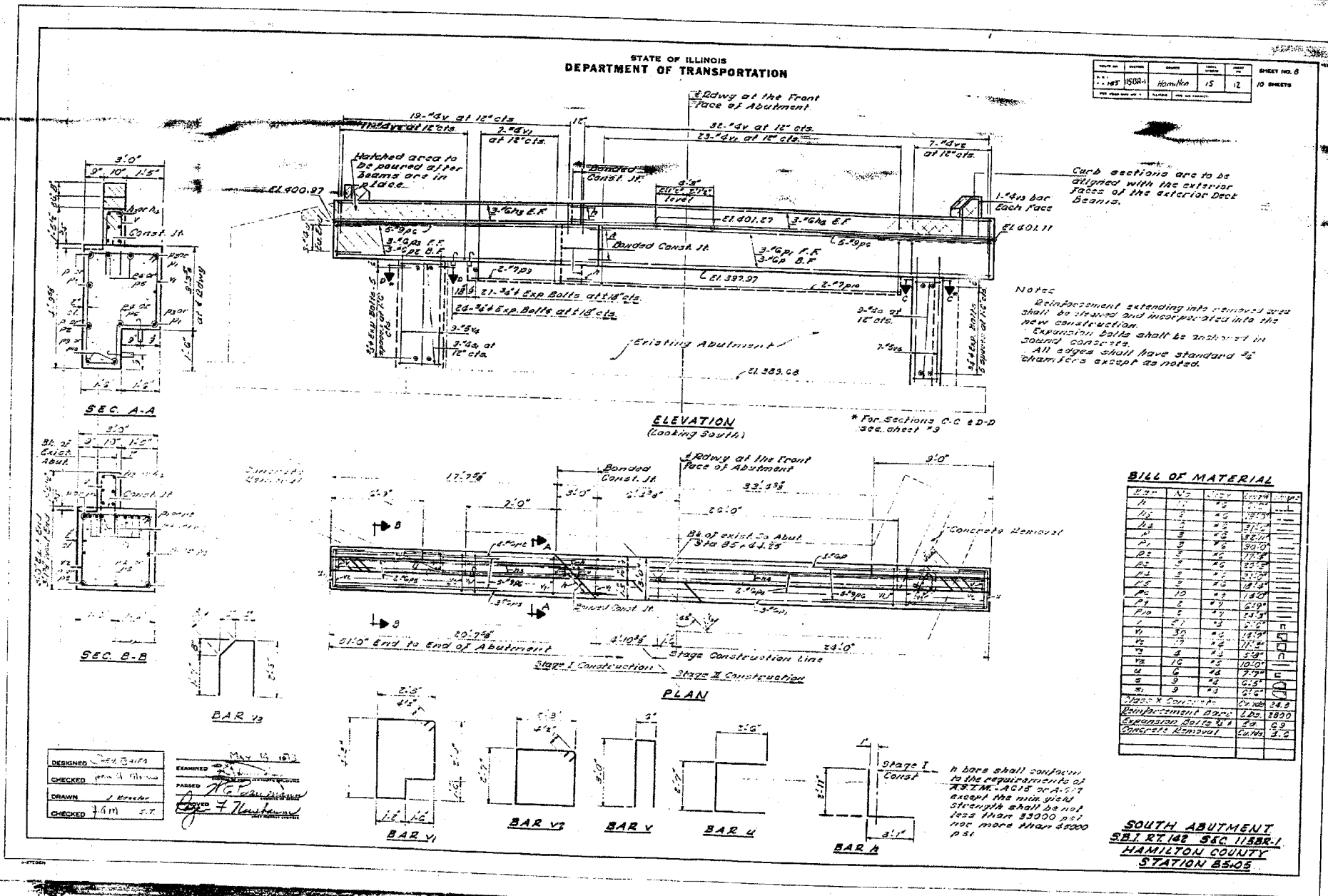


BILL OF MATERIAL

BAR	NO	SIZE	LENGTH	WEIGHT
A	17	#6	20'0"	200
B	2	#6	13'0"	130
C	2	#6	13'0"	130
D	2	#6	13'0"	130
E	2	#6	13'0"	130
F	2	#6	13'0"	130
G	2	#6	13'0"	130
H	2	#6	13'0"	130
I	2	#6	13'0"	130
J	2	#6	13'0"	130
K	2	#6	13'0"	130
L	2	#6	13'0"	130
M	2	#6	13'0"	130
N	2	#6	13'0"	130
O	2	#6	13'0"	130
P	2	#6	13'0"	130
Q	2	#6	13'0"	130
R	2	#6	13'0"	130
S	2	#6	13'0"	130
T	2	#6	13'0"	130
U	2	#6	13'0"	130
V	2	#6	13'0"	130
W	2	#6	13'0"	130
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Y	2	#6	13'0"	130
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KD	2	#6	13'0"	130
KE	2	#6</		



CONTRACT NO. 78027				
FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	115BR-1	HAMILTON	73	42
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT AID		



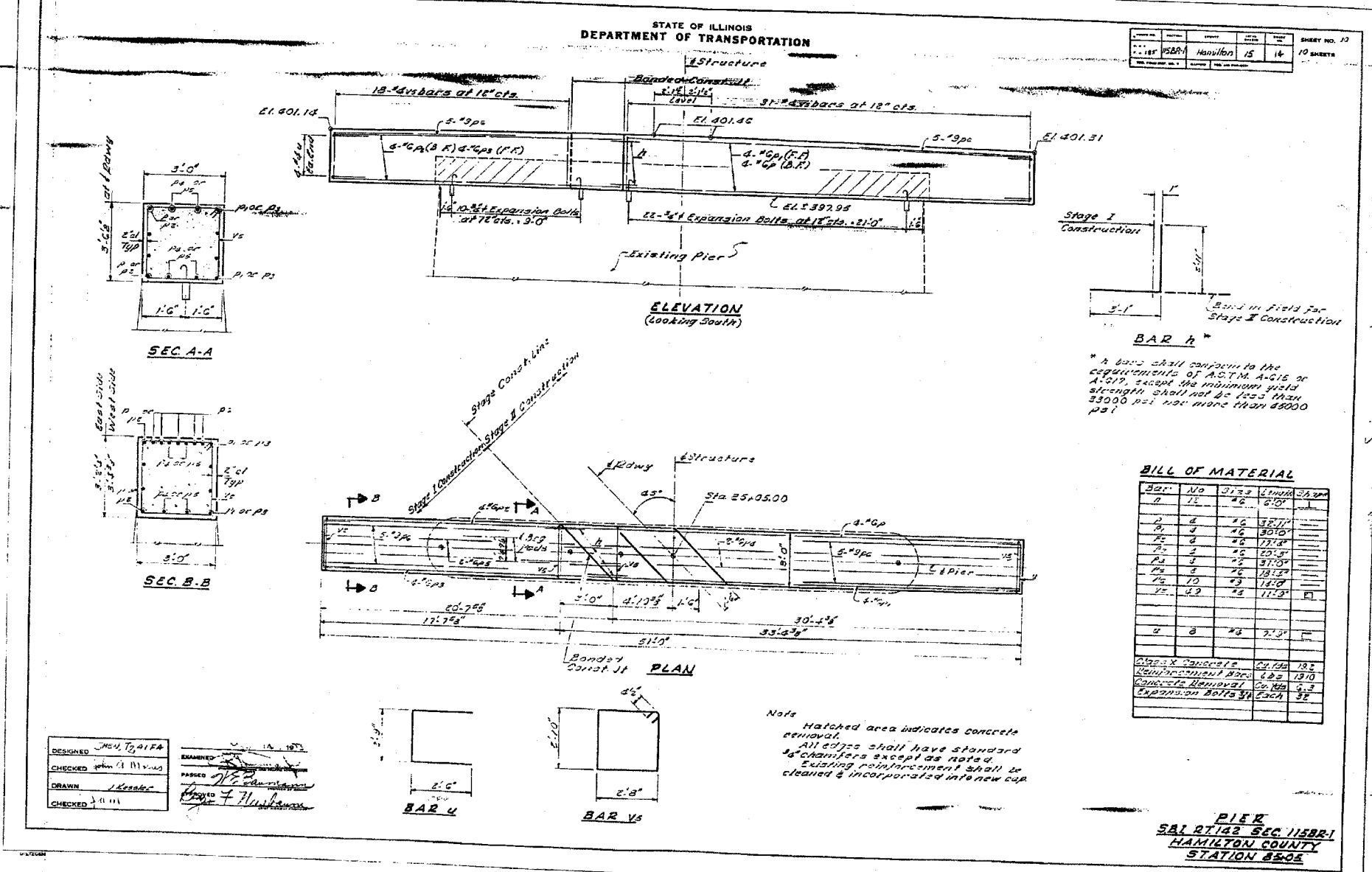
ESCA CONSULTANTS, INC.		
DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	ELH	01/08
APPROVED BY:	RDP	01/08

FOR INFORMATION ONLY

EXISTING STRUCTURE PLANS
FAP RTE 776 (IL 142)
SECTION 115BR-1
HAMILTON COUNTY



CONTRACT NO. 78027				
FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	115BR-1	HAMILTON	73	44
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT AID		



ESCA
CONSULTANTS, INC.

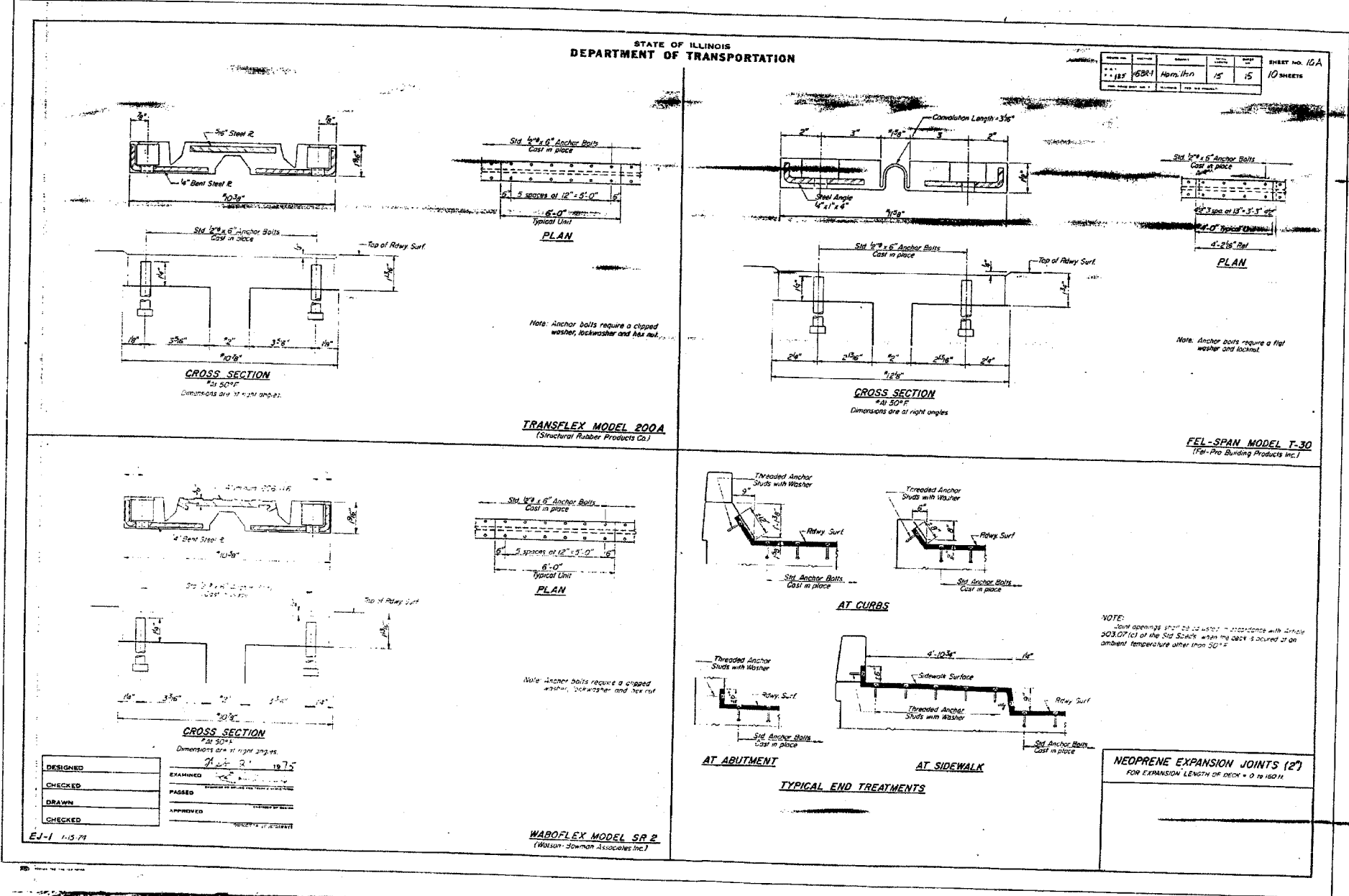
DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	ELH	01/08
APPROVED BY:	RDP	01/08

FOR INFORMATION ONLY

EXISTING STRUCTURE PLANS
FAP RTE 776 (IL 142)
SECTION 115BR-1
HAMILTON COUNTY



CONTRACT NO. 78027				
FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	115BR-1	HAMILTON	73	45
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT AID		



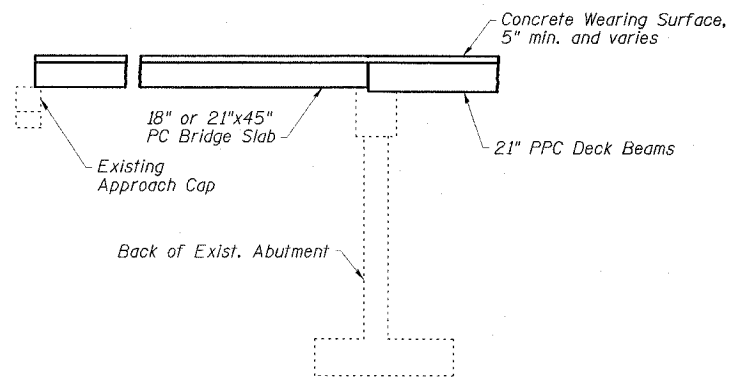
ESCA		
CONSULTANTS, INC.		
DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	ELH	01/08
APPROVED BY:	RDP	01/08

FOR INFORMATION ONLY

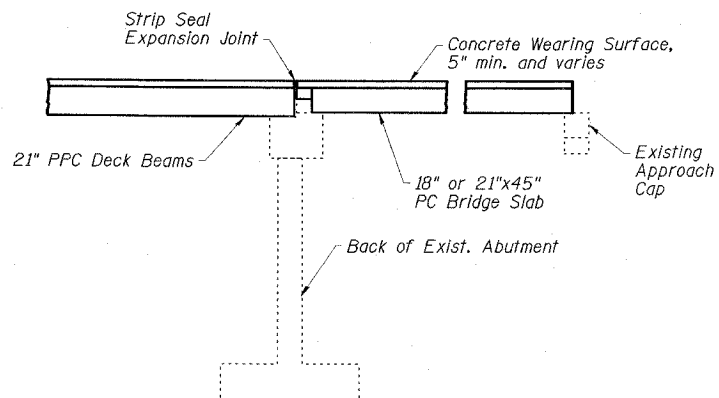
EXISTING STRUCTURE PLANS
FAP RTE 776 (IL 142)
SECTION 115BR-1
HAMILTON COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 2 17 SHEETS
FAP 782	110BR-1	WHITE	73	47	
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT		78027



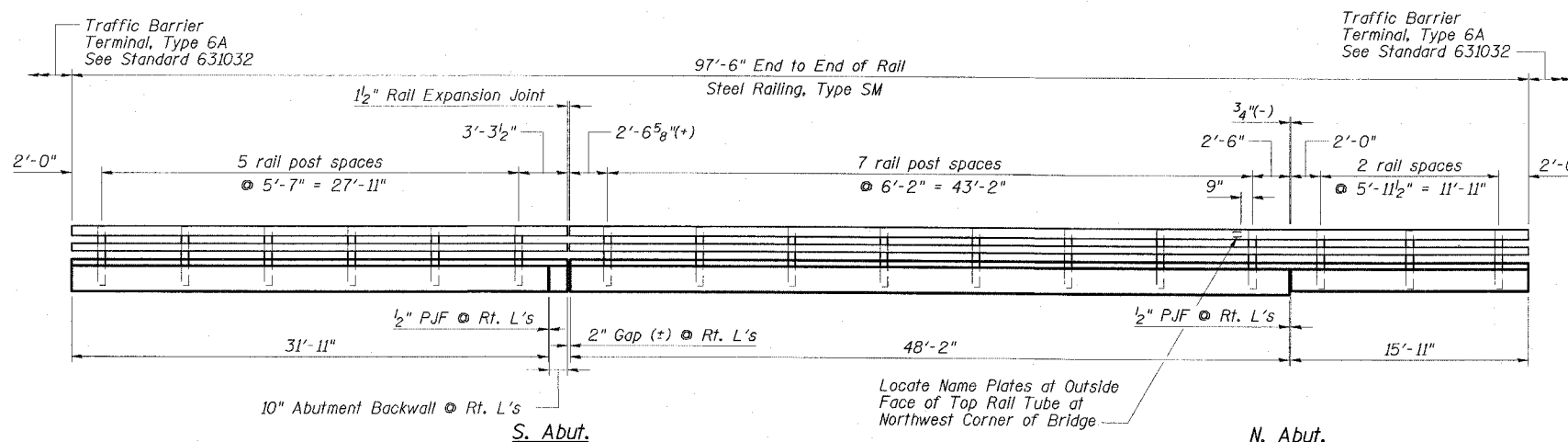
SECTION THRU NORTH ABUTMENT
@ OUTSIDE BEAM



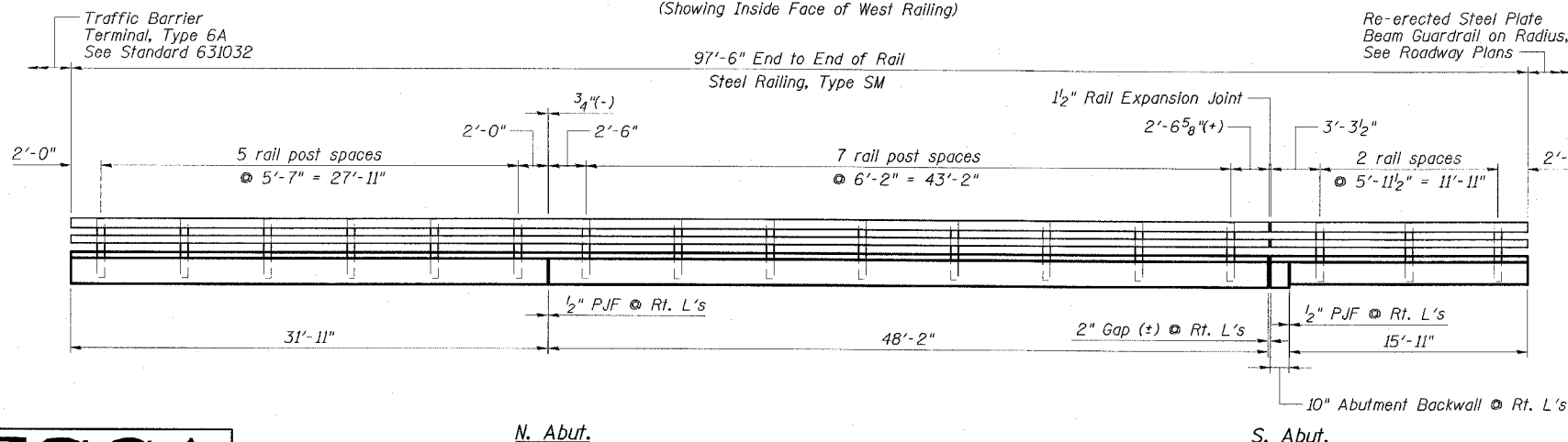
SECTION THRU SOUTH ABUTMENT
@ OUTSIDE BEAM

GENERAL NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A706 Gr 60 (IL Modified). See Special Provisions.
2. Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work. However, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.
3. Concrete Sealer shall be applied to abutment bearing seats and backwalls where Structural Repair of Concrete is performed and also to the front faces of new concrete backwalls.
4. All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M300 Type 1 unless noted otherwise.
5. Side Retainers shall be AASHTO M270 Grade 36 minimum.
6. No in-stream work will be allowed on this project.
7. The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.
8. If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the new or existing deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads. Cost included with Precast Prestressed Concrete Deck Beams (21" Depth).
9. The minimum thickness of the concrete overlay shall be 5" and varies as required to adjust for the new profile grade and beam camber. Modify to meet field conditions as directed by the Engineer.
10. Repair of the substructure and removal of the existing expansion joint shall be completed prior to placement of the new deck beams.
11. The existing expansion bearing pads contain ASBESTOS. See Special Provisions for Asbestos Bearing Pad Removal.



STEEL RAILING, TYPE SM ELEVATION
(Showing Inside Face of West Railing)



STEEL RAILING, TYPE SM ELEVATION
(Showing Inside Face of East Railing)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures No. 2	Each	1	-	1
Bridge Deck Grooving	Sq. Yd.	234	-	234
Protective Coat	Sq. Yd.	256	-	256
Precast Concrete Bridge Slab	Sq. Ft.	360	-	360
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1590	-	1590
Reinforcement Bars, Epoxy Coated	Pound	3430	170	3600
Bar Splicers	Each	54	2	56
Steel Railing, Type SM	Foot	195	-	195
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	47	-	47
Concrete Sealer	Sq. Ft.	-	59	59
Epoxy Crack Injection	Foot	-	90	90
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	-	80	80
Asbestos Bearing Pad Removal	Each	-	22	22
Concrete Wearing Surface, 5"	Sq. Yd.	256	-	256
Concrete Structures	Cu. Yd.	-	0.9	0.9
Concrete Removal	Cu. Yd.	-	0.9	0.9
Removal of Existing Precast Concrete Units	Sq. Ft.	360	-	360

GENERAL DATA

IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026

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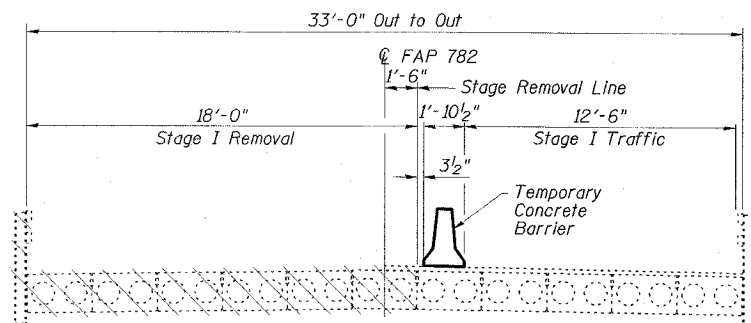
DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	02/08
APPROVED BY:	RDP	02/08

See Dwg. No. 11 of 17
for Railing Details.

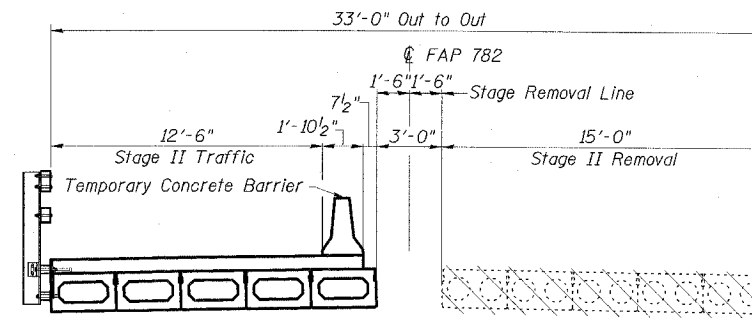
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 3 17 SHEETS
FAP 782	110BR-1	WHITE	73	48	
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT		

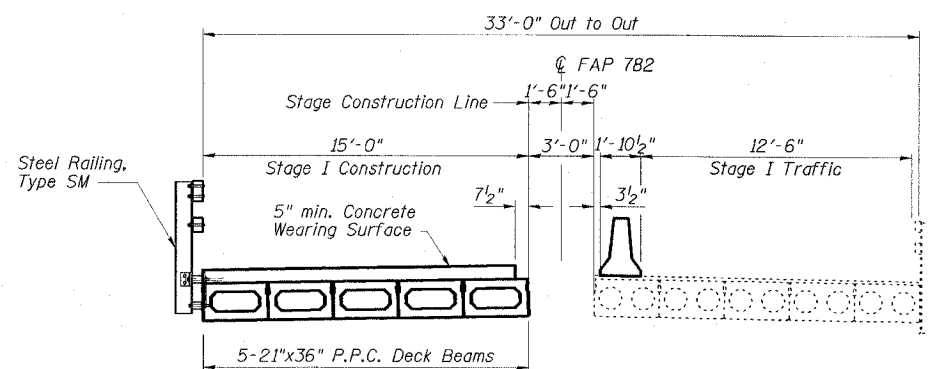
78027



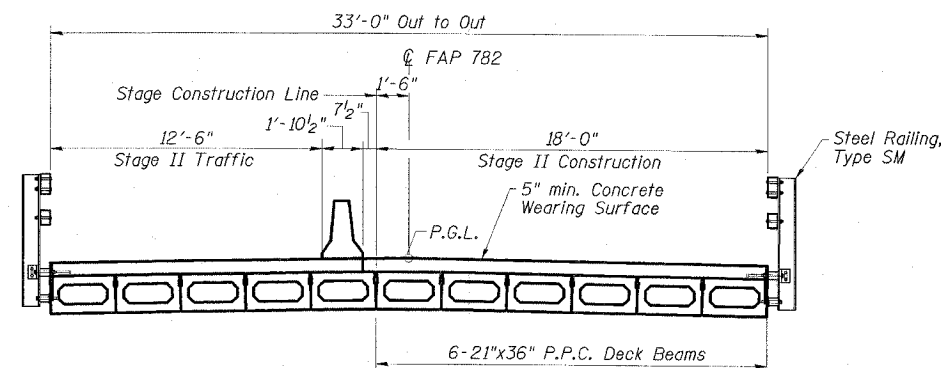
STAGE I REMOVAL



STAGE II REMOVAL



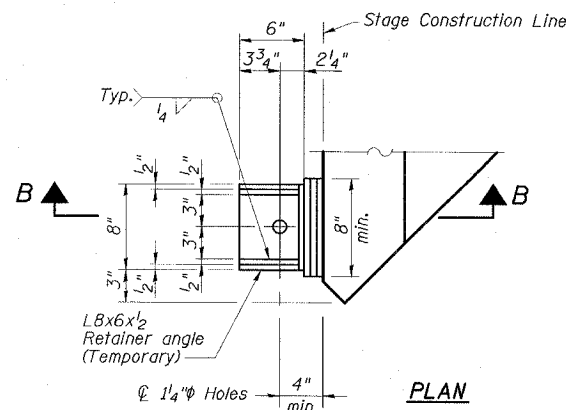
STAGE I CONSTRUCTION



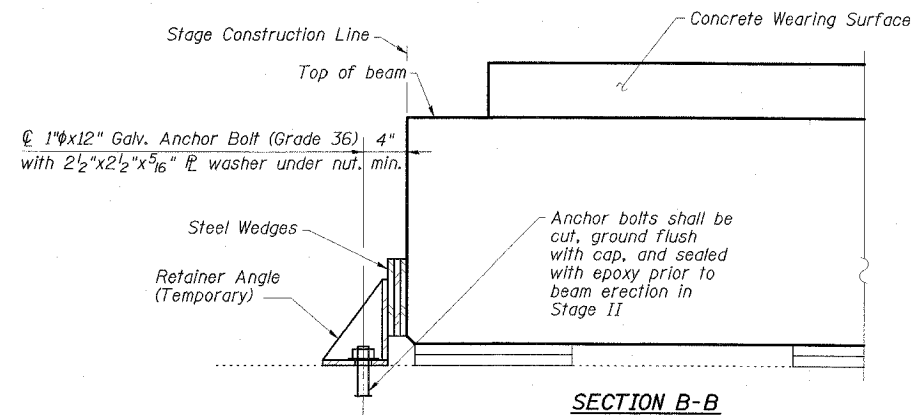
STAGE II CONSTRUCTION

STAGE CONSTRUCTION NOTES

1. All staging sections are looking South.
2. See Dwg. No. 5 of 17 for shear key clamping details.
3. For quantity of Temporary Concrete Barrier, see Roadway Plans.



PLAN



SECTION B-B

BEAM RETAINER DETAILS
AT STAGE CONSTRUCTION LINE
(1 Required at South Abutment)

Cost of Retainer Angles, Anchor Bolts & accessories is included with Precast Prestressed Concrete Deck Beams.

STAGE CONSTRUCTION DETAILS
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026

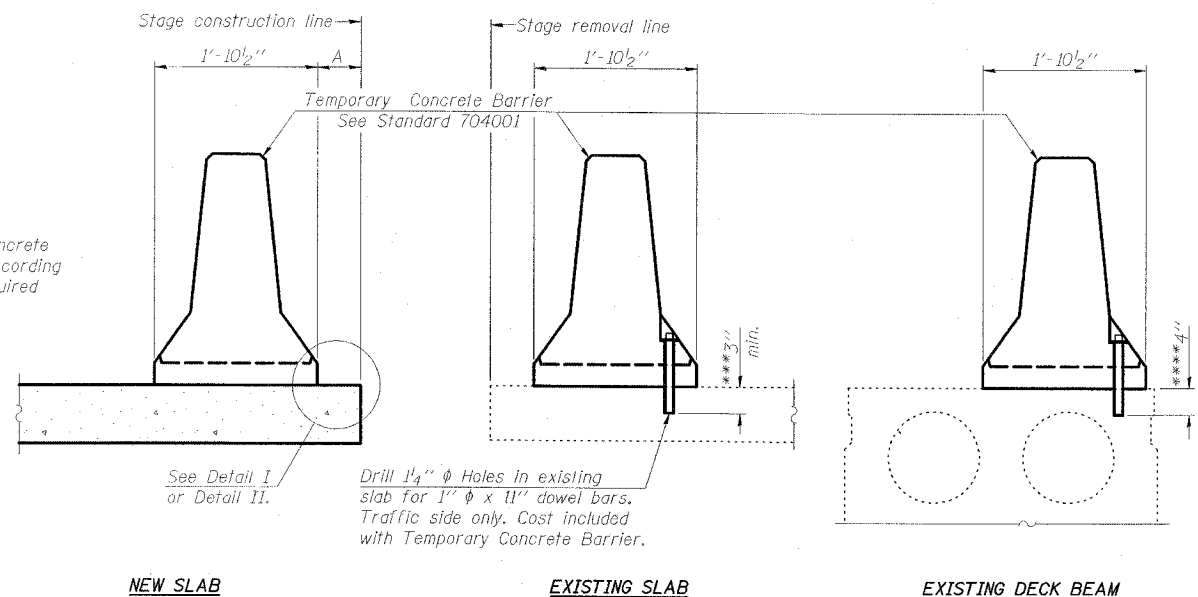
ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAP 782	110BR-1	WHITE	73	49
FED. AID DIST. NO. 4		ILLINOIS	FED. AID PROJECT	
78027				

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".

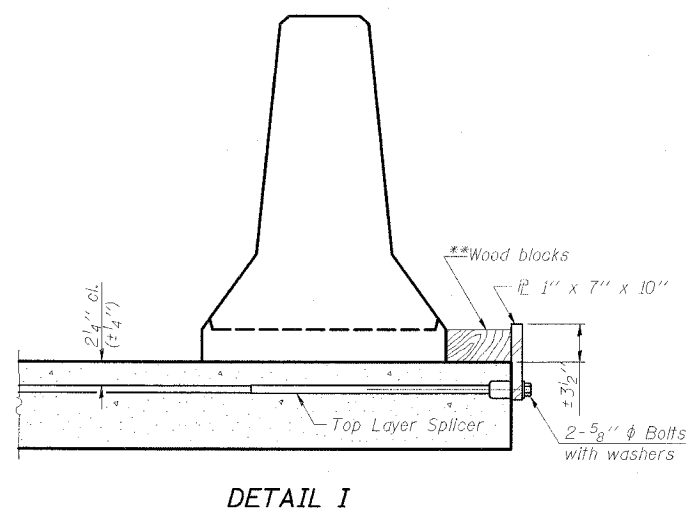


SECTIONS THRU SLAB OR DECK BEAM

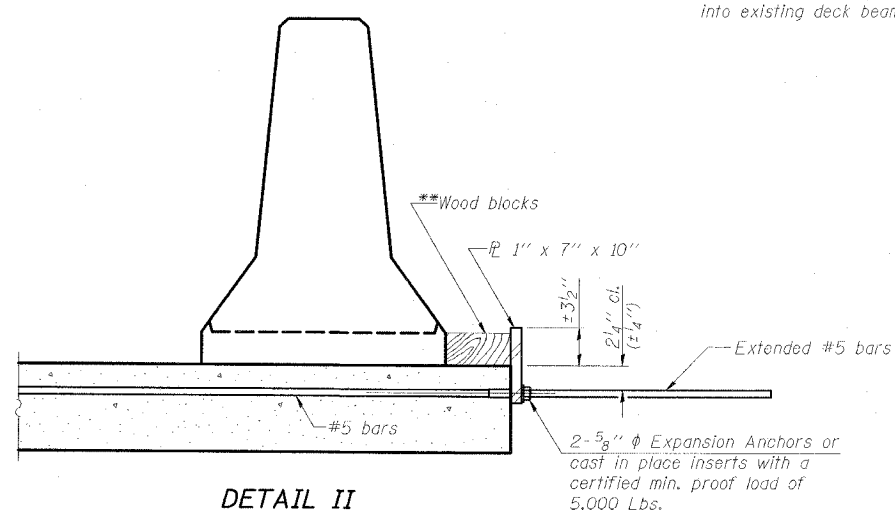
NOTES

- Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.
- Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{L} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" 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.

- ***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.

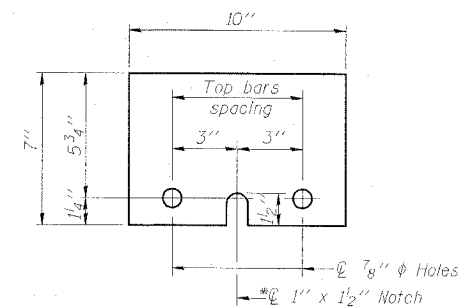


DETAIL I



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.



STEEL RETAINER \bar{L} 1" x 7" x 10"

* Required only with Detail II

TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026

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CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
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CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

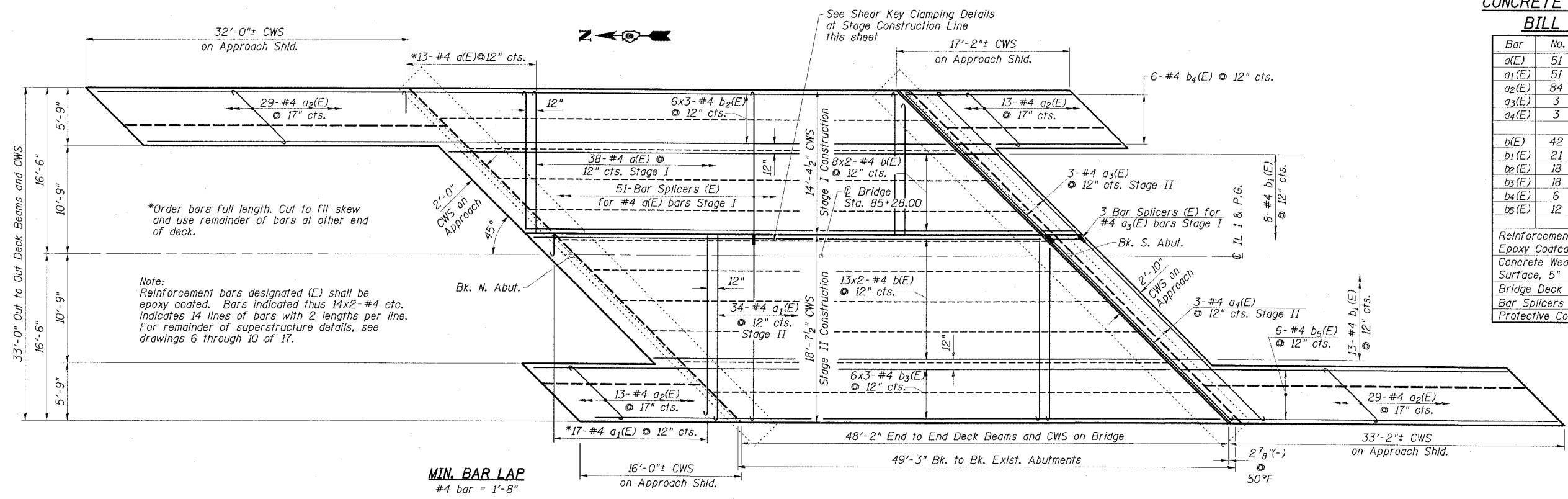
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO.
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FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT		

78027

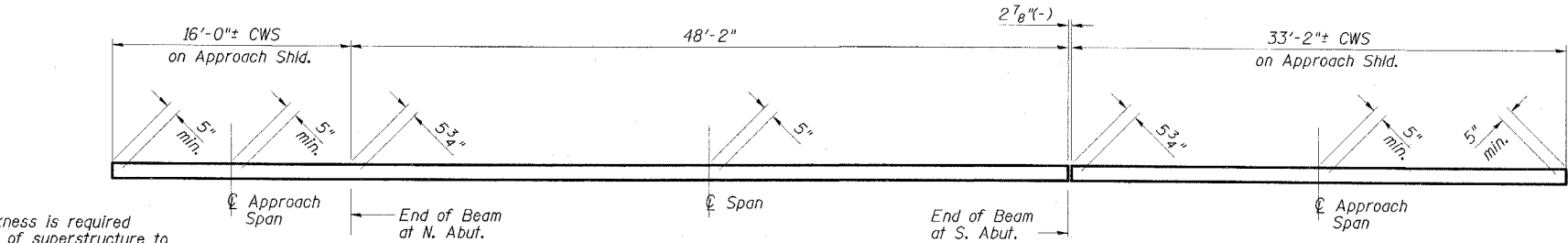
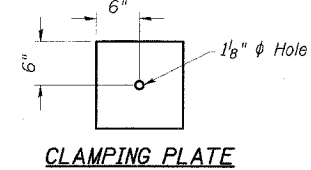
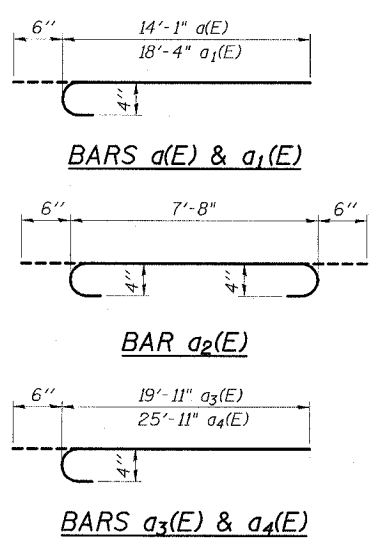
CONCRETE WEARING SURFACE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a(E)	51	#4	14'-7"	┌──┐	
a ₁ (E)	51	#4	18'-10"	┌──┐	
a ₂ (E)	84	#4	8'-8"	┌──┐	
a ₃ (E)	3	#4	20'-5"	┌──┐	
a ₄ (E)	3	#4	26'-5"	┌──┐	
b(E)	42	#4	26'-0"	──	
b ₁ (E)	21	#4	3'-6"	──	
b ₂ (E)	18	#4	27'-6"	──	
b ₃ (E)	18	#4	22'-2"	──	
b ₄ (E)	6	#4	16'-9"	──	
b ₅ (E)	12	#4	32'-8"	──	
Reinforcement Bars, Epoxy Coated				Pound	3430
Concrete Wearing Surface, 5"				Sq. Yd.	256
Bridge Deck Grooving				Sq. Yd.	234
Bar Splicers				Each	54
Protective Coat				Sq. Yd.	256

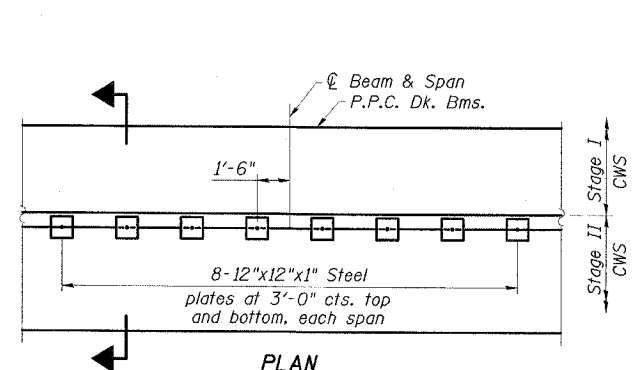


MIN. BAR LAP
#4 bar = 1'-8"

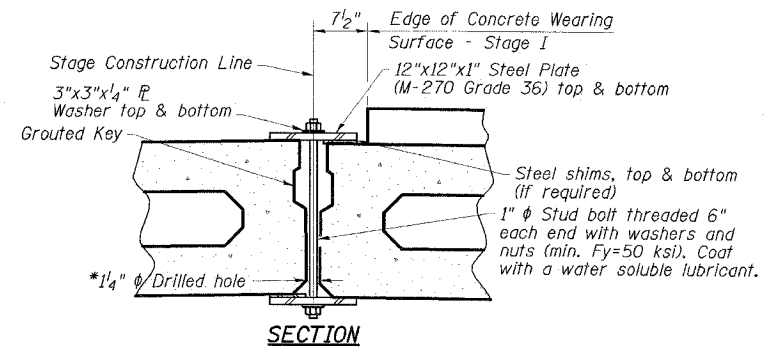
PLAN - WEARING SURFACE



REINFORCED CONCRETE WEARING SURFACE PROFILE
(At West edge of Bridge Deck; East side similar)



SHEAR KEY CLAMPING DETAILS



SECTION

Notes:
See Stage Construction Details for traffic lanes.
Cost is included with Precast Prestressed Concrete Deck Beams.

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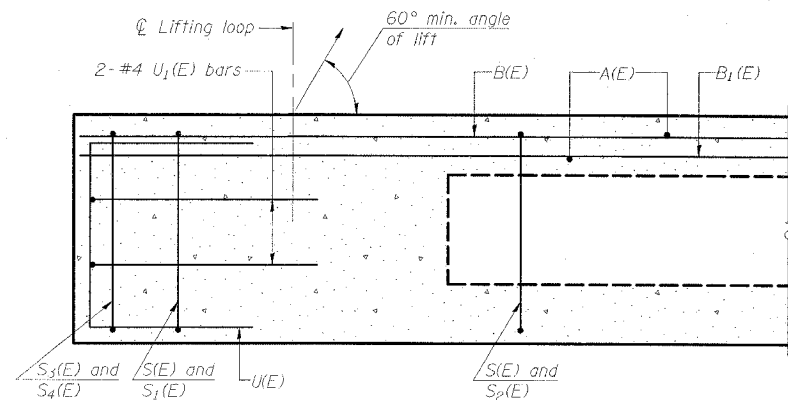
DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

SUPERSTRUCTURE
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026

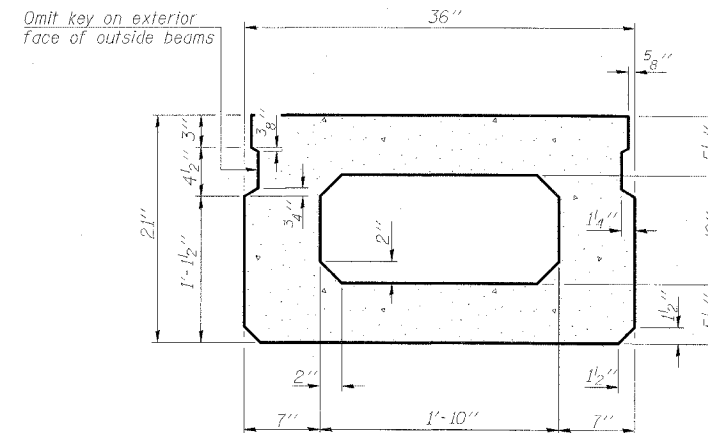
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 6
FAP 782	110BR-1	WHITE	73	51	17 SHEETS
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT		

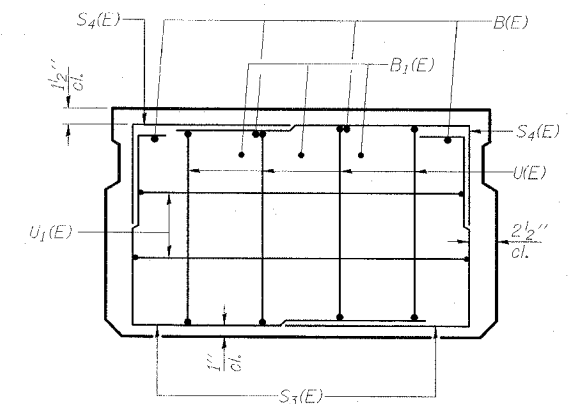
78027



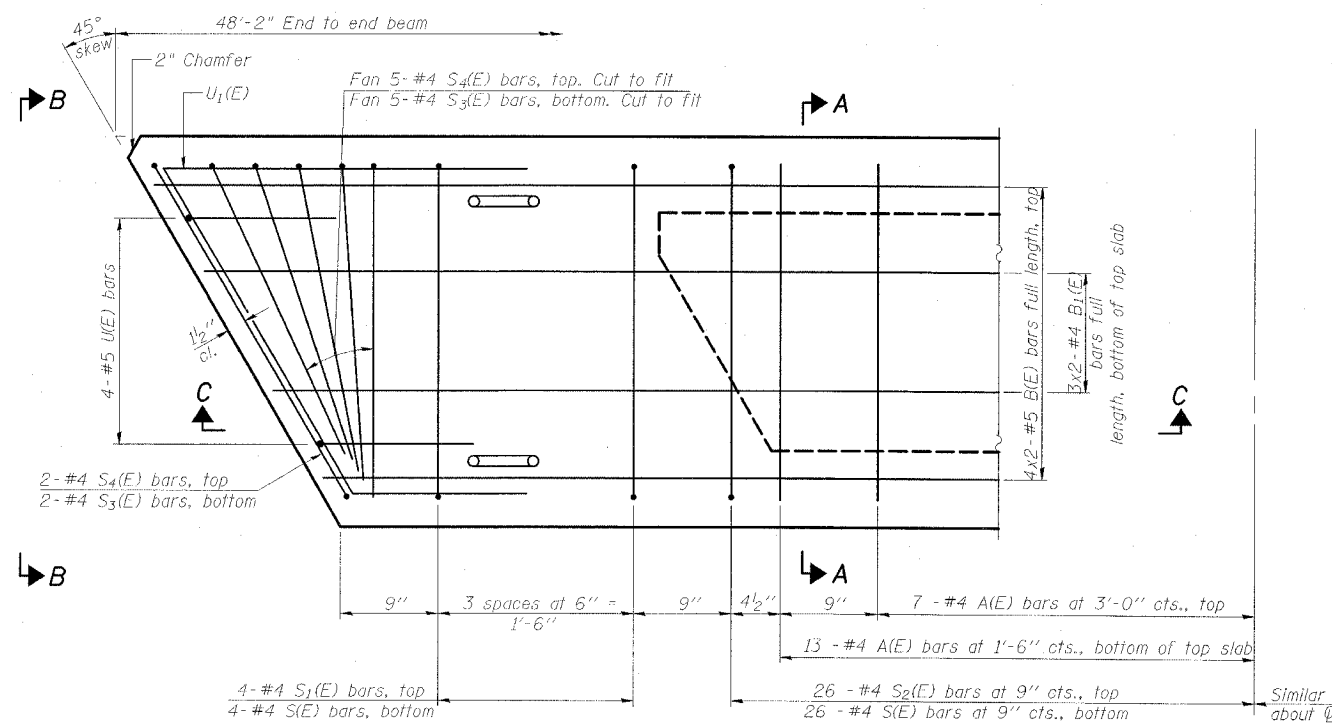
SECTION C-C



SECTION A-A
(Showing dimensions)



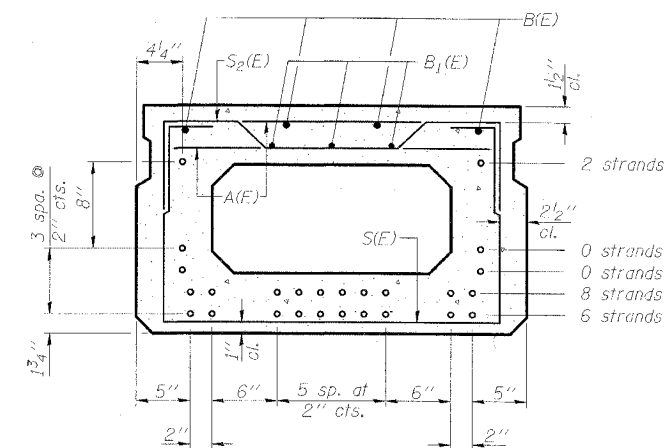
VIEW B-B



PLAN VIEW

Notes: 1. Spacing of S(E) and S₂(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

2. Adjust reinforcement locations to clear dowel holes at fixed ends.



SECTION A-A
(Showing reinforcement and permissible strand locations)

16 #5 Strands, each strand stressed to 30,900 lbs.

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	40	#4	2'-7"	—
B(E)	8	#5	25'-8"	—
B ₁ (E)	6	#4	25'-8"	—
S(E)	60	#4	6'-5"	—
S ₁ (E)	8	#4	5'-7"	—
S ₂ (E)	52	#4	5'-10"	—
S ₃ (E)	14	#4	5'-6"	—
S ₄ (E)	14	#4	5'-1"	—
U(E)	8	#5	4'-0"	—
U ₁ (E)	4	#4	8'-6 1/2"	—

Note: See sheet 7 of 17 for additional details and Bill of Material.

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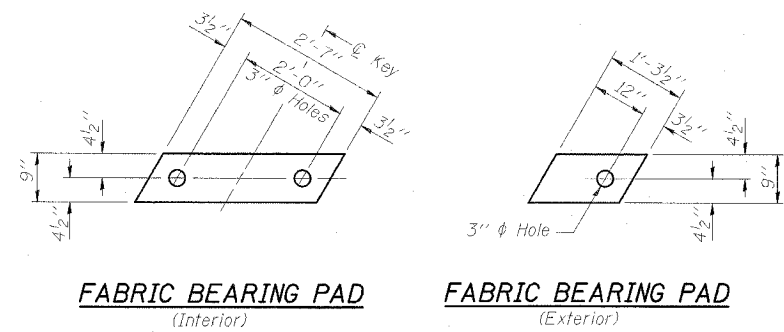
DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

SUPERSTRUCTURE DETAILS
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATIONING	SHEET	SHEET NO.
FAP 782	110BR-1	WHITE	73	52	17 SHEETS
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT					

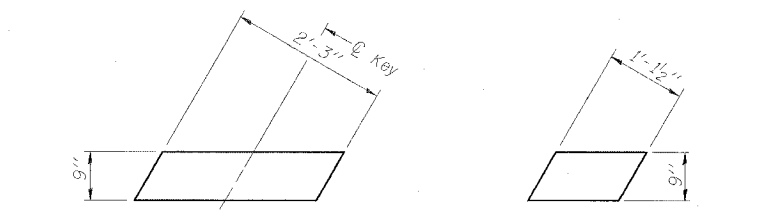
78027



FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(Exterior)

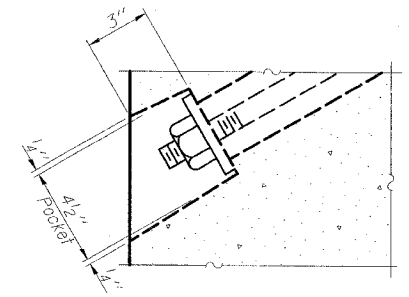
FIXED



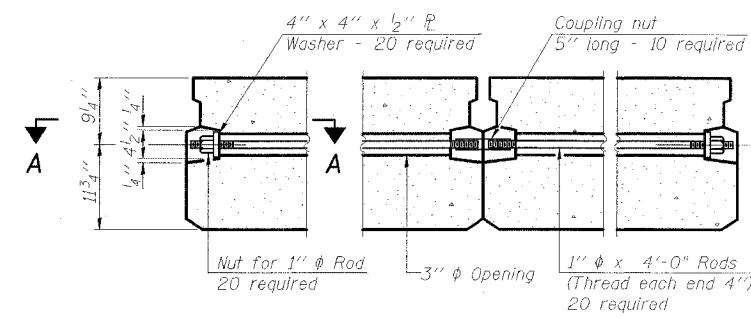
FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(Exterior)

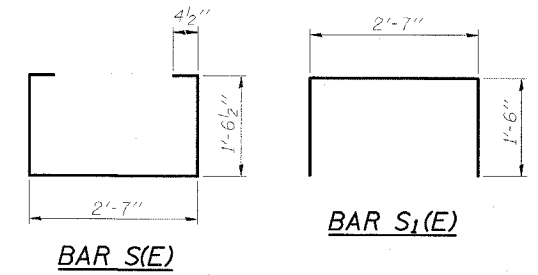
EXPANSION



SECTION A-A

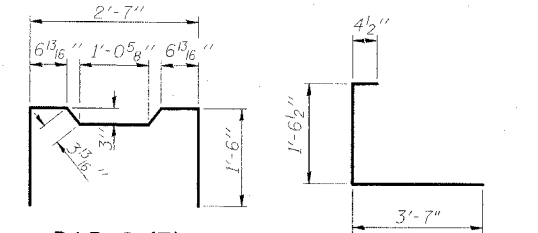


TYPICAL TRANSVERSE TIE ASSEMBLY



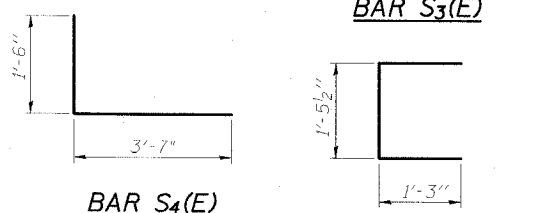
BAR S(E)

BAR S₁(E)



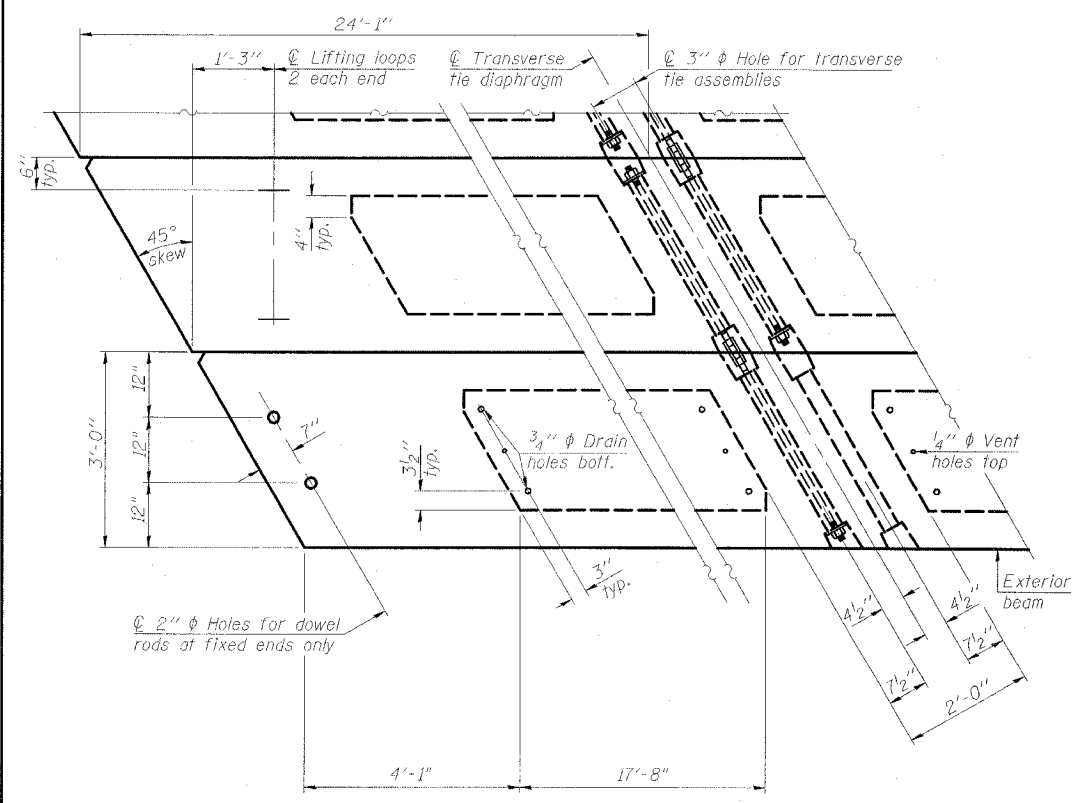
BAR S₂(E)

BAR S₃(E)

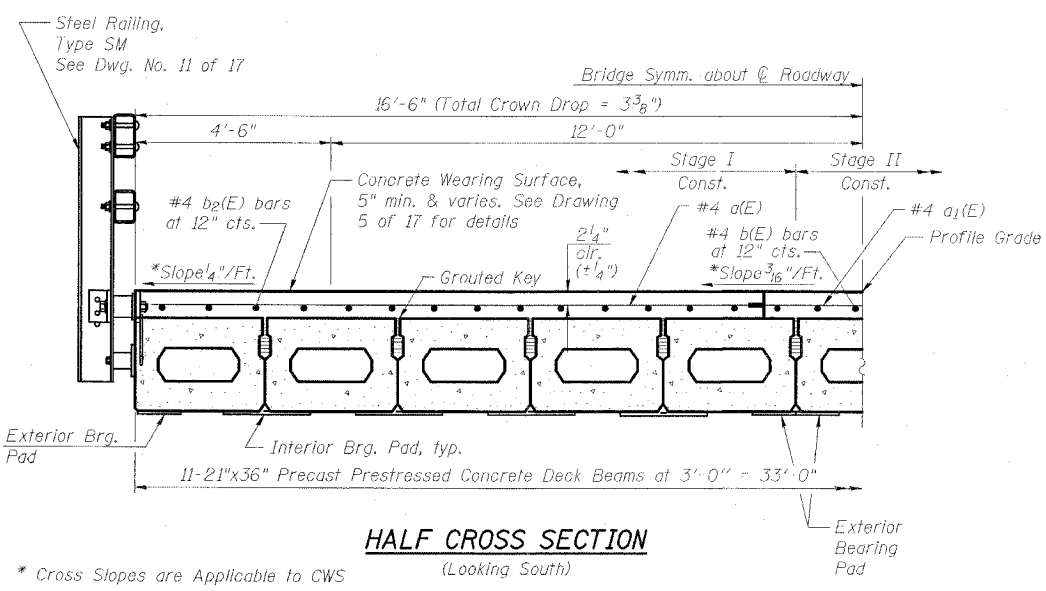


BAR S₄(E)

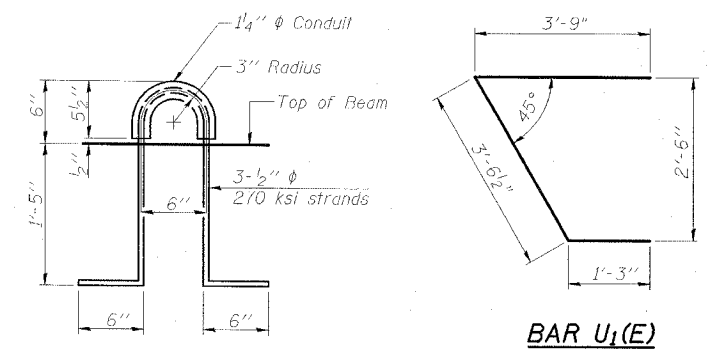
BAR U(E)



PLAN VIEW



HALF CROSS SECTION
(Looking South)



LIFTING LOOP DETAIL

BILL OF MATERIAL

Item	Unit	Quantity
Precast Prestressed Conc. Deck Bms. (21" Depth)	Sq. Ft.	1590

SUPERSTRUCTURE DETAILS
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026

NOTES

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Reinforcement bars shall conform to ASTM A 706 (IL MOD), Grade 60. (See Special Provisions)
- All steel components shall be galvanized after fabrication according to article 520.03 of the Standard Specifications.
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.
- See Dwg. No. 2 of 17 for location of rail anchors and additional notes.

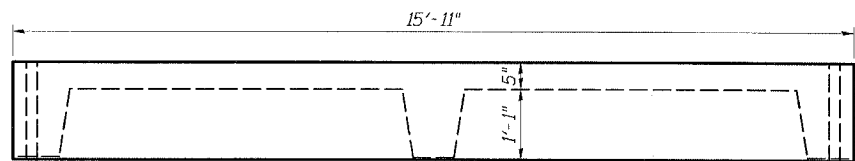
ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

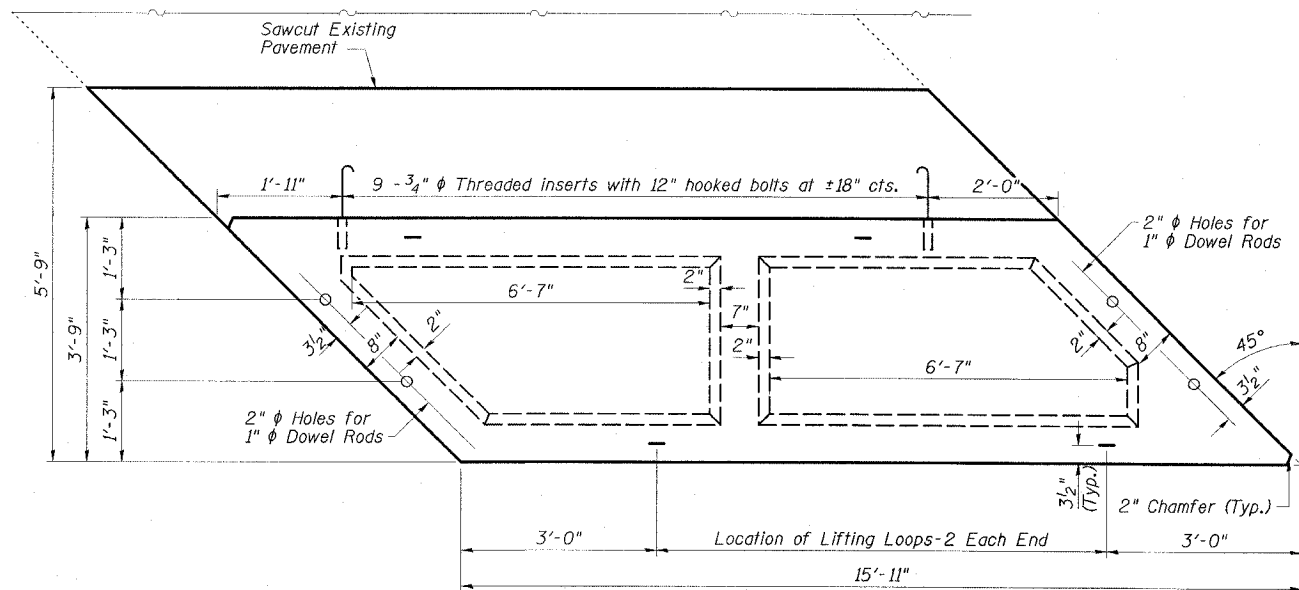
Note: Connect beams in pairs with the transverse tie configuration shown.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

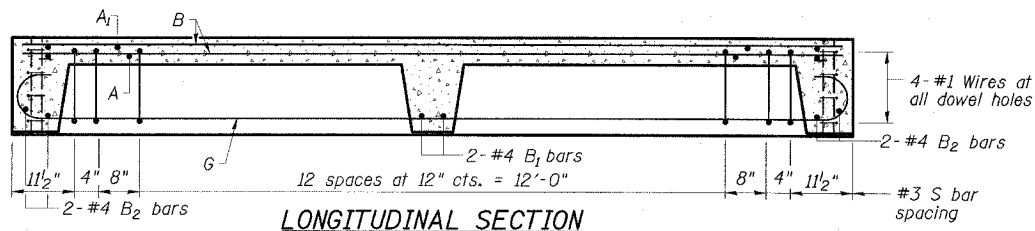
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 8 17 SHEETS
FAP 782	110BR-1	WHITE	73	53	
FIG. ROAD SHEET NO. 4		ILLINOIS	FED. AID PROJECT		



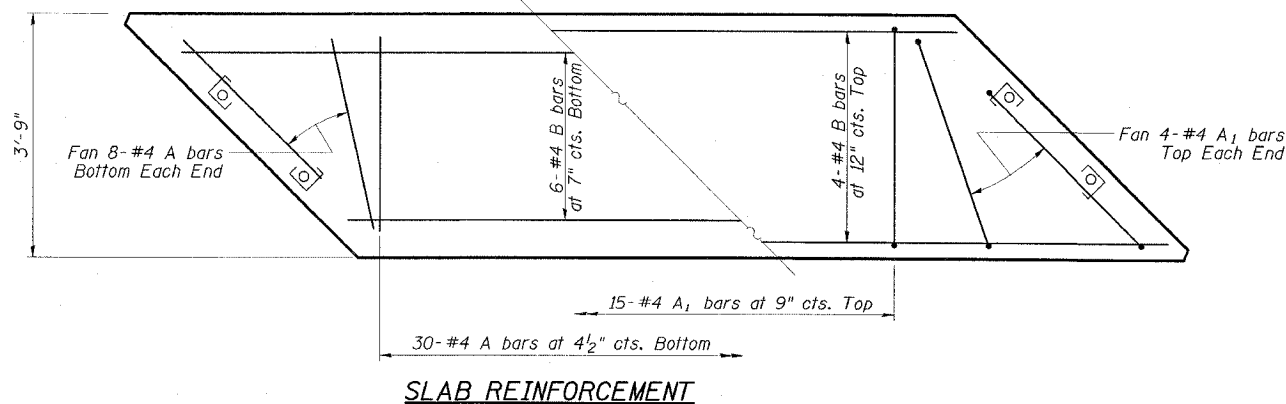
ELEVATION



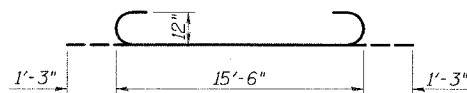
PARTIAL PLAN OF APPROACH
(CWS not shown)



LONGITUDINAL SECTION



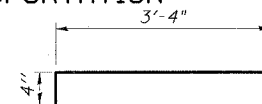
SLAB REINFORCEMENT



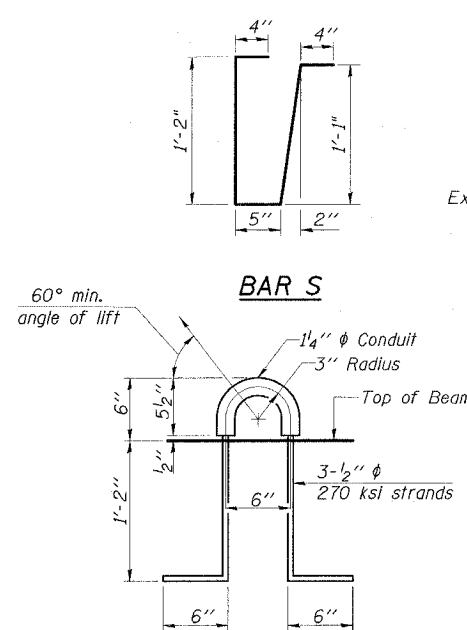
BAR G



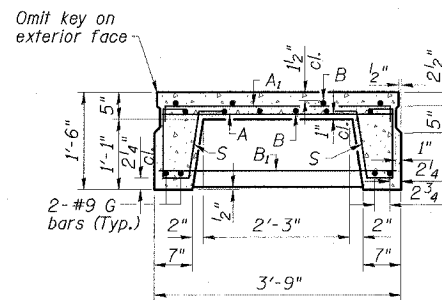
FABRIC BEARING PAD



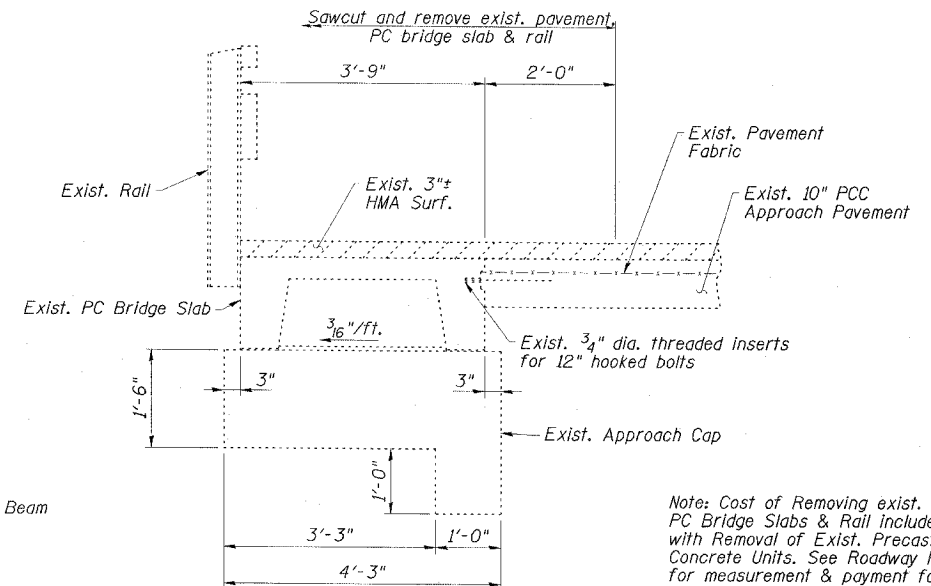
BAR A1



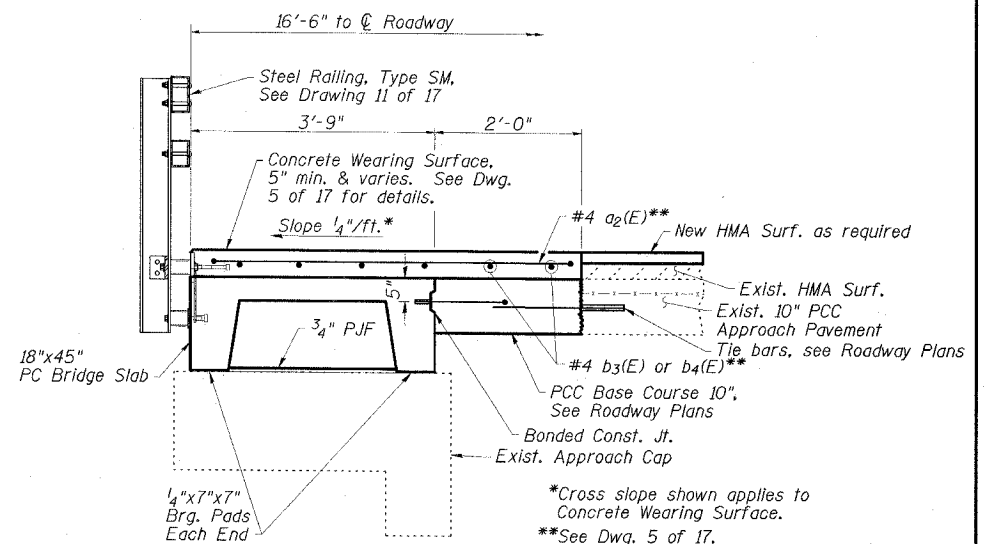
LIFTING LOOP DETAIL



SECTION THRU PRECAST UNIT



EXISTING CROSS SECTION



PROPOSED CROSS SECTION

NOTES

Reinforcing steel shall conform to ASTM A 706 (IL MOD), Grade 60.
The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Bearing Pad shall be provided for each bearing pad location.
Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the slabs. Cleaning shall be done by sandblasting the keyway areas between top of the slab and the bottom edge of the key.
Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast concrete bridge slabs.
Required Strength, f'c, shall be 4500 p.s.i.
See Dwg. No. 2 of 17 for location of rail anchors and additional notes.
Cost of reinforcement and accessories cast into the slab unit, bearing pads, furnishing, drilling for, placing and grouting anchor rods and 3/4" hooked bolts is included in contract Unit Price for "Precast Concrete Bridge Slab."
The Precast Concrete Bridge Slab shall be erected and aligned with the exterior face of the exterior Deck Beam after Deck Beams are in final position.
A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.

BILL OF MATERIAL

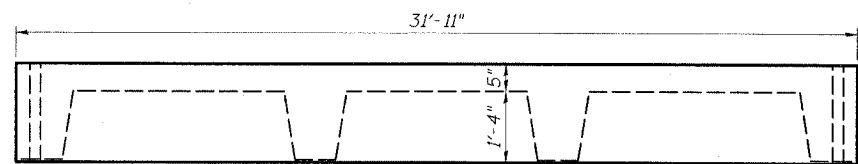
Item	Unit	Quantity
Precast Concrete Bridge Slab	Sq. Ft.	120

APPROACH DETAILS
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026

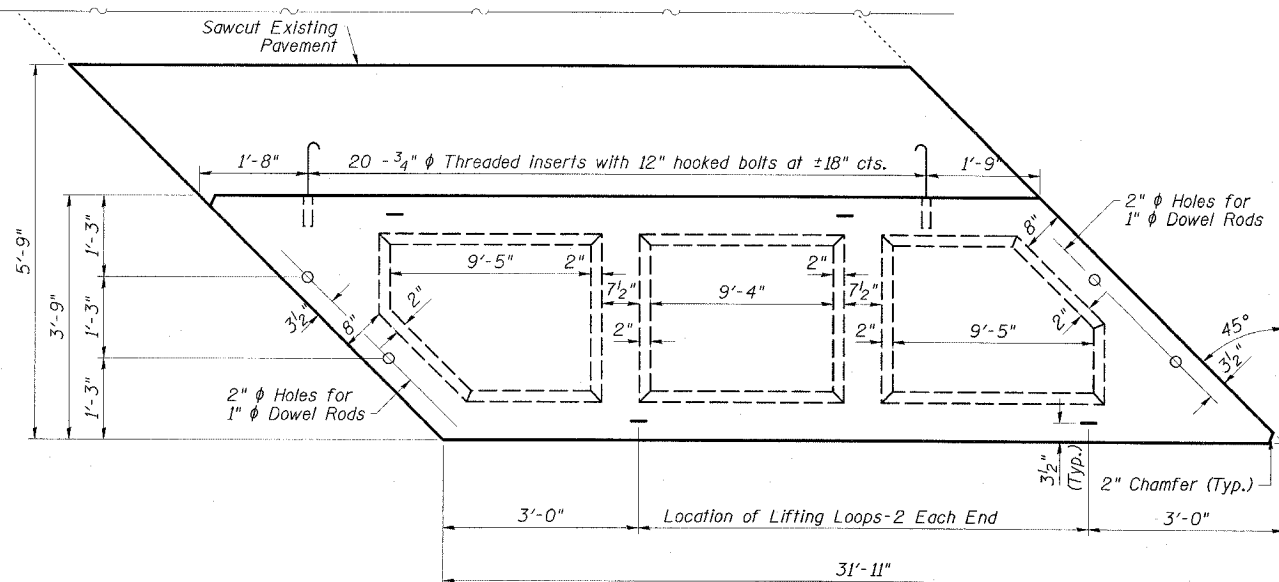
ESCA
CONSULTANTS, INC.
DESIGNED BY: DAJ 09/07
DRAWN BY: HAS 09/07
CHECKED BY: JMS/ELH 02/08
APPROVED BY: RDP 02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

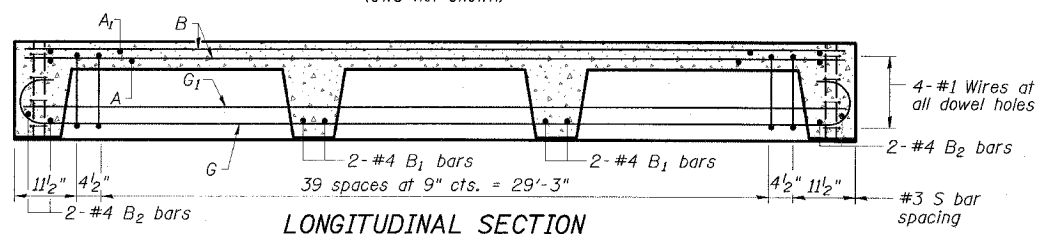
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO.
FAP 782	110BR-1	WHITE	73	54	17 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			
78027					



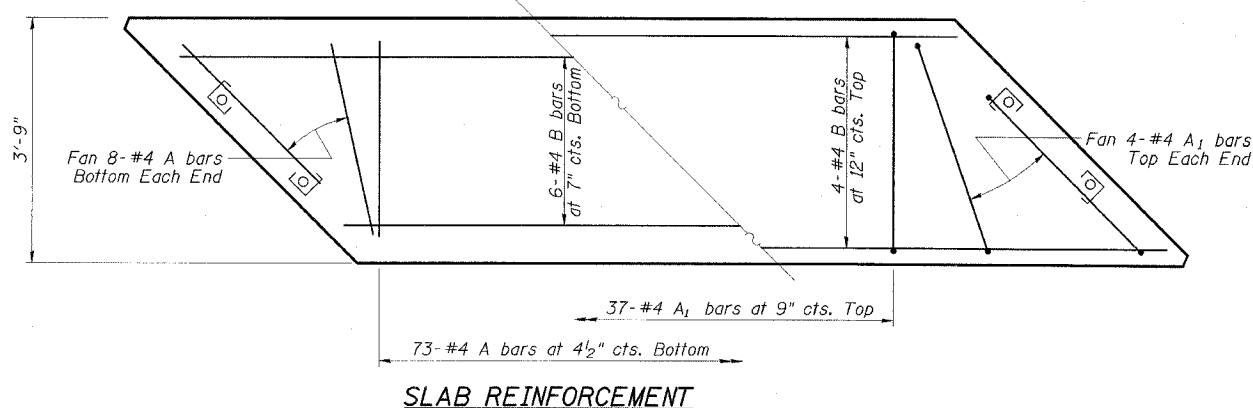
ELEVATION



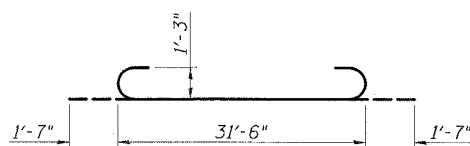
PARTIAL PLAN OF APPROACH
(CWS not shown)



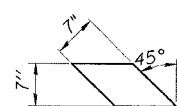
LONGITUDINAL SECTION



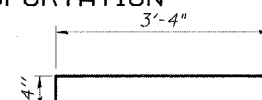
SLAB REINFORCEMENT



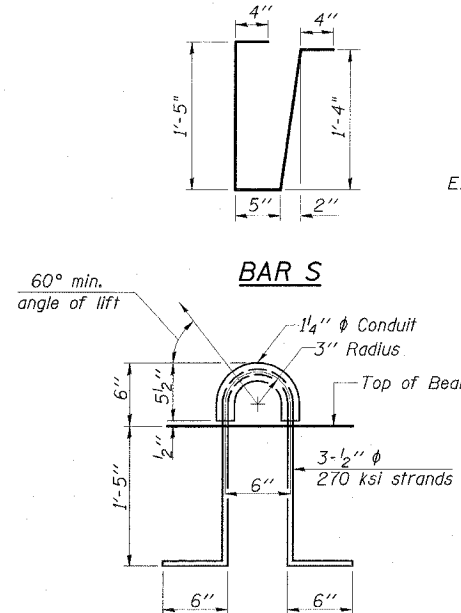
BAR G



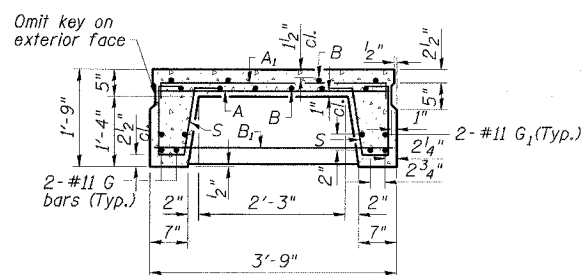
FABRIC BEARING PAD



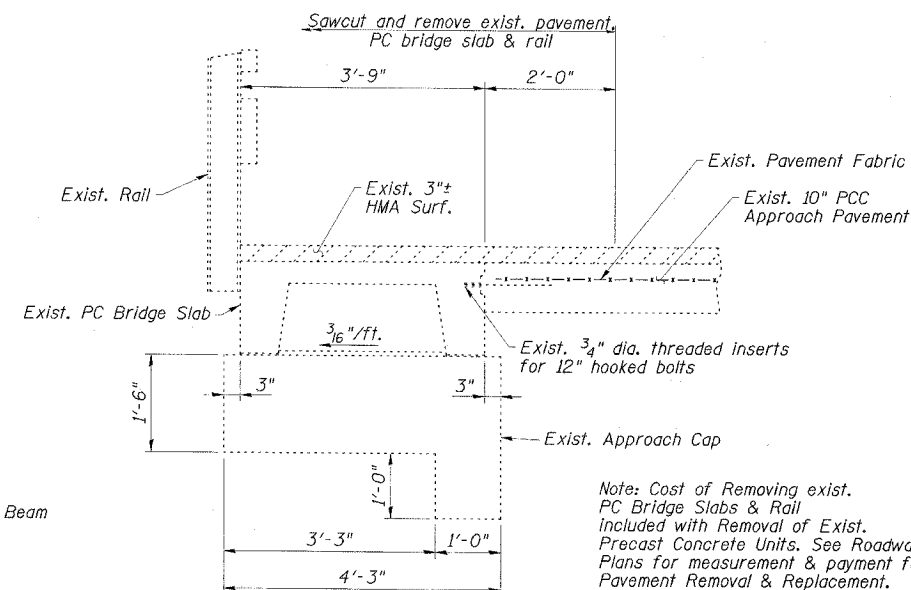
BAR A1



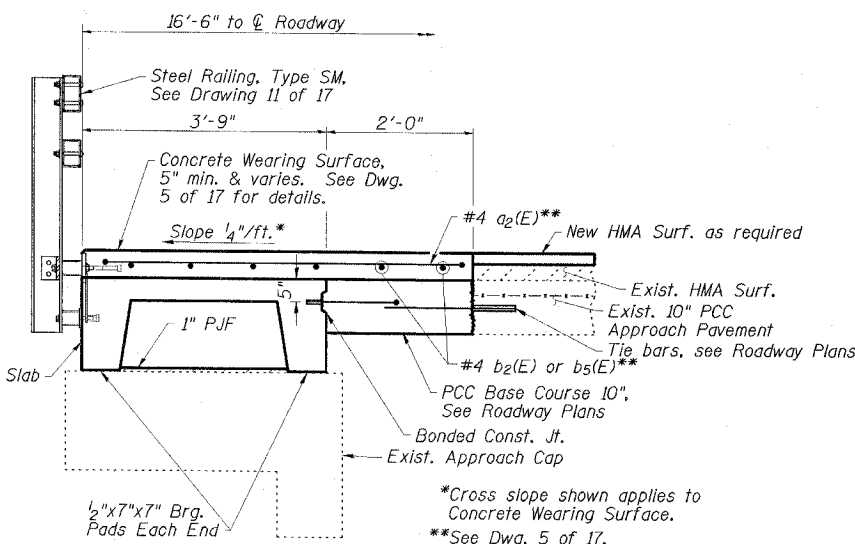
LIFTING LOOP DETAIL



SECTION THRU PRECAST UNIT



EXISTING CROSS SECTION



PROPOSED CROSS SECTION

NOTES

Reinforcing steel shall conform to ASTM A 706 (IL MOD), Grade 60.
The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Bearing Pad shall be provided for each bearing pad location.
Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the slabs. Cleaning shall be done by sandblasting the keyway areas between top of the slab and the bottom edge of the key.
Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast concrete bridge slabs.
Required Strength, f'c, shall be 4500 p.s.i.
See Dwg. No. 2 of 17 for location of rail anchors and additional notes.
Cost of reinforcement and accessories cast into the slab unit, bearing pads, furnishing, drilling for placing and grouting anchor rods and 3/4" hooked bolts is included in contract Unit Price for "Precast Concrete Bridge Slab."
The Precast Concrete Bridge Slab shall be erected and aligned with the exterior face of the exterior Deck Beam after Deck Beams are in final position.
A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.

BILL OF MATERIAL

Item	Unit	Quantity
Precast Concrete Bridge Slab	Sq. Ft.	240

APPROACH DETAILS
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026

ESCA
CONSULTANTS, INC.
DESIGNED BY: DAJ 09/07
DRAWN BY: HAS 09/07
CHECKED BY: JMS/ELH 02/08
APPROVED BY: RDP 02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATION	SHEET	SHEET NO. 10
FAP 782	110BR-1	WHITE	73	55	17 SHEETS
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT		

NOTES

After beams have been erected, holes shall be drilled into substructure and dowels rods placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.

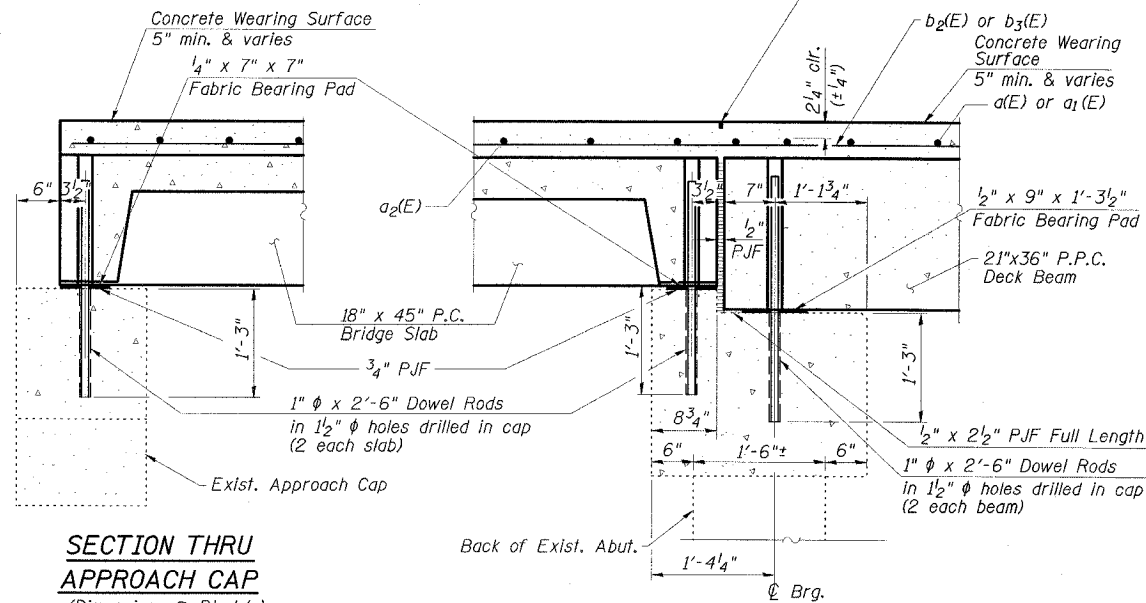
Concrete wearing surface to be poured after grouting the shear keys.

Dowel rods drilled in cap are included in the cost of Precast Prestressed Concrete Deck Beams (21" Depth) or Precast Concrete Bridge Slabs.

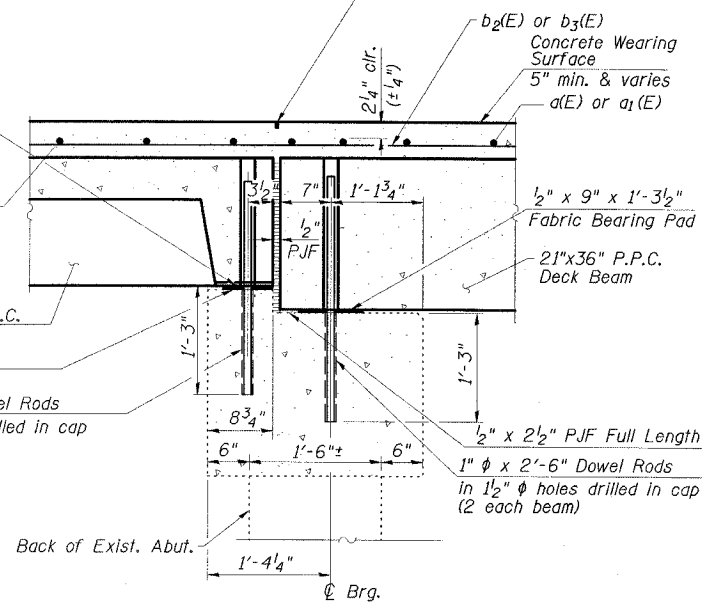
The rail anchorage shall be cast with the beam or slab and the wearing surface shall be cast in the field. Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam or slab. Drilling into the beam or slab will not be permitted.

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.

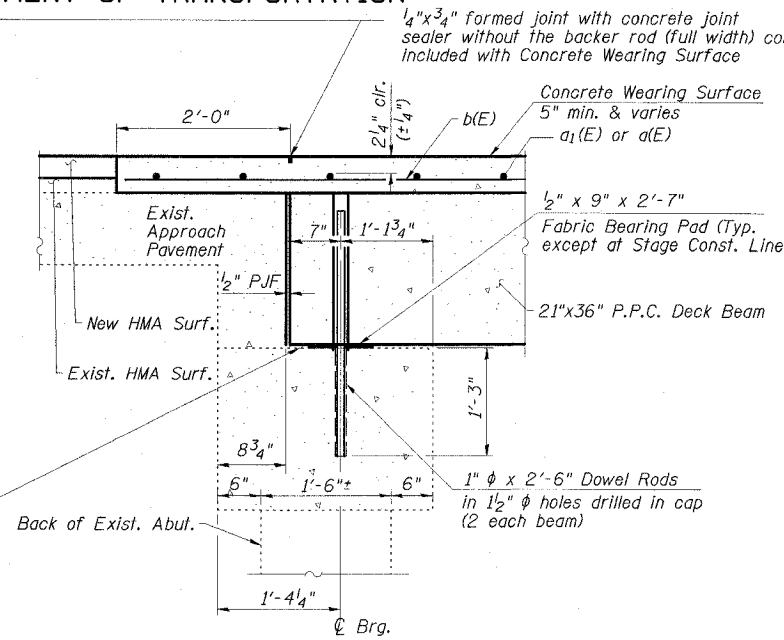
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.



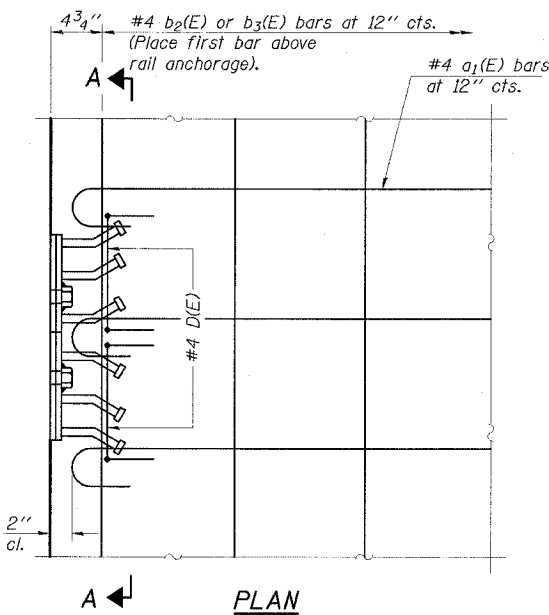
SECTION THRU APPROACH CAP
(Dimensions @ Rt. L's)



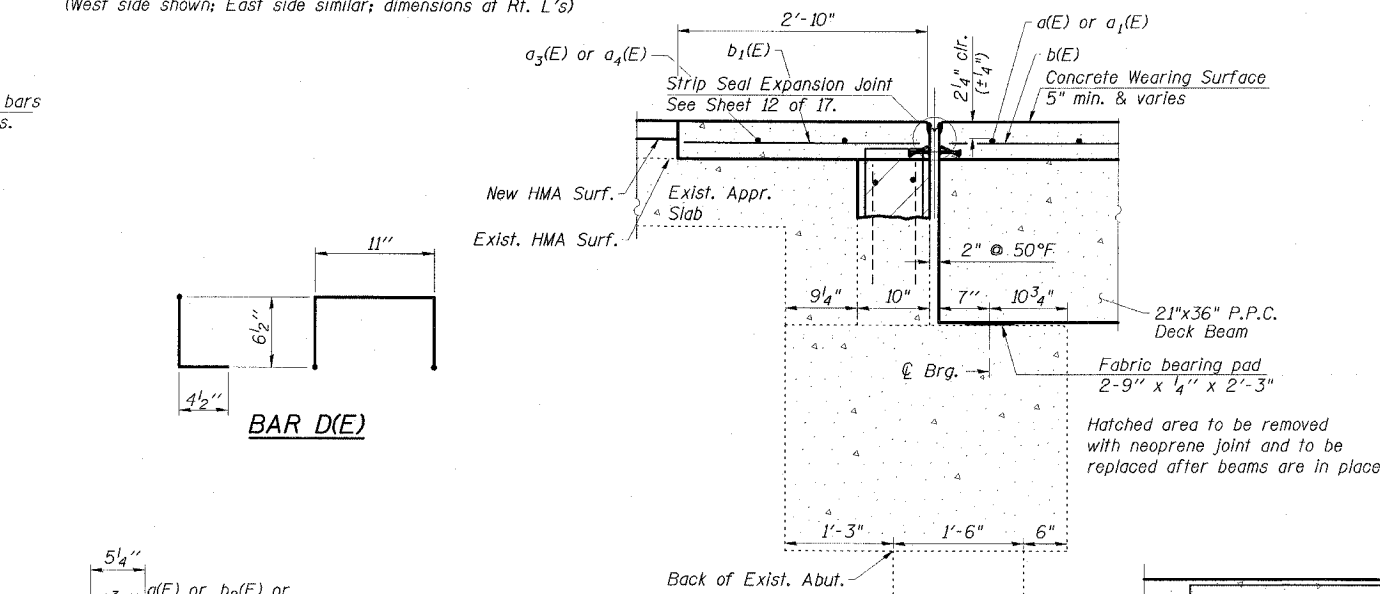
SECTION THRU N. ABUTMENT @ OUTSIDE BEAM
(West side shown; East side similar; dimensions at Rt. L's)



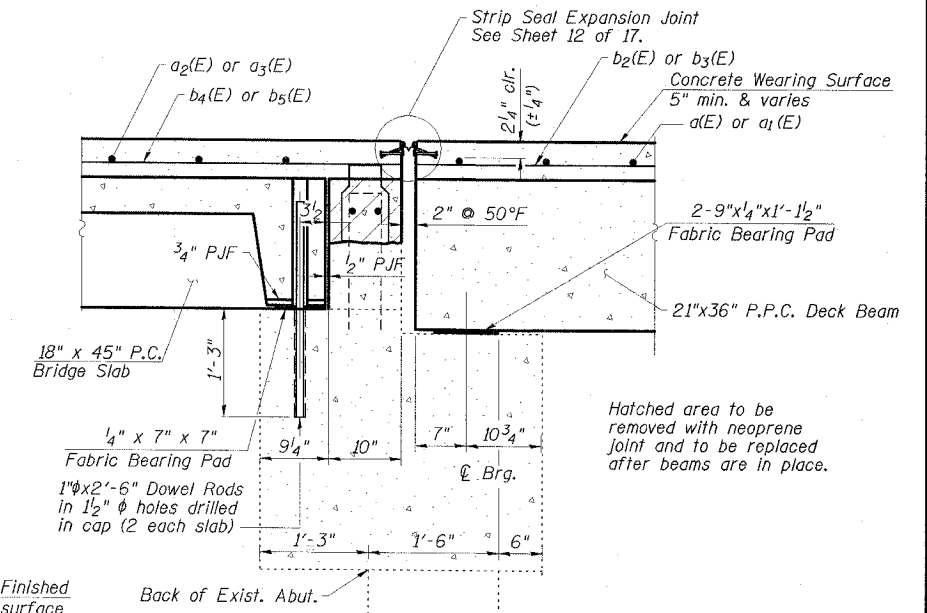
SECTION THRU N. ABUTMENT @ ROADWAY
(Dimensions @ Rt. L's)



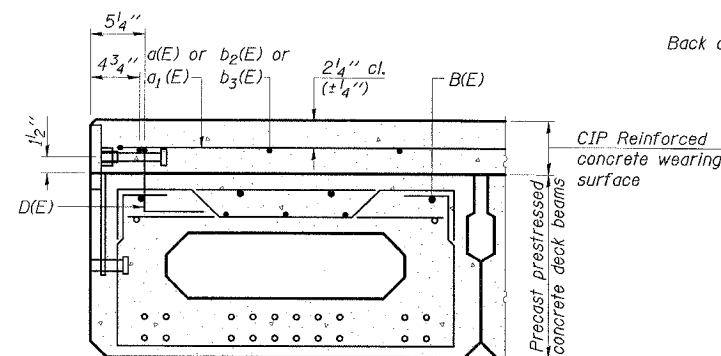
PLAN



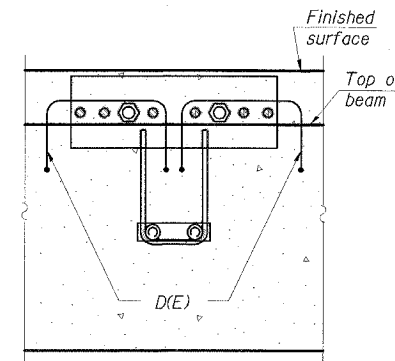
SECTION THRU S. ABUTMENT @ ROADWAY
(Dimensions @ Rt. L's)



SECTION THRU S. ABUTMENT @ OUTSIDE BEAM
(East side shown; West side similar; Dimension @ Rt. L's)



CROSS SECTION
(Deck beam shown; PC bridge slab similar)



SECTION A-A

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CONSULTANTS, INC.

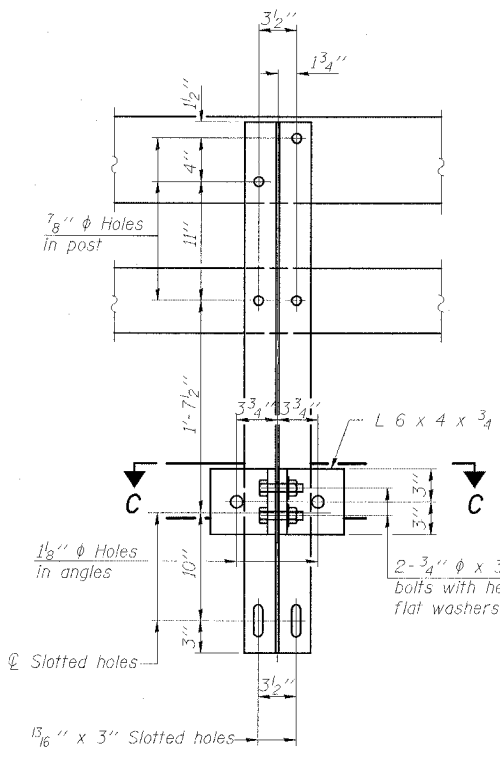
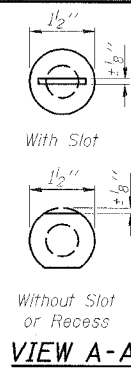
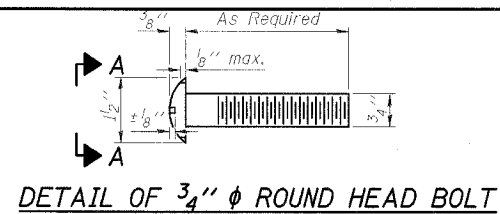
DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	02/08
APPROVED BY:	RDP	02/08

SUPERSTRUCTURE AND APPROACH DETAILS
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

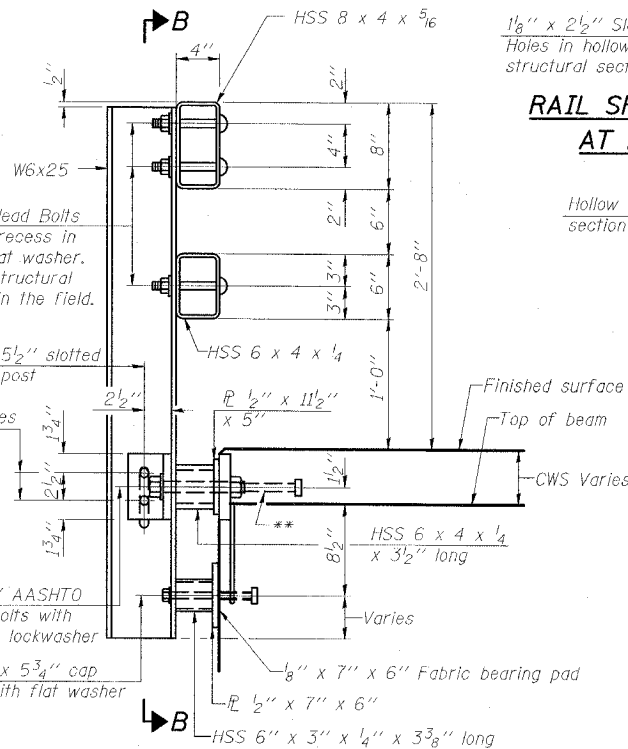
PROJECT NO.	SECTION	COUNTY	STATION	SHEET	SHEET NO.	
FAP 782	110BR-1	WHITE	73	56	17 SHEETS	
FED. ROAD DIST. NO. 4					ILLINOIS	FED. ROAD DIST. NO. 4

78027

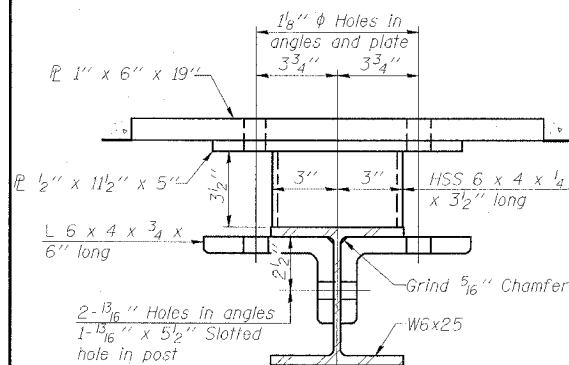


SECTION B-B

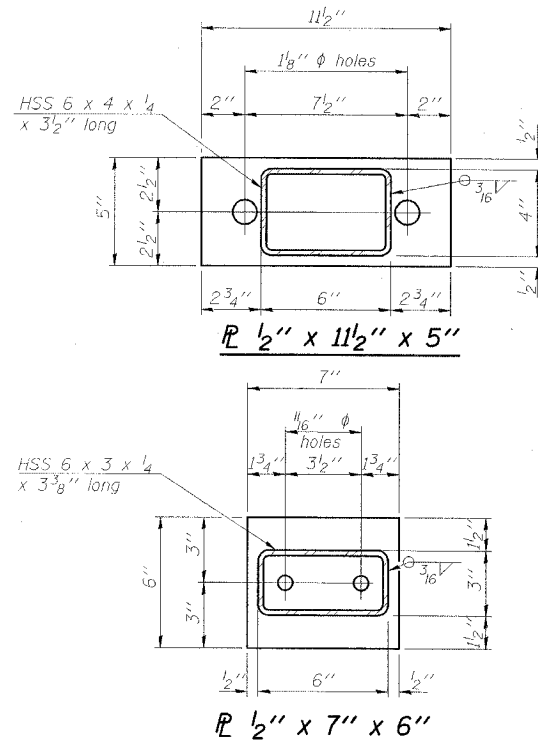
4-3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" ϕ holes in hollow structural section may be drilled in the field.



SECTION AT RAIL POST

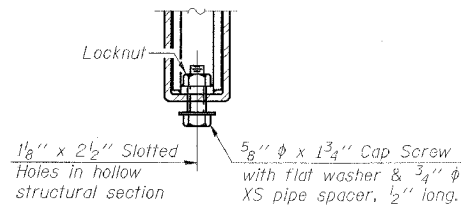


SECTION C-C

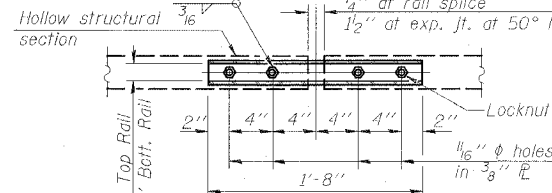


ANCHOR DEVICE

*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

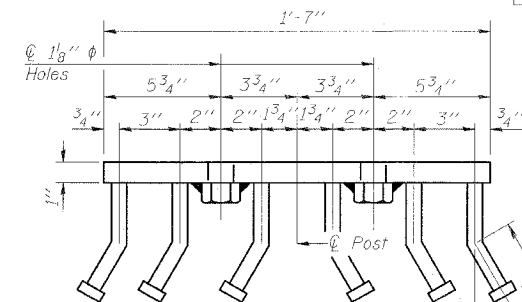


RAIL SPLICE CONNECTION AT EXPANSION JT.

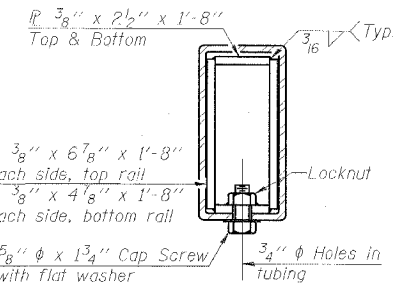


PLAN-BOTT. SPLICE AT TYPICAL

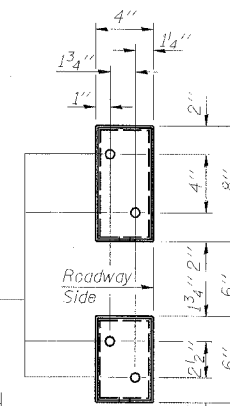
1/2" ϕ reduced base welded studs. Provide 4-5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032



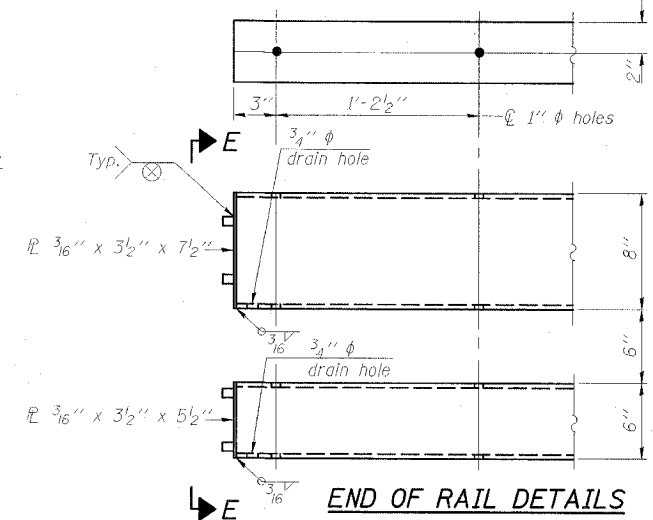
VIEW D-D



SECTION AT RAIL SPLICE



VIEW E-E



END OF RAIL DETAILS

Notes:
All field drilled holes shall be coated with an approved zinc paint before erection.
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.
Steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
**The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	195

STEEL RAILING, TYPE SM
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

R-34CWS

9-3-07

(6'-3" Maximum Post Spacing) (5" minimum to 7/8" maximum CWS thickness)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 12
FAP 782	110BR-1	WHITE	13	57	17 SHEETS
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT		

78027

GENERAL NOTES

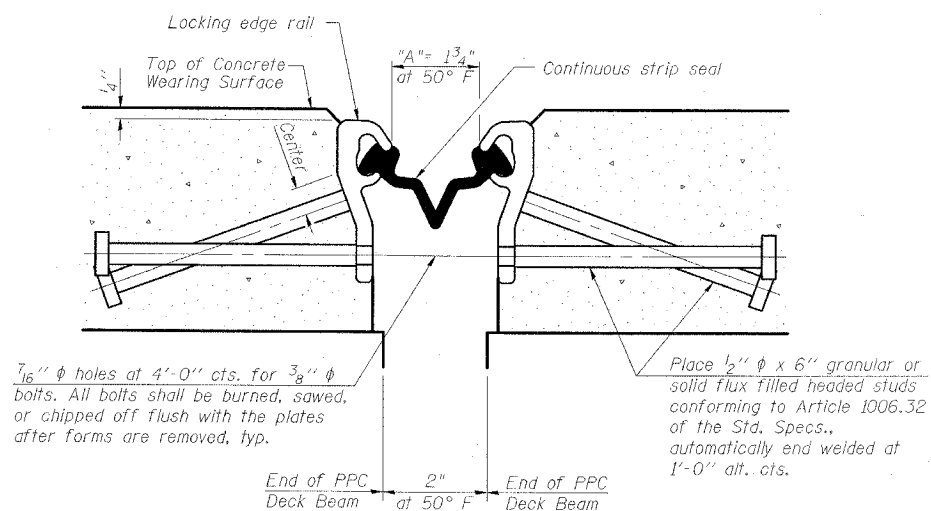
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. 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 and stage construction joints.

The manufacturer's recommended installation methods shall be followed.

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

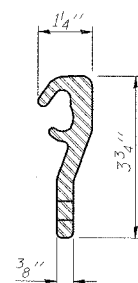


**SECTION THRU STRIP SEAL JOINT
FOR OVERLAY OVER DECK BEAMS**

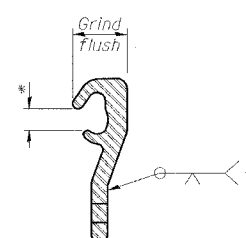
BILL OF MATERIAL

Item	Unit	Quantity
Preformed Joint Strip Seal	Foot	47

* Omit weld at seal opening.



LOCKING EDGE RAIL



LOCKING EDGE RAIL SPLICE

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DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

**STRIP SEAL EXPANSION JOINT
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.	SHEET NO. 13 17 SHEETS
FAP 782	110BR-1	WHITE	73	58	
FED. ROAD DIST. NO. #	ILLINOIS	FED. AID PROJECT			




78027

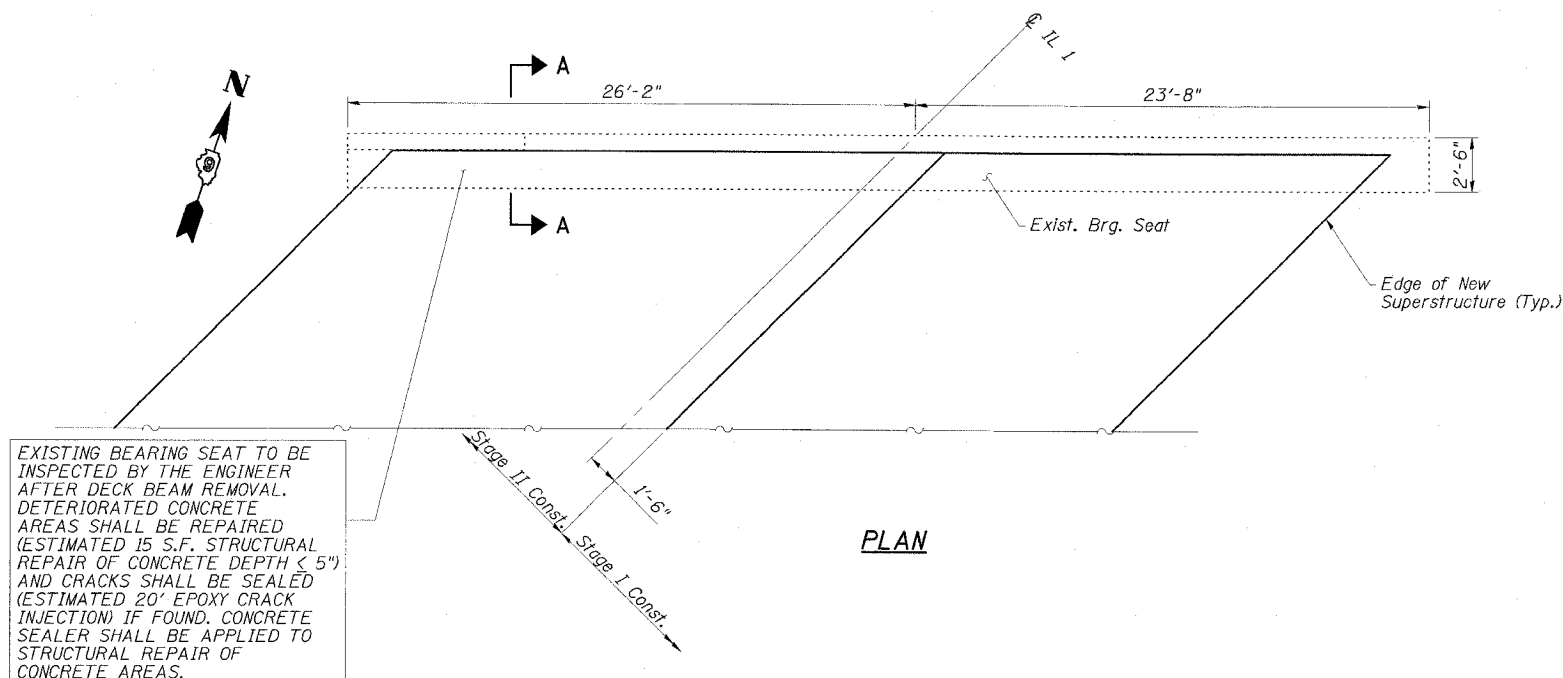
**NORTH ABUTMENT
BILL OF MATERIAL**

Item	Unit	Quantity
Concrete Sealer	Sq. Ft.	15
Epoxy Crack Injection	Foot	34
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	51

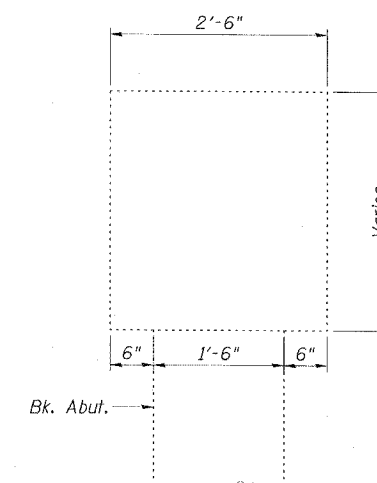
REPAIR LEGEND

Inspection Date: 12/10/07

-  C-6' Crack to be epoxy injected
-  Delaminated or Spalled Area - Use Structural Repair of Concrete
-  Efflorescent Crack

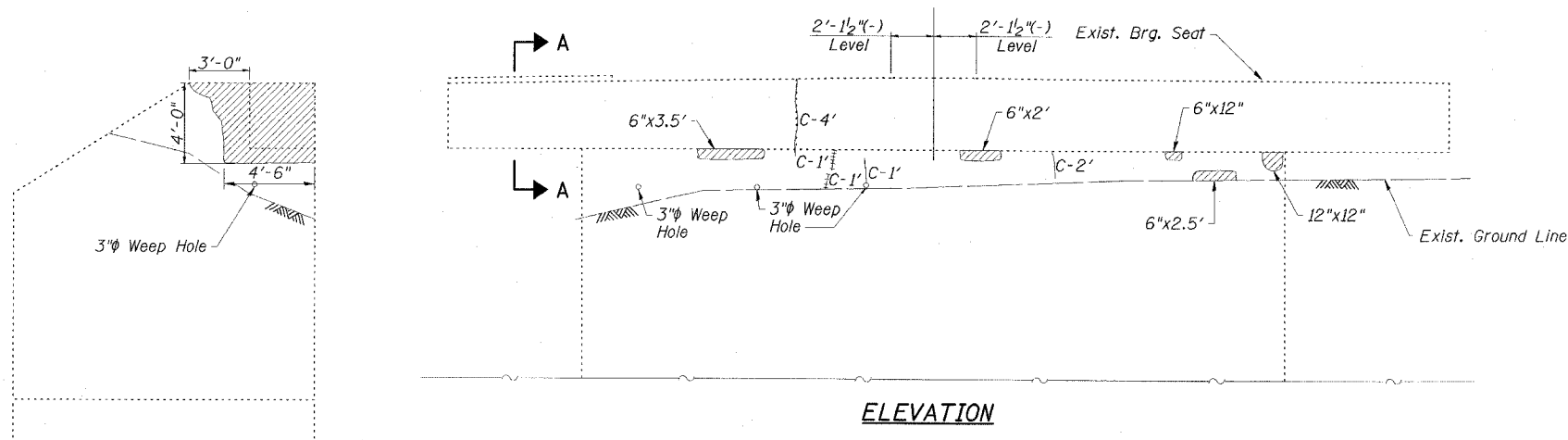


PLAN



SECTION A-A

(⊙ ⊕ Roadway & East Side Outside Beam; West Side ⊙ Outside Beam Similar)



ELEVATION

**ELEVATION
WEST WING**

**ELEVATION
EAST WING**

NOTE: ABUTMENT CRACK REPAIR LENGTHS AND STRUCTURAL REPAIR OF CONCRETE AREAS ARE ESTIMATED FROM 12-10-07 SURVEY WORK. ACTUAL LOCATIONS AND QUANTITIES OF REPAIRS SHALL BE SHOWN BY THE ENGINEER ON THE AS-BUILT PLANS FOR THIS SECTION.

ESCA
CONSULTANTS, INC.

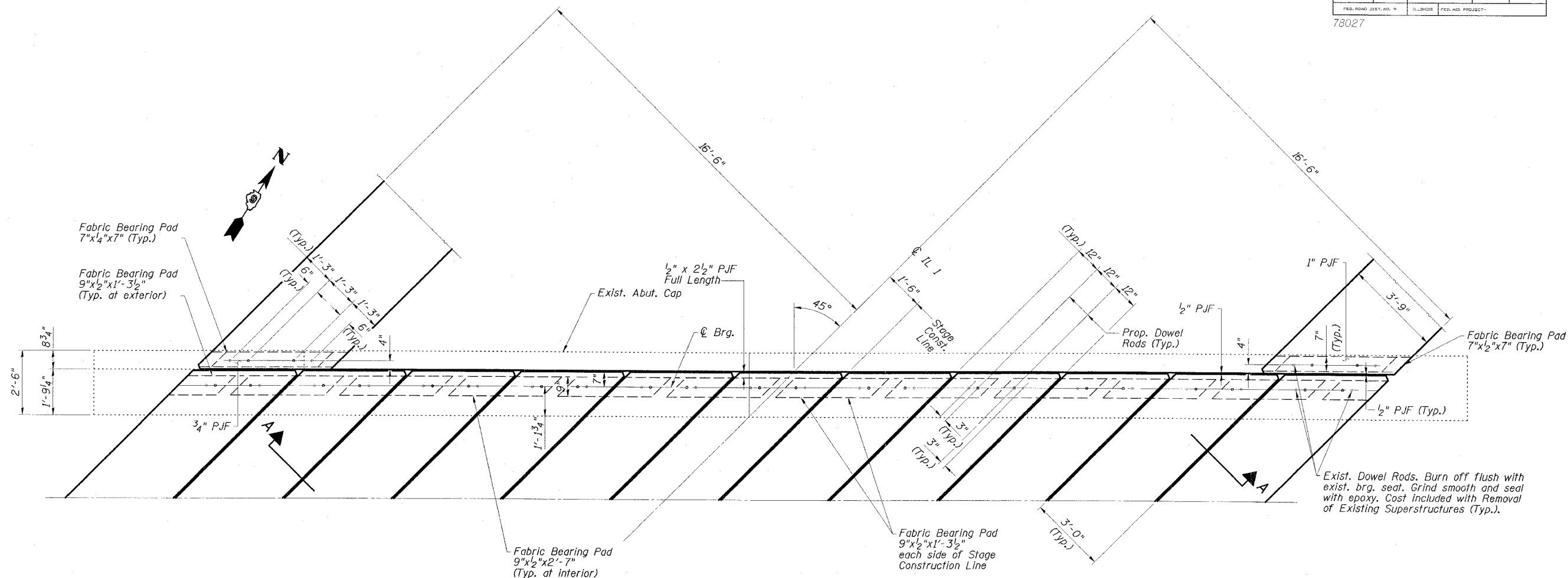
DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

**NORTH ABUTMENT
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026**

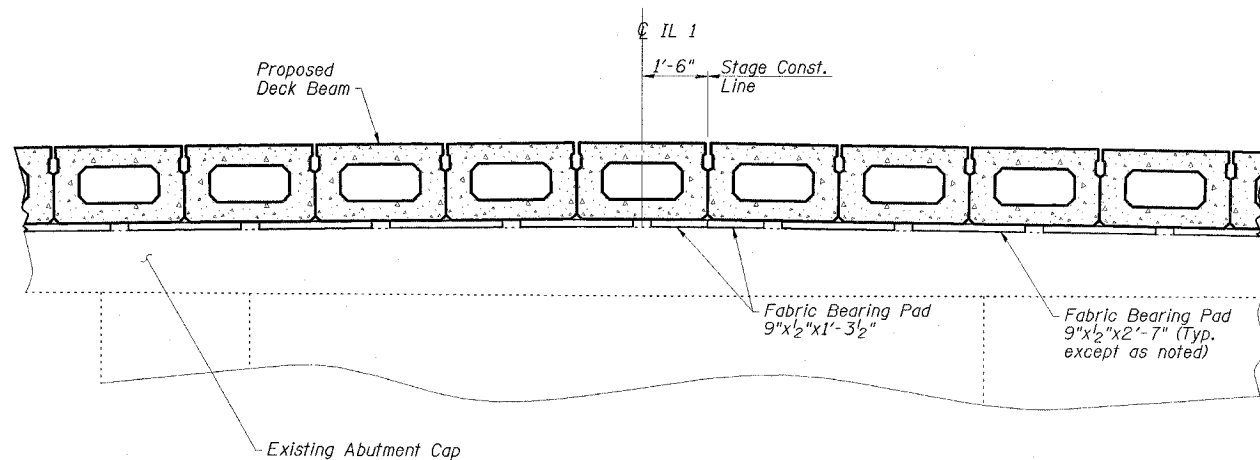
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET	SHEET NO. 14
FAP 782	110BR-1	WHITE	73	59	17 SHEETS
FED. ROAD DIST. NO. 4		ILLINOIS		FED. AID PROJECT	

78027



ABUTMENT BEARING SEAT PLAN
(Concrete wearing surface and approach pavement not shown)



SECTION A-A
(Concrete wearing surface not shown)

NORTH ABUTMENT DETAILS
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	01/08
APPROVED BY:	RDP	01/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAP 782	110BR-1	WHITE	73	60
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		

78027

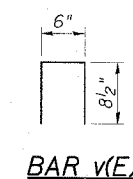
**SOUTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	4	#6	22'-1"	
v(E)	24	#4	1'-11"	□
Concrete Sealer		Sq. Ft.	44	
Epoxy Crack Injection		Foot	56	
Structural Repair of Concrete (Depth Equal To or Less Than 5")		Sq. Ft.	29	
Concrete Removal		Cu. Yd.	0.9	
Concrete Structures		Cu. Yd.	0.9	
Reinforcement Bars, Epoxy Coated		Pound	170	
Asbestos Bearing Pad Removal		Each	22	
Bar Splicers		Each	2	

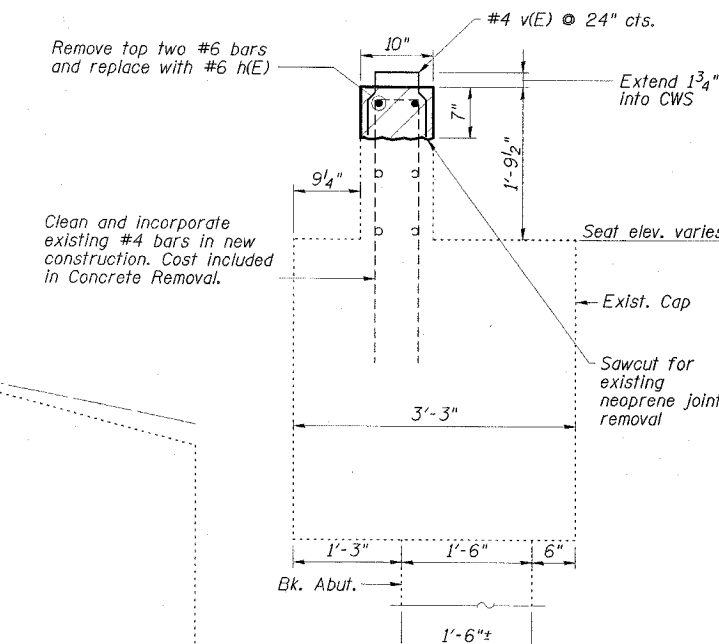
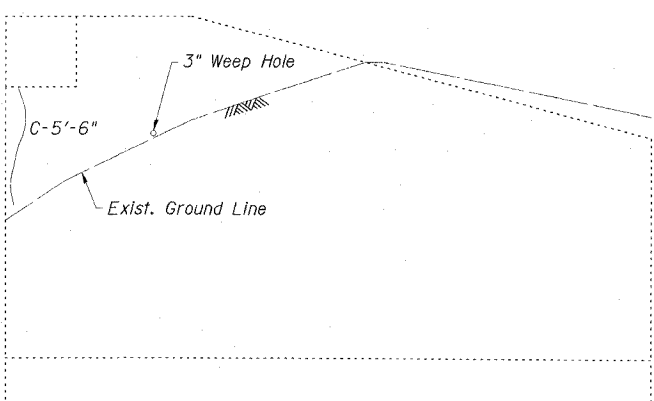
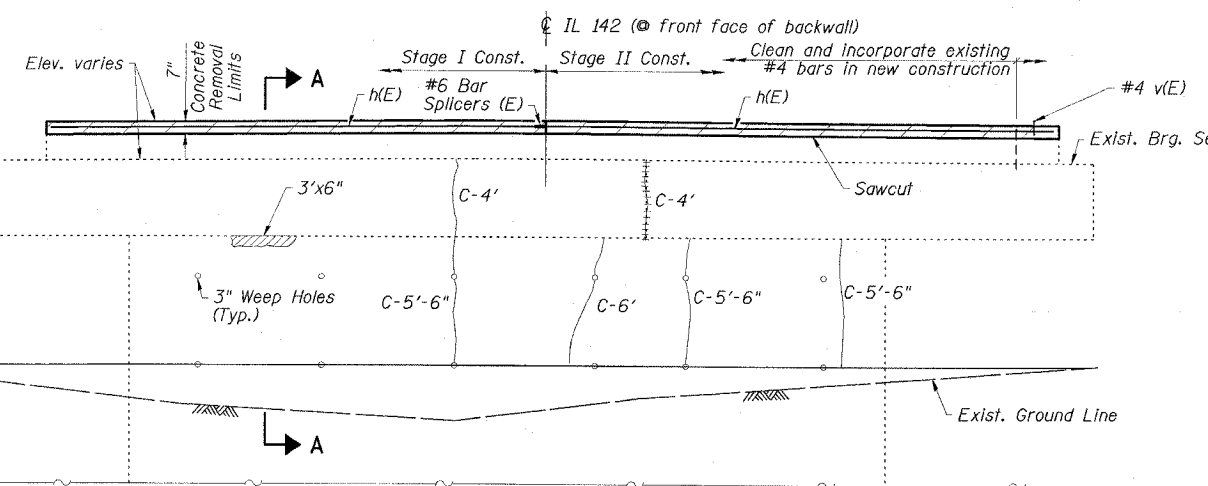
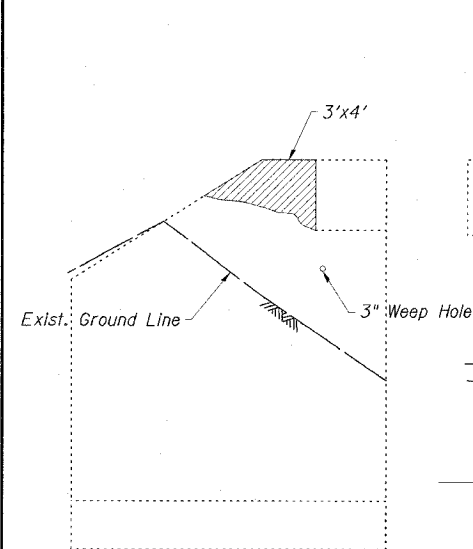
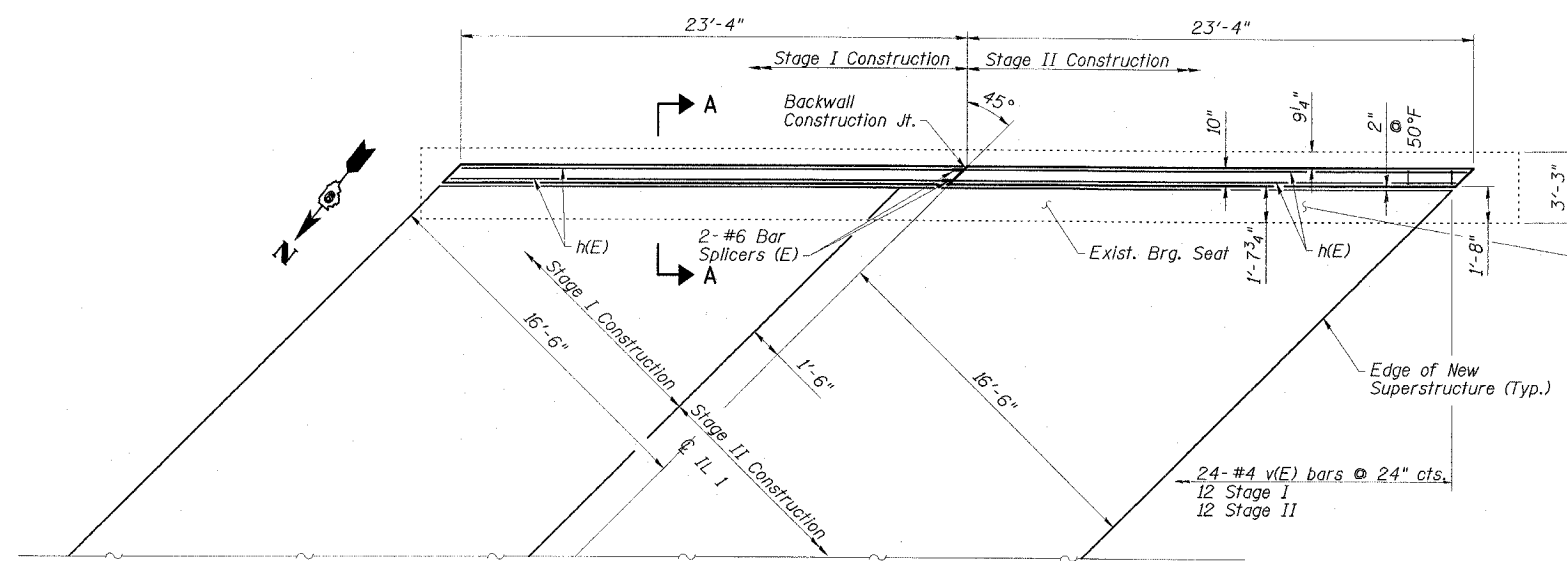
REPAIR LEGEND

Inspection Date: 12/10/07

- C-6' Crack to be epoxy injected
- Delaminated or Spalled Area - Use Structural Repair of Concrete
- Efflorescent Crack



EXISTING BEARING SEAT TO BE INSPECTED BY THE ENGINEER AFTER DECK BEAM REMOVAL. DETERIORATED CONCRETE AREAS SHALL BE REPAIRED (ESTIMATED 15 S.F. STRUCTURAL REPAIR OF CONCRETE DEPTH < 5") AND CRACKS SHALL BE SEALED (ESTIMATED 20' EPOXY CRACK INJECTION) IF FOUND. CONCRETE SEALER SHALL BE APPLIED TO STRUCTURAL REPAIR OF CONCRETE AREAS.



NOTE: ABUTMENT CRACK REPAIR LENGTHS AND STRUCTURAL REPAIR OF CONCRETE AREAS ARE ESTIMATED FROM 12-10-07 SURVEY WORK. ACTUAL LOCATIONS AND QUANTITIES OF REPAIRS SHALL BE SHOWN BY THE ENGINEER ON THE AS-BUILT PLANS FOR THIS SECTION.

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	02/08
APPROVED BY:	RDP	02/08

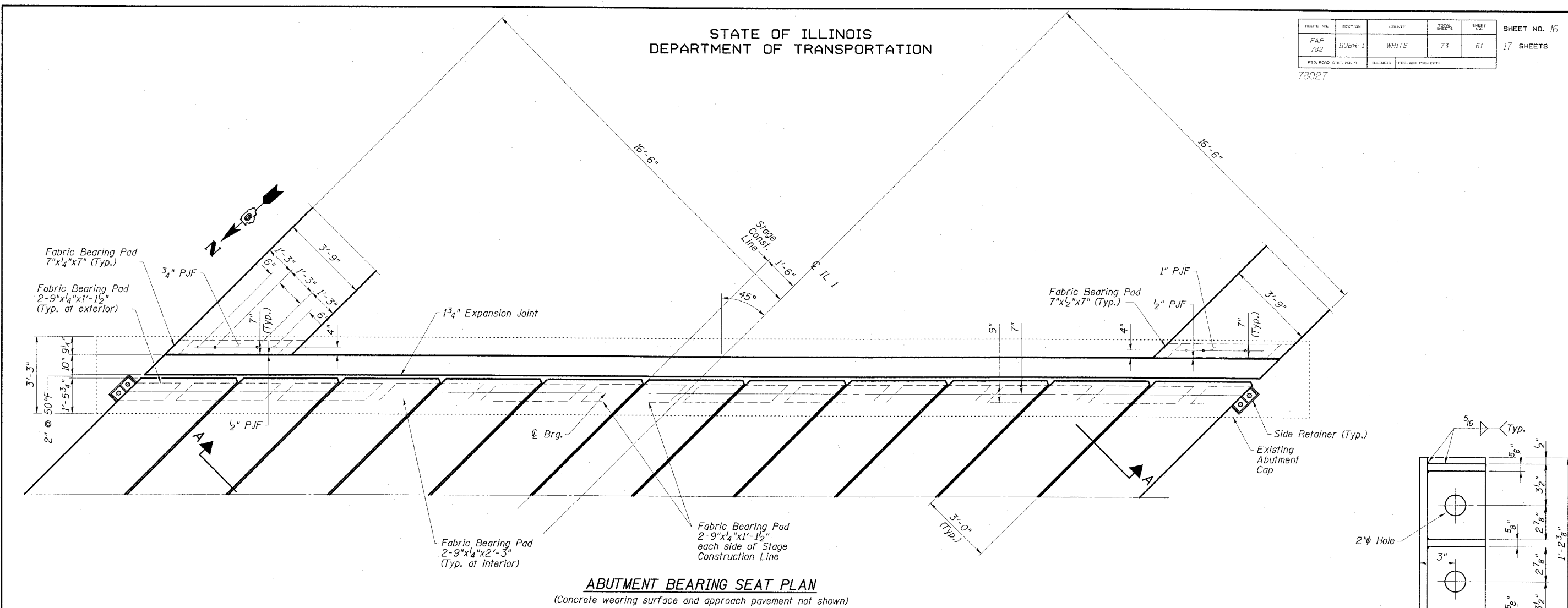
SECTION A-A
(@ @ Roadway & West Side outside beam
East side @ Outside Beam similar)

**SOUTH ABUTMENT
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

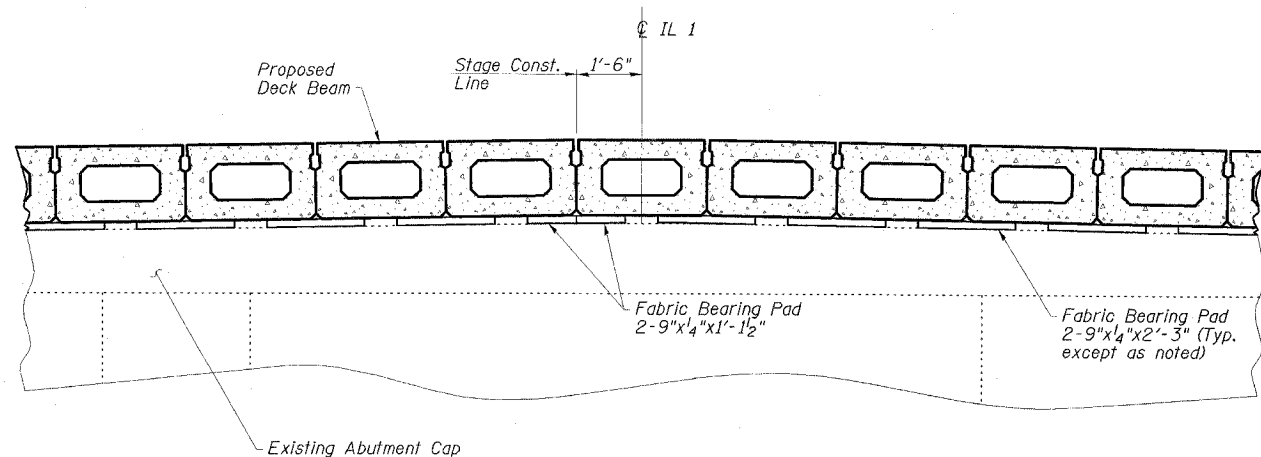
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 16 17 SHEETS
FAP 782	110BR-1	WHITE	73	61	
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT		

78027



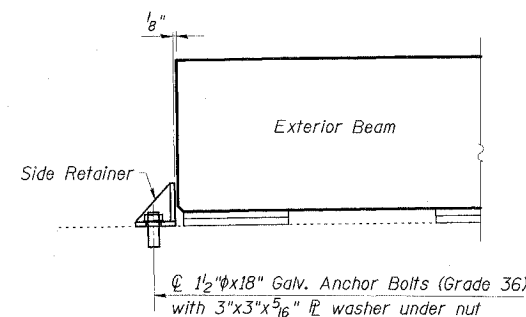
ABUTMENT BEARING SEAT PLAN

(Concrete wearing surface and approach pavement not shown)



SECTION A-A

(Concrete wearing surface and approach pavement not shown)



EXTERIOR BEAM RETAINER DETAILS

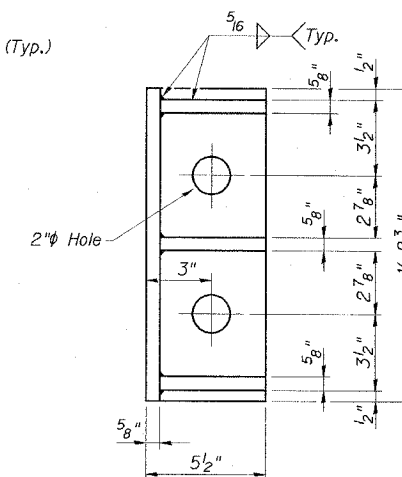
(2 Required)

Cost of Retainer Angles, Anchor Bolts & accessories are included with Precast Prestressed Concrete Deck Beams.

Fill 1/8" gap with shim E to provide temporary lateral support until shear keys have been grouted and concrete wearing surface has been placed.

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.

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



SIDE RETAINER

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

SOUTH ABUTMENT DETAILS
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	JMS/ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.	SHEET NO. 17 17 SHEETS
FAP 782	110BR-1	WHITE	73	62	
FED. ROAD DIST. NO. 11		ILLINOIS	FED. AID PROJECT		

78027

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

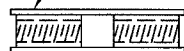
The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



**** ONE PIECE**

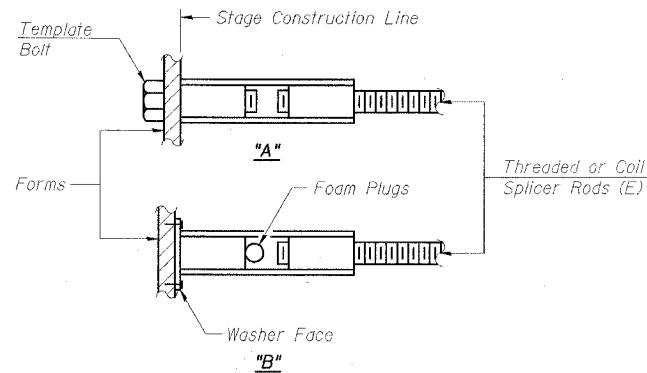
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

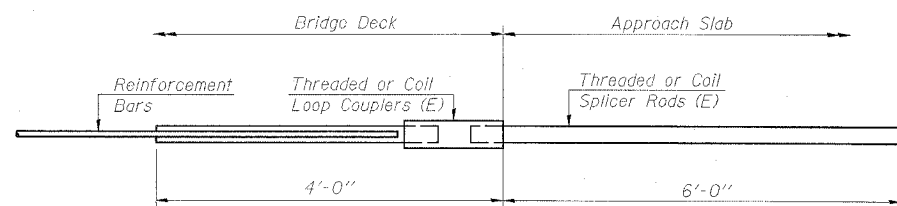
"A": Set bar splicer assembly by means of a template bolt.
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E): Indicates epoxy coating.

NOTES

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

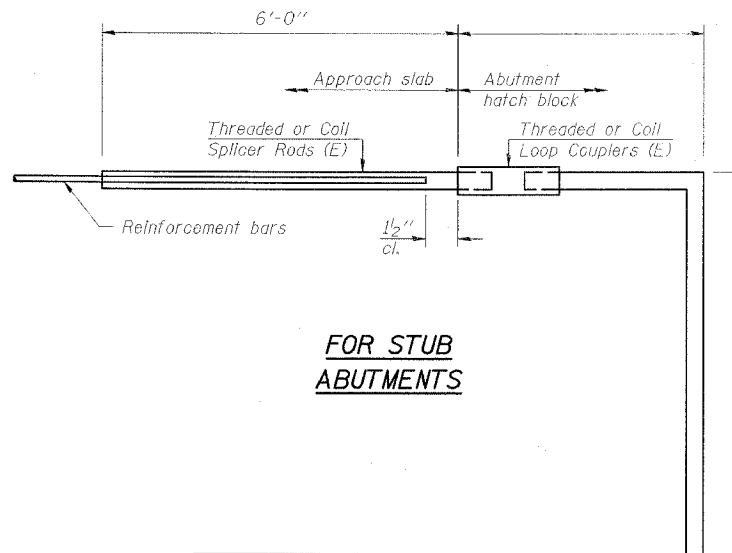
- Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
 - Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



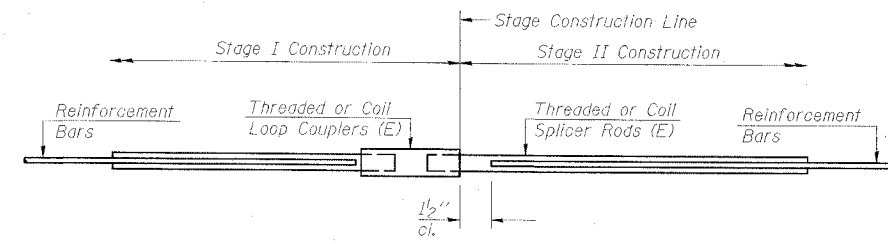
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 0



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 0



STANDARD

Bar Size	No. Assemblies Required	Location
#4	54	Concrete Wearing Surface
#6	2	South Abutment

BAR SPLICER ASSEMBLY DETAILS
IL 1 OVER INDIAN CREEK
FAP ROUTE 782 - SECTION 110BR-1
WHITE COUNTY
STATION 85+28.00
STRUCTURE NO. 097-0026

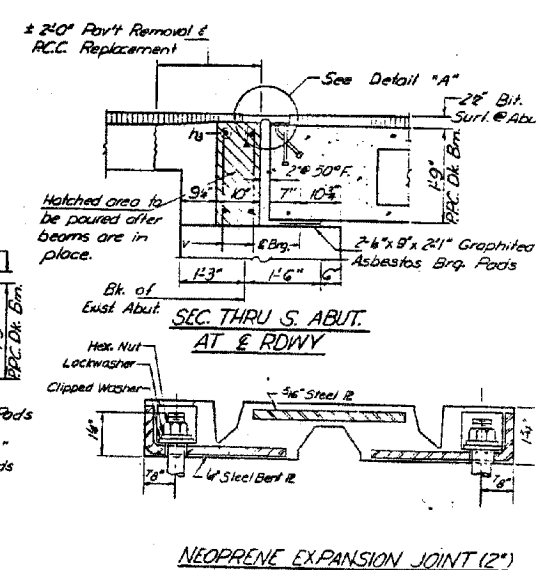
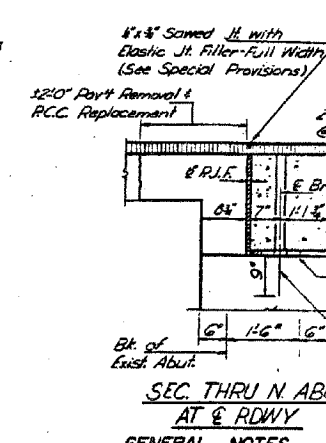
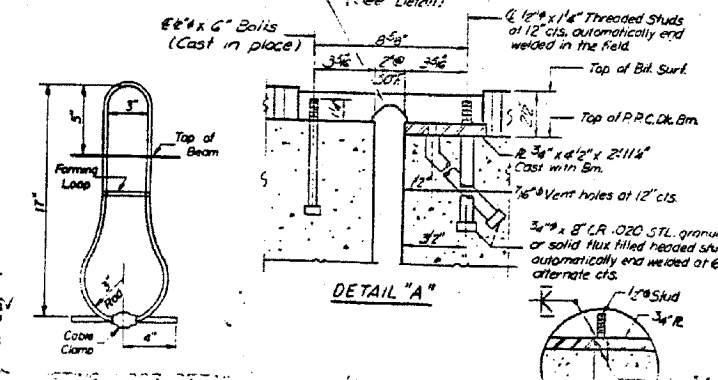
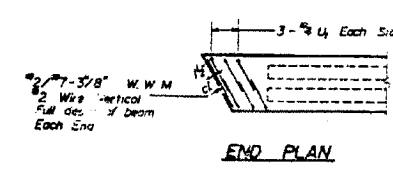
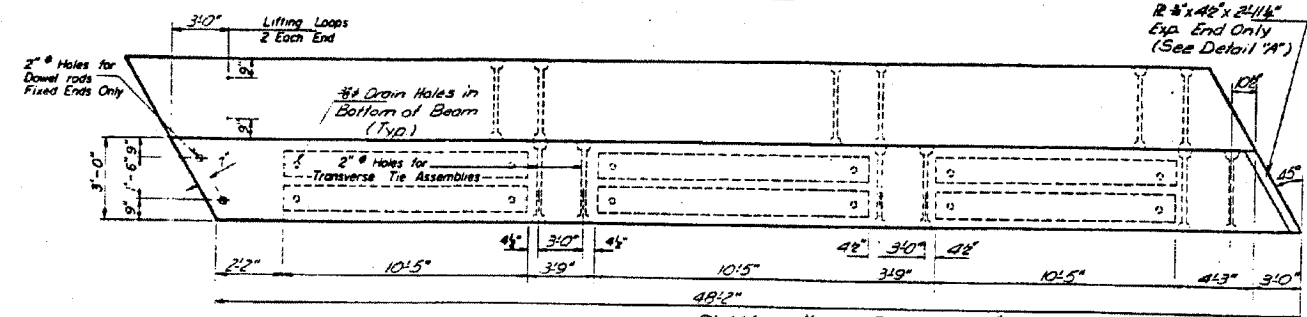
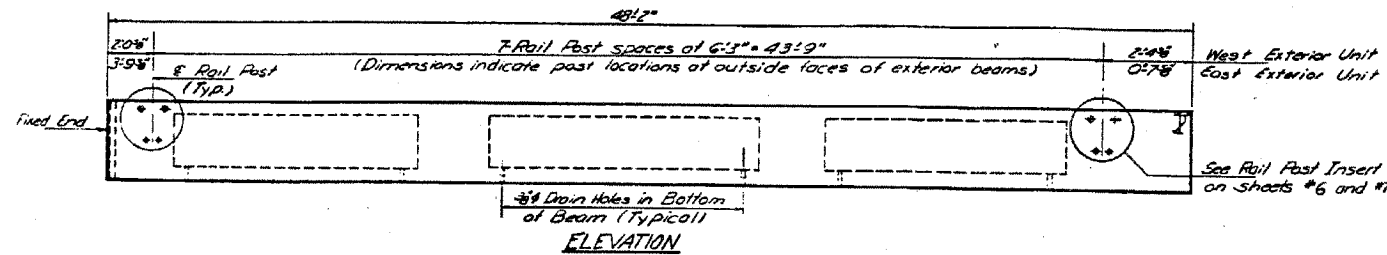
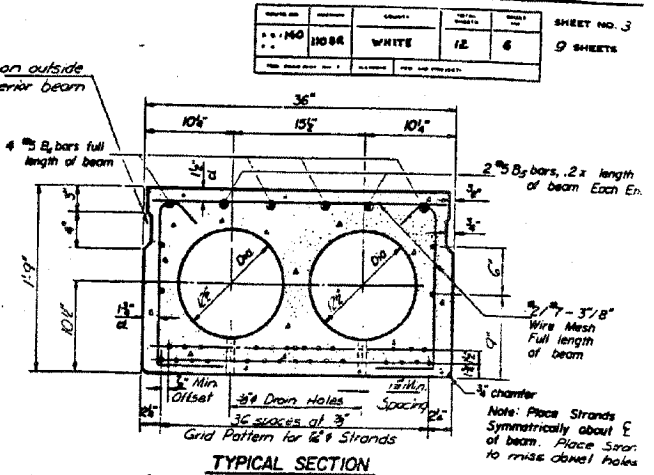
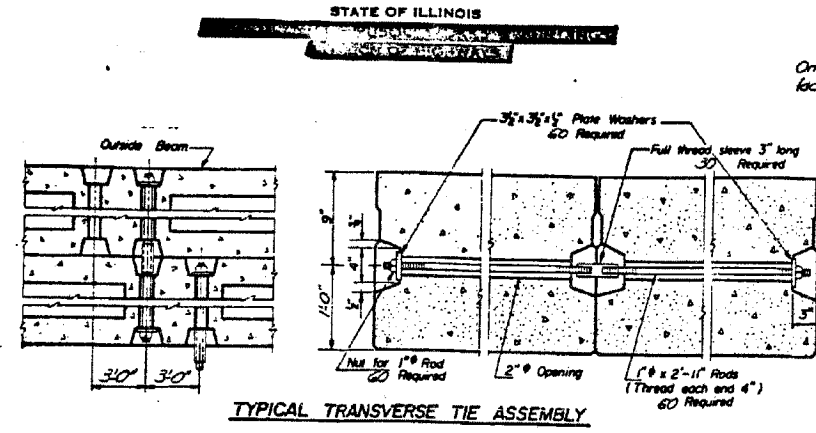
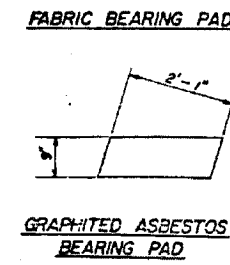
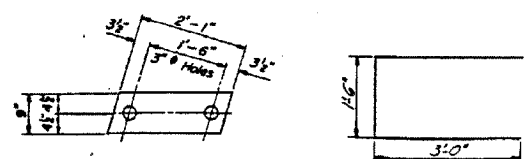
ESCA
CONSULTANTS, INC.
DESIGNED BY: DAJ 09/07
DRAWN BY: HAS 09/07
CHECKED BY: JMS/ELH 01/08
APPROVED BY: RDP 01/08

BSD-1

11-1-06



CONTRACT NO. 78027				
FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
782	110BR-1	WHITE	73	64
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT AID		



GENERAL NOTES

Pressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.109 sq. in. Lifting loops shall be 3/8" diameter, 6 x 19 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 33,000 lbs.

The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Packers that receive transverse tie bar on outside beam shall be filled with grout after transverse tie assembly is in place.

Longitudinal shear keys shall be packed with a very dry mix of 2-1 sand and P.C. mortar. After beams have been erected, holes for the dowel anchors shall be grouted in place.

Steel for dowel rods shall be A.S.T.M. A306 or A.S.T.M. A615 bars.

Transverse tie rods shall be A.S.T.M. A306 Grade 70-80.

After installation the transverse tie assemblies (tie rods, nuts, washers and sleeves) shall be hot-dipped galvanized in accordance with A.S.T.M. Designation A153.

Cost of reinforcement and accessories cast into the beam, of bearing pads, of armor angles, and of grouting longitudinal shear keys is included in unit price bid for "Precast Prestressed Concrete Deck Beams 21" Depth."

BILL OF MATERIAL

Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1590
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SUPERSTRUCTURE DETAILS
 SEE RT 110 672 123P

DESIGNED	DAJ	09/07
DRAWN BY	HAS	09/07
CHECKED BY	ELH	01/08
APPROVED BY	ROP	01/08

ESCA
 CONSULTANTS, INC.

DESIGNED BY: DAJ 09/07
 DRAWN BY: HAS 09/07
 CHECKED BY: ELH 01/08
 APPROVED BY: ROP 01/08

EXISTING STRUCTURE PLANS
 FAP RTE 782 (IL 1)
 SECTION 110BR-1
 WHITE COUNTY

FOR INFORMATION ONLY

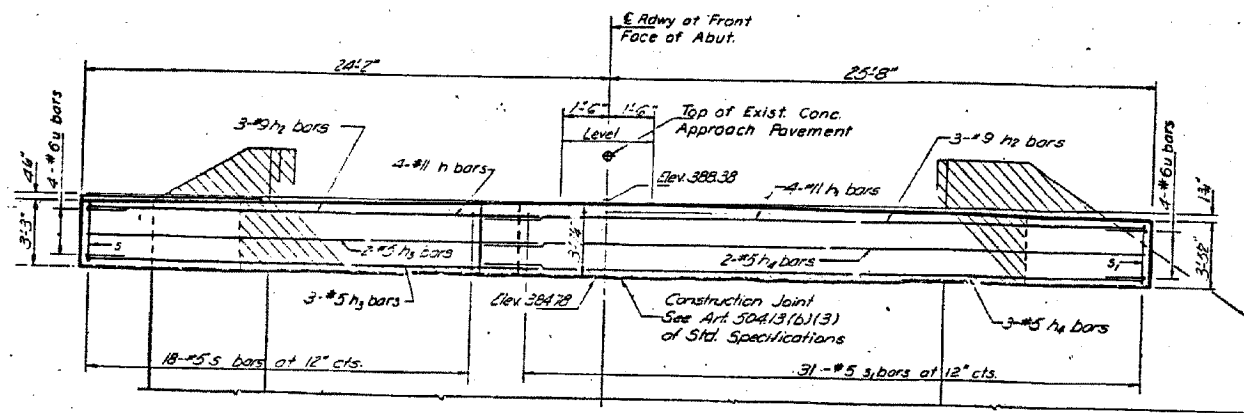


CONTRACT NO. 78027			
FAP RTE	SECTION	COUNTY	TOTAL SHEET NO.
782	110BR-1	WHITE	73 65
STA.		TO STA.	
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT AID

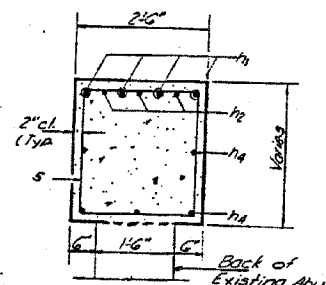
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12/11	1	WHITE	ISSUED FOR PERMIT
12/11	2	WHITE	REVISED

SHEET NO. 3
9 SHEETS

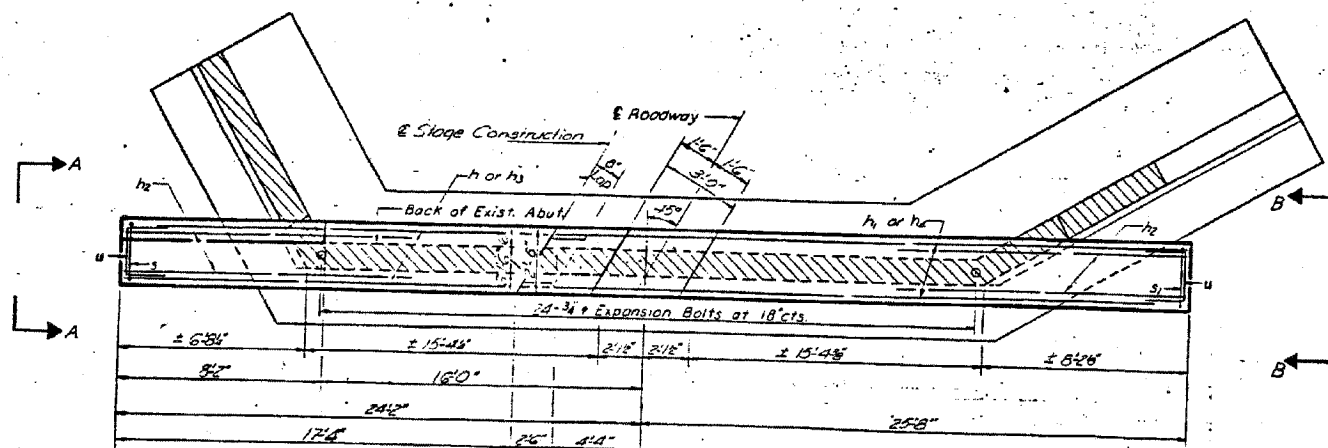
STATE OF ILLINOIS



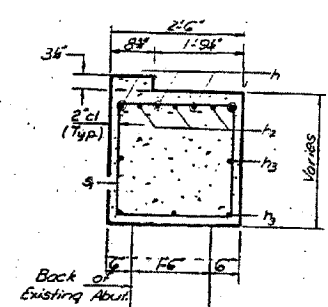
ELEVATION



VIEW B-B



PLAN



VIEW A-A

NO. ABUTMENTS

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	2	#9	17.76'	---
h1	1	#9	30.0'	---
h2	6	#9	11.0'	---
h3	5	#5	11.0'	---
h4	5	#5	30.0'	---
s	18	#5	10.0'	□
s1	31	#5	11.3'	□
u	8	#6	10.0'	□

Class X Concrete	Cu. Yd.	16.1
Reinforcement Bars	Wt. (LBS)	1810
Expansion Bolts	Each	24
Concrete Removal	Cu. Yd.	6

Notes:
 Hatched area indicates Concrete Removal Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.
 Expansion Bolts shall be anchored in sound concrete.
 All edges shall have standard 3/4 chamfers

DESIGNED: Kevin C. Adams, PE
 CHECKED: Chris Tran, PE
 EXAMINED: [Signature]
 DATED: 12/11/07

ESCA
 CONSULTANTS, INC.

DESIGNED BY:	DAJ	09/07
DRAWN BY:	HAS	09/07
CHECKED BY:	ELH	01/08
APPROVED BY:	RDP	01/08

FOR INFORMATION ONLY

EXISTING STRUCTURE PLANS
 FAP RTE 782 (IL 1)
 SECTION 110BR-1
 WHITE COUNTY

NORTH ABUTMENT



DATE: _____ BY: _____

FINAL SURVEY SHEETED PROVIDED AREAS CHECKED

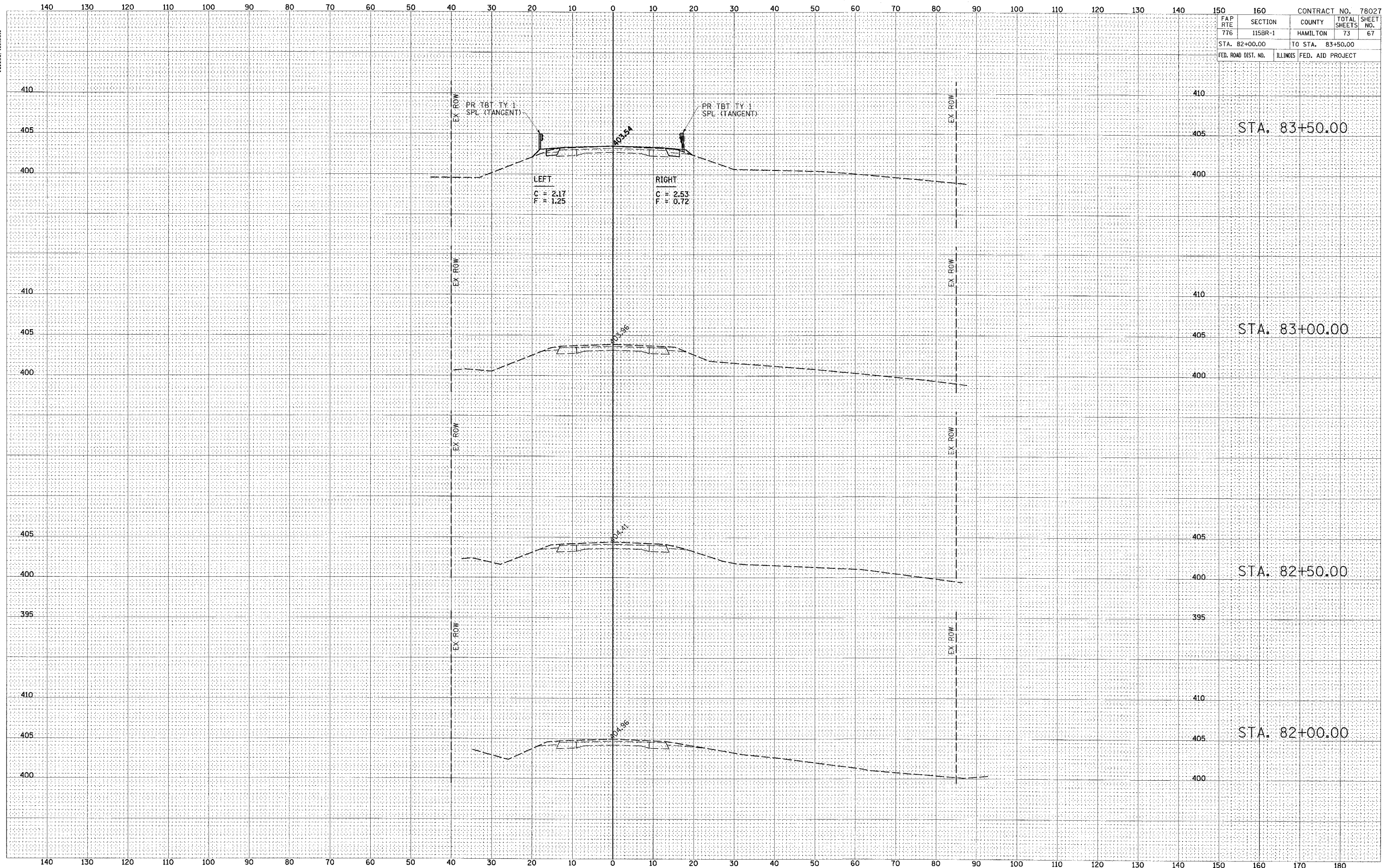
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DATE: _____ BY: _____

ORIGINAL SURVEY SHEETED PROVIDED AREAS CHECKED

NOTE BOOK TEMPLATE AREAS CHECKED

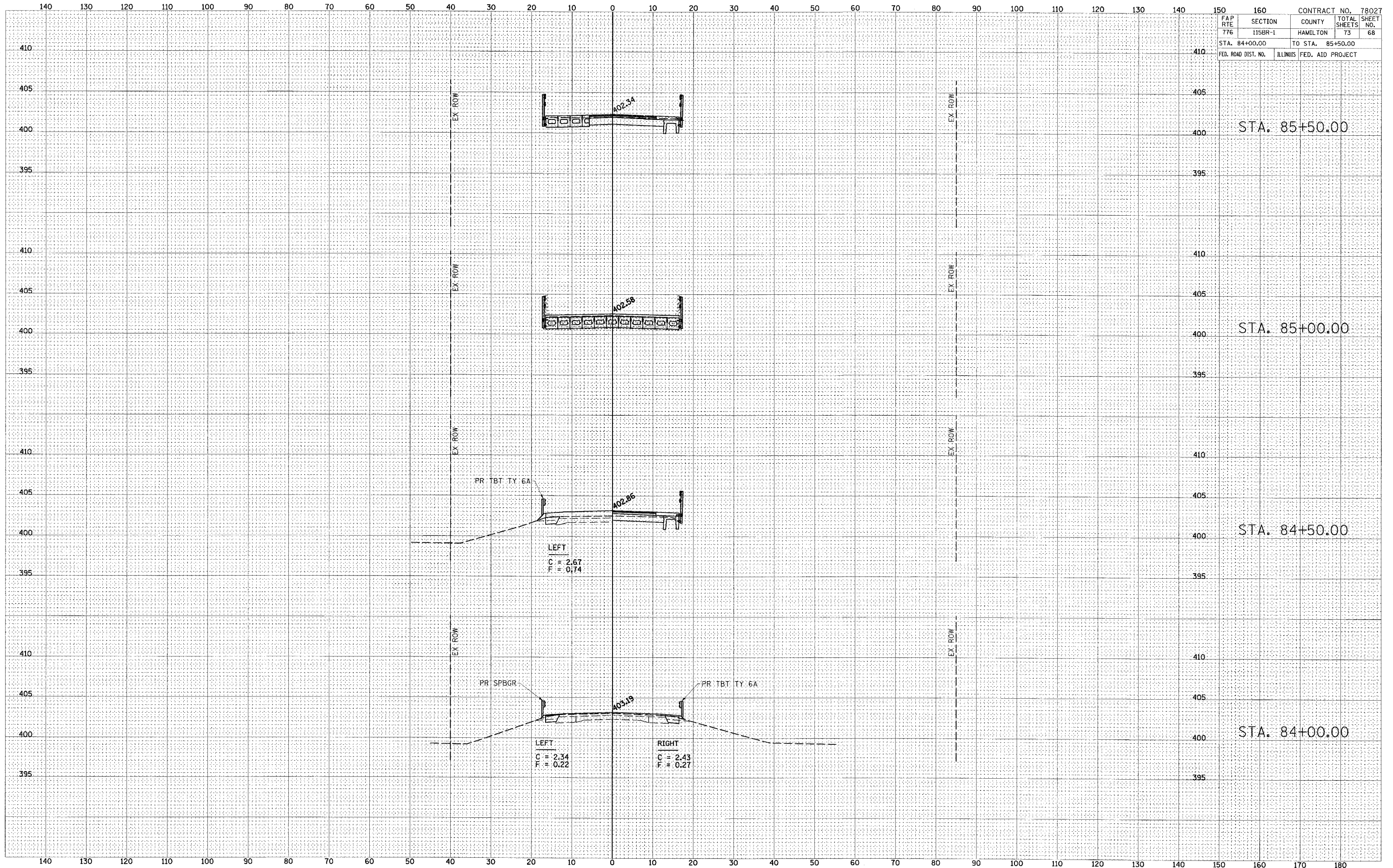
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776	115BR-1	HAMILTON	73	67
STA. 82+00.00		TO STA. 83+50.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





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

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



FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	115BR-1	HAMILTON	73	68
STA. 84+00.00		TO STA. 85+50.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STA. 85+50.00

STA. 85+00.00

STA. 84+50.00

STA. 84+00.00



DATE: _____ BY: _____

FINAL SURVEY: _____

REVIEWED: _____

NOTE BOOK: _____

NO. _____

AREAS CHECKED: _____

DATE: _____ BY: _____

ORIGINAL SURVEY: _____

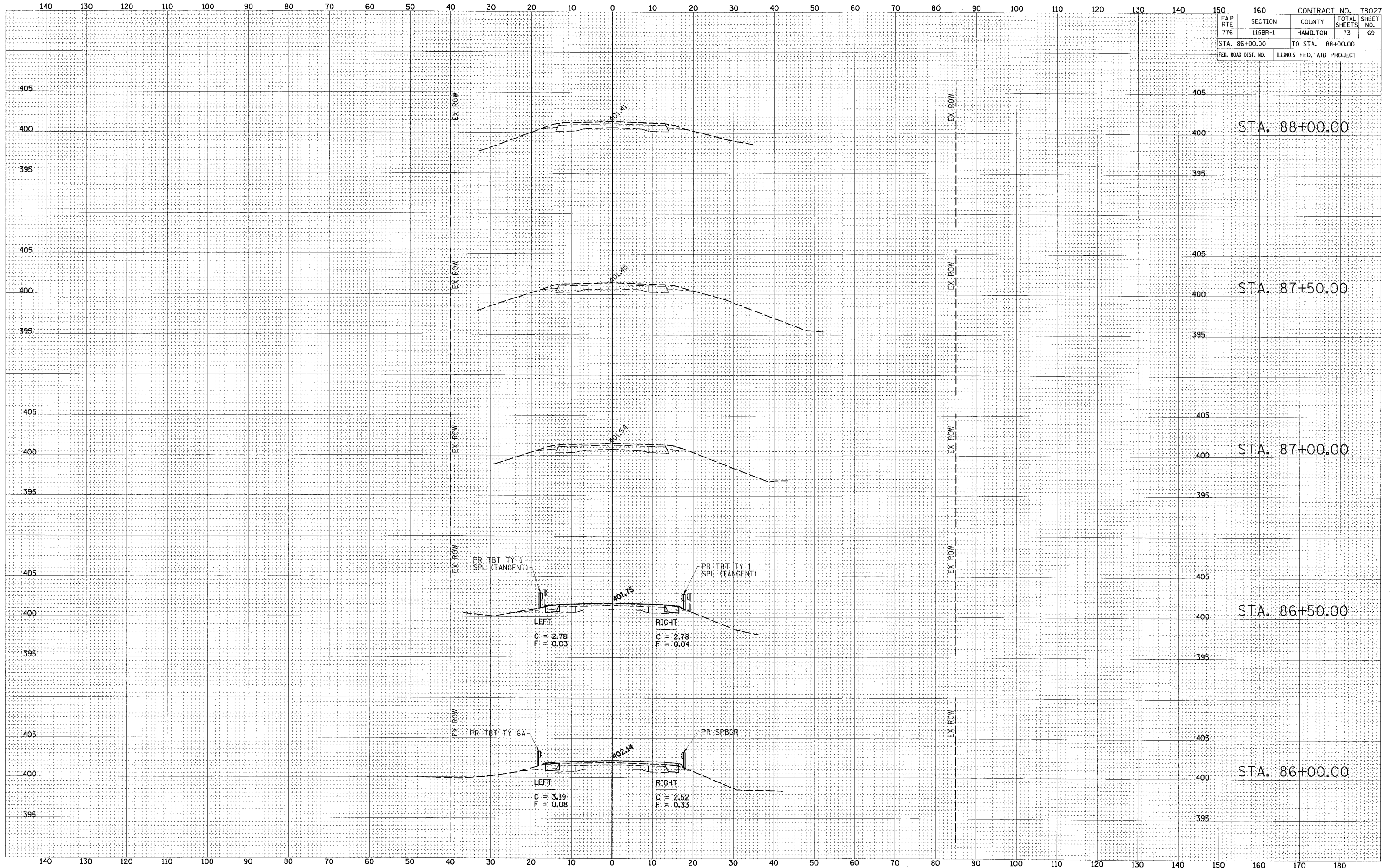
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NOTE BOOK: _____

NO. _____

AREAS CHECKED: _____

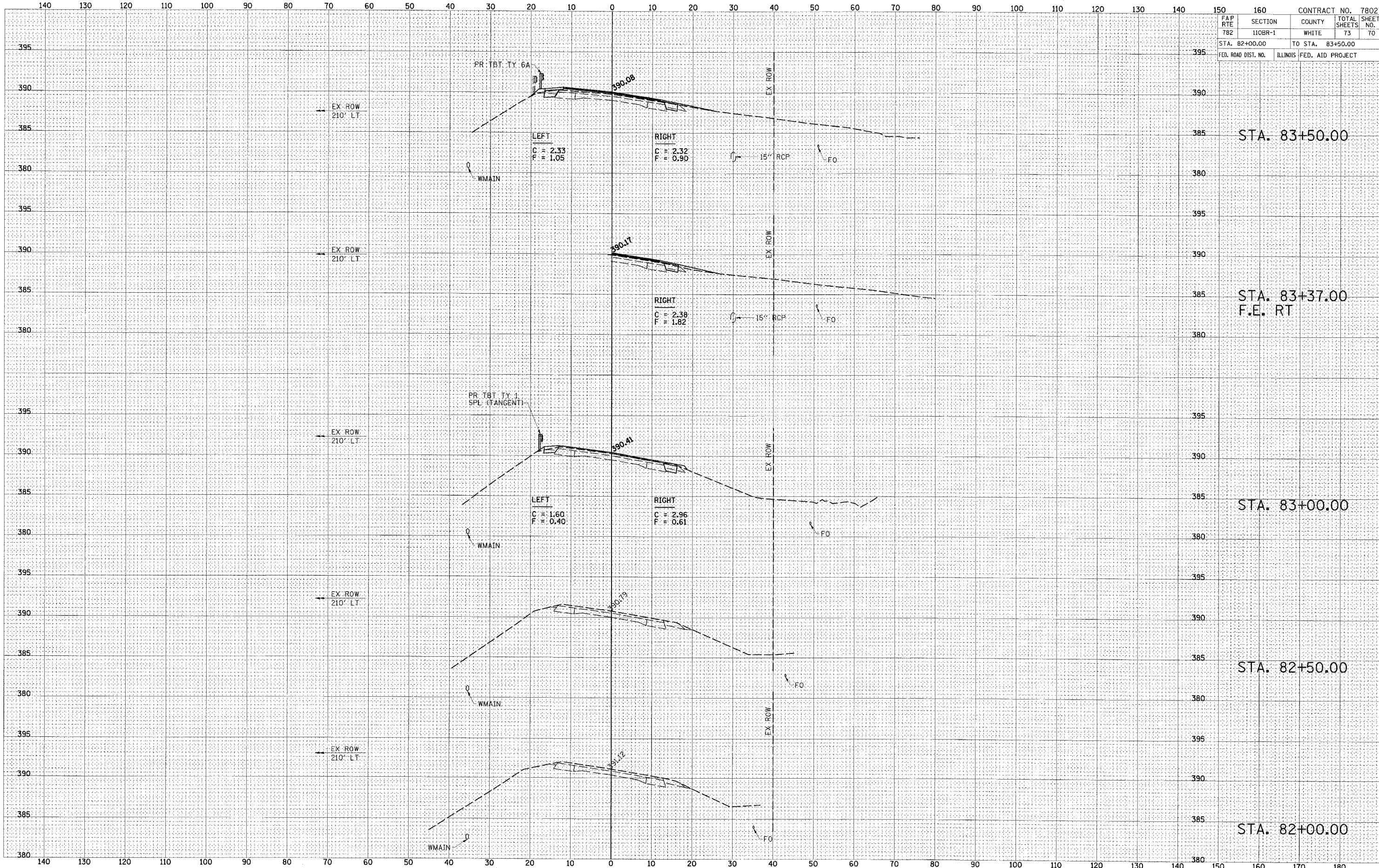
FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	115BR-1	HAMILTON	73	69
STA. 86+00.00		TO STA. 88+00.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





DATE	
BY	
FINAL SURVEY	
NOTED SURVEY	
NOTE BOOK	
NO.	

DATE	
BY	
OPTIONAL SURVEY	
NOTED SURVEY	
NOTE BOOK	
NO.	



FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
782	110BR-1	WHITE	73	70
STA. 82+00.00		TO STA. 83+50.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STA. 83+50.00

STA. 83+37.00
F.E. RT

STA. 83+00.00

STA. 82+50.00

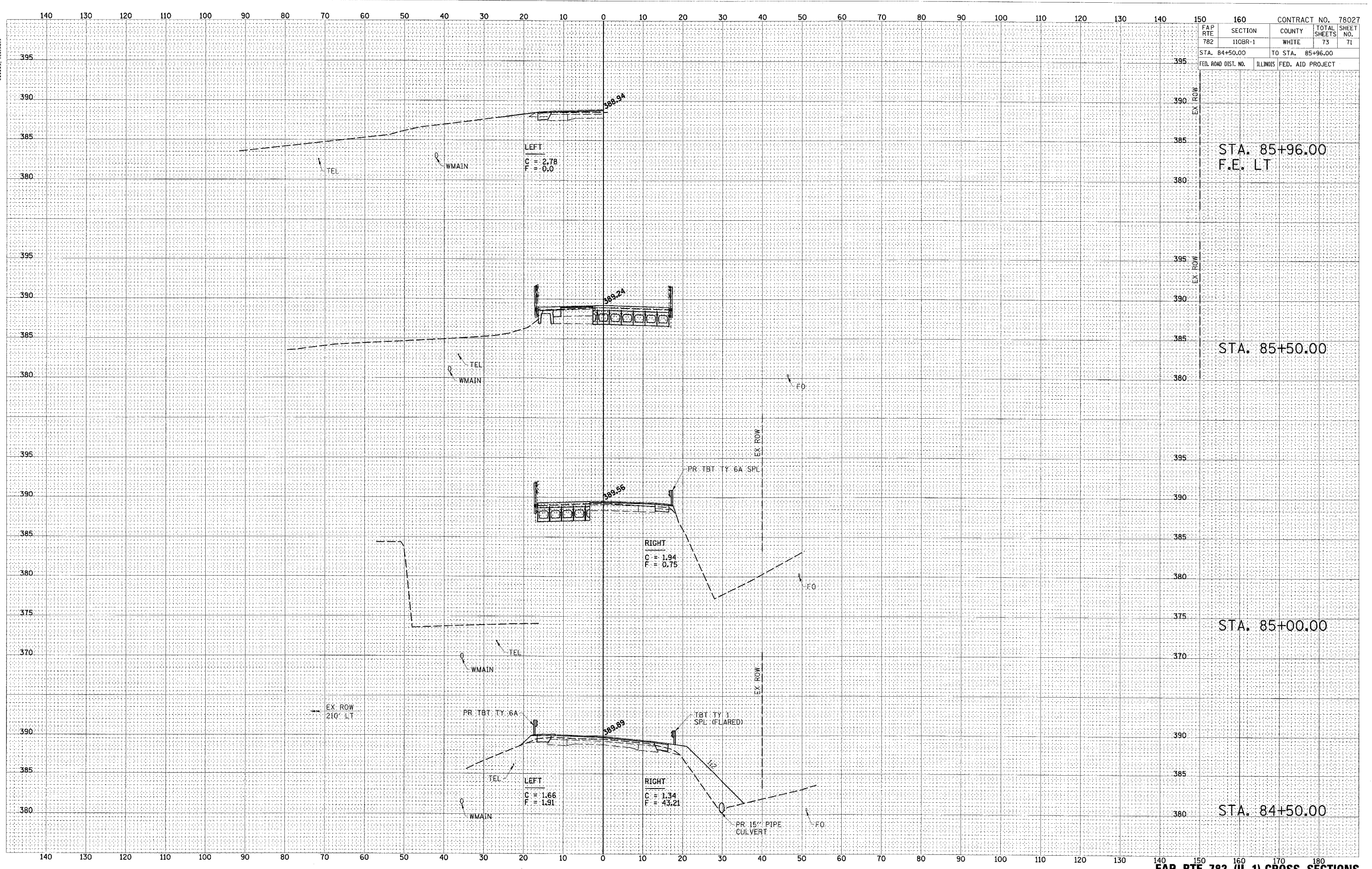
STA. 82+00.00



DATE	
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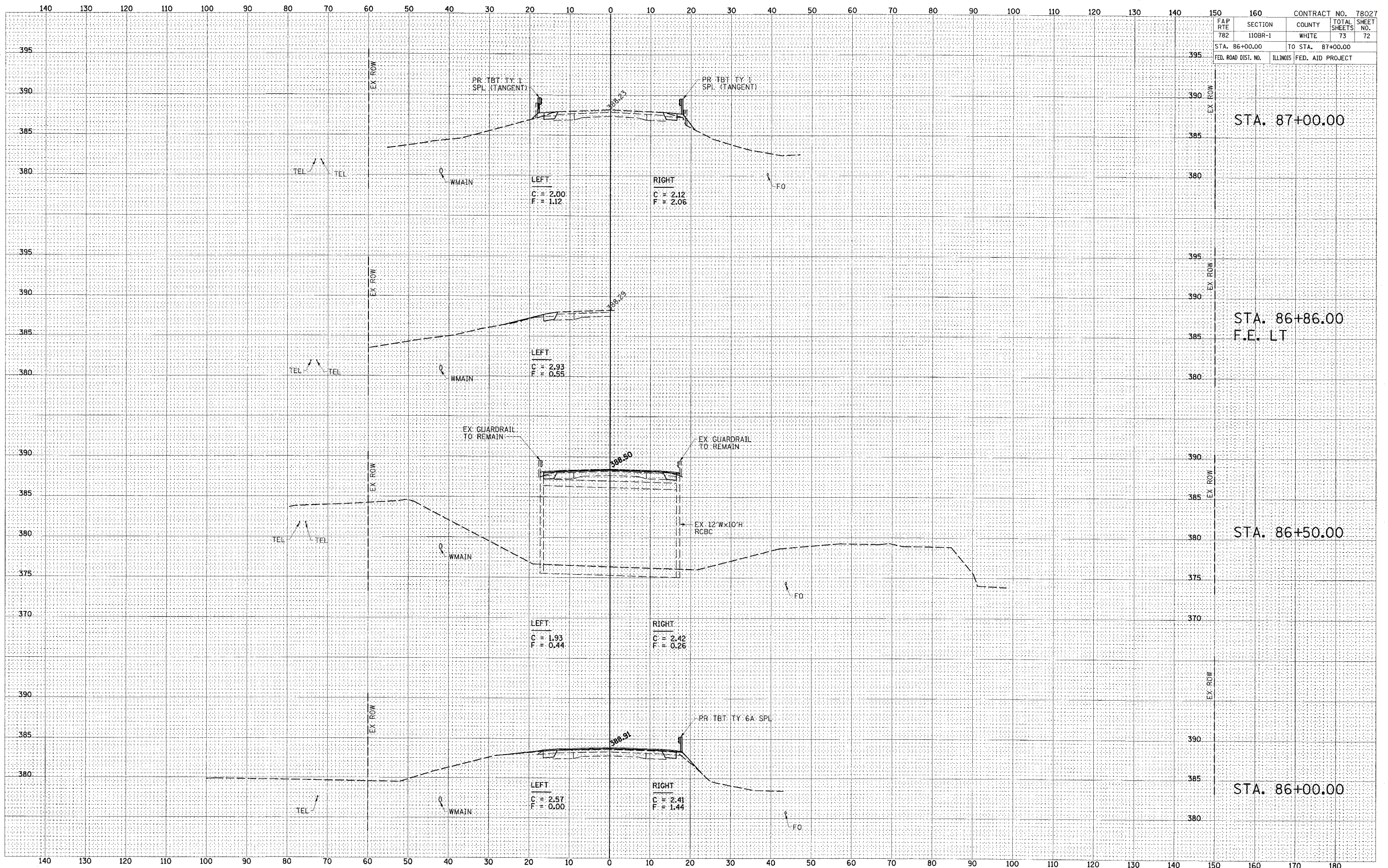
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782	110BR-1	WHITE	73	71
STA. 84+50.00		TO STA. 85+96.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





DATE	
BY	
APPROVED	
SURVEY	
NOTE BOOK	
TEMP. DATE	
AREAS CHECKED	
NO.	

DATE	
BY	
APPROVED	
PLOTTING	
TEMPLATE	
NOTE BOOK	
TEMP. DATE	
AREAS CHECKED	
NO.	



FAP RTE	160	CONTRACT NO.	78027
782	SECTION 110BR-1	COUNTY WHITE	TOTAL SHEETS 73
STA. 86+00.00	TO STA. 87+00.00		SHEET NO. 72
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	



FINAL SURVEY PLOTTED TEMPLATE AREAS CHECKED

DATE: _____ BY: _____

NO. _____

ORIGINAL SURVEY PLOTTED TEMPLATE AREAS CHECKED

DATE: _____ BY: _____

NO. _____

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
782	110BR-1	WHITE	73	73
STA. 87+50.00		TO STA. 88+50.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

