

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	107BR-1 & 111BR-1	JOHNSON	94	1
FED. ROAD DIST. NO. 9		ILLINOIS	CONTRACT NO. 78030	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

# PROPOSED HIGHWAY PLANS

F.A.P. ROUTE 885 (IL. ROUTE 146)  
SECTION 107BR-1 & 111BR-1  
PROJECT: *BHF-0885(038)*  
JOHNSON COUNTY  
C-99-010-08

PCC DECK BEAM SUPERSTRUCTURE REPLACEMENT  
OVER CACHE RIVER (SECTION 107BR-1)  
PCC DECK BEAM SUPERSTRUCTURE REPLACEMENT  
OVER BELL POND (SECTION 111BR-1)

### INDEX OF SHEETS

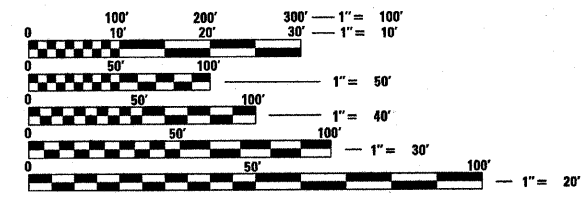
SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	GENERAL NOTES AND STANDARDS
3.-4.	SUMMARY OF QUANTITIES
5.-6.	SCHEDULES OF QUANTITIES (SECTION 107BR-1)
7.-8.	SCHEDULES OF QUANTITIES (SECTION 111BR-1)
9.	TYPICAL CROSS SECTIONS (SECTION 107BR-1)
10.	TYPICAL CROSS SECTIONS (SECTION 111BR-1)
11.	PLAN AND PROFILE (SECTION 107BR-1)
12.	STAGE I CONSTRUCTION (SECTION 107BR-1)
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14.	EROSION CONTROL PLAN (SECTION 107BR-1)
15.	PAVEMENT MARKINGS (SECTION 107BR-1)
16.	PLAN AND PROFILE (SECTION 111BR-1)
17.	STAGE I CONSTRUCTION (SECTION 111BR-1)
18.	STAGE II CONSTRUCTION (SECTION 111BR-1)
19.	EROSION CONTROL PLAN (SECTION 111BR-1)
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89.-94.	STATION CROSS SECTIONS (SECTION 111BR-1)



LOCATION OF SECTION INDICATED THUS:

SEC. 107BR-1 & SEC. 111BR-1	OTHER PRINCIPAL ARTERIAL (NON URBAN)
FUNCTIONAL CLASSIFICATION:	55 MPH
DESIGN SPEED:	55 MPH
POSTED SPEED:	55 MPH
ADT:	SEC. 107BR-1: 2450 (2005)    SEC. 111BR-1: 1600 (2005)
PV:	81%    89%
TRUCKS:	19%    11%

PROJECT ENGINEER: DAVID PICHE (618) 351-5227

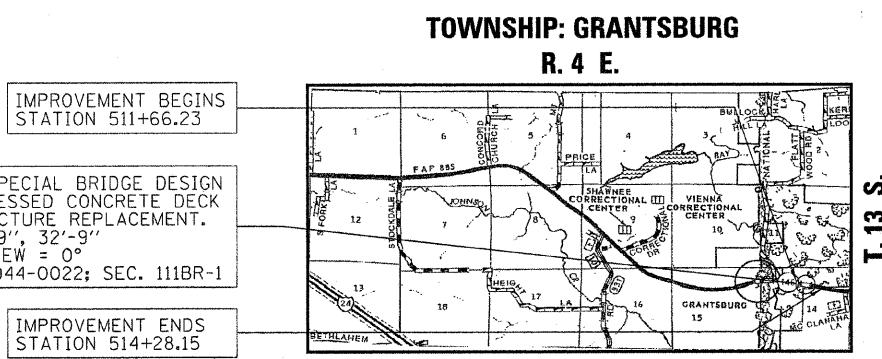
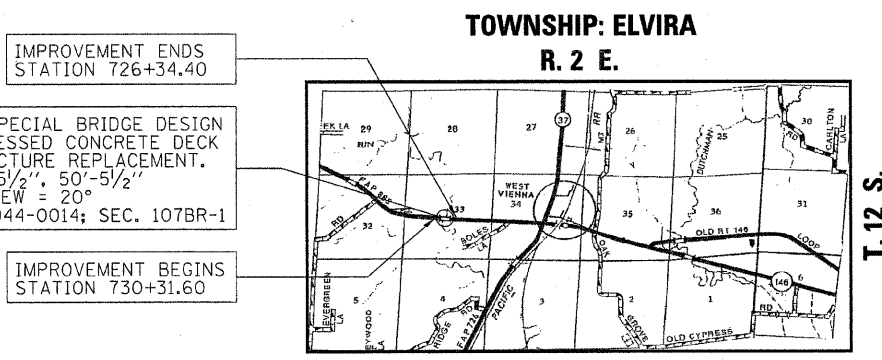


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

PROJECT ENGINEER  
PROJECT MANAGER  
  
CONTRACT NO. 78030

**HLR** HAMPTON, LENZINI & RENWICK, INC.  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS



LOCATION MAPS  
APPROXIMATE SCALE: 0 1 MILE

DESIGN DESIGNATION  
N.A.

GROSS AND NET LENGTH OF SECTION 107BR-1	=	397.20 FT. = 0.075 MI.
BRIDGE LENGTH SN 044-0014	=	385.20 FT. = 0.073 MI.
GROSS AND NET LENGTH OF SECTION 111BR-1	=	261.92 FT. = 0.050 MI.
NET ROADWAY LENGTH	=	261.95 FT. = 0.050 MI.
BRIDGE LENGTH SN 044-0022	=	107.50 FT. = 0.020 MI.



*Louis F. Stauder* 4/24/2008  
ILLINOIS PROFESSIONAL LICENSE NO. 34227  
(EXPIRATION DATE: 11/30/09)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED May 1, 2008  
Mark C. Frame  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

June 27, 2008  
Erin E. Harnett  
INTERIM ENGINEER OF DESIGN AND ENVIRONMENT

June 27, 2008  
Christine M. Reed  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

**GENERAL NOTES**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1 111BR-1	JOHNSON	94	2
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 78030	

- 1) THE ENGINEER WILL BE THE SOLE JUDGE CONCERNING CURING TIME FOR THE VARIOUS HMA LIFTS.
- 2) EXCEPT AS NOTED ON THE PLANS PAVEMENT GRADES SHOWN ARE AT THE TOP OF THE PAVEMENT SURFACES.
- 3) ALL SAWCUTTING OF EXISTING PAVEMENT SHALL BE CONSIDERED IN THE PAY ITEM INVOLVED. THE MINIMUM SAW DEPTH IN THE PAVEMENT SHALL BE 1 1/2" UNLESS OTHERWISE NOTED.
- 4) WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL 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.
- 5) 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 THE PLANS.
- 6) THE THICKNESS OF HOT MIX ASPHALT MIXTURE 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 HOT MIX ASPHALT MIXTURE IS PLACED.
- 7) 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.(112 LBS/SQ.YD./INCH OF THICKNESS)  
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.  
RIPRAP - 1.50 TONS/CU.YD.
- 8) ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH THE 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 EARTH EXCAVATION.
- 9) ALL DISTURBED AREAS WITHIN THE CONSTRUCTION LIMITS SHALL BE FERTILIZED AND SEEDED. 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 SEEDED WILL BE DETERMINED BY THE ENGINEER.
- 10) 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 ADVANCED NOTICE IS REQUIRED.
- 11) EXISTING TRAFFIC BARRIER TERMINALS TO BE REMOVED SHALL BE PAID FOR AS GUARDRAIL REMOVAL.
- 13) TRIM EDGES OF EXISTING HOT MIX ASPHALT SURFACE FLUSH WITH EXISTING PAVEMENT PRIOR TO CONSTRUCTING NEW BASE COURSE WIDENING.
- 14) TREES SHALL BE PRESERVED THROUGHOUT THIS SECTION AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. GENERALLY, TREES OUTSIDE THE CLEAR ZONE, AND WHICH DO NOT INTERFERE WITH CONSTRUCTION, SHALL NOT BE DISTURBED.

- 15) THE QUANTITY OF SHORT TERM PAVEMENT MARKING SHOWN IN THE PLANS IS BASED ON ONE APPLICATION EACH FOR THE PRIME COAT, SURFACE COURSE, AND BINDER COURSE.
- 16) WHEN WIDENING FLEXIBLE BASE PAVEMENT, THE CONTRACTOR SHALL TRIM EXISTING SURFACE AND BASE TO A FIRM, NEAR VERTICAL PLANE BEFORE CONSTRUCTING THE WIDENING. THE COST OF THIS REQUIREMENT IS INCLUDED IN THE UNIT PRICE BID FOR THE BASE COURSE WIDENING.
- 17) AT ALL LOCATIONS WHERE THE PROPOSED HOT MIX ASPHALT OR CONCRETE PAVEMENT JOINS AN EXISTING HOT MIX ASPHALT OR CONCRETE PAVEMENT, A FULL DEPTH SAWED JOINT SHALL BE CONSTRUCTED. THE COST OF THIS JOINT WILL BE INCLUDED IN THE COST OF THE TYPE OF PAVEMENT BEING CONSTRUCTED.
- 18) PRIOR TO PLACEMENT OF THE FINAL PAVEMENT MARKINGS THE RESIDENT ENGINEER SHOULD CONTACT THE BUREAU OF OPERATIONS AND ARRANGE FOR INSPECTION AND APPROVAL OF THE PAVEMENT MARKING LAYOUT.
- 19) THE ADVANCE DETECTOR LOOPS ARE TYPICALLY LOCATED 300 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.
- 20) 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.
- 21) VERTICAL PANELS SHOWN ON STANDARD 701321 WILL NOT BE REQUIRED ON THE STAGE II NEW BRIDGE RAILING. THE BARRIER WALL/ GUARDRAIL MARKERS SHALL BE INSTALLED PRIOR TO OPENING TO TRAFFIC.
- 23) ANY TIME THE CONCRETE BARRIER IS NOT IN THE PROPER POSITION, FLAGGERS SHALL BE IN PLACE TO CONTROL TRAFFIC. THE TEMPORARY TRAFFIC SIGNALS SHALL BE TURNED OR COVERED.
- 24) FOR (SN044-0014 ) NARROW BRIDGE SIGNS WITH ADVISORY TAGS "10 FT 6 IN" FOR STAGE I AND "9 FT 11 IN" FOR STAGE II SHALL BE ERECTED BETWEEN ONE ROAD CONSTRUCTION AHEAD AND THE SIGNAL AHEAD SIGNS. THIS WORK SHALL BE INCLUDED IN THE COST OF THE TRAFFIC CONTROL AND PROTECTION, STANDARD 701321  
FOR (SN044-0022 ) NARROW BRIDGE SIGNS WITH ADVISORY TAGS "10 FT 8 IN" FOR STAGE I AND "10 FT 9 IN" FOR STAGE II SHALL BE ERECTED BETWEEN ONE ROAD CONSTRUCTION AHEAD AND THE SIGNAL AHEAD SIGNS. THIS WORK SHALL BE INCLUDED IN THE COST OF THE TRAFFIC CONTROL AND PROTECTION, STANDARD 701321
- 25) ALL OBSTRUCTIONS WHICH ARE WITHIN THE CLEAR ZONE SHOWN ON THE TYPICAL SECTION, AND ARE ARE NOT SHIELDED BY THE PROPOSED GUARDRAIL, SHALL BE REMOVED BETWEEN STATION 726+40.40 AND STATION 730+25.60 AND BETWEEN STATION 511+66.23 AND STATION 514+28.15. TYPICAL OBSTRUCTIONS ARE HEADWALLS, FOUNDATIONS, ETC. WHICH PROJECT 100 mm (4 IN.) OR MORE ABOVE THE GROUNDLINE; AND TREES WHICH WILL MATURE TO A DIAMETER OF 100 mm (4 IN.) OR GREATER.
- 26) VERTICAL ADJUSTMENT OF GUARDRAIL AT EACH REQUIRED LOCATION WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST FOR TRAFFIC BARRIER TERMINAL TYPE 6A.
- 27) WHILE SIGNAL HEADS ARE MOUNTED IN PLACE, BUT NOT YET IN OPERATION, THEY SHALL BE SECURELY COVERED IN WHITE PLASTIC.
- 28) IN ADDITION TO THE REQUIREMENTS OF ARTICLE 107.16 THE CONTRACTOR SHALL PROTECT THE SURFACE OF ALL BRIDGE DECKS AND BRIDGE APPROACH PAVEMENTS IN A MANNER SATISFACTORY TO THE ENGINEER BEFORE ANY EQUIPMENT IS ALLOWED TO CROSS THE STRUCTURE. PROTECTION SHALL BE PROVIDED FOR ALL EQUIPMENT AS DEFINED IN ARTICLE 101.16 REGARDLESS IF TRACK MOUNTED OR WHEELED.
- 29) COMMITMENTS:  
"NONE AS OF MAY 9, 2008. REFER TO COMMITMENT FILE FOR ANY COMMITMENTS AFTER THIS DATE"

**HIGHWAY STANDARDS**

- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 001001-01 AREAS OF REINFORCEMENT BARS
- 280001-04 TEMPORARY EROSION CONTROL SYSTEMS
- 420001-07 PAVEMENT JOINTS
- 515001-02 NAME PLATE FOR BRIDGES
- 630301-04 SHOULDER WIDENING FOR TYPE 1, (SPECIAL) GUARDRAIL TERMINALS
- 631032-03 TRAFFIC BARRIER TERMINAL, TYPE 6A
- 635006-02 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 635011-01 REFLECTOR MARKER AND MOUNTING DETAILS
- 701201-02 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
- 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
- 780001-01 TYPICAL PAVEMENT MARKINGS
- 781001-02 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PREPARED BY: Joe M. Krawiec  
DISTRICT STUDIES & PLANS ENGINEER

EXAMINED BY: James Lewis Emery  
DISTRICT LAND ACQUISITION ENGINEER

EXAMINED BY: Carrie Nelson  
DISTRICT PROGRAM DEVELOPMENT ENGINEER

EXAMINED BY: Kevin Hammer  
DISTRICT OPERATIONS ENGINEER

EXAMINED BY: Joseph Legier  
DISTRICT CONSTRUCTION ENGINEER

EXAMINED BY: Bruce W. Peoples  
DISTRICT MATERIALS ENGINEER

EXAMINED BY: John Amother  
DISTRICT PROJECT IMPLEMENTATION ENGINEER

EXAMINED BY: Danny J. Clayton  
ASSISTANT REGIONAL ENGINEER

APPROVED BY: Max C. Parnis  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

DATE May 1 2008

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 548-3400

**ELGIN** • **SPRINGFIELD**

PROJECT NUMBER: 12-52-0007-1 DATE: 04/21/08  
DESIGNED: L.F.S. CHECKED: S.W.M. DRAWN: D.T.M.

**GENERAL NOTES**

IL. ROUTE 146  
F.A.P. ROUTE 885 / SECTION 107BR-1 & 111BR-1  
JOHNSON COUNTY  
STATION 727+23 & STATION 513+00  
STRUCTURE NO. 044-0014 & 044-0022

**SUMMARY OF QUANTITIES**

CODE #	ITEM	UNIT	TOTAL QUANTITY	HBP FUNDING 80% FEDERAL 20% STATE SN 044-0014 X080-2A	HBP FUNDING 80% FEDERAL 20% STATE SN 044-0022 X080-2A
20200100	EARTH EXCAVATION	CU YD	134	74	60
20400800	FURNISHED EXCAVATION	CU YD	103	0	103
25000210	SEEDING, CLASS 2A	ACRE	0.16	0.06	0.1
25000350	SEEDING, CLASS 7	ACRE	0.16	0.06	0.1
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	21	8	13
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	15	6	9
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	15	6	9
25000700	AGRICULTURAL GROUND LIMESTONE	TON	0.32	0.12	0.2
25100115	MULCH, METHOD 2	ACRE	0.32	0.12	0.2
25100630	EROSION CONTROL BLANKET	SQ YD	419	0	419
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	59	18	41
28000400	PERIMETER EROSION BARRIER	FOOT	1300	615	685
35300720	PORTLAND CEMENT CONCRETE BASE COURSE 13"	SQ YD	18	0	18
35600719	HOT-MIX ASPHALT BASE COURSE WIDENING, 10 3/4"	SQ YD	498	270	228
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	51	0	51
40600300	AGGREGATE (PRIME COAT)	TON	1	0	1
40600645	LEVELING BINDER (MACHINE METHOD), N90	TON	33	0	33
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	160	0	160
40600990	TEMPORARY RAMP	SQ YD	172	36	136
40603320	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90	TON	178	135	43
44001005	HOT-MIX ASPHALT SURFACE REMOVAL	SQ YD	1368	1368	0
48100500	AGGREGATE SHOULDERS, TYPE A 6"	SQ YD	234	98	136
50101700	REMOVAL OF EXISTING SUPERSTRUCTURES NO. 1	EACH	1	1	0
50101800	REMOVAL OF EXISTING SUPERSTRUCTURES NO. 2	EACH	1	0	1
50102400	CONCRETE REMOVAL	CU YD	26.4	23.2	3.2
50300100	FLOOR DRAINS	EACH	12	12	0
50300225	CONCRETE STRUCTURES	CU YD	4.0	0	4.0
50300255	CONCRETE SUPERSTRUCTURE	CU YD	32.1	32.1	0
50300260	BRIDGE DECK GROOVING	SQ YD	274	0	274
50300300	PROTECTIVE COAT	SQ YD	332	34	298
50400105	PRECAST CONCRETE BRIDGE SLAB	SQ FT	299	0	299
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	2162	0	2162

**SUMMARY OF QUANTITIES**

CODE #	ITEM	UNIT	TOTAL QUANTITY	HBP FUNDING 80% FEDERAL 20% STATE SN 044-0014 X080-2A	HBP FUNDING 80% FEDERAL 20% STATE SN 044-0022 X080-2A
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	3330	3330	0
50606400	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	L SUM	1	1	0
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	8930	4910	4020
50800515	BAR SPLICERS	EACH	166	96	70
50900905	REMOVING AND RE-ERECTING EXISTING RAILING	FOOT	202	202	0
50901005	STEEL RAILING, TYPE SM	FOOT	215	0	215
51500100	NAME PLATES	EACH	2	1	1
52000110	PREFORMED JOINT STRIP SEAL	FOOT	171	105	66
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	1348	1348	0
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	1010	1010	0
59000200	EPOXY CRACK INJECTION	FOOT	22	3	19
* 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	6	2	4
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1(SPECIAL) TANGENT	EACH	4	2	2
63200310	GUARDRAIL REMOVAL	FOOT	250	82	168
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	4	0	4
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	11427	6915	4512
70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	48	24	24
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	2296	1294	1002

\* SPECIALITY ITEM

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1      DATE: 04/21/06  
 DESIGNED: L.F.S.      CHECKED: S.W.M.      DRAWN: D.T.M.

**SUMMARY OF QUANTITIES**


IL. ROUTE 146  
 F.A.P. ROUTE 885 / SECTION 107BR-1 & 111BR-1  
 JOHNSON COUNTY  
 STATION 727+23 & STATION 513+00  
 STRUCTURE NO. 044-0014 & 044-0022

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1 111BR-1	JOHNSON	94	4
FED. ROAD DIST. NO.	ILLINOIS CONTRACT NO. 78030			

**SUMMARY OF QUANTITIES**

CODE #	ITEM	UNIT	TOTAL QUANTITY	HBP FUNDING 80% FEDERAL 20% STATE SN 044-0014 X080-2A	HBP FUNDING 80% FEDERAL 20% STATE SN 044-0022 X080-2A
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1025	637.5	387.5
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1025	637.5	387.5
* 78005110	EPOXY PAVEMENT MARKING - LINE 4"	FOOT	4751	3127	1624
* 78200405	GUARDRAIL MARKERS	EACH	10	2	8
* 78200500	BARRIER WALL MARKERS	EACH	44	27	17
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	2	2
78300100	PAVEMENT MARKING REMOVAL	SQ FT	1352	879	473
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	24	14	10
86200300	UNINTERRUPTIBLE POWER SUPPLY, EXTENDED	EACH	2	1	1
X0324744	REMOVAL OF EXISTING PRECAST CONCRETE UNITS	SQ FT	299	0	299
X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	45	34	11
X0325864	BRIDGE APPROACH PAVEMENT REMOVAL	SQ YD	20	0	20
X0597100	CLEANING AND PAINTING EXISTING STRUCTURES	L SUM	1	1	0
X5030305	CONCRETE WEARING SURFACE, 5"	SQ YD	292	0	292
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	100	44	56
Z0016000	DECK SLAB REPAIR (FULL DEPTH)	SQ YD	1	1	0
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	100	100	0
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	2	2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	2	2

\* SPECIALITY ITEM

<b>HAMPTON, LENZINI &amp; RENWICK, INC.</b> CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS   3086 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400  ELGIN • SPRINGFIELD	<b>SUMMARY OF QUANTITIES</b>  IL. ROUTE 146 F.A.P. ROUTE 885 / SECTION 107BR-1 & 111BR-1 JOHNSON COUNTY STATION 727+23 & STATION 513+00 STRUCTURE NO. 044-0014 & 044-0022
PROJECT NUMBER: 12-52-0007-1 DESIGNED: L.P.S.	DATE: 04/21/08 CHECKED: S.W.M. DRAWN: D.T.M.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1	JOHNSON	94	5
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 78030	

ROADWAY SCHEDULE		
LOCATION	HOT-MIX ASPHALT BASE COURSE WIDENING 10 3/4" SQ YD	AGGREGATE SHOULDERS TYPE A 6" SQ YD
FAP 885 IL RTE 146		
STAGE I		
RT STA 724+75.00 TO RT STA 731+75.00	135	50
LT STA 724+75.00 TO LT STA 731+75.00	135	48
STAGE II		
LT STA 724+75.00 TO LT STA 731+75.00		
TOTAL	270	98

EARTHWORK SUMMARY							
LOCATION	EARTH EXCAVATION	ADDITIONAL EXCAVATION	SHRINKAGE FACTOR	% USED	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE( 25%)	EMBANKMENT REQUIRED	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CUBIC YARD	CUBIC YARD			CUBIC YARD	CUBIC YARD	CUBIC YARD
FAP885 IL RTE 146							
STAGE I							
STA. 724+75.00 TO STA. 726+40.40	39		25.00%	100.00%	29	2	27
STA. 730+25.60 TO STA. 731+75.00	35		25.00%	100.00%	26	0	26
	74	0			55	2	53
WASTE =						53	CU.YD.

EROSION CONTROL								
LOCATION	SEEDING CLASS 2A SPECIAL	SEEDING CLASS 7	TEMPORARY EROSION CONTROL SEEDING *	NITROGEN FERTILIZER NUTRIENT**	PHOSPHORUS FERTILIZER NUTRIENT 90 LBS/ACRE	POTASSIUM FERTILIZER NUTRIENT 90 LBS/ACRE	AGRICULTURAL GROUND LIMESTONE 2 TONS/ACRE	MULCH METHOD 2
	ACRE	ACRE	LBS	LBS	LBS	LBS	TONS	ACRE
FAP 885 IL RTE 146								
STAGE I								
LT STA 724+75 TO LT 726+50	0.02	0.02	6	3	2	2	0.04	0.040
RT STA 724+75 TO RT 726+30	0.01	0.01	2	1	1	1	0.02	0.020
LT STA 730+35 TO LT 731+75	0.01	0.01	2	1	1	1	0.02	0.020
RT STA 730+15 TO RT 731+75	0.02	0.02	8	3	2	2	0.04	0.040
TOTAL	0.06	0.06	18	8	6	6	0.12	0.12

\* 100 LBS/ACRE FOR 4 APPLICATIONS

\*\* 90 LBS/ACRE FOR SEEDING CLASS 2A AND 40 LBS/ACRE FOR SEEDING CLASS 7

GUARDRAIL					
LOCATION	GUARDRAIL REMOVAL	TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL (TANGENT)	TRAFFIC BARRIER TERMINAL TYPE 6A	TERMINAL MARKER DIRECT APPLIED	GUARDRAIL MARKERS
	FOOT	EACH	EACH	EACH	EACH
STAGE I					
LT. STA. 725+94.39 TO LT. STA. 726+32.64	38				
LT. STA. 725+38.24 TO LT. STA. 726+32.64		1	1	1	1
RT. STA. 730+19.86 TO RT. STA. 730+63.49	44				
RT. STA. 730+19.86 TO RT. STA. 731+13.76		1	1	1	1
TOTAL	82	2	2	2	2

PERIMETER EROSION BARRIER	
LOCATION	FOOT
FAP 885 IL RTE 146	
STAGE I	
LT. STA. 724+75 TO LT. STA. 726+50	160
RT. STA. 724+75 TO RT. STA. 726+30	150
LT. STA. 730+35 TO LT. STA. 731+75	145
RT. STA. 730+15 TO RT. STA. 731+75	160
TOTAL	615

**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS

**HLR**

3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1    DATE: 04/21/08  
 DESIGNED: L.F.S.    CHECKED: S.W.M.    DRAWN: D.T.M.

**SCHEDULE OF QUANTITIES**

**IL. ROUTE 146 OVER CACHE RIVER**  
**F.A.P. ROUTE 885 / SECTION 107BR-1**  
**JOHNSON COUNTY**  
**STATION 727+23**  
**STRUCTURE NO. 044-0014**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1	JOHNSON	94	6
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 78030	

MAINTENANCE OF TRAFFIC							
LOCATION	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	BARRIER WALL MARKERS	TEMPORARY BRIDGE TRAFFIC SIGNALS	TEMPORARY RUMBLE STRIPS	IMPACT ATTENUATORS TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3	IMPACT ATTENUATORS RELOCATE (NON-REDIRECTIVE) TEST LEVEL 3
	FOOT	FOOT	EACH	EACH	EACH	EACH	EACH
FAP 885 IL RTE 146							
STAGE I							
723+41.06 TO 733+14.54				1	6	2	
STA. 725+00.60 TO STA. 731+50.00	637.5		27				
STAGE II							
723+41.06 TO 733+14.54							2
STA. 725+00.60 TO STA. 731+50.00		637.5					
TOTAL	637.5	637.5	27	1	6	2	2

PAVEMENT MARKING SCHEDULE											
LOCATION	TEMPORARY				EPOXY PAVEMENT MARKING PERMANENT			WORK ZONE PAVEMENT MARKING REMOVAL	PAVEMENT MARKING REMOVAL	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	
	24" SINGLE WHITE STOP BAR	4" SINGLE WHITE EDGE LINE	4" SKIPPED DASHED YELLOW CENTERLINE	4" SOLID YELLOW CENTERLINE	4" SINGLE WHITE EDGE LINE	4" SKIPPED DASHED YELLOW CENTERLINE	4" SOLID YELLOW CENTERLINE				
	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT				
FAP 885 IL RTE 146											
STAGE I											
CL. STA. 723+41.06 TO CL. STA. 733+14.54									45	14	
LT. STA. 723+41.06 TO LT. STA. 733+14.54									328		
LCL. STA. 723+41.06 TO LCL. STA. 733+14.54									178		
RT. STA. 723+41.06 TO RT. STA. 733+14.54									328		
LT. STA. 723+41.06 TO LT. STA. 733+14.54	12	962						317			
RT. STA. 723+41.06 TO LT. STA. 726+00.00		259						85			
LT. STA. 726+11.90 TO LT. STA. 731+00.00		488						161			
LT. STA. 731+00.00 TO RT. STA. 733+14.54	12	215						71			
STAGE II											
LT. STA. 724+01.06 TO RT. STA. 726+00.00		199						66			
RT. STA. 726+11.90 TO RT. STA. 731+00.00		488						161			
RT. STA. 731+00.00 TO LT. STA. 733+14.54		215						68			
RT. STA. 723+41.06 TO RT. STA. 733+14.54		962						317			
LT. STA. 733+14.54								24			
RT. STA. 723+41.06								24			
LT. STA. 733+14.54											
LT. STA. 723+41.06 TO LT. STA. 733+14.54		962			962						
RT. STA. 723+41.06 TO RT. STA. 733+14.54		962			962						
LCL. STA. 723+41.06 TO LCL. STA. 733+14.54				962			962				
CL. STA. 723+41.06 TO CL. STA. 733+14.54			241			241					
SUBTOTAL	24	5712	241	962	1924	241	962	1294	879	14	
TOTAL	24		6915			3127		1294	879	14	

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 LAND SURVEYORS

**HLR**

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 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1    DATE: 04/21/08  
 DESIGNED: L.F.S.    CHECKED: S.W.M.    DRAWN: D.T.M.

**SCHEDULE OF QUANTITIES**

**IL. ROUTE 146 OVER CACHE RIVER**  
**F.A.P. ROUTE 885 / SECTION 107BR-1**  
**JOHNSON COUNTY**  
**STATION 727+23**  
**STRUCTURE NO. 044-0014**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	111BR-1	JOHNSON	94	7
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO. 78030		

ROADWAY SCHEDULE										
LOCATION	HOT-MIX ASPHALT SURFACE COURSE MIX C, N90 1 1/2" SQ YD	LEVELING BINDER (MACHINE METHOD) N90 SQ YD	HOT-MIX ASPHALT BASE COURSE WIDENING 10 3/4" SQ YD	PCC BASE COURSE 13" SQ YD	BITUMINOUS MATERIAL PRIME COAT GAL	AGGREGATE PRIME COAT TON	HOT-MIX ASPHALT SURFACE REMOVAL BUTT-JOINT SQ YD	TEMPORARY RAMP SQ YD	AGGREGATE SHOULDERS TYPE A 6" SQ YD	BRIDGE APPROACH PAVEMENT REMOVAL SQ YD
FAP 885 IL RTE 146										
STAGE I										
LT STA 511+00.00 TO LT 512+46.29			57						18	
LT STA 513+53.71 TO LT 515+00.00			57						50	
RT STA 511+00.00 TO RT 512+66.25	2	3	57	9	2			25		5
RT STA 513+33.75 TO RT 515+00.00	2	3	57	9	2			25		5
STAGE II										
LT STA 511+66.23 TO LT 512+46.29	2	4			3			30	50	5
LT STA 513+53.71 TO LT 514+28.15	2	4			3			30	18	5
CL STA 511+66.23 TO CL 512+46.29	18	10				21	0.5	80	13	
CL STA 513+53.71 TO CL 514+28.15	17	9				20	0.5	80	13	
TOTAL	43	33	228	18	51	1	160	136	136	20

EROSION CONTROL								
LOCATION	SEEDING CLASS 2A SPECIAL ACRE	SEEDING CLASS 7 ACRE	TEMPORARY EROSION CONTROL SEEDING * LBS	NITROGEN FERTILIZER NUTRIENT** LBS	PHOSPHORUS FERTILIZER NUTRIENT 90 LBS/ACRE LBS	POTASSIUM FERTILIZER NUTRIENT 90 LBS/ACRE LBS	AGRICULTURAL GROUND LIMESTONE 2 TONS/ACRE TONS	MULCH METHOD 2 ACRE
FAP 885 IL RTE 146								
STAGE I								
LT STA 511+00.00 TO LT 512+67.00	0.01	0.01	4	1	1	1	0.02	0.02
LT STA 513+33.00 TO LT 515+00.00	0.01	0.01	4	1	1	1	0.02	0.02
STAGE II								
RT STA 1014+95.65 TO RT 1015+45.46	0.06	0.06	25	8	5	5	0.12	0.12
RT STA 1015+97.22 TO RT 1016+72.60	0.02	0.02	8	3	2	2	0.04	0.04
TOTAL	0.10	0.10	41	13	9	9	0.20	0.20

\* 100 LBS/ACRE FOR 4 APPLICATIONS

\*\* 90 LBS/ACRE FOR SEEDING CLASS 2A AND 40 LBS/ACRE FOR SEEDING CLASS 7

EARTHWORK SUMMARY							
LOCATION	EARTH EXCAVATION CUBIC YARD	ADDITIONAL EXCAVATION CUBIC YARD	SHRINKAGE FACTOR	% USED	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE( 25%) CUBIC YARD	EMBANKMENT REQUIRED CUBIC YARD	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) CUBIC YARD
FAP 885 IL RTE 146							
STAGE I							
511+00 TO 512+46	30		25.00%	100.00%	23	10	13
513+53 TO 515+00	28		25.00%	100.00%	21	1	20
STAGE II							
511+00 TO 512+46	0		25.00%	100.00%	0	91	-91
513+53 TO 515+00	2		25.00%	100.00%	2	47	-45
TOTAL	60	0			46	149	-103

FURNISHED EXCAVATION =

103

CU.YD.

EROSION CONTROL BLANKET	
LOCATION	SQ YD
FAP 782 IL RTE 1	
STAGE I	
RT. STA. 511+00.00 TO RT. STA. 512+67.00	35
STAGE II	
LT. STA. 511+00.00 TO LT. STA. 512+67.00	302
LT. STA. 513+33.00 TO LT. STA. 515+00.00	82
TOTAL	419

PERIMETER EROSION BARRIER	
LOCATION	FOOT
FAP 885 IL RTE 146	
STAGE I	
LT. STA. 511+00.00 TO LT. STA. 512+67.00	180
LT. STA. 513+33.00 TO LT. STA. 515+00.00	180
RT. STA. 511+00.00 TO RT. STA. 512+67.00	165
RT. STA. 513+33.00 TO RT. STA. 515+00.00	160
TOTAL	685

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 (217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/21/08  
 DESIGNED: L.F.S. CHECKED: S.W.M. DRAWN: D.T.M.

**SCHEDULE OF QUANTITIES**

**IL. ROUTE 146 OVER BELL POND**  
**F.A.P. ROUTE 885 / SECTION 111BR-1**  
**JOHNSON COUNTY**  
**STATION 513+00**  
**STRUCTURE NO. 044-0022**

ROUTE NO. F.A.P. 885	SECTION 111BR-1	COUNTY JOHNSON	TOTAL SHEETS 94	SHEET NO. 8
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 78030	

MAINTENANCE OF TRAFFIC							
LOCATION	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	BARRIER WALL MARKERS	TEMPORARY BRIDGE TRAFFIC SIGNALS	TEMPORARY RUMBLE STRIPS	IMPACT ATTENUATORS TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3	IMPACT ATTENUATORS RELOCATE (NON-REDIRECTIVE) TEST LEVEL 3
	FOOT	FOOT	EACH	EACH	EACH	EACH	EACH
STAGE I							
509+42.25 TO 516+63.75				1	6	2	
511+06.25 TO 514+93.75	387.5		17				
STAGE II							
509+42.25 TO 516+63.75							2
511+06.25 TO 514+93.75		387.5					
TOTAL	387.5	387.5	17	1	6	2	2

PAVEMENT MARKING SCHEDULE									
LOCATION	TEMPORARY			EPOXY PAVEMENT MARKING PERMANENT		SHORT TERM PAVEMENT MARKING	WORK ZONE PAVEMENT MARKING REMOVAL	PAVEMENT MARKING REMOVAL	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL
	24" SINGLE WHITE STOP BAR	4" SINGLE WHITE EDGE LINE	4" SKIPPED DASHED YELLOW CENTERLINE	4" SINGLE WHITE EDGE LINE	4" SKIPPED DASHED YELLOW CENTERLINE				
	FOOT	FOOT	FOOT	FOOT	FOOT				
FAP 885 IL RTE 146									
STAGE I									
LT. STA. 509+42.25 TO LT. STA. 516+63.75								241	
RT. STA. 509+42.25 TO RT. STA. 512+46.25								103	
RT. STA. 513+53.75 TO RT. STA. 516+63.75								103	
CL. STA. 509+42.25 TO CL. STA. 516+63.75								26	10
LT. STA. 509+42.25 TO LT. STA. 516+63.75	12	722					238		
RT. STA. 509+42.25 TO LT. STA. 511+56.25		214					71		
LT. STA. 511+56.25 TO LT. STA. 514+43.75		288					95		
LT. STA. 514+43.75 TO LT. STA. 516+63.75	12	220					73		
STAGE II									
RT. STA. 509+42.25							24		
RT. STA. 509+42.25 TO RT. STA. 516+63.75		722					238		
LT. STA. 509+42.25 TO RT. STA. 511+56.25		214					71		
RT. STA. 511+56.25 TO RT. STA. 514+43.25		287					95		
RT. STA. 514+43.25 TO LT. STA. 516+63.75		221					73		
LT. STA. 516+63.75							24		
LT STA. 509+42.25 TO LT. STA. 516+63.75		722		722					
RT STA. 509+42.25 TO RT STA. 516+63.75		722		722					
CL STA. 509+42.25 TO CL STA. 516+63.75			180		180	4			
SUBTOTAL	24	4332	180	1444	180	4	1002	473	10
TOTAL	24	4512		1624		4	1002	473	10

GUARDRAIL						
	GUARDRAIL REMOVAL	* VERTICAL ADJUSTMENT OF GUARDRAIL	TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL (TANGENT)	TRAFFIC BARRIER TERMINAL TYPE 6A	TERMINAL MARKER DIRECT APPLIED	GUARDRAIL MARKERS
	FOOT	FOOT	EACH	EACH	EACH	EACH
STAGE I						
RT. STA. 512+02.39 TO RT. STA. 512+46.39	44					
RT. STA. 512+02.39 TO RT. STA. 512+46.39				1		
RT. STA. 511+77.39 TO RT. STA. 512+02.39		25				
RT. STA. 513+53.71 TO RT. STA. 513+93.39	40					
RT. STA. 513+53.71 TO RT. STA. 514+47.61			1	1	1	
RT. STA. 512+02.39 TO RT. STA. 514+47.61						4
LT. STA. 512+06.83 TO LT. STA. 512+46.29	40					
LT. STA. 511+52.39 TO LT. STA. 512+46.39			1	1	1	
STAGE II						
LT. STA. 513+53.71 TO LT. STA. 513+97.61	44					
LT. STA. 513+53.71 TO LT. STA. 513+97.61				1		
LT. STA. 513+97.61 TO LT. STA. 514+22.61		25				
LT. STA. 511+52.39 TO LT. STA. 513+97.61						4
TOTAL	168	50	2	4	2	8

\* COST OF VERTICAL ADJUSTMENT OF GUARDRAIL IS INCLUDED IN TRAFFIC BARRIER TERMINAL TYPE 6A

**HAMPTON, LENZINI & RENWICK, INC.**  
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 (217) 546-3400

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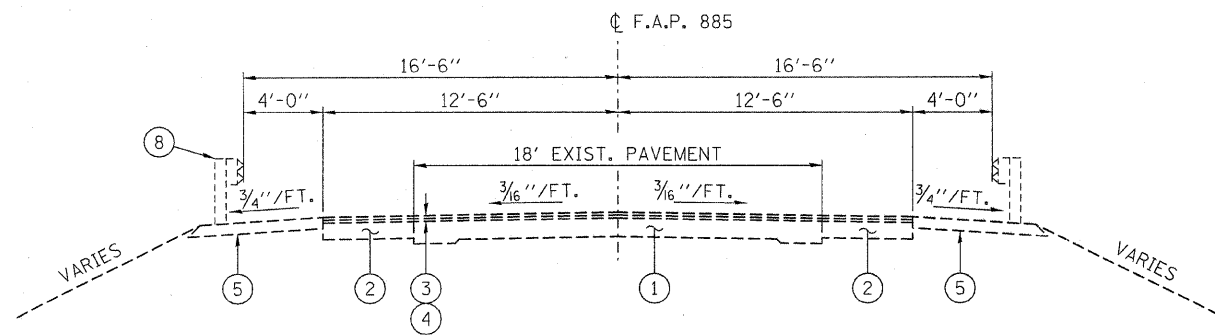
PROJECT NUMBER: 12-52-0007-1 DATE: 04/21/08  
 DESIGNED: L.F.S. CHECKED: S.W.M. DRAWN: D.T.M.

**SCHEDULE OF QUANTITIES**

IL. ROUTE 146 OVER BELL POND  
 F.A.P. ROUTE 885 / SECTION 111BR-1  
 JOHNSON COUNTY  
 STATION 513+00  
 STRUCTURE NO. 044-0022

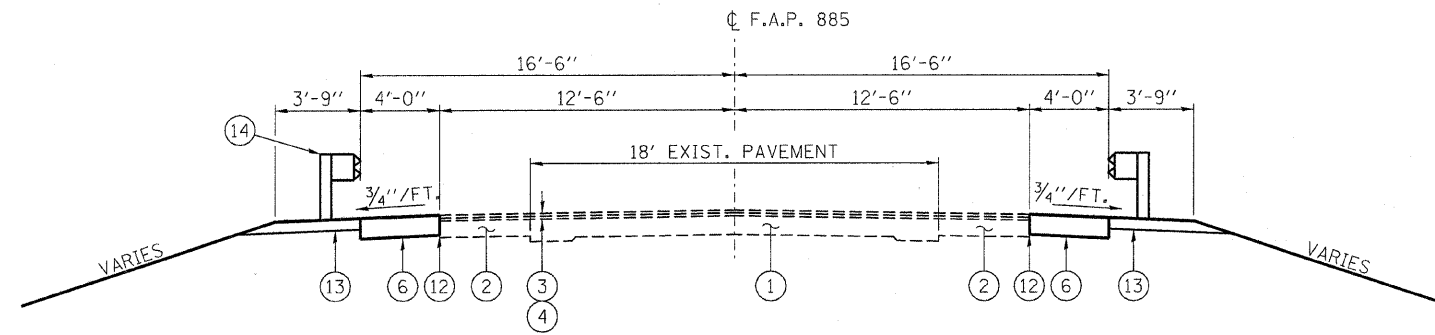


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1	JOHNSON	94	9
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 78030		



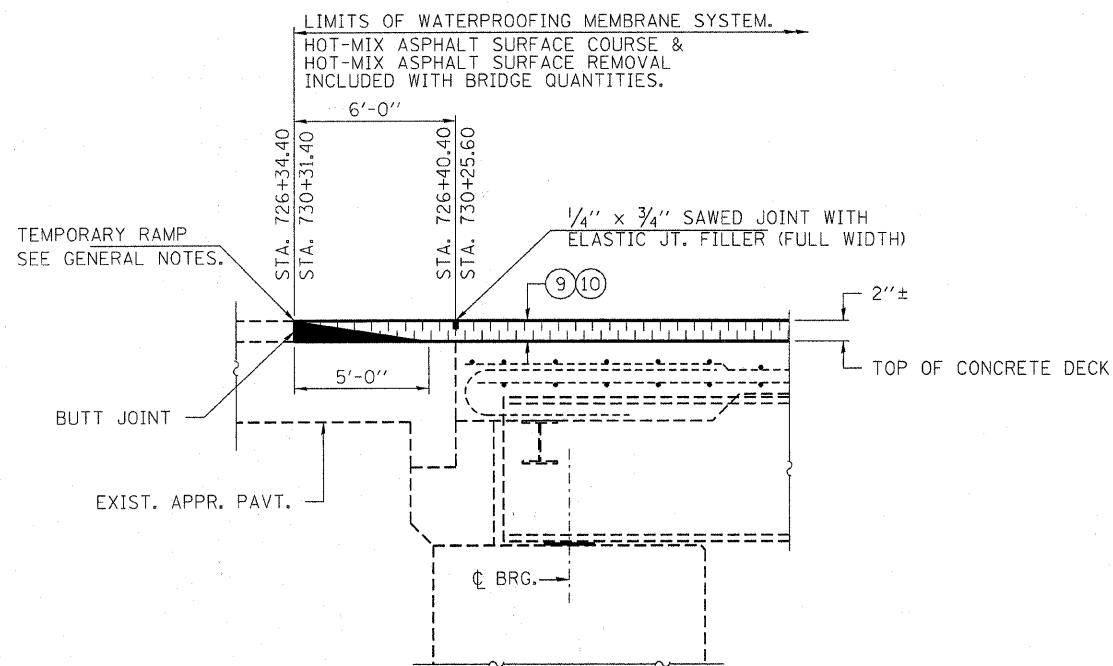
**EXISTING TYPICAL CROSS SECTION**

SEC. 107BR-1 / SN 044-0014  
 STA. 724+75.00 TO STA. 726+00.00 BK.  
 STA. 726+11.90 AH. TO STA. 726+40.40  
 STA. 730+25.60 TO STA. 731+75.00

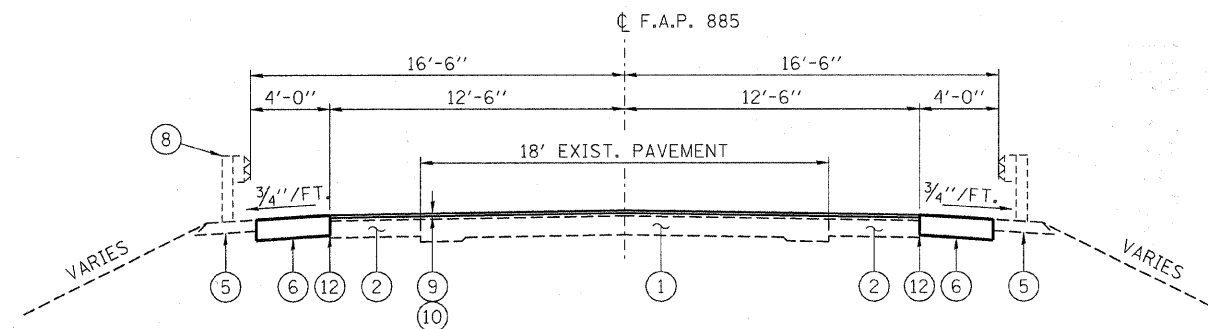


**PROPOSED TYPICAL CROSS SECTION**

SEC. 107BR-1 / SN 044-0014  
 STA. 724+75.00 TO STA. 726+00.00 BK.  
 STA. 726+11.90 AH. TO STA. 726+34.40  
 STA. 730+31.60 TO STA. 731+75.00



**SECTION AT BENTS 1 & 7**



**PROPOSED TYPICAL CROSS SECTION**

SEC. 107BR-1 / SN 044-0014  
 STA. 726+34.40 TO STA. 726+40.40  
 STA. 730+25.60 AH. TO STA. 730+31.60

MIXTURE REQUIREMENTS	
LOCATION(S):	IL RTE 146 WIDENING
MIXTURE USE(S):	HOT-MIX ASPHALT BASE COURSE
AC/PG:	PG 64-22
RAP % (MAX):	10%
DESIGN AIR VOIDS:	4% @ Ndes 90
MIXTURE COMPOSITION: (GRADATION MIXTURE):	IL 19.0
FRICTION AGGREGATE:	NONE
MIXTURE WEIGHTS:	112 LBS \ SY \ INCH THICKNESS

MIXTURE REQUIREMENTS	
LOCATION(S):	IL RTE 146 BRIDGE SURFACING
MIXTURE USE(S):	HOT-MIX ASPHALT SURFACE COURSE
AC/PG:	PG 64-22
RAP % (MAX):	10%
DESIGN AIR VOIDS:	4% @ Ndes 90
MIXTURE COMPOSITION: (GRADATION MIXTURE):	IL 9.5 OR IL 12.5
FRICTION AGGREGATE:	MIXTURE C
MIXTURE WEIGHTS:	112 LBS \ SY \ INCH THICKNESS

**LEGEND**

- ① EXISTING CONCRETE PAVEMENT
- ② EXISTING BASE COURSE WIDENING 9"
- ③ EXISTING H.M.A. BINDER COURSE 1.5" MIN.
- ④ EXISTING H.M.A. SURFACE COURSE 1.5"
- ⑤ EXISTING AGGREGATE SHOULDERS TYPE A, 6"
- ⑥ H.M.A. BASE COURSE WIDENING 10 3/4"
- ⑦ TEMPORARY PAVEMENT MARKINGS
- ⑧ EXISTING GUARDRAIL
- ⑨ HOT-MIX ASPHALT SURFACE REMOVAL
- ⑩ HOT-MIX ASPHALT SURFACE COURSE 1 1/2" & WATERPROOFING MEMBRANE SYSTEM
- ⑪ TEMPORARY RAMP
- ⑫ SAWCUT (COST INCLUDED IN H.M.A. BINDER COURSE)
- ⑬ AGGREGATE SHOULDERS, TYPE A 6"
- ⑭ TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)

PAVEMENT DESIGN (MECHANISTIC)

DESIGN PERIOD	5 YEARS	LOADING HS 20-44 (80,000 LBS)
STRUCTURAL DESIGN TRAFFIC (SDT) =	2011	( 2678.9 )
PV =	2170	SU = 188 MU = 321
ROAD/STREET CLASSIFICATION:	CLASS II	
PERCENT OF STRUCTURAL DESIGN TRAFFIC IN DESIGN LANE	P = 50% S = 50% MU = 50%	
TRAFFIC FACTOR	ACTUAL TF	0.36 AC TYPE 64-22
	MINIMUM TF	0.95
PG GRADE: BINDER =	64-22	SURFACE = 64-22
SUBGRADE SUPPORT RATING		
SSR =	POOR (STA.	TO STA )
SSR =	POOR (STA.	TO STA )

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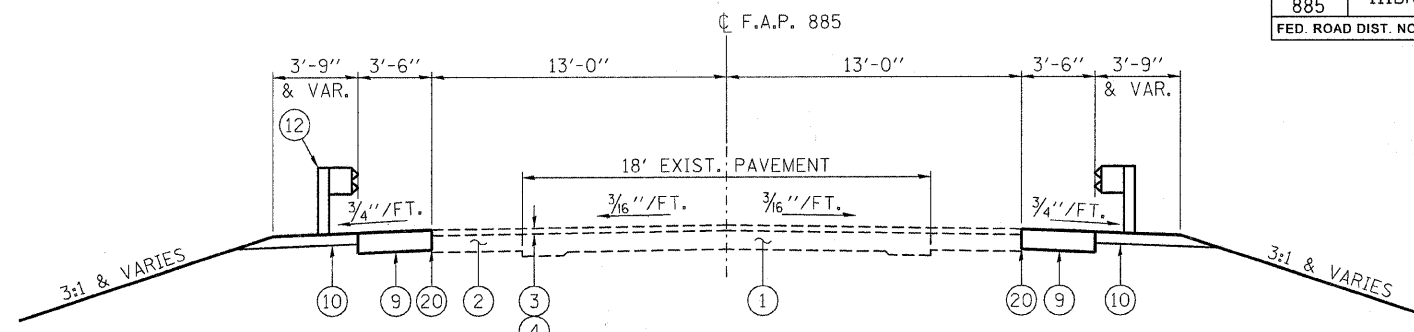
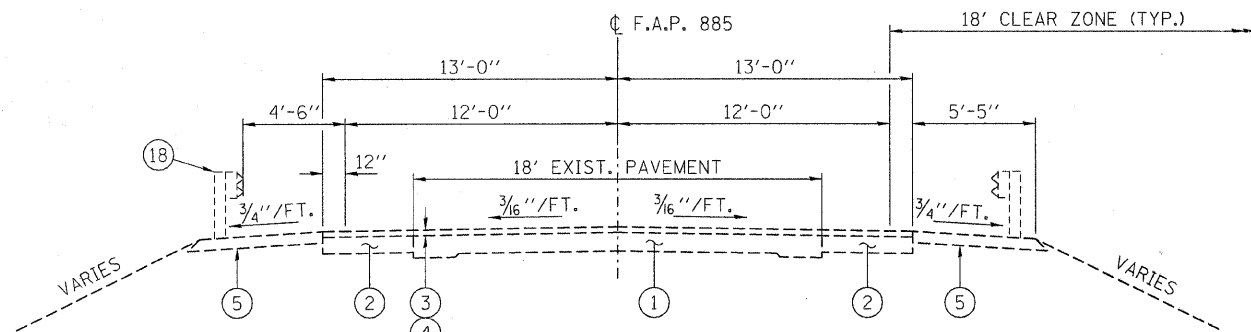
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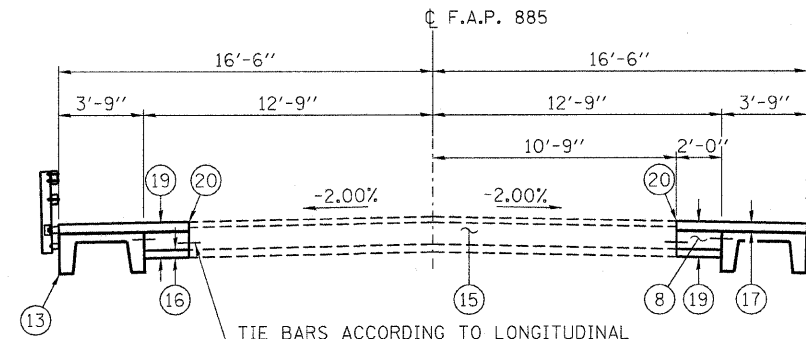
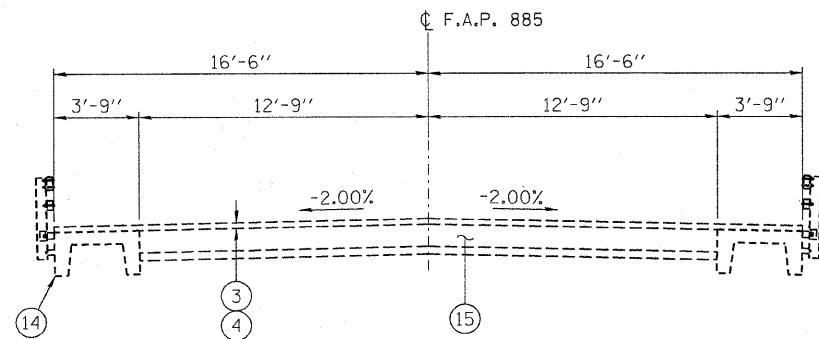
PROJECT NUMBER: 12-52-0007-1 DATE: 04/21/08  
 DESIGNED: L.F.S. CHECKED: S.W.M. DRAWN: D.T.M.

**TYPICAL CROSS SECTIONS**  
 IL. ROUTE 146 OVER CACHE RIVER  
 F.A.P. ROUTE 885 / SECTION 107BR-1  
 JOHNSON COUNTY  
 STATION 727+23  
 STRUCTURE NO. 044-0014

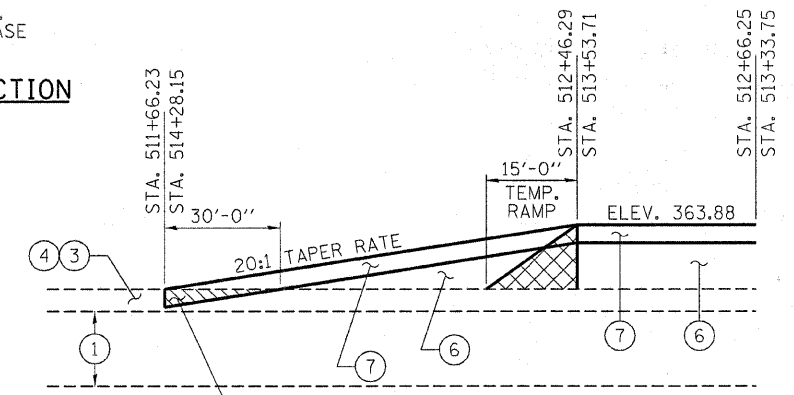
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	111BR-1	JOHNSON	94	10
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 78030	



NOTE:  
 AGGREGATE SHOULDERS ARE TO BE PLACED ONLY IN AREAS WHERE TRAFFIC BARRIER TERMINAL, TYPE 6A & TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT) ARE TO BE INSTALLED.



TIE BARS ACCORDING TO LONGITUDINAL CONSTRUCTION JOINT DETAIL ON STD. 420001. COST INCLUDED WITH PCC BASE COURSE 13" (TYP.)



MIXTURE REQUIREMENTS	
LOCATION(S):	IL RTE 146 WIDENING
MIXTURE USE(S):	HOT-MIX ASPHALT BASE COURSE
AC/PG:	PG 64-22
RAP % (MAX):	10%
DESIGN AIR VOIDS:	4% @ Ndes 90
MIXTURE COMPOSITION:	IL 19.0
(GRADATION MIXTURE):	
FRICTION AGGREGATE:	NONE
MIXTURE WEIGHTS:	112 LBS \ SY \ INCH THICKNESS

MIXTURE REQUIREMENTS	
LOCATION(S):	IL RTE 146 SURFACE
MIXTURE USE(S):	HOT-MIX ASPHALT SURFACE COURSE
AC/PG:	PG 64-22
RAP % (MAX):	10%
DESIGN AIR VOIDS:	4% @ Ndes 90
MIXTURE COMPOSITION:	IL 9.5 OR IL 12.5
(GRADATION MIXTURE):	
FRICTION AGGREGATE:	MIXTURE C
MIXTURE WEIGHTS:	112 LBS \ SY \ INCH THICKNESS

MIXTURE REQUIREMENTS	
LOCATION(S):	IL RTE 146 LEVELING BINDER
MIXTURE USE(S):	LEVEL BINDER (MACHINE METHOD), N90
AC/PG:	PG 64-22
RAP % (MAX):	10%
DESIGN AIR VOIDS:	4% @ Ndes 90
MIXTURE COMPOSITION:	IL 9.5 OR IL 12.5
(GRADATION MIXTURE):	
FRICTION AGGREGATE:	MIXTURE C
MIXTURE WEIGHTS:	112 LBS \ SY \ INCH THICKNESS

- LEGEND**
- ① EXISTING CONCRETE PAVEMENT
  - ② EXISTING BASE COURSE WIDENING 9"
  - ③ EXISTING H.M.A. BINDER COURSE 1.5" MIN.
  - ④ EXISTING H.M.A. SURFACE COURSE 1.5"
  - ⑤ EXISTING AGGREGATE SHOULDERS TYPE A, 6"
  - ⑥ LEVELING BINDER (MACHINE METHOD), N90
  - ⑦ HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90 (1 1/2") THICKNESS
  - ⑧ PCC BASE COURSE 13"
  - ⑨ HMA BASE COURSE WIDENING 10 3/4"
  - ⑩ AGGREGATE SHOULDERS TYPE A 6"
  - ⑪ TEMPORARY PAVEMENT MARKINGS
  - ⑫ TRAFFIC BARRIER TERMINAL, TYPE 6A
  - ⑬ PROPOSED PRECAST SLAB
  - ⑭ EXISTING PRECAST SLAB
  - ⑮ EXISTING BRIDGE APPROACH PAVEMENT
  - ⑯ SUB-BASE GRANULAR MATERIAL TYPE A 4" (COST INCLUDED WITH PCC BASE COURSE 13")
  - ⑰ CONCRETE WEARING SURFACE, 5"
  - ⑱ EXISTING GUARDRAIL
  - ⑲ BRIDGE APPROACH PAVEMENT REMOVAL
  - ⑳ SAWCUT (COST INCLUDED IN H.M.A. BINDER COURSE)

**PAVEMENT DESIGN (MECHANISTIC)**

DESIGN PERIOD	5 YEARS	LOADING HS 20-44 (80,000 LBS)
STRUCTURAL DESIGN TRAFFIC (SDT)	= 2011	( 1750 )
PV =	1557	SU = 140 MU = 52
ROAD/STREET CLASSIFICATION: CLASS III		
PERCENT OF STRUCTURAL DESIGN TRAFFIC IN DESIGN LANE		
P =	50%	S = 50% MU = 50%
TRAFFIC FACTOR	ACTUAL TF	0.09 AC TYPE 64-22
	MINIMUM TF	0.95
PG GRADE: BINDER =	64-22	SURFACE = 64-22
SUBGRADE SUPPORT RATING		
SSR=	POOR	( STA. TO STA )
SSR=	POOR	( STA. TO STA )

**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS

**HLR**

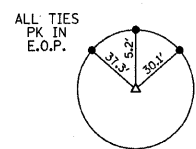
3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400

ELGIN • SPRINGFIELD

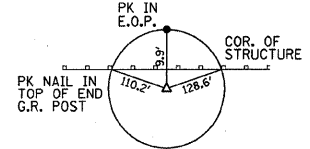
PROJECT NUMBER: 12-52-0007-1 DATE: 04/21/08  
 DESIGNED: L.F.S. CHECKED: S.W.M. DRAWN: D.T.M.

**TYPICAL CROSS SECTIONS**

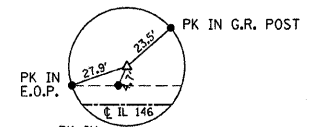
IL. ROUTE 146 OVER BELL POND  
 F.A.P. ROUTE 885 / SECTION 111BR-1  
 JOHNSON COUNTY  
 STATION 513+00  
 STRUCTURE NO. 044-0022



PT. 44-001403  
STA. 719+51.92 RT.  
HORIZONTAL CONTROL  
N. 277,835.1476  
E. 791,751.3719



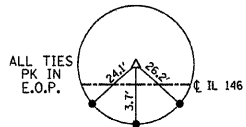
PT. 44-001404  
STA. 724+34.13 RT.  
HORIZONTAL CONTROL  
N. 277,817.0000  
E. 792,293.2931



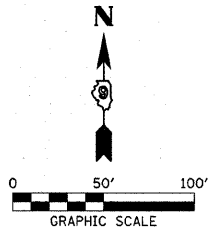
PT. 44-001402  
STA. 725+73.26 LT.  
HORIZONTAL CONTROL  
N. 277,853.5967  
E. 792,373.3663



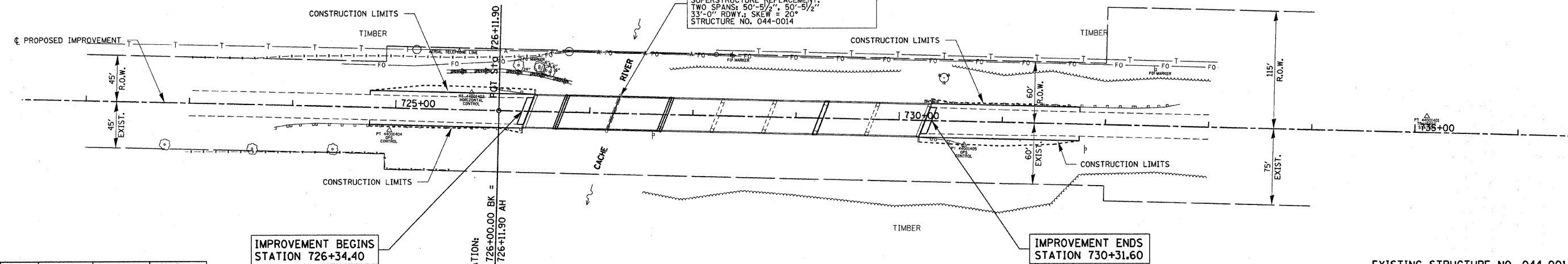
PT. 44-001405  
STA. 730+63.42 RT.  
GPS CONTROL  
N. 277,801.8749  
E. 792,850.4854



PT. 44-001401  
STA. 735+11.42 LT.  
TRANSVERSE STATION  
N. 277,829.4720  
E. 793,299.2108



PLAN	SURVEYED	DATE
	ALIGNED	
	CHECKED	
	BY	
	NO.	



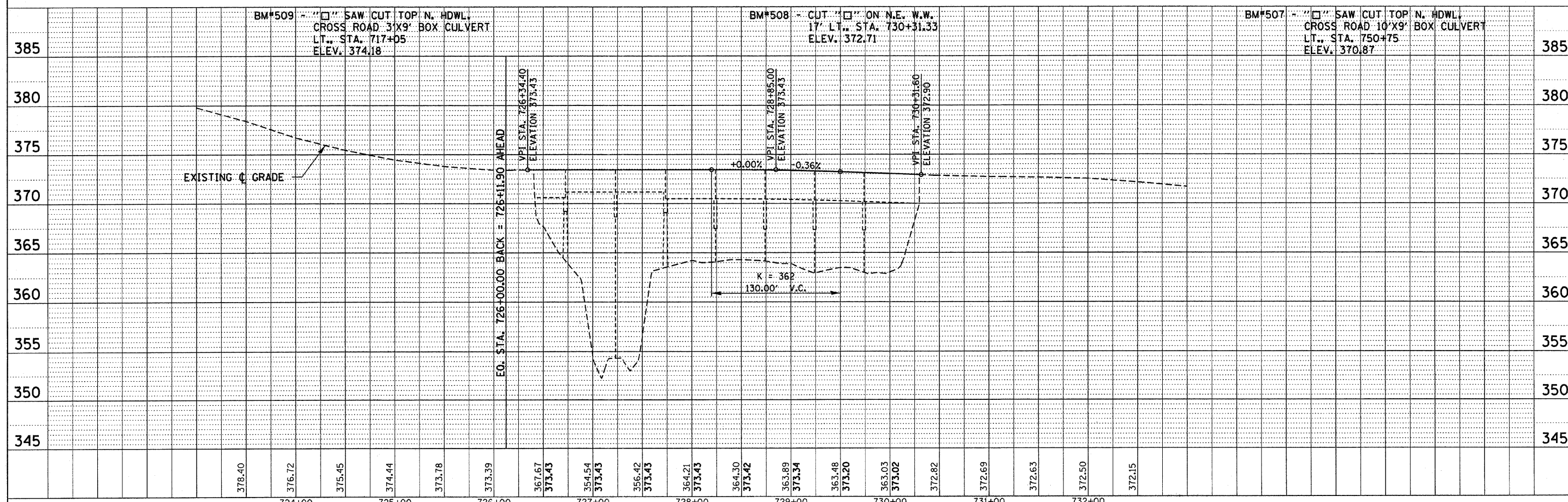
POINT	STATION	NORTHING	EASTING
POT713	C.L. 713+00.00	277,868.6797	791,100.0869
SEB726	C.L. 726+00.00	277,836.0736	792,399.6780
SEA726	C.L. 726+11.90	277,836.0736	792,399.6780
POT741	C.L. 741+00.00	277,798.7495	793,887.3098

IMPROVEMENT BEGINS  
STATION 726+34.40

IMPROVEMENT ENDS  
STATION 730+31.60

EXISTING STRUCTURE NO. 044-0014  
STATION 728+33 - SPANS 1 & 4-8 CONCRETE  
DECK ON STEEL I-BEAM; SPANS 2 & 3 PRECAST  
PRESTRESSED CONCRETE DECK BEAM  
BRIDGE WITH CONCRETE PARAPETS ON CLOSED  
CONCRETE ABUTMENTS AND WINGWALLS.  
385.2 BK.-BK. ABUTS; 33.00' o.-o. DECK

PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO.	



FILE NAME = 0440014-sh1-pl.dgn

USER NAME =  
DESIGNED - L.F.S.  
DRAWN - D.T.M.  
CHECKED - S.W.M.  
DATE - 04/21/08

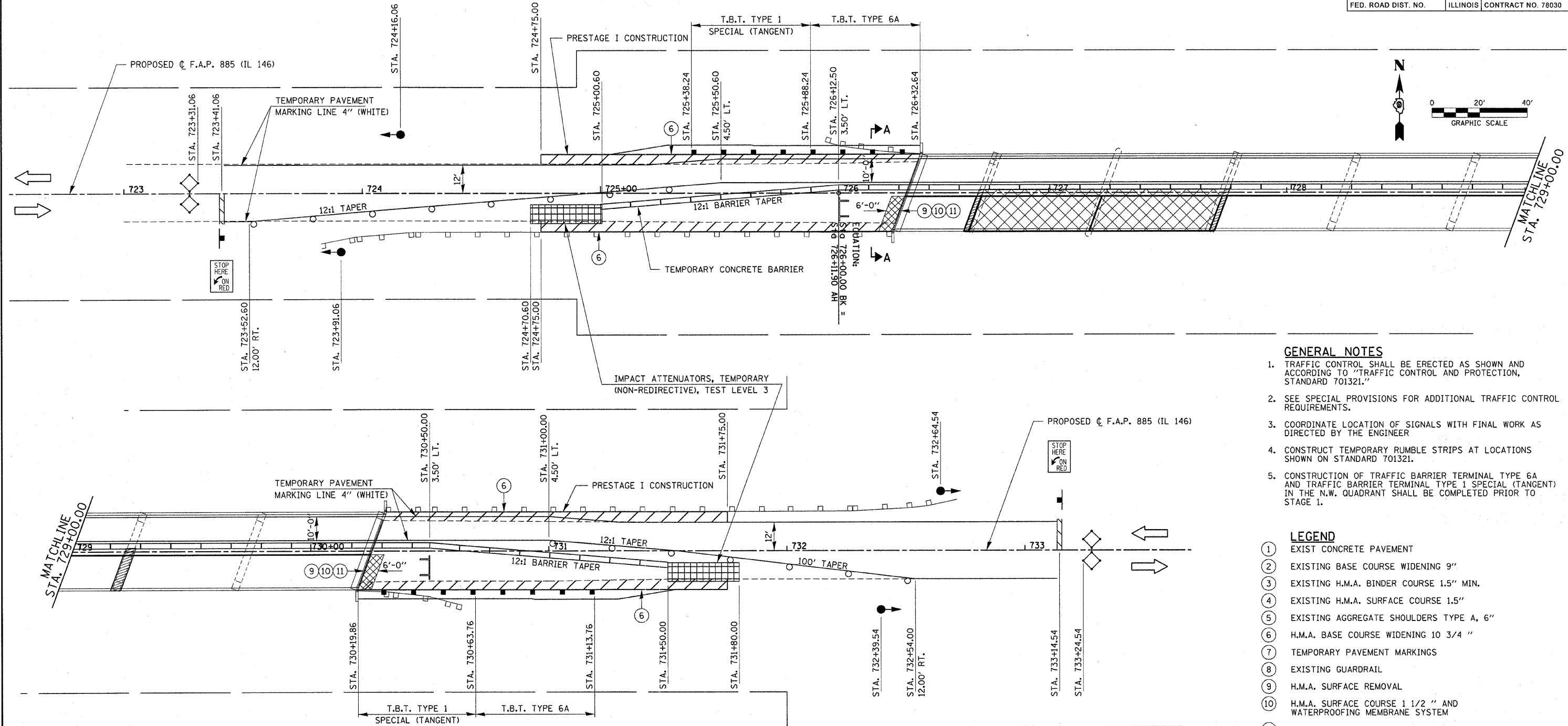
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

HLR HAMPTON, LENZINI & RENWICK, INC.  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

IL. ROUTE 146  
PLAN & PROFILE

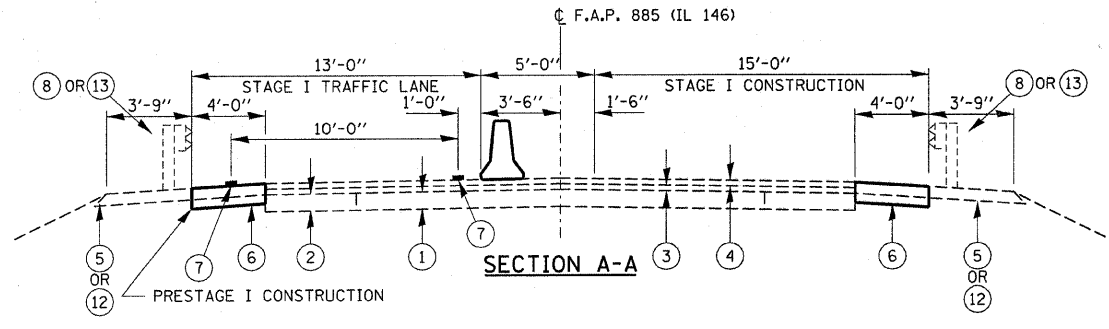
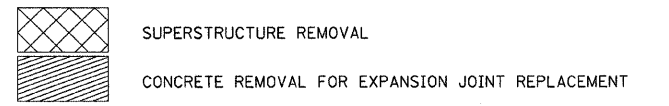
F.A.P. RTE. 885	SECTION 107BR-1	COUNTY JOHNSON	TOTAL SHEETS 94	SHEET NO. 11
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1	JOHNSON	94	12
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 78030	



- 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.
  - CONSTRUCTION OF TRAFFIC BARRIER TERMINAL TYPE 6A AND TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL (TANGENT) IN THE N.W. QUADRANT SHALL BE COMPLETED PRIOR TO STAGE 1.

- LEGEND**
- (1) EXIST CONCRETE PAVEMENT
  - (2) EXISTING BASE COURSE WIDENING 9"
  - (3) EXISTING H.M.A. BINDER COURSE 1.5" MIN.
  - (4) EXISTING H.M.A. SURFACE COURSE 1.5"
  - (5) EXISTING AGGREGATE SHOULDERS TYPE A, 6"
  - (6) H.M.A. BASE COURSE WIDENING 10 3/4 "
  - (7) TEMPORARY PAVEMENT MARKINGS
  - (8) EXISTING GUARDRAIL
  - (9) H.M.A. SURFACE REMOVAL
  - (10) H.M.A. SURFACE COURSE 1 1/2 " AND WATERPROOFING MEMBRANE SYSTEM
  - (11) TEMPORARY RAMP
  - (12) AGGREGATE SHOULDERS, TYPE A 6"
  - (13) TRAFFIC BARRIER TERMINAL TYPE 6A



**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS

**HLR**

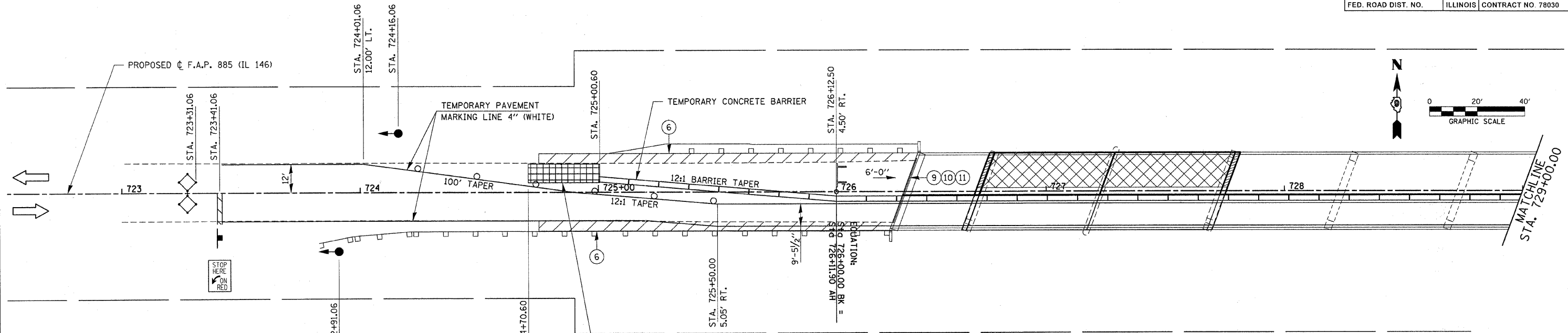
3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400

ELGIN • SPRINGFIELD

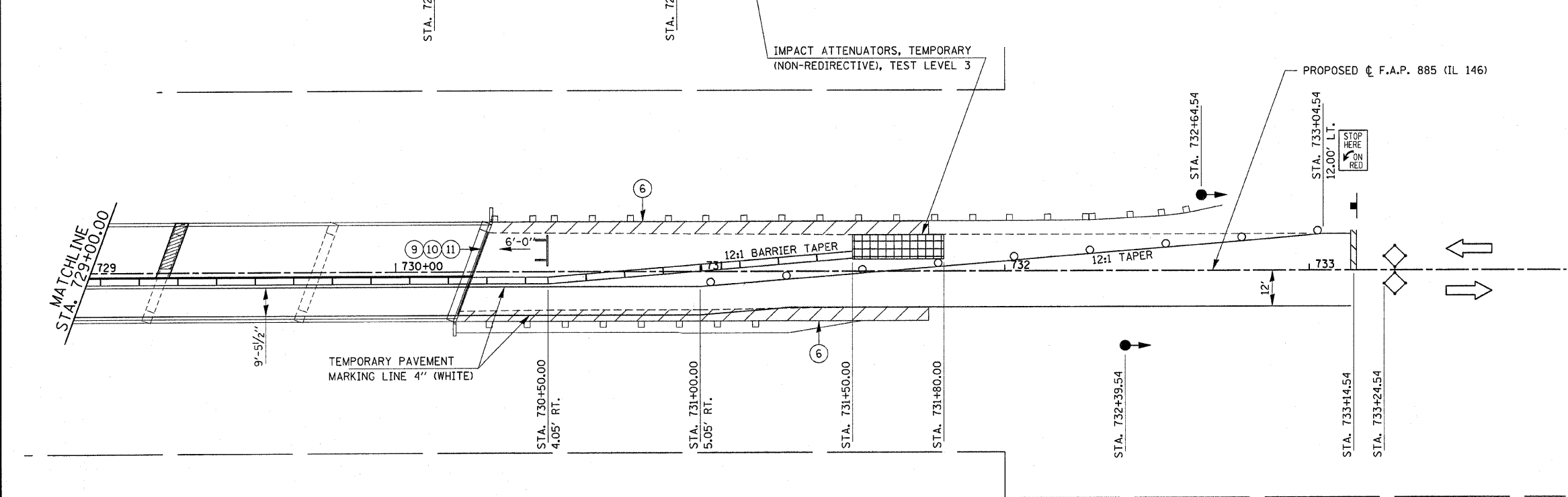
PROJECT NUMBER: 12-52-0007-1    DATE: 04/21/08  
 DESIGNED: L.F.S.    CHECKED: S.W.M.    DRAWN: D.T.M.

**STAGE I CONSTRUCTION**  
 IL. ROUTE 146 OVER CACHE RIVER  
 F.A.P. ROUTE 885 / SECTION 107BR-1  
 JOHNSON COUNTY  
 STATION 727+23  
 STRUCTURE NO. 044-0014

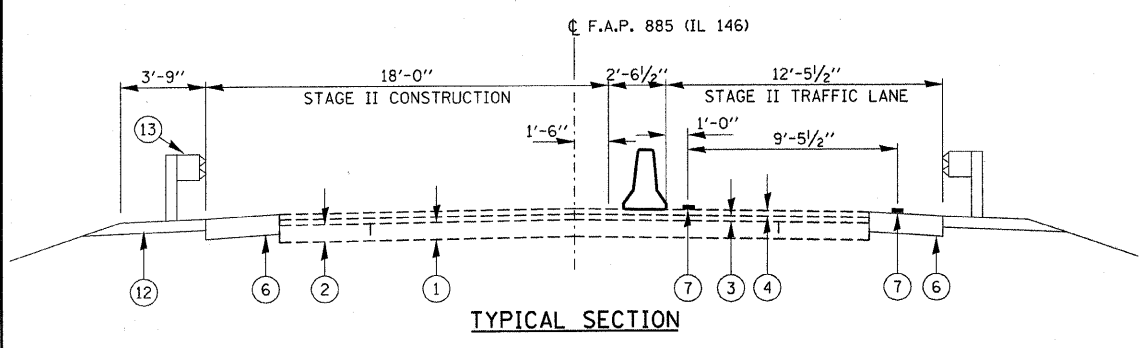
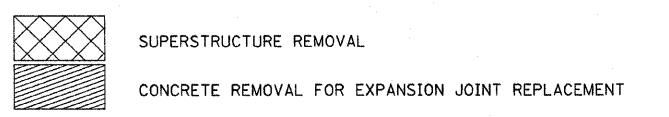
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1	JOHNSON	94	13
FED. ROAD DIST. NO.	ILLINOIS CONTRACT NO. 78030			



- 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.



- LEGEND**
- ① EXIST CONCRETE PAVEMENT
  - ② EXISTING BASE COURSE WIDENING 9"
  - ③ EXISTING H.M.A. BINDER COURSE 1.5" MIN.
  - ④ EXISTING H.M.A. SURFACE COURSE 1.5"
  - ⑤ EXISTING AGGREGATE SHOULDERS TYPE A, 6"
  - ⑥ H.M.A. BASE COURSE WIDENING 10 3/4 "
  - ⑦ TEMPORARY PAVEMENT MARKINGS
  - ⑧ EXISTING GUARDRAIL
  - ⑨ H.M.A. SURFACE REMOVAL
  - ⑩ H.M.A. SURFACE COURSE 1 1/2 " AND WATERPROOFING MEMBRANE SYSTEM
  - ⑪ TEMPORARY RAMP
  - ⑫ AGGREGATE SHOULDERS, TYPE A 6"
  - ⑬ TRAFFIC BARRIER TERMINAL TYPE 6A



**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS

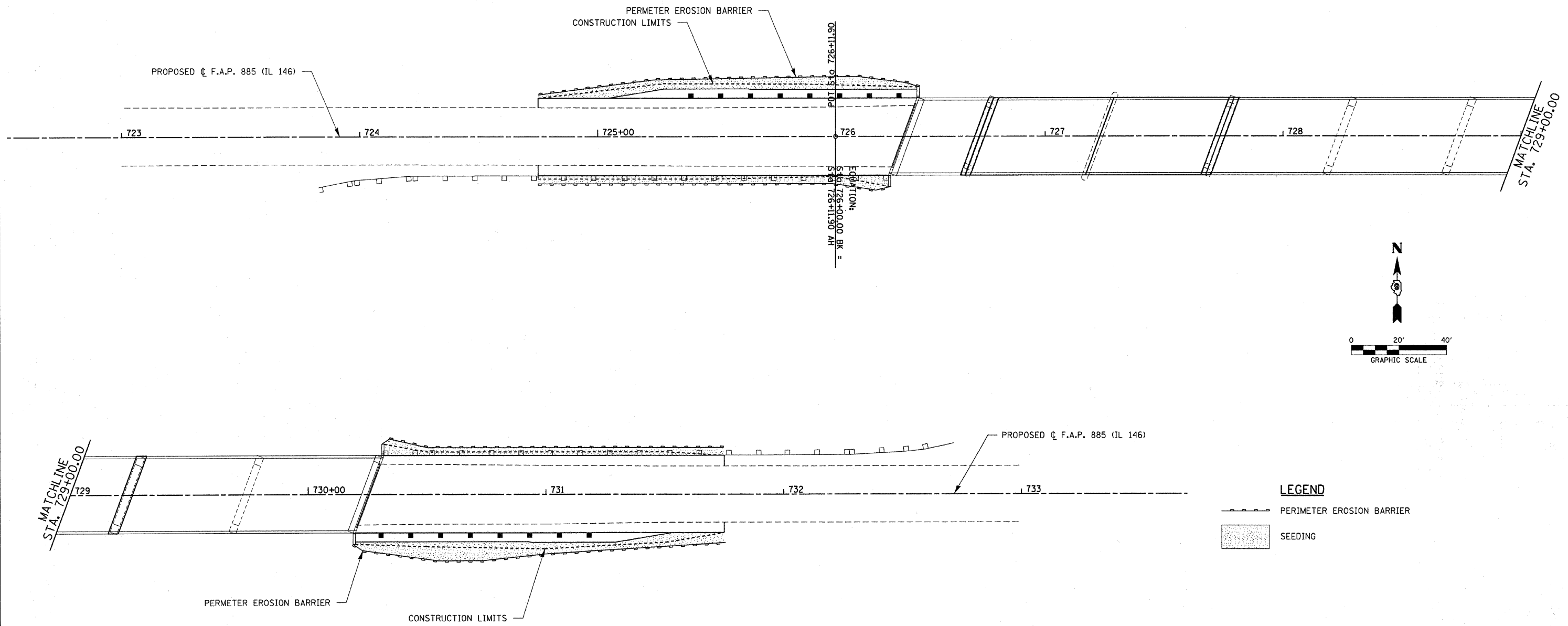
3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400

**ELGIN • SPRINGFIELD**

PROJECT NUMBER: 12-52-0007-1    DATE: 04/21/08  
 DESIGNED: L.F.S.    CHECKED: S.W.M.    DRAWN: D.T.M.

**STAGE II CONSTRUCTION**  
 IL. ROUTE 146 OVER CACHE RIVER  
 F.A.P. ROUTE 885 / SECTION 107BR-1  
 JOHNSON COUNTY  
 STATION 727+23  
 STRUCTURE NO. 044-0014

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1	JOHNSON	94	14
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 78030	

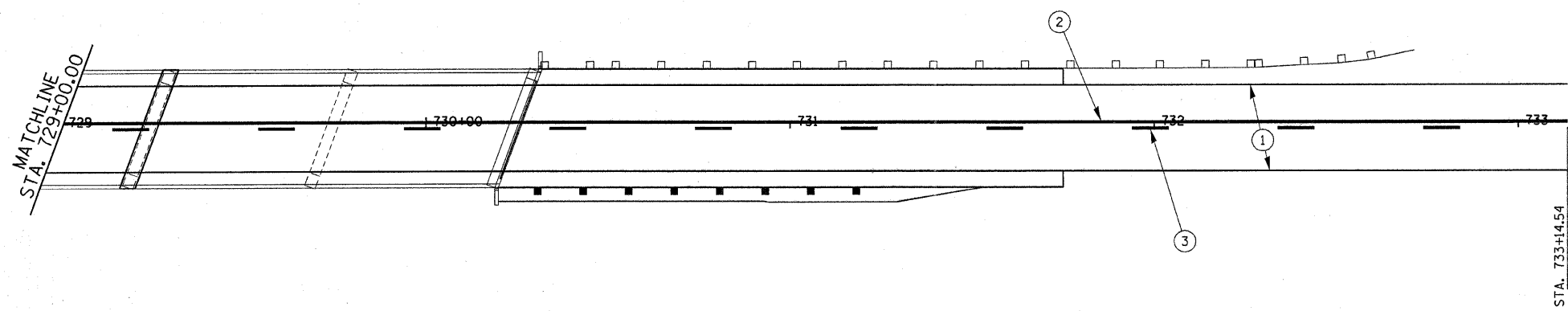
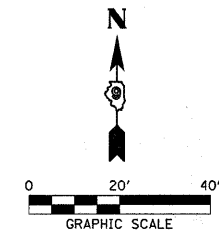
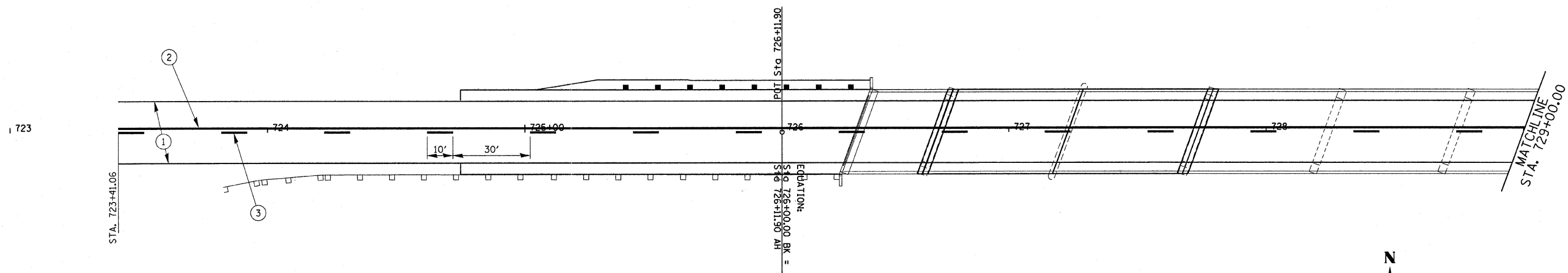


**LEGEND**


- PERIMETER EROSION BARRIER
- SEEDING

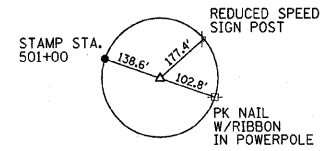
<p><b>HAMPTON, LENZINI &amp; RENWICK, INC.</b>          CIVIL &amp; STRUCTURAL ENGINEERS          LAND SURVEYORS</p> <p>3085 STEVENSON DRIVE, SUITE 201          SPRINGFIELD, ILLINOIS 62703          (217) 546-3400</p> <p><b>HLR</b></p> <p>ELGIN • SPRINGFIELD</p> <p>PROJECT NUMBER: 12-52-0007-1    DATE: 04/21/08          DESIGNED: L.F.S.    CHECKED: S.W.M.    DRAWN: D.T.M.</p>	<p><b>EROSION CONTROL PLAN</b></p> <p>IL. ROUTE 146 OVER CACHE RIVER          F.A.P. ROUTE 885 / SECTION 107BR-1          JOHNSON COUNTY          STATION 727+23          STRUCTURE NO. 044-0014</p>
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1	JOHNSON	94	15
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 78030	

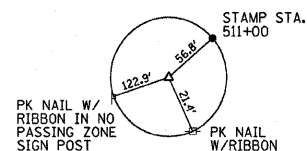


- LEGEND**
- ① EPOXY PAVEMENT MARKING LINE 4" (WHITE)
  - ② EPOXY PAVEMENT MARKING LINE 4" (SOLID YELLOW)
  - ③ EPOXY PAVEMENT MARKING LINE 4" (SKIP-DASH YELLOW)

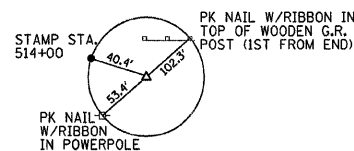
 <b>HAMPTON, LENZINI &amp; RENWICK, INC.</b> CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400	<b>PAVEMENT MARKINGS</b>	
	IL. ROUTE 146 OVER CACHE RIVER F.A.P. ROUTE 885 / SECTION 107BR-1 JOHNSON COUNTY STATION 727+23 STRUCTURE NO. 044-0014	
	PROJECT NUMBER: 12-52-0007-1 DESIGNED: L.F.S.	DATE: 04/21/08 CHECKED: S.W.M.



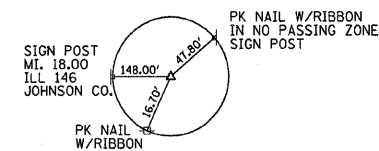
POINT 0003  
17' LT. STA. 502+37.51  
IRON PIN W/ IDOT CAP  
N. 263,999.6647  
E. 865,725.9525



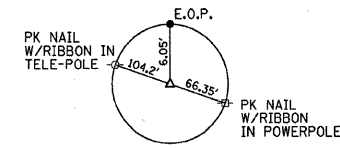
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18' RT. STA. 510+51.01  
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N. 263,513.6058  
E. 866,517.9168



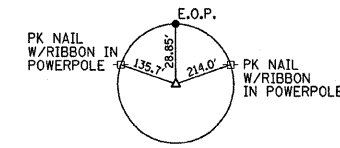
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IRON PIN W/ IDOT CAP  
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E. 866,879.7765



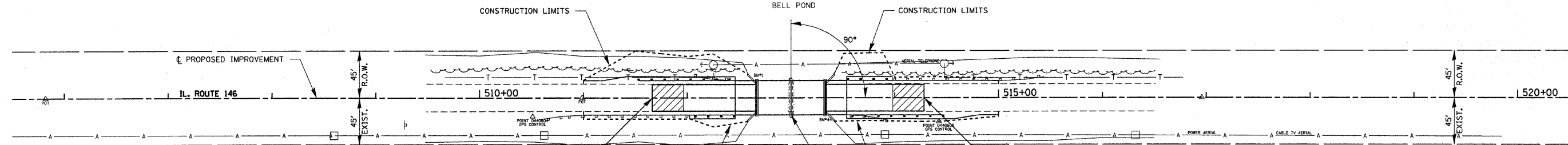
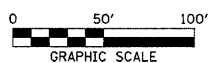
POINT 440606  
20' RT. STA. 521+52.06  
IRON PIN W/ IDOT CAP  
N. 263,560.6153  
E. 867,589.4742



POINT 440607  
18' RT. STA. 529+24.33  
IRON PIN W/ IDOT CAP  
N. 263,385.8769  
E. 868,341.7392



POINT 440608  
40' RT. STA. 535+26.59  
IRON PIN W/ IDOT CAP  
N. 263,295.2467  
E. 868,943.0771



POINT	STATION	NORTHING	EASTING
POT477	C.L. 477+00.00	263,763.9885	863,239.0509
PC	C.L. 479+84.02	263,860.5645	863,506.1459
PI	481+82.77	263,928.1456	863,693.0515
PT	C.L. 483+80.12	263,956.2092	863,869.8087
PC	C.L. 492+48.83	264,078.8718	864,749.8114
PI	496+98.37	264,142.3482	865,194.8525
PT	C.L. 501+37.53	264,039.7345	865,632.5297
SEA501	C.L. 501+37.41	264,039.7345	865,632.5297
PC	C.L. 529+21.34	263,404.2708	868,342.9678
PI	534+00.90	263,294.8067	868,809.8639
PT	C.L. 538+69.74	263,359.5440	869,285.0307
POT548	C.L. 548+00.00	263,485.1232	870,206.7724

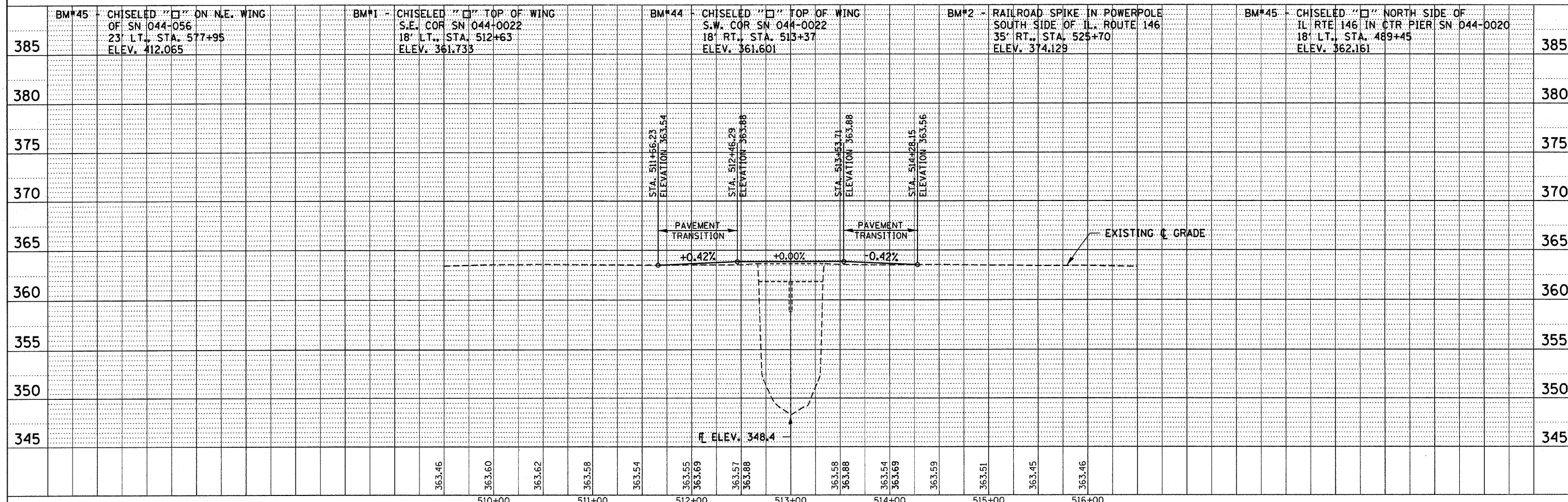
IMPROVEMENT BEGINS  
STATION 511+66.23

IMPROVEMENT ENDS  
STATION 514+28.15

STATION 513+00  
PRECAST PRESTRESSED CONCRETE DECK BEAM  
SUPERSTRUCTURE REPLACEMENT.  
TWO SPANS: 32'-9", 32'-9"  
33'-0" RDWY; SKEW = 0°  
STRUCTURE NO. 044-0022

HOT-MIX ASPHALT SURFACE  
REMOVAL BUTT-JOINT

EXISTING STRUCTURE NO. 044-0022  
STATION 513+00 - TWO SPAN PRECAST PRESTRESSED  
CONCRETE DECK BEAM BRIDGE ON CLOSED  
CONCRETE ABUTMENTS AND WINGWALLS.  
66.00' BK.-BK. ABUTS; 33.00' o.-o. DECK



FILE NAME = 0448022-shr-pp1.dgn	USER NAME =	DESIGNED - L.F.S.	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>HAMPTON, LENZINI &amp; RENWICK, INC.</b> CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS	<b>IL. ROUTE 146</b> <b>PLAN &amp; PROFILE</b>	F.A.P. RTE. = 885	SECTION = 111BR-1	COUNTY = JOHNSON	TOTAL SHEETS = 94	SHEET NO. = 16
PLOT SCALE =	CHECKED - S.W.M.	REVISED -	SCALE: 50:5				SHEET NO. 1 OF 1 SHEETS	STA. 506+00.00 TO STA. 520+00.00	CONTRACT NO. 78030		
PLOT DATE = 4/22/2008	DATE - 04/21/08	REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

DATE	
BY	
SURVEYED	
PLANNED	
NOTED	
NO.	

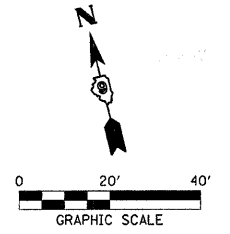
DATE	
BY	
SURVEYED	
PLANNED	
NOTED	
NO.	



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	111BR-1	JOHNSON	94	17
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO. 78030		

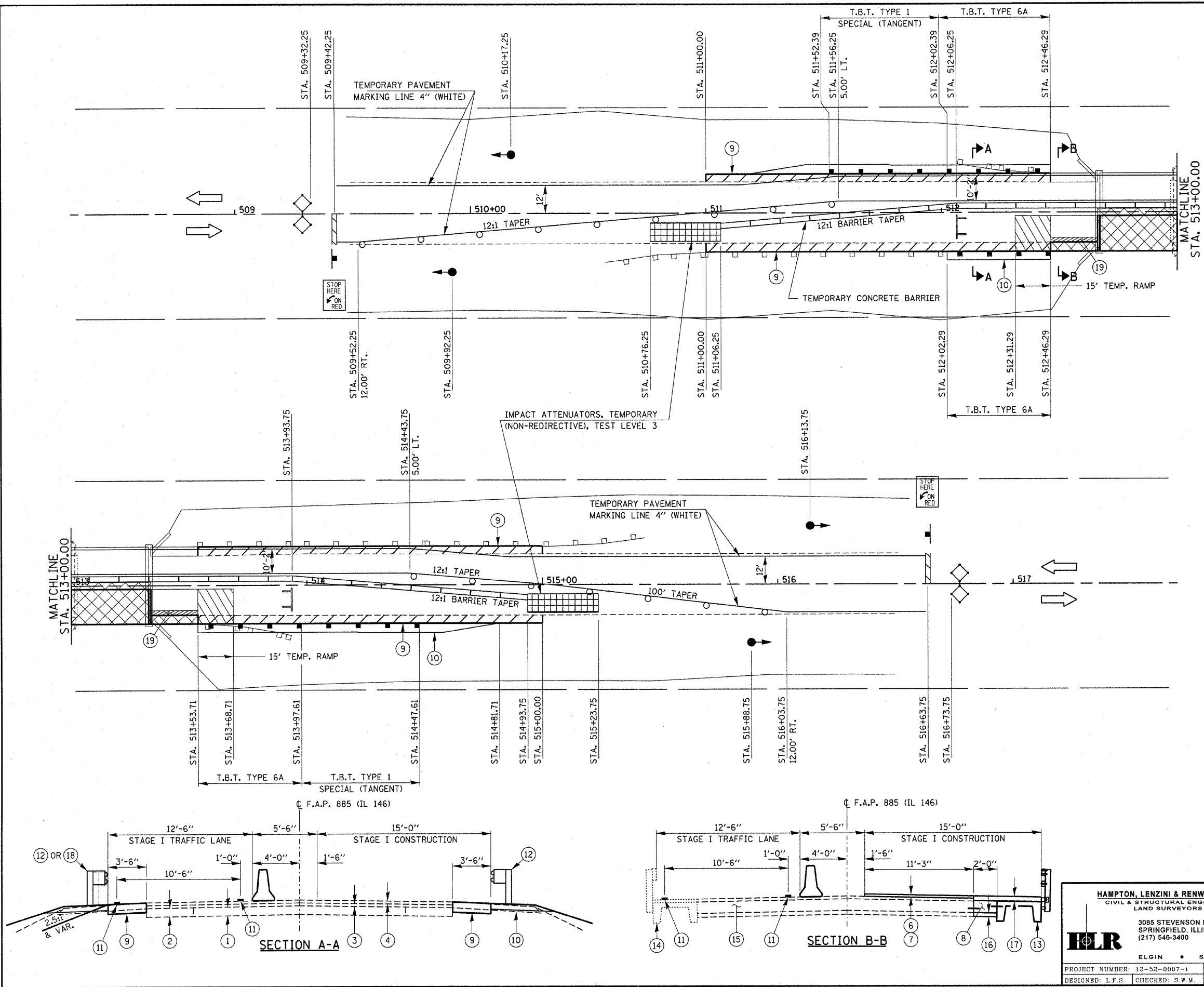
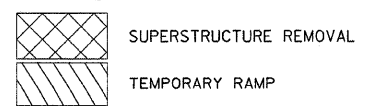
**GENERAL NOTES**

- 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 PROPOSED TRAFFIC BARRIER TERMINAL TYPE 6A AND TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT) PROPOSED IN THE N.W. QUADRANT SHALL BE INSTALLED PRIOR TO STAGE 1.



**LEGEND**

- ① EXISTING CONCRETE PAVEMENT
- ② EXISTING BASE COURSE WIDENING 9"
- ③ EXISTING H.M.A. BINDER COURSE 1.5" MIN.
- ④ EXISTING H.M.A. SURFACE COURSE 1.5"
- ⑤ EXISTING AGGREGATE SHOULDERS TYPE A, 6"
- ⑥ LEVELING BINDER (MACHINE METHOD), N90
- ⑦ HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90 (1 1/2")
- ⑧ PCC BASE COURSE 13"
- ⑨ HMA BASE COURSE WIDENING 10 3/4"
- ⑩ AGGREGATE SHOULDERS TYPE A 6"
- ⑪ TEMPORARY PAVEMENT MARKINGS
- ⑫ TRAFFIC BARRIER TERMINAL, TYPE 6A
- ⑬ PROPOSED PRECAST SLAB
- ⑭ EXISTING PRECAST SLAB
- ⑮ EXISTING BRIDGE APPROACH PAVEMENT
- ⑯ SUB-BASE GRANULAR MATERIAL TYPE A 4" (COST INCLUDED WITH PCC BASE COURSE 13")
- ⑰ CONCRETE WEARING SURFACE, 5"
- ⑱ EXISTING GUARDRAIL
- ⑲ BRIDGE APPROACH PAVEMENT REMOVAL



**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS  
 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400

**ELGIN • SPRINGFIELD**

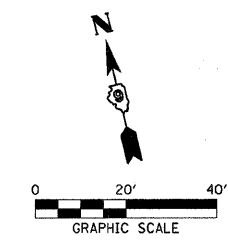
PROJECT NUMBER: 12-52-0007-1    DATE: 04/21/08  
 DESIGNED: L.F.S.    CHECKED: S.W.M.    DRAWN: D.T.M.

**STAGE I CONSTRUCTION**  
 IL. ROUTE 146 OVER BELL POND  
 F.A.P. ROUTE 885 / SECTION 111BR-1  
 JOHNSON COUNTY  
 STATION 513+00  
 STRUCTURE NO. 044-0022

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	111BR-1	JOHNSON	94	18
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO. 78030		

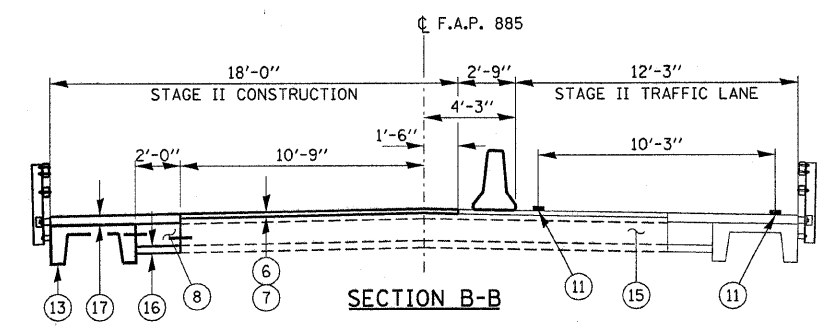
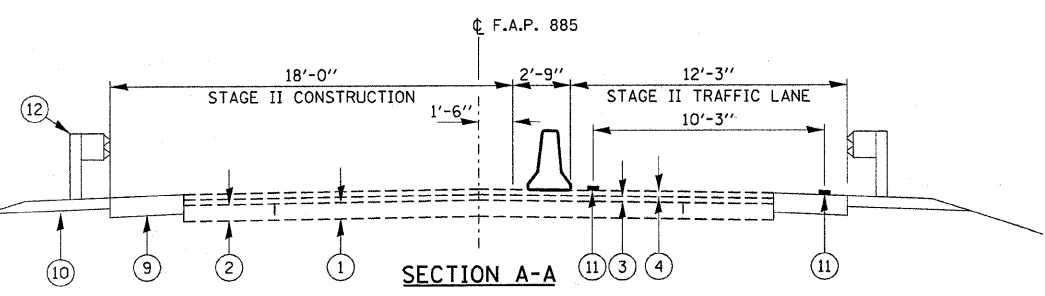
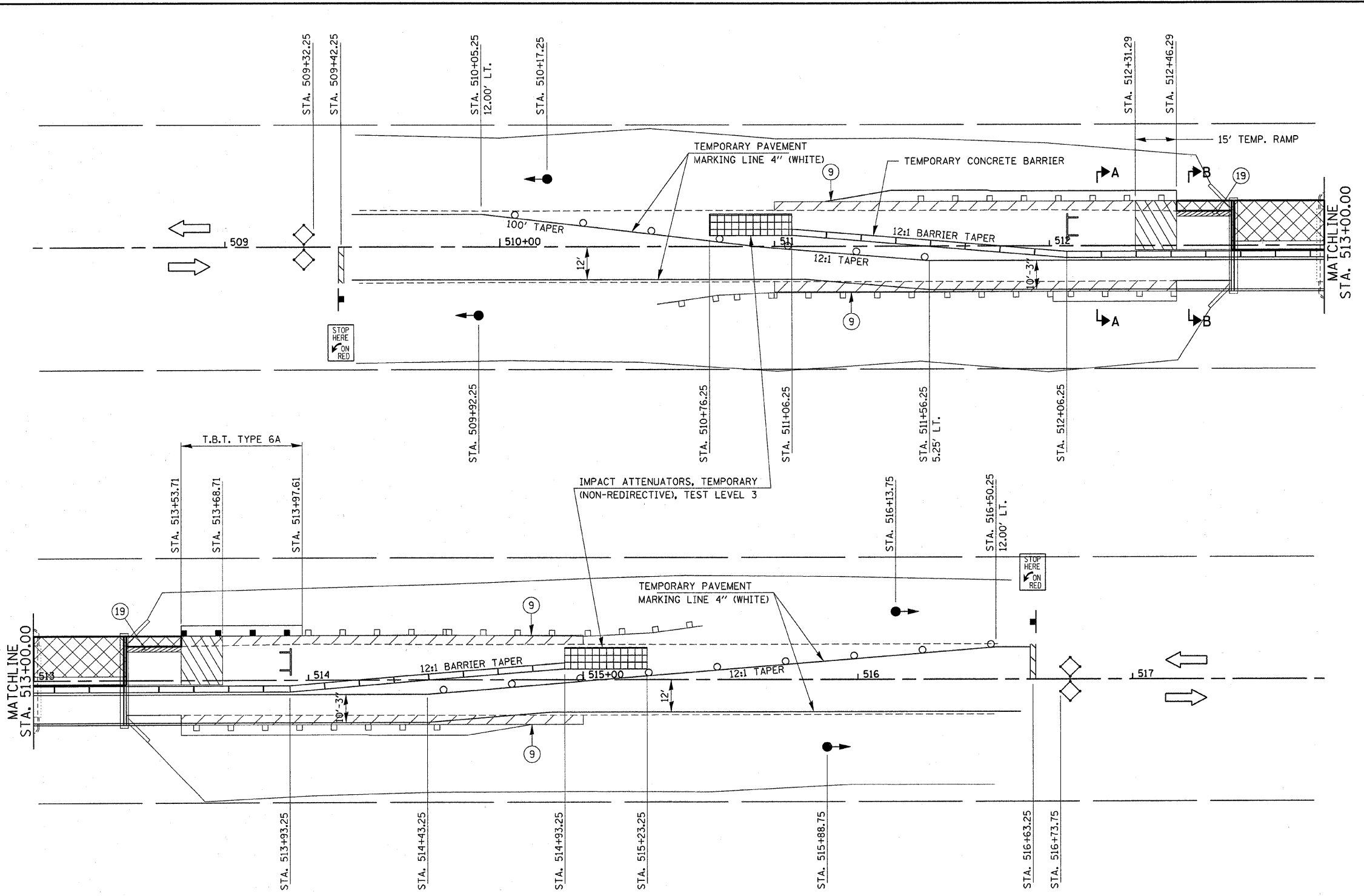
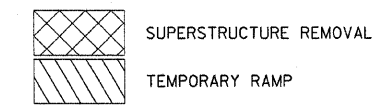
**GENERAL NOTES**

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.



**LEGEND**

- ① EXISTING CONCRETE PAVEMENT
- ② EXISTING BASE COURSE WIDENING 9"
- ③ EXISTING H.M.A. BINDER COURSE 1.5" MIN.
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- ⑱ EXISTING GUARDRAIL
- ⑲ BRIDGE APPROACH PAVEMENT REMOVAL



**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS  
 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400

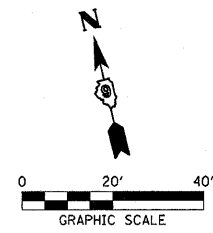
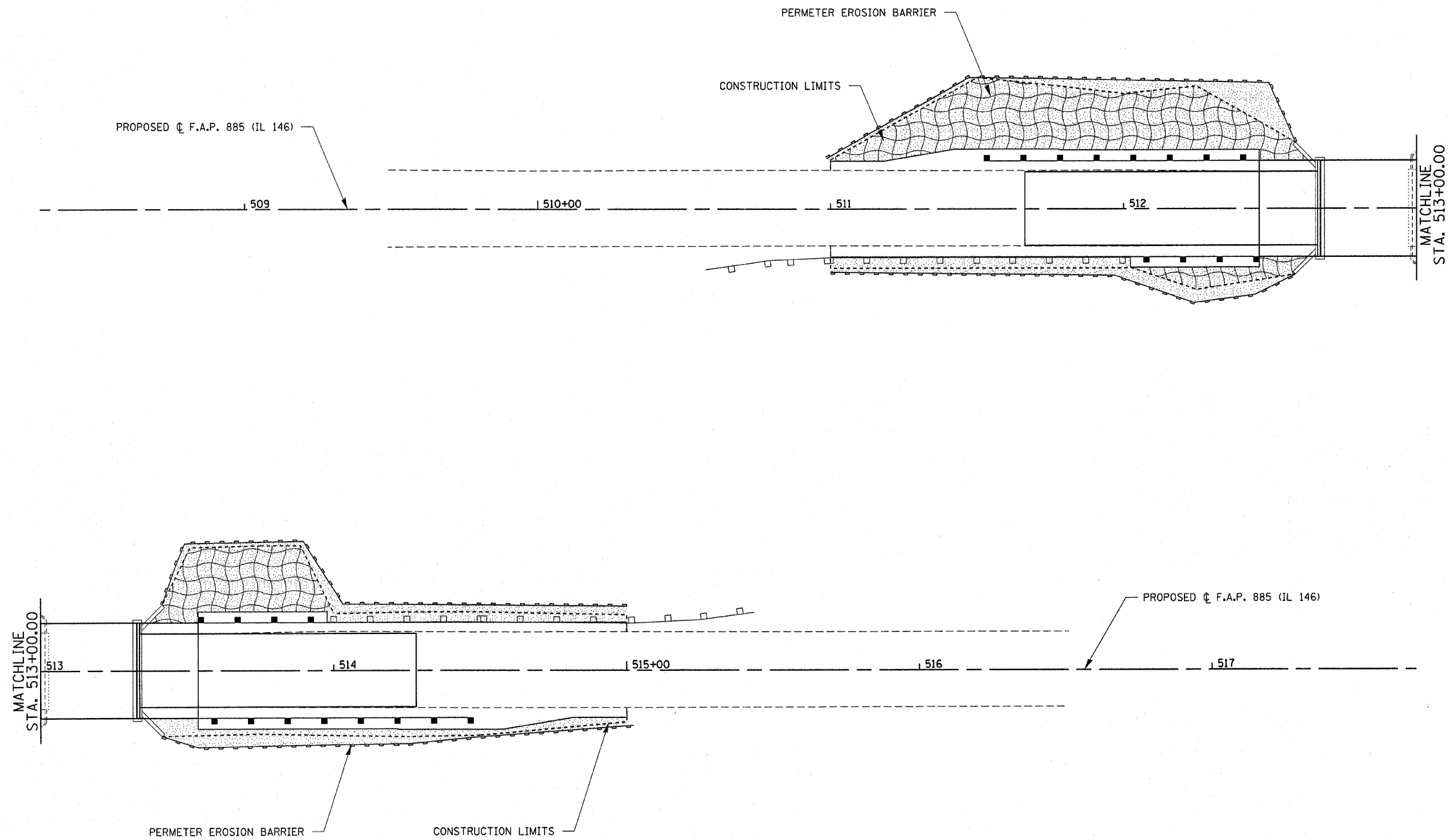
**HLR**

ELGIN • SPRINGFIELD




PROJECT NUMBER: 12-52-0007-1    DATE: 04/21/08  
 DESIGNED: L.F.S.    CHECKED: S.W.M.    DRAWN: D.T.M.


**STAGE II CONSTRUCTION**  
 IL. ROUTE 146 OVER BELL POND  
 F.A.P. ROUTE 885 / SECTION 111BR-1  
 JOHNSON COUNTY  
 STATION 513+00  
 STRUCTURE NO. 044-0022

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	111BR-1	JOHNSON	94	19
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 78030	

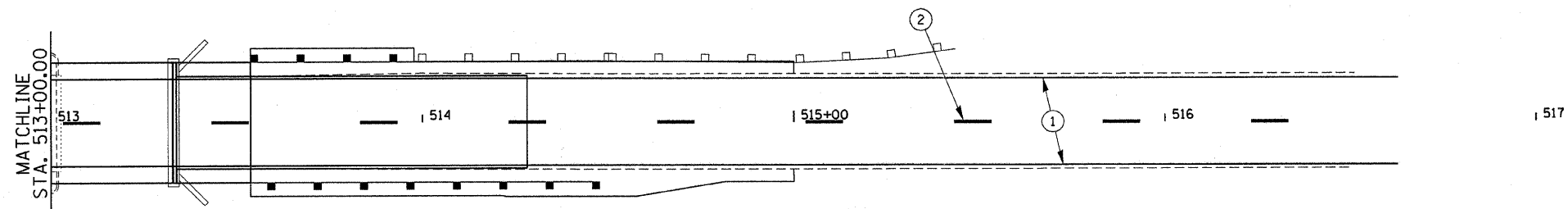
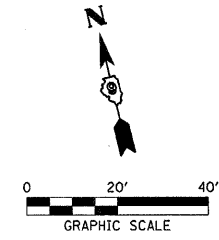
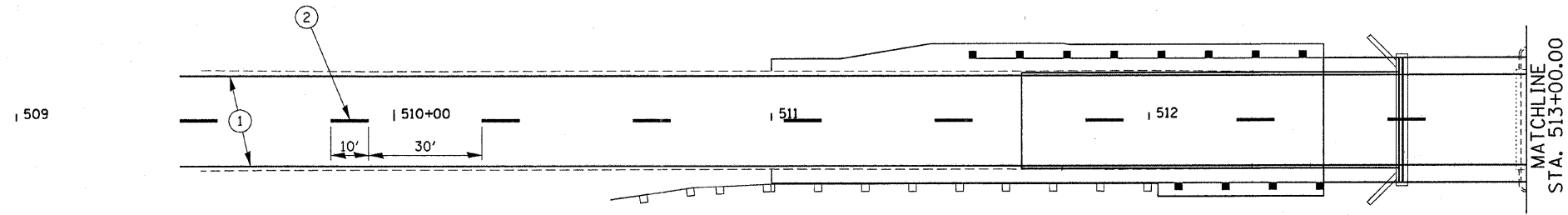


**LEGEND**


-  PERIMETER EROSION BARRIER
-  SEEDING
-  EROSION CONTROL BLANKET

 <b>HAMPTON, LENZINI &amp; RENWICK, INC.</b> CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400	<b>EROSION CONTROL PLAN</b> IL. ROUTE 146 OVER BELL POND F.A.P. ROUTE 885 / SECTION 111BR-1 JOHNSON COUNTY STATION 513+00 STRUCTURE NO. 044-0022	
	PROJECT NUMBER: 12-52-0007-1 DESIGNED: L.P.S.	ELGIN • SPRINGFIELD CHECKED: S.W.M.

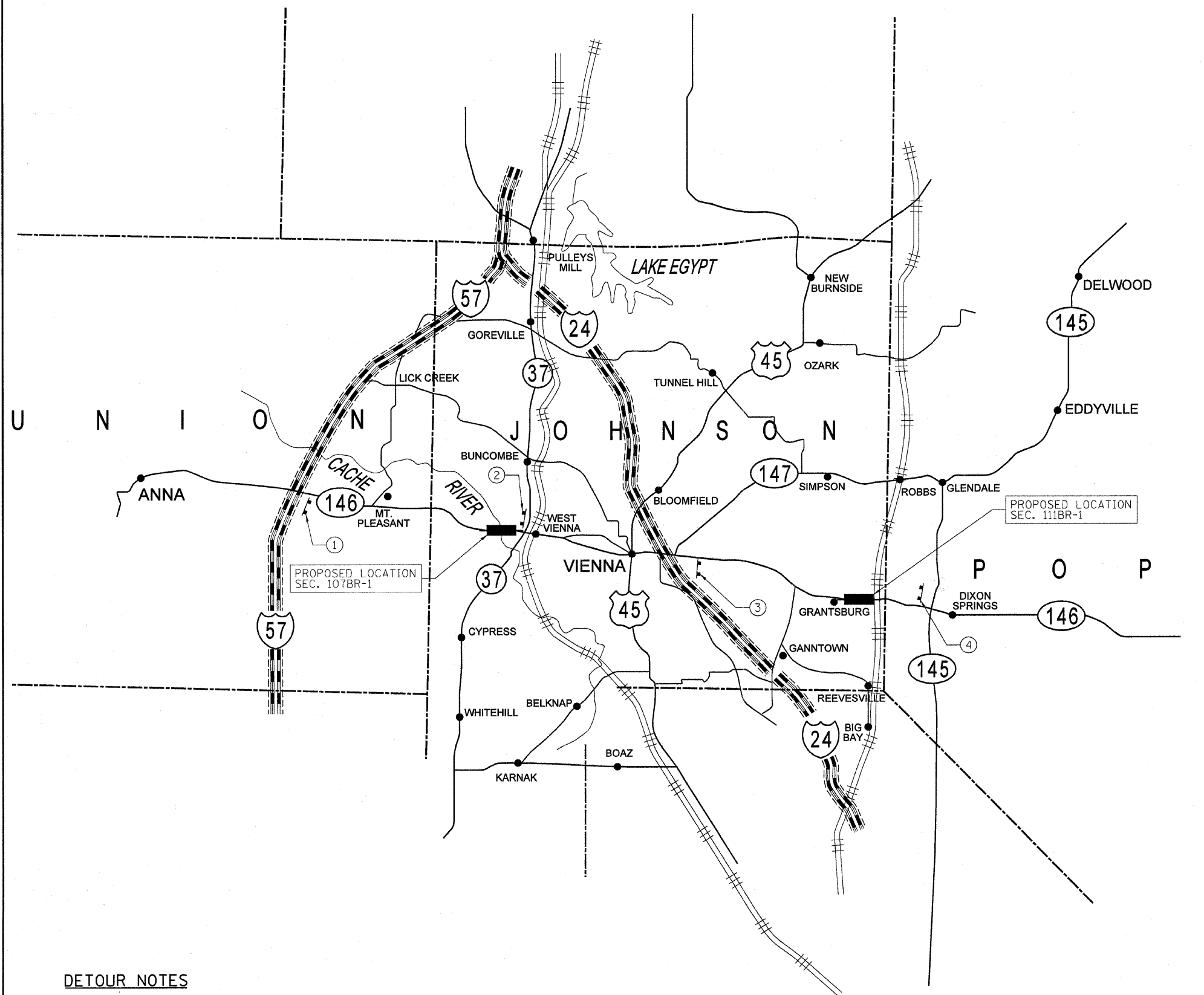
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	111BR-1	JOHNSON	94	20
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 78030	



- LEGEND**
- ① EPOXY PAVEMENT MARKING LINE 4" (WHITE)
  - ② EPOXY PAVEMENT MARKING LINE 4" (SKIP-DASH YELLOW)

 <b>HAMPTON, LENZINI &amp; RENWICK, INC.</b> CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400	<b>PAVEMENT MARKINGS</b>	
	IL. ROUTE 146 OVER BELL POND F.A.P. ROUTE 885 / SECTION 111BR-1 JOHNSON COUNTY STATION 513+00 STRUCTURE NO. 044-0022	
	ELGIN • SPRINGFIELD	
	PROJECT NUMBER: 12-52-0007-1	DATE: 04/21/08
DESIGNED: L.F.S.	CHECKED: S.W.M.	DRAWN: D.T.M.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1 111BR-1	JOHNSON	94	21
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO. 78030		



STAGE I - SEC. 107BR-1

①  
**MAX WIDTH  
 10'-6"  
 7 MILES  
 AHEAD**

48"x48"

STAGE II - SEC. 107BR-1

②  
**MAX WIDTH  
 9'-11"  
 1 MILE  
 AHEAD**

48"x48"

STAGE I - SEC. 111BR-1

③  
**MAX WIDTH  
 10'-8"  
 10 MILES  
 AHEAD**

48"x48"

STAGE II - SEC. 111BR-1

④  
**MAX WIDTH  
 10'-9"  
 4 MILES  
 AHEAD**

48"x48"

**DETOUR NOTES**

1. THE CONTRACTOR SHALL ERECT THE SIGN AT THE LOCATION DIRECTED BY THE RESIDENT ENGINEER. ALL SIGNS SHALL BE POST MOUNTED.
2. THE ABOVE NOTED WORK, INCLUDING SIGN POSTS HARDWARE AND LABOR SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE EACH. FOR TRAFFIC CONTROL AND PROTECTION STD. 701321 AND NO OTHER COMPENSATION SHALL BE ALLOWED.
3. THE RESIDENT ENGINEER SHALL GIVE I.D.O.T. BUREAU OF OPERATIONS PERMIT SECTION TWO WEEKS NOTICE BEFORE IMPLEMENTING ANY LANE WIDTH RESTRICTIONS.

<b>HAMPTON, LENZINI &amp; RENWICK, INC.</b> CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 		<b>WIDE LOAD DETOUR</b>  <b>IL. ROUTE 146</b> <b>F.A.P. ROUTE 885 / SECTION 107BR-1 &amp; 111BR-1</b> <b>JOHNSON COUNTY</b> <b>STATION 727+23 &amp; STATION 513+00</b> <b>STRUCTURE NO. 044-0014 &amp; 044-0022</b>	
3095 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400		ELGIN • SPRINGFIELD	
PROJECT NUMBER: 12-52-0007-1	DATE: 04/21/08	DESIGNED: L.F.S.	CHECKED: S.W.M. DRAWN: D.T.M.

BENCHMARK: Chiseled Square on top of Northeast Wingwall.  
 SN 044-0014, Station 730+31.33, 17' left, Elevation 372.71

EXISTING STRUCTURE: SN 044-0014 was originally built in 1930 as S.B.I. Route 146, Section 107A with six steel I-Beam Sections and one truss span. In 1975, the truss span was replaced with a two span 21" PPC Deck Beam superstructure and new pier. The structure was also widened with additional steel beams and a new concrete deck was placed on the existing spans. Approach pavements were added to the abutments. The substructure consists of concrete pile bents and two solid concrete piers on footings. The back-to-back abutments length is 385'-2 1/2"; the out-to-out width is 33'-0". The existing PPC deck beam superstructure shall be removed and replaced using stage construction to maintain traffic.

No Salvage.

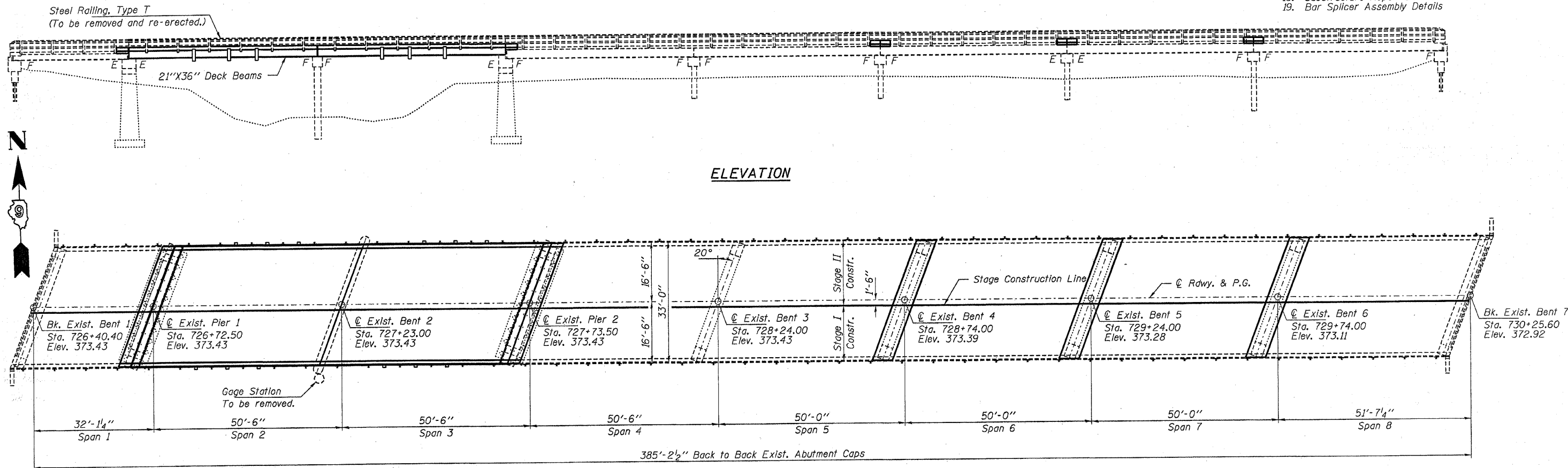
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
F.A.P. 885	107BR-1	Johnson	94	22
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract #78030

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. General Details
3. Stage Construction Details
4. Temporary Concrete Barrier For Stage Construction
5. Superstructure Spans 2 & 3
- 6.-9. Superstructure Details
- 10.-11. Deck Slab Repair
12. Painting Plan
13. Steel Railing, Type T
14. Strip Seal Expansion Joint
15. Pier 1
16. Bent 2
17. Pier 2
18. Substructure Repair Details
19. Bar Splicer Assembly Details



DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications

LOADING HL-93 (New Construction)

No future wearing surface allowed

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi  
 fy = 60,000 psi (Reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi  
 f'ci = 5,000 psi  
 f's = 270,000 psi (1/2" low lax. strands)  
 f'si = 201,960 psi (1/2" low lax. strands)  
 fy = 60,000 psi (Reinf.)

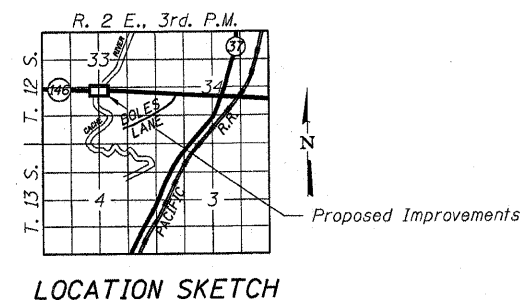
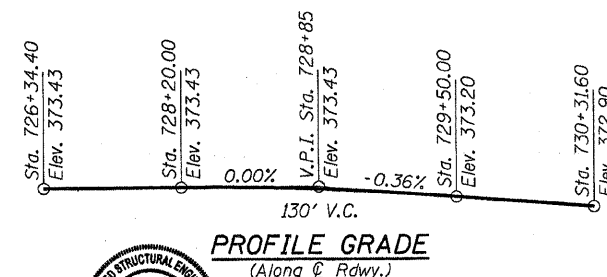
SCOPE OF WORK

1. Remove existing H.M.A. wearing surface on the entire structure.
2. Remove existing Span 2 & Span 3 superstructure and corresponding railing.
3. Repair superstructure and substructure as specified.
4. Replace spans 2 and 3 with new PPC deck beam superstructure and replace existing steel railing.
5. Replace expansion joints with new strip seal expansion joints.
6. Place new Waterproofing Membrane System & H.M.A. wearing surface on entire structure.
7. Clean and Paint beam ends within 6' of expansion joints.

APPROVED  
 FOR STRUCTURAL ADEQUACY ONLY

*Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

*Michael D. Ciura*  
 ILLINOIS STRUCTURAL NO. 081-5984



4-24-08  
 Expires 11-30-08

**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 548-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
 DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

GENERAL PLAN AND ELEVATION  
 IL. ROUTE 146 OVER CACHE RIVER  
 F.A.P. ROUTE 885 / SECTION 107BR-1  
 JOHNSON COUNTY  
 STATION 727+23.00  
 STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2 19 SHEETS
F.A.P. 885	107BR-1	Johnson	94	23	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #78030

**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of ASTM A706 Gr 60 (IL Modified). See Special Provisions. 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.

Side retainers shall be AASHTO M270 Grade 36 minimum. No in-stream work will be allowed on this project. 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. If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the new 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 Removal of Existing Superstructure.

Repair of the substructure shall be completed prior to placement of the new deck beams. Reinforcement bars designated (E) shall be epoxy coated. Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project. Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All beams, bearings and other structural steel within 6 ft. (measured along the beam) of either side of deck joints shall be cleaned per Near White Blast Cleaning - SSPC-SP10. The designated areas cleaned per Near White Blast Cleaning - SSPC-SP10 and per Power Tool Cleaned - Commercial Grade shall be painted according to the requirements of Paint System 1 - OZ/E/U. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Gray, Munsell No. 5B 7/1.

The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products. The Gauge Station attached to Bent 2 shall be removed and disposed of. The cost of removal of the Gauge Station shall be included in Removal of Existing Superstructures. Shim Plates shall be provided so that the steel railing is flush with the PPC deck beams and concrete curb. The cost of this work shall be included in "Removing and Re-Erecting Existing Railing."

The Steel Railing removal shall extend to the first rail construction joint or expansion joint past the Removing and Re-Erecting Railing limits. The cost of this removal and re-erecting shall be included in the cost of "Removing and Re-Erecting Existing Railing." Cost of Rail Post Anchors shall be included in the cost of "Removing and Re-Erecting Existing Railing." No field welding is permitted except as specified in the contract documents. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete. As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by an individual acceptable to the Engineer. Any cracks that can not be removed by grinding 1/4 in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

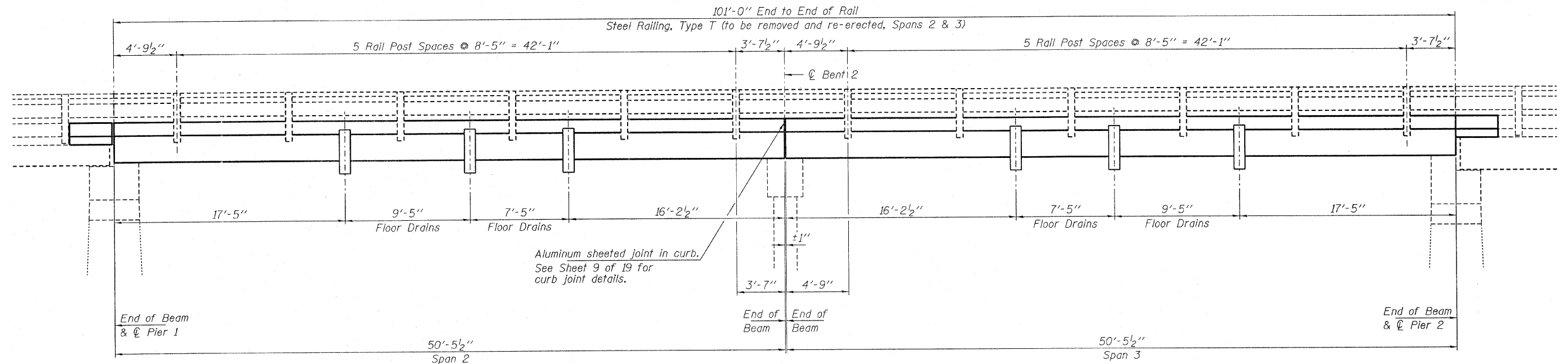
STATION 727+23  
REBUILT 200\_ BY  
STATE OF ILLINOIS  
FAP RT 885 SEC 107BR-1  
LOADING HL-93  
STR. NO. 044-0014

**NAME PLATE**  
See Std. 515001

Note: The existing name plate shall be cleaned and relocated adjacent to the new plate. Cost included with Name Plates.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Temporary Ramp	Sq. Yd.	36		36
Hot-Mix Asphalt Surface Course, Mix "C" N90	Ton	135		135
Hot-Mix Asphalt Surface Removal	Sq. Yd.	1,368		1,368
Removal of Existing Superstructures No. 1	Each	1		1
Concrete Removal	Cu. Yd.	23.2		23.2
Floor Drains	Each	12		12
Concrete Superstructure	Cu. Yd.	32.1		32.1
Protective Coat	Sq. Yd.	34		34
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	3,330		3,330
Containment and Disposal of Lead Paint Cleaning Residues	L. Sum	1		1
Reinforcement Bars, Epoxy Coated	Pound	4,910		4,910
Bar Splicers	Each	96		96
Removing and Re-Erecting Existing Railing	Foot	202		202
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	105		105
Waterproofing Membrane System	Sq. Yd.	1,348		1,348
Portland Cement Mortar Fairing Course	Foot	1,010		1,010
Epoxy Crack Injection	Foot		3	3
Asbestos Bearing Pad Removal	Each	44		44
Deck Slab Repair (Full Depth) - Type 1	Sq. Yd.	1		1
Deck Slab Repair (Partial)	Sq. Yd.	100		100
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.		34	34
Cleaning and Painting Structural Steel, Location 1	L. Sum	1		1



**RAILING ELEVATION**

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

**HLR**

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

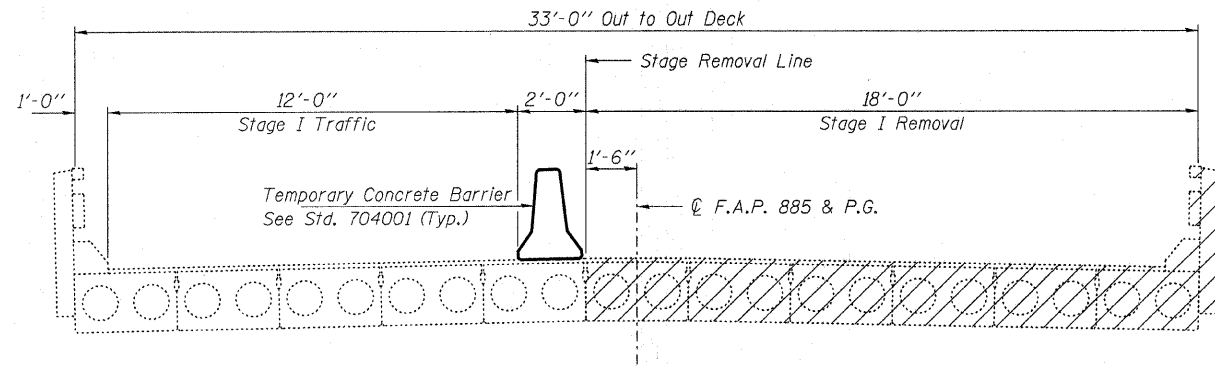
**GENERAL DETAILS**

IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

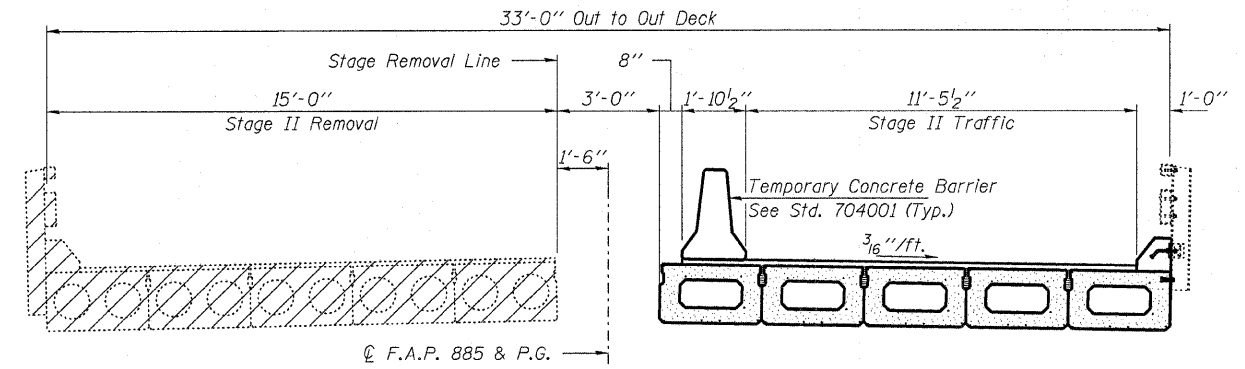
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3 19 SHEETS
F.A.P. 885	107BR-1	Johnson	94	24	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #78030

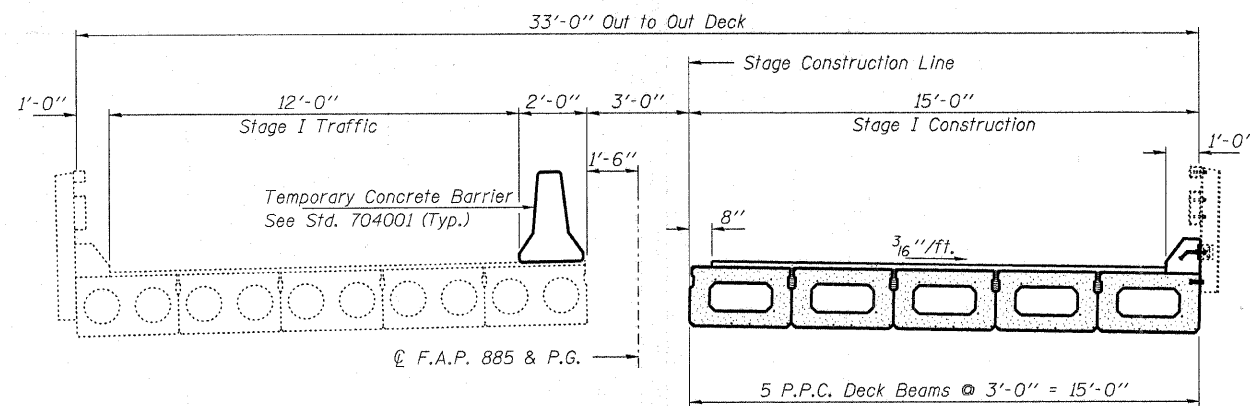


**STAGE I REMOVAL**

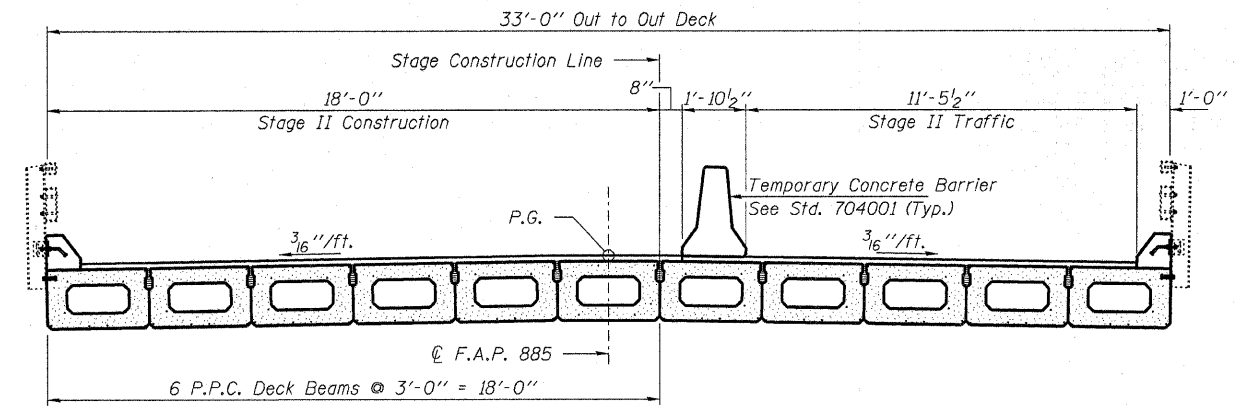


**STAGE II REMOVAL**

- Notes:
1. All views are looking East.
  2. See Sheet 7 of 19 for shear key clamping details.
  3. See Roadway Plans for quantity of Temporary Concrete Barrier.



**STAGE I CONSTRUCTION**



**STAGE II CONSTRUCTION**

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

**HLR**

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1    DATE: 04/02/08  
DESIGNED: S.M.S.    CHECKED: M.D.C.    DRAWN: D.T.M.

**STAGE CONSTRUCTION DETAILS**

IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

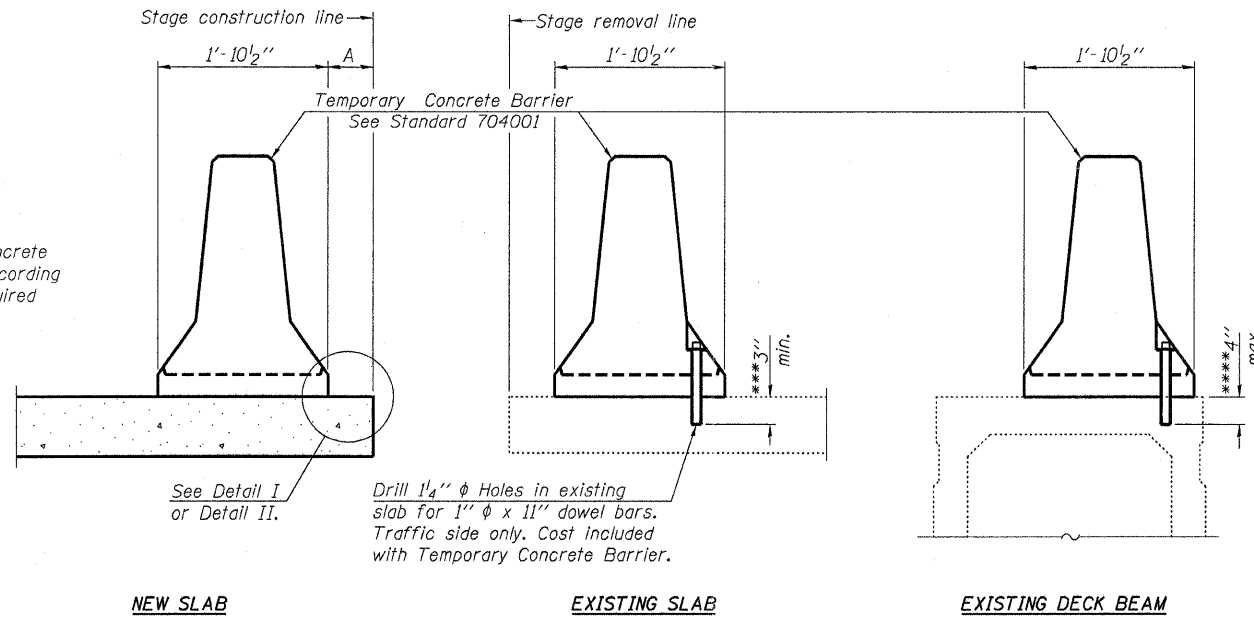


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 4 19 SHEETS
F.A.P. 885	107BR-1	Johnson	94	25	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #78030

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".



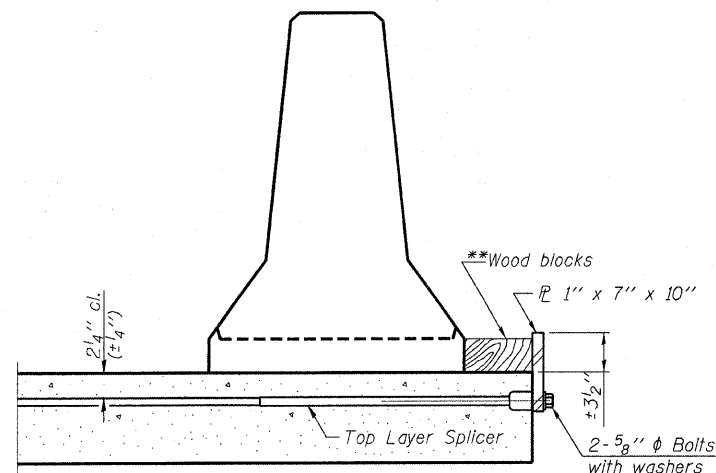
Drill 1/4"  $\phi$  Holes in existing slab for 1"  $\phi$  x 11" dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

**NOTES**

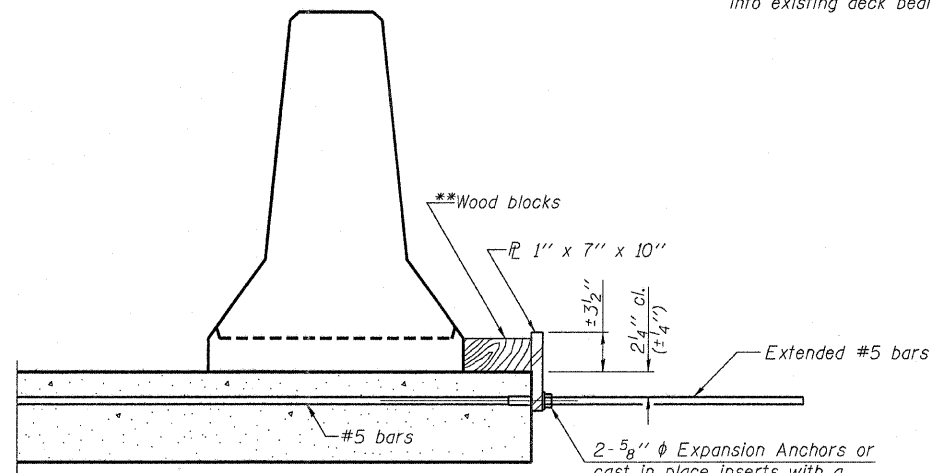
- Detail I - With Bar Splicer or Couplers:**  
Connect one (1) 1"x7"x10" steel  $\bar{L}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each barrier panel.
- Detail II - With Extended Reinforcement Bars:**  
Connect one (1) 1"x7"x10" steel  $\bar{L}$  to the concrete slab or concrete wearing surface with 2-5/8"  $\phi$  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.

**SECTIONS THRU SLAB OR DECK BEAM**

- \*\*\*Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.
- \*\*\*If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.

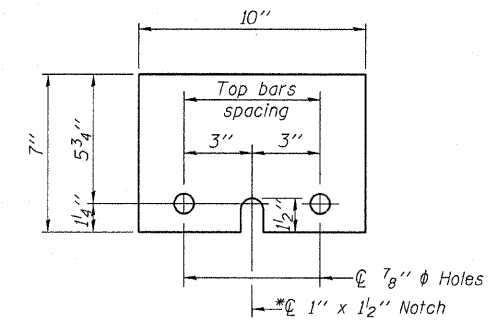


**DETAIL I**



**DETAIL II**

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



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

\* Required only with Detail II

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ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

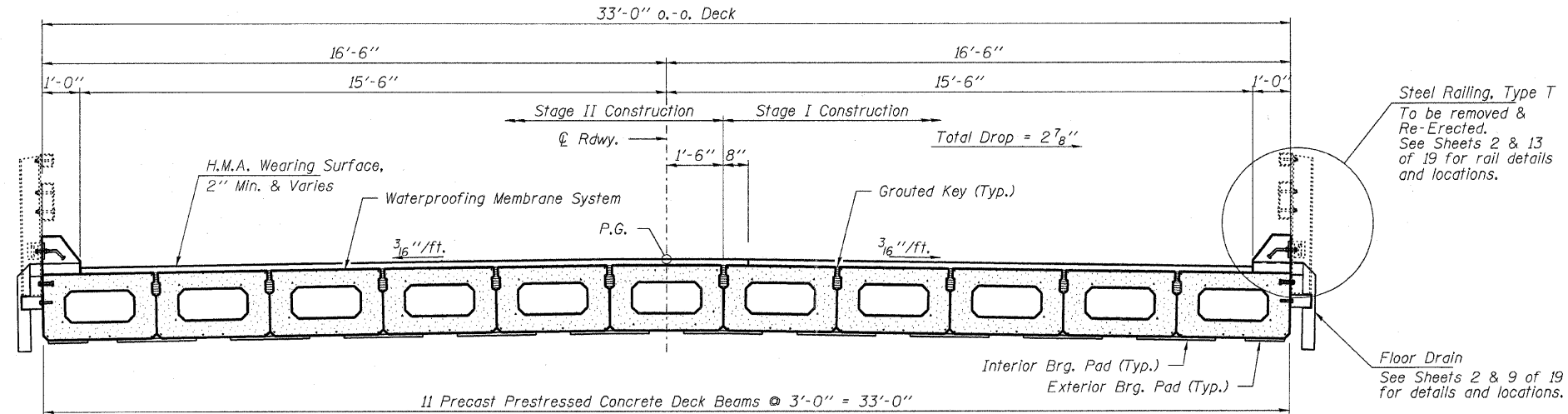
**TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION**

IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727-23.00  
STRUCTURE NO. 044-0014

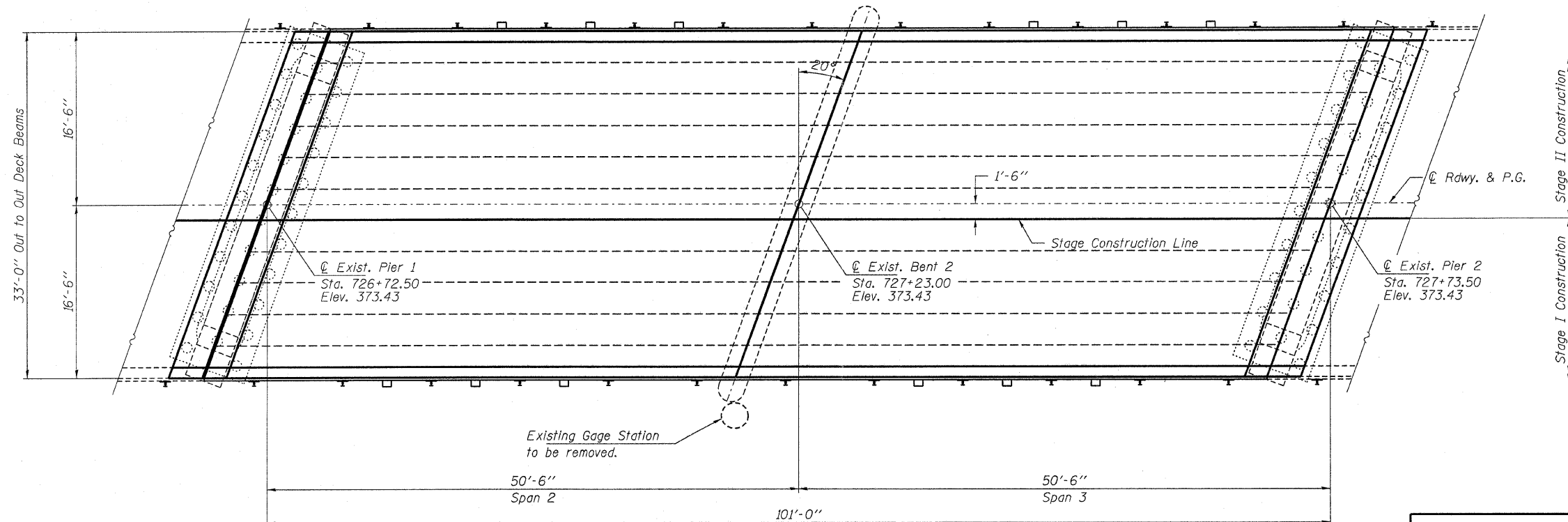
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 5 19 SHEETS
F.A.P. 885	107BR-1	Johnson	94	26	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #78030



**CROSS SECTION**  
(Looking East)



**PLAN - SPAN 2 & SPAN 3**

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

**BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
d(E)	96	#5	15'-8"	—
a <sub>1</sub> (E)	96	#5	18'-10"	—
d(E)	64	#5	5'-9"	└
e(E)	8	#6	26'-5"	—
x(E)	272	#5	2'-8"	└
Hot-Mix Asphalt Surface Course, Mix "C" N90			Ton	135
Concrete Removal			Cu. Yd.	23.2
Floor Drains			Each	12
Concrete Superstructure			Cu. Yd.	32.1
Protective Coat			Sq. Yd.	34
Reinforcement Bars, Epoxy Coated			Pound	4,910
Bar Splicers			Each	96
Removing & Re-Erecting Exist. Rail			Foot	202
Waterproofing Membrane System			Sq. Yd.	1,348
Portland Cement Mortar Fairing Cse.			Foot	1,010
Deck Slab Repair (Full Depth)			Sq. Yd.	1
Deck Slab Repair (Partial)			Sq. Yd.	100

For additional superstructure details, see sheets 6, 7, 8, 9, 10 & 11 of 19.

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ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

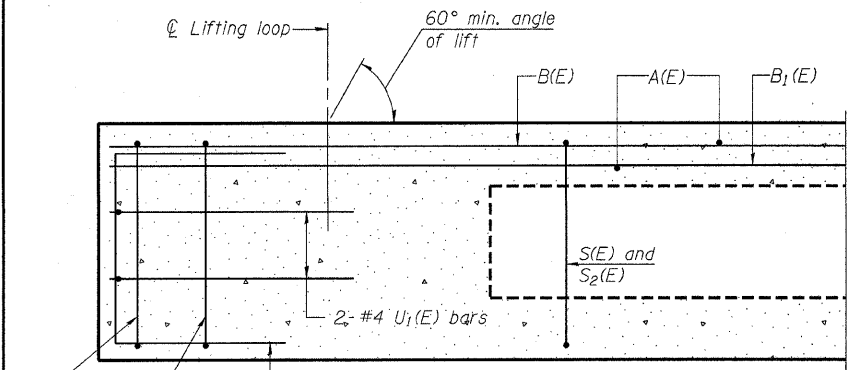
**SUPERSTRUCTURE SPANS 2 & 3**

**IL. ROUTE 146 OVER CACHE RIVER**  
**F.A.P. ROUTE 885 / SECTION 107BR-1**  
**JOHNSON COUNTY**  
**STATION 727+23.00**  
**STRUCTURE NO. 044-0014**

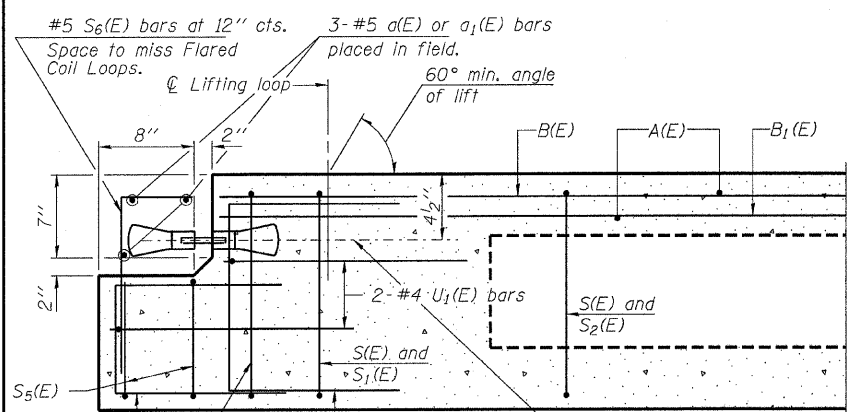
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET 27	SHEET NO. 6 19 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

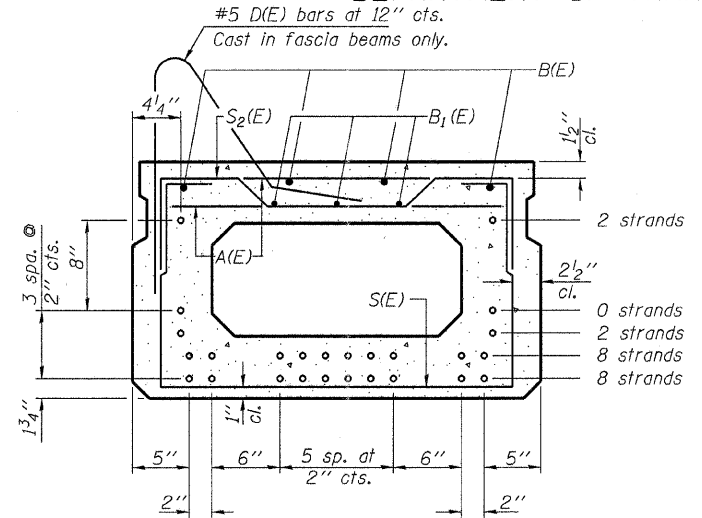
Contract #78030



SECTION D-D



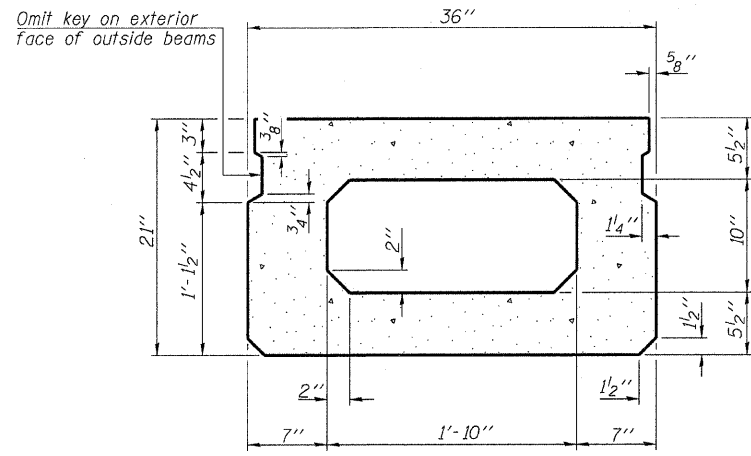
SECTION C-C



SECTION A-A

(Showing reinforcement and permissible strand locations)

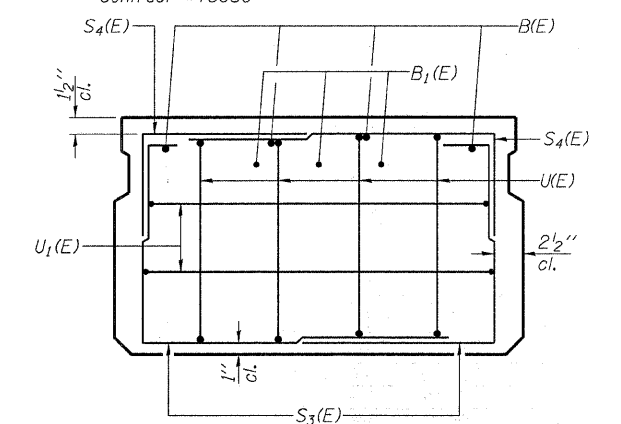
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.



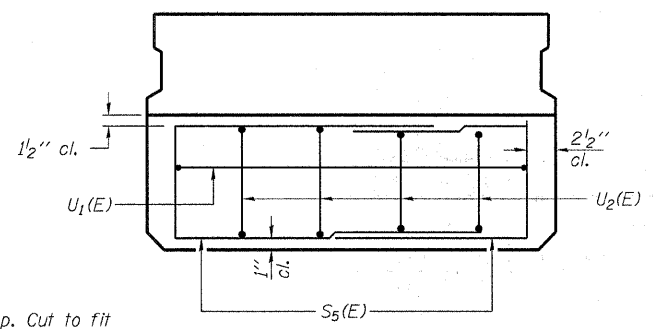
SECTION A-A

(Showing dimensions)

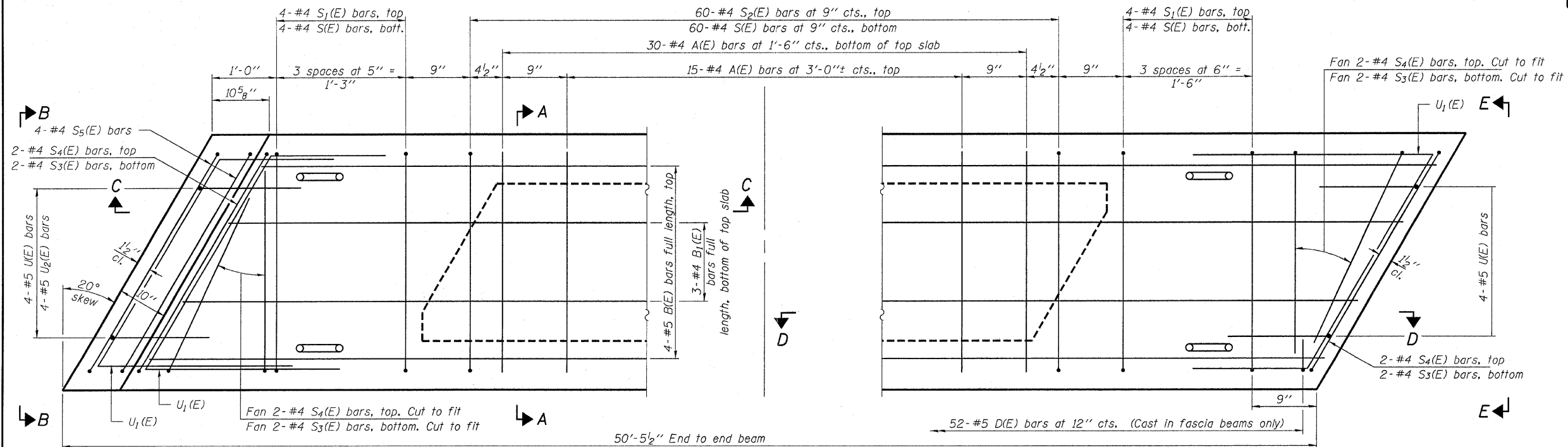
MIN. BAR LAP  
#4 bar = 1'-8"



VIEW E-E



VIEW B-B



PLAN VIEW

Note: 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.

BAR LIST  
ONE BEAM ONLY  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	46	#4	2'-7"	—
B(E)	4	#5	49'-3"	—
B1(E)	3	#4	49'-3"	—
D(E)	52	#5	3'-9"	⌒
S(E)	68	#4	6'-5"	—
S1(E)	8	#4	5'-7"	⌒
S2(E)	60	#4	5'-10"	⌒
S3(E)	8	#4	4'-3"	⌒
S4(E)	8	#4	3'-10"	⌒
S5(E)	4	#4	3'-1"	⌒
S6(E)	4	#5	2'-0"	⌒
U(E)	8	#5	4'-0"	⌒
U1(E)	4	#4	6'-1"	⌒
U2(E)	4	#5	3'-3"	⌒

Note: See sheet 5 & 7 of 19 for additional details and Bill of Material.  
D(E) bars only included in fascia beams.

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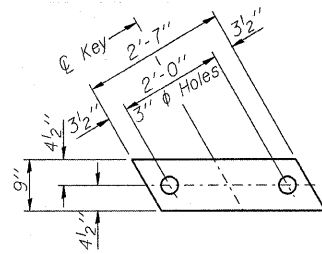
PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

SUPERSTRUCTURE DETAILS  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

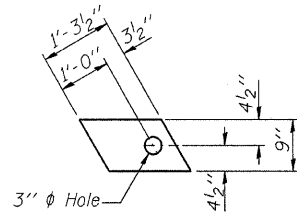
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 7
F.A.P. 885	107BR-1	Johnson	94	28	19 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030



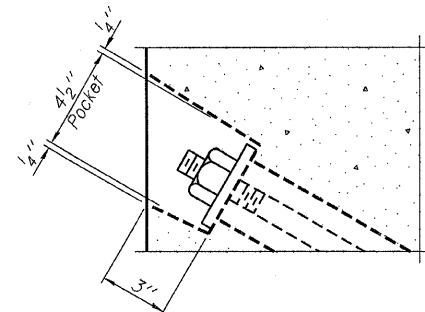
**FABRIC BEARING PAD**  
(Interior)



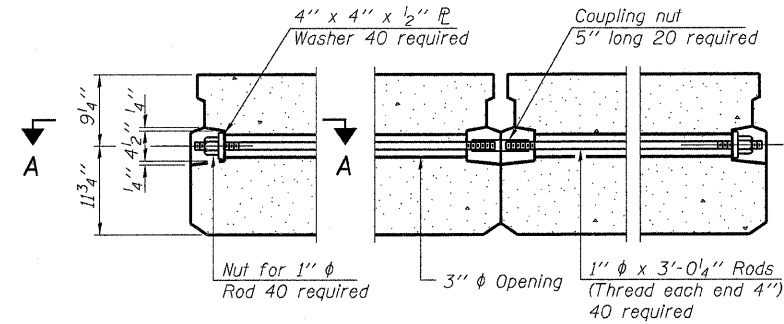
**FABRIC BEARING PAD**  
(Exterior)

**FIXED**

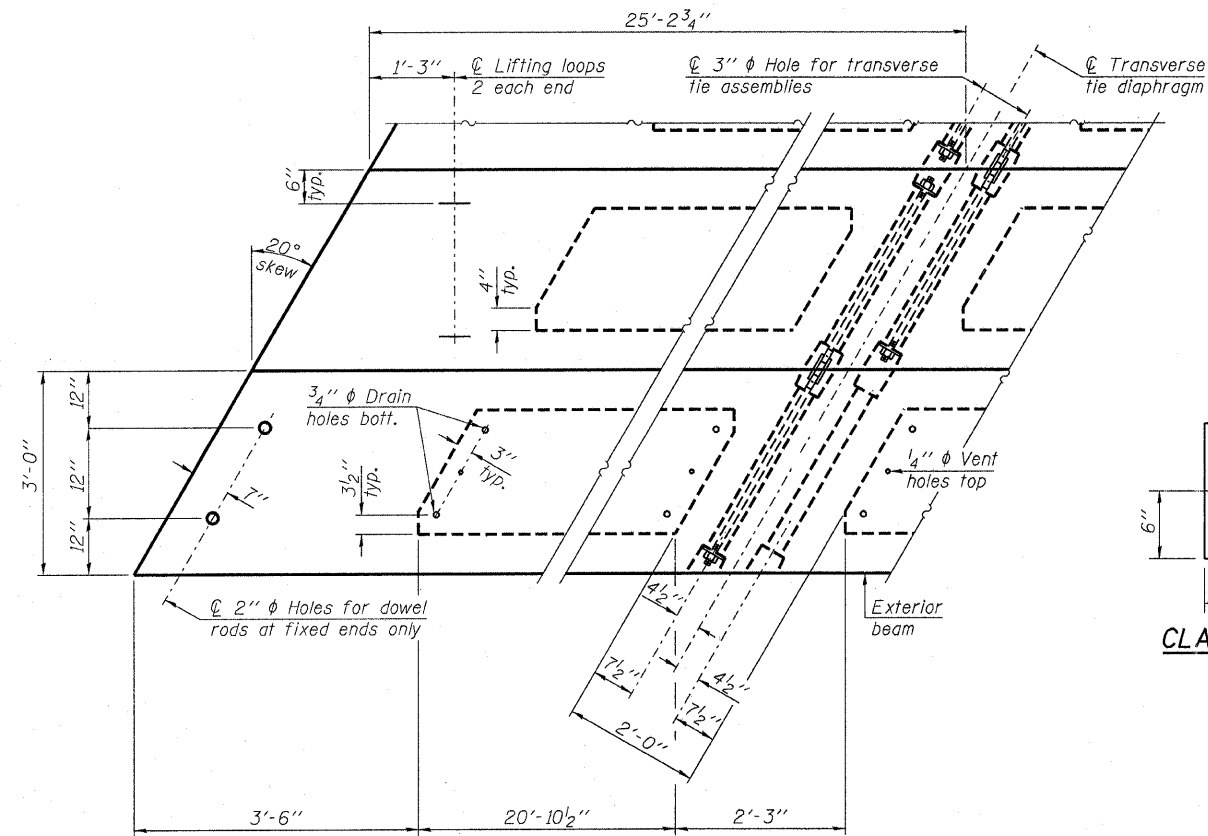
Note: Omit holes when using expansion bearings.



**SECTION A-A**

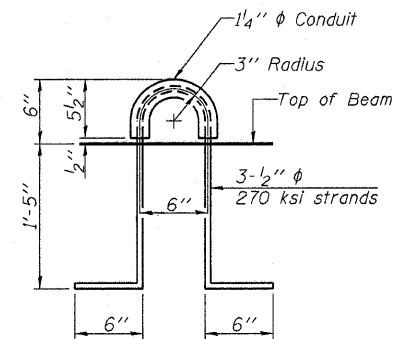


**TYPICAL TRANSVERSE TIE ASSEMBLY**

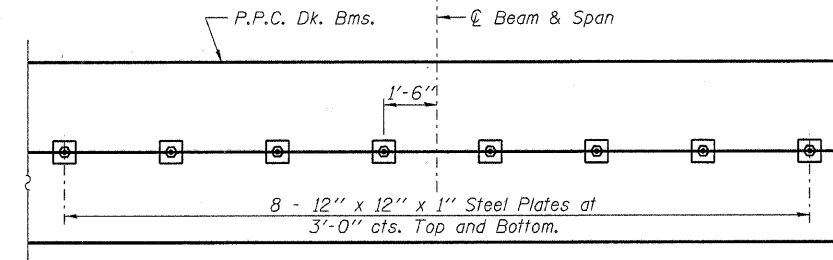


**PLAN VIEW**

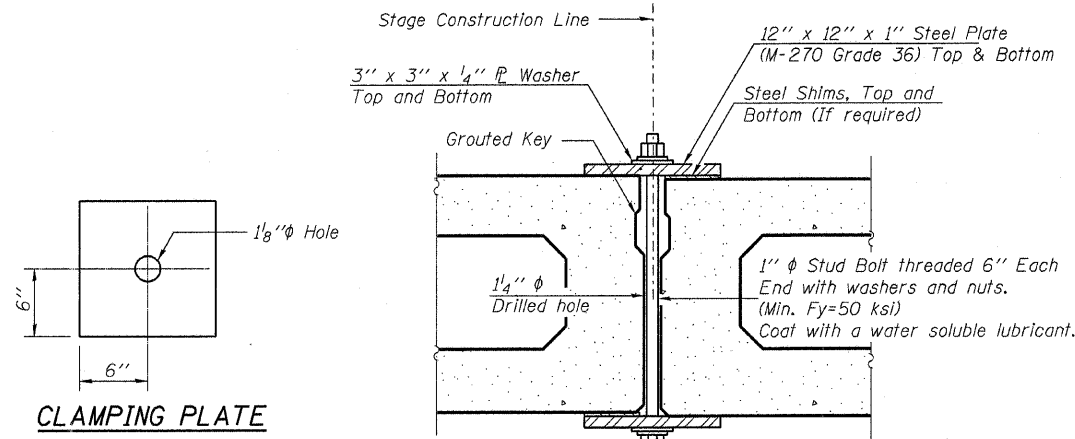
Note: Connect beams in pairs with the transverse tie configuration shown.



**LIFTING LOOP DETAIL**



**PLAN**



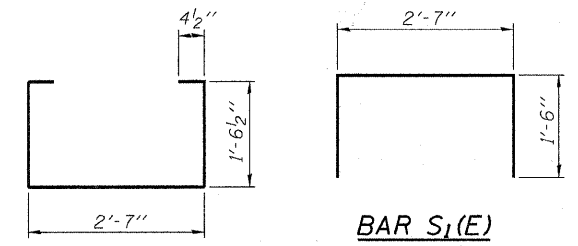
**SECTION**

**SHEAR KEY CLAMPING DETAILS AT STAGE CONST. JT.**

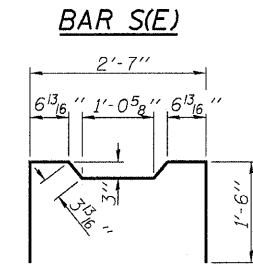
Note: Cost Included with Precast Prestressed Concrete Deck Beams (21" Depth).

**NOTES**

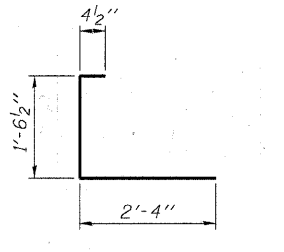
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior 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)  
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" diameter 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 Sheet 2 & 9 of 19 for location of rail anchors, drain anchors and additional details.  
The drain anchors and rail anchors shall be cast in the beams at the locations shown on Sheet 2 of 19.



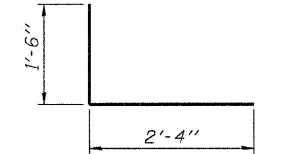
**BAR S1(E)**



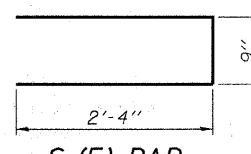
**BAR S2(E)**



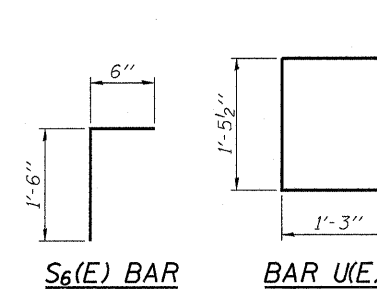
**BAR S3(E)**



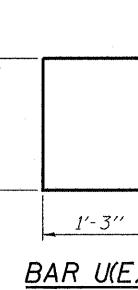
**BAR S4(E)**



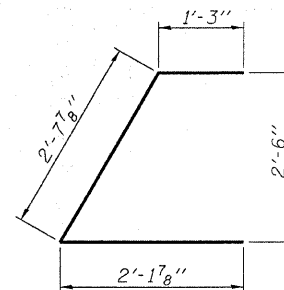
**S5(E) BAR**



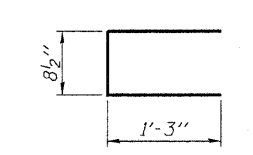
**S6(E) BAR**



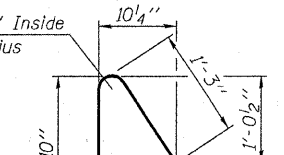
**BAR U(E)**



**BAR U1(E)**



**U2(E) BAR**



**D(E) BAR**

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	3,330

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**ELGIN** • **SPRINGFIELD**

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**SUPERSTRUCTURE DETAILS**

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**F.A.P. ROUTE 885 / SECTION 107BR-1**  
**JOHNSON COUNTY**  
**STATION 727+23.00**  
**STRUCTURE NO. 044-0014**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8 19 SHEETS
F.A.P. 885	107BR-1	Johnson	94	29	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030

**NOTES**

H.M.A. wearing surface and Waterproofing Membrane System shall be placed after grouting the shear keys.

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

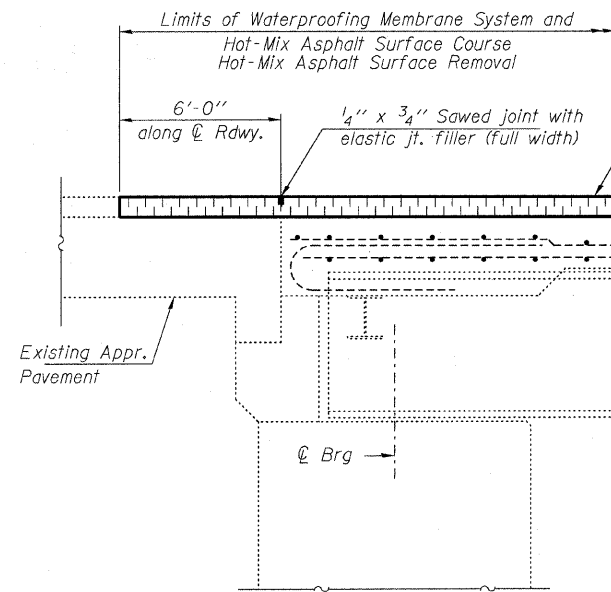
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of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

Cost of Concrete in hatched areas included with Concrete Superstructure.

All horizontal substructure dimensions shown at Rt. angles to substructure element.

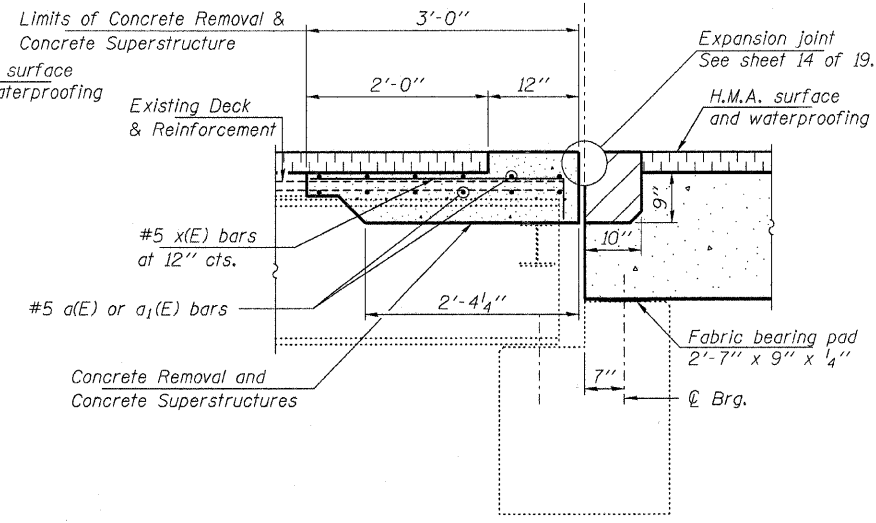
Existing longitudinal reinforcement extending into removal areas shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.

See Sheets 9, 10 & 11 of 19 for reinforcement layout.



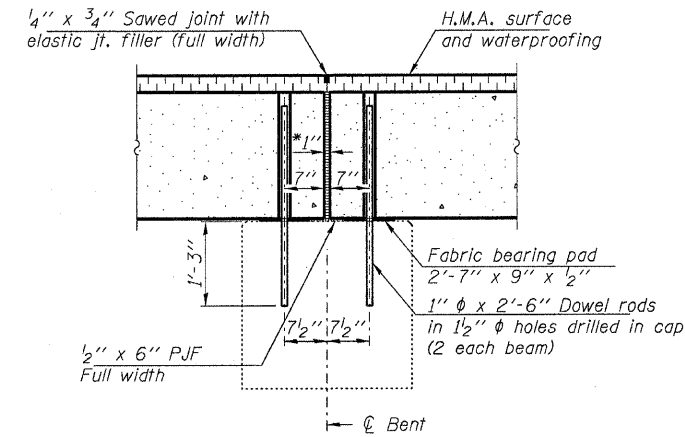
**SECTION AT BENTS 1 & 7**

See Roadway Plans Sheet 9 of 94 For details.



**SECTION THRU PIERS 1 & 2**

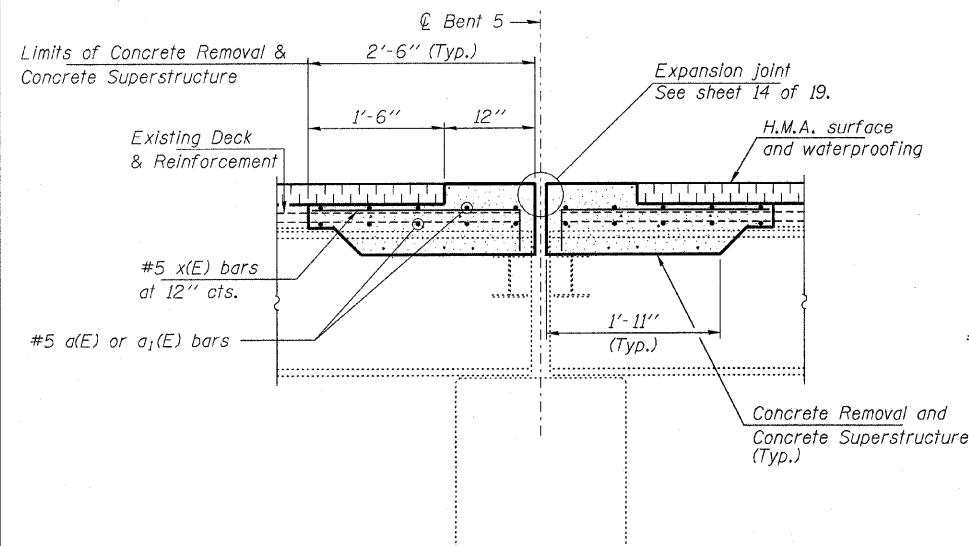
Notes:  
All horizontal dimensions are at right angles to beam ends.  
Hatched area to be poured after beams are in place.  
See sheet 7 of 19 for bearing pad details.



**SECTION THRU FIXED BENT 2**

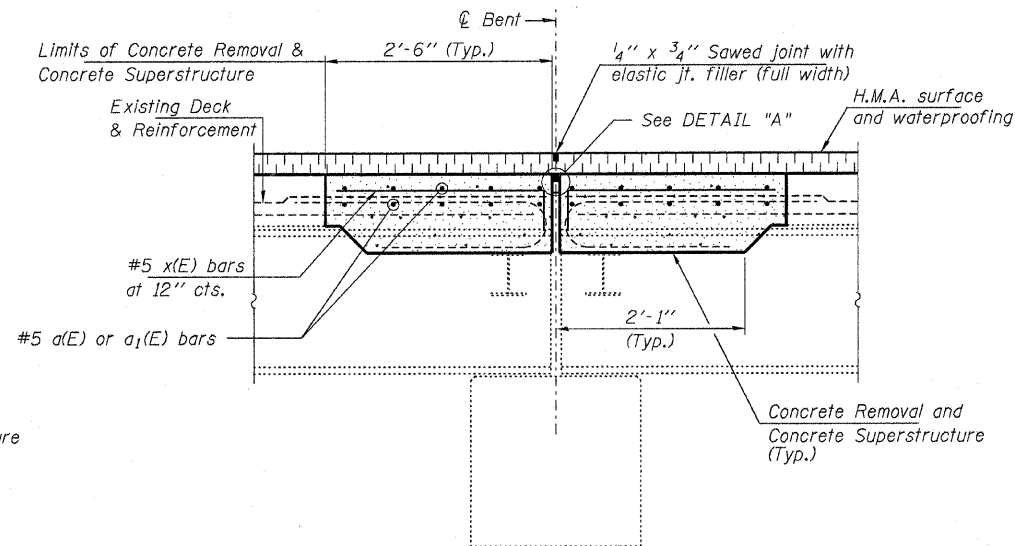
\*1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.

Notes:  
After beams have been erected, holes shall be drilled into substructure and anchor dowels 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.  
All horizontal dimensions are at right angles to beam ends.  
See sheet 7 of 19 for bearing pad details.



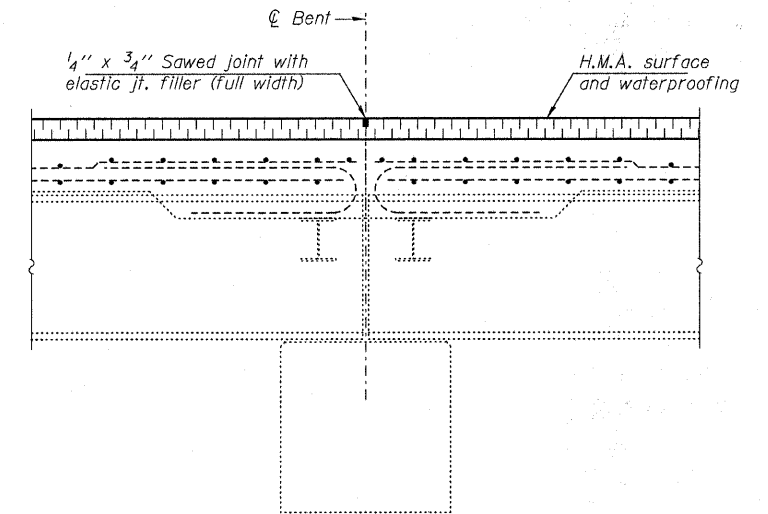
**SECTION THRU EXPANSION BENT 5**

Notes:  
All horizontal dimensions are at right angles to beam ends.



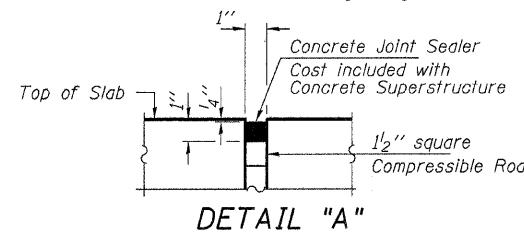
**SECTION AT BENTS 4 & 6**

Notes:  
All horizontal dimensions are at right angles to beam ends.



**SECTION AT BENT 3**

Notes:  
All horizontal dimensions are at right angles to beam ends.



**DETAIL "A"**

**HAMPTON, LENZINI & RENWICK, INC.**  
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PROJECT NUMBER: 12-52-0007-1    DATE: 04/02/08  
DESIGNED: S.M.S.    CHECKED: M.D.C.    DRAWN: D.T.M.

**SUPERSTRUCTURE DETAILS**

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F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 9
F.A.P. 885	107BR-1	Johnson	94	30	19 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #78030

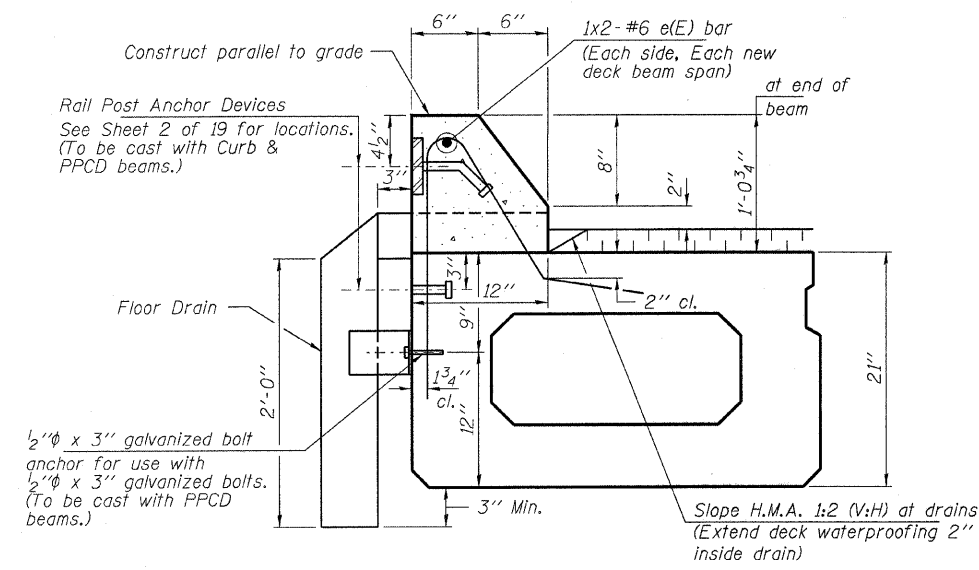
**NOTES**

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

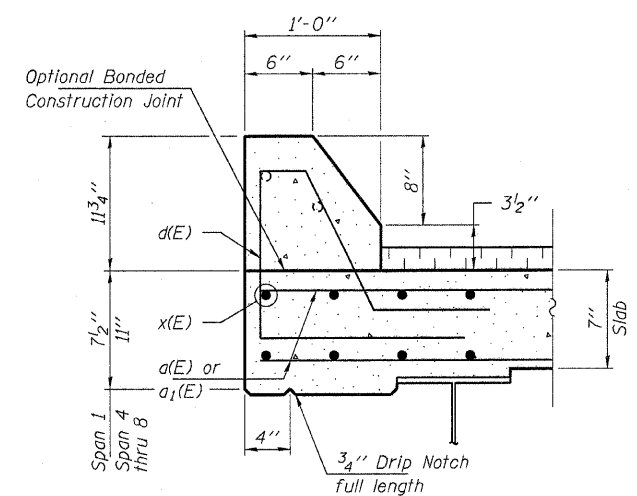
Anchor bolts for side retainers will be installed in holes drilled after members are in place.

See Sheet 2 of 19 for drain locations.

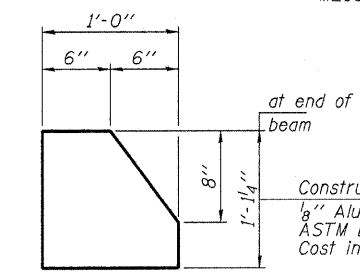
Drain assembly shall be galvanized according to AASHTO M111 or M232. Bolts and anchor assembly shall be galvanized according to AASHTO M298 Class 50.



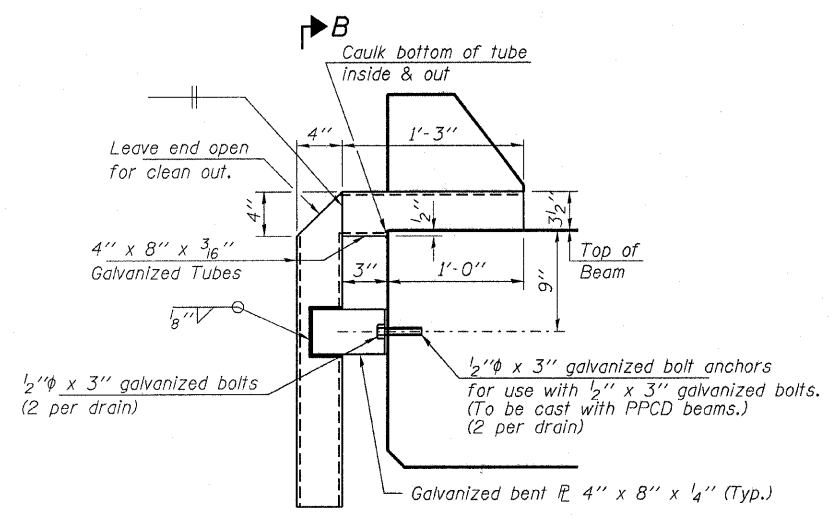
**CURB DETAIL - DECK BEAMS**  
(Curbs shall be poured in the field.)



**CURB DETAIL - DECK REPAIR**

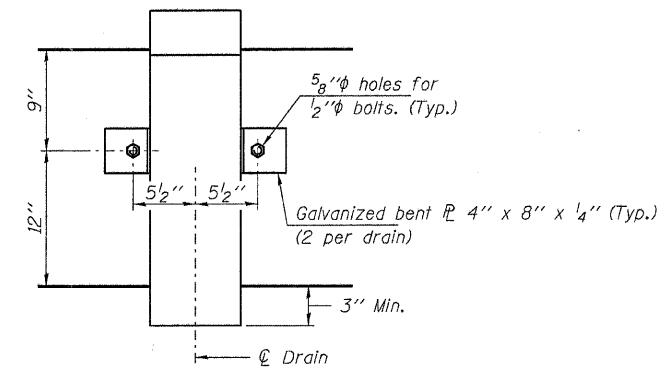


**CURB JOINT DETAIL**  
(2-Required)

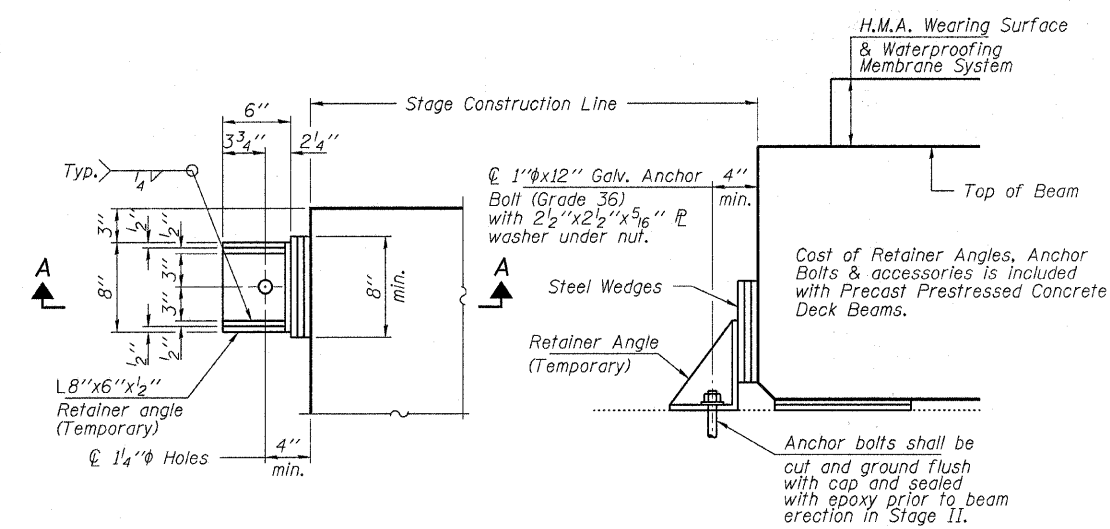


**FLOOR DRAIN DETAIL**

Note: The cost of all drain assembly components shall be included in the cost of Floor Drains.



**SECTION B-B**



**BEAM RETAINER DETAILS**  
**AT STAGE CONSTRUCTION LINE**  
(2 Required)

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LAND SURVEYORS  
3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

**ELGIN • SPRINGFIELD**

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**SUPERSTRUCTURE DETAILS**  
**IL. ROUTE 146 OVER CACHE RIVER**  
**F.A.P. ROUTE 885 / SECTION 107BR-1**  
**JOHNSON COUNTY**  
**STATION 727+23.00**  
**STRUCTURE NO. 044-0014**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 10
F.A.P. 885	107BR-1	Johnson	94	31	19 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

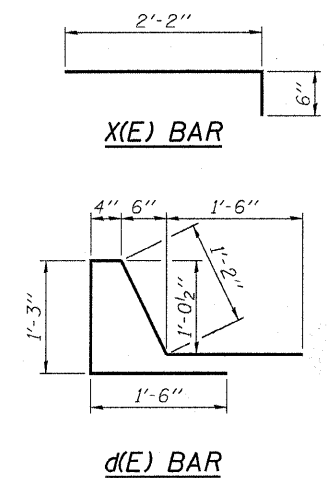
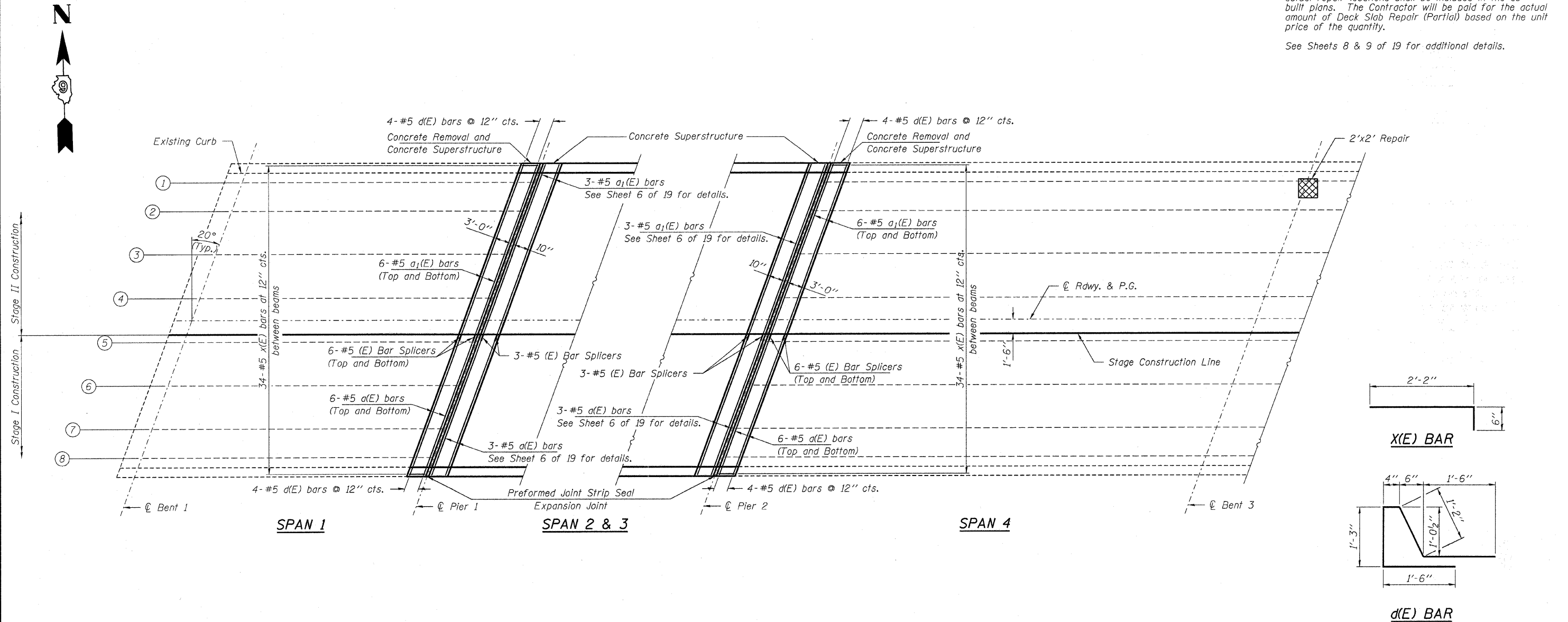
Contract #78030

**NOTES**

See Sheet 5 of 19 for Quantities and Bill of Material.

The quantity of Deck Slab Repair (Partial) has been estimated based on 10% of the concrete deck. The Engineer shall determine the repair locations and quantities after removal of the wearing surface. The actual repair locations shall be included in the as built plans. The Contractor will be paid for the actual amount of Deck Slab Repair (Partial) based on the unit price of the quantity.

See Sheets 8 & 9 of 19 for additional details.



Indicates Deck Slab Repair (Full Depth)

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LAND SURVEYORS  
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(217) 546-3400

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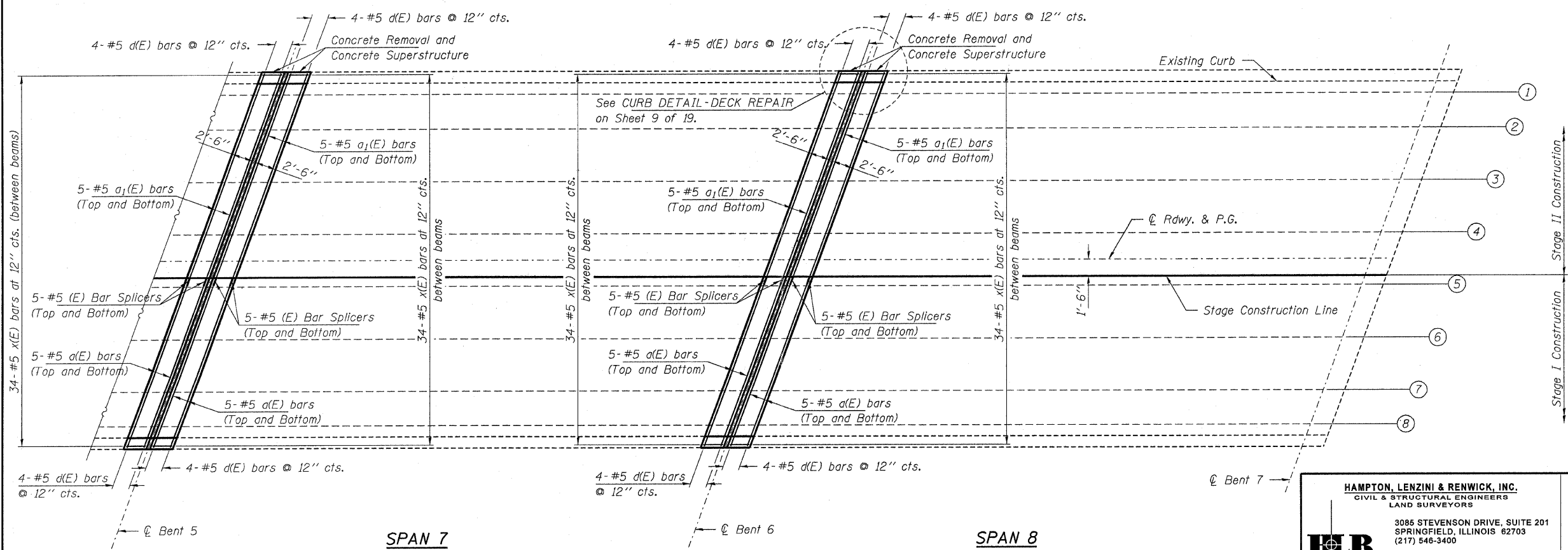
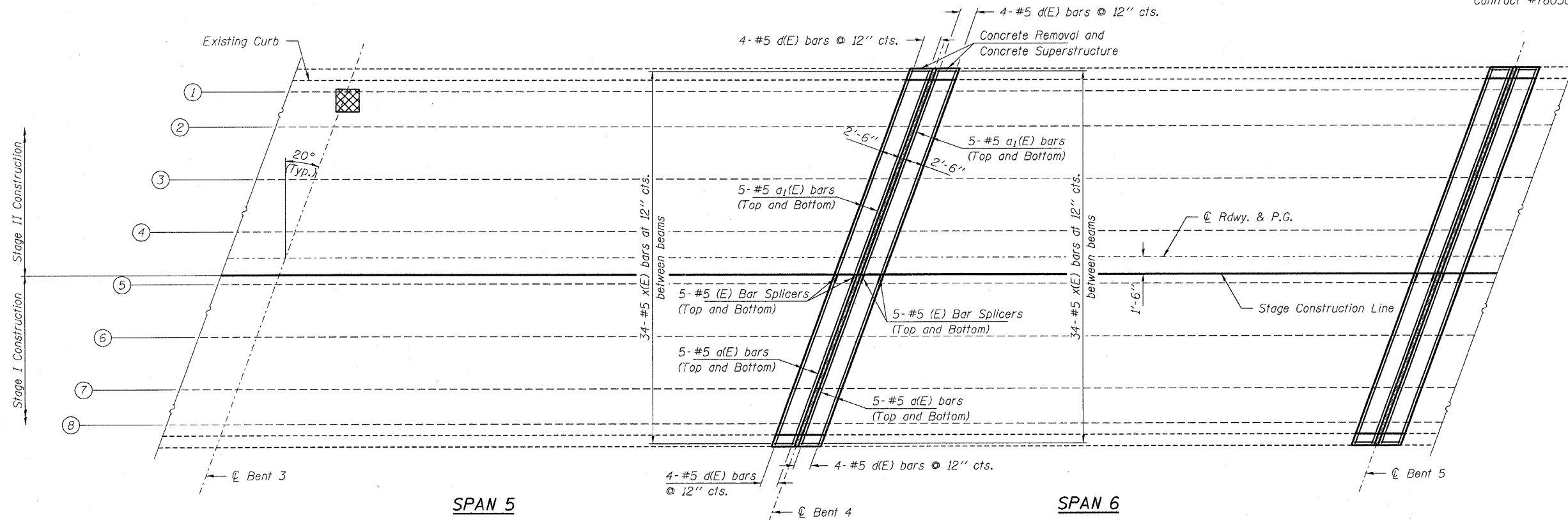
PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**DECK SLAB REPAIR**  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 11
F.A.P. 885	107BR-1	Johnson	94	32	19 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #78030



Indicates Deck Slab Repair (Full Depth)

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SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1    DATE: 04/02/08  
DESIGNED: S.M.S.    CHECKED: M.D.C.    DRAWN: D.T.M.

**DECK SLAB REPAIR**

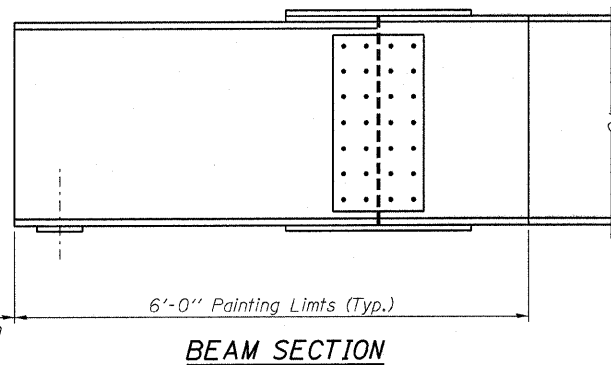
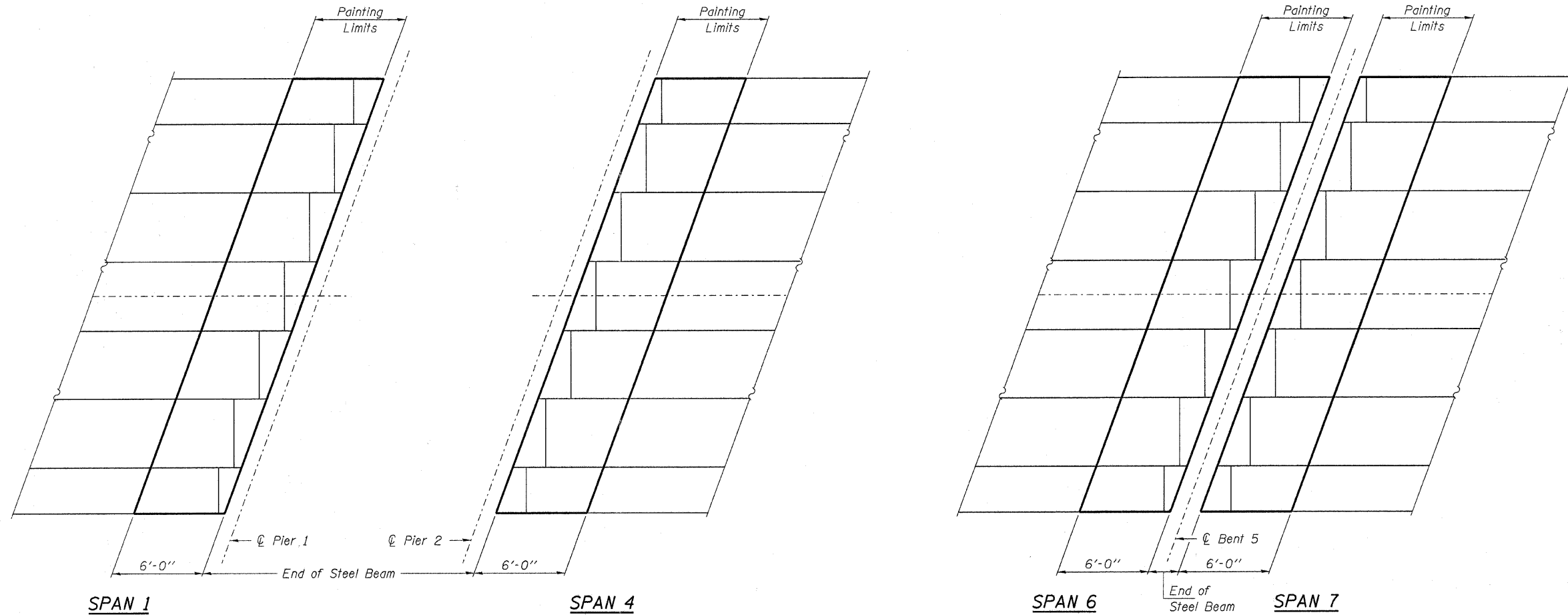
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 12 19 SHEETS
F.A.P. 885	107BR-1	Johnson	94	33	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030



Notes:  
 Painting limits were set at 6'-0" to fully include beam splices.  
 Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All beams, bearings and other structural steel within 6 ft. (measured along the beam) of either side of deck joints shall be cleaned per Near White Blast Cleaning - SSPC-SP10.  
 The designated areas cleaned per Near White Blast Cleaning - SSPC-SP10 and per Power Tool Cleaned - Commercial Grade shall be painted according to the requirements of Paint System 1 - OZ/E/U. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Gray, Munsell No. 5B 7/1.

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 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1    DATE: 04/02/08  
 DESIGNED: S.M.S.    CHECKED: M.D.C.    DRAWN: D.T.M.

**PAINTING PLAN**  
 IL. ROUTE 146 OVER CACHE RIVER  
 F.A.P. ROUTE 885 / SECTION 107BR-1  
 JOHNSON COUNTY  
 STATION 727+23.00  
 STRUCTURE NO. 044-0014

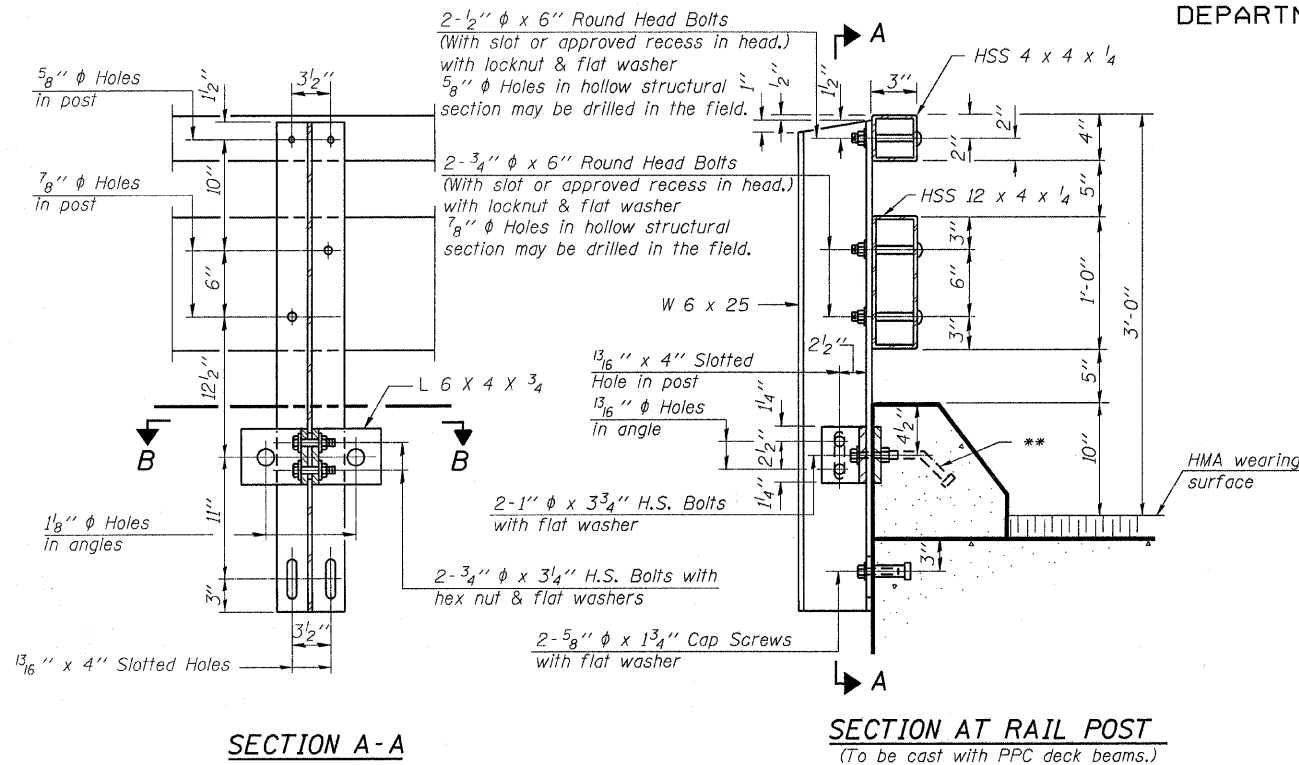
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 34	SHEET NO. 13 19 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT	

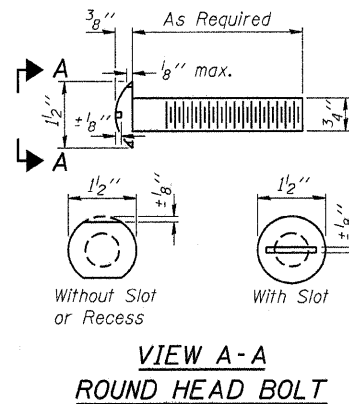
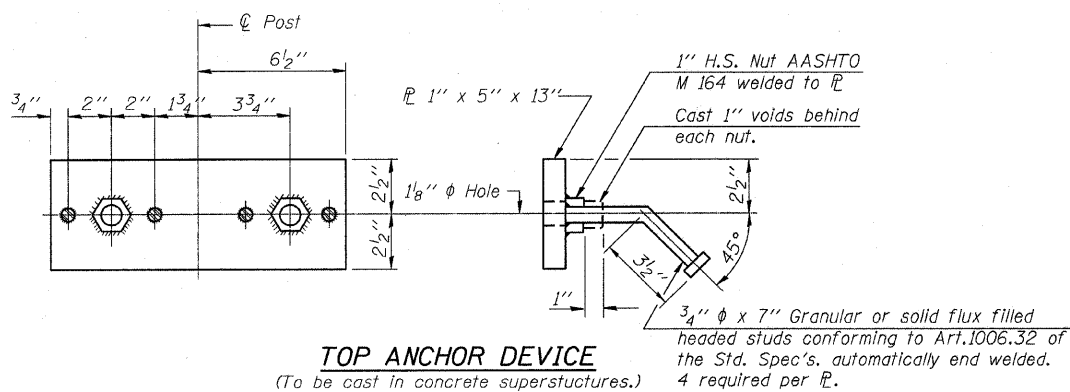
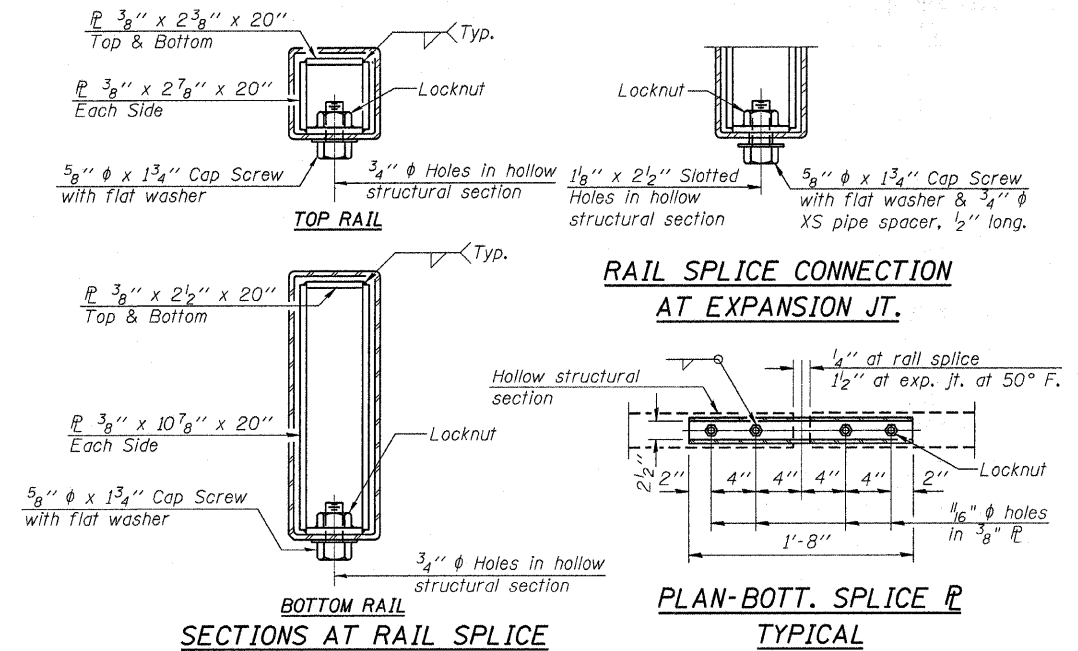
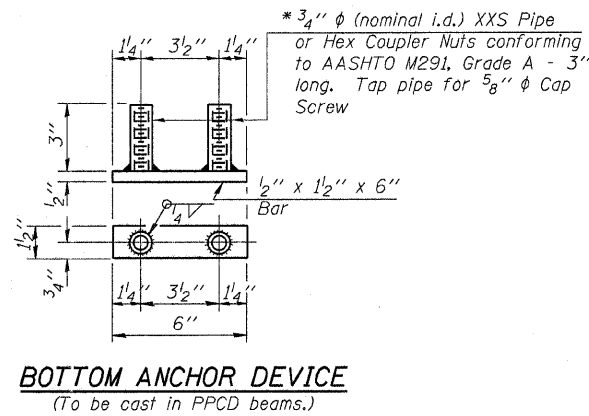
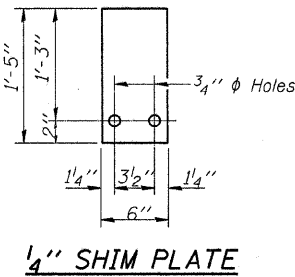
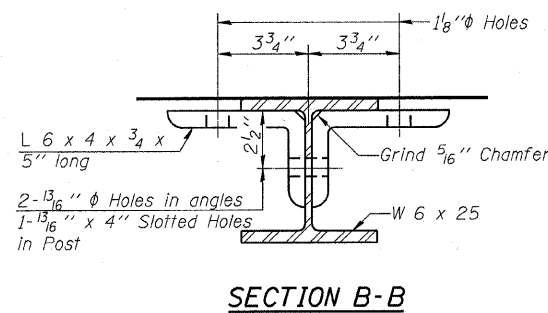
Contract #78030

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'-5" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Removing and Re-Erecting Existing Railing.
- All 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. The cost of new anchor devices shall be included in Removing and Re-Erecting Existing Railing.
- The Contractor shall replace all hardware that is damaged which shall be included in Removing and Re-Erecting Existing Railing.



\* Threaded areas shall be plugged or  
blocked off during casting of beam.



(For Information Only, Except Anchor Devices)

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SPRINGFIELD, ILLINOIS 62703  
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ELGIN • SPRINGFIELD

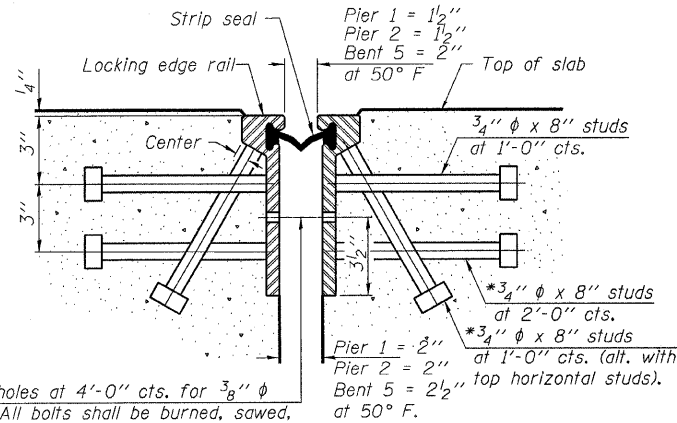
PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**STEEL RAILING, TYPE T**  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

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

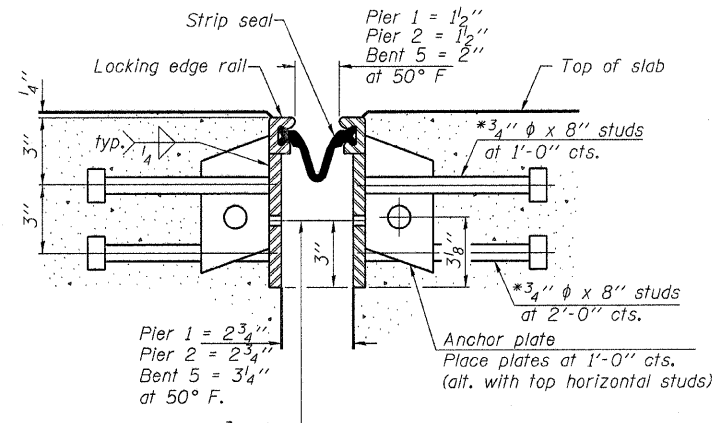
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 14 19 SHEETS
F.A.P. 885	107BR-1	Johnson	94	35	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	Contract #78030		



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

SECTION THRU  
ROLLED RAIL JOINT

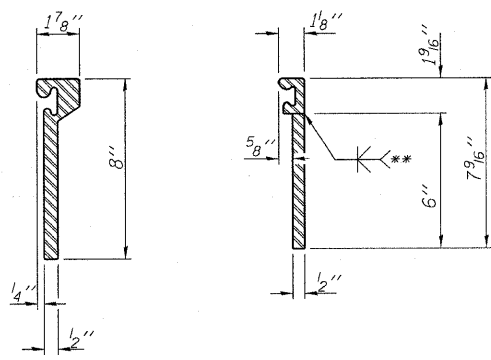


7/16"  $\phi$  holes at 4'-0" cts. for 3/8"  $\phi$  bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

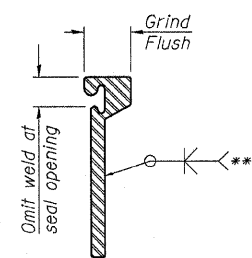
SECTION THRU  
WELDED RAIL JOINT

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches. The 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. The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State. All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.



ROLLED  
(EXTRUDED) RAIL      WELDED RAIL

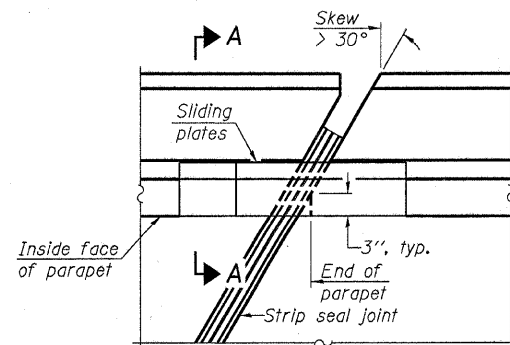


\*\*Back gouge not required if complete joint penetration is verified by mock-up.

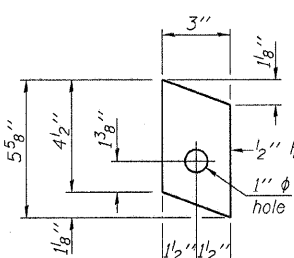
LOCKING EDGE  
RAIL SPLICE

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

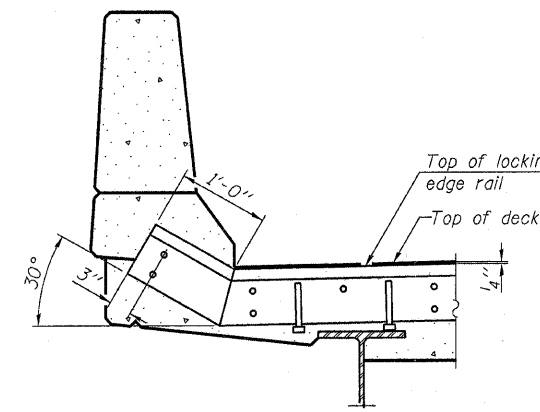
LOCKING EDGE RAILS



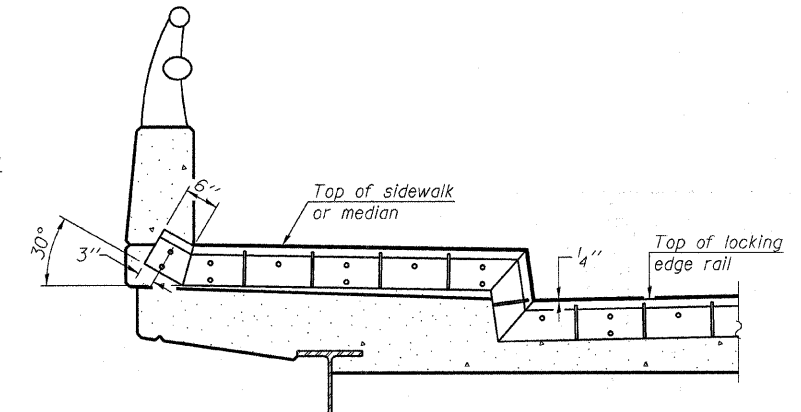
PLAN



ANCHOR PLATE  
(for welded rail)



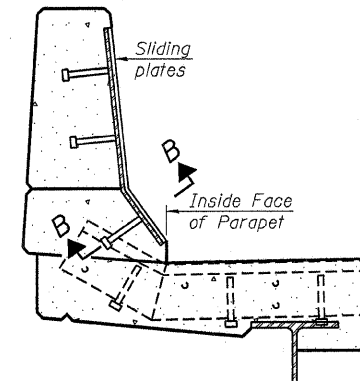
AT PARAPET



AT SIDEWALK OR MEDIAN

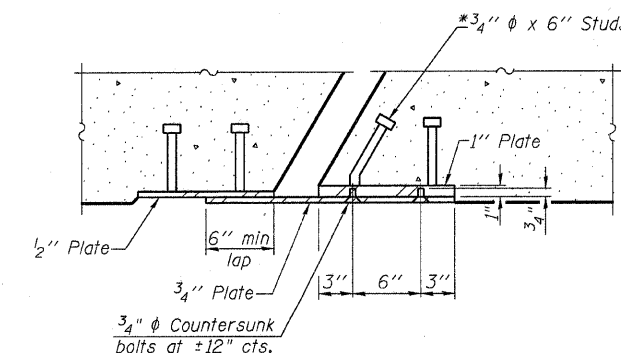
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS



SECTION A-A

POINT BLOCK DETAILS  
(for skews > 30°)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	105

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SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1      DATE: 04/02/08  
DESIGNED: S.M.S.      CHECKED: M.D.C.      DRAWN: D.T.M.

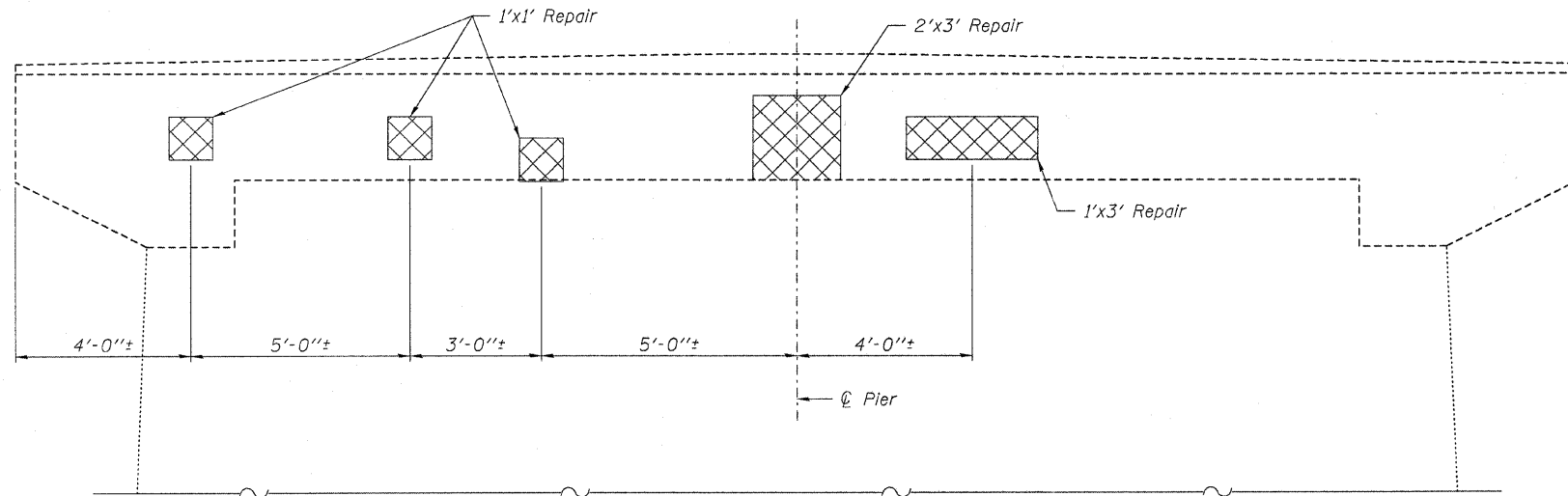
STRIP SEAL EXPANSION JOINT

IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 15 19 SHEETS
F.A.P. 885	107BR-1	Johnson	94	36	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #78030



**NOTES**

See Sheet 8 of 19 for Sections Thru Pier views and additional details.

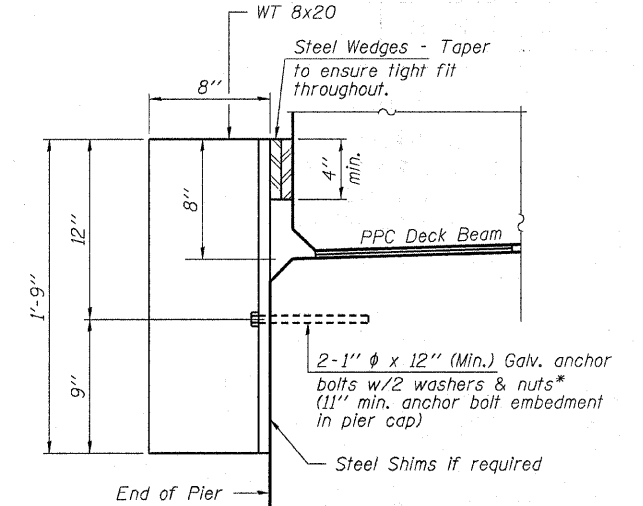
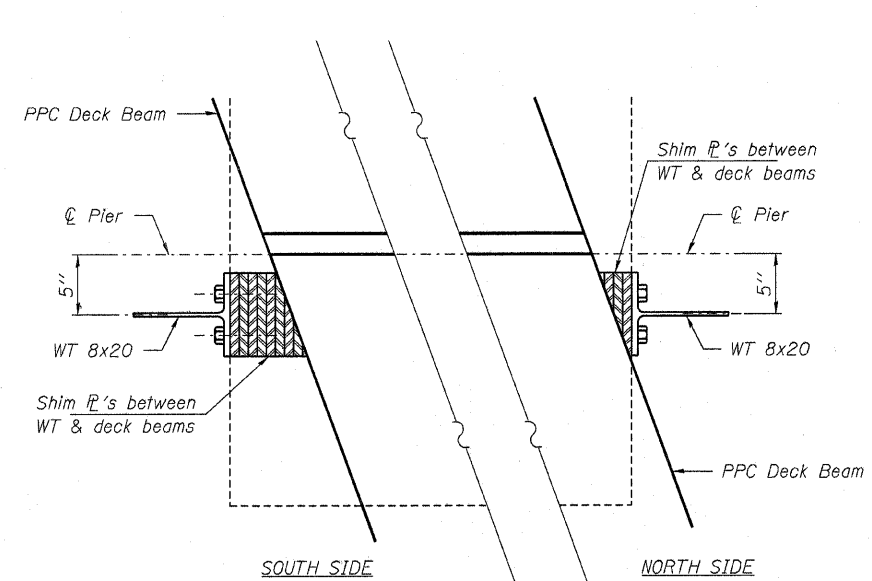
The existing pier bearing seat is to be inspected by the Engineer after deck beam removal. Deteriorated concrete areas shall be repaired if deemed necessary using Structural Repair of Concrete (Depth equal to or less than 5"). Concrete Sealer shall be applied to Concrete Repair areas. Cost included in Concrete Repair item.

Pier Structural Repair of Concrete areas and Crack Repair lengths are estimated from a 10/24/2007 inspection.

**REPAIR LEGEND**

Requires Structural Repair of Concrete (Depth Equal to or less than 5")

Requires Epoxy Crack Injection



**EXTERIOR BEAM - RETAINER**

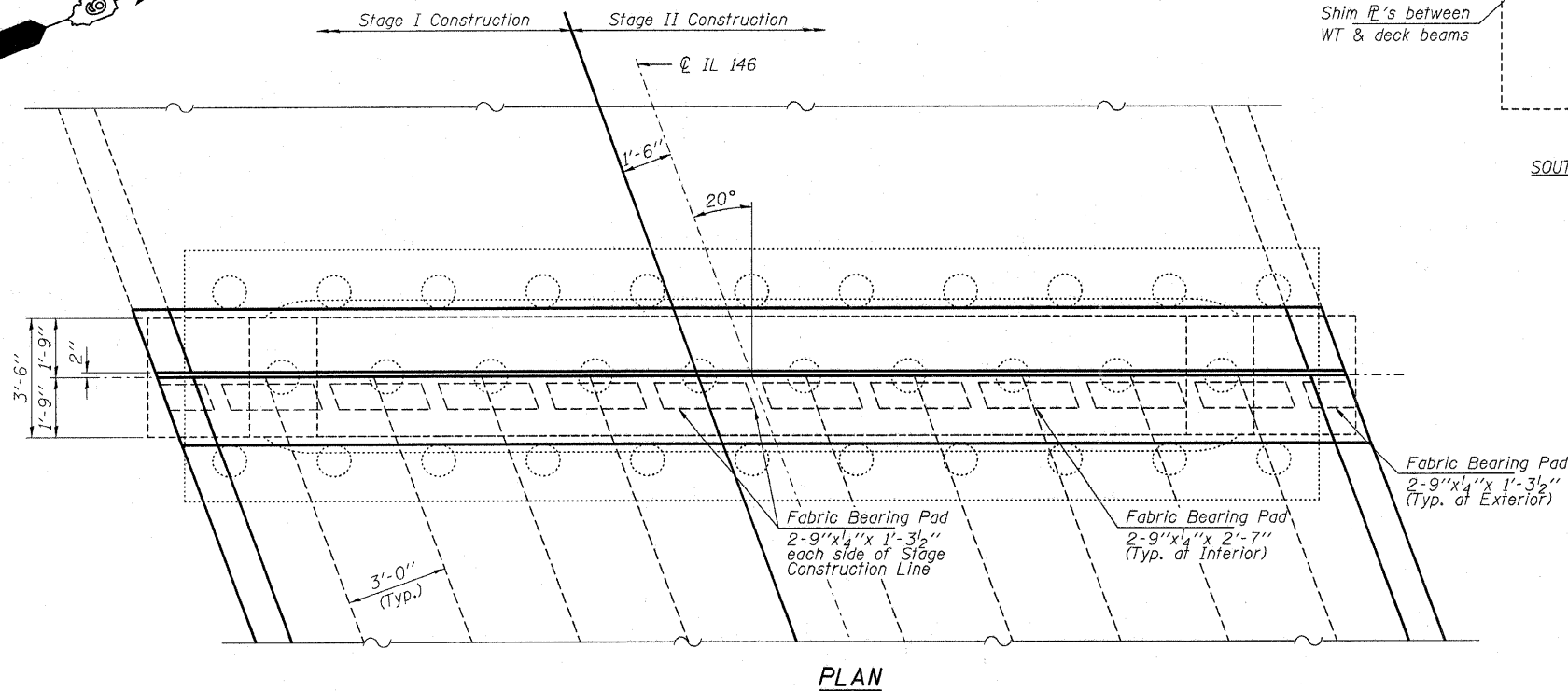
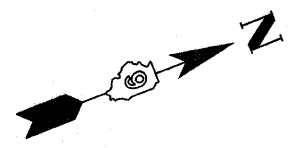
\* Anchor bolts shall be drilled and epoxy grouted in place.

Notes:  
Cost of retainer and accessories are included with Precast Prestressed Concrete Deck Beams.

The retainer and all accessories shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

**BILL OF MATERIAL - PIER 1**

Asbestos Bearing Pad Removal	Each	22
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	12



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SPRINGFIELD, ILLINOIS 62703  
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ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**PIER 1**  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 16 19 SHEETS
F.A.P. 885	107BR-1	Johnson	94	37	
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT-			

Contract #78030


**NOTES**


See Sheet 8 of 19 for Sections Thru Pier views and additional details.

The existing pier bearing seat is to be inspected by the Engineer after deck beam removal. Deteriorated concrete areas shall be repaired if deemed necessary using Structural Repair of Concrete (Depth equal to or less than 5"). Concrete Sealer shall be applied to Concrete Repair areas. Cost included in Concrete Repair item.

Pier Structural Repair of Concrete areas and Crack Repair lengths are estimated from a 10/24/2007 inspection.

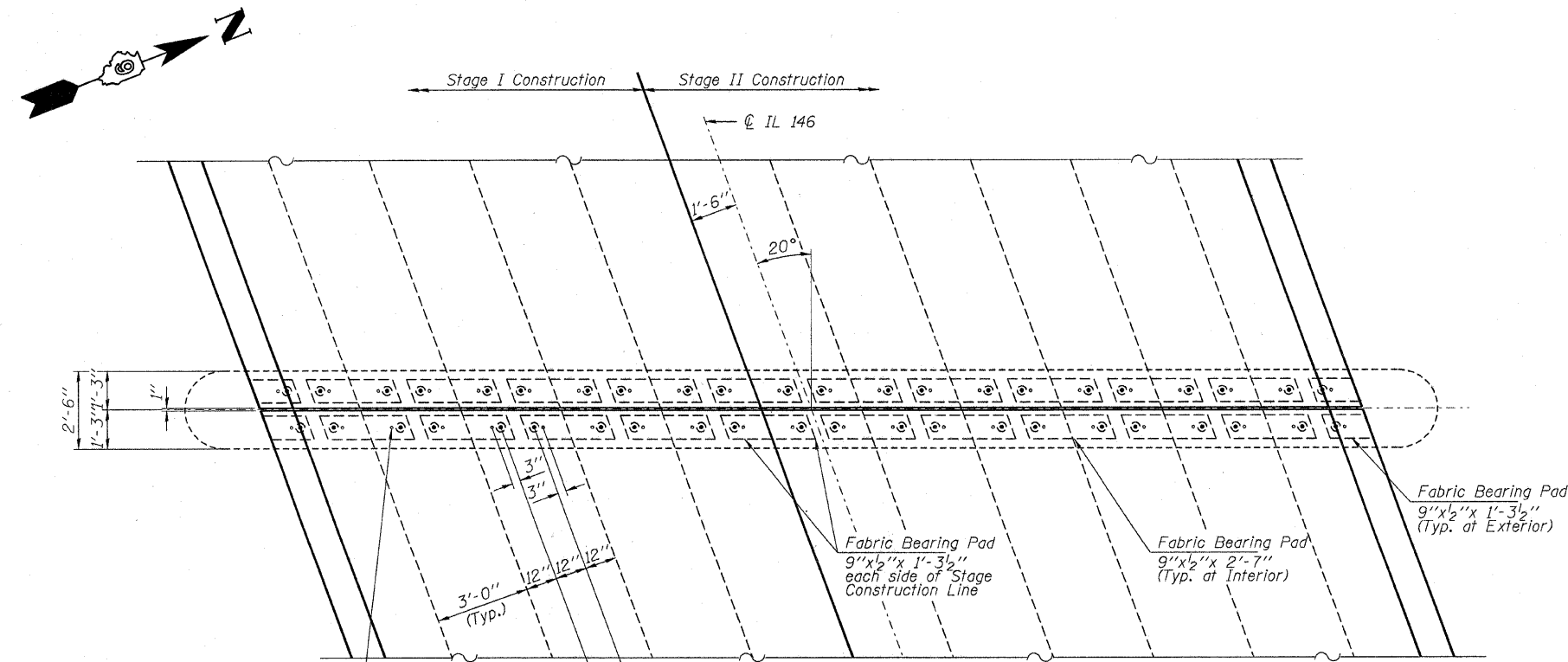
**REPAIR LEGEND**

 Requires Structural Repair of Concrete (Depth Equal to or less than 5")

 Requires Epoxy Crack Injection



**WEST ELEVATION**  
(Looking East)



**PLAN**

Existing dowel rods  
Cut off flush with exist. brg. seat, grind smooth and seal with epoxy. Cost is included with Removal of Existing Superstructure (Typ.)

Proposed Dowel Rods (Typ.)

Fabric Bearing Pad  
9'-x 2'-x 1'-3 1/2"  
each side of Stage Construction Line

Fabric Bearing Pad  
9'-x 2'-x 2'-7"  
(Typ. at Interior)

Fabric Bearing Pad  
9'-x 2'-x 1'-3 1/2"  
(Typ. at Exterior)

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LAND SURVEYORS

 3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**BENT 2**  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 17 19 SHEETS
F.A.P. 885	107BR-1	Johnson	94	38	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #78030


**NOTES**


See Sheet 8 of 19 for Sections Thru Pier views and additional details.

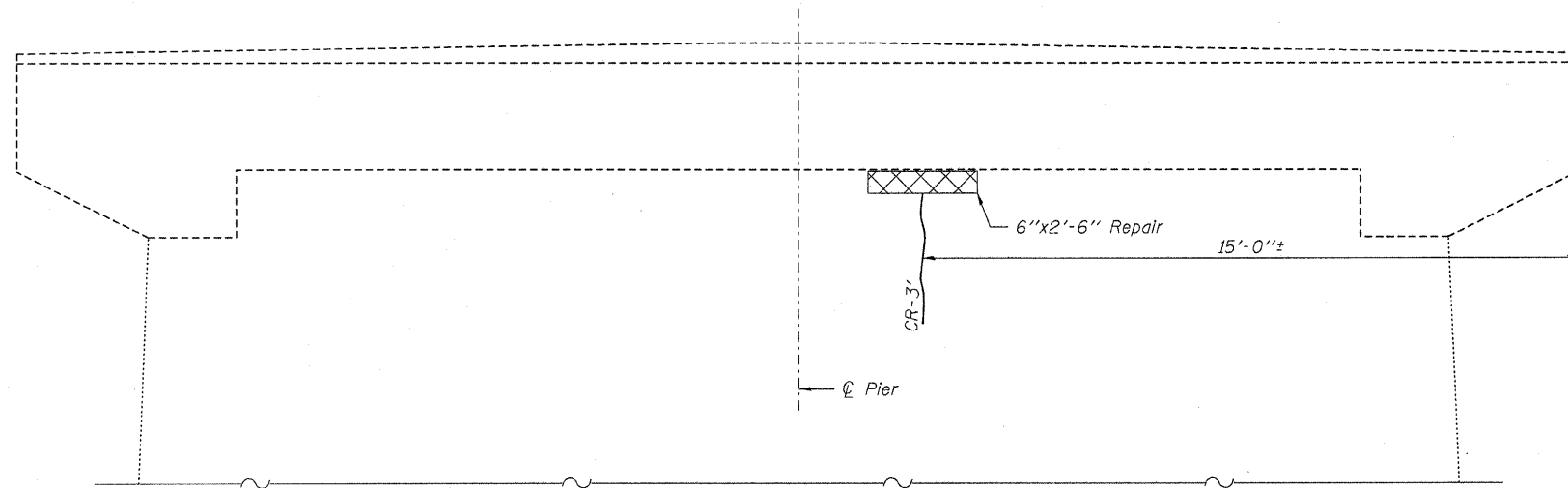
The existing pier bearing seat is to be inspected by the Engineer after deck beam removal. Deteriorated concrete areas shall be repaired if deemed necessary using Structural Repair of Concrete (Depth equal to or less than 5"). Concrete Sealer shall be applied to Concrete Repair areas. Cost included in Concrete Repair item.

Pier Structural Repair of Concrete areas and Crack Repair lengths are estimated from a 10/24/2007 inspection.

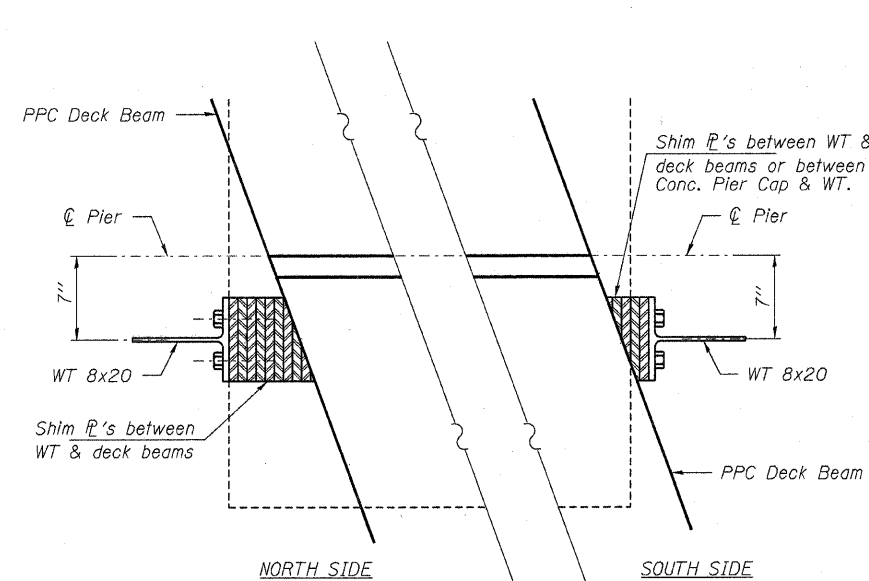
**REPAIR LEGEND**

 Requires Structural Repair of Concrete (Depth Equal to or less than 5")

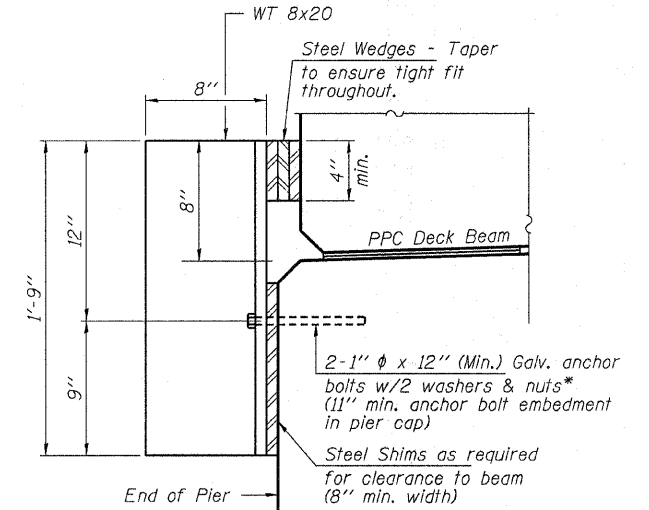
 Requires Epoxy Crack Injection



**EAST ELEVATION**  
(Looking West)



**RETAINER PLAN VIEW**



**EXTERIOR BEAM - RETAINER**

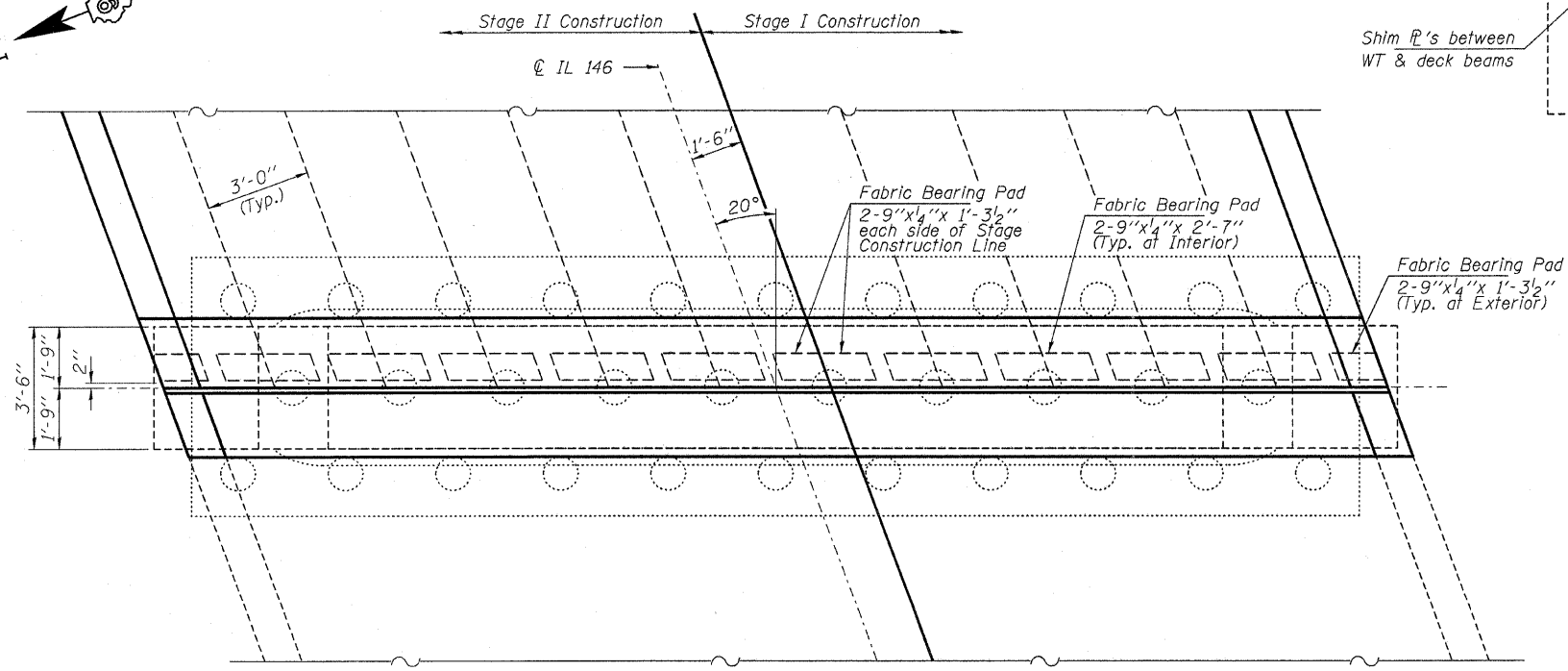
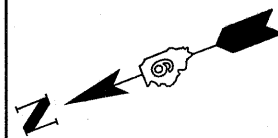
\* Anchor bolts shall be drilled and epoxy grouted in place.

Notes:  
Cost of retainer and accessories are included with Precast Prestressed Concrete Deck Beams.

The retainer and all accessories shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

**BILL OF MATERIAL - PIER 2**

Epoxy Crack Injection	Foot	3
Asbestos Bearing Pad Removal	Each	22
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	1



**PLAN**

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

**ELGIN • SPRINGFIELD**

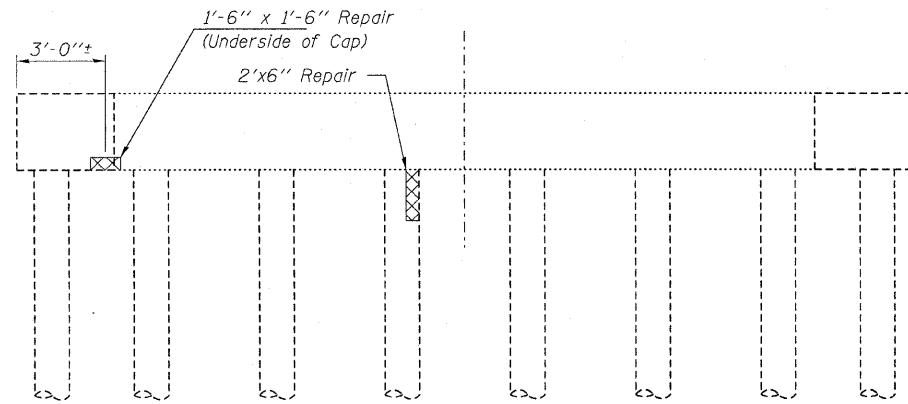
PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**PIER 2**  
**IL. ROUTE 146 OVER CACHE RIVER**  
**F.A.P. ROUTE 885 / SECTION 107BR-1**  
**JOHNSON COUNTY**  
**STATION 727+23.00**  
**STRUCTURE NO. 044-0014**

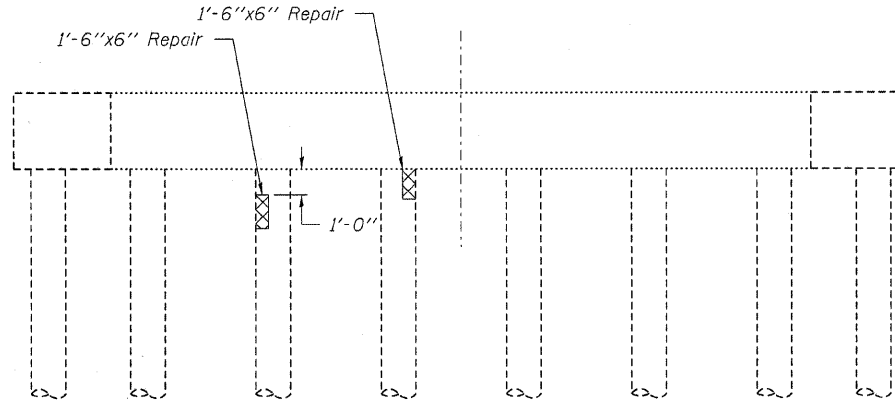
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 18 19 SHEETS
F.A.P. 885	107BR-1	Johnson	94	39	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

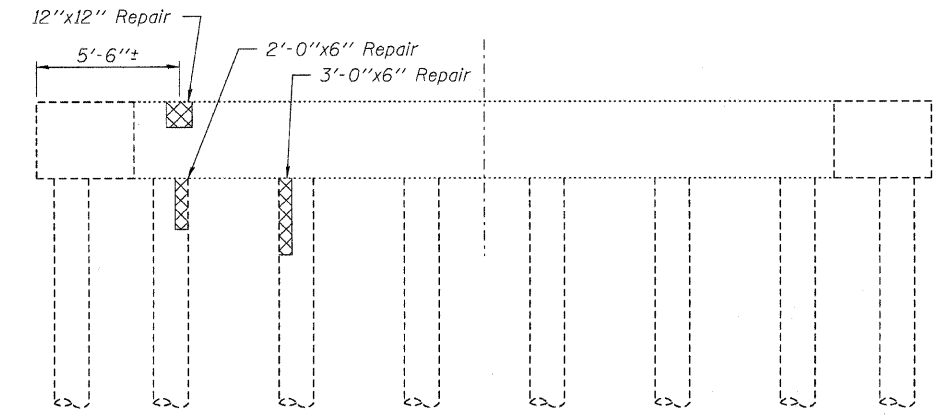
Contract #78030



**EAST ELEVATION - BENT 3**  
(Looking West)



**WEST ELEVATION - BENT 3**  
(Looking East)



**EAST ELEVATION - BENT 4**  
(Looking West)

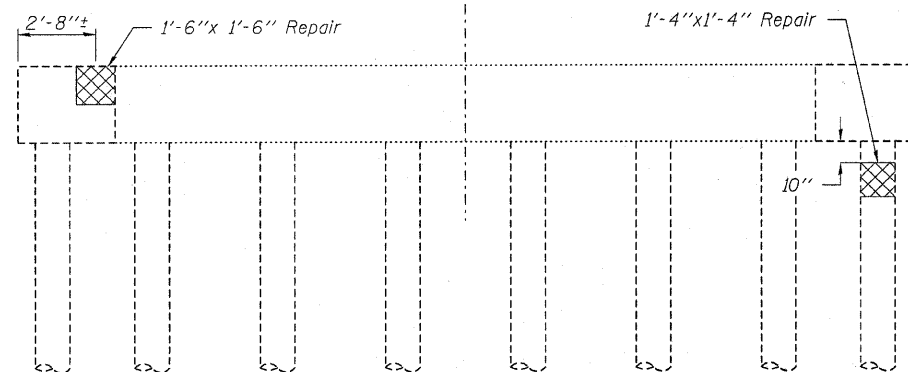
**REPAIR LEGEND**

Requires Structural Repair of Concrete  
(Depth Equal to or less than 5')

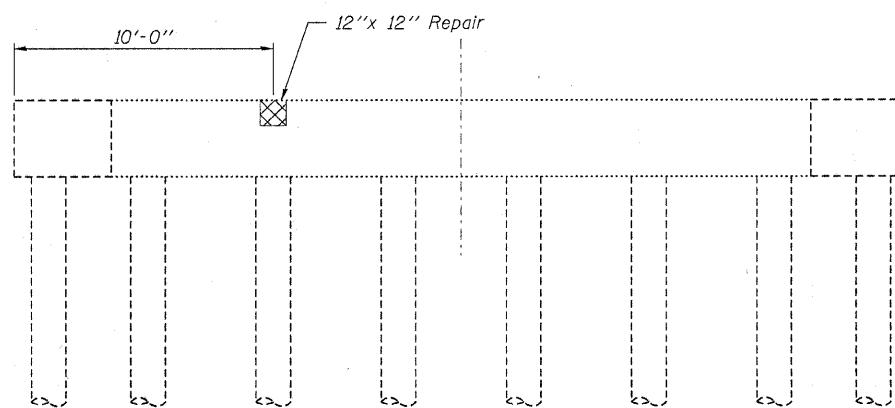
Requires Epoxy Crack Injection

**BILL OF MATERIAL - BENTS 3-6**

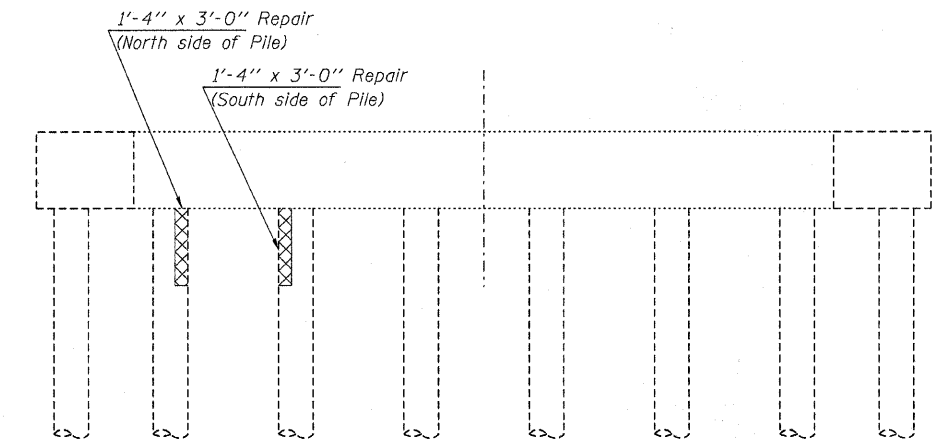
Structural Repair of Concrete (Depth equal to or less than 5')	Sq. Ft.	21
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**EAST ELEVATION - BENT 5**  
(Looking West)



**WEST ELEVATION - BENT 5**  
(Looking East)



**EAST ELEVATION - BENT 6**  
(Looking West)

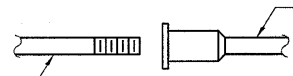
<p><b>HAMPTON, LENZINI &amp; RENWICK, INC.</b> CIVIL &amp; STRUCTURAL ENGINEERS LAND SURVEYORS</p> <p></p> <p>3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400</p> <p>ELGIN • SPRINGFIELD</p>	<p><b>SUBSTRUCTURE REPAIR DETAILS</b></p> <p>IL. ROUTE 146 OVER CACHE RIVER F.A.P. ROUTE 885 / SECTION 107BR-1 JOHNSON COUNTY STATION 727+23.00 STRUCTURE NO. 044-0014</p>	
	<p>PROJECT NUMBER: 12-52-0007-1</p> <p>DESIGNED: S.M.S.</p>	<p>DATE: 04/02/08</p> <p>CHECKED: M.D.C.</p>

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 19 19 SHEETS
F.A.P. 885	107BR-1	Johnson	94	40	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030

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

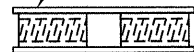


**ROLLED THREAD DOWEL BAR**



**\*\* ONE PIECE**

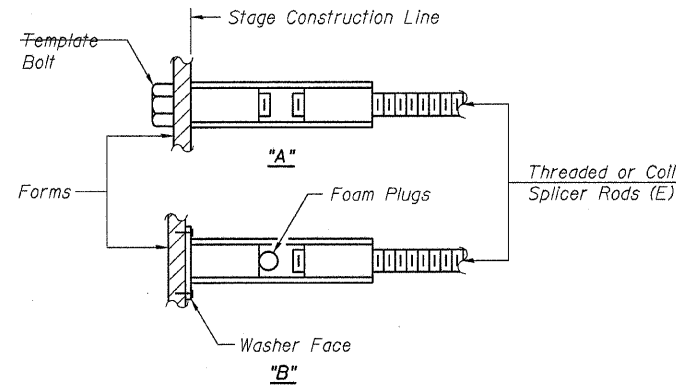
Wire Connector



**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**

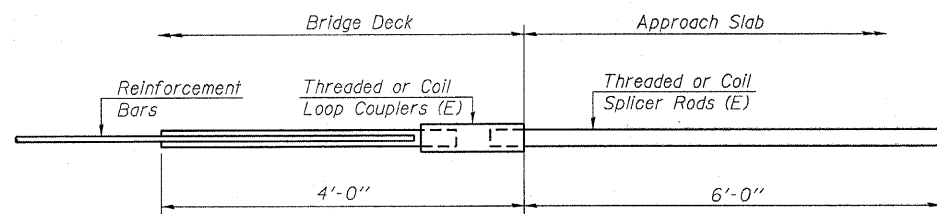
"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.

**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:

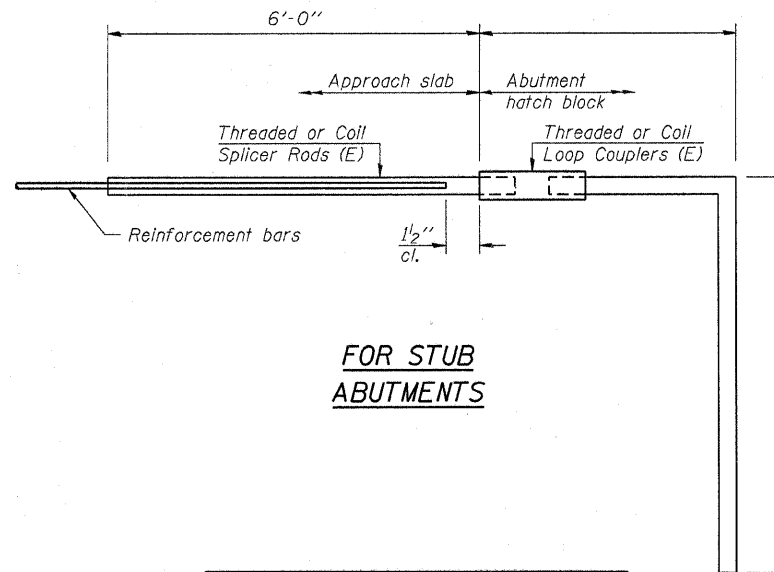
- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
(Tension in kips)
  - ② Minimum \*Pull-out Strength =  $0.66 \times f_y \times A_t$   
(Tension in kips)
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 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



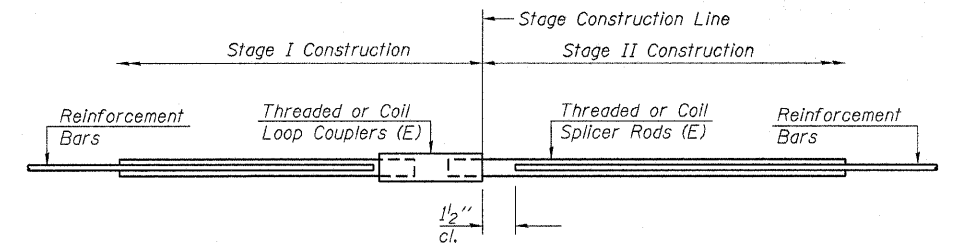
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

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



**FOR STUB ABUTMENTS**

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



**STANDARD**

Bar Size	No. Assemblies Required	Location
#5	96	Concrete Superstructures

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

**ELGIN • SPRINGFIELD**

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**BAR SPLICER ASSEMBLY DETAILS**

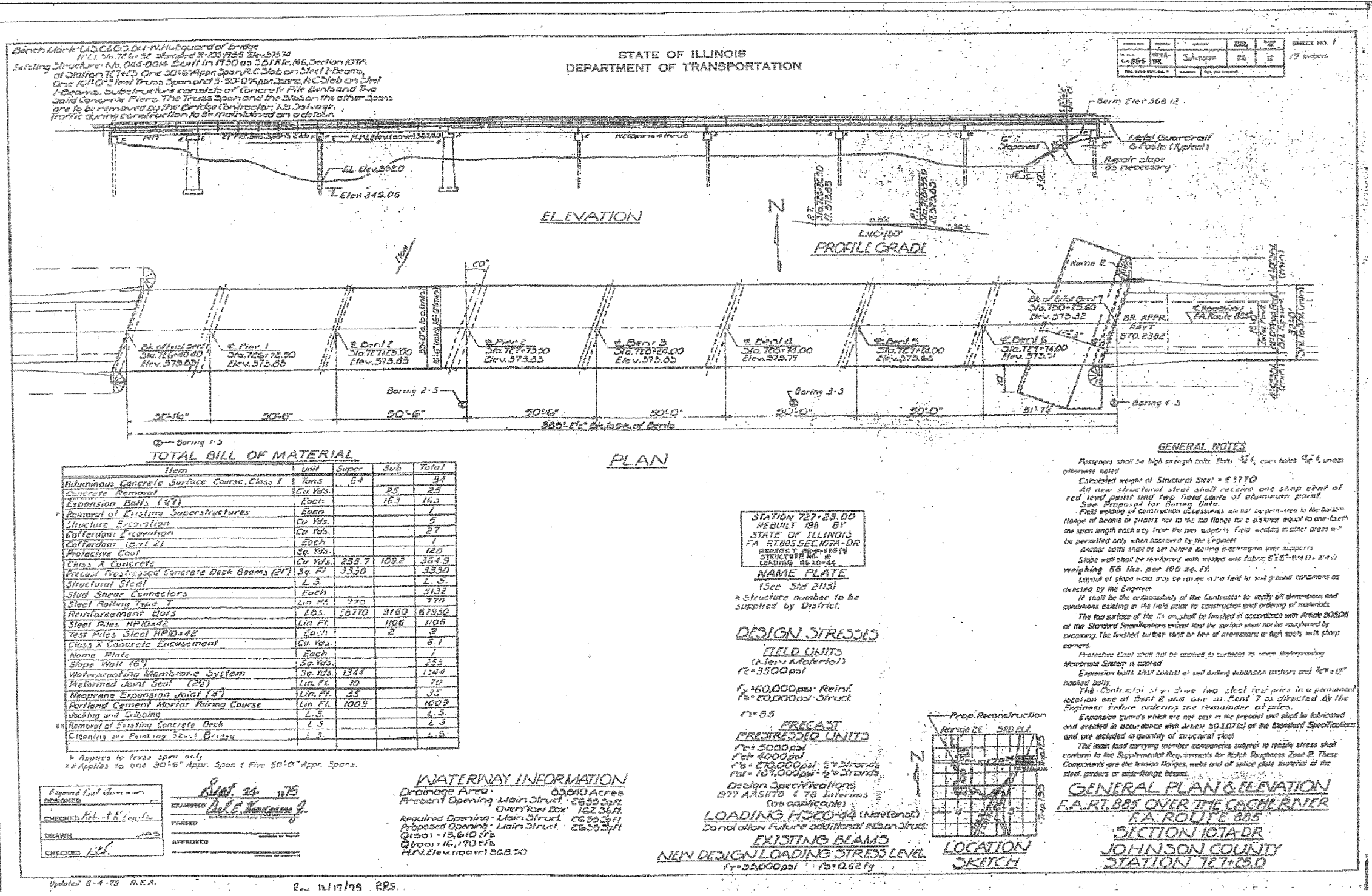
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. /
F.A.P. 885	107BR-1	Johnson	94	41	19 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #78030



Bench Mark: U.S.C.G.S. 2114 (at Mulholland of Bridge)  
U.L.S. 1016.82 Stationed 2+25.1755 Elev. 575.74  
Existing Structure: No. 044-001A Built in 1950 as 50' R.C. 146 Section 107A  
of Station 727+23.00 One 30'-6" Appr. Span R.C. Slab on Steel I-Beams  
One 10'-0" Steel Truss Span and 5'-0" Appr. Span R.C. Slab on Steel  
I-Beams. Substructure consists of Concrete Pier Bents and Two  
Solid Concrete Piers. The Truss Span and the Slab on the other spans  
are to be removed by the Bridge Contractor. No Detour  
Traffic during construction to be maintained on a detour.

DATE	BY	REVISION
10/16/08	DR	1
10/16/08	DR	2
10/16/08	DR	3
10/16/08	DR	4
10/16/08	DR	5
10/16/08	DR	6
10/16/08	DR	7
10/16/08	DR	8
10/16/08	DR	9
10/16/08	DR	10

**TOTAL BILL OF MATERIAL**

Item	Unit	Super	Sub	Total
Bituminous Concrete Surface Course, Class I	Yds	84		84
Concrete Removal	Cu Yds		25	25
Expansion Bolts (1/2")	Each		163	163
Removal of Existing Superstructures	Each			1
Structure Excavation	Cu Yds		5	5
Collarform Excavation	Each		27	27
Collarform (rent 21)	Each		1	1
Protective Coat	Sq. Yds		120	120
Class X Concrete	Cu Yds	255.7	109.2	364.9
Precast Prestressed Concrete Deck Beams (2P)	Sq. Ft	3330		3330
Structural Steel	L. S.			1.5
Slud Shear Connectors	Each			5132
Steel Railing Type T	Lin. Ft.	770		770
Reinforcement Bars	Lbs.	5770	9160	67930
Steel Piles HP10x42	Lin. Ft.		1106	1106
Test Piles Steel HP10x42	Each		2	2
Class X Concrete Encasement	Cu Yds			6.1
Name Plate	Each			1
Slope Wall (6")	Sq. Yds			252
Waterproofing Membrane System	Sq. Yds	1344		1344
Preformed Joint Seal (2E)	Lin. Ft.	70		70
Neoprene Expansion Joint (E)	Lin. Ft.	35		35
Portland Cement Mortar Form Course	Lin. Ft.	1009		1009
Jacking and Gridding	L. S.			4.5
Removal of Existing Concrete Deck	L. S.			4.5
Cleaning and Painting Steel Bridge	L. S.			4.5

\* Applies to Intra span only  
\*\* Applies to one 30'-6" Appr. Span & Five 50'-0" Appr. Spans.

**WATERWAY INFORMATION**  
Drainage Area: 65,640 Acres  
Present Opening: Main Struct. 2655 cfs  
Overflow Box 162 cfs  
Required Opening: Main Struct. 2655 cfs  
Proposed Opening: Main Struct. 2655 cfs  
Gr501-12,640 cfs  
Gr501-16,170 cfs  
M.R. Elev. (top) 368.50

DESIGNED: [Signature]  
CHECKED: [Signature]  
DRAWN: [Signature]  
APPROVED: [Signature]

STATION 727+23.00  
REBUILT 198 BY  
STATE OF ILLINOIS  
F.A. 885 SEC. 107A-DR  
PROJECT # 885 (V)  
STRUCTURE NO. 044-001A  
LOADING: 16,170 cfs

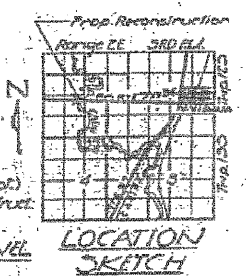
**NAME PLATE**  
(See Std 2113)  
\* Structure number to be supplied by District.

**DESIGN STRESSES**  
FIELD UNITS  
(New Material)  
f<sub>c</sub> = 3500 psi  
f<sub>t</sub> = 150,000 psi Reinfr  
f<sub>a</sub> = 20,000 psi - Struct.

**PRECAST PRESTRESSED UNITS**  
f<sub>c</sub> = 5000 psi  
f<sub>t</sub> = 4000 psi  
f<sub>s</sub> = 270,000 psi - 6# Strands  
f<sub>s</sub> = 167,000 psi - 1# Strands

Design Specifications  
1977 AASHTO & 78 Interims  
(as applicable)  
LOADING H200-44 (Nonconstr.)  
Do not allow future additional MS on Struct.

**EXISTING BEAMS**  
NEW DESIGN LOADING STRESS LEVEL  
f<sub>c</sub> = 35,000 psi f<sub>a</sub> = 0.62 f<sub>y</sub>



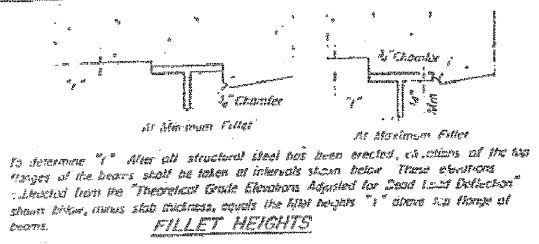
**GENERAL NOTES**  
Fasteners shall be high strength bolts. Bolts 3/4", cover bolts 1/2", unless otherwise noted.  
Calculated weight of Structural Steel = 53770  
All new structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint.  
See Plans for Boring Data.  
Field welding of construction accessories shall not be permitted on the bottom flange of beams or girders nor on the top flange for a distance equal to one-half the span length each way from the pier supports. Field welding in other areas shall be permitted only when approved by the Engineer.  
Anchor bolts shall be set before bolting post-tensioning over supports.  
Slope walls shall be reinforced with welded wire fabric E15-E14 @ 4'-0" weighing 56 lbs. per 100 sq. ft.  
Layout of slope walls may be revised in the field to suit ground conditions as directed by the Engineer.  
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.  
The top surface of the 1/2" shall be finished in accordance with Article 505.06 of the Standard Specifications except that the surface shall not be roughened by chipping. The finished surface shall be free of depressions or high spots with sharp corners.  
Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.  
Expansion bolts shall consist of self-drilling expansion anchors and 3/4" x 12" headed bolts.  
The Contractor shall drive two steel test piles in a permanent location one at Bent 2 and one at Bent 7 as directed by the Engineer before ordering the precast prestressed units.  
Expansion joints which are not cast in the precast unit shall be fabricated and checked in accordance with Article 50.107(c) of the Standard Specifications and are included in quantity of structural steel.  
The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Mesh, Roughness Zone 2. These components are the tension flanges, webs and all splice plates anterior of the steel girders or web-flange beams.

**GENERAL PLAN & ELEVATION**  
F.A. RT. 885 OVER THE CACHE RIVER  
F.A. ROUTE 885  
SECTION 107A-DR  
JOHNSON COUNTY  
STATION 727+23.00

Updated 6-4-75 R.E.A. Rev. 11/17/99 R.P.S.

	<b>HAMPTON, LENZINI &amp; RENWICK, INC.</b> CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400	<b>EXISTING STRUCTURE PLANS</b> IL. ROUTE 146 OVER CACHE RIVER F.A.P. ROUTE 885 / SECTION 107BR-1 JOHNSON COUNTY STATION 727+23.00 STRUCTURE NO. 044-001A
	ELGIN • SPRINGFIELD	
	PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08 DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**LINE 1**

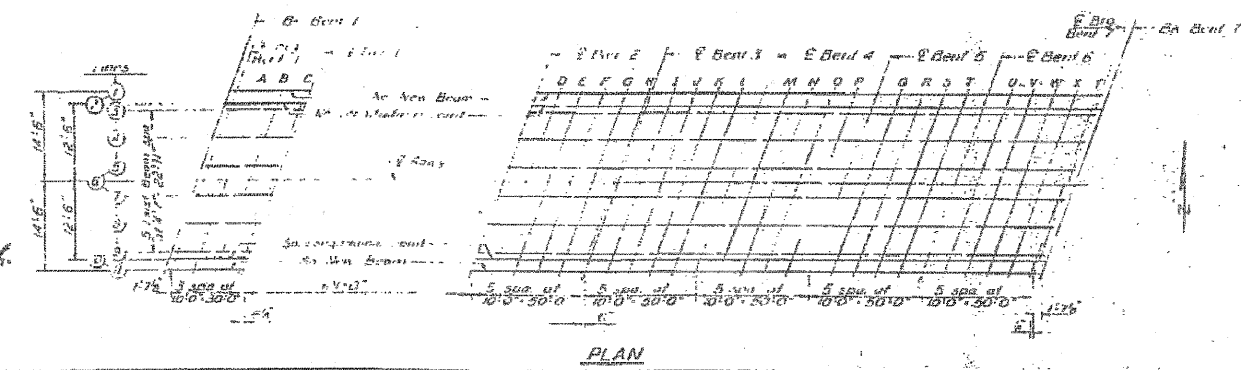
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. Bent 1	72644.678	-14.500	373.478	373.478
E. Big Bent 1	72657.271	-14.500	373.478	373.478
A	72657.271	-14.500	373.478	373.478
B	72667.271	-14.500	373.478	373.478
C	72677.271	-14.500	373.478	373.478
E. Pier 1	72687.271	-14.500	373.478	373.478
E. Pier 2	72778.182	-14.500	373.478	373.478
D	72788.782	-14.500	373.478	373.478
E	72798.782	-14.500	373.478	373.478
F	72808.782	-14.500	373.478	373.478
G	72818.782	-14.500	373.478	373.478
H	72828.782	-14.500	373.478	373.478
E. Bent 2	72839.782	-14.500	373.478	373.478
I	72849.782	-14.500	373.478	373.478
J	72859.782	-14.500	373.478	373.478
K	72869.782	-14.500	373.478	373.478
L	72879.782	-14.500	373.478	373.478
E. Bent 3	72890.782	-14.500	373.478	373.478
M	72900.782	-14.500	373.478	373.478
N	72910.782	-14.500	373.478	373.478
O	72920.782	-14.500	373.478	373.478
P	72930.782	-14.500	373.478	373.478
E. Bent 4	72941.782	-14.500	373.478	373.478
Q	72951.782	-14.500	373.478	373.478
R	72961.782	-14.500	373.478	373.478
S	72971.782	-14.500	373.478	373.478
E. Bent 5	72982.782	-14.500	373.478	373.478
T	72992.782	-14.500	373.478	373.478
U	72999.782	-14.500	373.478	373.478
V	73009.782	-14.500	373.478	373.478
W	73019.782	-14.500	373.478	373.478
X	73029.782	-14.500	373.478	373.478
Y	73039.782	-14.500	373.478	373.478
E. Big Bent 7	73024.782	-14.500	373.478	373.478
E. Bent 7	73030.884	-14.500	373.478	373.478

**LINE 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. Bent 1	72644.450	-12.500	373.510	373.510
E. Big Bent 1	72646.545	-12.500	373.510	373.510
A	72656.545	-12.500	373.510	373.510
B	72666.545	-12.500	373.510	373.510
C	72676.545	-12.500	373.510	373.510
E. Pier 1	72677.074	-12.500	373.510	373.510
E. Pier 2	72778.074	-12.500	373.510	373.510
D	72788.074	-12.500	373.510	373.510
E	72798.074	-12.500	373.510	373.510
F	72808.074	-12.500	373.510	373.510
G	72818.074	-12.500	373.510	373.510
H	72828.074	-12.500	373.510	373.510
E. Bent 2	72829.594	-12.500	373.510	373.510
I	72839.594	-12.500	373.510	373.510
J	72849.594	-12.500	373.510	373.510
K	72859.594	-12.500	373.510	373.510
L	72869.594	-12.500	373.510	373.510
E. Bent 3	72870.594	-12.500	373.510	373.510
M	72880.594	-12.500	373.510	373.510
N	72890.594	-12.500	373.510	373.510
O	72900.594	-12.500	373.510	373.510
P	72910.594	-12.500	373.510	373.510
E. Bent 4	72921.594	-12.500	373.510	373.510
Q	72931.594	-12.500	373.510	373.510
R	72941.594	-12.500	373.510	373.510
S	72951.594	-12.500	373.510	373.510
T	72961.594	-12.500	373.510	373.510
E. Bent 5	72972.594	-12.500	373.510	373.510
U	72982.594	-12.500	373.510	373.510
V	72992.594	-12.500	373.510	373.510
W	72999.594	-12.500	373.510	373.510
X	73009.594	-12.500	373.510	373.510
Y	73019.594	-12.500	373.510	373.510
E. Big Bent 7	73024.564	-12.500	373.510	373.510
E. Bent 7	73030.198	-12.500	373.510	373.510

**LINE 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. Bent 1	72644.370	-11.450	373.570	373.570
E. Big Bent 1	72646.164	-11.450	373.570	373.570
A	72656.164	-11.450	373.570	373.570
B	72666.164	-11.450	373.570	373.570
C	72676.164	-11.450	373.570	373.570
E. Pier 1	72677.675	-11.450	373.570	373.570
E. Pier 2	72778.675	-11.450	373.570	373.570
D	72788.675	-11.450	373.570	373.570
E	72798.675	-11.450	373.570	373.570
F	72808.675	-11.450	373.570	373.570
G	72818.675	-11.450	373.570	373.570
H	72828.675	-11.450	373.570	373.570
E. Bent 2	72829.179	-11.450	373.570	373.570
I	72839.179	-11.450	373.570	373.570
J	72849.179	-11.450	373.570	373.570
K	72859.179	-11.450	373.570	373.570
L	72869.179	-11.450	373.570	373.570
E. Bent 3	72870.179	-11.450	373.570	373.570
M	72880.179	-11.450	373.570	373.570
N	72890.179	-11.450	373.570	373.570
O	72900.179	-11.450	373.570	373.570
P	72910.179	-11.450	373.570	373.570
E. Bent 4	72921.179	-11.450	373.570	373.570
Q	72931.179	-11.450	373.570	373.570
R	72941.179	-11.450	373.570	373.570
S	72951.179	-11.450	373.570	373.570
T	72961.179	-11.450	373.570	373.570
E. Bent 5	72972.179	-11.450	373.570	373.570
U	72982.179	-11.450	373.570	373.570
V	72992.179	-11.450	373.570	373.570
W	72999.179	-11.450	373.570	373.570
X	73009.179	-11.450	373.570	373.570
Y	73019.179	-11.450	373.570	373.570
E. Big Bent 7	73024.189	-11.450	373.570	373.570
E. Bent 7	73029.179	-11.450	373.570	373.570



DESIGNED: Raymond Paul...  
CHECKED: Robert H. Gault  
DRAWN: R.P. Summers  
CHECKED: M.H.

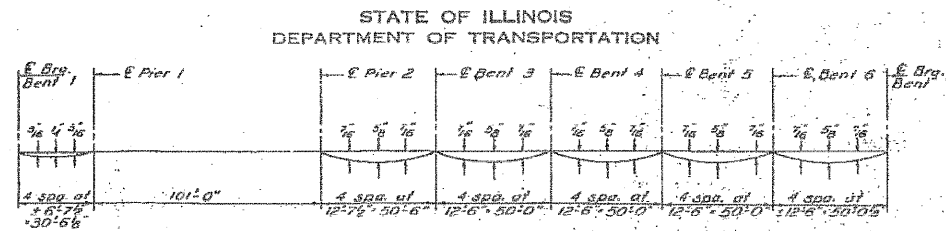
TOP OF SLAB ELEVATIONS:  
FA. RT. 885 SEC. 107A-DR.  
JOHNSON COUNTY  
STA. 727+23.00

<p><b>HAMPTON, LENZINI &amp; RENWICK, INC.</b> CIVIL &amp; STRUCTURAL ENGINEERS LAND SURVEYORS</p> <p>3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400</p> <p>ELGIN • SPRINGFIELD</p>	<p><b>EXISTING STRUCTURE PLANS</b> IL. ROUTE 146 OVER CACHE RIVER F.A.P. ROUTE 885 / SECTION 107BR-1 JOHNSON COUNTY STATION 727+23.00 STRUCTURE NO. 044-0014</p>
	<p>PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08 DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.</p>

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1	Johnson	94	43
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

Contract #78030



LINE 4				LINE 5				LINE 6				LINE 7			
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection	Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection	Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection	
Bk. Bent 1	72642.982	-6.875	373.598	373.598	Bk. Bent 1	72641.234	-2.292	373.660	373.660	Bk. Bent 1	72640.480	0.000	373.705	373.705	
E. Brg. Bent 1	72644.496	-6.875	373.598	373.598	E. Brg. Bent 1	72642.928	-2.292	373.660	373.660	E. Brg. Bent 1	72641.996	0.000	373.705	373.705	
A	72644.496	-6.875	373.598	373.615	A	72642.928	-2.292	373.660	373.687	A	72641.996	0.000	373.705	373.723	
B	72644.496	-6.875	373.598	373.616	B	72642.928	-2.292	373.660	373.688	B	72641.996	0.000	373.705	373.723	
C	72644.496	-6.875	373.598	373.599	C	72642.928	-2.292	373.660	373.670	C	72641.996	0.000	373.705	373.706	
E. Pier 1	72675.004	-6.875	373.598	373.598	E. Pier 1	72673.238	-2.292	373.660	373.660	E. Pier 1	72672.584	0.000	373.705	373.705	
E. Pier 2	72776.006	-6.875	373.598	373.598	E. Pier 2	72774.338	-2.292	373.660	373.660	E. Pier 2	72773.504	0.000	373.705	373.705	
D	72786.906	-6.875	373.598	373.622	D	72784.338	-2.292	373.660	373.699	D	72783.504	0.000	373.705	373.735	
E	72796.006	-6.875	373.598	373.644	E	72794.338	-2.292	373.660	373.716	E	72793.504	0.000	373.705	373.751	
F	72806.006	-6.875	373.598	373.644	F	72804.338	-2.292	373.660	373.716	F	72803.504	0.000	373.705	373.752	
G	72816.006	-6.875	373.598	373.629	G	72814.338	-2.292	373.660	373.700	G	72813.504	0.000	373.705	373.754	
H	72826.006	-6.875	373.598	373.599	H	72824.338	-2.292	373.660	373.670	H	72823.504	0.000	373.705	373.786	
E. Bent 3	72826.506	-6.875	373.597	373.597	E. Bent 3	72824.038	-2.292	373.660	373.660	E. Bent 3	72823.004	0.000	373.705	373.705	
I	72836.506	-6.875	373.598	373.624	I	72834.038	-2.292	373.660	373.696	I	72833.004	0.000	373.705	373.735	
J	72846.506	-6.875	373.598	373.634	J	72844.038	-2.292	373.661	373.707	J	72843.004	0.000	373.697	373.744	
K	72856.506	-6.875	373.597	373.626	K	72854.038	-2.292	373.662	373.699	K	72853.004	0.000	373.689	373.736	
L	72866.506	-6.875	373.598	373.598	L	72864.038	-2.292	373.661	373.671	L	72863.004	0.000	373.678	373.708	
E. Bent 4	72876.506	-6.875	373.593	373.593	E. Bent 4	72874.038	-2.292	373.660	373.628	E. Bent 4	72873.004	0.000	373.665	373.665	
M	72886.506	-6.875	373.596	373.566	M	72884.038	-2.292	373.611	373.561	M	72883.004	0.000	373.648	373.678	
N	72896.506	-6.875	373.597	373.563	N	72894.038	-2.292	373.592	373.538	N	72893.004	0.000	373.629	373.676	
O	72906.506	-6.875	373.598	373.561	O	72904.038	-2.292	373.570	373.516	O	72903.004	0.000	373.607	373.654	
P	72916.506	-6.875	373.599	373.599	P	72914.038	-2.292	373.545	373.575	P	72913.004	0.000	373.583	373.613	
E. Bent 5	72926.506	-6.875	373.441	373.441	E. Bent 5	72924.038	-2.292	373.511	373.511	E. Bent 5	72923.004	0.000	373.555	373.555	
Q	72936.506	-6.875	373.410	373.440	Q	72934.038	-2.292	373.487	373.517	Q	72933.004	0.000	373.525	373.555	
R	72946.506	-6.875	373.376	373.423	R	72944.038	-2.292	373.453	373.508	R	72943.004	0.000	373.492	373.539	
S	72956.506	-6.875	373.340	373.387	S	72954.038	-2.292	373.418	373.464	S	72953.004	0.000	373.457	373.503	
T	72966.506	-6.875	373.304	373.351	T	72964.038	-2.292	373.382	373.428	T	72963.004	0.000	373.421	373.451	
E. Bent 6	72976.506	-6.875	373.268	373.268	E. Bent 6	72974.038	-2.292	373.346	373.346	E. Bent 6	72973.004	0.000	373.385	373.385	
U	72986.506	-6.875	373.232	373.262	U	72984.038	-2.292	373.310	373.340	U	72983.004	0.000	373.349	373.379	
V	72996.506	-6.875	373.196	373.243	V	72994.038	-2.292	373.274	373.320	V	72993.004	0.000	373.313	373.359	
W	73006.506	-6.875	373.160	373.207	W	73004.038	-2.292	373.239	373.284	W	73003.004	0.000	373.277	373.323	
X	73016.506	-6.875	373.124	373.171	X	73014.038	-2.292	373.203	373.248	X	73013.004	0.000	373.241	373.287	
Y	73026.506	-6.875	373.088	373.135	Y	73024.038	-2.292	373.166	373.166	Y	73023.004	0.000	373.205	373.205	
E. Brg. Bent 7	73026.511	-6.875	373.088	373.088	E. Brg. Bent 7	73024.038	-2.292	373.166	373.166	E. Brg. Bent 7	73024.015	0.000	373.205	373.205	
E. Bent 7	73026.111	-6.875	373.082	373.082	E. Bent 7	73026.443	-2.292	373.160	373.160	E. Bent 7	73026.608	0.000	373.199	373.199	

DESIGNED: Raymond Paul Giamberini  
 EXAMINED: Paul E. Giamberini  
 CHECKED: Robert E. Giamberini  
 DRAWN: R. P. Summer  
 CHECKED: R.E.G.

TOP OF SLAB ELEVATIONS  
 F.A. RT. 885 SEC. 107A-DR  
 JOHNSON COUNTY  
 STA. 727+23.00

**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400

**EXISTING STRUCTURE PLANS**  
 IL. ROUTE 146 OVER CACHE RIVER  
 F.A.P. ROUTE 885 / SECTION 107BR-1  
 JOHNSON COUNTY  
 STATION 727+23.00  
 STRUCTURE NO. 044-0014

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-62-0007-1 DATE: 04/02/08  
 DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 44	SHEET NO. 4 19 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 44	SHEET NO. 4 17 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

LINE 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
W. Bent 1	72637.850	6.875	373.598	373.598
E. Brg. Bent 1	72637.444	6.875	373.598	373.598
A	72645.492	6.875	373.598	373.616
B	72653.492	6.875	373.598	373.599
C	72661.492	6.875	373.598	373.599
E. Pier 1	72670.002	6.875	373.598	373.598
E. Pier 2	72771.002	6.875	373.598	373.598
D	72781.002	6.875	373.598	373.627
E	72791.002	6.875	373.598	373.644
F	72801.002	6.875	373.598	373.644
G	72811.002	6.875	373.598	373.659
H	72821.002	6.875	373.598	373.599
E. Bent 3	72821.502	6.875	373.598	373.598
I	72831.502	6.875	373.598	373.626
J	72841.502	6.875	373.598	373.638
K	72851.502	6.875	373.598	373.638
L	72861.502	6.875	373.598	373.638
E. Bent 4	72871.502	6.875	373.598	373.561
M	72881.502	6.875	373.598	373.579
N	72891.502	6.875	373.598	373.573
O	72901.502	6.875	373.598	373.572
P	72911.502	6.875	373.598	373.572
E. Bent 5	72921.502	6.875	373.598	373.455
Q	72931.502	6.875	373.598	373.455
R	72941.502	6.875	373.598	373.460
S	72951.502	6.875	373.598	373.460
T	72961.502	6.875	373.598	373.460
E. Bent 6	72971.502	6.875	373.598	373.280
U	72981.502	6.875	373.598	373.281
V	72991.502	6.875	373.598	373.282
W	73001.502	6.875	373.598	373.282
X	73011.502	6.875	373.598	373.282
Y	73021.502	6.875	373.598	373.282
E. Brg. Bent 7	73021.512	6.875	373.100	373.100
E. Bent 7	73023.106	6.875	373.100	373.100

LINE 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
W. Bent 1	72636.230	11.450	373.526	373.526
E. Brg. Bent 1	72637.829	11.450	373.526	373.526
A	72647.823	11.450	373.526	373.544
B	72657.823	11.450	373.526	373.544
C	72667.823	11.450	373.526	373.527
E. Pier 1	72668.334	11.450	373.526	373.526
E. Pier 2	72769.334	11.450	373.526	373.526
D	72779.334	11.450	373.526	373.556
E	72789.334	11.450	373.526	373.572
F	72799.334	11.450	373.526	373.573
G	72809.334	11.450	373.526	373.557
H	72819.334	11.450	373.526	373.527
E. Bent 3	72819.834	11.450	373.526	373.526
I	72829.834	11.450	373.526	373.555
J	72839.834	11.450	373.526	373.567
K	72849.834	11.450	373.526	373.568
L	72859.834	11.450	373.526	373.534
E. Bent 4	72859.834	11.450	373.492	373.492
M	72879.834	11.450	373.476	373.506
N	72889.834	11.450	373.458	373.505
O	72899.834	11.450	373.438	373.484
P	72909.834	11.450	373.414	373.444
E. Bent 5	72919.834	11.450	373.388	373.388
Q	72929.834	11.450	373.359	373.389
R	72939.834	11.450	373.327	373.374
S	72949.834	11.450	373.293	373.339
T	72959.834	11.450	373.257	373.287
E. Bent 6	72969.834	11.450	373.221	373.221
U	72979.834	11.450	373.185	373.215
V	72989.834	11.450	373.149	373.188
W	72999.834	11.450	373.113	373.159
X	73009.834	11.450	373.077	373.127
Y	73019.834	11.450	373.041	373.041
E. Brg. Bent 7	73019.844	11.450	373.041	373.041
E. Bent 7	73021.438	11.450	373.035	373.035

LINE 10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
W. Bent 1	72635.850	12.500	373.510	373.510
E. Brg. Bent 1	72637.444	12.500	373.510	373.510
A	72647.444	12.500	373.510	373.528
B	72657.444	12.500	373.510	373.528
C	72667.444	12.500	373.510	373.511
E. Pier 1	72667.955	12.500	373.510	373.510
E. Pier 2	72768.955	12.500	373.510	373.510
D	72778.955	12.500	373.510	373.539
E	72788.955	12.500	373.510	373.556
F	72798.955	12.500	373.510	373.557
G	72808.955	12.500	373.510	373.541
H	72818.955	12.500	373.510	373.521
E. Bent 3	72818.455	12.500	373.510	373.510
I	72828.455	12.500	373.500	373.538
J	72838.455	12.500	373.504	373.551
K	72848.455	12.500	373.488	373.544
L	72858.455	12.500	373.468	373.518
E. Bent 4	72858.455	12.500	373.476	373.476
M	72878.455	12.500	373.461	373.491
N	72888.455	12.500	373.443	373.489
O	72898.455	12.500	373.422	373.469
P	72908.455	12.500	373.399	373.429
E. Bent 5	72918.455	12.500	373.373	373.373
Q	72928.455	12.500	373.344	373.374
R	72938.455	12.500	373.312	373.359
S	72948.455	12.500	373.278	373.324
T	72958.455	12.500	373.242	373.272
E. Bent 6	72968.455	12.500	373.206	373.206
U	72978.455	12.500	373.170	373.200
V	72988.455	12.500	373.134	373.180
W	72998.455	12.500	373.098	373.144
X	73008.455	12.500	373.062	373.108
Y	73018.455	12.500	373.026	373.026
E. Brg. Bent 7	73018.465	12.500	373.026	373.026
E. Bent 7	73021.059	12.500	373.020	373.020

LINE 11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
W. Bent 1	72635.122	14.500	373.478	373.478
E. Brg. Bent 1	72637.716	14.500	373.478	373.478
A	72648.716	14.500	373.478	373.496
B	72659.716	14.500	373.478	373.497
C	72669.716	14.500	373.478	373.480
E. Pier 1	72670.227	14.500	373.478	373.478
E. Pier 2	72771.227	14.500	373.478	373.478
D	72781.227	14.500	373.478	373.507
E	72791.227	14.500	373.478	373.525
F	72801.227	14.500	373.478	373.525
G	72811.227	14.500	373.478	373.510
H	72821.227	14.500	373.478	373.480
E. Bent 3	72821.727	14.500	373.478	373.478
I	72831.727	14.500	373.477	373.507
J	72841.727	14.500	373.474	373.520
K	72851.727	14.500	373.457	373.514
L	72861.727	14.500	373.450	373.480
E. Bent 4	72861.727	14.500	373.446	373.446
M	72871.727	14.500	373.431	373.461
N	72881.727	14.500	373.413	373.460
O	72891.727	14.500	373.393	373.439
P	72901.727	14.500	373.369	373.399
E. Bent 5	72911.727	14.500	373.343	373.343
Q	72921.727	14.500	373.315	373.345
R	72931.727	14.500	373.283	373.330
S	72941.727	14.500	373.249	373.296
T	72951.727	14.500	373.213	373.243
E. Bent 6	72961.727	14.500	373.177	373.177
U	72971.727	14.500	373.141	373.171
V	72981.727	14.500	373.105	373.152
W	72991.727	14.500	373.069	373.116
X	73001.727	14.500	373.033	373.063
Y	73011.727	14.500	372.997	372.997
E. Brg. Bent 7	73011.739	14.500	372.997	372.997
E. Bent 7	73021.333	14.500	372.991	372.991

DESIGNED: *R.P. Sumner*  
CHECKED: *Paul H. Johnson*  
DRAWN: *R.P. Sumner*  
CHECKED: *R.P.*

EXAMINED: *Paul H. Johnson*  
PASSED:  
APPROVED: \_\_\_\_\_  
DIRECTOR OF HIGHWAYS

TOP OF SLAB ELEVATIONS  
F.A. RT. 885 SEC. 107A-DR  
JOHNSON COUNTY  
STA. 727+23.00

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

**ELGIN • SPRINGFIELD**

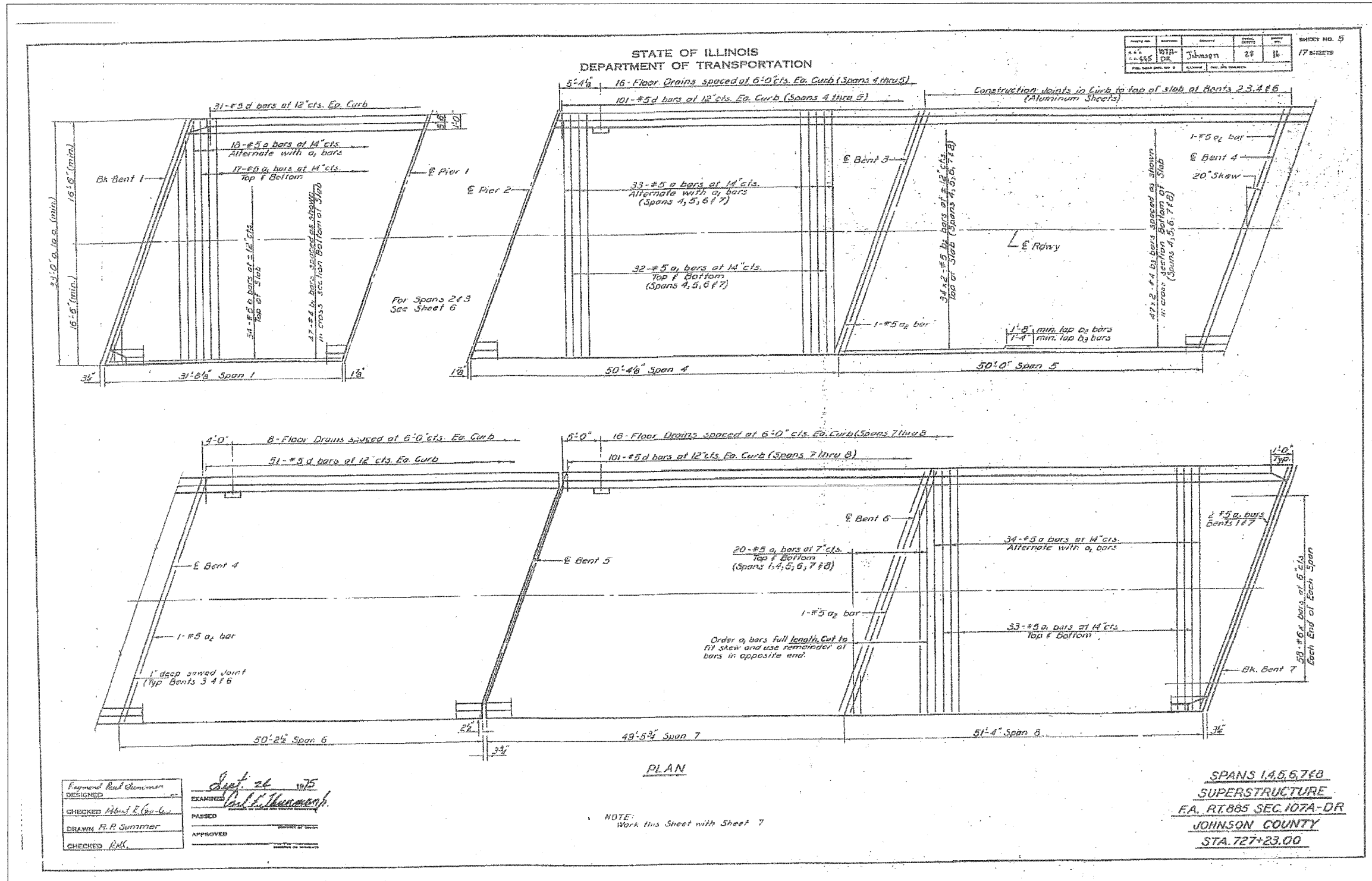
PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 45	SHEET NO. 5 19 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT	

Contract #78030



**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1    DATE: 04/02/08  
DESIGNED: S.M.S.    CHECKED: M.D.C.    DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**

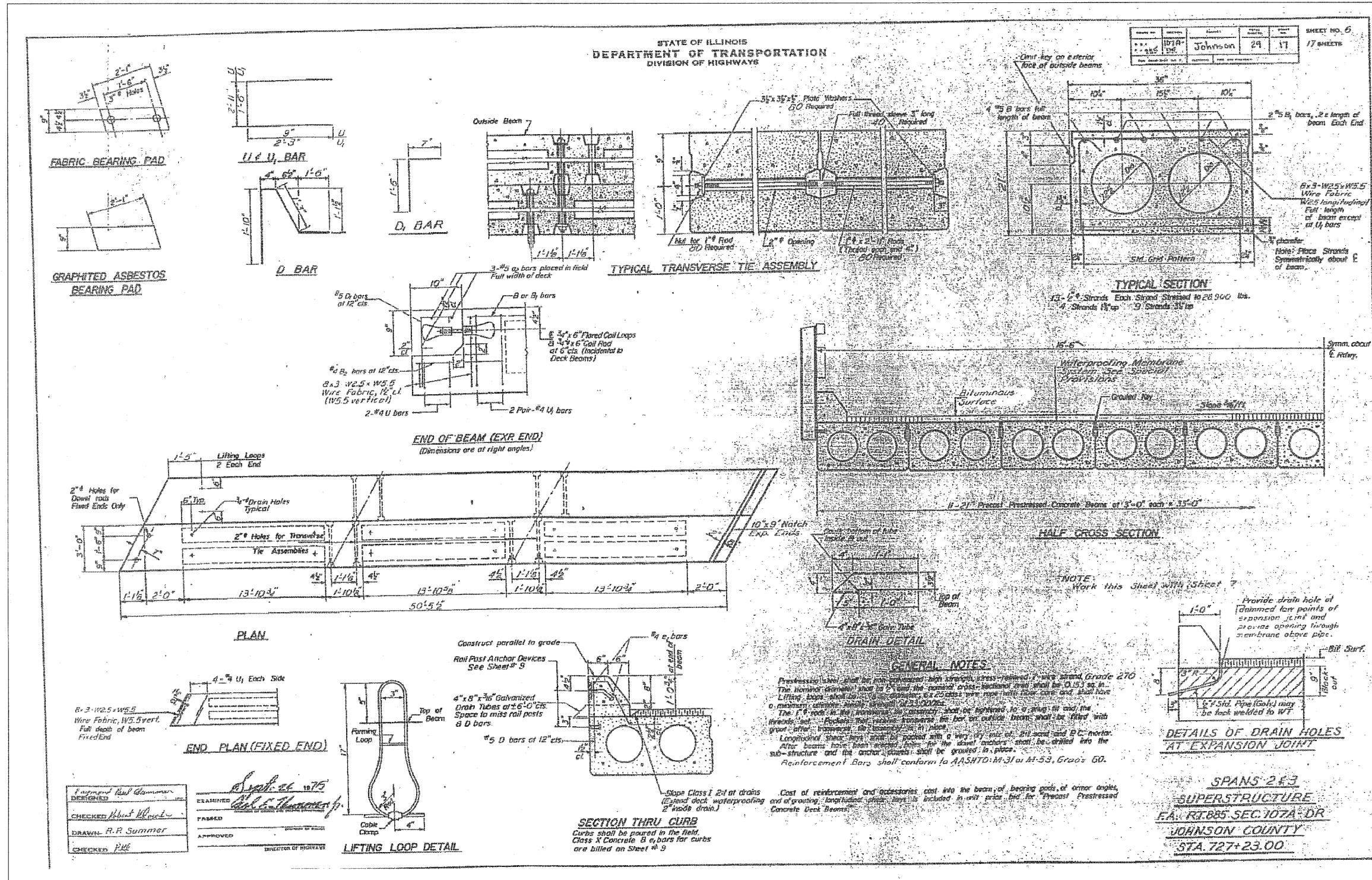
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1	Johnson	94	46
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 6  
19 SHEETS

Contract #78030



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1	Johnson	94	46

DESIGNED BY: *[Signature]* 11/75  
 CHECKED BY: *[Signature]*  
 DRAWN BY: R.R. Summer  
 CHECKED BY: *[Signature]*

**GENERAL NOTES**  
 Reinforcement bars shall conform to AASHTO M-31 or M-53, Grade 60.  
 Cost of reinforcement and accessories cast into the beam, of bearing pads, at corner angles, and at grooves, longitudinal drains, shall be included in unit price bid for Precast Prestressed Concrete Deck Beams.

**DETAILS OF DRAIN HOLES AT EXPANSION JOINT**  
 Provide drain hole at [blacked out] low points of expansion joint and provide opening through membrane above pipe.

**SPANS 2 & 3  
 SUPERSTRUCTURE  
 F.A. RT. 885, SEC. 107A-DR  
 JOHNSON COUNTY  
 STA. 727+23.00**

**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
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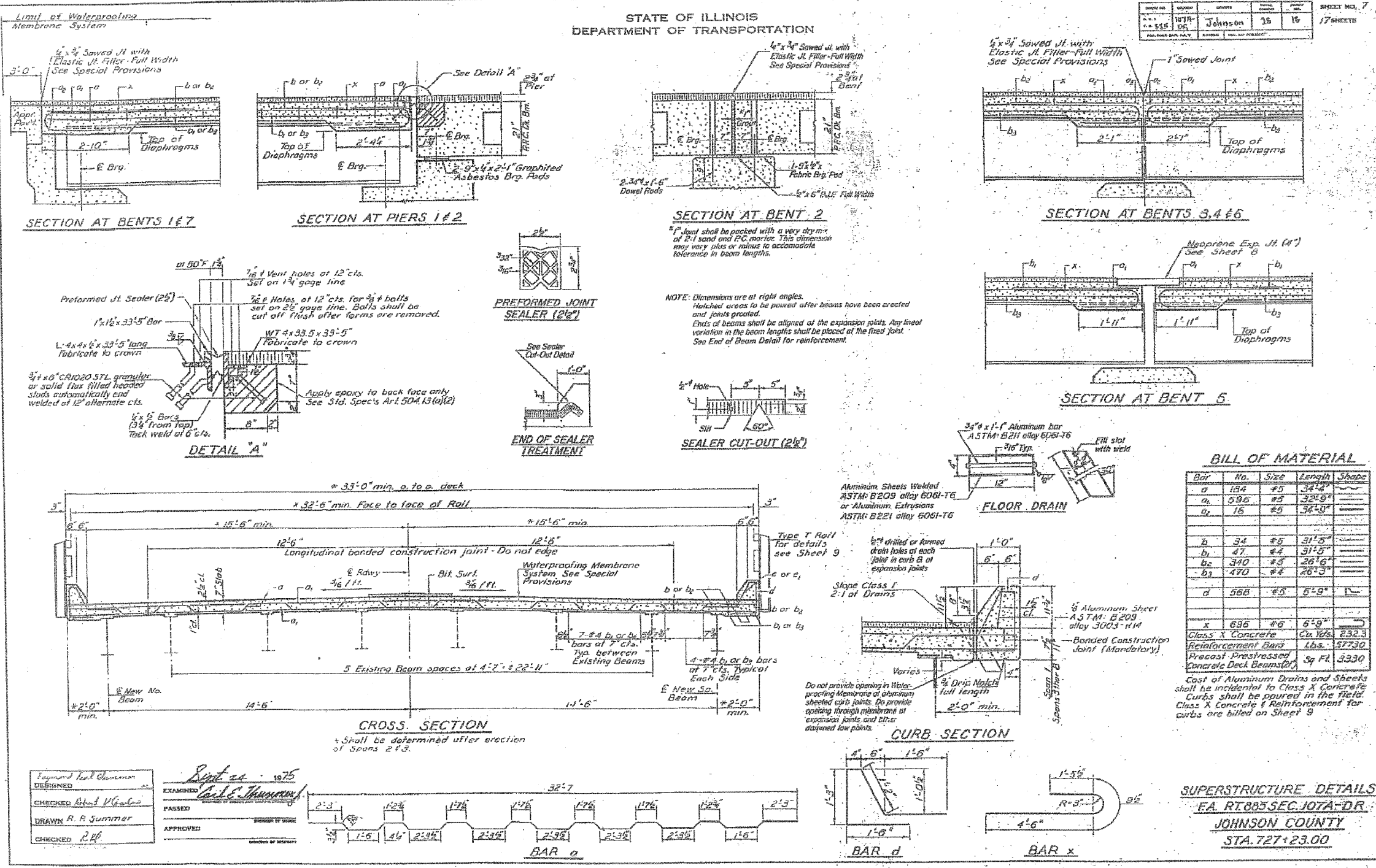
**EXISTING STRUCTURE PLANS**  
 IL. ROUTE 146 OVER CACHE RIVER  
 F.A.P. ROUTE 885 / SECTION 107BR-1  
 JOHNSON COUNTY  
 STATION 727+23.00  
 STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 47
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 7  
19 SHEETS

Contract #78030



DESIGNED: Raymond Paul Summer  
CHECKED: R. P. Summer  
DRAWN: R. P. Summer  
EXAMINED: [Signature]  
PASSED: [Signature]  
APPROVED: [Signature]

**SUPERSTRUCTURE DETAILS**  
FA. RT. 885 SEC. 107A-DR  
JOHNSON COUNTY  
STA. 727+23.00

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS  
3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400  
ELGIN • SPRINGFIELD  
PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 48
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

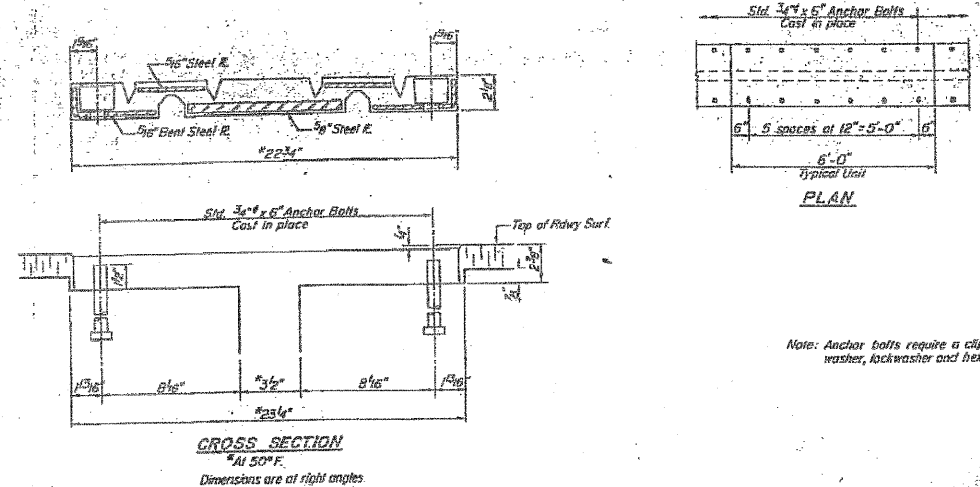
SHEET NO. 8  
19 SHEETS

Contract #78030

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

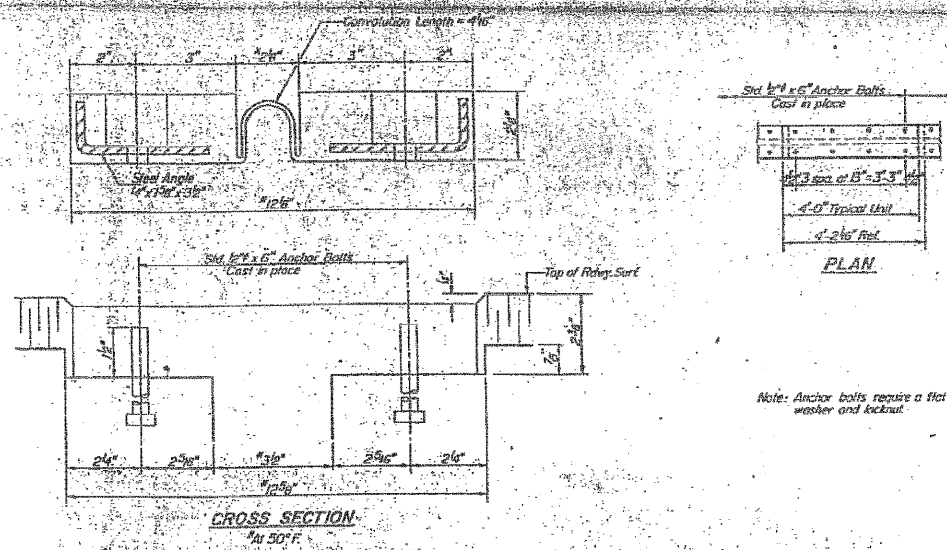
PROJECT NO.	107BR-1	DATE	7.5	19
DESIGNED BY	Johannes	CHECKED BY		

SHEET NO. 8  
17 SHEETS



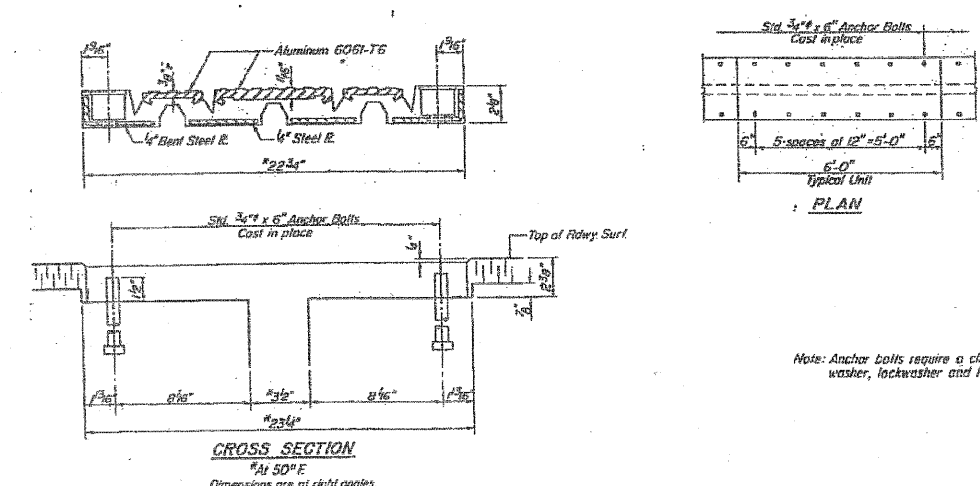
**TRANSFLEX MODEL 400A**  
(Structural Rubber Products Co.)

*Note: Anchor bolts require a clipped washer, lockwasher and hex nut.*



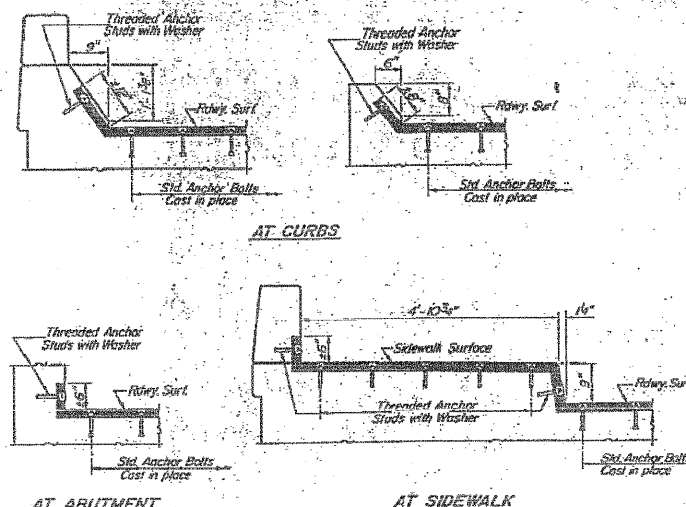
**FEL-SPAN MODEL T-40**  
(Fel-Pro Building Products Inc.)

*Note: Anchor bolts require a flat washer and locknut.*



**WABOFLEX MODEL SR 4**  
(Watson-Bowman Associates Inc.)

*Note: Anchor bolts require a clipped washer, lockwasher and hex nut.*



**TYPICAL END TREATMENTS**

AT CURBS  
AT ABUTMENT  
AT SIDEWALK

**NEOPRENE EXPANSION JOINTS (4")**  
FOR EXPANSION LENGTH OF DECK = 200 ft. @ 520 ft.

**F.A. RT. 885 SEC. 107A-DR**  
**JOHNSON COUNTY**  
**STA. 727+23.00**

DESIGNED Richard Paul Chapman	EXAMINED Sept 29 1975 Richard C. Chapman
CHECKED Richard P. Summer	PASSED
DRAWN R. P. Summer	APPROVED
CHECKED R.P.C.	DIRECTOR OF HIGHWAY

EJ-3 4-15-75

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

**HLR**

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-62-0007-1    DATE: 04/02/08  
DESIGNED: S.M.S.    CHECKED: M.D.C.    DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**

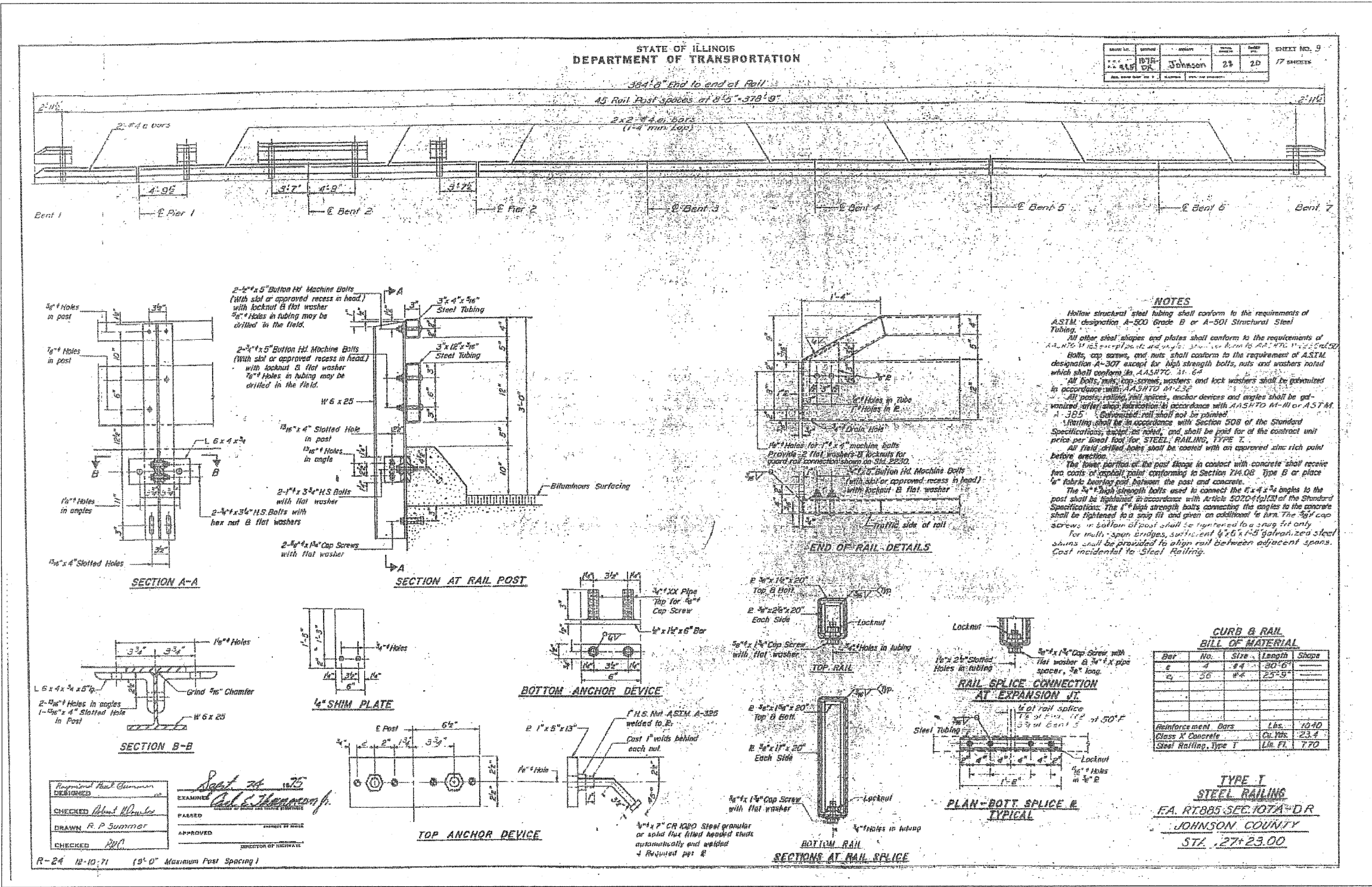
**IL. ROUTE 146 OVER CACHE RIVER**  
**F.A.P. ROUTE 885 / SECTION 107BR-1**  
**JOHNSON COUNTY**  
**STATION 727+23.00**  
**STRUCTURE NO. 044-0014**



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 49	SHEET NO. 9 19 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT			

Contract #78030



**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

**HLR**

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**

IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

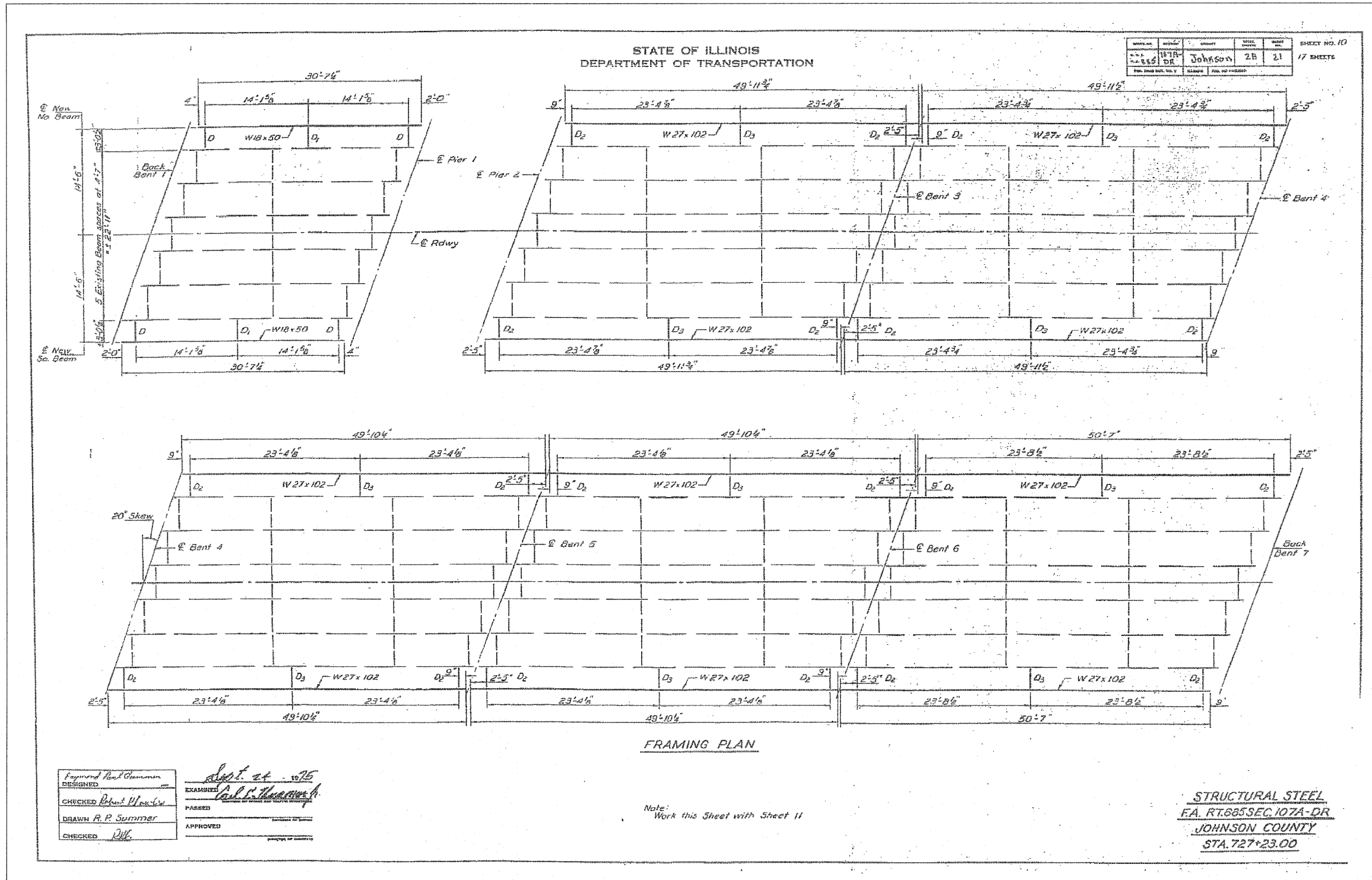
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	STATION 94	SHEET NO. 50
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 10

19 SHEETS

Contract #78030



DESIGNED: Raymond Neal Claman  
CHECKED: Robert W. Claman  
DRAWN: R. P. Summer  
CHECKED: [Signature]

EXAMINED: [Signature]  
PASSED: [Signature]  
APPROVED: [Signature]

Note:  
Work this Sheet with Sheet 11

STRUCTURAL STEEL  
F.A. RT. 885 SEC. 107A-DR  
JOHNSON COUNTY  
STA. 727+23.00

HAMPTON, LENZINI & RENWICK, INC.  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS  
3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400  
ELGIN • SPRINGFIELD  
PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

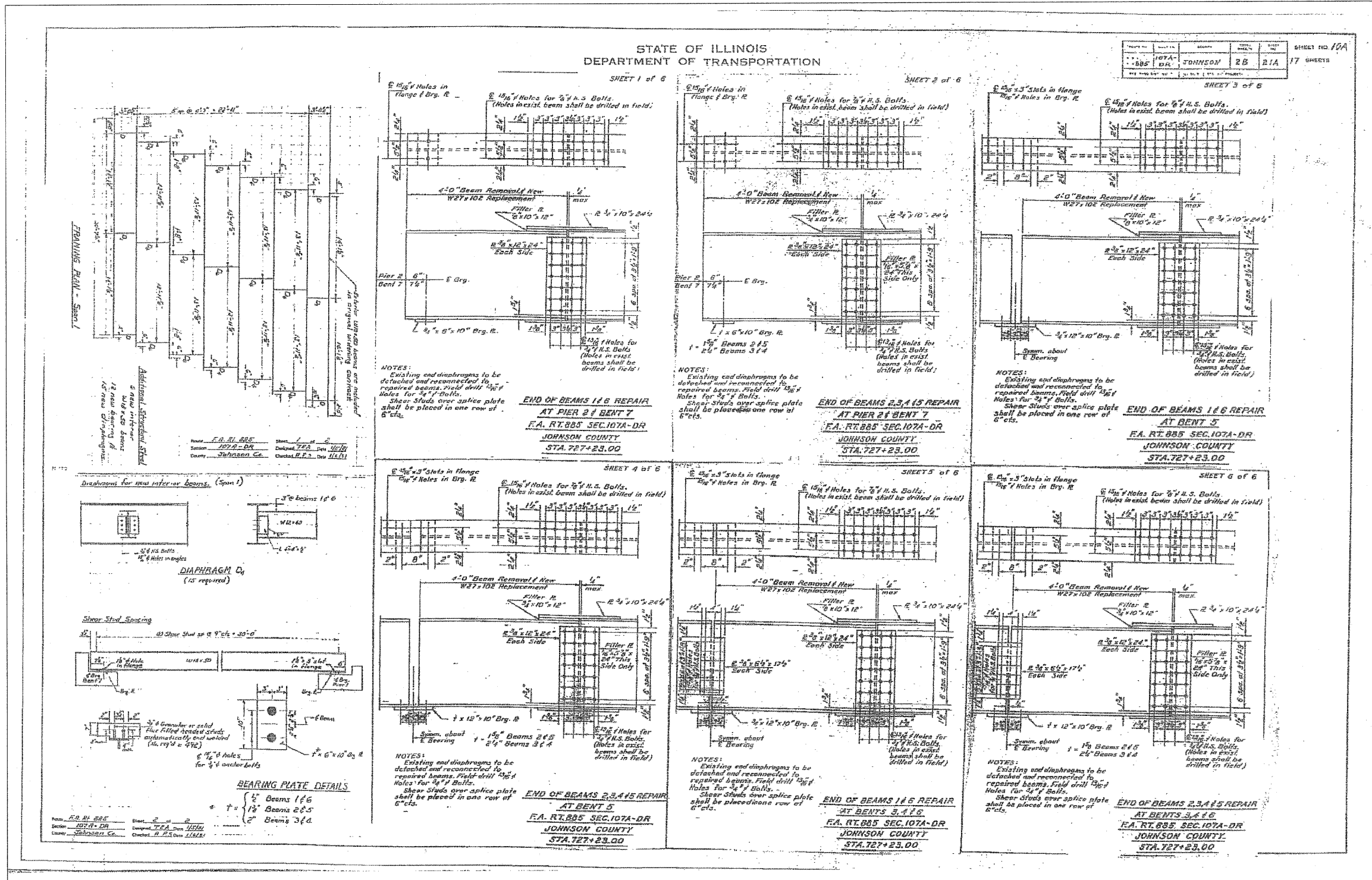
EXISTING STRUCTURE PLANS  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	107BR-1	Johnson	94	51
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 11  
19 SHEETS

Contract #78030



**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

**HLR**

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**

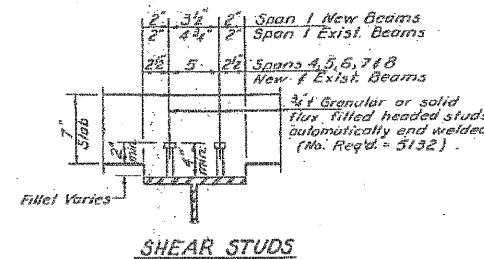
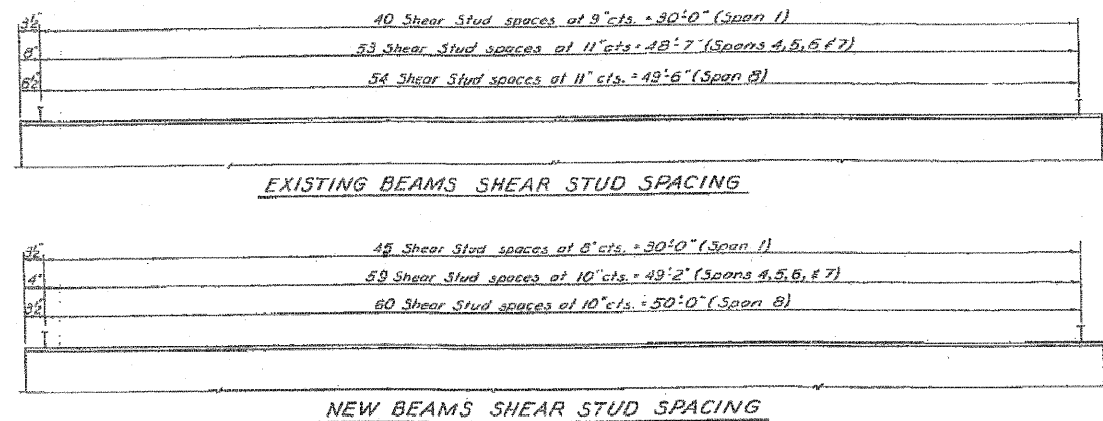
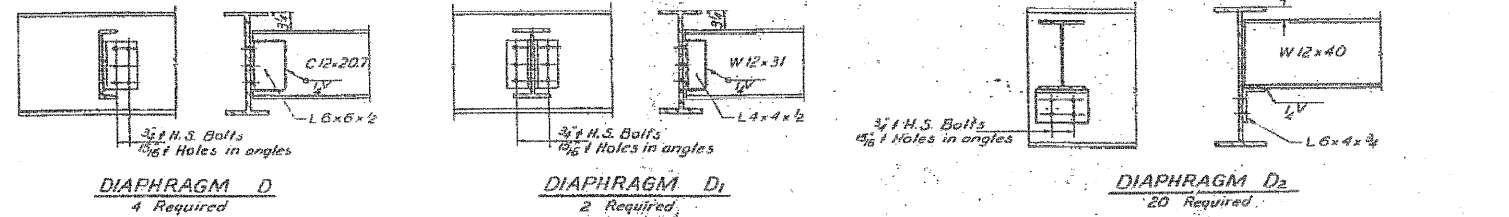
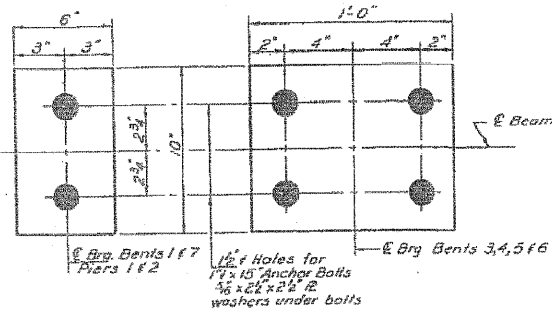
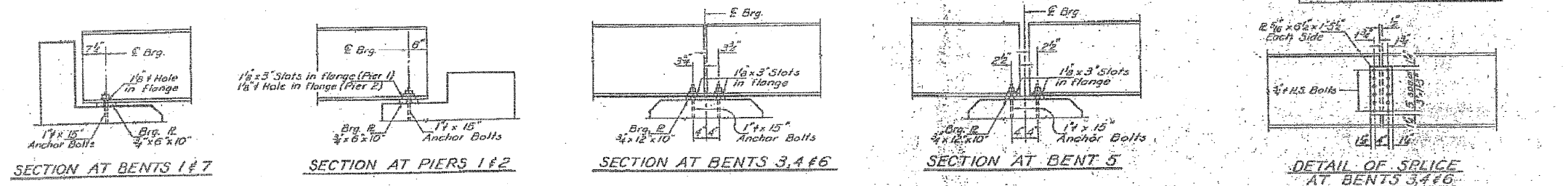
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 52	SHEET NO. 12 19 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

Contract #78030

DESIGN NO. 107BR-1	SECTION DR	PROJECT JOHNSON 17	SHEET NO. 28	SHEET NO. 22	SHEET NO. 11 17 SHEETS
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NOTES:  
All existing Brg. P's shall be used. At Bent 1 and Piers the existing anchor bolts shall be removed and replaced with 1 1/4 x 15 anchor bolts. Holes in existing beams for connecting diaphragms shall be drilled after diaphragms have been connected to the new beams. Hardened washers shall be required over 1/8 inch holes in angles.

DESIGNED: Raymond Paul Sumner  
CHECKED: Robert Klemm  
DRAWN: R. P. Sumner  
CHECKED: R.M.C.  
EXAMINED: [Signature]  
PASSED:  
APPROVED:

TOP OF BEAM ELEVATIONS

	Brig. Bent 1	Brig. Pier 1	Brig. Pier 2	Brig. Bent 3	Brig. Bent 4	Brig. Bent 5	Brig. Bent 6	Brig. Bent 7
New No. Beam	372.692	372.692	372.679	372.613	372.783	372.643	372.468	372.133
New So. Beam	372.692	372.692	372.679	372.613	372.783	372.643	372.468	372.133

STRUCTURAL STEEL  
F.A. RT 885 SEC. 107A-DR  
JOHNSON COUNTY  
STA. 727+23.00

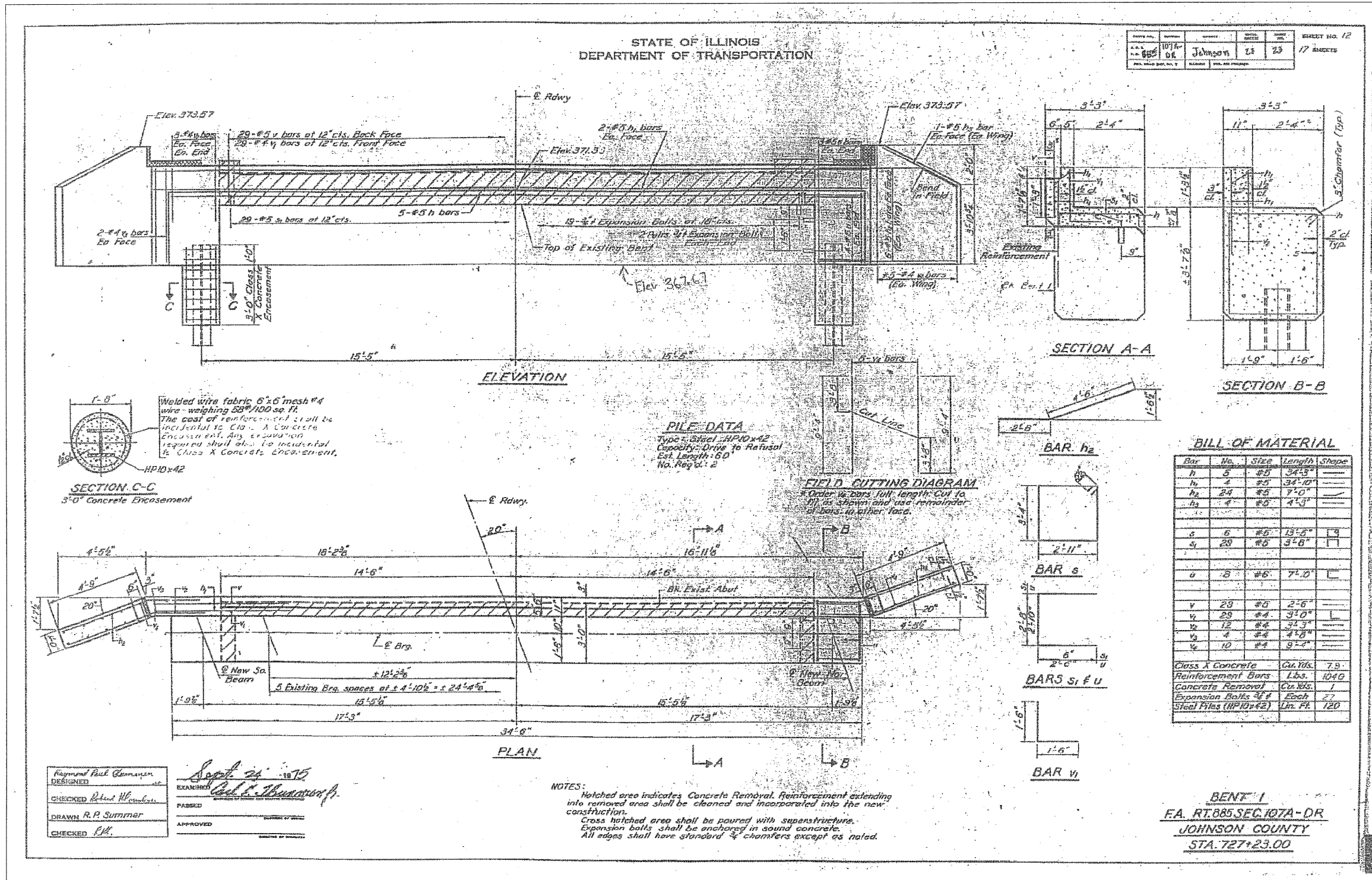
HAMPTON, LENZINI & RENWICK, INC.  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS  
3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400  
ELGIN • SPRINGFIELD  
PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

EXISTING STRUCTURE PLANS  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 13 19 SHEETS
F.A.P. 885	107BR-1	Johnson	94	53	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030



DESIGNED: Raymond Paul Coleman  
CHECKED: Robert W. ...  
DRAWN: R.P. Summer  
CHECKED: R.H.

EXAMINED: *Col. J. Thompson*  
APPROVED: \_\_\_\_\_

DATE: Sept 24, 1975

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

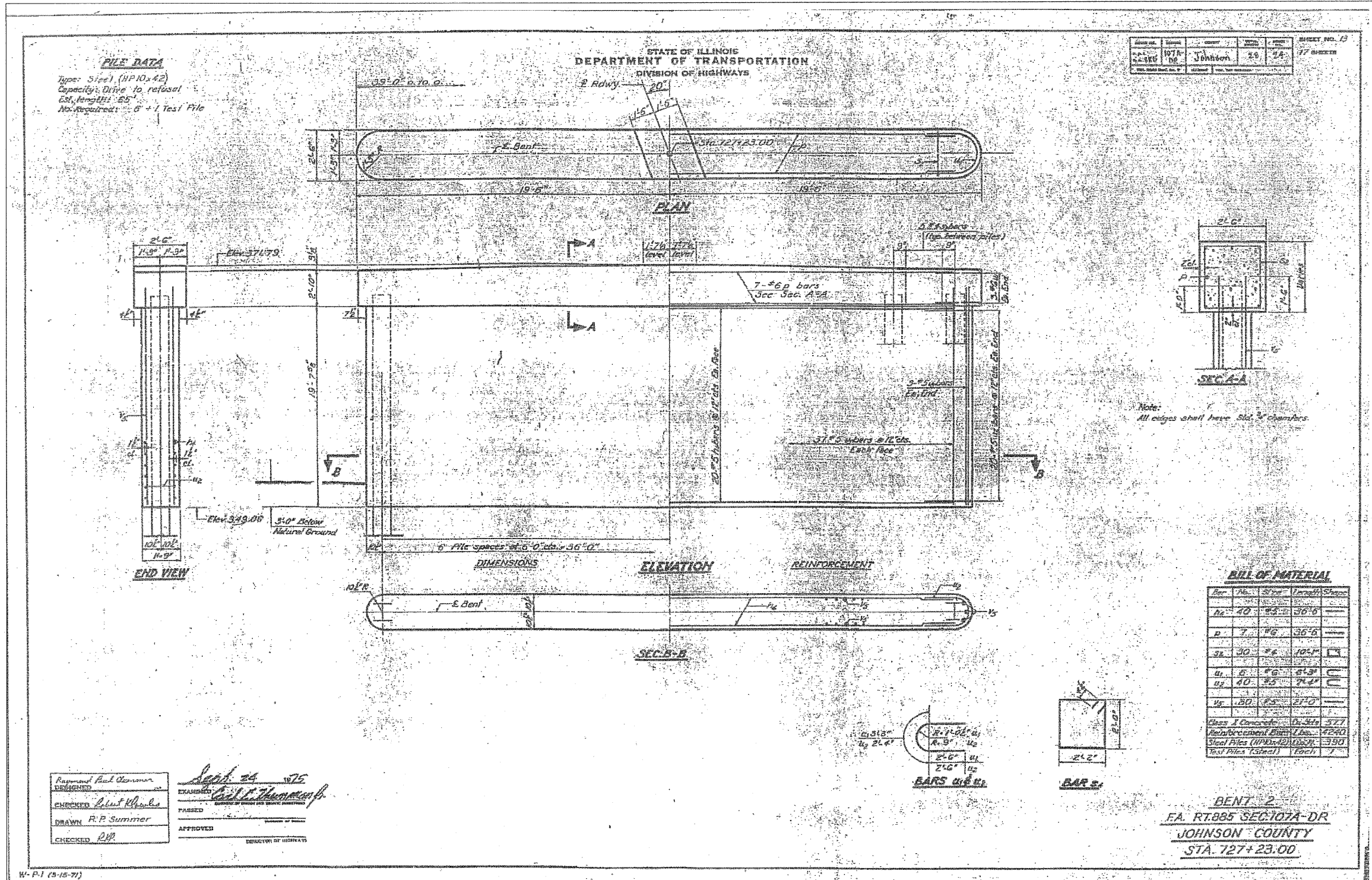
**EXISTING STRUCTURE PLANS**

IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 54	SHEET NO. 14 19 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030



**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

**HLR**

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

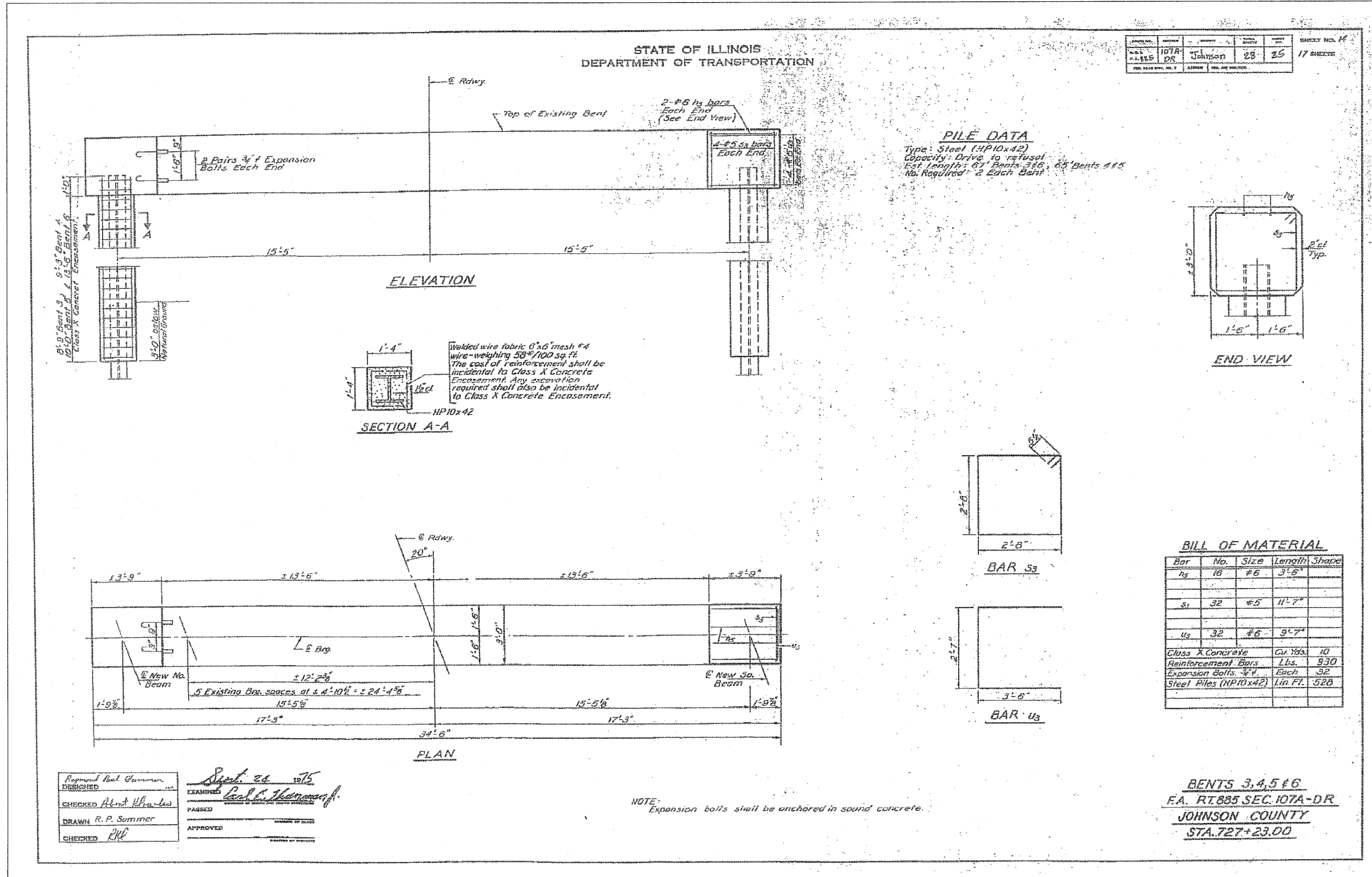
PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 55	SHEET NO. 15 19 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT-	

Contract #78030



**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

**HLR**

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**

IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

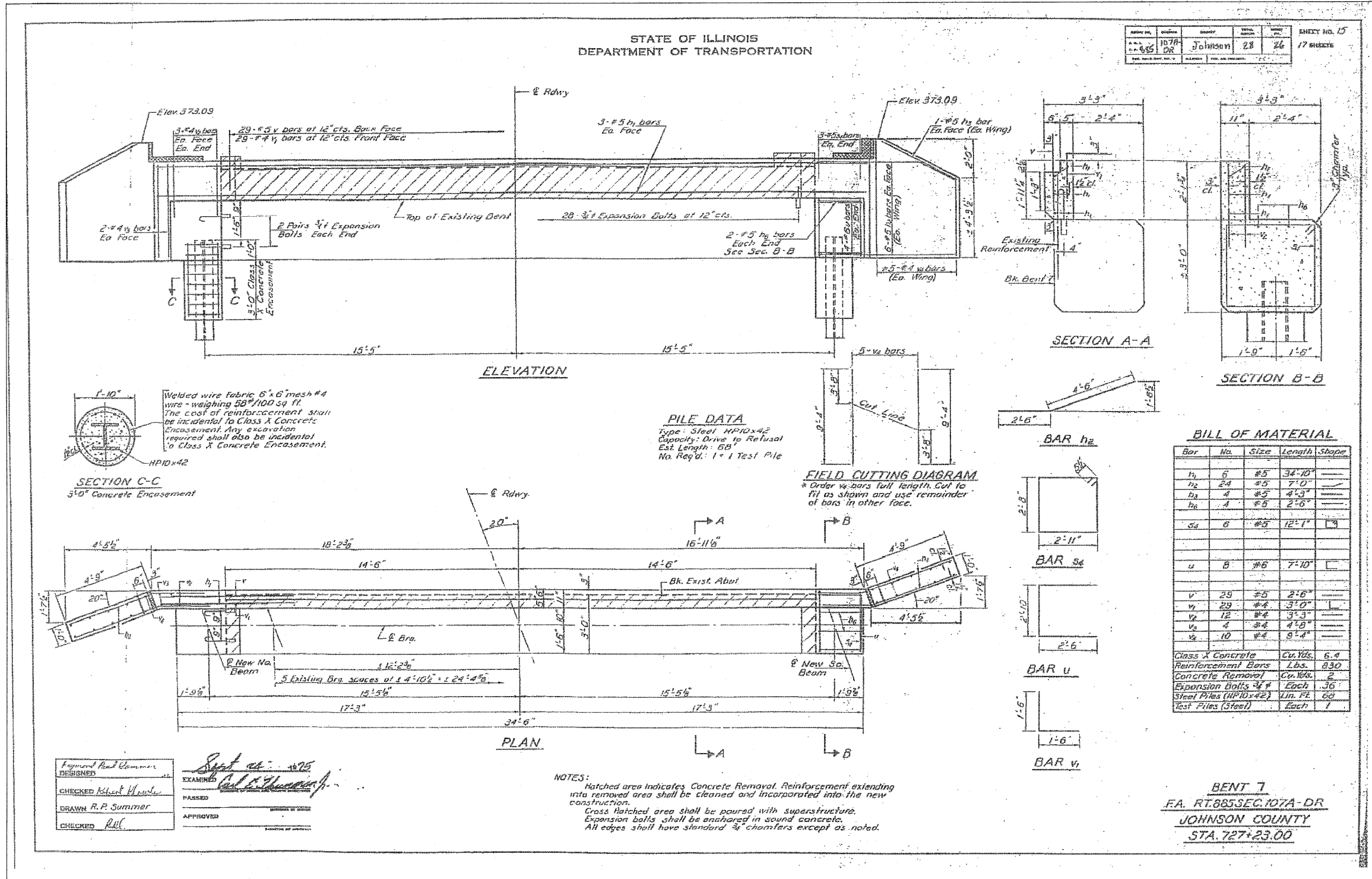
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 56
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 16

19 SHEETS

Contract #78030



**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1    DATE: 04/02/08  
DESIGNED: S.M.S.    CHECKED: M.D.C.    DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	SHEET NO. 94	SHEET NO. 57
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

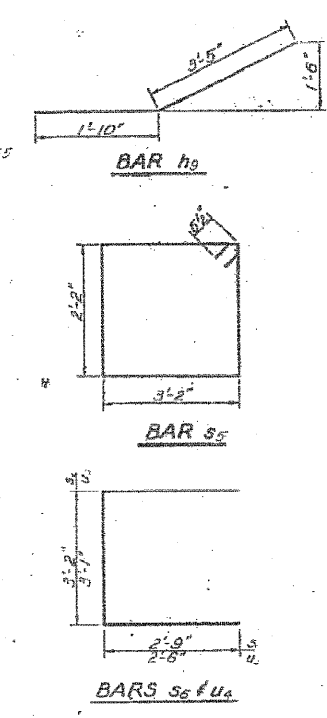
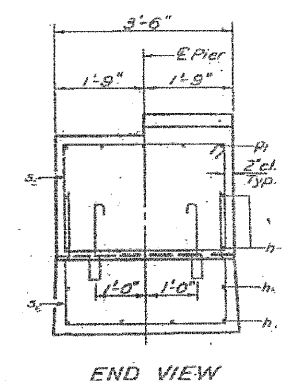
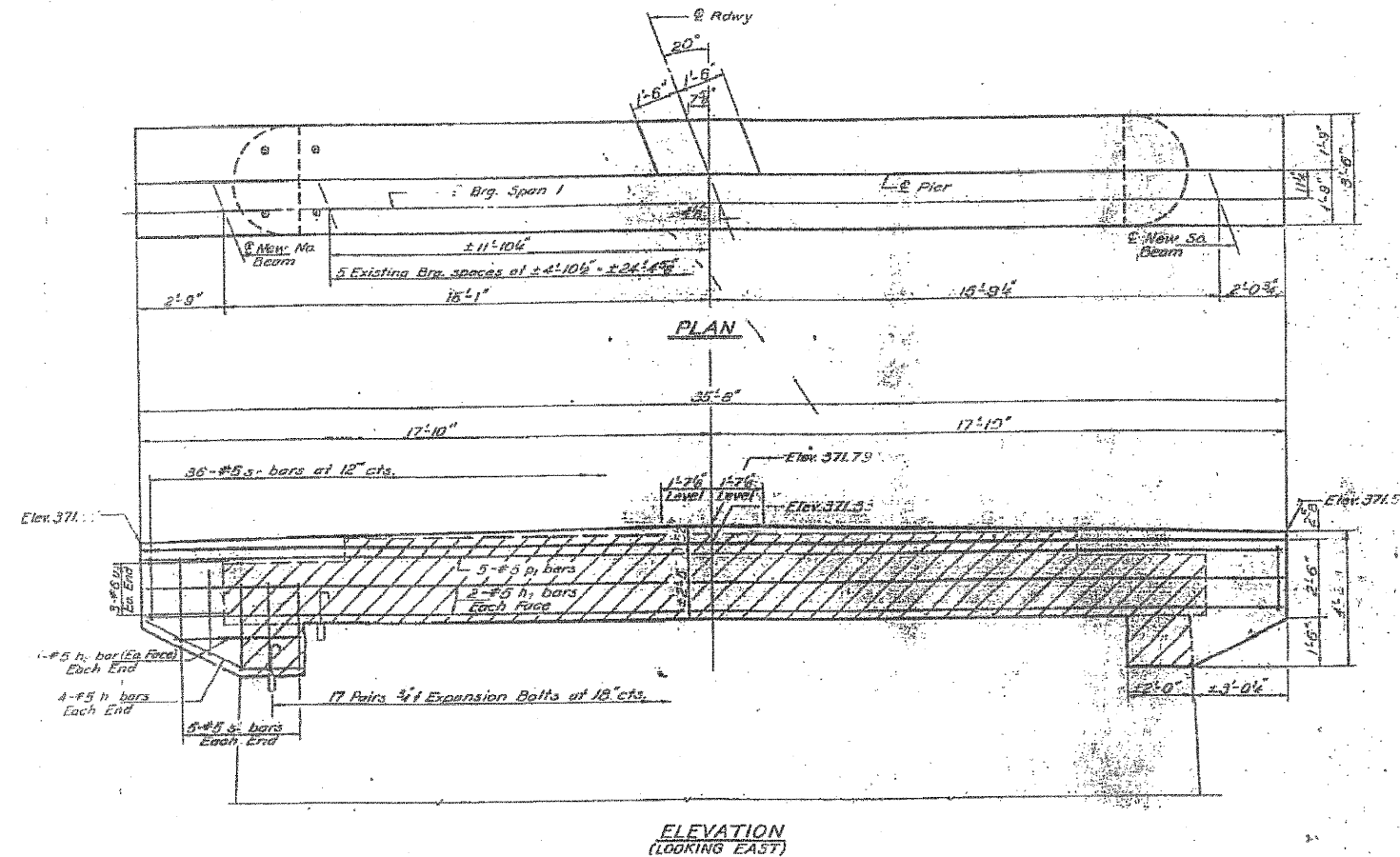
SHEET NO. 17

19 SHEETS

Contract #78030

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 107BR-DR	COUNTY Johnson	SHEET NO. 18	SHEET NO. 27
FED. ROAD DIST. NO. 7		ILLINOIS	



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
D1	4	#5	35'-5"	
D2	4	#5	4'-0"	
D3	6	#5	5'-3"	
P1	5	#5	35'-5"	
S1	36	#5	11'-7"	
S2	10	#5	8'-5"	
U1	6	#6	8'-1"	
Class X Concrete		Cu Yds	12.2	
Reinforcement Bars		Lbs.	930	
Concrete Removal		Cu Yds	.0	
Expansion Bolts 3/4"		Each	32	

**NOTES:**  
Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cut and incorporated into the new construction.  
Expansion bolts shall be anchored in sound concrete.  
All edges shall have standard 1/4" chamfers except as noted.

DESIGNED R. P. Summer	EXAMINED R. P. Summer
CHECKED R. P. Summer	PASSED R. P. Summer
DRAWN R. P. Summer	APPROVED R. P. Summer
CHECKED R. P. Summer	DATE 12/15/15

**PIER 1**  
F.A. RT. 885 SEC. 107A-DR  
JOHNSON COUNTY  
STA. 727+23.00

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

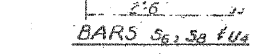
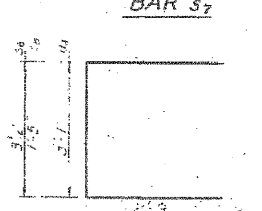
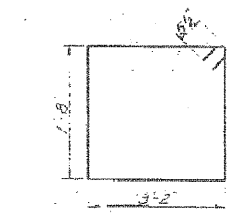
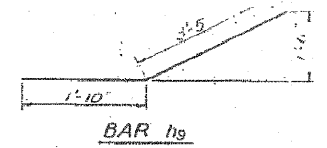
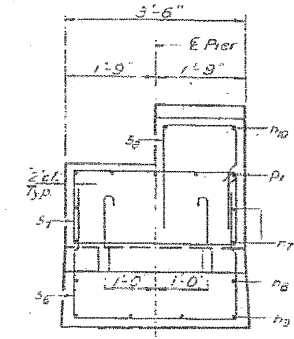
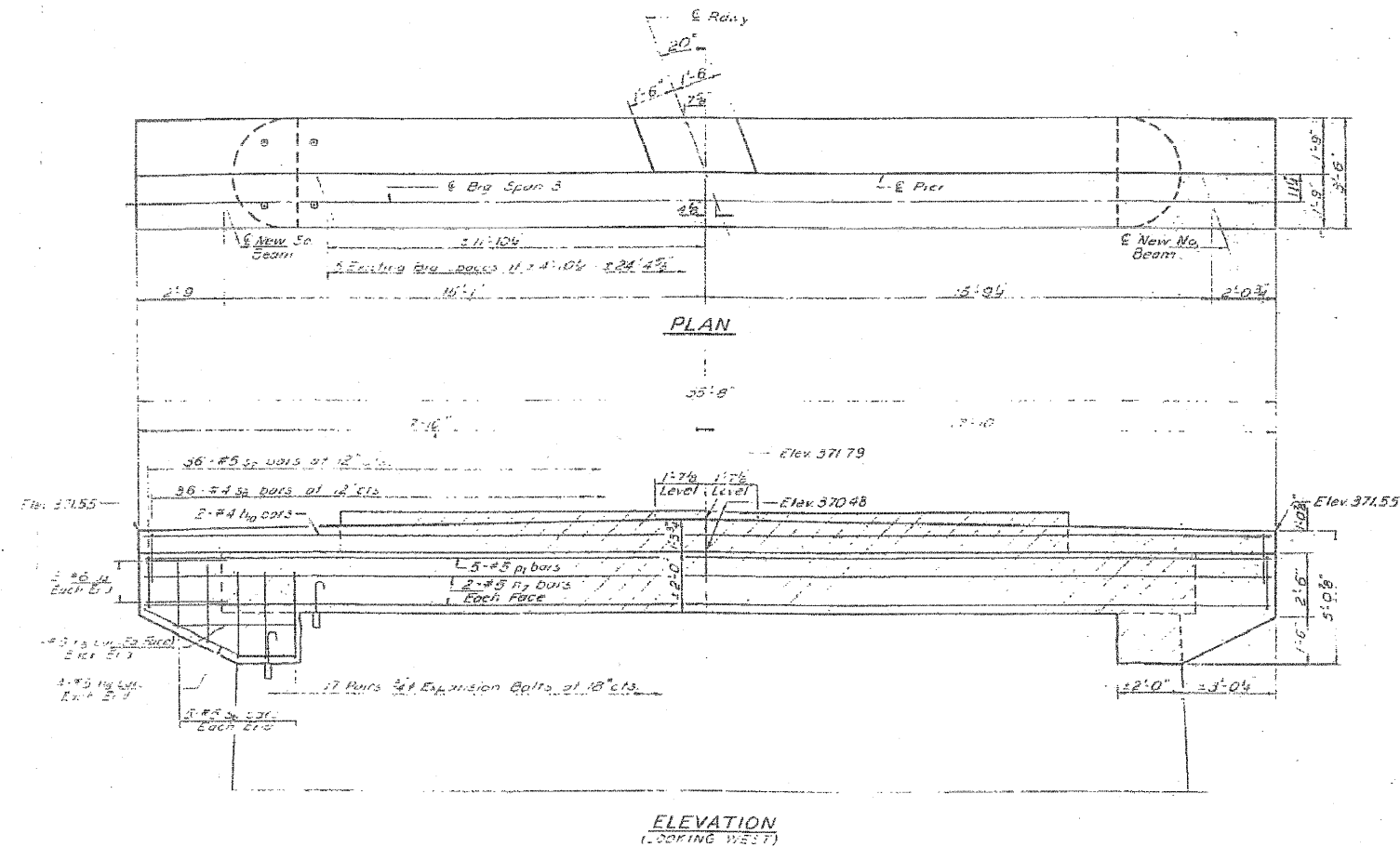
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 58	SHEET NO. 18 19 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 58	SHEET NO. 17 17 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		



**BILL OF MATERIAL**

Bar No.	Size	Length	Shape
n-1	#5	35'-8"	
n-2	#5	2'-5"	
n-3	#5	5'-3"	
n-4	#5	35'-8"	
p-1	#5	35'-8"	
s-1	#4	8'-8"	
s-2	#5	10'-7"	
s-3	#4	5'-5"	
v-1	#6	8'-1"	

Class A Concrete Cu Yds. 12.0  
Reinforcement Bars Lbs. 1130  
Concrete Removal Cu Yds. 12  
Expansion Bolts Each 34

NOTES:  
Hatched area indicates Concrete Removal. Reinforcement extending into hatched area shall be cut off and incorporated into the new concrete.  
Expansion bolts shall be anchored in sound concrete.  
All edges shall have standard 3/4 chamfers except as noted.

DESIGNED: [Signature]  
CHECKED: R. R. Summer  
DRAWN: R. R. Summer  
CHECKED: [Signature]

EXAMINED: [Signature]  
PASSED: [Signature]  
APPROVED: [Signature]

PIER 2  
EA. RT. 885 SEC. 107A-DR  
JOHNSON COUNTY  
STA. 727+23.00

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

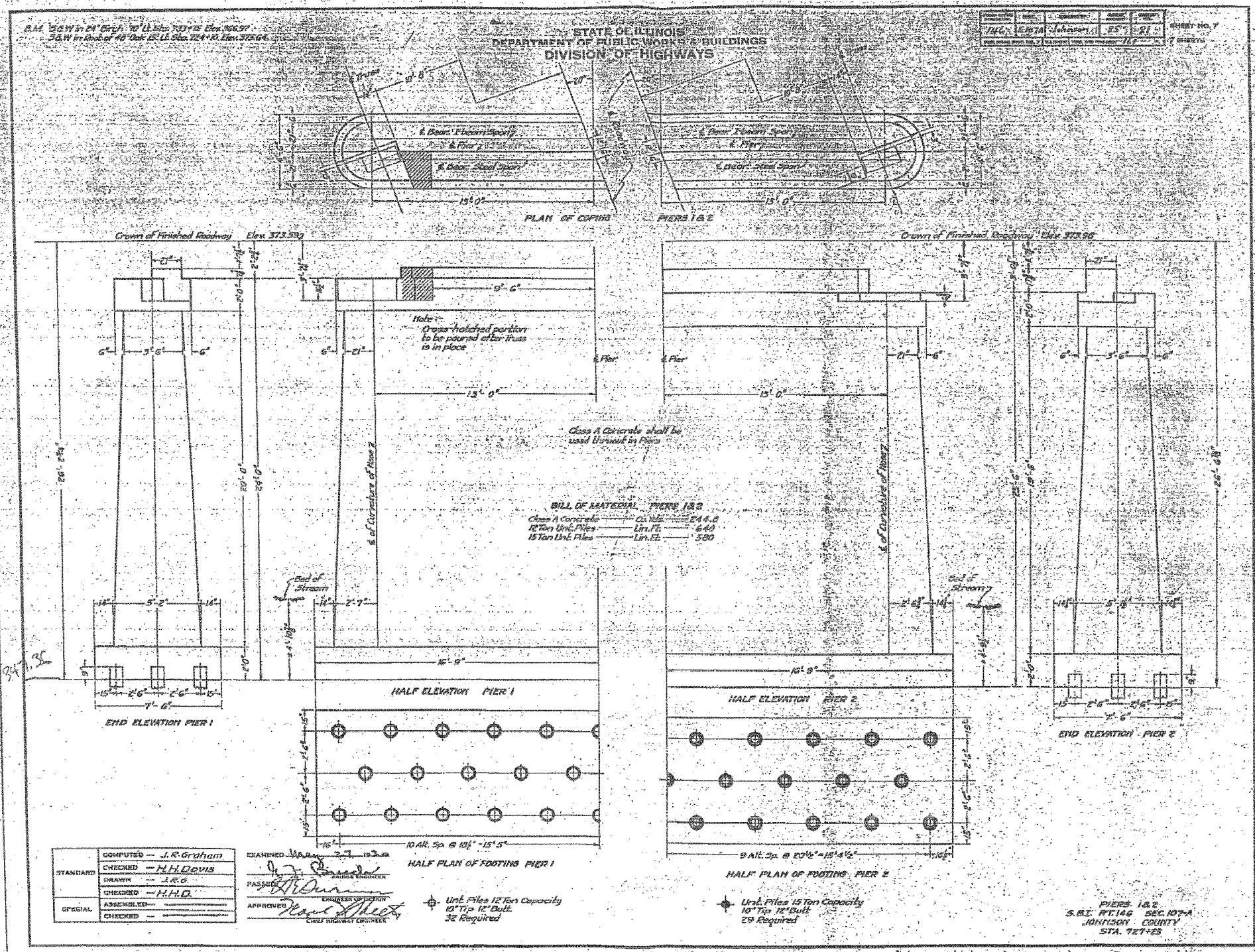
PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: S.M.S. CHECKED: M.D.C. DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 107BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 59	SHEET NO. 19 19 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT-	

Contract #78030



COMPUTED	J.R. Graham	EXAMINED	J.A. Ray
CHECKED	H.H. Davis	PASSED	J.R. Graham
DRAWN	J.R.G.	APPROVED	David M. Metcalf
CHECKED	H.H.D.	ENGINEER	David M. Metcalf
ASSEMBLED		CHIEF HIGHWAY ENGINEER	
CHECKED			

Unit Piles 12 Ton Capacity  
13" Tip 12" Butt  
32 Required

Unit Piles 15 Ton Capacity  
16" Tip 12" Butt  
29 Required

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

**HLR**

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1    DATE: 04/02/08  
DESIGNED: S.M.S.    CHECKED: M.D.C.    DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**  
IL. ROUTE 146 OVER CACHE RIVER  
F.A.P. ROUTE 885 / SECTION 107BR-1  
JOHNSON COUNTY  
STATION 727+23.00  
STRUCTURE NO. 044-0014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1 16 SHEETS
F.A.P. 885	111BR-1	Johnson	94	60	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #78030

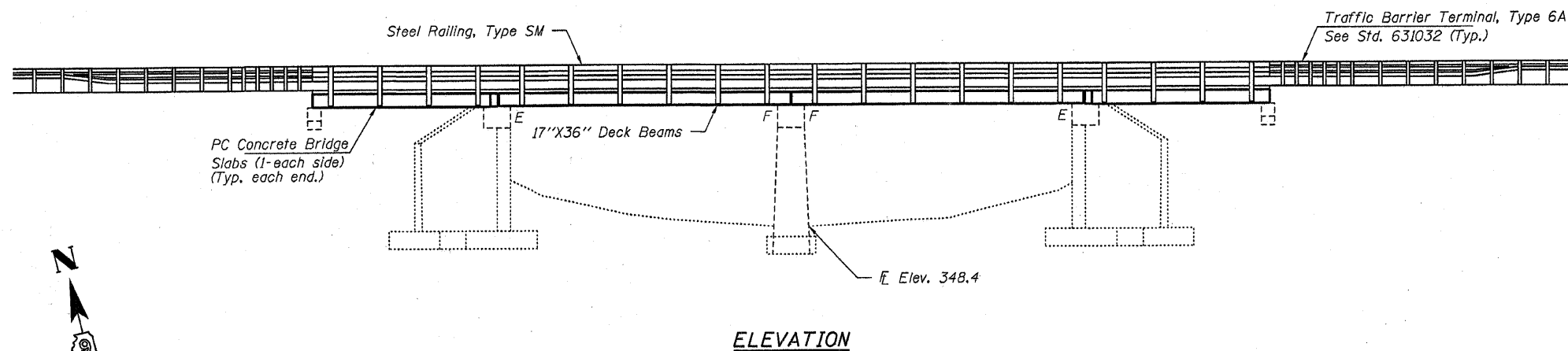
BENCHMARK: BM#1 - Chiseled square on top of wing, S.E. corner  
SN 044-0022, 18' left, Station 512+63, Elevation 361.733.

EXISTING STRUCTURE: SN 044-0022 was originally built in 1928 as  
S.B.I. Route 146, Section 111B. In 1982, the superstructure was  
replaced and widened, and precast concrete bridge slabs were used  
to widen the approaches. The superstructure consists of two simple spans of  
17"x36" deck beams. The substructure consists of two reinforced concrete  
closed abutments on timber piles and one solid concrete pier. The back-to-back  
abutment cap length is 69'-0"; the out-to-out width is 33'-0". The existing  
superstructure and the existing approach shoulder bridge slabs shall be removed  
and replaced using stage construction to maintain traffic.

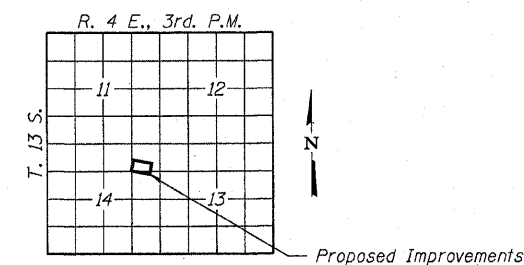
No Salvage.

**INDEX OF STRUCTURE SHEETS**

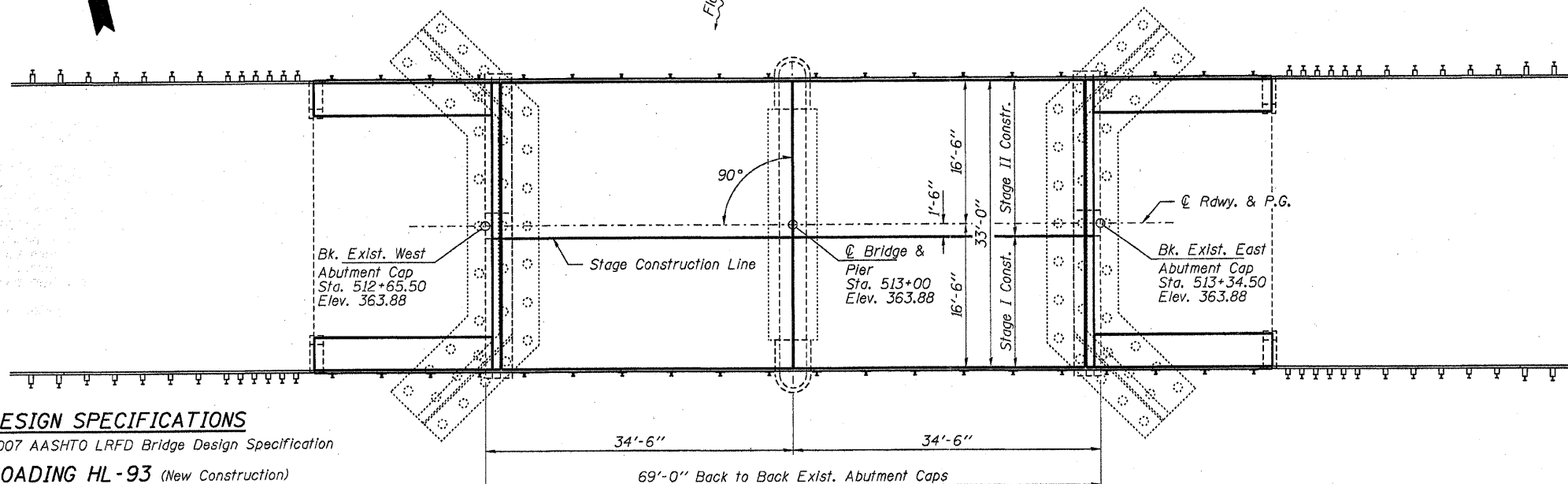
1. General Plan & Elevation
2. General Details
3. Stage Construction Details
4. Temporary Concrete Barrier
5. Superstructure
6. Superstructure Details
7. Approach Details
8. Superstructure & Approach Details
9. Steel Railing, Type SM
10. Strip Seal Expansion Joint
11. West Abutment
12. East Abutment
13. Pier
14. Bar Splicer Assembly Details



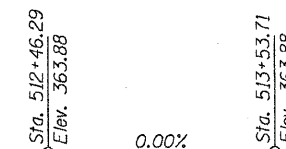
**ELEVATION**



**LOCATION SKETCH**



**PLAN**



**PROFILE GRADE**  
(Along C Rdwy.)

**DESIGN SPECIFICATIONS**

2007 AASHTO LRFD Bridge Design Specification

**LOADING HL-93** (New Construction)

No future wearing surface allowed

**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 ( $\frac{1}{2}$ " low lax. strands)  
 $f'_si = 201,960$  psi ( $\frac{1}{2}$ " low lax. strands)  
 $f_y = 60,000$  psi (Reinf.)

**PRECAST UNITS**

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

**SCOPE OF WORK**

1. Remove existing superstructure, and approach shoulder bridge slabs.
2. Repair beam bearing seats and other areas on substructure as specified.
3. Reconstruct a two span PPCD beam superstructure with concrete wearing surface and Steel Railing, Type SM. Reconstruct approach shoulders with Precast Concrete Bridge Slabs with concrete wearing surface.

**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY

ENGINEER OF BRIDGES AND STRUCTURES



Michael D. Cirra  
ILLINOIS STRUCTURAL NO. 081-5984

4-24-08  
Expires 11-30-08

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

**GENERAL PLAN AND ELEVATION**

IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION 111BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 111BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 61	SHEET NO. 2 16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030

**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of ASTM A706 Gr 60 (IL Modified). See Special Provisions.  
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.  
Concrete Sealer shall be applied to abutment bearing seats (new concrete only).  
Side retainers shall be AASHTO M270 Grade 36 minimum.  
No in-stream work will be allowed on this project.  
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.  
If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the new 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 Removal of Existing Superstructure.  
The minimum thickness of the concrete overlay shall be 5" and varies as required to adjust for the new profile grade and beam camber.  
Repair of the substructure shall be completed prior to placement of the new deck beams.  
Reinforcement bars designated (E) shall be epoxy coated.

STA. 513+00  
REBUILT 20... BY  
STATE OF ILLINOIS  
F.A. RT. 885 SEC. 111BR-1  
LOADING HL-93  
STR. NO. 044-0022

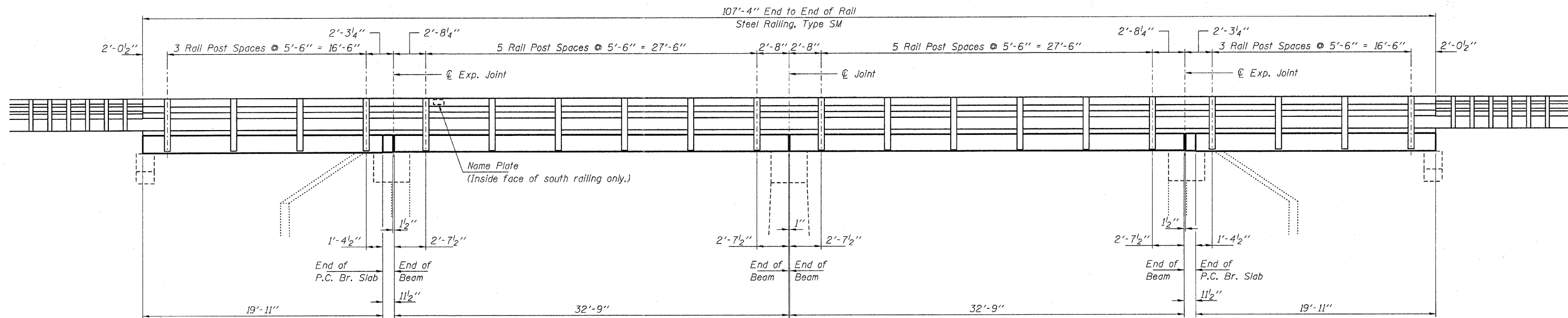
**NAME PLATE**

See Std. 515001

Note: The existing name plate shall be cleaned and relocated adjacent to the new plate. Cost included with Name Plates.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures No. 2	Each	1		1
Removal of Existing Precast Concrete Units	Sq. Ft.	299		299
Bridge Deck Grooving	Sq. Yd.	274		274
Protective Coat	Sq. Yd.	298		298
Precast Concrete Bridge Slab	Sq. Ft.	299		299
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2,162		2,162
Reinforcement Bars, Epoxy Coated	Pound	3,700	320	4,020
Bar Splicers	Each	66	4	70
Steel Railing, Type SM	Foot	215		215
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	66		66
Epoxy Crack Injection	Foot		19	19
Asbestos Bearing Pad Removal	Each	56		56
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.		11	11
Concrete Wearing Surface, 5"	Sq. Yd.	292		292
Concrete Structures	Cu. Yd.		4.0	4.0
Concrete Removal	Cu. Yd.		3.2	3.2



**RAILING ELEVATION**

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

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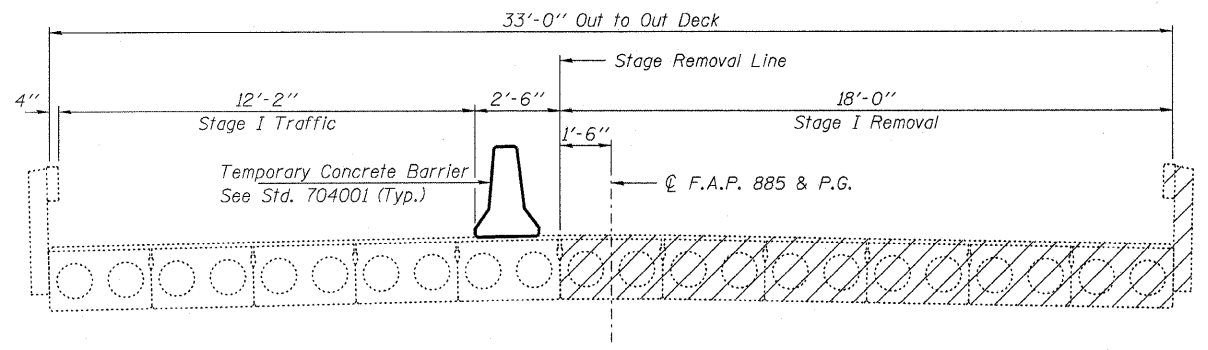
PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

**GENERAL DETAILS**  
IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION 111BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

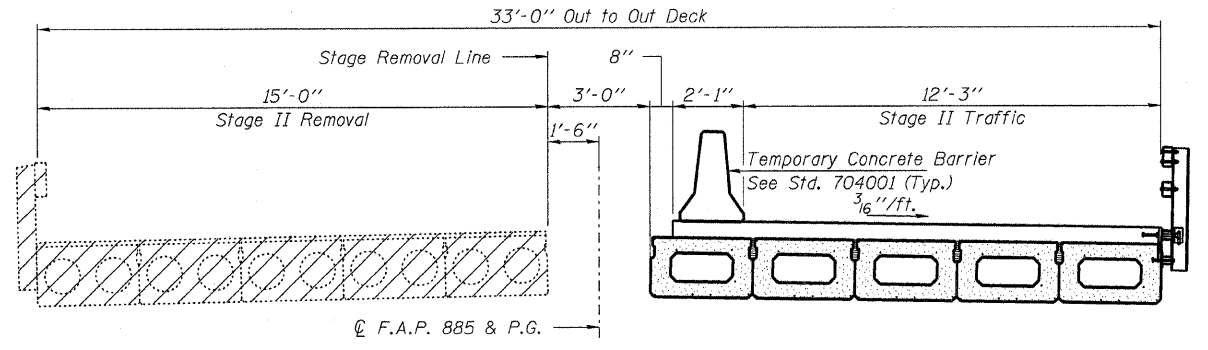
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION IIIBR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 62	SHEET NO. 3 16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT			

Contract #78030

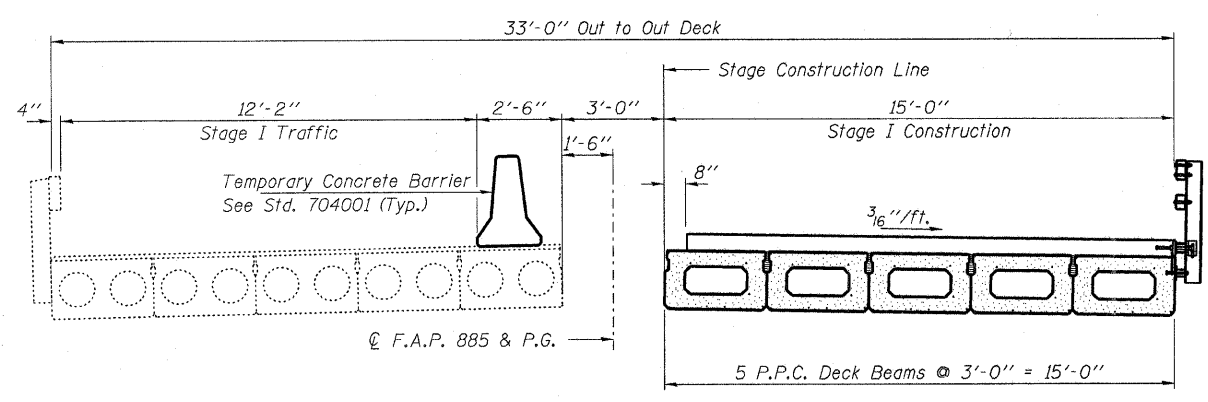


**STAGE I REMOVAL**

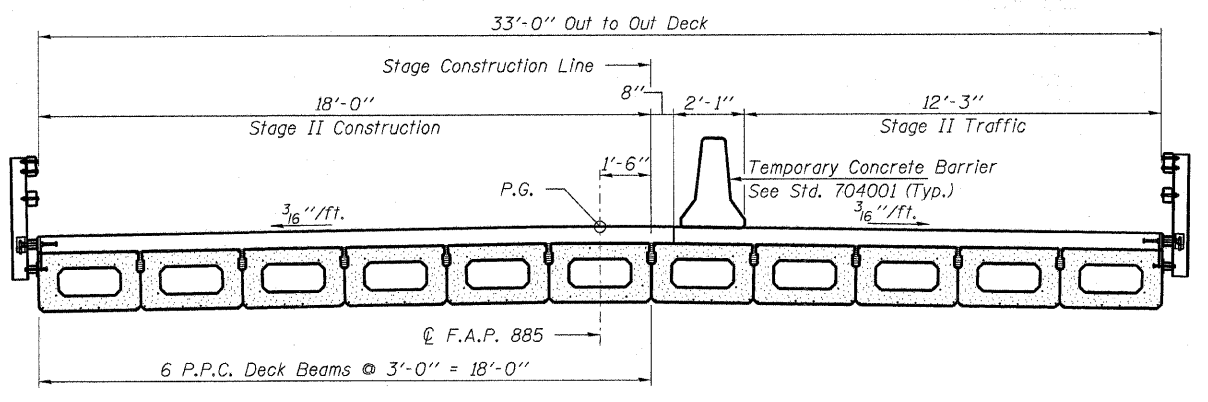


**STAGE II REMOVAL**

- Notes:
1. All views are looking East.
  2. See Sheet 8 of 16 for shear key clamping details.
  3. See Roadway Plans for quantity of Temporary Concrete Barrier.



**STAGE I CONSTRUCTION**



**STAGE II CONSTRUCTION**

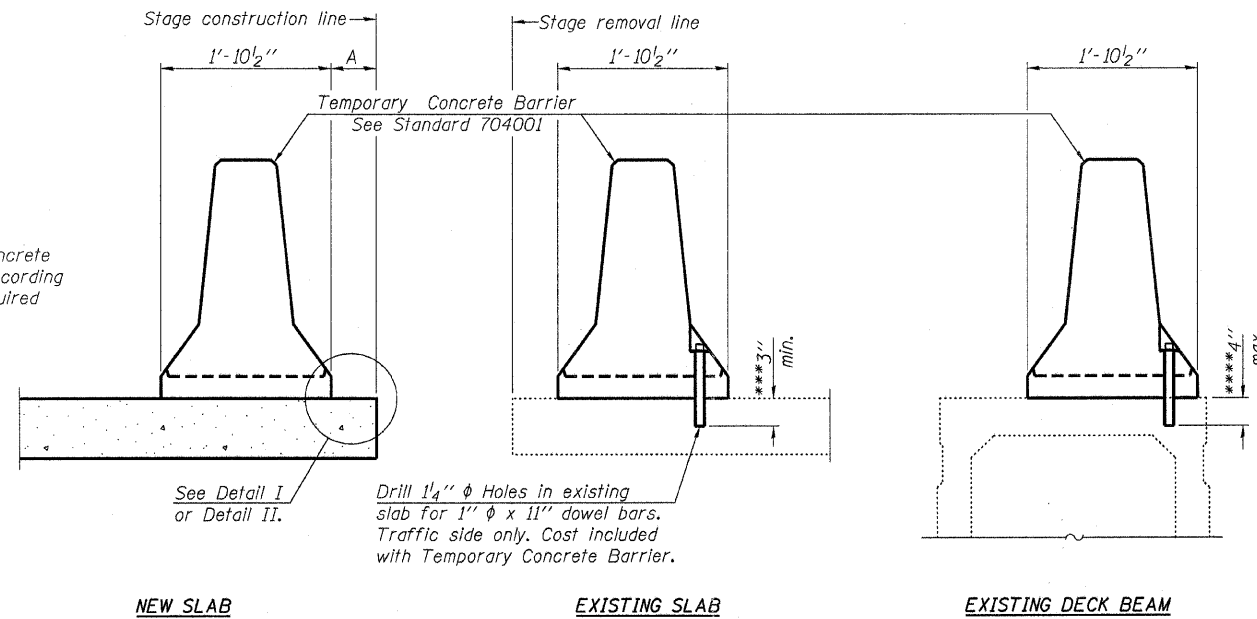
<p><b>HAMPTON, LENZINI &amp; RENWICK, INC.</b> CIVIL &amp; STRUCTURAL ENGINEERS LAND SURVEYORS</p> <p>3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 548-3400</p> <p>ELGIN • SPRINGFIELD</p>	<b>STAGE CONSTRUCTION DETAILS</b>	
	IL. ROUTE 146 OVER BELL POND F.A.P. ROUTE 885 / SECTION IIIBR-1 JOHNSON COUNTY STATION 513+00 STRUCTURE NO. 044-0022	
	PROJECT NUMBER: 12-52-0007-1	DATE: 04/02/08
	DESIGNED: P.S.L.	CHECKED: M.D.C.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 4 16 SHEETS
F.A.P. 885	111BR-1	Johnson	94	63	
FED. ROAD DIST. NO. 7	ILLINOIS FED. AID PROJECT-				

Contract #78030

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



NEW SLAB

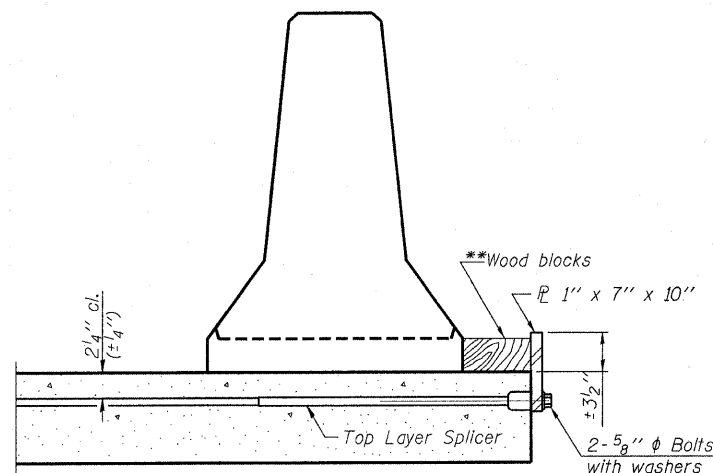
EXISTING SLAB

EXISTING DECK BEAM

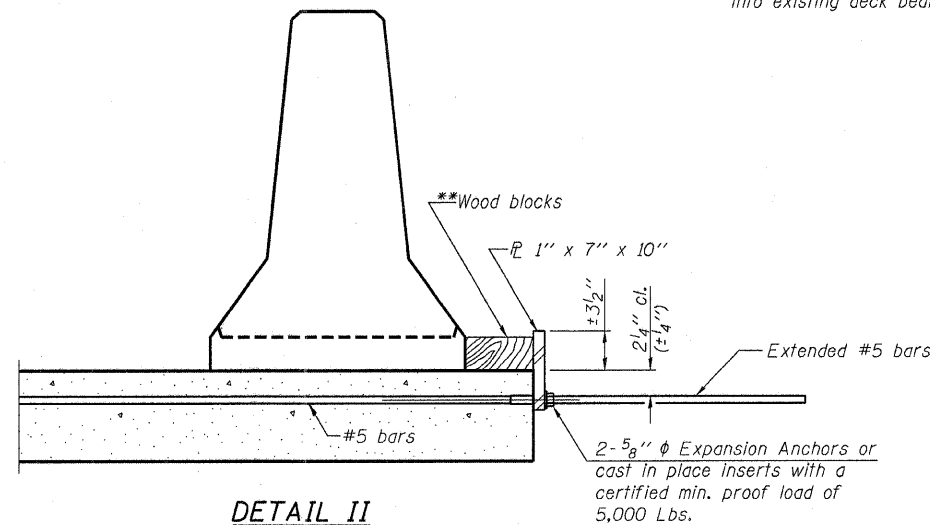
SECTIONS THRU SLAB OR DECK BEAM

- NOTES**
- Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.
- Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel PL 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 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.

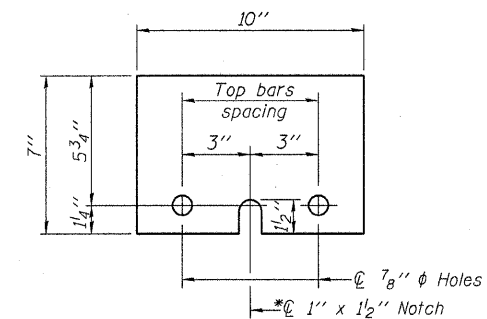


DETAIL I



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 PL 1" x 7" x 10"

\* Required only with Detail II

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LAND SURVEYORS

**HLR**

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SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

**TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION**

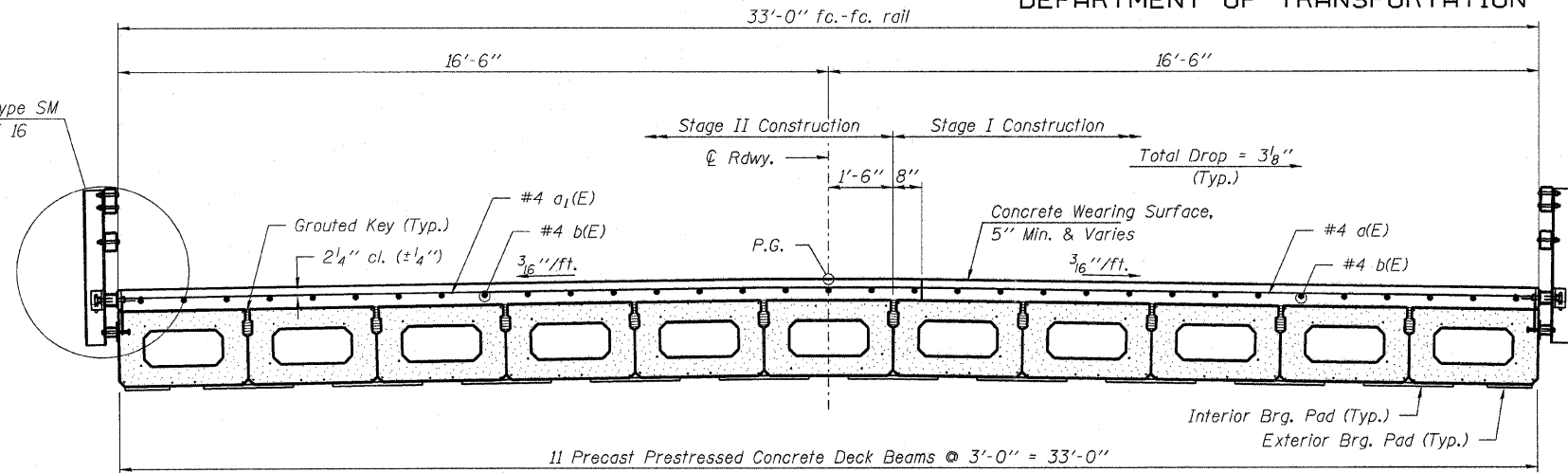
IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION 111BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

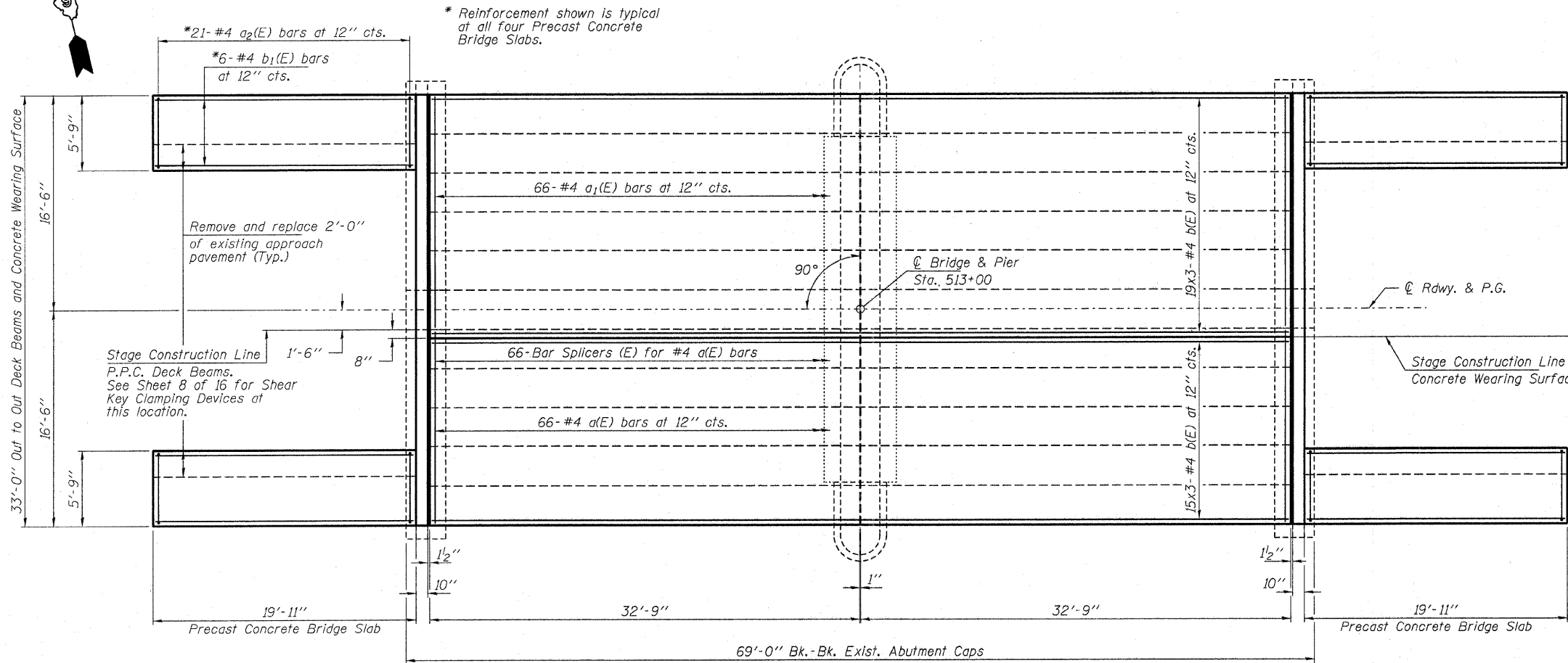
ROUTE NO. F.A.P. 885	SECTION 111BR-1	COUNTY Johnson	STATION 94	SHEET NO. 64	SHEET NO. 5 16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

Contract #78030

Steel Railing, Type SM  
See sheet 11 of 16  
for rail details.



**CROSS SECTION**  
(Looking East)



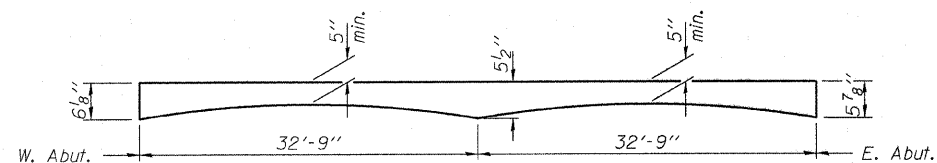
**PLAN - RC WEARING SURFACE**

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

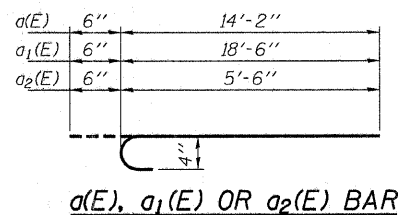
**BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	66	#4	14'-8"	┌
a1(E)	66	#4	19'-0"	┌
a2(E)	84	#4	6'-0"	┌
b(E)	102	#4	22'-11"	—
b1(E)	24	#4	19'-8"	—
Reinforcement Bars, Epoxy Coated			Pound	3,700
Concrete Wearing Surface, 5"			Sq. Yd.	292
Bridge Deck Grooving			Sq. Yd.	274
Bar Splicers			Each	66
Protective Coat			Sq. Yd.	298
Precast Prestressed Concrete Deck Beams (17" Depth)			Sq. Ft.	2,162

Bars indicated thus 15x3-#4 etc. indicates 15 lines of bars with 3 lengths per line.  
For remainder of superstructure details, see sheets 6, 7, 8 & 10 of 16.



**REINFORCED CONCRETE WEARING SURFACE PROFILE**



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LAND SURVEYORS

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**HLR**

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

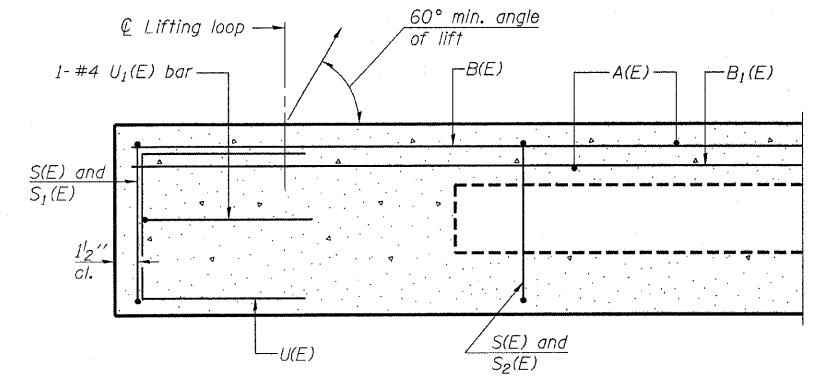
**SUPERSTRUCTURE**  
**IL. ROUTE 146 OVER BELL POND**  
**F.A.P. ROUTE 885 / SECTION 111BR-1**  
**JOHNSON COUNTY**  
**STATION 513+00**  
**STRUCTURE NO. 044-0022**



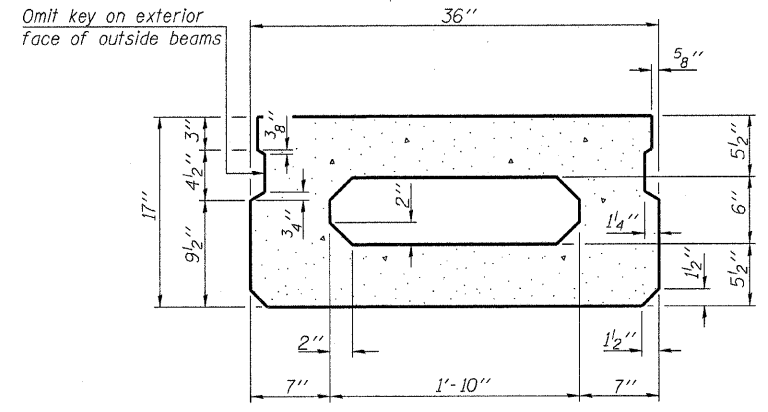
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6 16 SHEETS
F.A.P. 885	111BR-1	Johnson	94	65	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

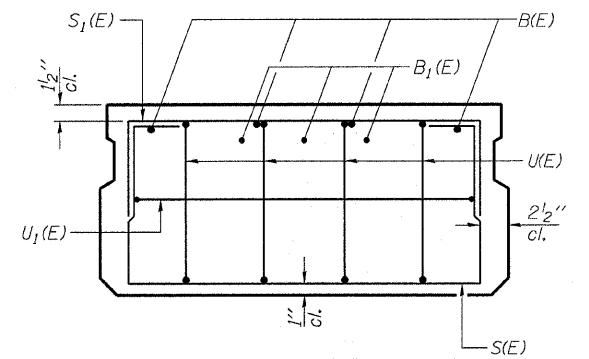
Contract #78030



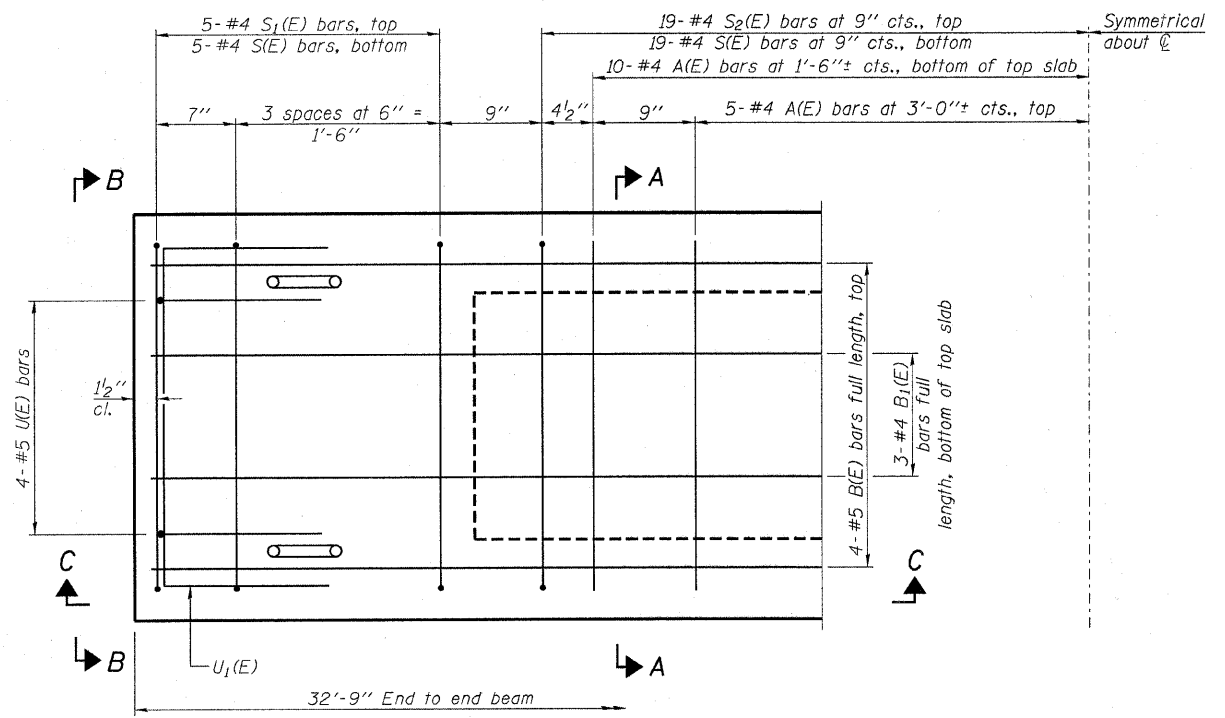
SECTION C-C



SECTION A-A  
(Showing dimensions)

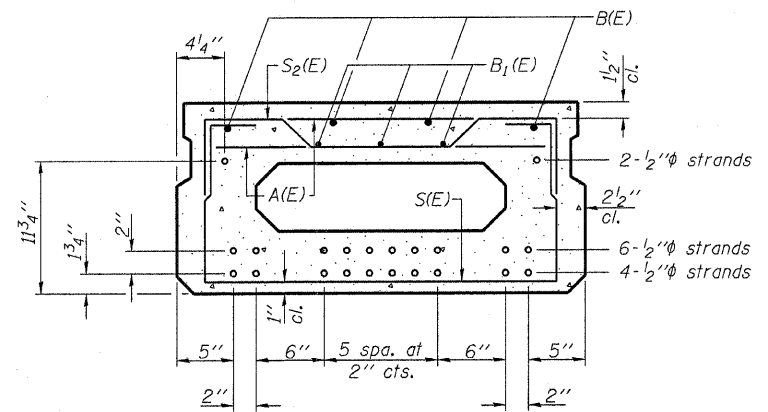


VIEW B-B



PLAN VIEW

Note: 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.



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

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)	4	#5	32'-6"	—
B1(E)	3	#4	32'-6"	—
S(E)	48	#4	5'-9"	U
S1(E)	10	#4	4'-11"	U
S2(E)	38	#4	5'-2"	U
U(E)	8	#5	3'-8"	C
U1(E)	2	#4	5'-0"	C

Note: See sheets 5, 7, & 8 of 16 for additional details and sheet 5 of 16 for Bill of Material.

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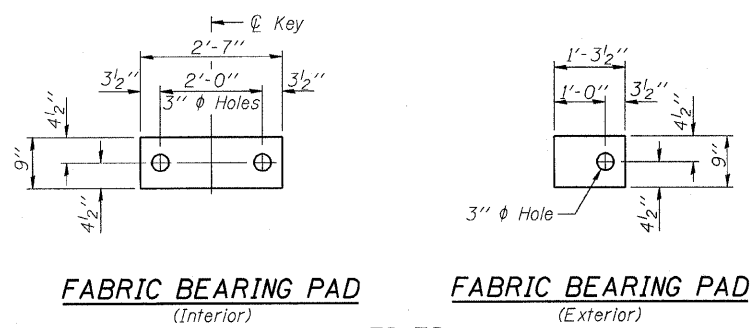
**SUPERSTRUCTURE DETAILS**

IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION 111BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 7 16 SHEETS
F.A.P. 885	III BR-1	Johnson	94	66	
REG. ROAD DIST. NO. 7	ILLINOIS		FED. AID PROJECT-		

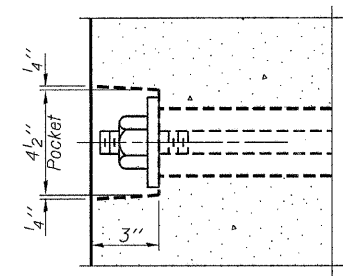
Contract #78030



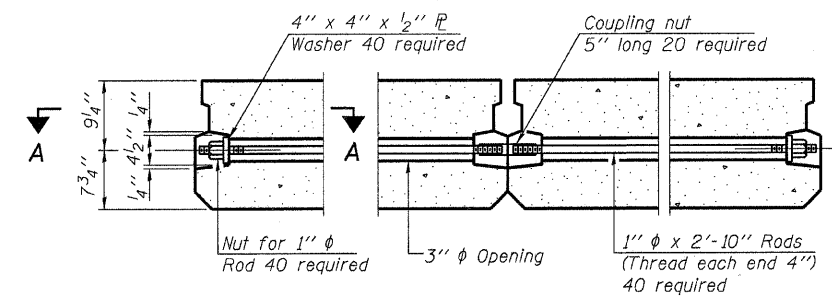
**FABRIC BEARING PAD**  
(Interior)      **FABRIC BEARING PAD**  
(Exterior)

**FIXED**

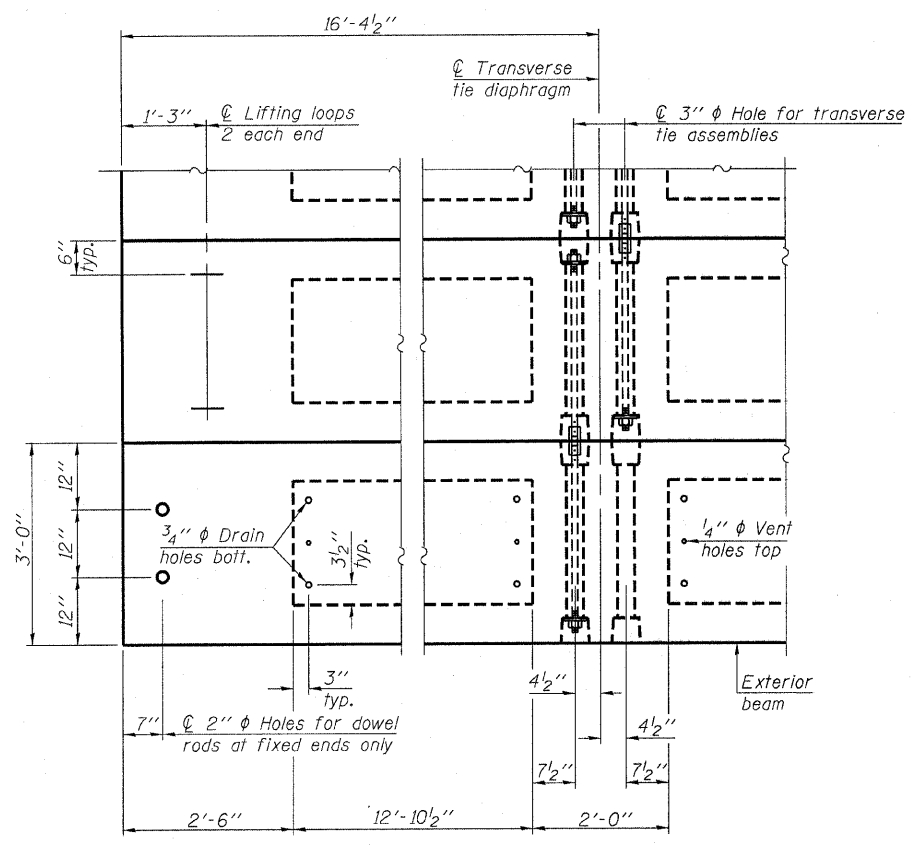
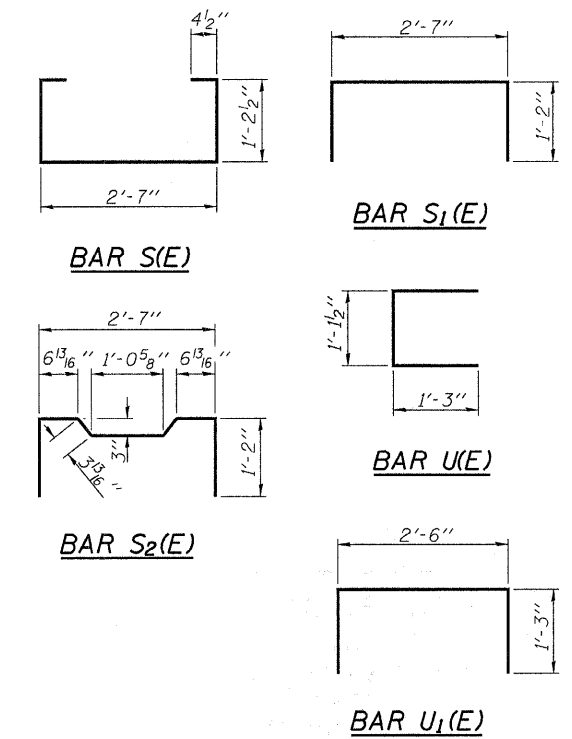
Note: Omit holes when using expansion bearings.



**SECTION A-A**

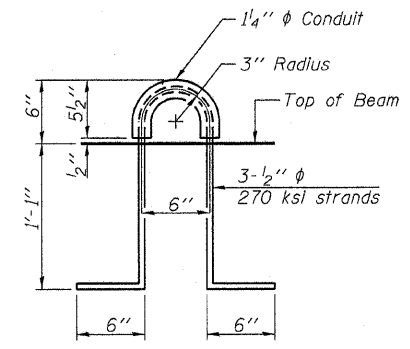


**TYPICAL TRANSVERSE TIE ASSEMBLY**



**PLAN VIEW**

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



**LIFTING LOOP DETAIL**

**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) 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" diameter 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.

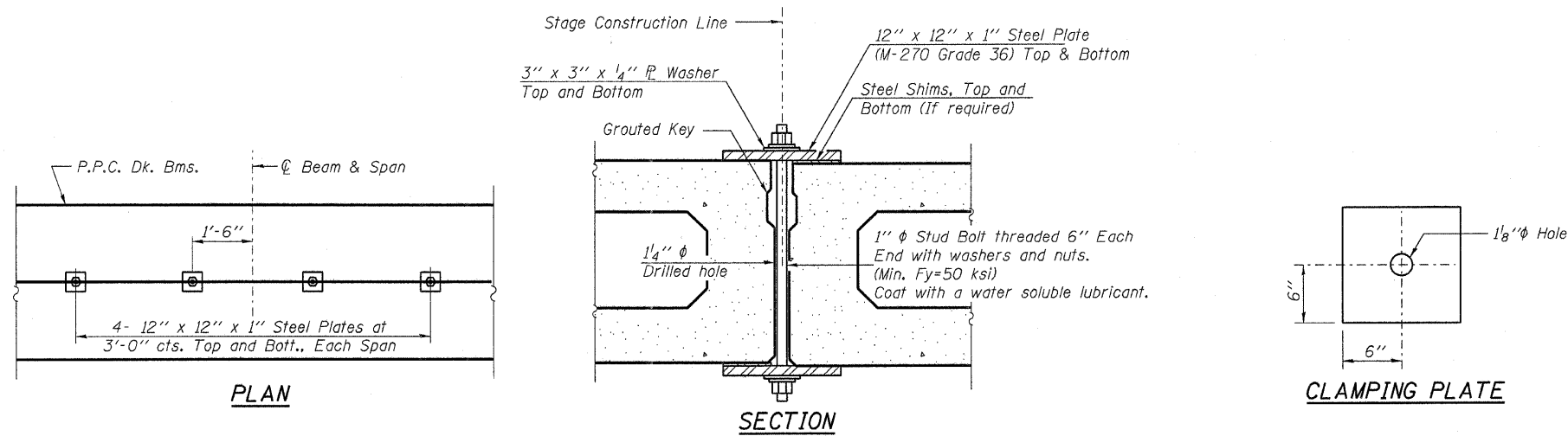
**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS  
3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
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PROJECT NUMBER: 12-52-0007-1    DATE: 04/02/08  
DESIGNED: P.S.L.    CHECKED: M.D.C.    DRAWN: D.T.M.

**SUPERSTRUCTURE DETAILS**  
IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION III BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

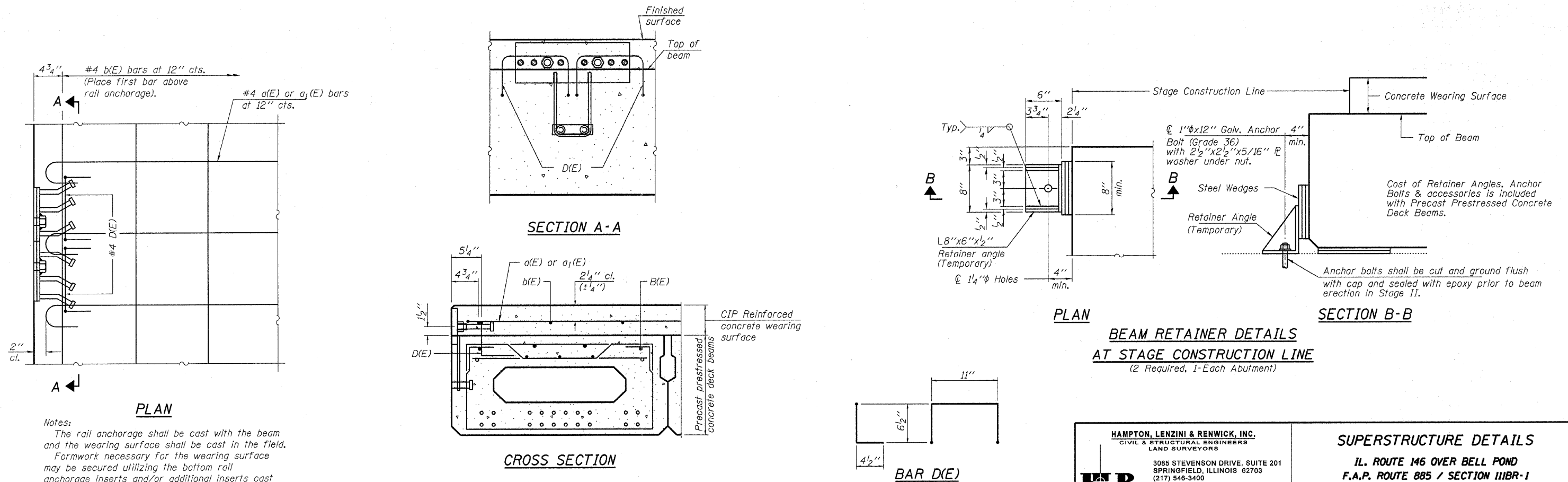
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8 16 SHEETS
F.A.P. 885	111BR-1	Johnson	94	67	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030



**SHEAR KEY CLAMPING DETAILS AT STAGE CONST. JT.**

Cost included with Precast Prestressed Concrete Deck Beams (17" Depth).



Notes:

The rail anchorage shall be cast with the beam 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. Drilling into the beam will not be permitted.

See Sheet 2 of 16 for location of rail anchors.

**CONCRETE OVERLAY MODIFICATIONS FOR RAIL ANCHORAGE**

PPC Deck Beams shown, PC Bridge Slabs similar.

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS  
3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

**ELGIN • SPRINGFIELD**

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

**SUPERSTRUCTURE DETAILS**

**IL. ROUTE 146 OVER BELL POND**  
F.A.P. ROUTE 885 / SECTION 111BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

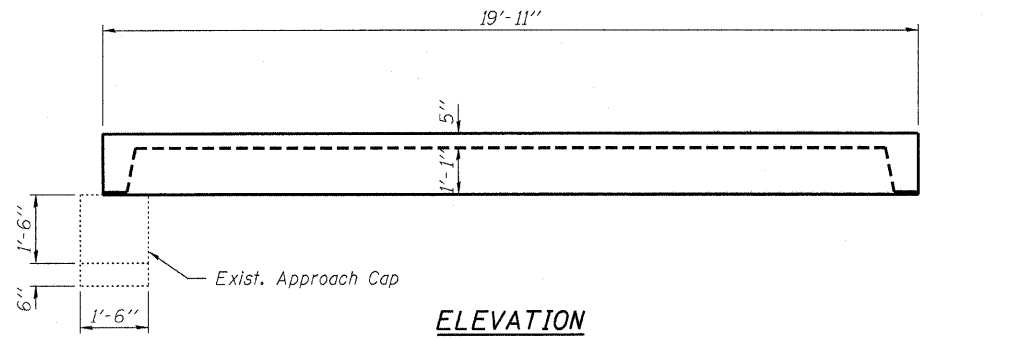
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	III BR-1	Johnson	94	68
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

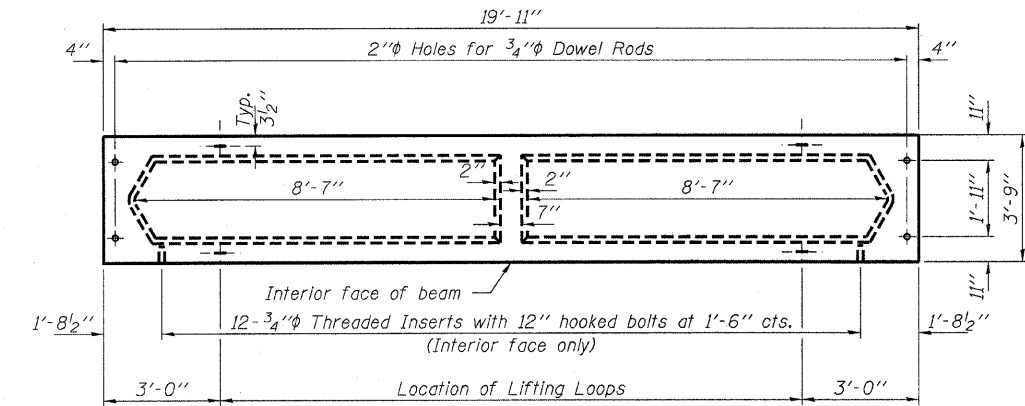
Contract #78030

NOTES

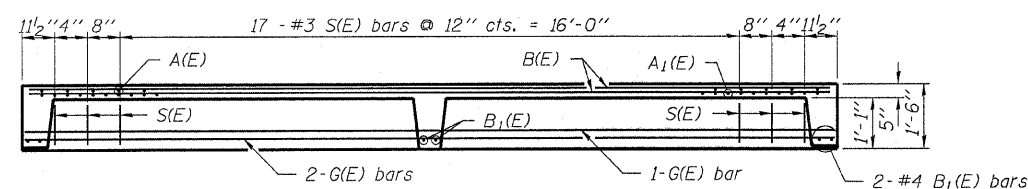
Lifting loops shall be 2-1/2" φ-270 ksi strands, as shown.  
Reinforcing steel shall conform to ASTM A 706 (IL MOD), Grade 60.  
The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Bearing Pad shall be provided for each bearing.  
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 4,500 p.s.i.  
See Sheet 2 of 16 for location of rail connectors 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" φ 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.  
The beam detailed on this sheet is for use in all corners of the bridge as the PC Concrete Bridge Slabs.



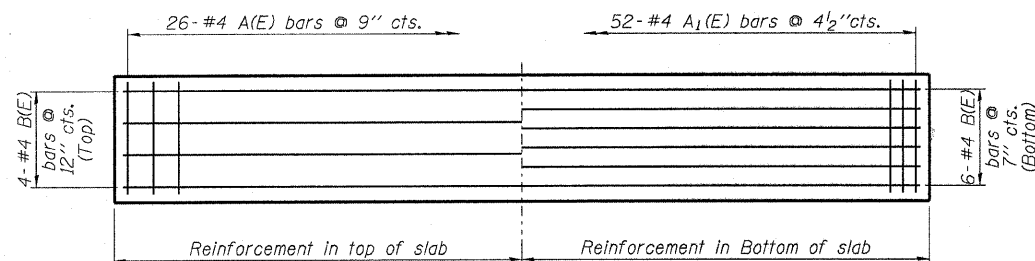
ELEVATION



TYPICAL PLAN OF BEAM



LONGITUDINAL SECTION

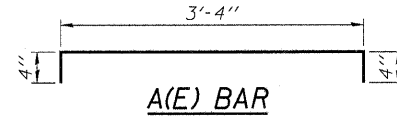


PLAN

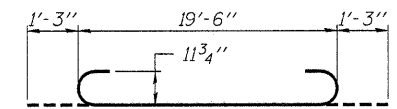
Showing Slab Reinforcement

MATERIAL - FOR ONE BEAM

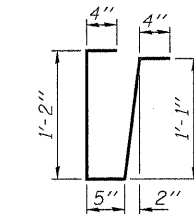
BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	26	#4	4'-0"	[ ]
A1(E)	52	#4	3'-3"	[ ]
B(E)	10	#4	19'-6"	[ ]
B1(E)	6	#4	3'-6"	[ ]
G(E)	6	#9	22'-0"	[ ]
S(E)	42	#3	3'-4"	[ ]



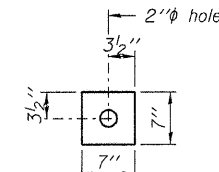
A(E) BAR



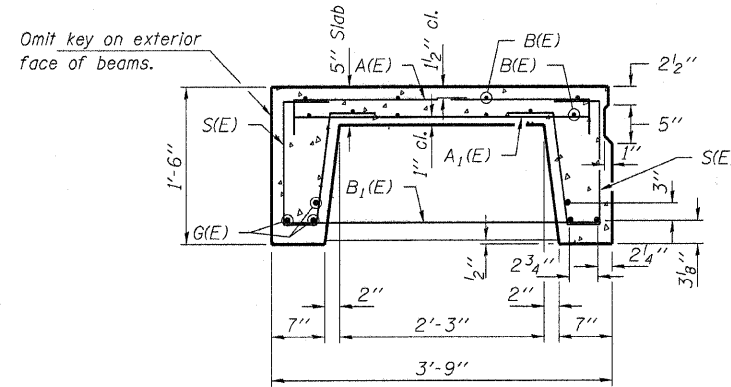
G(E) BAR



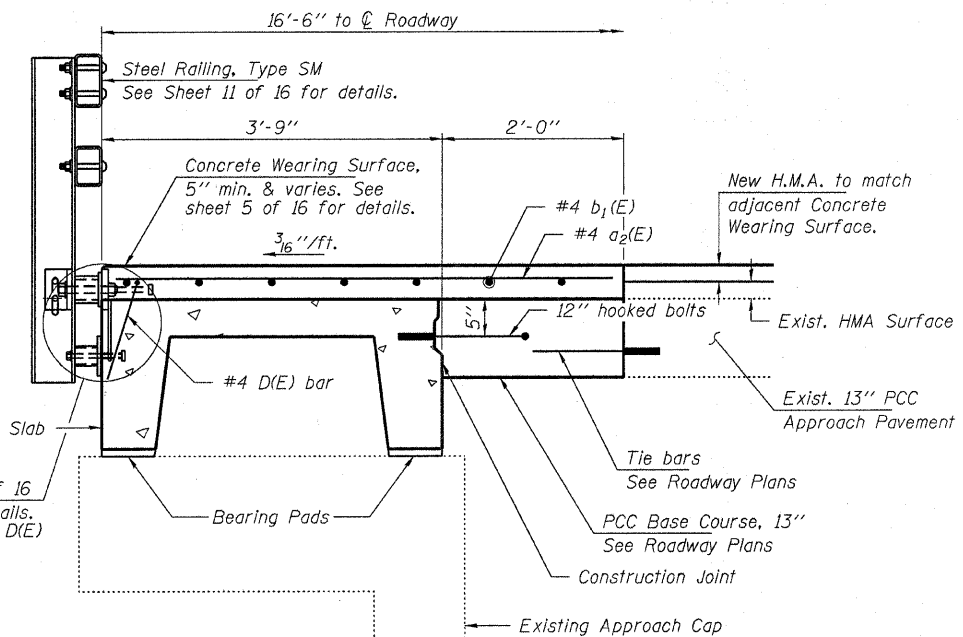
S(E) BAR



BEARING PAD



SECTION THRU BEAM

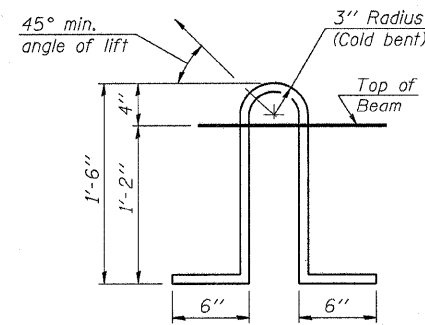


PROPOSED CROSS SECTION

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Concrete Bridge Slab	Sq. Ft.	299

\*\*Quantities for H.M.A. surface included in total summary of quantities.



LIFTING LOOP DETAIL

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

**ELGIN • SPRINGFIELD**

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

**APPROACH DETAILS**  
IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION III BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 10 16 SHEETS
F.A.P. 885	111BR-1	Johnson	94	69	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #78030

**NOTES**

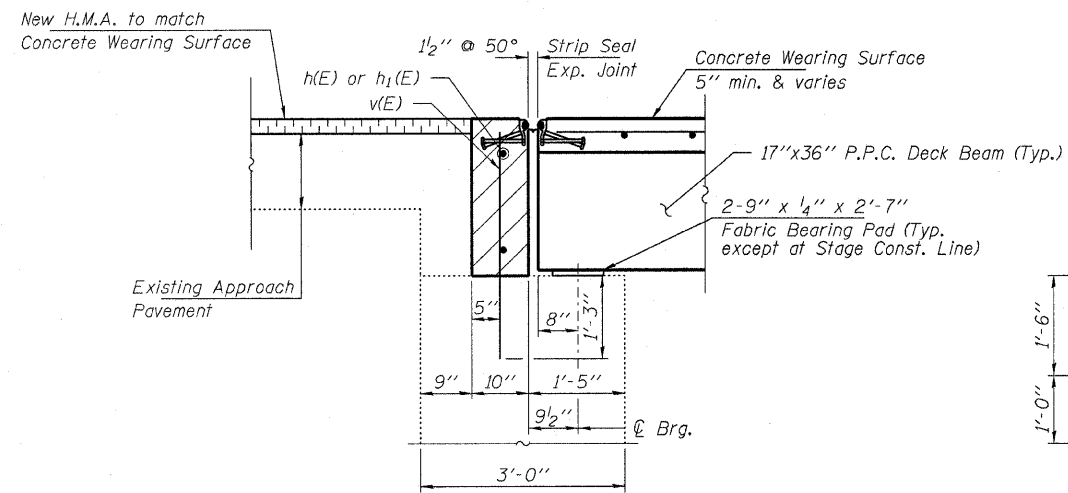
After beams have been erected, holes shall be drilled into substructure and dowel rods placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hours prior to grouting the shear keys.

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

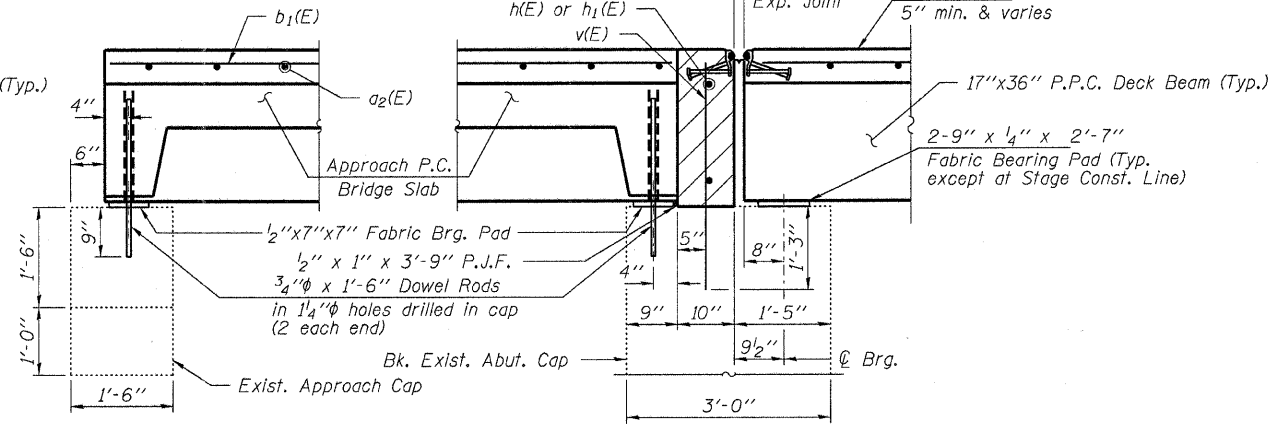
Dowel rods drilled in cap are included in the cost of Precast Prestressed Concrete Deck Beams (17" depth) or Precast Concrete Bridge Slabs.

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.

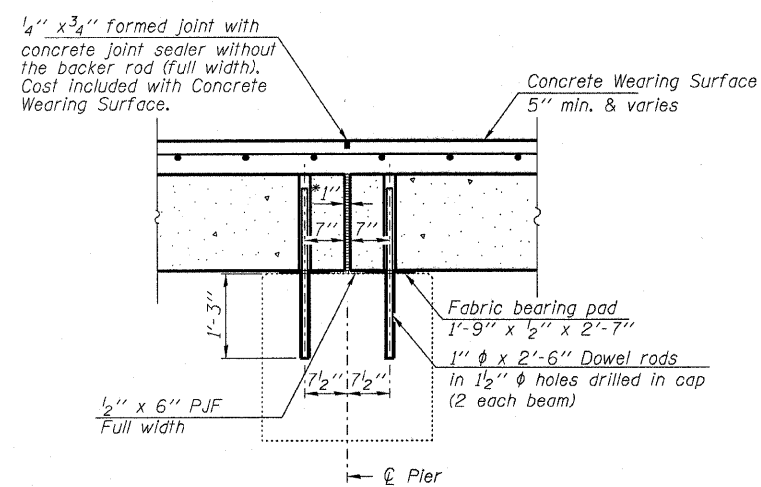


**SECTION THRU ABUTMENTS**  
@ RDWY.



**SECTION THRU APPROACH CAP**

**SECTION THRU ABUTMENTS**  
@ OUTSIDE BEAMS



**SECTION THRU FIXED PIER**

\* 1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.

**HAMPTON, LENZINI & RENWICK, INC.**  
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LAND SURVEYORS

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SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

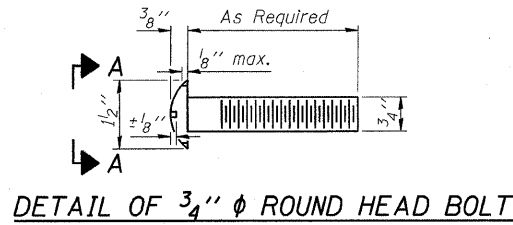
**SUPERSTRUCTURE & APPROACH DETAILS**

IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION 111BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

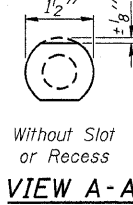
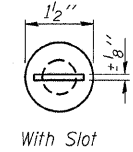
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
F.A.P. 885	IIIBR-1	Johnson	94	70	16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

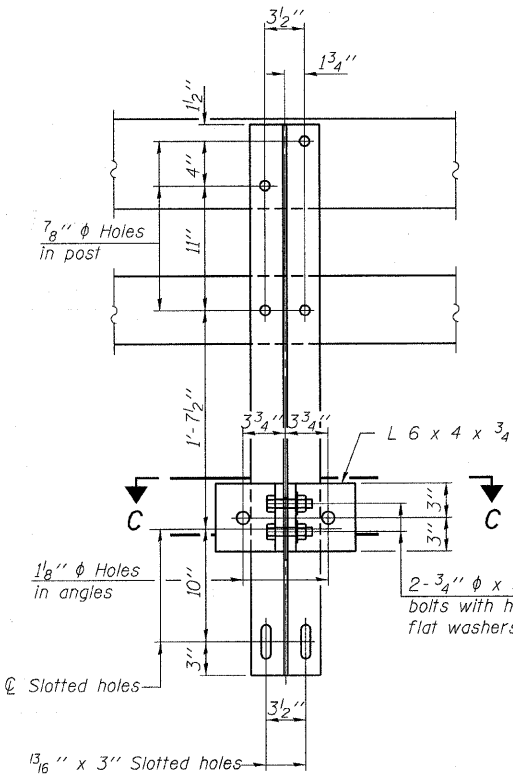
Contract #78030



DETAIL OF 3/4"  $\phi$  ROUND HEAD BOLT



VIEW A-A



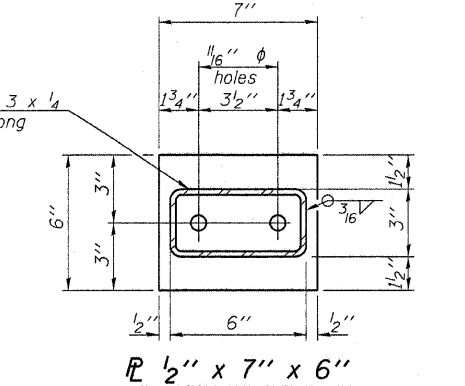
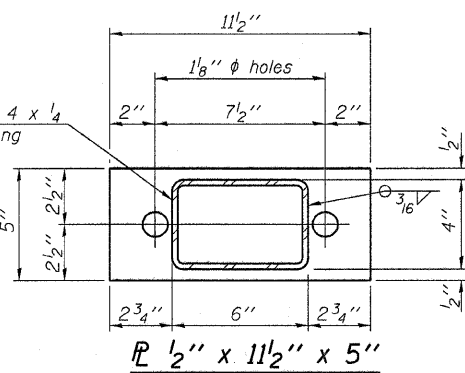
SECTION B-B

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

2- 1"  $\phi$  x 7 3/4" AASHTO M-164 anchor bolts with flat washer and lockwasher

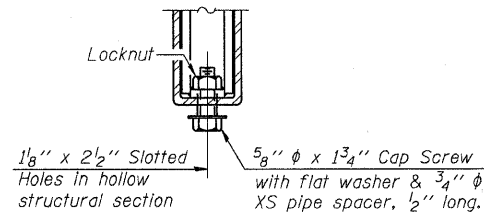
2- 5/8"  $\phi$  x 5 3/4" cap screws with flat washer

SECTION AT RAIL POST

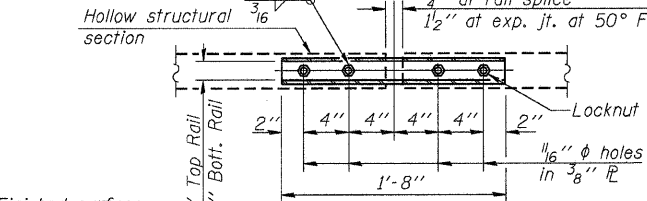


ANCHOR DEVICE

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



RAIL SPLICE CONNECTION AT EXPANSION JT.



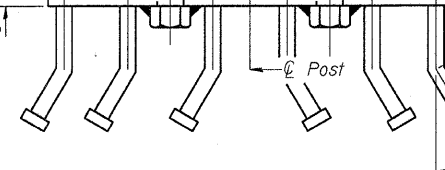
PLAN-BOTT. SPLICE R TYPICAL

1/8" x 2 1/2" Slotted Holes in hollow structural section

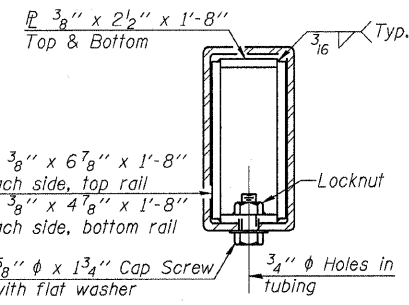
5/8"  $\phi$  x 1 3/4" Cap Screw with flat washer & 3/4"  $\phi$  XS pipe spacer, 2" long.

1/4" at rail splice, 1/2" at exp. jt. at 50° F.

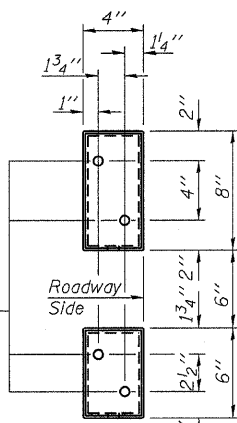
2 1/2" Top Rail, 2 3/8" Bott. Rail



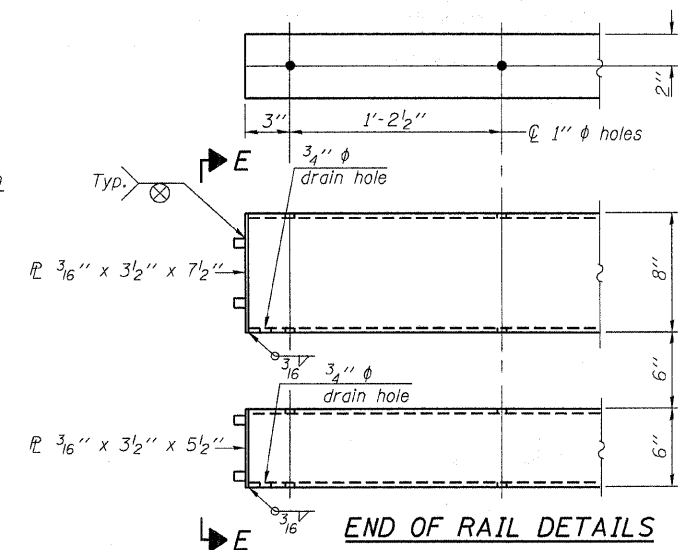
VIEW D-D



SECTION AT RAIL SPLICE



VIEW E-E



END OF RAIL DETAILS

Notes:  
All field drilled holes shall be coated with an approved zinc 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	215

STEEL RAILING, TYPE SM WITH CONCRETE WEARING SURFACE  
IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION IIIBR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

**HLR**

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

R-34CWS

9-3-07

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

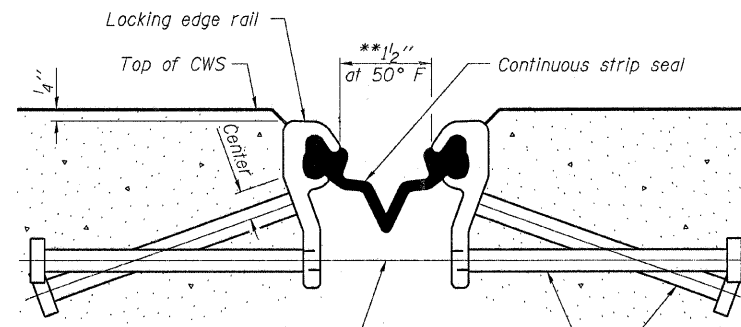
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 12 16 SHEETS
F.A.P. 885	111BR-1	Johnson	94	71	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

Contract #78030

\* Omit weld at seal opening.

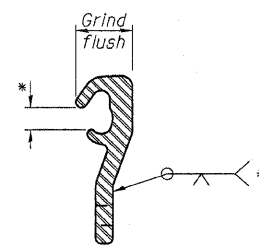
\*\* When joint is fixed, dimension is set at 1 1/2".



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

Place 1/2"  $\phi$  x 6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded at 1'-0" alt. cts.

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



**LOCKING EDGE RAIL**

**LOCKING EDGE RAIL SPLICE**

**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.

The inside of the Locking Edge Rail groove shall be free of weld residue. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

The manufacturer's recommended installation methods shall be followed. The cost of Structural Steel shall be included in the item Preformed Joint Strip Seal.

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

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Preformed Joint Strip Seal	Foot	66

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

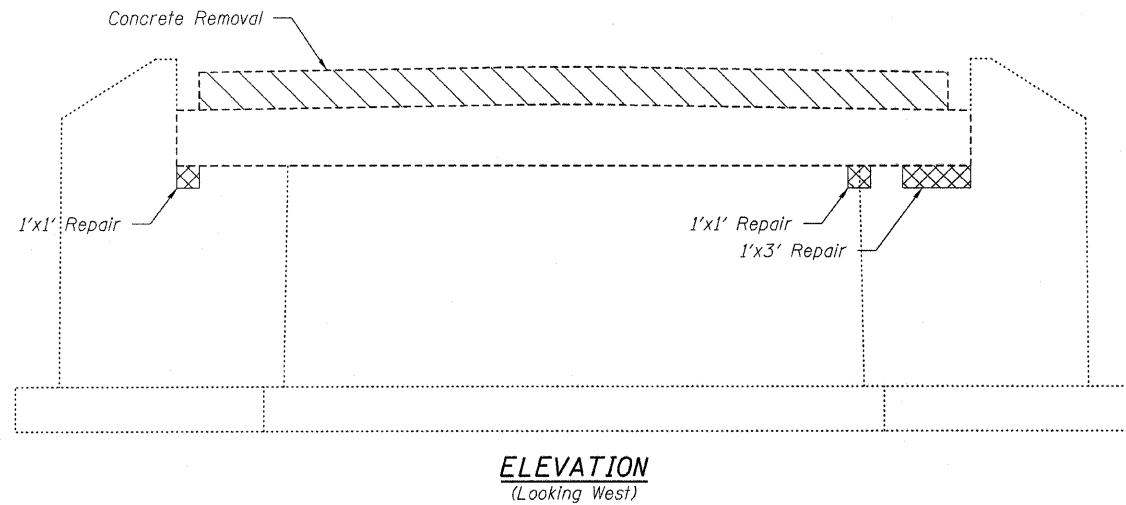
**STRIP SEAL EXPANSION JOINT**

IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION 111BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.	SHEET NO. 13 16 SHEETS
F.A.P. 885	111BR-1	Johnson	94	72	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

Contract #78030

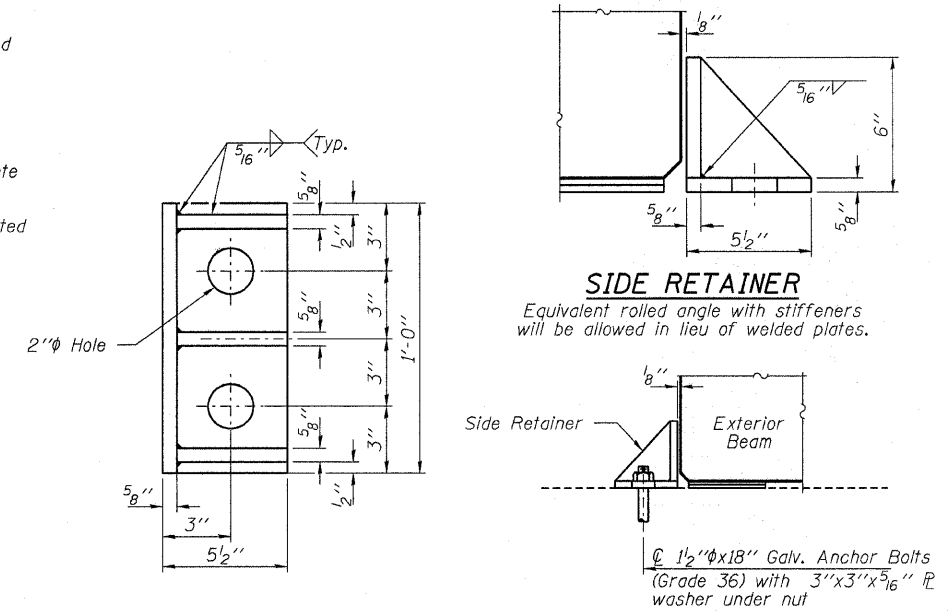


**NOTES**

See Sheet 10 of 16 for Sections Thru Abutment views and additional reinforcement details for abutment Hatch-Block.

The existing abutment bearing seat is to be inspected by the Engineer after deck beam removal. Deteriorated concrete areas shall be repaired if deemed necessary using Structural Repair of Concrete (Depth equal to or less than 5"). Concrete Sealer shall be applied to Concrete Repair areas. Cost included in Concrete Repair item.

Abutment Structural Repair of Concrete areas are estimated from a 10/24/2007 inspection.



**EXTERIOR BEAM RETAINER DETAILS**  
(2 Required)

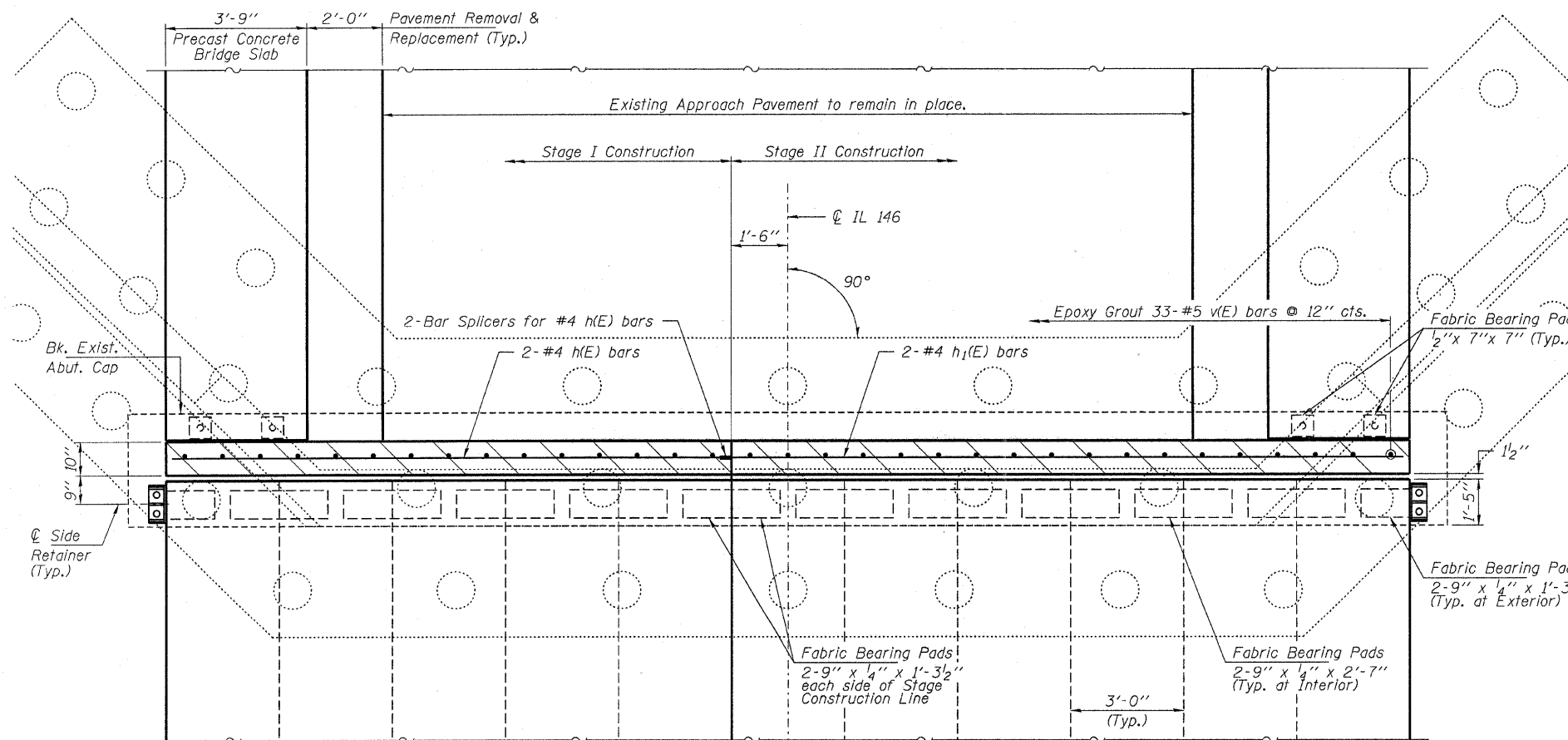
Cost of Side Retainer, Anchor Bolts & accessories are included with Precast Prestressed Concrete Deck Beams.

The side retainer shall be galvanized after shop fabrication according to AASHTO M111.

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=36 ksi).

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

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



**REPAIR LEGEND**

Requires Structural Repair of Concrete (Depth Equal to or less than 5")

Hatched Area Indicates Exist. Concrete to be removed. Paid for as Concrete Removal.

**BILL OF MATERIAL - WEST ABUT.**

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	2	#4	14'-9"	—
h1(E)	2	#4	17'-9"	—
v(E)	33	#5	3'-4"	—
Concrete Structures			Cu. Yd.	2.0
Reinforcement Bars, Epoxy Coated			Pound	160
Concrete Removal			Cu. Yd.	1.6
Bar Splicers			Each	2
Structural Repair of Concrete			Sq. Ft.	5.0
Asbestos Bearing Pad Removal			Each	28

**PLAN**

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

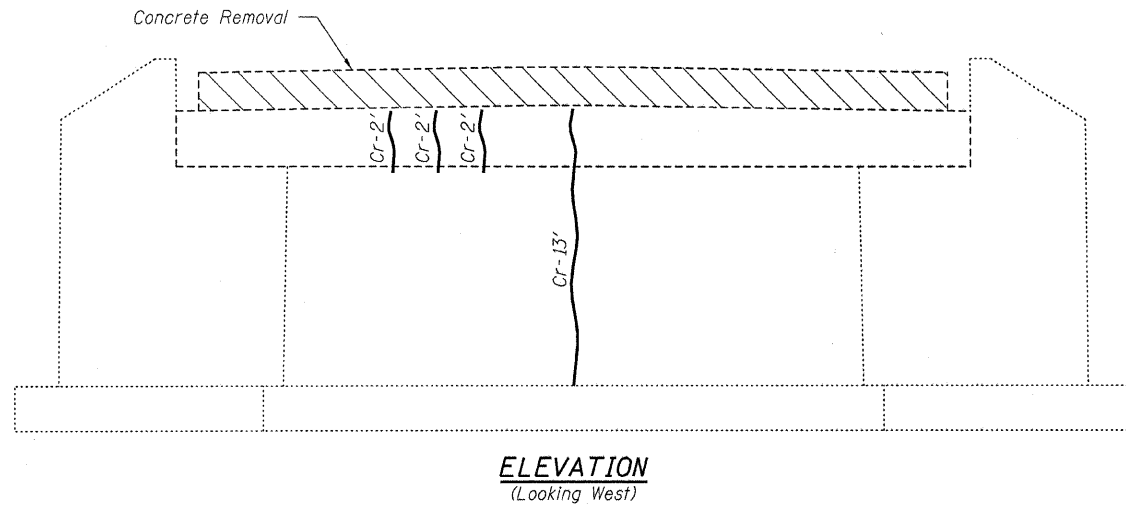
**WEST ABUTMENT**  
IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION 111BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 14 16 SHEETS
F.A.P. 885	111BR-1	Johnson	94	73	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #78030

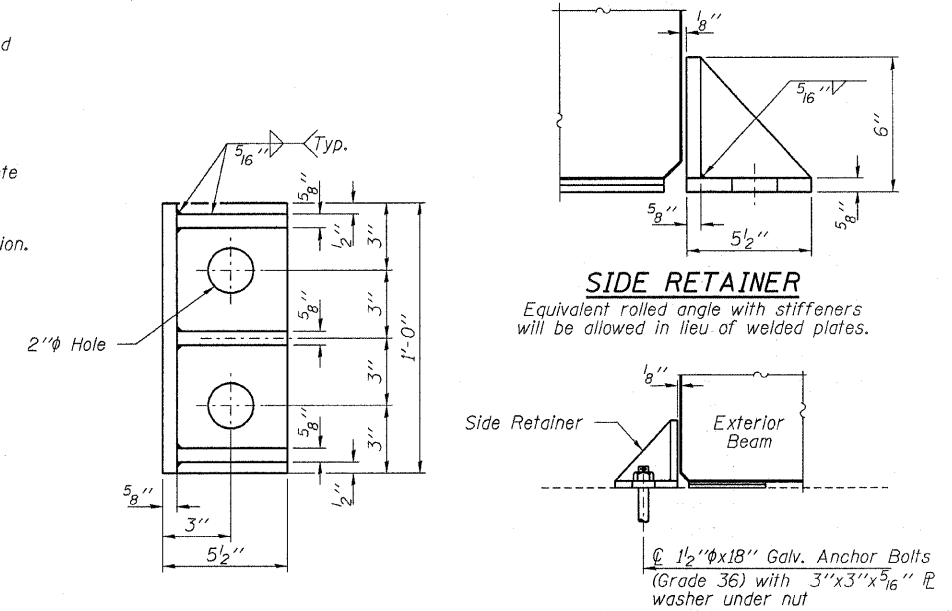


**NOTES**

See Sheet 10 of 16 for Sections Thru Abutment views and additional reinforcement details for abutment Hatch-Block.

The existing abutment bearing seat is to be inspected by the Engineer after deck beam removal. Deteriorated concrete areas shall be repaired if deemed necessary using Structural Repair of Concrete (Depth equal to or less than 5"). Concrete Sealer shall be applied to Concrete Repair areas. Cost included in Concrete Repair item.

Abutment Structural Repair of Concrete areas and Crack Repair lengths are estimated from a 10/24/2007 inspection.



**EXTERIOR BEAM RETAINER DETAILS**  
(2 Required)

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

The side retainer shall be galvanized after shop fabrication according to AASHTO M111.

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=36 ksi).

Anchor bolts for side retainers shall be installed in holes drilled after members are in place.

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

**REPAIR LEGEND**

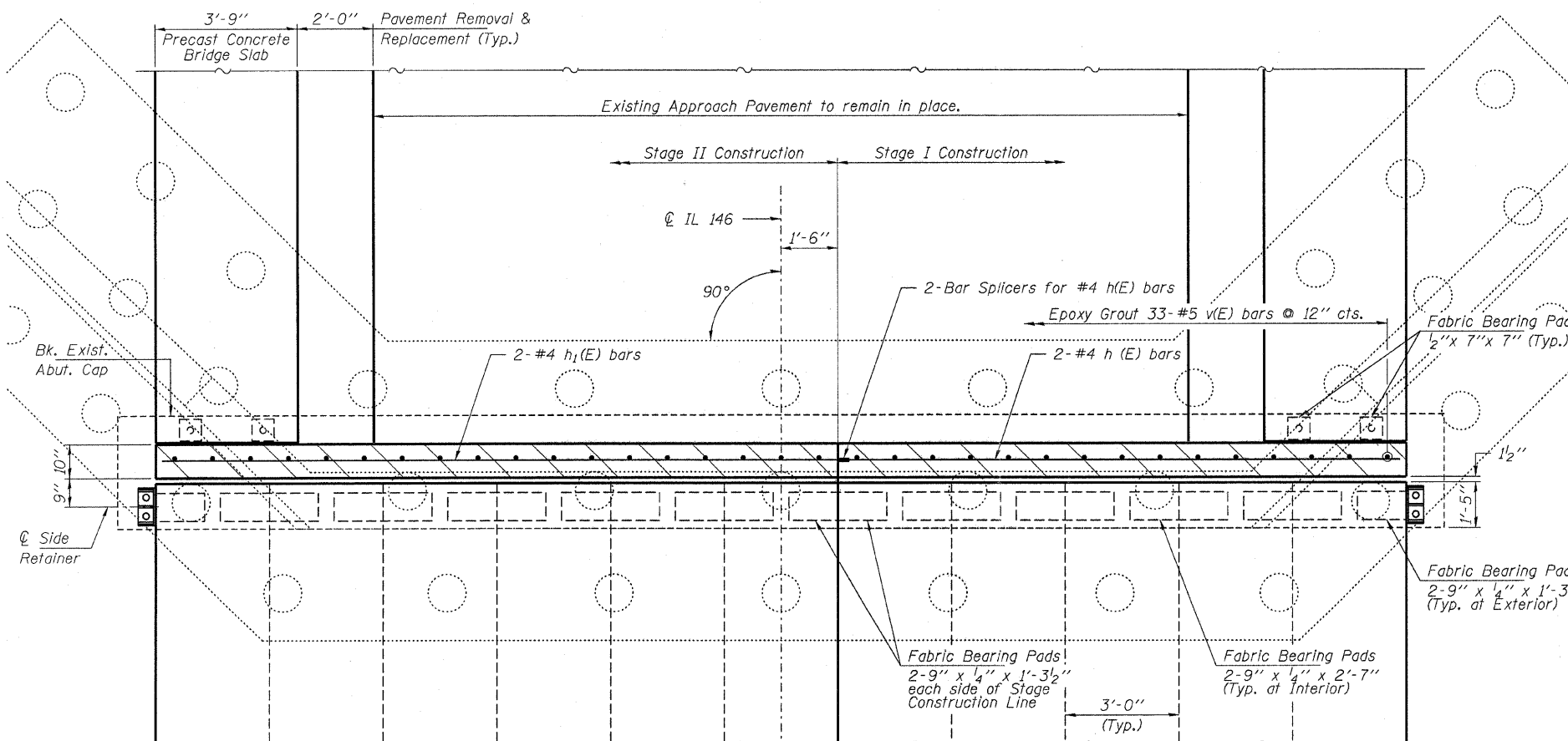
Requires Structural Repair of Concrete (Depth Equal to or less than 5")

Requires Epoxy Crack Injection

Hatched Area Indicates Exist. Concrete to be removed. Paid for as Concrete Removal.

**BILL OF MATERIAL - EAST ABUT.**

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	2	#4	14'-9"	—
h <sub>1</sub> (E)	2	#4	17'-9"	—
v(E)	33	#5	3'-4"	—
Concrete Structures			Cu. Yd.	2.0
Reinforcement Bars, Epoxy Coated			Pound	160
Epoxy Crack Injection			Foot	19
Concrete Removal			Foot	1.6
Bar Splicers			Each	2
Asbestos Bearing Pad Removal			Each	28



**PLAN**

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

**EAST ABUTMENT**  
IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION 111BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 15 16 SHEETS
F.A.P. 885	IIIBR-1	Johnson	94	74	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030


**NOTES**

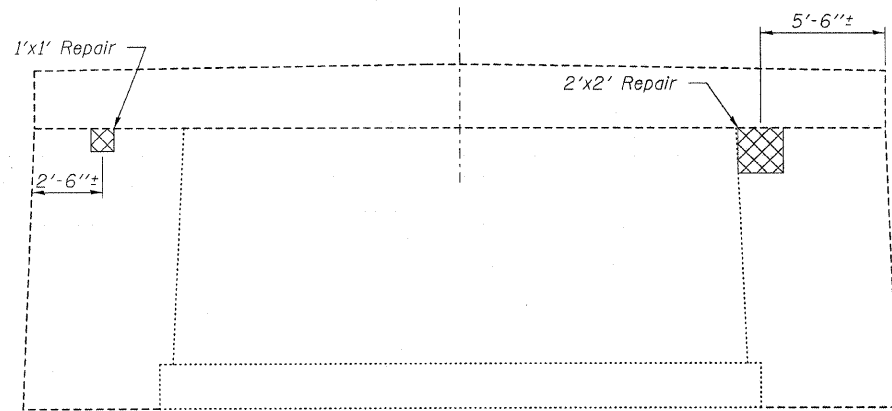
See Sheet 10 of 16 for Sections Thru Pier views and additional details.

The existing pier bearing seat is to be inspected by the Engineer after deck beam removal. Deteriorated concrete areas shall be repaired if deemed necessary using Structural Repair of Concrete (Depth equal to or less than 5"). Concrete Sealer shall be applied to Concrete Repair areas. Cost included in Concrete Repair Item.

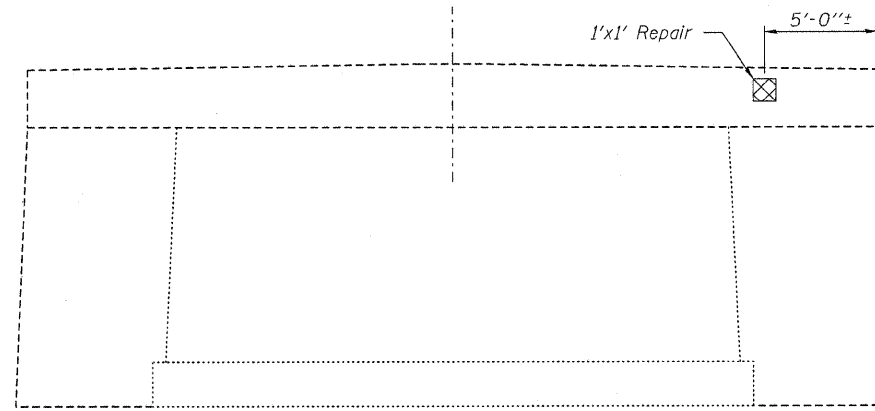
Pier Structural Repair of Concrete areas are estimated from a 10/24/2007 inspection.

**REPAIR LEGEND**

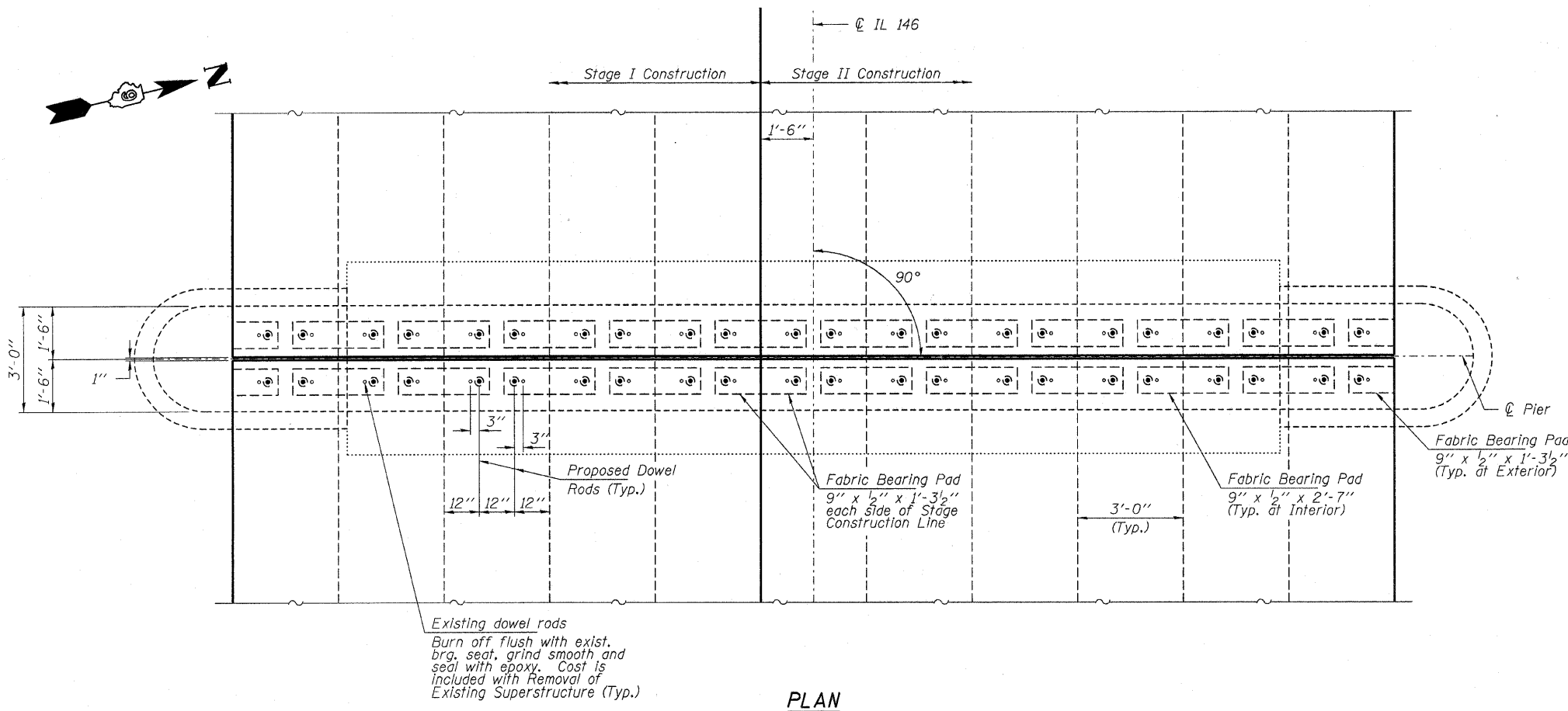
 Requires Structural Repair of Concrete (Depth Equal to or less than 5")



**ELEVATION**  
(Looking East)



**ELEVATION**  
(Looking West)



**PLAN**

**BILL OF MATERIAL - PIER**

Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	6.0
--	---------	-----

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 646-3400

**ELGIN • SPRINGFIELD**

PROJECT NUMBER: 12-52-0007-1    DATE: 04/02/08  
DESIGNED: P.S.L.    CHECKED: M.D.C.    DRAWN: D.T.M.

**PIER**  
IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION IIIBR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 111BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 75	SHEET NO. 16 16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030

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

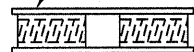
The diameter of this part is the same as the diameter of the bar spliced.

**ROLLED THREAD DOWEL BAR**



**\*\* ONE PIECE**

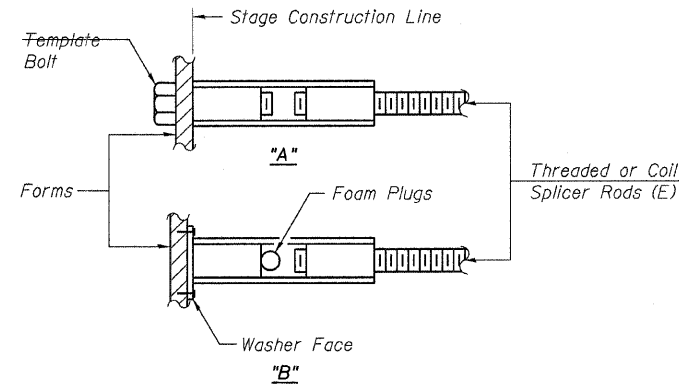
Wire Connector



**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.

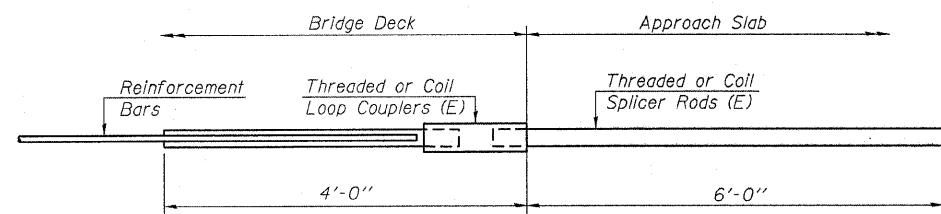
**NOTES**

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:

- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
(Tension in kips)
  - ② Minimum \*Pull-out Strength =  $0.66 \times f_y \times A_t$   
(Tension in kips)
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

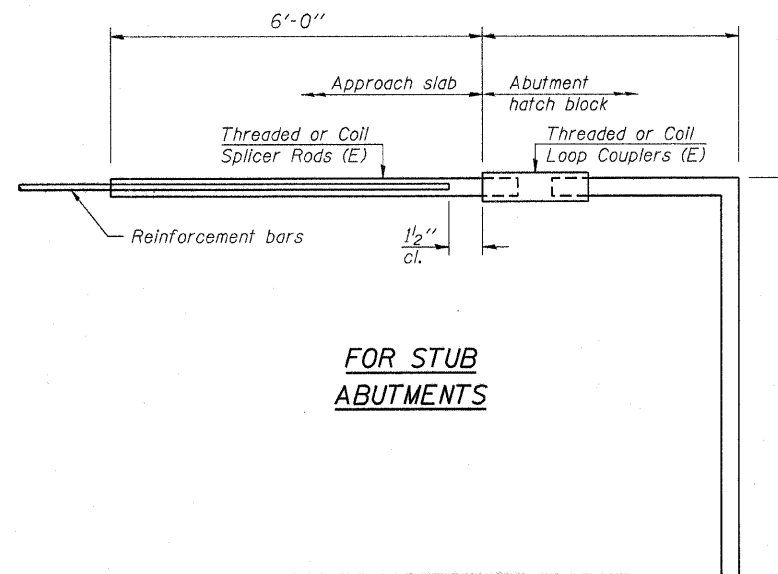
**BAR SPLICER ASSEMBLIES**

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



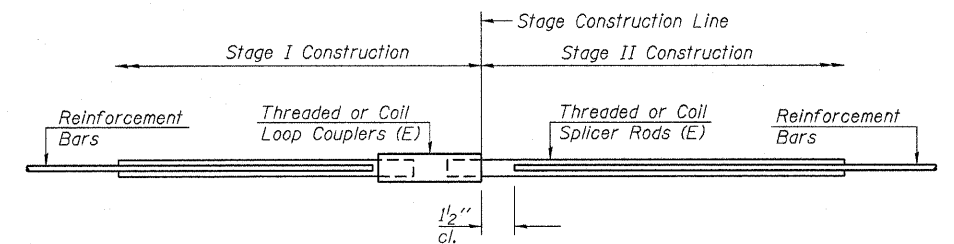
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

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



**FOR STUB ABUTMENTS**

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



**STANDARD**

Bar Size	No. Assemblies Required	Location
#4	66	Concrete Wearing Surface
#4	4	Abutment Hatch Block

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

**HLR**

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

**BAR SPLICER ASSEMBLY DETAILS**

IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION 111BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
F.A.P. 885	11BR-1	Johnson	94	76
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

Contract #78030

2nd. Chicago on NW wingwall of bridge 16' W of Sta. 512+65.00  
Elev. 363.82  
Existing Structure: 20'-00" Built in 1928 by S.E. Pl. 103,  
Sta. 111-0, of Sta. 513+00.00, 2 span R.C. deck girder, R.C.  
closed girders and split concrete pier. Cut to Cut of  
waterleg = 20'-3" Bk. to Bk. of Abutments = 65'-0". The  
contractor shall remove the existing superstructure and replace  
it with 2 span R.C. deck beams. Existing substructure shall  
be widened as necessary.

Use slope construction to maintain traffic at all times.

No Salvage.

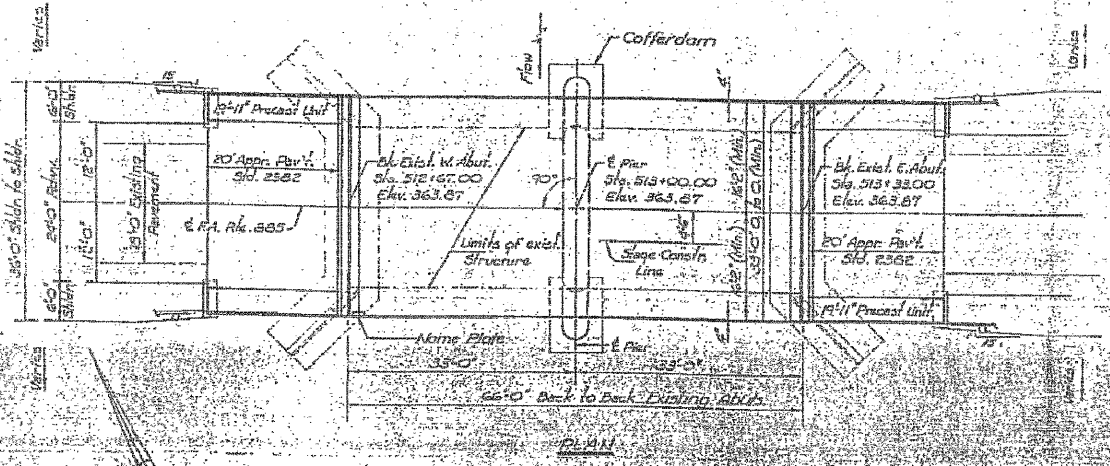
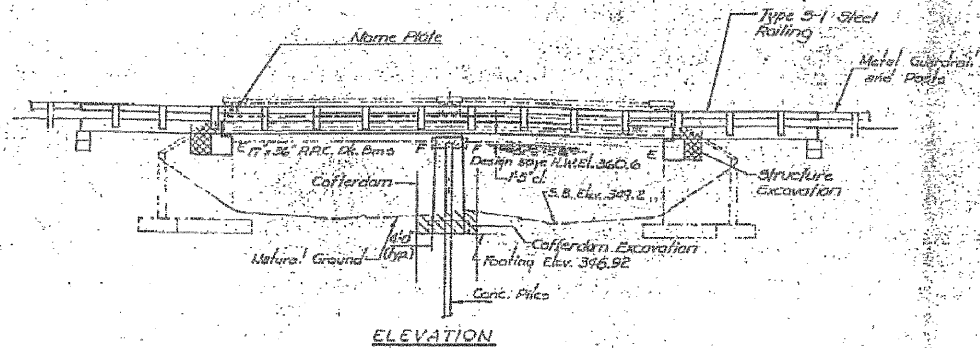
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

S.N. 044-0022

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
F.A.P. 885	11BR-1	Johnson	94	76
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

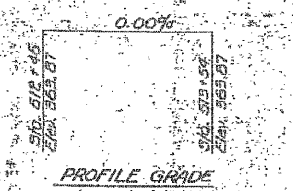
GENERAL NOTES

See Proposal for Boring Data.  
Plan dimensions and details relative to existing structure  
have been taken from existing plans and are subject to nominal  
construction variations. It shall be the Contractor's responsibility  
to verify such dimensions and details in the field 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 the scope of the work,  
however the Contractor will be paid for the quantity actually  
furnished at the unit price bid for the work.  
The top surface of the beams shall be finished in accordance  
with Article 505.05 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, and the top edge of keys shall be rounded or chamfered  
a minimum of 1/4".  
Reinforcement bars shall conform to the requirements of  
AASHTO M-31 or M-63 Grade 60, except as noted.  
All structural steel shall be shop primed with two coats of  
basic lead silico chromate paint.  
Expansion guards which are not cast in the precast unit  
shall be fabricated and erected in accordance with Article 203.07(c)  
of the Standard Specifications and are included in quantity of  
structural steel.  
The contractor shall drive 1 (one) concrete test pile in a  
permanent location of the pier as directed by the Engineer before  
ordering the remainder of piles.  
Expansion balls shall consist of approved expansion anchors,  
providing certified minimum proof load 4,000 lbs. and 4" x 12"  
rod end balls.  
A Calcium Nitrite Corrosion Inhibitor, as covered in the Special  
Provisions, shall be used in the concrete for precast prestressed  
deck beams.



STATION 513+00  
REBUILT 1997 BY  
STATE OF ILLINOIS  
F.A. RT. 885 SECTION DR-3  
PROJ. No. 84-F-885(14)  
LOADING HS 20  
STR. NO.

NAME PLATE  
(See SFD-2175)  
Structure Number to be  
supplied by District.



TOTAL BILL OF MATERIAL

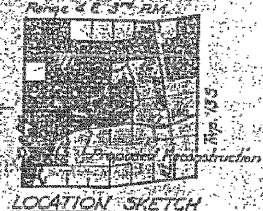
Item	Unit	Supp.	Sub.	Total
Aluminous Concrete Surface Course, Class 1	Sq. Yd.	20		20
Removal of Existing Superstructures	Each		1	1
Concrete Removal	Cu. Yd.		11	11
Expansion Balls	Each		136	136
Structure Excavation	Cu. Yd.		31	31
Cofferdam Excavation	Cu. Yd.		51	51
Cofferdams	Each		2	2
Class X Concrete	Cu. Yd.	31	54.5	85.5
Temporary Bridge Rail	Lin. Ft.	100		100
Precast Prestressed Concrete Slab	Sq. Ft.	299		299
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2156		2156
Structural Steel	Pounds	4650		4650
Steel Railing, Type 5-1	Lin. Ft.	215		215
Reinforcing Bars	Pounds	290	3880	4170
Concrete Piles	Lin. Ft.		165	165
Test Pile Concrete	Each		1	1
Name Plates	Each		1	1
Portland Cement Mortar Jointing Course	Lin. Ft.	237		237
Expanded Joint Seal (2%)	Lin. Ft.	60		60
Waterproofing Membrane System	Sq. Yd.	243		243

DESIGN STRESSES  
FIELD UNITS: PRECAST UNITS  
F<sub>c</sub> = 4,500 psi  
F<sub>t</sub> = 12,000 psi (17" Slabs)  
F<sub>t</sub> = 20,000 psi (17" Beams)  
PRECAST PRESTRESSED UNITS  
F<sub>c</sub> = 5,000 psi  
F<sub>t</sub> = 4,000 psi  
F<sub>t</sub> = 170,000 psi (17" Slabs)  
F<sub>t</sub> = 189,000 psi (17" Beams)  
LOADING HS 20-44  
Design Specifications: 1977 AASHTO R13  
R17 and R60 Interim Specifications  
Allow 25% for future wearing surface

WATERWAY INFORMATION

Flood	Area	Opening		Headwater	Tailwater	Headwater	Tailwater	
		Exist.	Prop.					Exist.
Design	80	2840	663	663	302.6	1.61	212.21	362.21
Base	100	3690	617	693	361.1	0.84	361.54	362.96
Overtopping	25	300	677	745	362.2	0.99	363.19	362.96
Max. Calc.	300	4845	677	745	362.2	0.99	363.19	362.96

DESIGNED: P.S.L.  
CHECKED: M.D.C.  
DRAWN: D.T.M.  
APPROVED: [Signature]  
DATE: October 28, 1997



GENERAL PLAN & ELEVATION  
F.A. RT. 885 Over BELL POND  
EA. RT. 885 Section 11B-DR-3  
JOHNSON COUNTY  
Sta. 513+00

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

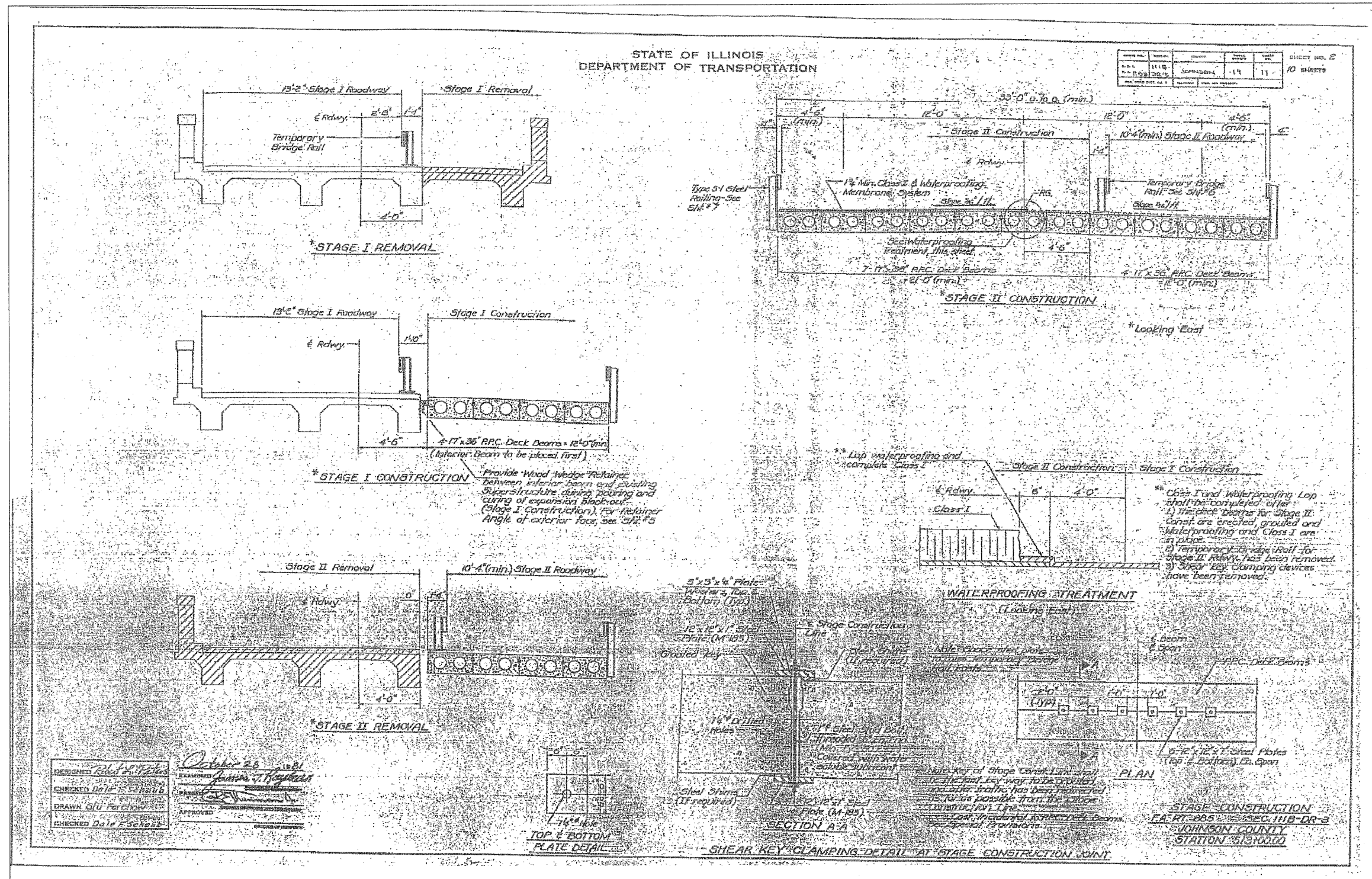
**EXISTING STRUCTURE PLANS**  
IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION 11BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	111BR-1	Johnson	94	77
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 2  
10 SHEETS

Contract #78030



**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

**HLR**

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 548-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-02-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

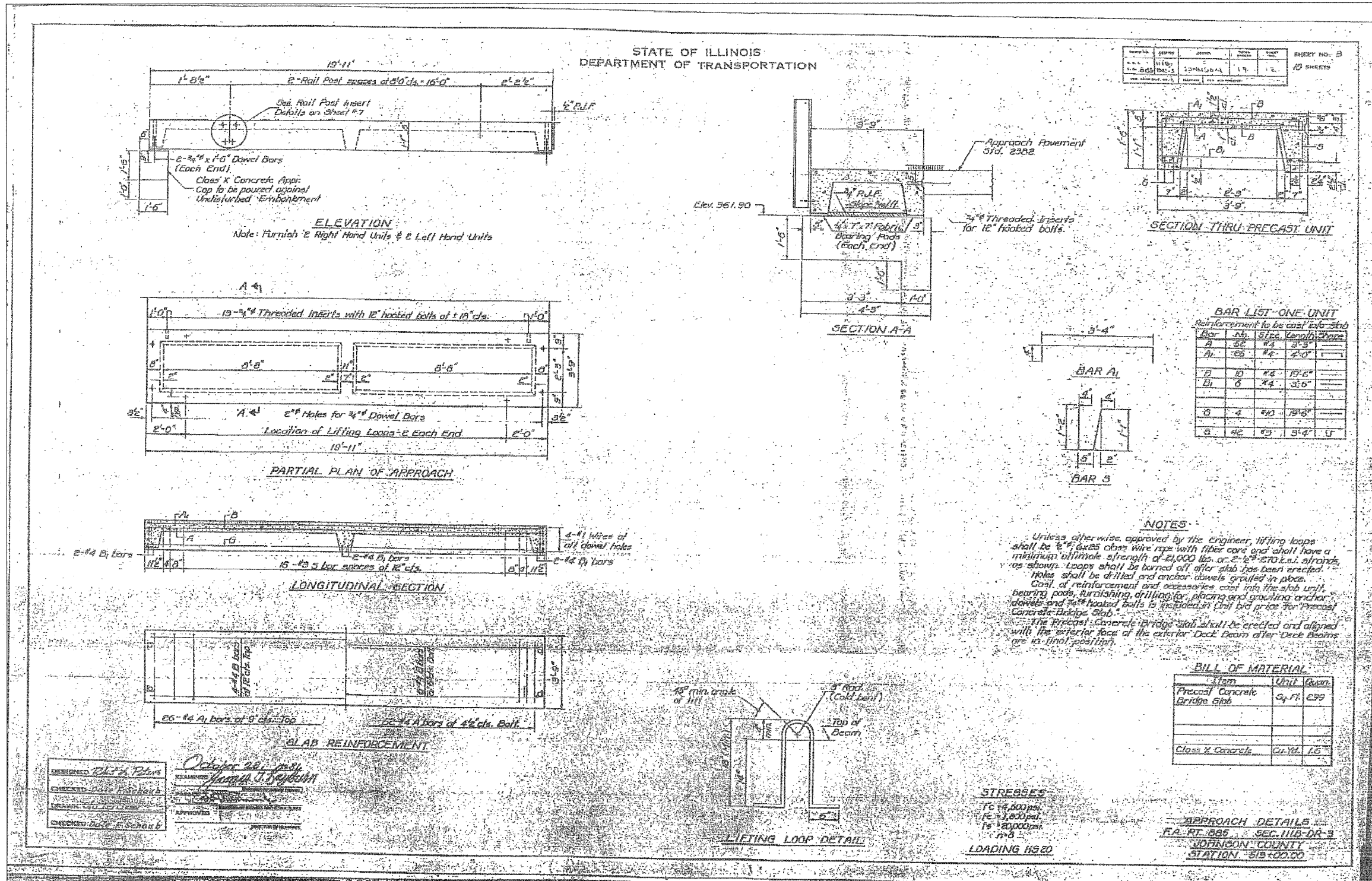
**EXISTING STRUCTURE PLANS**

**IL. ROUTE 146 OVER BELL POND**  
**F.A.P. ROUTE 885 / SECTION 111BR-1**  
**JOHNSON COUNTY**  
**STATION 513+00**  
**STRUCTURE NO. 044-0022**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION IIIBR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 78	SHEET NO. 3 10 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030



DESIGNED: D.L.H. Blair  
CHECKED: D.L.H. Blair  
DATE: October 23, 1954  
APPROVED: J. J. Schmitt

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS  
3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

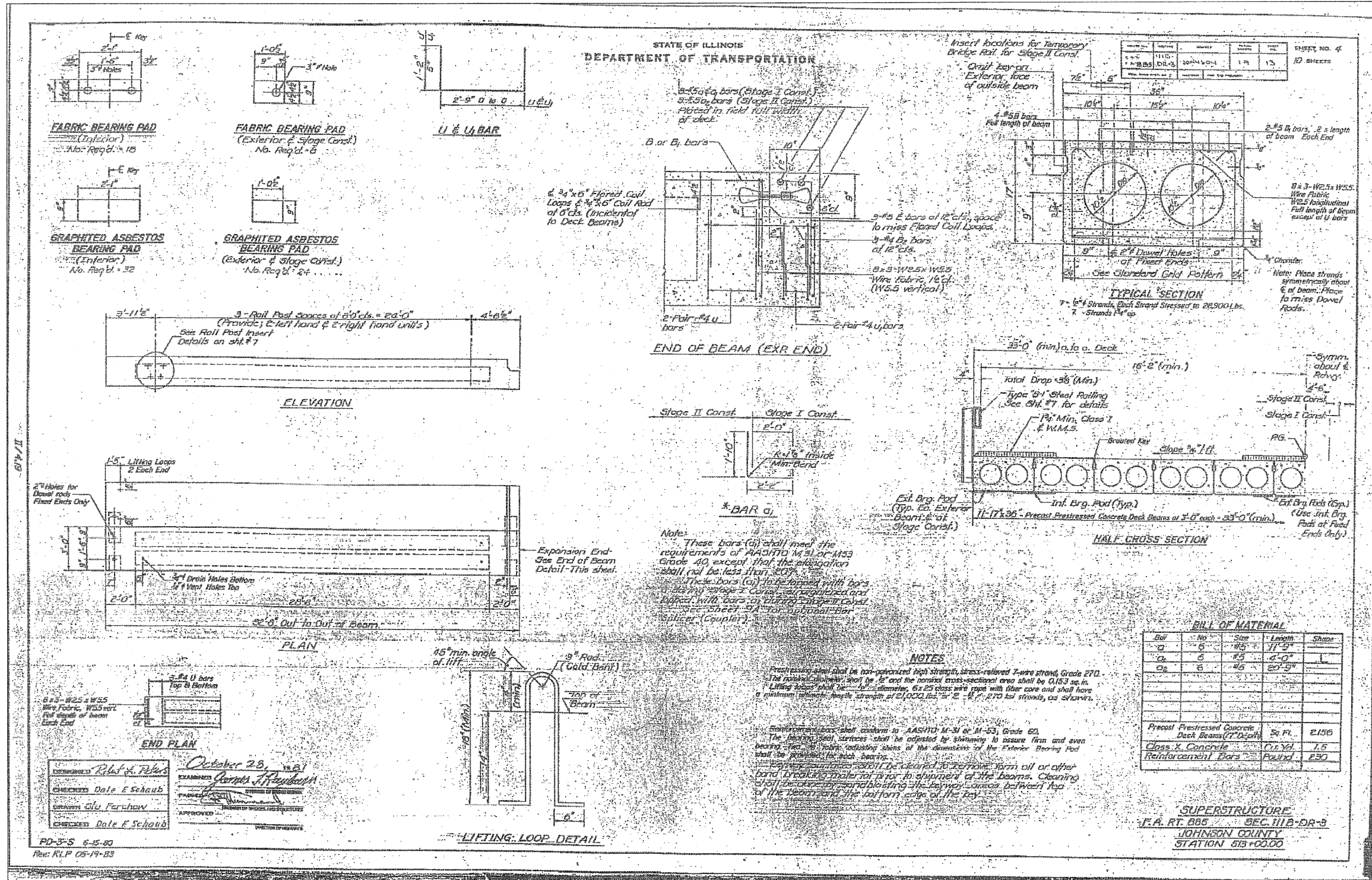
**ELGIN • SPRINGFIELD**  
PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**  
IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION IIIBR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 111BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 79	SHEET NO. 4 10 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

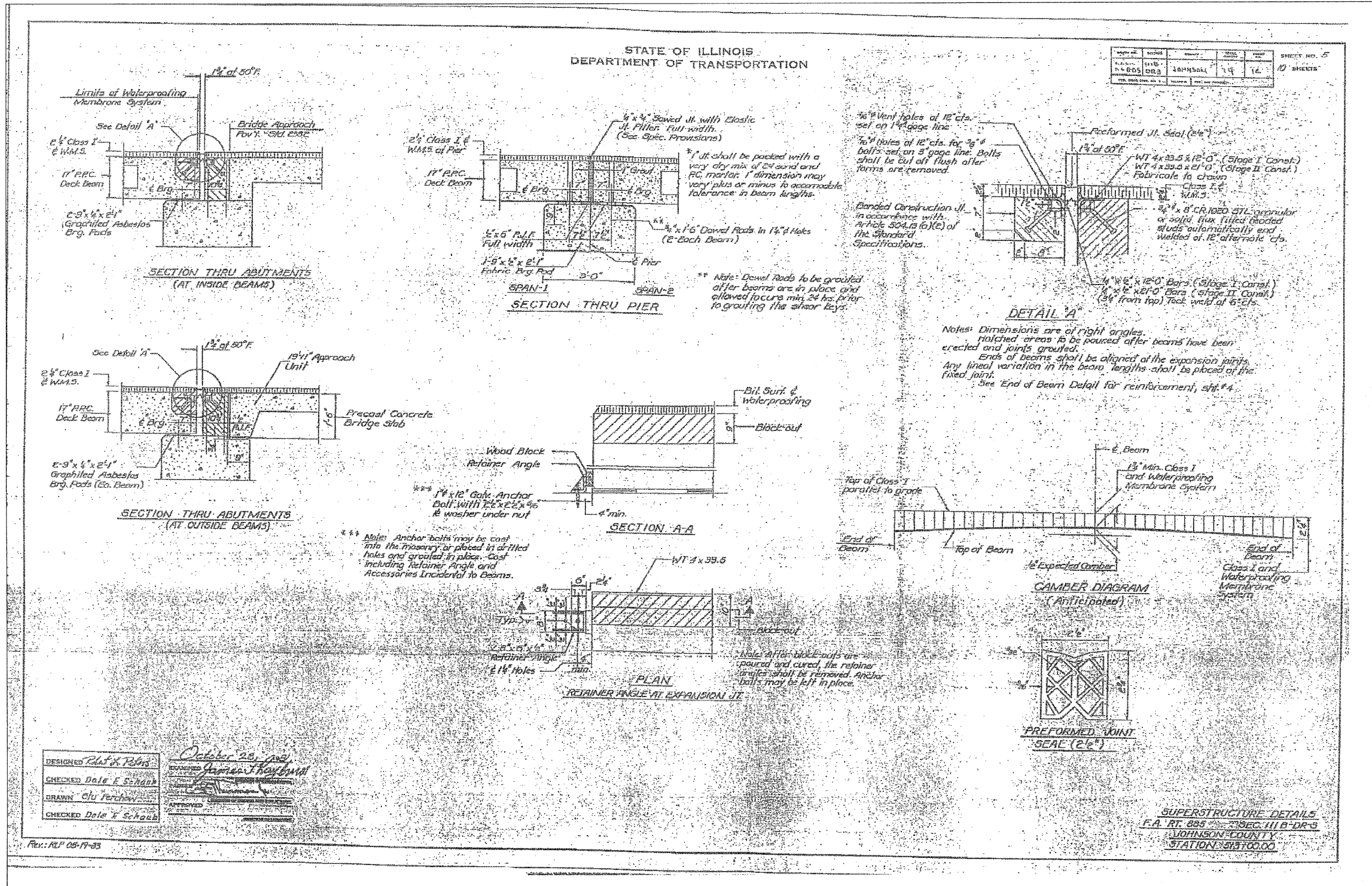
Contract #78030



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION IIIBR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 80	SHEET NO. 5 10 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

Contract #78030



**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS

**HLR**

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
 DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**

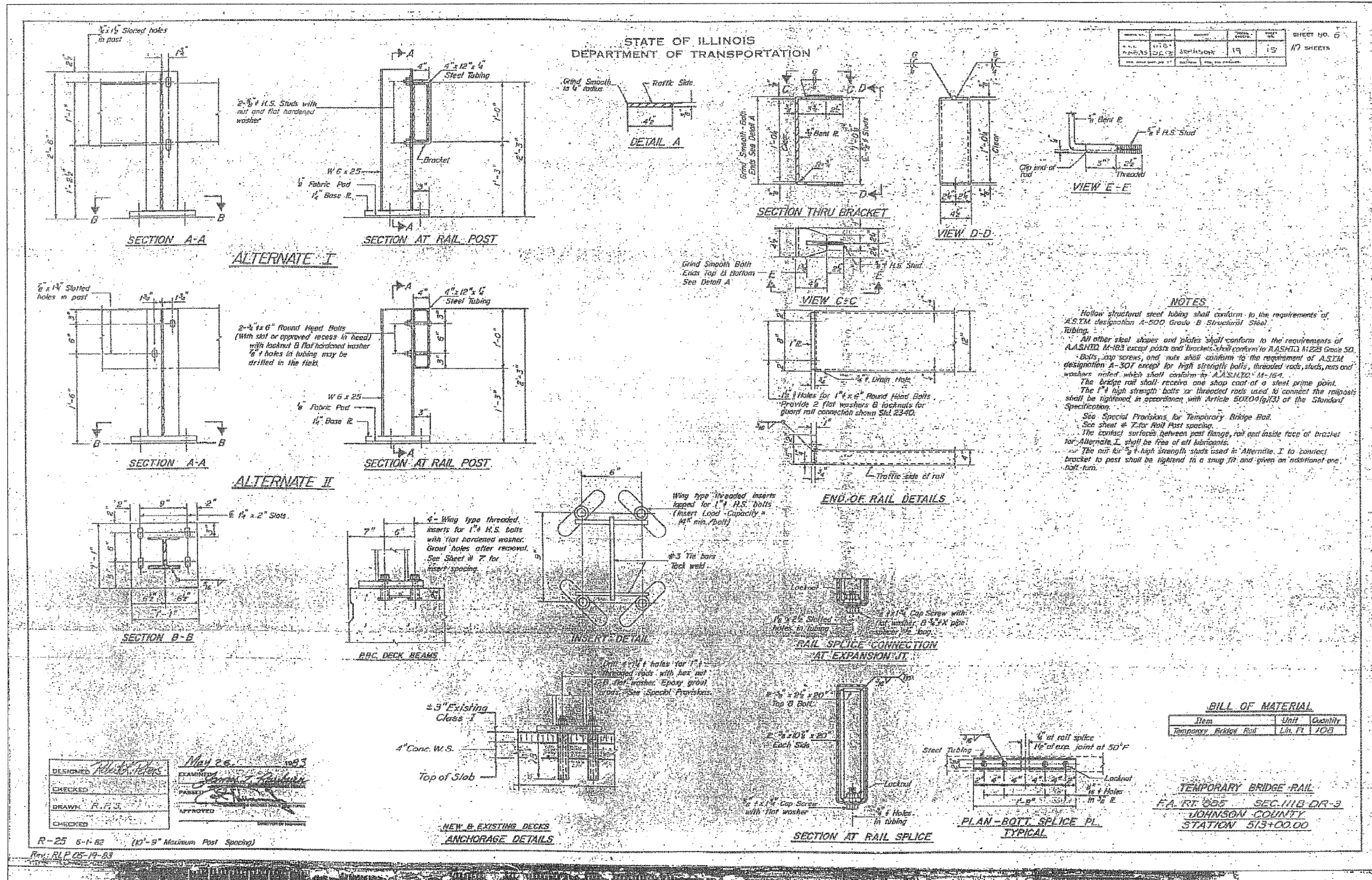
**IL. ROUTE 146 OVER BELL POND**  
**F.A.P. ROUTE 885 / SECTION IIIBR-1**  
**JOHNSON COUNTY**  
**STATION 513+00**  
**STRUCTURE NO. 044-0022**



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 111BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 81	SHEET NO. 6 10 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030



**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

**HLR**

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**

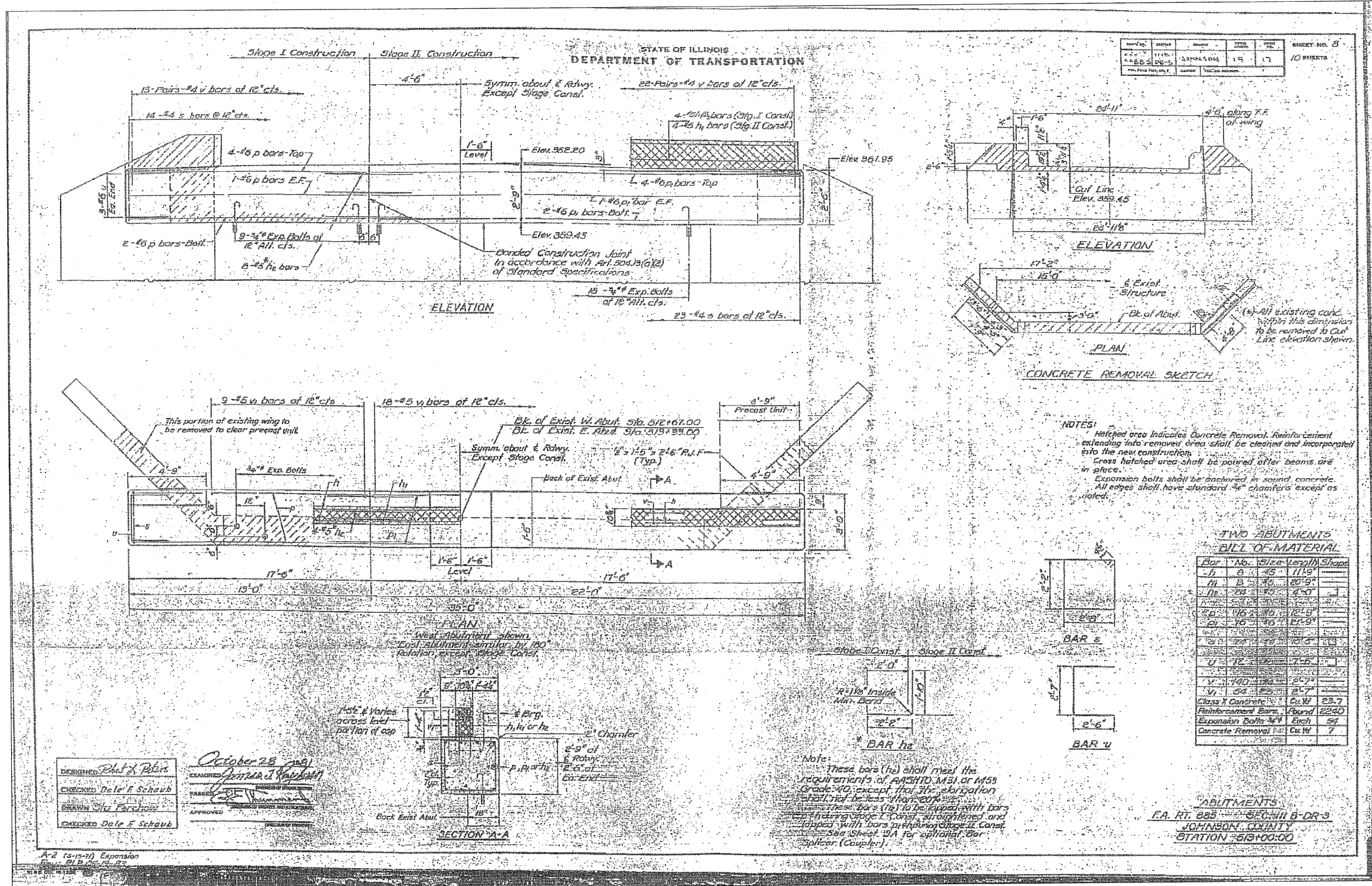
**IL. ROUTE 146 OVER BELL POND**  
**F.A.P. ROUTE 885 / SECTION 111BR-1**  
**JOHNSON COUNTY**  
**STATION 513+00**  
**STRUCTURE NO. 044-0022**



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION IIIBR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 83	SHEET NO. 8 10 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

Contract #78030



**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS

**ELR**

3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-52-0007-1 DATE: 04/02/08  
 DESIGNED: P.S.L. CHECKED: M.D.C. DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**

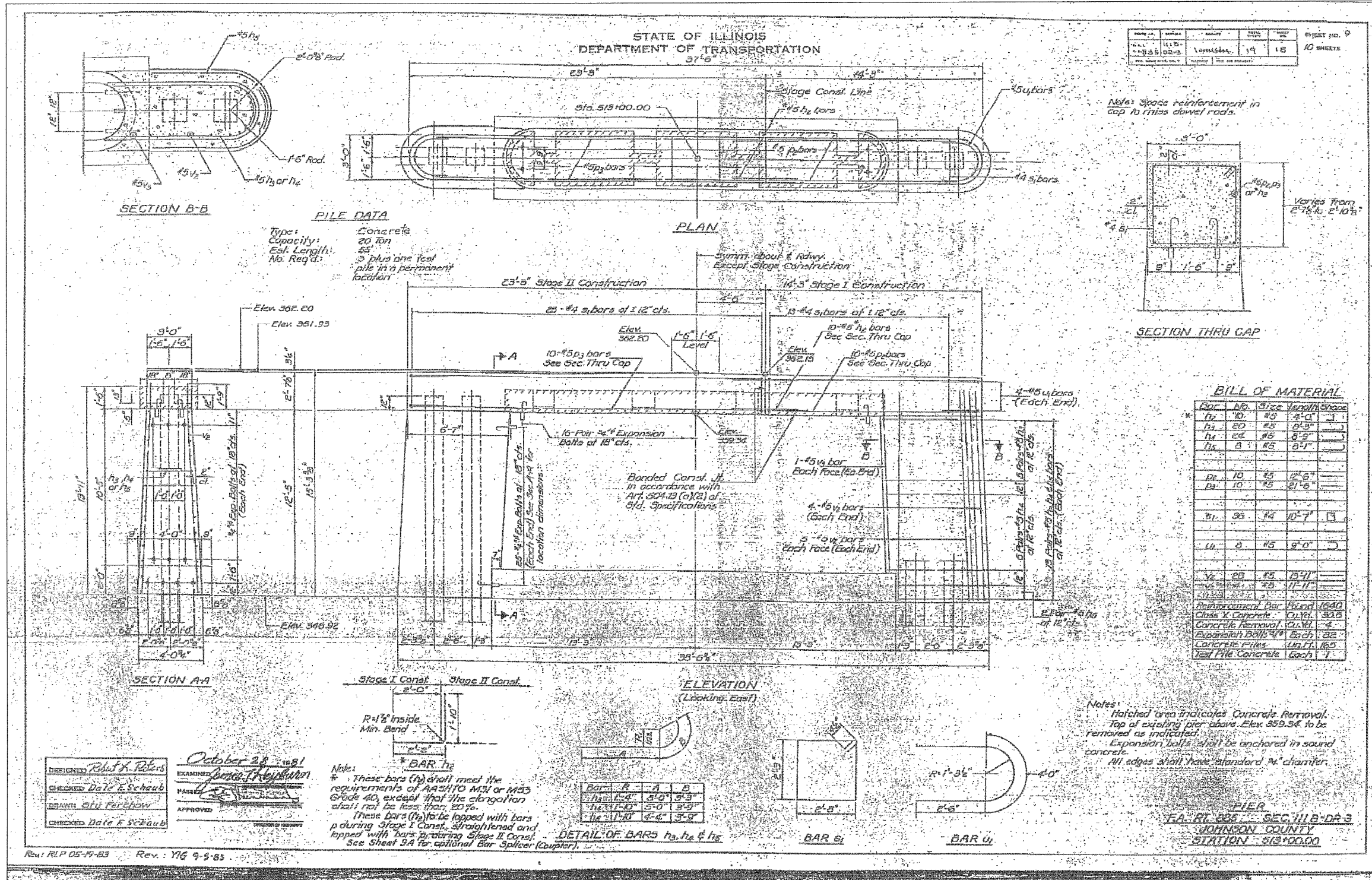
IL. ROUTE 146 OVER BELL POND  
 F.A.P. ROUTE 885 / SECTION IIIBR-1  
 JOHNSON COUNTY  
 STATION 513+00  
 STRUCTURE NO. 044-0022

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 885	SECTION 111BR-1	COUNTY Johnson	TOTAL SHEETS 94	SHEET NO. 84
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 9  
10 SHEETS

Contract #78030



**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

**HLR**

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
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ELGIN • SPRINGFIELD

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**EXISTING STRUCTURE PLANS**

IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION 111BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 10 10 SHEETS
F.A.P. 885	111BR-1	Johnson	94	85	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #78030

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**SECTION THRU SLAB**

**SECTION A-A**

**SPLICER DETAILS**  
(No. Req'd. )

**WELDED SECTIONS**

**SPLICER ALTERNATIVES**  
\* Heavy Hex Nuts conforming to ASTM A563, Grade C, D or DH may be used.

**INSTALLATION AND SETTING METHODS**  
"A" - Set splicer by means of a template bolt.  
"B" - Set splicer by nailing to wood forms or cementing to steel forms.  
(E) - Indicates epoxy coating, see Special Provisions.

**SECTION THRU ABUTMENTS AND PIERS**  
No epoxy coating required.

**SECTION B-B**

**SPLICER DETAILS**  
(No. Req'd. )

**NOTES**

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coated full length, and have effective tensile stress area equal or greater than that of the lapped reinforcement bars.

Splicer rods shall extend minimum 12 inches into the couplers.

All reinforcement bars shall be spaced and tied to the splicer rods.

Splicer (coupler) assembly in the slab shall be epoxy coated in accordance with 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 splicer (coupler) assembly satisfies the following requirements:

- Minimum Capacity = 1.25 x A<sub>s</sub> (Tension in kips)
- Minimum Pull-out Strength = 1.25 x A<sub>s</sub> (Tension in kips)

Where A<sub>s</sub> = Yield strength of lapped reinforcement bars in k.s.i. (Service Load)  
A<sub>s</sub> = Tensile stress area of lapped reinforcement bars.  
28 day concrete.

Typical Splicer (Coupler) Assembly Sizes:

In Slabs	#5 bar top with #4 Splice (Coupler) x 2'-0" Splicer Rods	Minimum Capacity = 23.0 kips-tension Minimum Pull-out Strength = 9.2 kips-tension
In Sub-structures	#7 bar top with #4 Splice (Coupler) x 3'-0" Splicer Rods	Minimum Capacity = 43.1 kips-tension Minimum Pull-out Strength = 17.0 kips-tension
	#8 bar top with #4 Splice (Coupler) x 4'-0" Splicer Rods	Minimum Capacity = 52.5 kips-tension Minimum Pull-out Strength = 23.6 kips-tension

Note: The Cost of Bar Splicers (Coupler) shall be incidental to Reinforcement Bars, as applicable.

**BAR SPLICER (COUPLER) DETAILS AT STAGE CONSTRUCTION**

F.A. RT. 885 SEC. 111B-DR-3  
JOHNSON COUNTY  
STATION 513+00.00

DESIGNED: <i>R.P.S.</i>	EXAMINED: <i>MAY 26 1983</i>
CHECKED: <i>R.P.S.</i>	APPROVED: <i>[Signature]</i>
DRAWN: <i>R.P.S.</i>	DATE: <i>5-1-82</i>
CHECKED: <i>[Signature]</i>	DATE: <i>5-1-82</i>

Rev: RLP 05-15-83

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

**HLR**

3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD

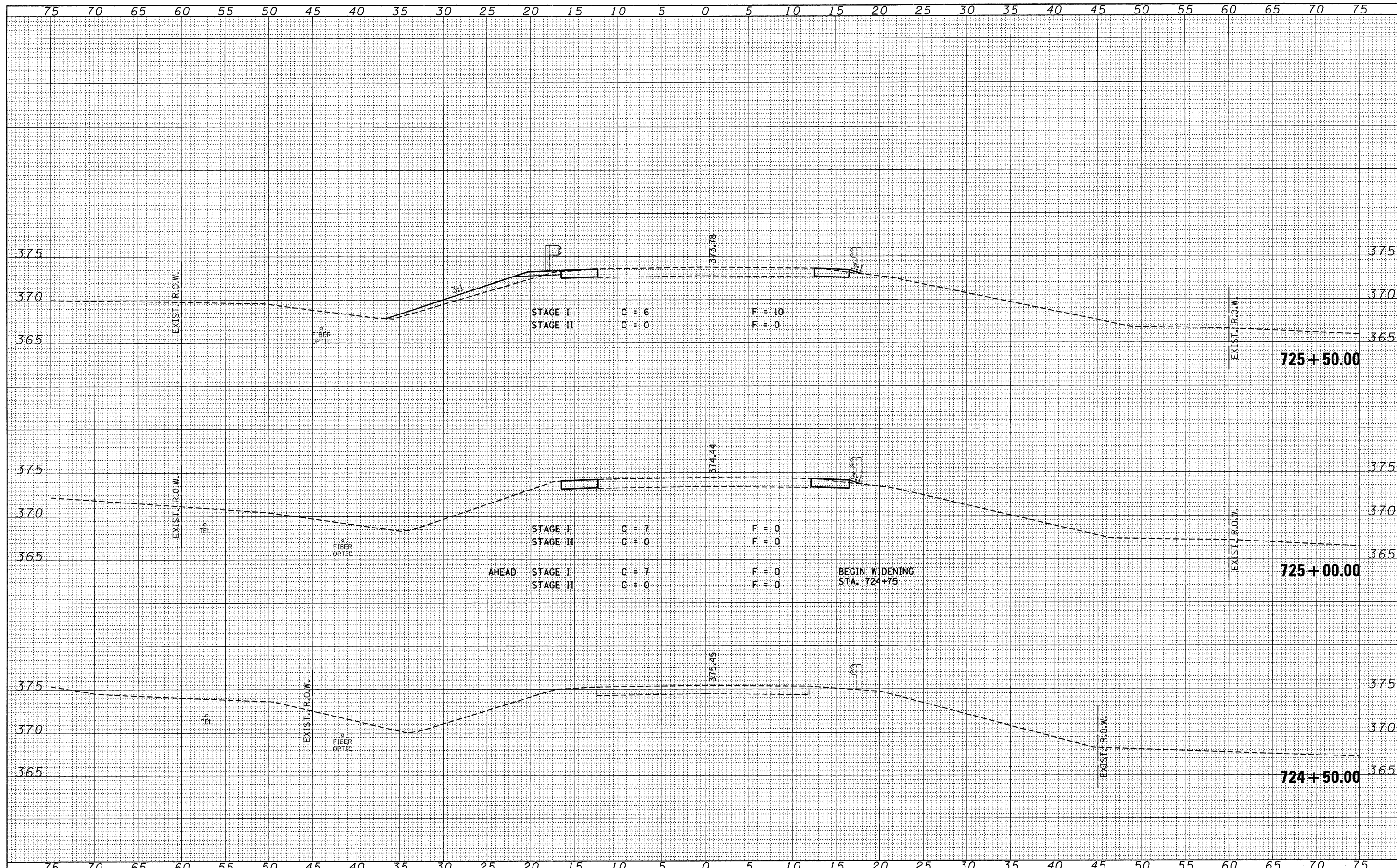
PROJECT NUMBER: 12-52-0007-1    DATE: 04/02/08  
DESIGNED: P.S.L.    CHECKED: M.D.C.    DRAWN: D.T.M.

**EXISTING STRUCTURE PLANS**

IL. ROUTE 146 OVER BELL POND  
F.A.P. ROUTE 885 / SECTION 111BR-1  
JOHNSON COUNTY  
STATION 513+00  
STRUCTURE NO. 044-0022

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NOTE BOOK	
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NOTE BOOK	
TEMPLATE	
AREAS CHECKED	
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FILE NAME = 0442014-sht-xs.dgn	USER NAME =	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL ROUTE 146 - CROSS SECTIONS</b>		F.A.P. RTE. 885	SECTION 107BR-1	COUNTY JOHNSON	TOTAL SHEETS 94	SHEET NO. 86
	PLOT SCALE =	DRAWN -	REVISED -		SCALE:	SHEET NO. 1 OF 3 SHEETS	STA. 724+50.00 TO STA. 725+50.00	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 78030	
	PLOT DATE = 4/22/2008	CHECKED -	REVISED -								
		DATE -	REVISED -								

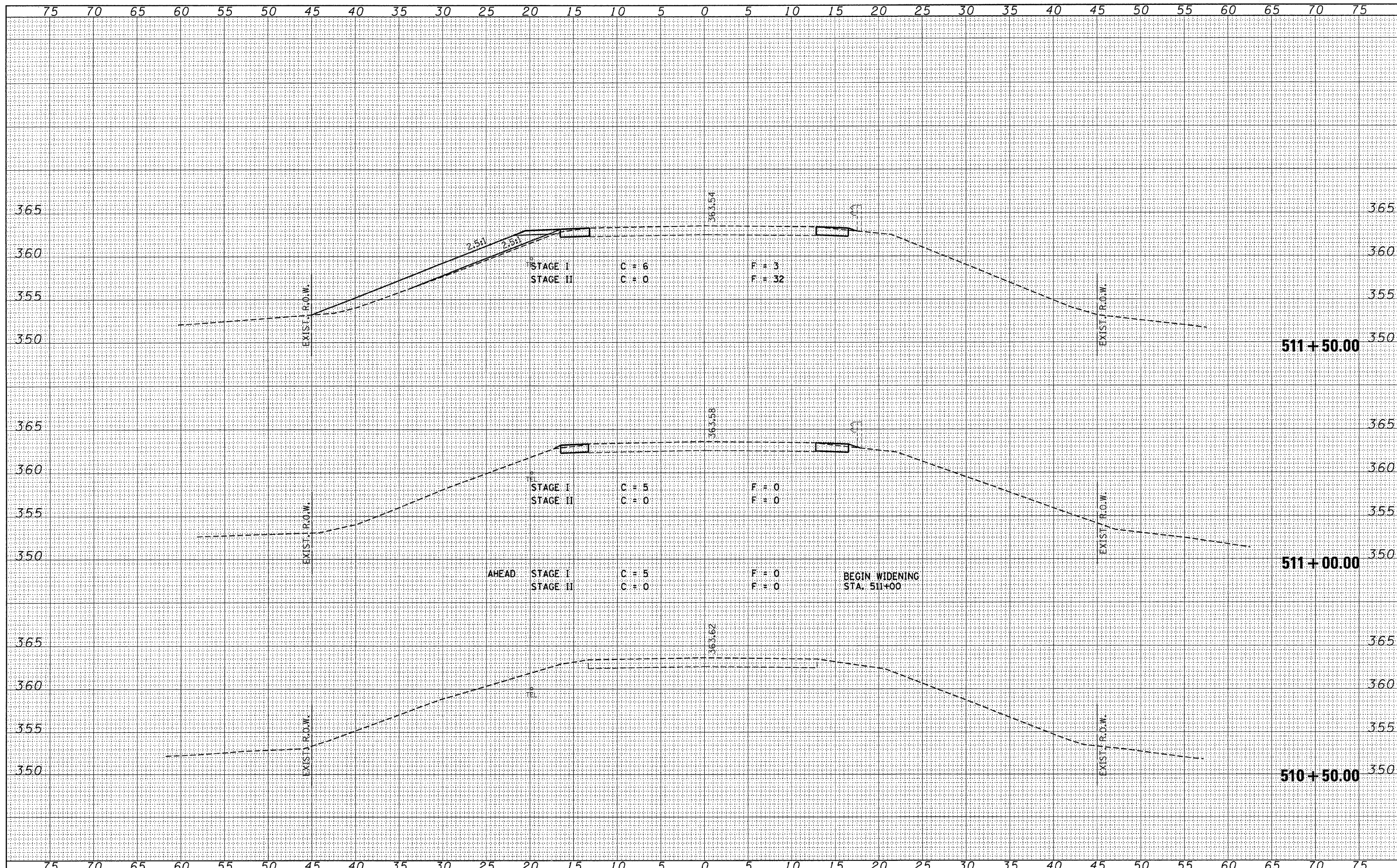






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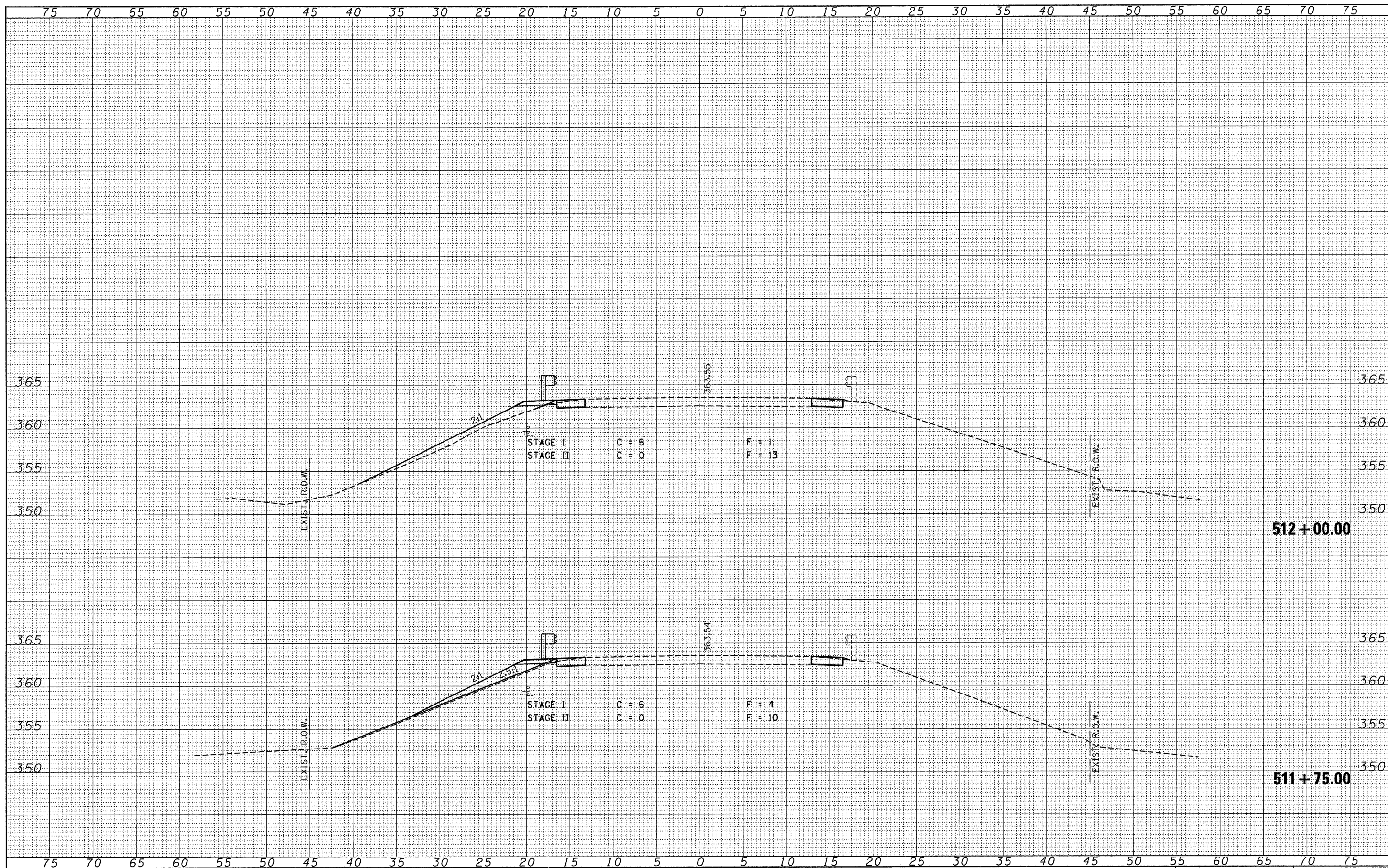
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NOTE BOOK NO.	PLOTTED
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	PLOT SCALE =	DRAWN -	REVISED -		SCALE:	SHEET NO. 1 OF 6 SHEETS	STA. 510+50.00 TO STA. 511+50.00	CONTRACT NO. 78030		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	
	PLOT DATE = 4/22/2008	CHECKED -	REVISED -								
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DRAWN -	
CHECKED -	
DATE -	4/22/2008

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DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

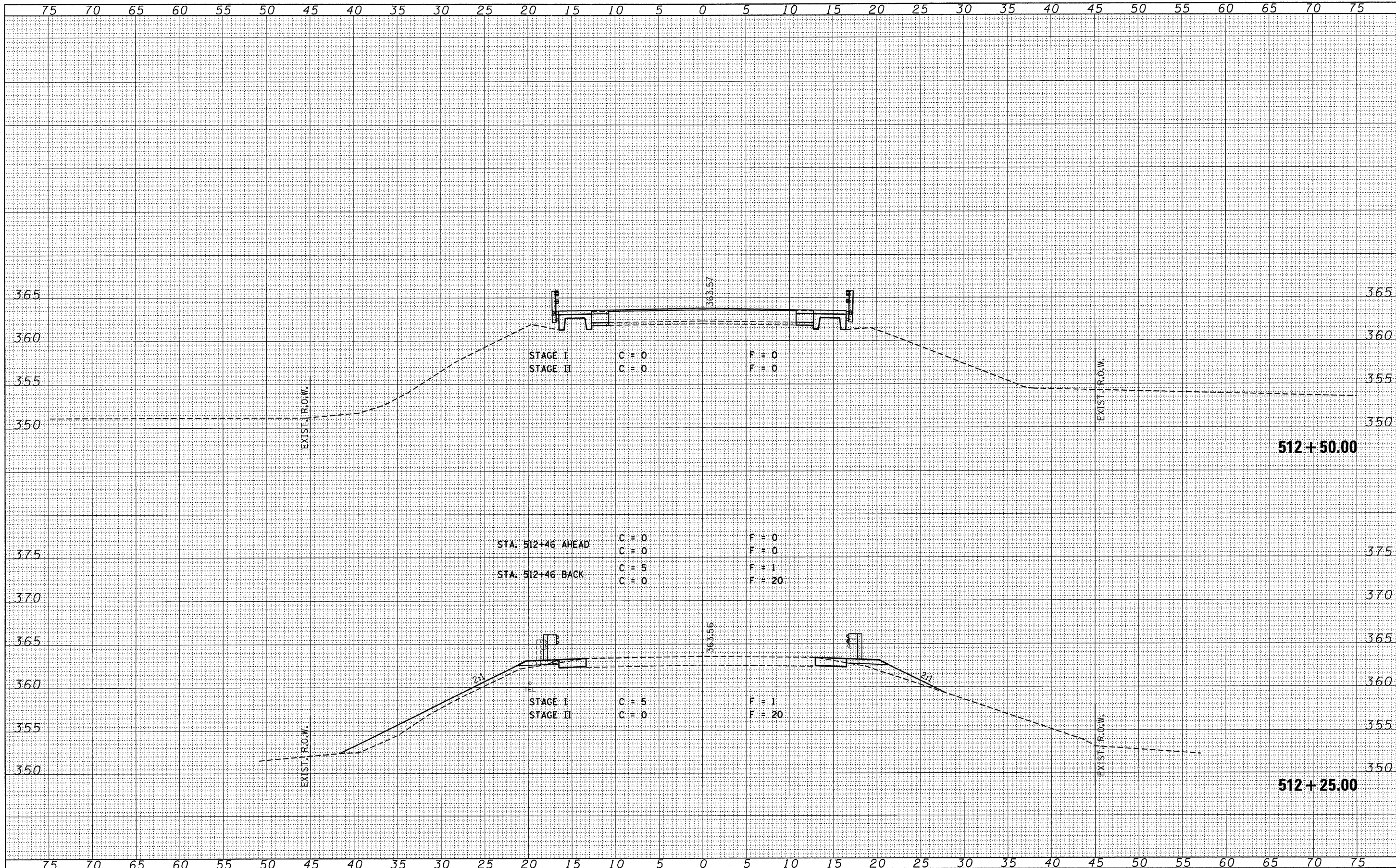
**IL ROUTE 146 - CROSS SECTIONS**

SCALE: SHEET NO. 2 OF 6 SHEETS STA. 511+75.00 TO STA. 512+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	111BR-1	JOHNSON	94	90
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
CONTRACT NO. 78030				

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AREAS CHECKED	
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ORIGINAL SURVEY	
SURVEYED	
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NOTE BOOK	
AREAS CHECKED	
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 DATE -  
 PLOT SCALE =  
 PLOT DATE = 4/22/2008

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CHECKED -	REVISED -
DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

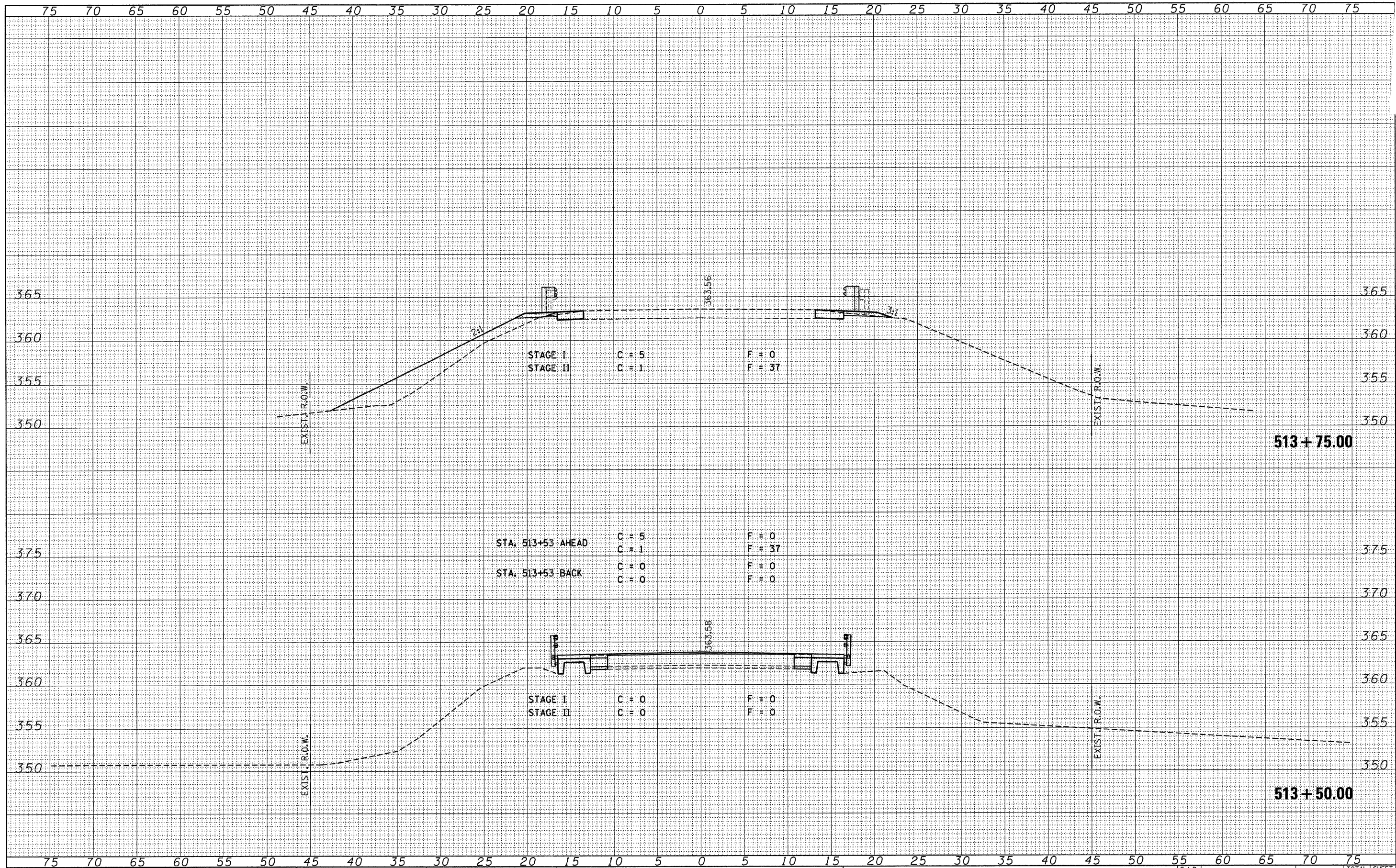
**IL ROUTE 146 - CROSS SECTIONS**

SCALE: SHEET NO. 3 OF 6 SHEETS STA. 512+25.00 TO STA. 512+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	111BR-1	JOHNSON	94	91
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
		CONTRACT NO. 78030		

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FILE NAME = 0440022-sh1-vx.dgn

USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	DRAWN -	REVISED -
PLOT DATE = 4/22/2008	CHECKED -	REVISED -
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

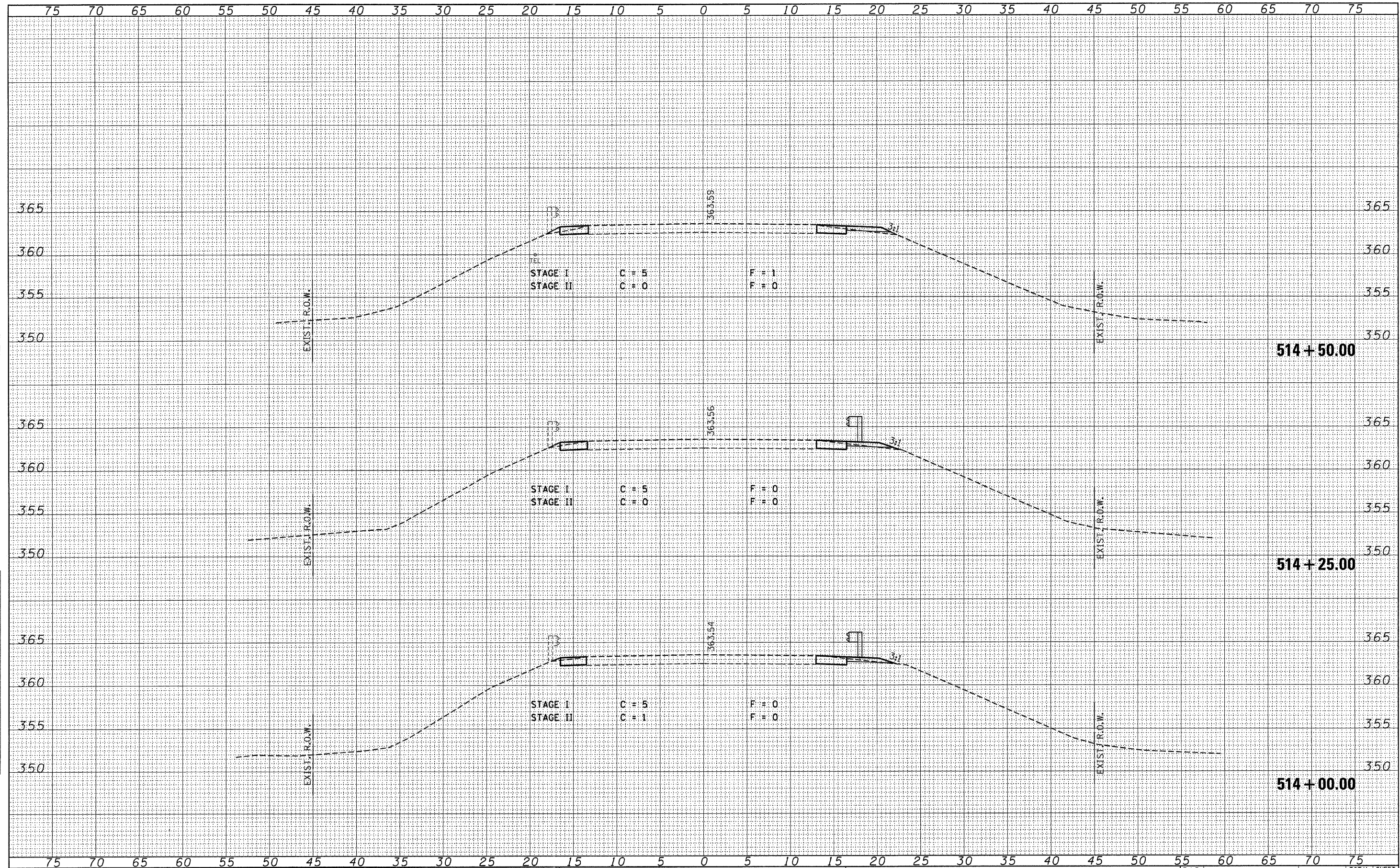
IL ROUTE 146 - CROSS SECTIONS

SCALE: SHEET NO. 4 OF 6 SHEETS STA. 513+50.00 TO STA. 513+75.00

F.A.P. RTE. 885	SECTION 111BR-1	COUNTY JOHNSON	TOTAL SHEETS 94	SHEET NO. 92
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 78030	

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FINAL SURVEY	
NOTE BOOK	
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ORIGINAL SURVEY	
NOTE BOOK	
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PLOT SCALE =	PLOT DATE = 4/22/2008

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CHECKED -	REVISED -
DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

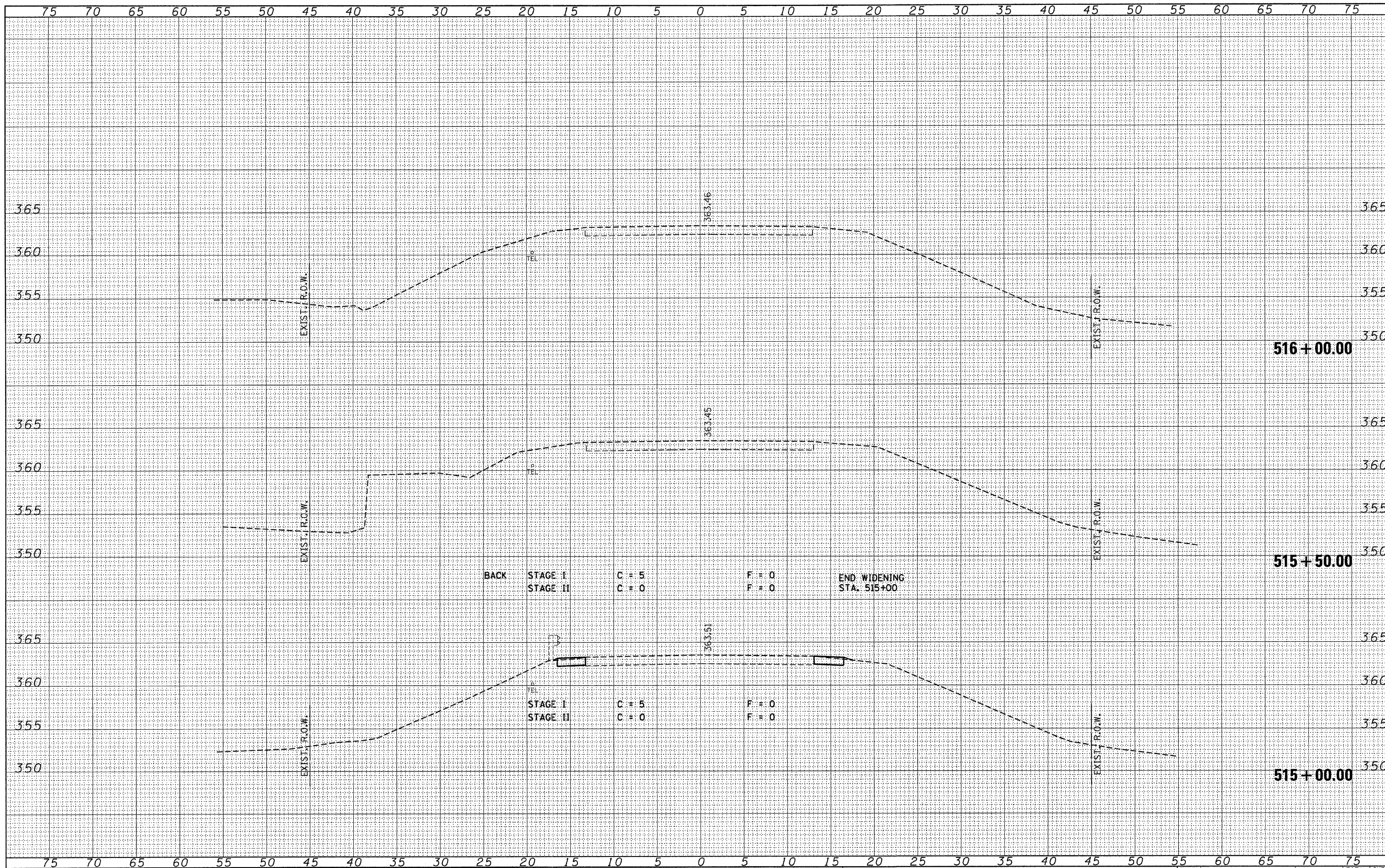
**IL ROUTE 146 - CROSS SECTIONS**

SCALE: SHEET NO. 5 OF 6 SHEETS STA. 514+00.00 TO STA. 514+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	111BR-1	JOHNSON	94	93
CONTRACT NO. 78030				
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				

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FINAL SURVEY	
NOTE BOOK	
TEMPLATE	
AREAS CHECKED	
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ORIGINAL SURVEY	
NOTE BOOK	
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USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	DRAWN -	REVISED -
PLOT DATE = 4/22/2008	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 146 - CROSS SECTIONS**

SCALE: SHEET NO. 6 OF 6 SHEETS STA. 515+00.00 TO STA. 516+00.00

F.A.P. RTE. 885	SECTION 111BR-1	COUNTY JOHNSON	TOTAL SHEETS 94	SHEET NO. 94
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		CONTRACT NO. 78030		