

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
**PROPOSED  
HIGHWAY PLANS**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	125-BP-1	MADISON	17	1
		ILLINOIS	CONTRACT NO. 76J50	

\* 604/789

**INDEX OF SHEETS**

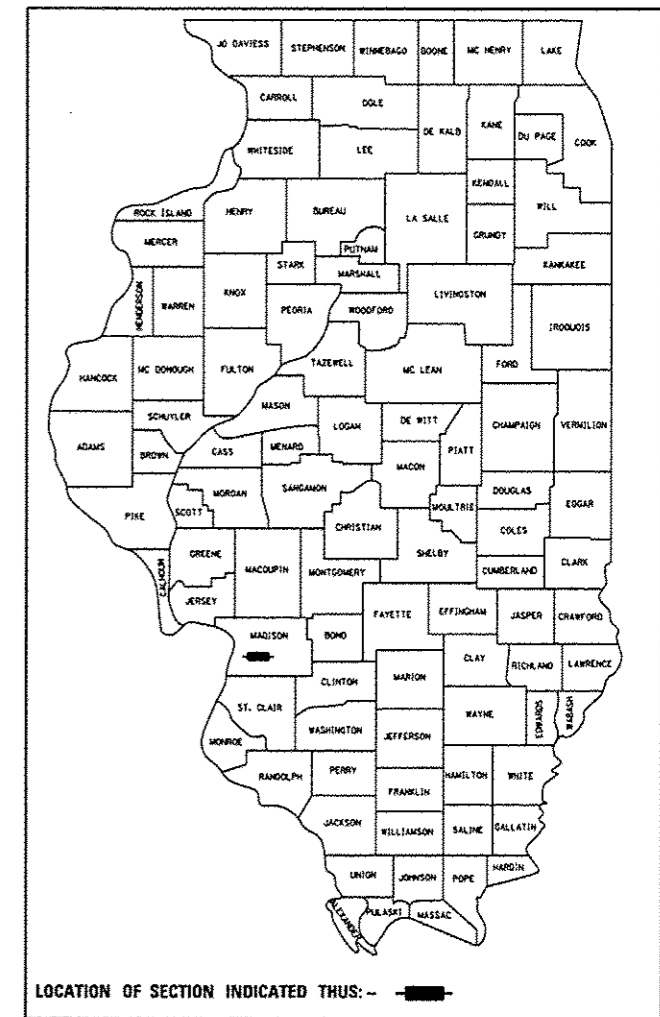
- 1 COVER SHEET
- 2 HIGHWAY STANDARDS, GENERAL NOTES, AND COMMITMENTS
- 3 SUMMARY OF QUANTITIES
- 4-7 SN 060-0083 EXISTING STRUCTURE DETAILS (FOR INFORMATION ONLY)
- 8-13 SN 060-0130 EXISTING STRUCTURE DETAILS (FOR INFORMATION ONLY)
- 14-17 SN 060-0129 EXISTING STRUCTURE DETAILS (FOR INFORMATION ONLY)

**TRAFFIC DATA**

	SN 060-0129 SN 060-0130	SN-060-0083
2016 ADT	7,200	9,400
2036 ADT	8,300	10,800
% SU	2.5	4.8
% MU	1.0	1.2

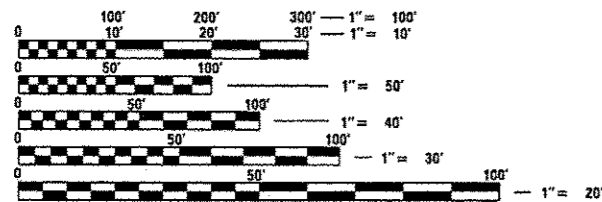
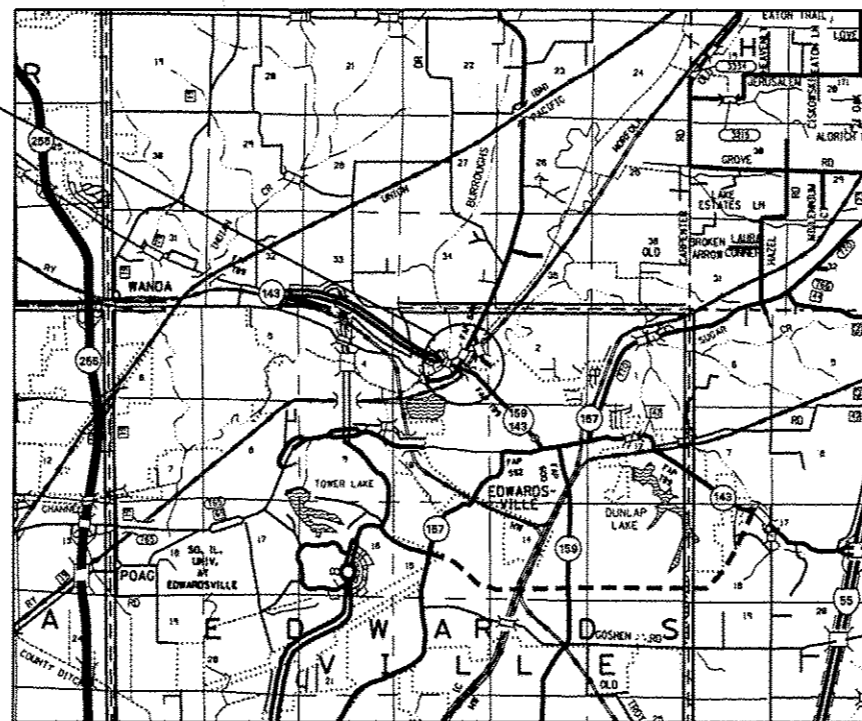
FAP 604/FAP 789 (IL 159/L 143)  
SECTION 125-BP-1  
BRIDGE PAINTING  
MADISON COUNTY

C-98-024-16



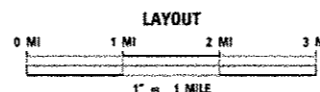
**PROJECT LOCATION**

- BRIDGE NO. 1  
SN 060-0083  
IL 143 OVER  
CAHOKIA CREEK  
STA. 118+27.12  
LAT.: 38.82437  
LONG.: -89.97461
- BRIDGE NO. 2  
SN 060-0129  
IL 159 OVER  
CAHOKIA CREEK  
STA. 829+60.50  
LAT.: 38.82635  
LONG.: -89.97124
- BRIDGE NO. 3  
SN 060-0130  
IL 159 OVER  
MOONEY CREEK  
STA. 835+56.20  
LAT.: 38.82466  
LONG.: -89.97236



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



LAYOUT  
GROSS LENGTH = 603.98 FT. = 0.114 MILE  
NET LENGTH = 603.98 FT. = 0.114 MILE

PROJECT ENGINEER: HERVE GELIN (618) 346-3179  
PROJECT MANAGER: BILLIE OWEN (618) 346-3329  
CONTRACT NO. 76J50

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED March 24 2016  
Jeffrey Z. Kammer REGIONAL ENGINEER, REGION 5  
Margaret M. Addis P.E. acting ENGINEER OF DESIGN AND ENVIRONMENT  
Emor Osman P.E. DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

**HIGHWAY STANDARDS**

000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001006	DECIMAL OF AN INCH AND OF A FOOT
701001-02	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 M) AWAY
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 M) TO 24" (600 MM) FROM PAVEMENT EDGE
701201-04	LANE CLOSURE 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701606-10	URBAN SINGLE LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-05	TRAFFIC CONTROL DEVICES

**GENERAL NOTES**

**COMMITMENTS**

NONE

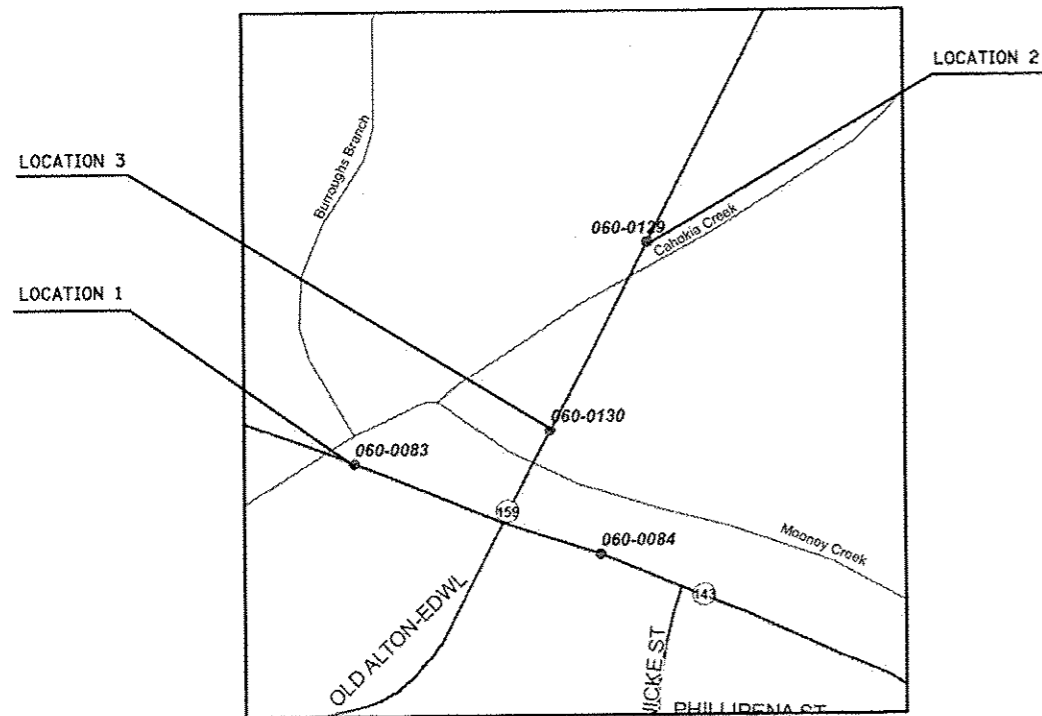
1. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO UTILITIES WITHIN THE PROJECT AREA BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:

- AMEREN ILLINOIS (GAS & ELECTRIC)
- AT&T ILLINOIS (COMMUNICATIONS)
- CHARTER COMMUNICATIONS, INC. (CTV)
- CITY OF EDWARDSVILLE (WATER & SANITARY SEWER & ELECTRIC)
- MARATHON PIPE LINE LLC (PIPELINE)
- NORTHEAST CENTRAL COUNTY PUBLIC WATER DISTRICT (WATER)
- TRANSCANADA KEYSTONE PIPELINE (PIPELINE)

MEMBERS OF J.U.L.I.E CALL TOLL FREE (800) 892-0123 OR 811 AND ARE INDICATED BY \*. NON-J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.

2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION.
3. THE SSPC-QP1 AND SSPC-OP2 CERTIFICATIONS WILL BE REQUIRED FOR ALL BRIDGES.
4. THE DESIGNATED AREAS CLEANED PER NEAR WHITE BLAST CLEANING SSPC- SP10 SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1- OZ/E/U. THE COLOR FOR ALL STEEL SURFACES SHALL BE BROWN, FEDERAL COLOR #595C 20045.
5. THE EXISTING COATING CONTAIN LEAD.
6. FOR LOCATIONS 1 AND 3 (SN 060-0083 AND 060-0130): ALL BEAMS, BEARINGS, AND OTHER STRUCTURAL STEEL WITHIN 10 FT (MEASURED ALONG THE BEAM) OF EITHER SIDE OF THE DECK JOINTS SHALL BE CLEANED AND THE COST SHALL BE INCLUDED IN "CLEANING AND PAINTING EXISTING STEEL STRUCTURE".
7. FOR LOCATION 2 (SN 060-0129): ALL BEAMS, BEARINGS, AND OTHER STRUCTURAL STEEL WITHIN 5 FT (MEASURED ALONG THE BEAM) OF EITHER SIDE OF THE DECK JOINTS SHALL BE CLEANED AND THE COST SHALL BE INCLUDED IN "CLEANING AND PAINTING EXISTING STEEL STRUCTURE".
8. THE USE OF CONES SHALL NOT BE PERMITTED AT THIS LOCATION.
9. ALL CONSTRUCTION SIGNS SHALL BE 48" X 48" FLUORESCENT ORANGE. ALL TRAFFIC CONTROL DEVICES AS HEREIN SPECIFIED AND ANY ADDITIONAL TRAFFIC CONTROL DEVICES AS DEEMED NECESSARY BY THE RESIDENT ENGINEER SHALL BE INCLUDED IN THE CONTRACT TRAFFIC CONTROL AND PROTECTION PAY ITEMS. EXTRA DEVICES MAY BE NEEDED TO DELINEATE TRAFFIC THRU PAINTED MEDIAN ON IL 143. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
10. ALL TURF AREA DISTURBED BY THE CONTRACTOR SHALL BE SEEDED WITH THE APPROPRIATE EROSION CONTROL AS DIRECTED BY THE RESIDENT ENGINEER/TECHNICIAN AT THE CONTRACTOR'S EXPENSE.
11. CHANGEABLE MESSAGE SIGNS SHALL BE PLACED TWO (2) WEEKS PRIOR TO ANY LANE RESTRICTIONS AS DIRECTED BY THE RESIDENT ENGINEER.
12. THE DEPARTMENT STRONGLY ENCOURAGES THE PRIME CONTRACTOR AND THEIR APPROVED SUB-CONTRACTORS TO HIRE MINORITY, WOMEN AND DISADVANTAGED INDIVIDUALS FROM ITS FEDERALLY FUNDED HIGHWAY CONSTRUCTION CAREERS TRAINING PROGRAM (HCCTP) TO HELP MEET WORKFORCE AND TRAINEE GOALS. THIS PROGRAM IS TRAINING MINORITIES, WOMEN AND DISADVANTAGED INDIVIDUALS IN HIGHWAY CONSTRUCTION-RELATED SKILLS, E.G., MATH FOR THE TRADES, JOB READINESS, TECHNICAL SKILLS COURSE WORK (CARPENTRY, CONCRETE FLATWORK, BLUEPRINT READING, SITE PLANS, SITE WORK, TOOLS USE, ETC.) AND OSHA 10 HOUR CERTIFICATION, TO PREPARE THEM FOR A CAREER IN THE HIGHWAY CONSTRUCTION TRADES. GRADUATES ARE WELL- TRAINED AND READY TO BECOME PRODUCTIVE ENTRY-LEVEL CONSTRUCTION WORKERS. CONTACT THE DISTRICT 8 EEO OFFICE AT 618-346-3360 AND/OR THE HCCTP COORDINATOR AT 618-874-6528 TO LEARN MORE ABOUT THE PROGRAM AND FOR ASSISTANCE IN MEETING WORKFORCE AND TRAINEE GOALS.

**DETAILED LOCATION MAP**



FILE NAME =	USER NAME = ehallondaska	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>HIGHWAY STANDARDS, GENERAL NOTES, AND COMMITMENTS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
pw\11884EBID\HTEG.illinois.gov\PI\DOT\Documents\DOT Offices\District 8\Projects\087-DR\Drawn Data\CAD\heats\0876J58-shr-coவர்		CHECKED -	REVISED -		SHEET 1	OF 1	SHEETS	STA.	TO STA.	604/789	MADISON	17	2
		DATE -	REVISED -		CONTRACT NO. 76J50								
Default					ILLINOIS FED. AID PROJECT								

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				100% STATE URBAN BRIDGE	100% STATE URBAN BRIDGE	100% STATE URBAN BRIDGE
				0014	0014	0014
				060-0083	060-0129	060-0130
67100100	MOBILIZATION	LSUM	1	0.4	0.3	0.3
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	LSUM	1		0.5	0.5
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	LSUM	1	1		
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	LSUM	1	0.5		0.5
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	2	1	0.5	0.5
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	LSUM	1	1		
Z0007102	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	LSUM	1		1	
Z0007103	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 3	LSUM	1			1
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	LSUM	1	1		
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	LSUM	1		1	
Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO. 3	LSUM	1			1

SER 1      SER 2      SER 3

B.M.: Chisled a top of South Wingwall West Abutment Elev. 433.13

Existing Structure: 060-0083 is 126'-6" long, by 55'-6" wide, built as S.R.I. Rte 159, Section 125-B-C&D at Sta. 417+80 in 1936. The existing superstructure shall be removed and replaced with new wide flange beams and slab. The existing Piers 3 Abut. shall be repaired and modified as required for the new superstructure. Slope construction shall be utilized so as to maintain two way traffic during reconstruction.

Salvage Existing Material

# FOR INFORMATION ONLY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
060-0083	125-BP-1	MADISON	17	17

GENERAL NOTES

SEE PROPOSAL FOR OTHER DATA.  
FASTENERS SHALL BE HIGH STRENGTH BOLTS (ASTM F 1554, TYPE 316, CLTS 3/4" DIA., OPEN HOLES 13/16" DIA., UNLESS OTHERWISE NOTED).  
CALCULATED WEIGHT OF STRUCTURAL STEEL = 210,360 Lbs  
THE BASIC LEAD SILICO CHROMATE PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL EXCEPT WHERE OTHERWISE NOTED.  
ALL STRUCTURAL STEEL SHALL BE GRADE # 222.  
GRADE # 222 STRUCTURAL STEEL SHALL NOT BE PAINTED EXCEPT FOR A DISTANCE OF THREE TIMES THE DEPTH OF THE BEAMS OR GIRDERS (NOT EXCEEDING 10 FEET) EACH WAY FROM THE JOINTS. THE GRADE # 222 STRUCTURAL STEEL TO BE PAINTED SHALL BE CLEANED AND GIVEN ONE COAT OF THE BASIC LEAD SILICO CHROMATE PRIMER AND MAINTENANCE FIELD COAT. BOTH COATS SHALL BE APPLIED IN THE SHOP WITH SPOT PAINTING ONLY IN THE FIELD.

FIELD WELDING OF CONNECTION ACCESSORIES SHALL NOT BE PERMITTED TO THE UPPER FLANGE OF BEAMS OR GIRDERS AND TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FIFTH THE SPAN LENGTH EACH WAY FROM THE JOINT SUPPORTS. FIELD WELDING IN OTHER AREAS SHALL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

ARCHED BOLTS SHALL BE SET OVERSIZING DIMENSIONS OVER SUPPORTS. THE STRUCTURAL STEEL BEARING PLATES OF THE ELASTOMERIC BEARING ASSEMBLY SHALL CONFORM TO THE REQUIREMENTS OF GRADE # 222.

THE ROAD LOAD CARRYING POWER COMPONENTS SUBJECT TO FUTURE BRIDGE EVALUATION TO THE CONTRACTOR'S RESPONSIBILITY FOR BRIDGE EVALUATION SHALL BE THE CONTRACTOR'S AND NOT THE DESIGNER'S RESPONSIBILITY.

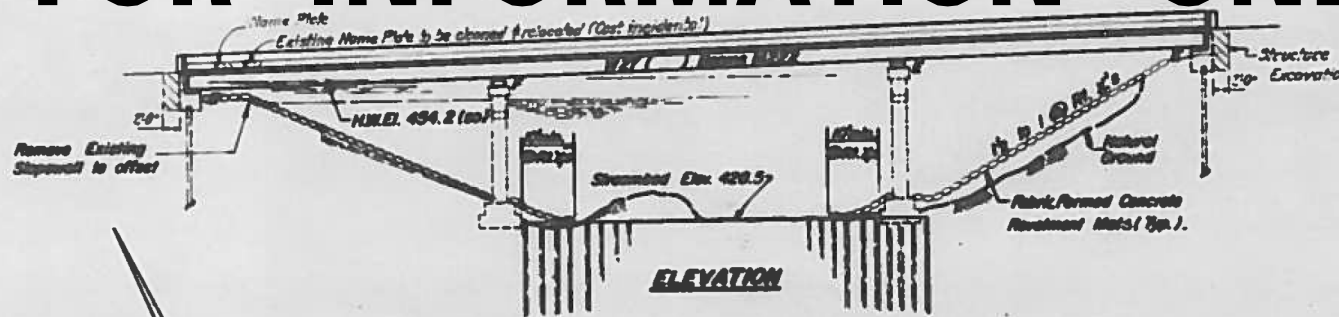
REQUIREMENT RAS SHALL CONFORM TO THE REQUIREMENTS OF GRADE # 222 OR # 223 GRADE 60.

LAYOUT OF FABRIC FORM CONCRETE STRUCTURES MAY BE VARIED IN THE FIELD TO OBTAIN DIMENSIONS AS SPECIFIED BY THE CONTRACTOR.

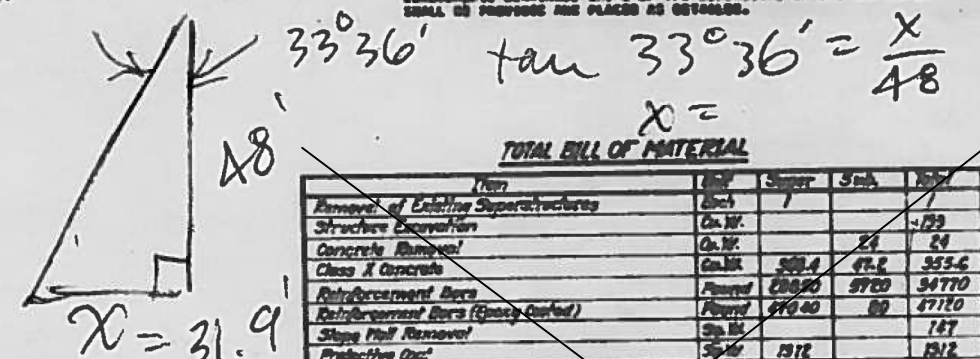
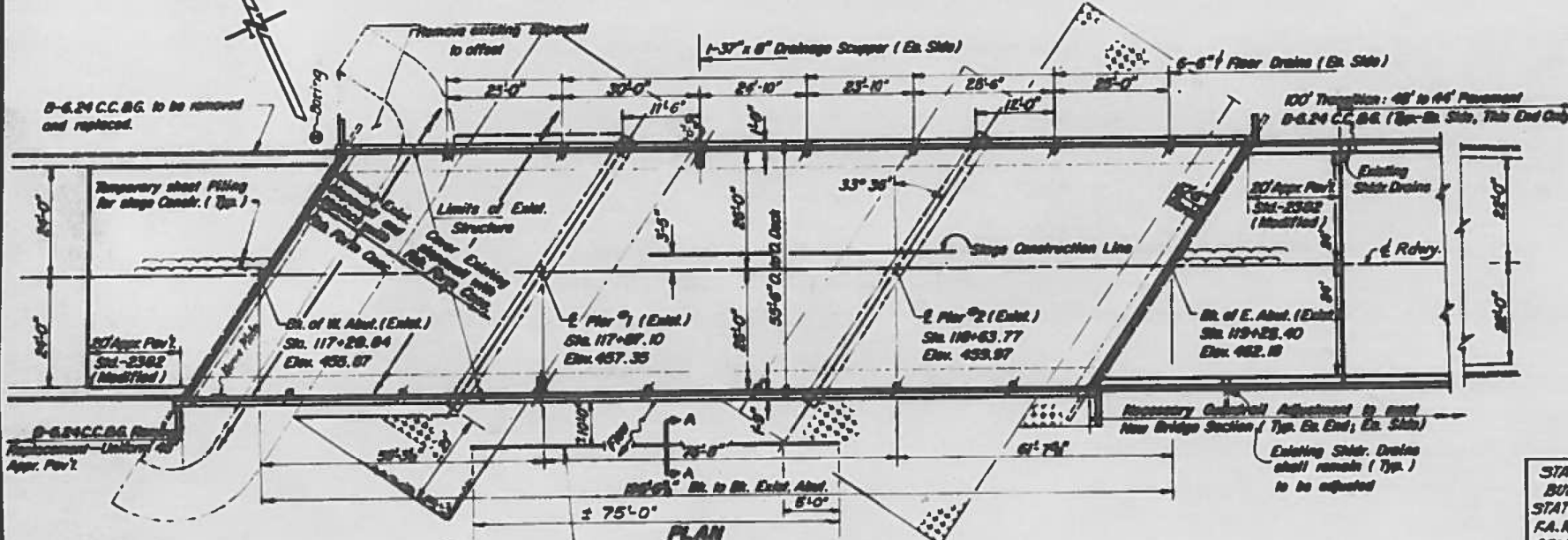
PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO GENERAL CONTRACTOR VERIFICATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY ADJUSTMENTS TO CONFORM TO CONSTRUCTION OR OTHERWISE OF MATERIALS. SUCH ADJUSTMENTS SHALL NOT BE MADE FOR ADDITIONAL CONSTRUCTION FOR A CHANGE IN THE SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

EXPANSION BOLTS SHALL CONFORM TO APPROVED DIMENSIONS AND SPECIFICATIONS. PROVIDE EXPANSION BOLTS: 1/2" DIA. - 4,000 LBS.; AND 3/4" DIA. - 6,000 LBS.

BEAMS AND SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNER'S DIMENSIONS WITHIN A TOLERANCE OF 1/8" OVER. ADJUSTMENT SHALL BE MADE BY CUTTING OR GRINDING THE SURFACE OR BY SHIMMING THE BEAMS. THE 1/8" ADJUSTMENT SHALL BE MADE AT THE JOINTS OF THE EXPANSION OF THE UPPER BEARING PLATE, SHALL BE PROVIDED FOR EACH BEAM IN ADDITION TO ALL OTHER PLATES OF BEAMS, FOR TYPE I ELASTOMERIC BEARINGS. SHIMS OF THE DIMENSIONS OF THE TOP PLATE SHALL BE PROVIDED AND PLACED AS DETAILED.



Edwardsville  
→



TOTAL BILL OF MATERIAL

Item	Unit	Qty	Unit Price	Total
Removal of Existing Superstructure	Each	1		-123
Structure Excavation	Cu.Yd.			24
Concrete Removal	Cu.Yd.	24		355.6
Class II Concrete	Cu.Yd.	500.4	71.2	35770
Reinforcement Bars	Pounds	28620	9720	47120
Reinforcement Bars (Space Cast)	Pounds	97040	80	147
Slope Mill Removal	Sq.Yd.			1512
Protective Coat	Sq.Yd.	1512		1.5
Structural Steel	L.S.			1507
Steel Shear Connectors	Each	4507		18
Diaphragm Girding Assembly Item 1	Each	18		9
Diaphragm Bracing Assembly, Item 2	Each	9		1
Name Plates	Each	1		133
Moisture Expansion, 1/2"	Lbs.	133		200
Temporary Concrete Barrier	Lin.Ft.	200		17
Floor Drains	Each	7		2
Drainage Scupper	Each	2		180
Expansion Bolt 1/2" Dia	Each	180		80
Temporary Sheet Piling	Sq.Ft.			602
Bridge Material Removal	Sq.Yd.			1520
Bridge Form Concrete Reinforcement Mats	Sq.Yd.			750
Steel Sheet Piling	Sq.Yd.			60
Steel Concrete Structures	Sq.Yd.			

STATION 118+27.12  
BUILT BY  
STATE OF ILLINOIS  
F.A.R.T. 701 SEC. 25-BR  
PROJ. FR-789(15)  
LOADING 45 20  
STR. NO. 9

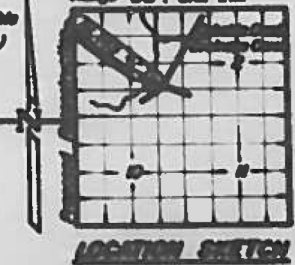
NAME PLATE  
(See S.M. 218)  
TO BE SUPPLIED BY DISTRICT

DESIGN SPECIFICATIONS

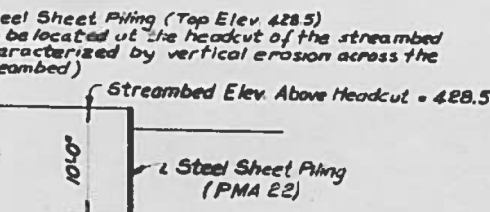
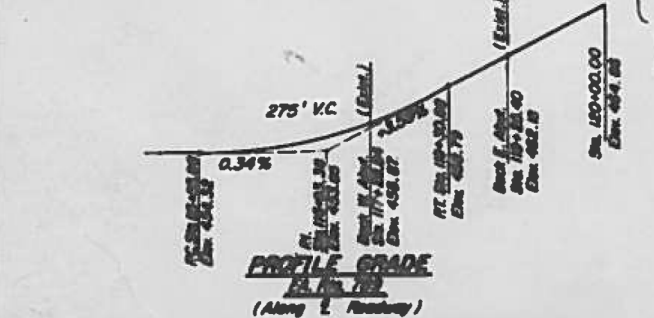
(New Construction)  
Design Specifications: AASHTO (1977) and applicable Interim (1978) New 1982 Interim Specifications  
LOADING HS 20-44

DESIGN STRESSES

$f_c = 3,000$  psi  
 $f_y = 60,000$  psi (Min.)  
 $f_y = 60,000$  psi (Struct.)  
AASHTO M 222



GENERAL PLAN  
MADISON COUNTY  
SECTION 125-BP-1  
STA. 417+80



SECTION A-A

INTERIM INFORMATION

Flow	Prop. W.	C.F.S.	Channel Sp. Ft.	Max. H.M.E.	Height-Pr.	Headcut-Pr.	Headcut-Pr.
Design	30	20,000	2700	2700	484.2	0.3	0.3
Base	100	25,000	2700	2700	488.7	0.3	0.3
Overlapping							
Max. Curb	300	30,000	2700	2700	493.8	0.15	0.15

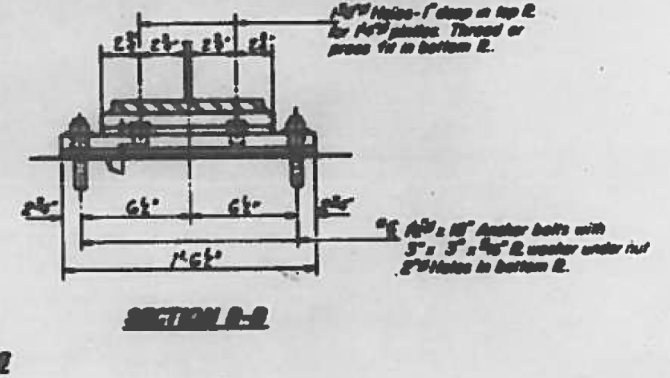
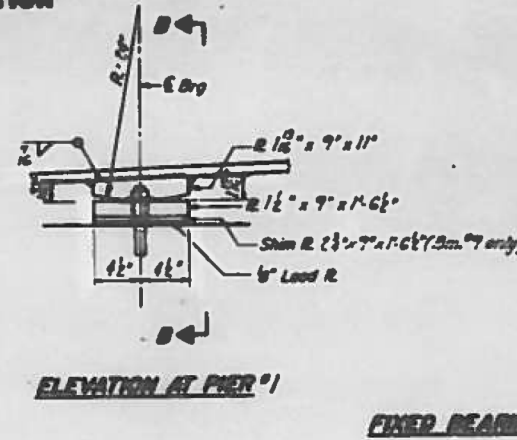
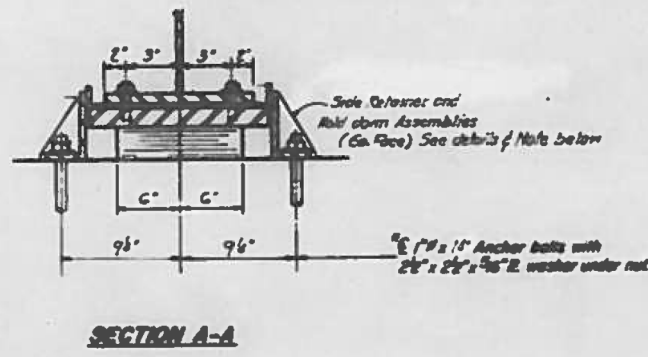
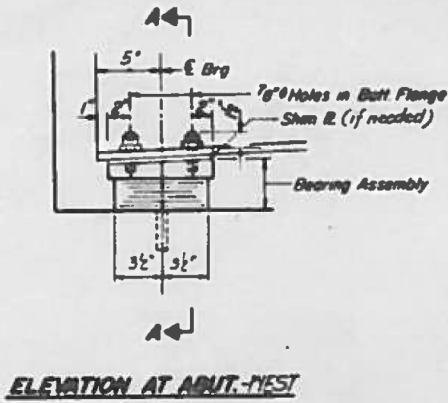
DESIGNED: *Paul J. Roberts*  
CHECKED: *A. J. Brown*  
DRAWN: *A.S.K.*  
DATE: 3/25/2016



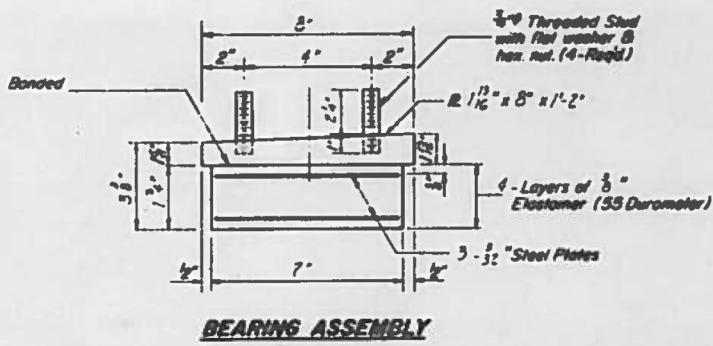


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

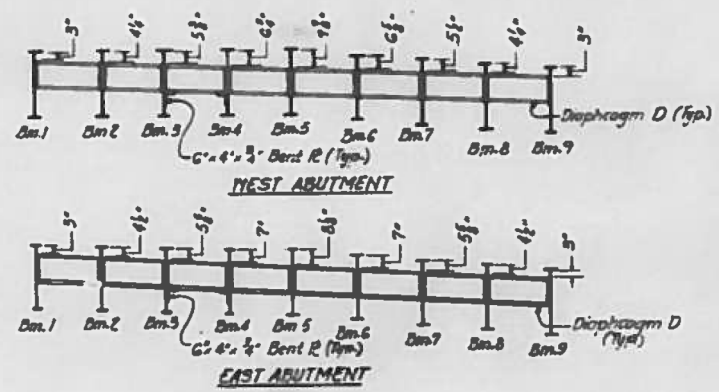
DATE	BY	SCALE	SHEET NO.
1/25/16	MADISON	Z6	19
			7 SHEETS



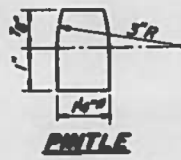
**TYPE I ELASTOMERIC EXP. BRG.**



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

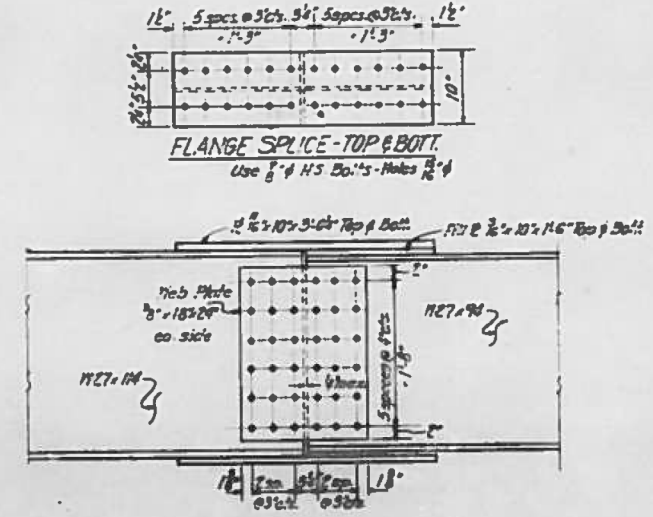
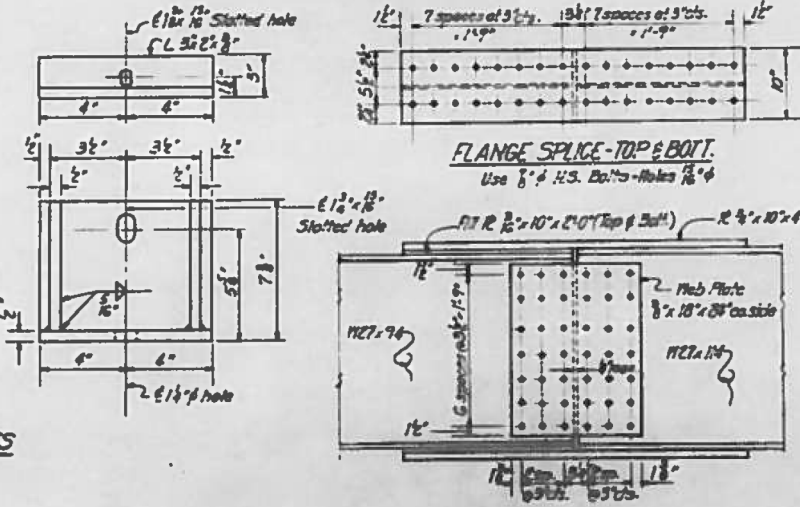
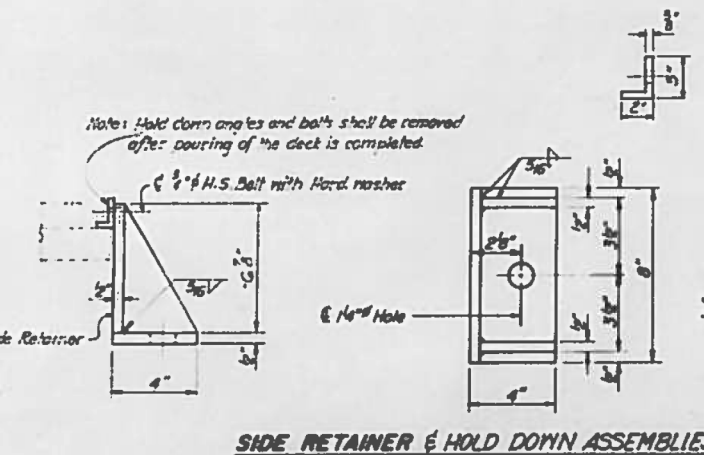


Note: After girders have been erected holes of expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts of fixed bearings may be built into the masonry, when conditions permit.



**TOP OF FLANGE ELEVATIONS**  
For Fabrication only

Location	Span No.	Dim. 1	Dim. 2	Dim. 3	Dim. 4	Dim. 5	Dim. 6	Dim. 7	Dim. 8	Dim. 9
E. Brg. Pier 2	1127.94	458.19	455.14	452.16	453.25	452.15	454.55	454.70	454.52	454.56
E. Splice 1-1127.94	1127.94	456.20	456.27	456.24	456.21	456.20	456.26	456.24	456.22	456.21
E. Splice 2-1127.94	1127.94	456.30	456.27	456.26	456.23	456.22	456.28	456.26	456.24	456.23
E. Brg. Pier 1	1127.94	456.76	456.74	456.71	456.67	456.63	456.61	456.70	456.70	456.71
E. Splice 3-1127.114	1127.114	457.17	457.15	457.11	457.06	457.04	456.79	456.63	456.52	456.07
E. Splice 4-1127.94	1127.94	457.15	457.13	457.07	457.04	457.02	456.77	456.63	456.50	456.05
E. Splice 5-1127.94	1127.94	458.70	458.71	458.80	458.80	458.77	458.51	458.24	457.98	457.70
E. Splice 6-1127.114	1127.114	459.00	458.98	458.79	458.83	458.77	458.63	458.26	458.00	457.72
E. Brg. Pier 2	1127.114	459.47	459.40	459.37	459.32	459.26	459.00	458.73	458.47	458.19
E. Splice 7-1127.114	1127.114	460.02	459.98	459.76	459.87	459.81	459.63	459.28	459.02	458.74
E. Splice 8-1127.94	1127.94	460.40	459.96	459.70	459.85	459.79	459.63	459.26	459.00	458.72
E. Brg. Pier 1	1127.114	461.61	461.57	461.51	461.46	461.40	461.14	460.87	460.61	460.33



DESIGNED *Robert L. Peters*  
 CHECKED *R. J. Brown*  
 DRAWN *J.V.U.*  
 CHECKED *A. J. R.*

EXAMINED *James R. Brown*  
 PASSED  
 APPROVED

DATE: January 6, 2013

**FOR INFORMATION ONLY**

**STRUCTURAL STEEL - DETAILS**  
 F.A.R.T. 789 SEC. 125.3R  
 MADISON COUNTY  
 STA. 118+27.12





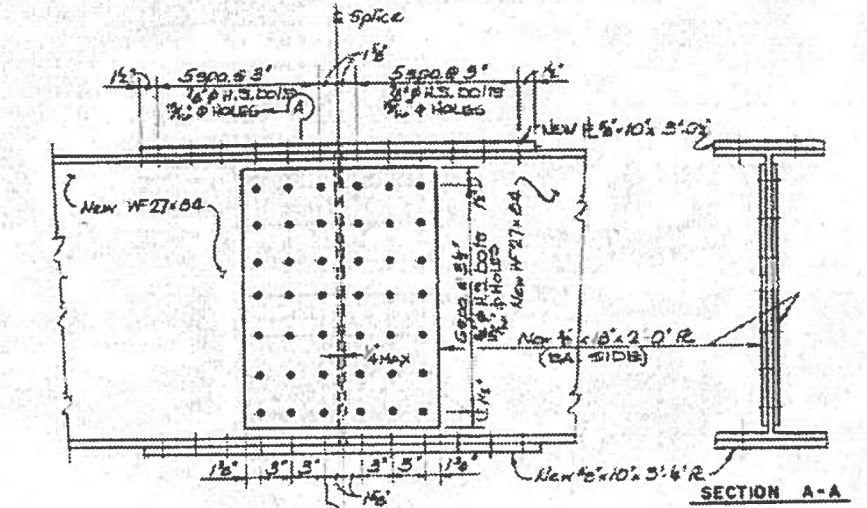
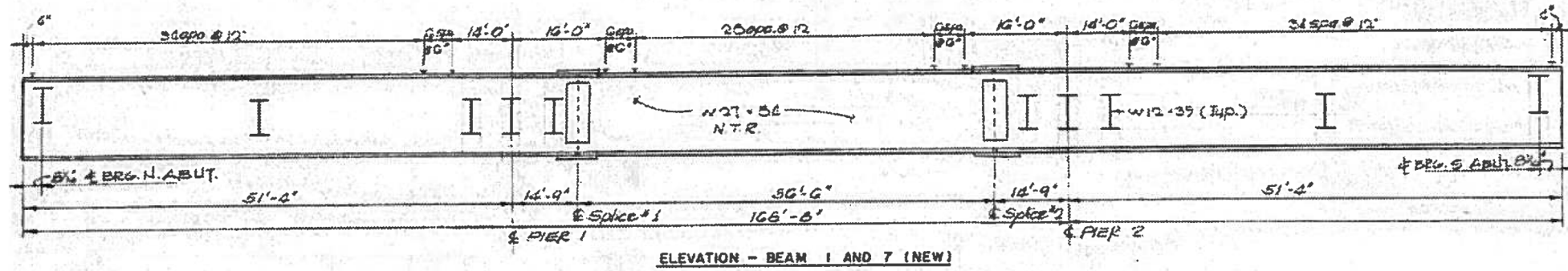








# FOR INFORMATION ONLY



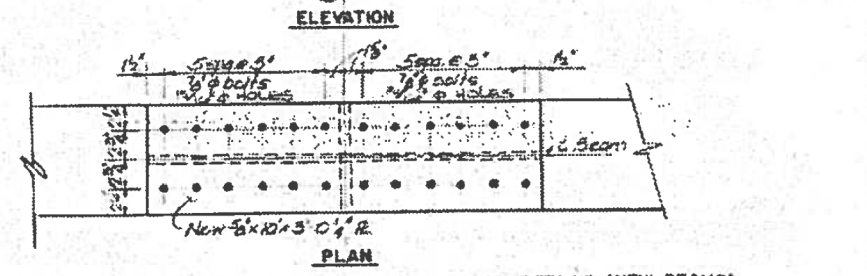
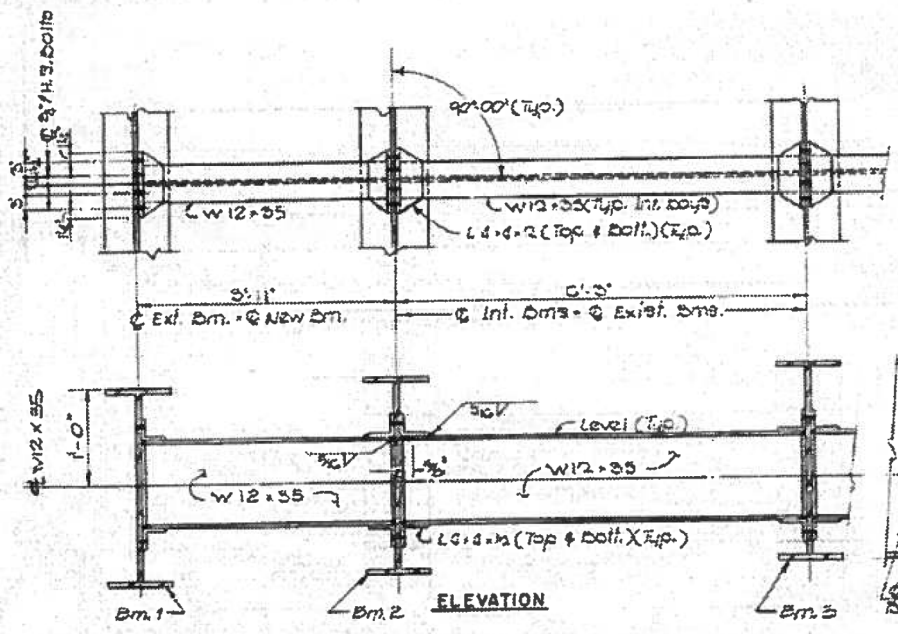
LOCATION	2 BEAMS IN ABUT.	1 N. PIER	1 SPLICE #1	1 SPLICE #2	1 S. PIER	2 BEAMS IN ABUT.
ELEVATION	464.14	466.75	467.49	467.23	467.78	471.67

	W27 X 106			W27 X 91			NEW EXTERIOR GIRDER W27 X 84		
	4 SP. 1	PIER 1	5 SP. 2	4 SP. 1	PIER 1	5 SP. 2	4 SP. 1	PIER 1	5 SP. 2
$I_x$ (in <sup>4</sup> )	5761	5430	5761	3129	4160	3129	2850	2850	2850
$I_y$ (in <sup>4</sup> )	11071	5430	11071	9145	4160	9145	7559	2850	7559
$E_x$ (in <sup>3</sup> )	277	418	277	233	203	233	213	213	213
$E_y$ (in <sup>3</sup> )	425	415	425	362	303	362	320	213	320
$Z_x$ (in <sup>3</sup> )	—	470	—	—	340	—	—	244	—
$Z_y$ (in <sup>3</sup> )	—	738	—	—	63	—	—	1525	—
$M_x$ (K)	134	277	134	104	224	104	71	142	78
$M_y$ (K)	156	156	156	127	127	127	447	447	447
$M_x$ (K)	29	49	36	25	39	30	87	130	103
$M_y$ (K)	318	201	350	260	158	284	199	119	230
$M_{imp}$ (K)	40	55	92	74	48	76	50	32	60
$M_{pl}$ (K)	680	427	737	557	335	608	425	252	483
$M_u$ (K)	1083	979	1169	892	777	971	758	687	870
$M_o$ (K)	1700	—	1700	1454	—	1454	—	732	—
$f_s$ (non-compos.)	5.4	8.0	5.6	5.4	5.9	5.6	4.0	8.0	4.4
$f_s$ (comp. Yes)	.9	1.4	1.1	.9	1.5	1.1	3.7	7.7	4.6
$f_s$ (IT) (K)	19.1	12.3	20.7	18.5	13.3	20.2	15.9	14.2	18.1
$f_s$ (overload) (K)	28.4	21.7	27.3	24.8	23.7	26.9	23.6	29.9	27.1
$f_s$ (Total) (K)	—	28.7	—	—	30.8	—	30.68	—	35.23
$V_x$ (K)	55.9	—	55.8	41.5	—	41.4	39.9	—	39.8

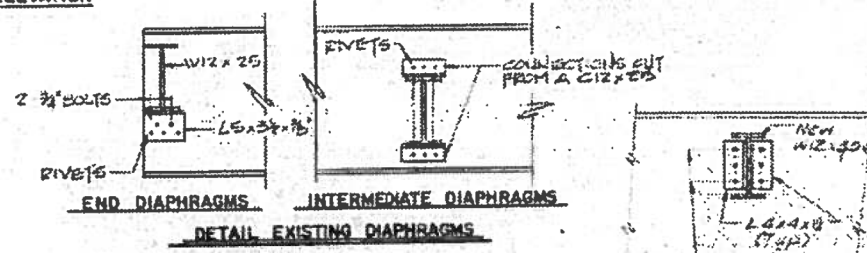
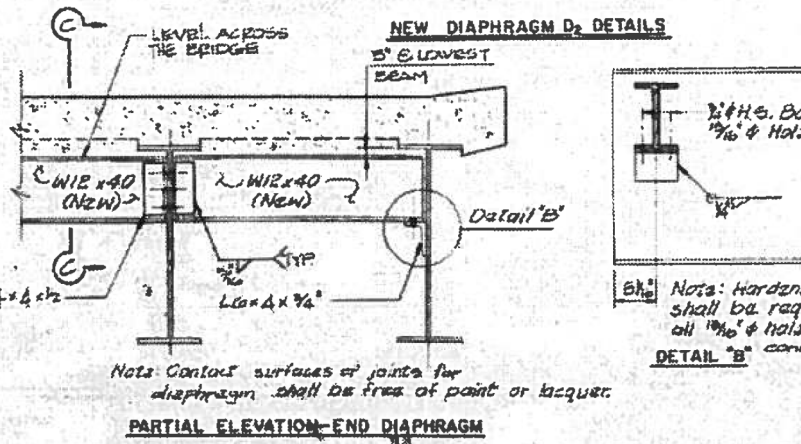
	ABUT.		PIER		ABUT.		PIER	
	1	2	1	2	1	2	1	2
$R_1$ (K)	16.7	59.3	13.9	48.7	16.5	53.4	—	—
$R_2$ (K)	39.4	49.3	29.3	36.6	28.1	35.2	—	—
$R_{imp}$ (K)	11.2	15.4	8.3	10.0	8.0	9.6	—	—
$R_{Total}$ (K)	67.3	124.0	51.5	95.3	52.6	100.0	—	—

NOTE:  $I_x$  AND  $E_x$  ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING  $f_s$  (TOTAL + OVERLOAD).  $I_y$  AND  $E_y$  ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING  $f_s$  (TOTAL + OVERLOAD).  $V_x$  IS THE MAXIMUM  $I_x$  + IMPACT SHEAR RANGE IN SPAN.  $Z_x$  IS THE PLASTIC SECTION MODULUS USED TO DETERMINE THE FULLY PLASTIC MOMENTS IN THE NON-COMPOSITE AREAS. THE FULLY PLASTIC MOMENT CAPACITY ( $M_u$ ) IS COMPUTED ACCORDING TO AASHTO 1.7.5.4(A) + 1.7.6.2(A).  $f_s$  (TOTAL) IS THE SUM OF THE STRESSES DUE TO 1.5 ( $M_x$  +  $M_y$  +  $I$ ).  $f_s$  (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO  $M_x$  +  $I$ .

DESIGNED D.R.N.  
CHECKED S.W.J.  
DRAWN J.S.  
CHECKED D.R.N.



- NOTES:
- EXISTING BEAM'S PLATES ARE TO BE REMOVED AND THE BEAM'S FLANGES GRIND STRONG.
  - THE REMOVAL OF EXISTING DIAPHRAGM RIVETS AND SUPPORT BRACKETS SHALL BE COST INCIDENTAL. THE RIVETS ARE TO BE REPLACED BY 3/4" x H.S. BOLTS. (COST INCIDENTAL)
  - NTE INDICATES WORN TOUGHNESS REQUIREMENTS - SEE GENERAL NOTES.



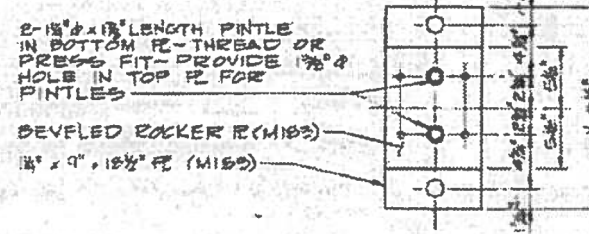
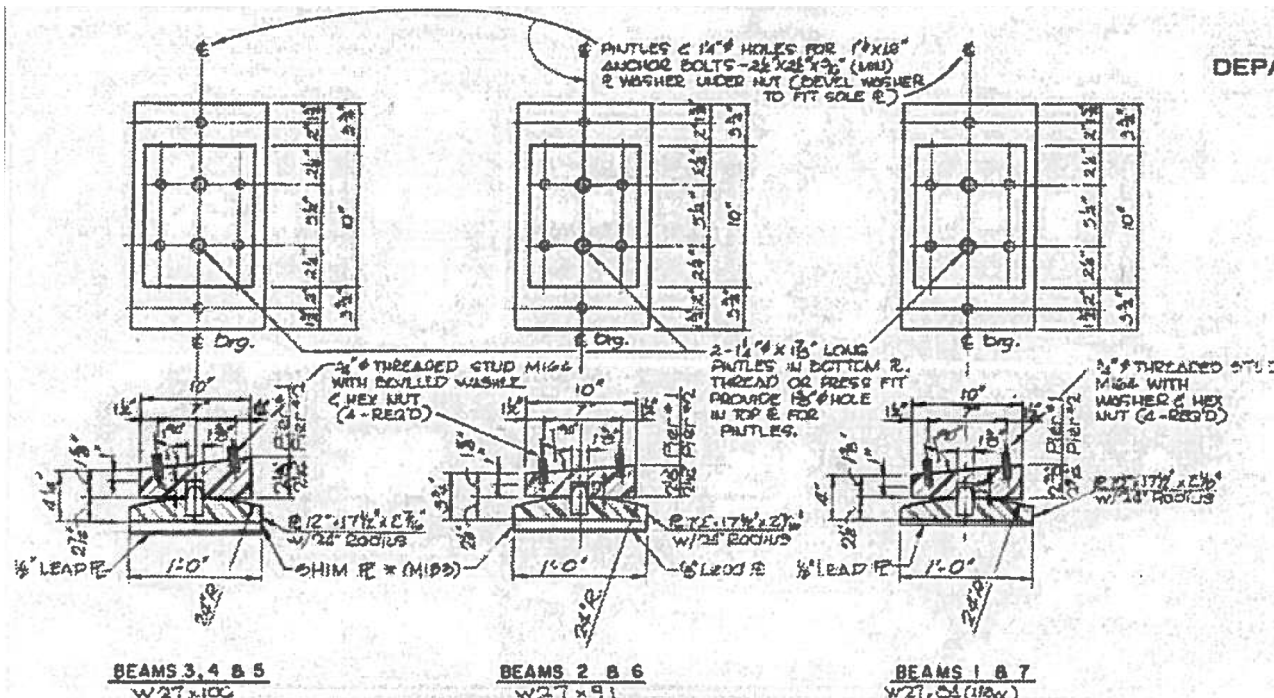
NOTE: CONTACT SURFACES OF JOINTS FOR DIAPHRAGM SHALL BE FREE OF PAINT OR LACQUER.

NOTE: END DIAPHRAGMS ARE TO BE REMOVED ENTIRELY. TOTAL WEIGHT REMOVED = 1540 LBS. SEE DETAIL A SHEET B FOR THE NEW SUPPORT BRACKETS FOR THE EXISTING INTERMEDIATE DIAPHRAGM.

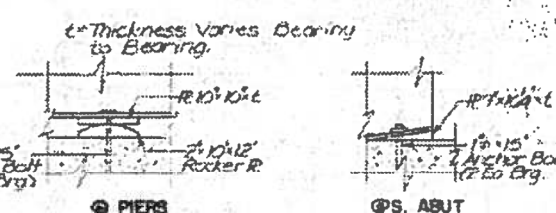
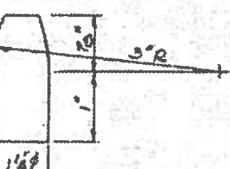
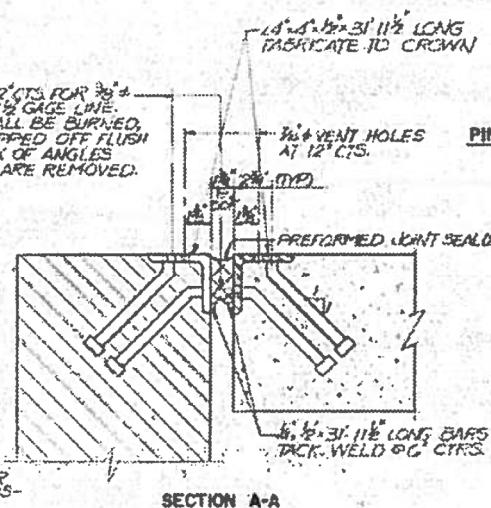
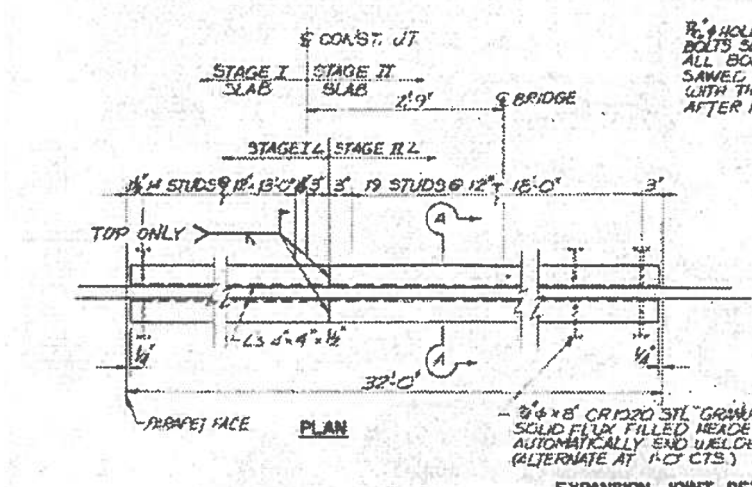
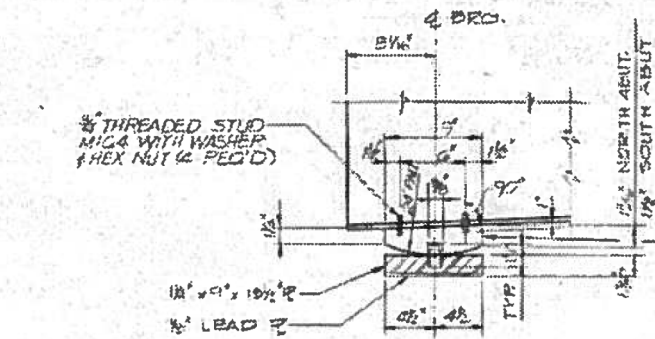
REVISIONS:	ILLINOIS ROUTE 159 (F.A.P. 596) BRIDGE WIDENING OVER MOONEY CREEK SECTION 125 BR-1 - MADISON COUNTY STATION 835 + 66.2	SHEET NO. 12
Prepared By: HARLAND BARTHOLOMEW & ASSOCIATES INC. MEMPHIS, TENNESSEE	CONTRACT NO. 76J50	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

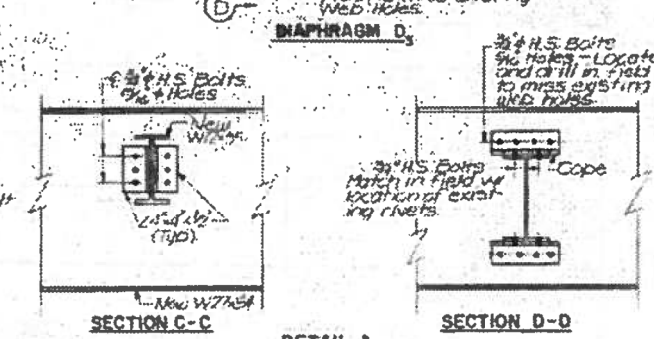
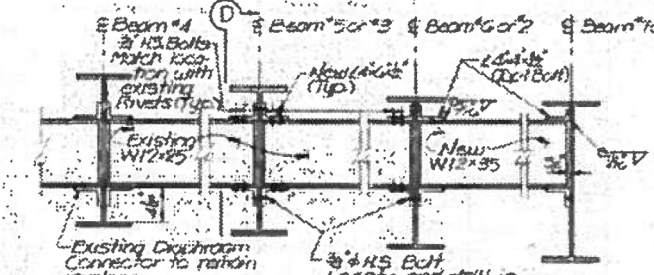
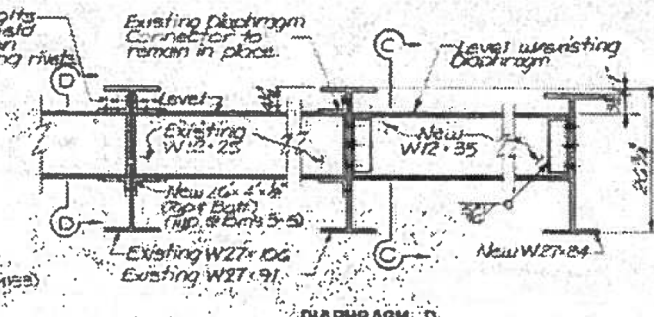
PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
060-0130	125 BR-1	MADISON	36	29
SHEET NO. 8 12 SHEETS				



\* NOTE: STEEL SHIM PLATES (MISS) REQUIRED AT PIER #1 ONLY  
 @ BEAMS #2, #4, & #6,  
 BEAM #2 @ 12" x 17 1/2" x 3/4" SHIM PL  
 BEAM #4 @ 12" x 17 1/2" x 3/4" SHIM PL  
 REQUIRED @ PIER #2 ONLY  
 BEAMS #1, #7 @ 12" x 17 1/2" x 3/4" SHIM PL



NOTES FOR REMOVAL OF EXISTING BEARINGS  
 1. The existing Bearing Plate welds are to be burned off, the plate removed and the Beam Flange ground smooth.  
 2. The existing Anchor Bolt Nuts are to be cut off and the existing Masonry Plates removed.  
 3. The existing Anchor Bolts are to be cut off at the line of existing Concrete Removal.



NOTE: The minimum clear distance between existing flange holes and new drilled holes shall not be less than 3/8 inch.

DESIGNED D.R.N.
CHECKED S.W.J.
DRAWN J.E.
CHECKED D.R.N.

**FOR INFORMATION ONLY**

BEARING ASSEMBLIES - DETAILS			
REVISIONS:	ILLINOIS ROUTE 150 (F.A.P. 596) BRIDGE WIDENING OVER MOONEY CREEK SECTION 125 BR-1 - MADISON COUNTY STATION 835 + 68.2		SHEET NO.
Prepared By: HARLAND BARTHOLOMEW & ASSOCIATES, INC. MEMPHIS, TENNESSEE			

Existing Structure: Built 1937 as a 3 span continuous wide flange, supported on pile bent abutments and piers.

In 1983 the superstructure was replaced with a new 3 span wide flange superstructure.

The abutment joints shall be replaced, and the deck shall be patched and overlaid with HMA.

**GENERAL NOTES**

Reinforcement bars designated (E) shall be epoxy coated.

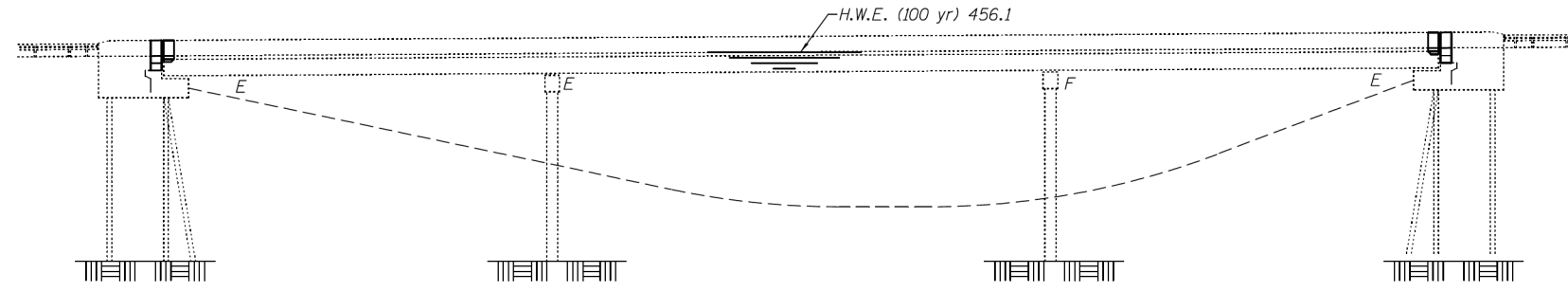
Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods 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 qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding 1/4 inch 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.

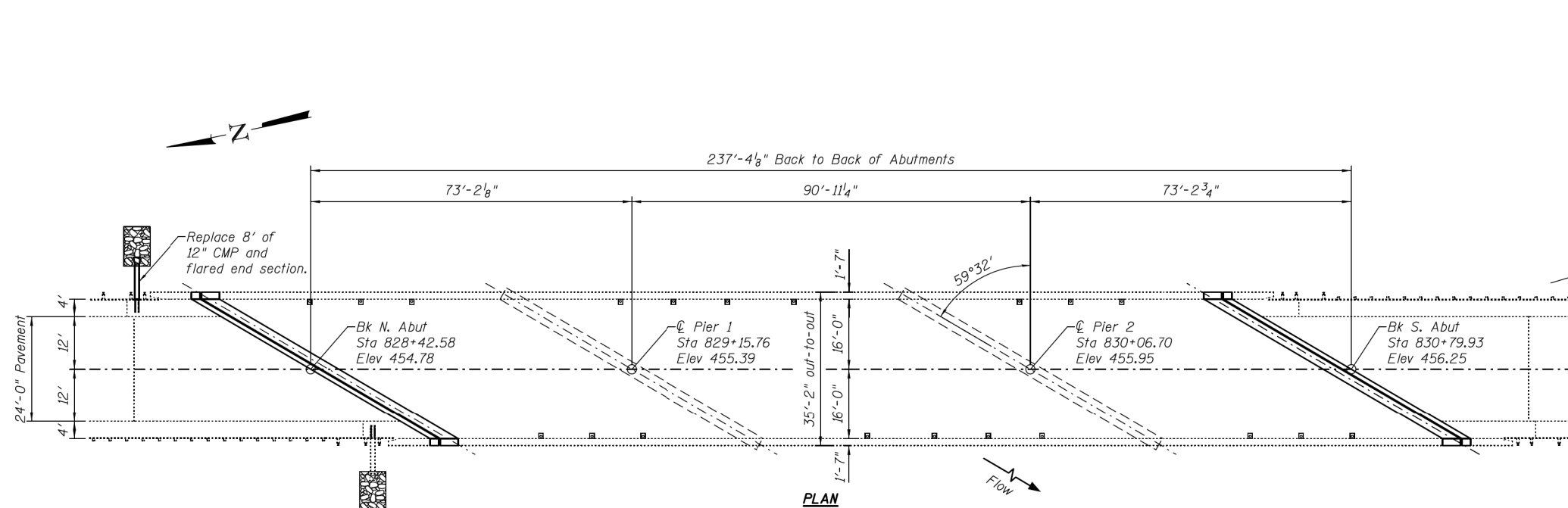
Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

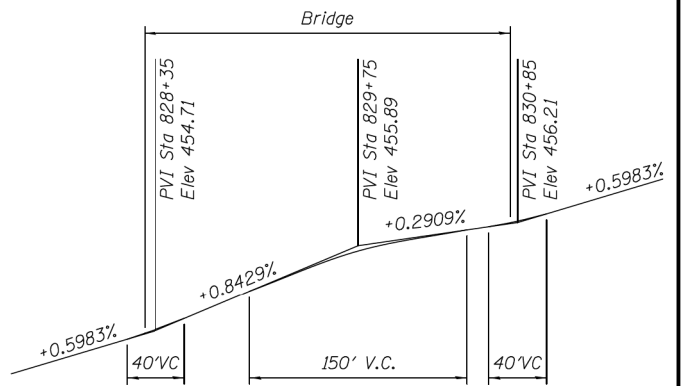
The quantity for protective coat is for the top and inside surfaces of the parapets and wingwalls. The quantities for full depth and partial depth deck slab repair are estimated from a visual deck survey.



**ELEVATION**



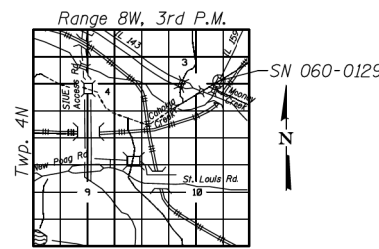
**PLAN**



**PROFILE GRADE**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Stone Dumped Riprap, Class A4	Sq. Yd.	12
HMA Surface Course, Mix "D", N70	Ton	67
Concrete Removal	Cu. Yd.	22.2
Concrete Superstructure	Cu. Yd.	24.6
Protective Coat	Sq. Yd.	204
Reinforcement Bars, Epoxy Coated	Pound	2290
Bar Splicers	Each	28
Preformed Joint Strip Seal	Foot	134.1
Waterproofing Membrane System	Sq. Yd.	798
Pipe Culvert Removal	Foot	8
Metal End Section	Each	1
Pipe Culvert, Class D, Type I, 12"	Foot	8
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	50
Deck Slab Repair (Partial Depth)	Sq. Yd.	50



**LOCATION SKETCH**

**FOR INFORMATION ONLY**

DESIGNED - J. Uehle	EXAMINED	DATE - 2/14/14
CHECKED - S. Ryan	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - J. Uehle	PASSED	REVISED
CHECKED - S. Ryan	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PLAN AND ELEVATION  
IL 159 over Cahokia Creek  
SN 060-0129**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
604	(103,125)RS-2, 125-BR-2	Madison	46	31
			CONTRACT NO. 76G25	
ILLINOIS FED. AID PROJECT				

FILE NAME =	USER NAME = challandeske	DESIGNED -	REVISED -
pw\11084EBIDINTEG.illinois.gov\PIWIDOTDocuments\IDOT Offices\District 8\Projects\0876\Drawings\060-0129\060-0129-11084EBIDINTEG.dwg		CHECKED -	REVISED -
Default	PLOT DATE = 3/25/2016	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SN 060-0129 EXISTING STRUCTURE DETAILS**

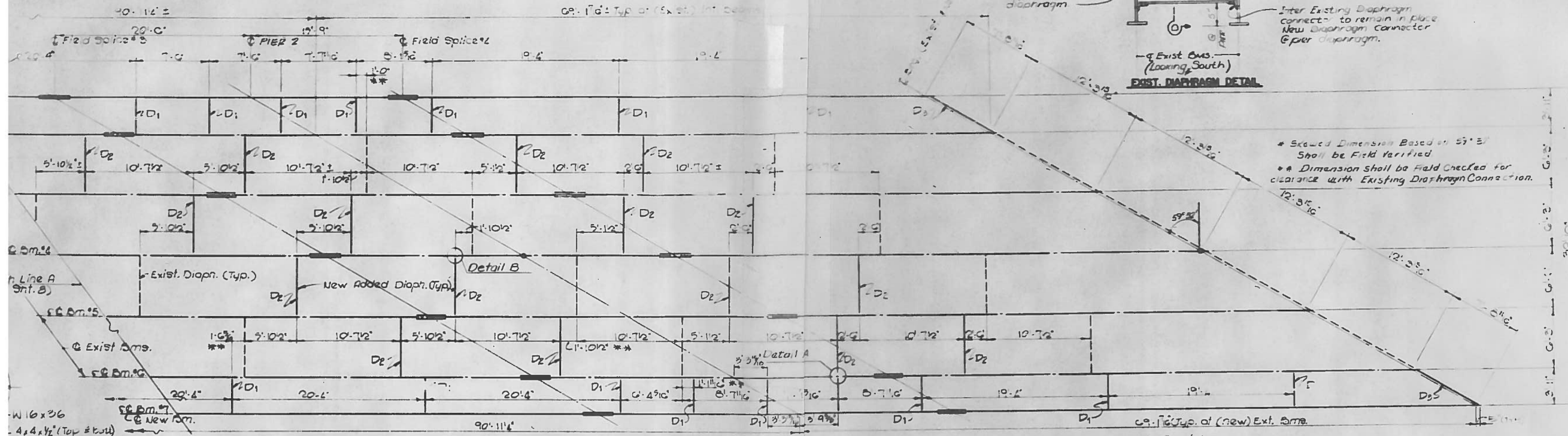
SHEET 1 OF 4 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
604/789	125-BP-1	MADISON	17	14
			CONTRACT NO. 76J50	
ILLINOIS FED. AID PROJECT				

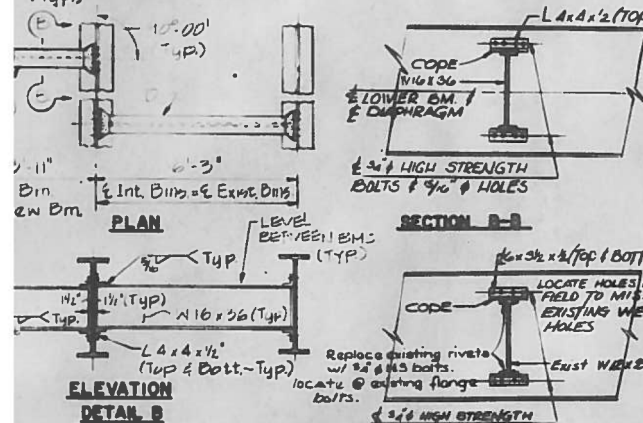


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
159 BR. 596	125 BR.	MADISON	36	19



FRAMING PLAN - PART SPAN 2 & SPAN 3

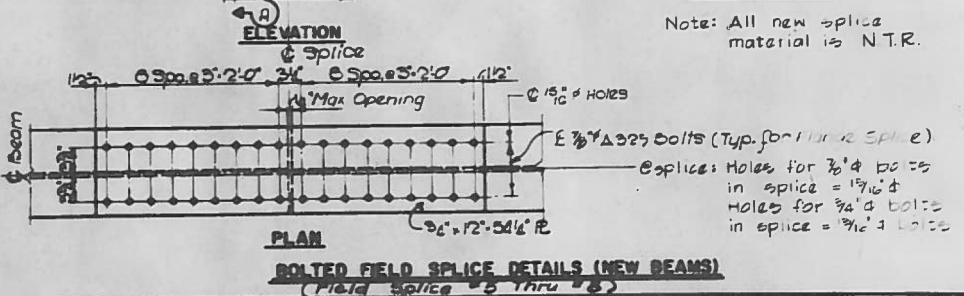
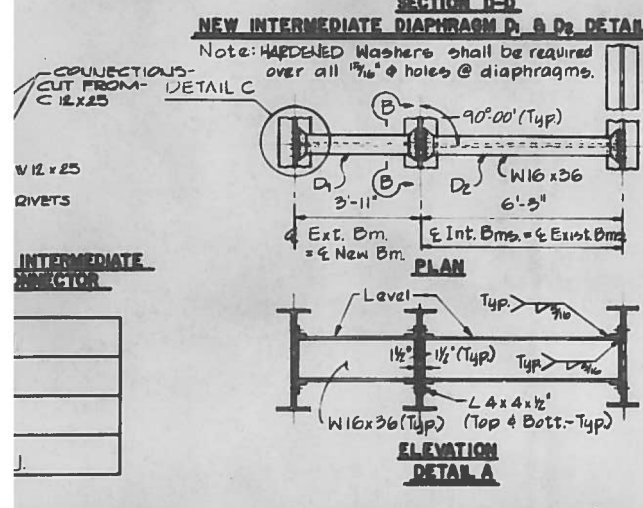
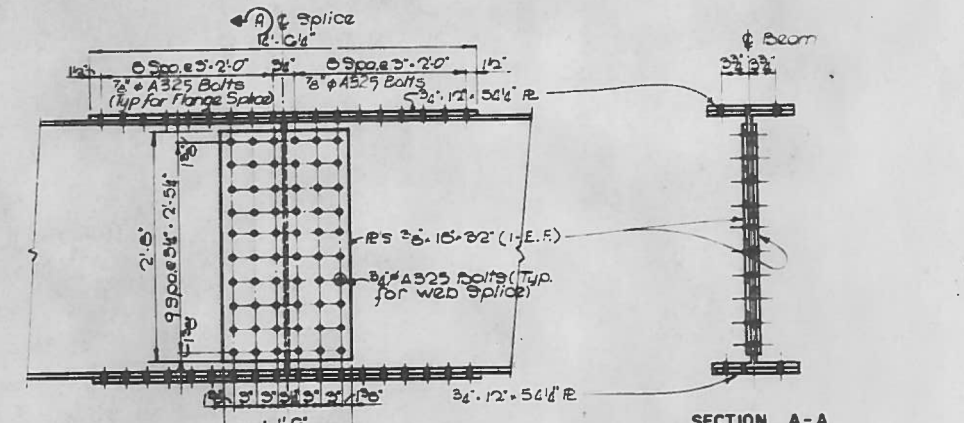


	0.4 SP. 1	PIER 1	0.5 SP. 2
I <sub>c</sub> (in. 4)	9012	12739	9012
I <sub>e</sub> (in. 4)	22533	—	22533
S <sub>x</sub> (in. 3)	503	689	503
S <sub>e</sub> (in. 3)	725	—	725
Z (in. 3)	—	.778	—
Q (K/I)	.782	.782	.782
M <sub>Q</sub> (K)	242	543	267
s <sub>Q</sub> (K/I)	.156	.156	.156
M <sub>s</sub> (K)	63	95	67
M <sub>t</sub> (K)	480	341	534
M <sub>imp</sub> (K)	123	83	124
M <sub>s</sub> (M <sub>t</sub> +I) (K)	1005	707	1097
M <sub>a</sub> (K)	1690	1748	1800
M <sub>u</sub> (K)	—	2660	—
f <sub>s</sub> (non-comp.) (k.s.i.)	5.8	9.5	6.3
f <sub>s</sub> (comp.) (k.s.i.)	1.0	1.7	1.2
f <sub>s</sub> (t+I) (k.s.i.)	16.6	12.3	18.1
f <sub>s</sub> (overload) (k.s.i.)	23.4	23.5	25.6
f <sub>s</sub> (total) (k.s.i.)	30.2	30.4	—
VR (K)	45.0	—	42.1

	At Int.	Pier
R <sub>Q</sub> (K)	20.4	94.5
R <sub>t</sub> (K)	34.4	48.2
Imp (K)	3.5	11.5
R Total (K)	58.3	154.2

	At Int.	Pier
R <sub>Q</sub> (K)	17.0	65.8
R <sub>t</sub> (K)	21.6	30.1
Imp (K)	5.5	7.3
R Total (K)	44.1	103.2

	0.4 Sp. 1	Pier 1	0.5 Sp. 2
I <sub>s</sub> (in. 4)	7000	7000	7000
I <sub>e</sub> (in. 4)	10453	—	10453
S <sub>x</sub> (in. 3)	439	439	439
S <sub>e</sub> (in. 3)	604	—	604
Z (in. 3)	—	581	—
Q (K/I)	.467	.467	.467
M <sub>Q</sub> (K)	151	310	174
s <sub>Q</sub> (K/I)	.441	.441	.441
M <sub>s</sub> (K)	153	268	192
M <sub>t</sub> (K)	300	210	337
M <sub>imp</sub> (K)	77	51	78
M <sub>s</sub> (M <sub>t</sub> +I) (K)	628	495	672
M <sub>a</sub> (K)	1212	1313	1375
M <sub>u</sub> (K)	—	—	—
f <sub>s</sub> (non-comp.) (k.s.i.)	4.1	8.4	4.8
f <sub>s</sub> (comp.) (k.s.i.)	5.5	7.2	4.9
f <sub>s</sub> (t+I) (k.s.i.)	12.4	11.9	15.7
f <sub>s</sub> (overload) (k.s.i.)	20.0	27.5	22.8
f <sub>s</sub> (total) (k.s.i.)	25.6	35.8	27.0
VR (K)	30.1	—	26.4



FRAMING PLAN - PART SPAN 2 & SPAN 3

REVISIONS:	ILLINOIS ROUTE 159 (F.A.P. 596) BRIDGE WIDENING OVER CAMOKIA CREEK SECTION 125 BR — MADISON COUNTY STATION 829 +60.5	SHEET NO.
Prepared By: HARLAND BARTHOLOMEW & ASSOCIATES INC. MEMPHIS, TENNESSEE		

FOR INFORMATION ONLY



